# PIHA AREA DESIGN GUIDELINES

DESIGN GUIDELINES FOR ASSET DEVELOPMENT ON AUCKLAND REGIONAL COUNCIL PARK LAND • SEPTEMBER 2010

Auckland Regional Council
TE RAUHĪTANGA TAIAO


## ACKNOWLEDGEMENTS

The Piha Design Guidelines have been prepared by Auckland Regional Council using the skills, experience and inspiration of many people, including, but not limited to:

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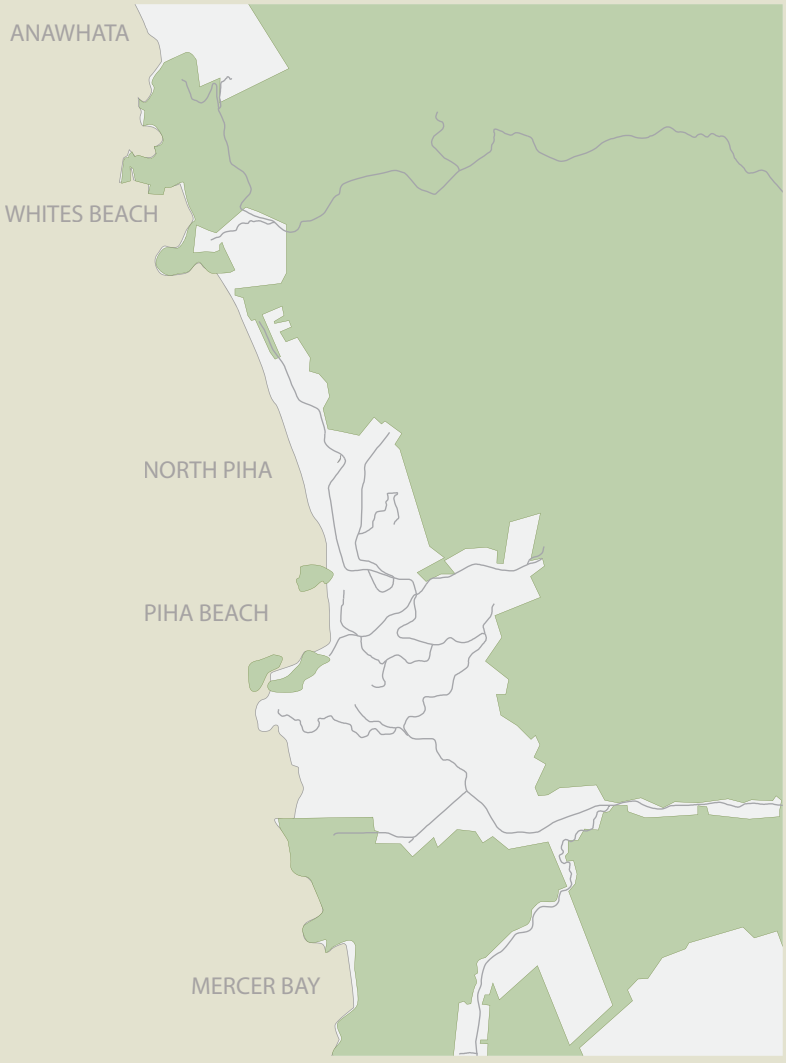
Piha Community

# FOREWORD

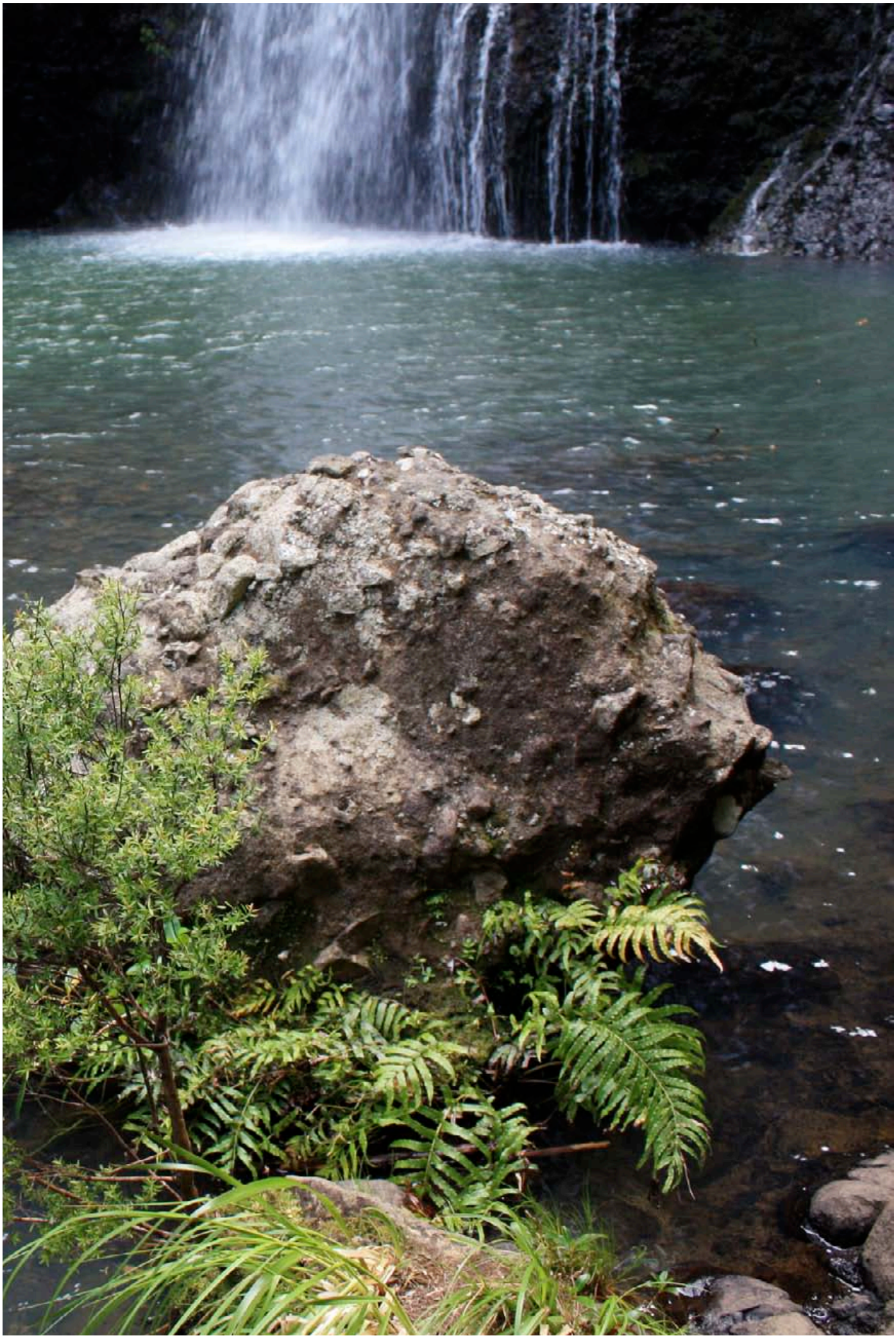
After the successful implementation of the Muriwai Deisgn Guidelines (2009) the value of design guidelines for Regional Parks has become increasingly apparent. Piha is one of Auckland's most famous west coast black sand beaches and is a popular surfing destination. The steep vegetated Waitakere Ranges behind the beach provide for many walking and tramping tracks, breathtaking vistas, rocky outcrops, streams and waterfalls. This spectacular park landscape wraps itself around the Piha village, a coastal community of bach owners and residents that make the most of the relaxed and easy-going lifestyle.

Design guidelines are commonly adopted to facilitate change, so that any new development will complement the natural environment. The purpose of these guidelines is to provide information to assist decision makers, adjacent property owners, developers and contractors during project development. The Piha Area Design Guidelines will provide visual examples to encourage appropriate design proposals and offer ideas for positive design solutions. The scope of area covered by the Piha Area design Guidelines is identified on the map below:



# CONTENTS

# 1.0 OVERVIEW



# 1.1 PURPOSE

- To ensure development will respect and enhance the natural, cultural and historical values of the Piha area open space environment.
- To provide innovative, best-practice guidelines that engage and direct those involved in the design, development and future direction of the park.

## The Design Guidelines Provide:

### a] A Decision Making Approach

These guidelines are designed to assist ARC park rangers and agents employed to undertake development and maintainence at Piha, to ensure the Piha open space environment is always considered.

### b] Best Practice Techniques

The guidelines encourage new designs to blend with or complement the natural landscape, be specific to the park and its character and maintain existing assets to appear natural. The deisgn Guidelines encourage the use of CPTED principles.

### c] Quality Design

The document should help ARC Park Rangers protect and add value to the park and retain a high design standard that is suitable for the particular climate and environmental conditions at Piha.

### d] Environmental Objectives

Regional Parks are places where people can enjoy relatively 'untouched' natural settings. They are about informal recreation in large natural settings that offer respite from the stresses of everyday life. The overall objective is to ensure these qualities are conserved and enhanced while continuing to provide for the well-being of the visitors and residents of Piha.

### e] Problem Solving

The process of improving and enhancing park infrastructure and green assets on the park must be recognised as one that requires problem-solving. Park infrastructure is site-specific and therefore requires a thorough background knowledge of information, user-needs and operational requirements, as well as advice from other staff, agencies, contractors and visitors.

### f] Advice for Overcoming the Effects of Increased Use

A steady increase in the popularity of the park has increased foot and vehicle traffic and is placing pressure on some areas. The design guidelines will help to define good design for high-use areas.

### g] A Checklist Approach

The design guidelines are designed to act as a checklist rather than a specification. This ensures the environmental context of a proposed development is considered before the final proposal is made.

### h] A Working Document

To remain relevant within a changing environment, these guidelines aim to be a living document. To enable this, photographic records of works completed, innovative design and construction techniques can be filed in the sleeve provided at the end of this document.

### i] A Case Study of Good Design

By providing positive case studies of best practice infrastructure design in the Piha area (and incentives to use the guidelines to do so) this may have a lead on effect that encourages the upgrade of assets that are under management of public or private owners other than just the Auckland Regional Council.[1]

*1. "When a truly inappropriate style of architecture already exists in a park in which new work is contemplated, it is urged that the new buildings (or other structures) do not stubbornly carry on the old tradition. The best judgement available should be consulted to determine the style most appropriate to the area, and this then frankly and courageously launched. If the new style is a more appropriate one, it will prevail. Time will eliminate the earlier, inappropriately styled buildings (or other structures) for the …contrasts they produce."*
*– United States Department of the Interior and National Parks Service (1938) Park and Recreation Structures, Princeton Architectural Press, New York*

# 1.2 HOW TO USE

The Piha Area Design Guidelines are formatted to reflect the steps that should be taken by ARC officers and other design proffessionals when proposing works on regional parkland. These include:

Understand the overiding policy of regional parks:

PARKS MANAGEMENT PLAN SECTION 28.0 - Landscape

28.1 - Quality and Diversity
To protect and enhance the intrinsic natural landscape values of regional parks

↓

Understand the purpose of the design guidelines and the role of stakeholders:

1.0 THE OVERVIEW

↓

Develop an understanding of the natural and cultural values of the Piha area:

2.0 THE ESSENCE

↓

Identify the proposed location, undertake site analysis and propose an initial design with reference to the relevant design guideline section(s):

3.0 DESIGN PRINCIPLES AND DESIGN GUIDELINES

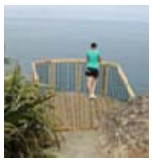
3.2 BUILDINGS

3.3 ROADS

3.4 TRACKS

3.5 SIGNS/ NOTICEBOARDS

3.6 BARRIERS/ FENCES



3.7 TABLES/ SEATING

3.8 FLORA/ GREEN ASSETS

↓

Analyse the proposed design against the relevant design guideline section(s) and any other factors:

4.0 OTHER THINGS TO CONSIDER

↓

5.0 FUTURE DEVELOPMENT CONSIDERATIONS

↓

Design accordingly

# 1.3 ROLE OF STAKEHOLDER GROUPS

## Role of Auckland Regional Council, Waitakere City Council, Piha Community and Tangata Whenua

### AUCKLAND REGIONAL COUNCIL

Waitakere Ranges Regional park land is owned and managed by ARC. Piha is part of this larger park. The regional park network is part of a spectrum of public open spaces across the Auckland region that serve a range of recreational, ecological and amenity purposes. One end of the spectrum comprises open space provided and managed by territorial local authorities for local community and sub-regional needs including sporting facilities and local parks and reserves. At the other end of the spectrum are nationally significant open spaces owned by the crown and managed by the Department of Conservation (DOC).

Regional parks sit in the middle of this spectrum. They embody the region's unique physical, ecological and historical characteristics that are of national significance, and provide for the recreational, cultural and social needs of the regional population. Regional parks are held in perpetuity for the purpose of protecting and preserving their intrinsic values and for the enjoyment and use of current and future generations (refer to diagram on facing page).

### HISTORY OF ARC WAITAKERE PARKLAND:

*(Excerpt from the Piha history website http://www.piha.co.nz)*

*'In 1894 Sir Algernon Thomas, the first professor of geology and botany at Auckland University and a great advocate of preserving the Waitakeres as a bush reserve, led a deputation to the Auckland City Council, asking it to persuade the Government to set aside 3,500 acres in the Nihotupu area. The Government heeded the request and in 1895 vested the 3500 acres, and several smaller areas of Waitakere Ranges land, in the City Council as "reserves for the conservation of native flora and flora".*

*Gifted land, purchases and vestings which had been made up to that time for conservation purposes, though of large blocks, were scattered around the perimeter of the Ranges. There was no unified vision. In 1941,*

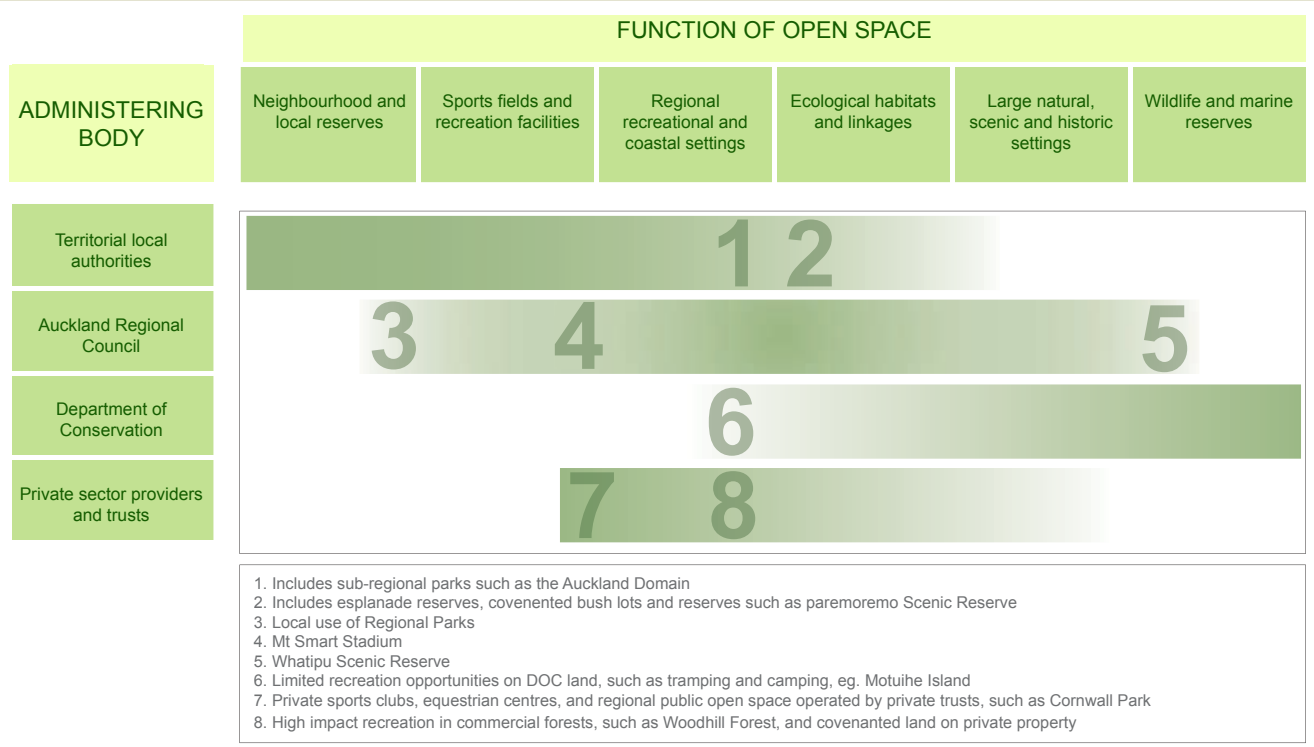
*metropolitan local bodies set up the Auckland Centennial Memorial Park Board, which was empowered to create a great "scenic park" in the Waitakere Ranges. It acquired land by gift, by purchase, and by the transfer of some small Crown reserves. Notable among the gifts were those made by Mr Earle Vaile (270 hectares), Sir William Goodfellow (71 hectares with a house) and the estate of Sir Algernon Thomas (42 hectares). By 1964, there was over 5200 hectares of Centennial Memorial Park land in addition to the Waitakere Ranges parkland administered by the Auckland City Council.*

*In 1964 administration of the Auckland Centennial Memorial Park and of the Waitakere Ranges water catchment land was taken over by the newly created Auckland Regional Authority, which continued to enlarge the Centennial Memorial Park. In 1983, the City Council transferred the responsibility for its Waitakere Ranges parks to the Regional Authority. The Regional Authority became the Regional Council in 1989, with responsibility for both the Waitakere Ranges Parkland and the Waitakere Ranges water catchment land. By a statute passed in 1992, the water catchment land was declared to be regional parkland, subject to the operations of Watercare Services Ltd, which provides the regions bulk water supply. By 1992 there were 8600 hectares of Waitakere Ranges land held as water catchment land. The Waitakere Ranges Regional Parkland now contains over 17,000 hectares.*

### HISTORY OF ARC PIHA PARKLAND:

*Lion Rock passed from Maori ownership to Norman Russell Withiel Thomas and Acland Withiel Thomas in 1941. At the same time the Thomas family gave to the Auckland City Council 100 acres of bush on the northern side of the Piha Valley running up to the ridge, as well as three acres of flat land on the north*

## Open Space Spectrum:




*side of the Piha Stream This all later became part of the Auckland Centennial Memorial Park and hence was transferred to the ARC. The land had belonged to Sir Algernon Thomas. In 1963 the Thomas family gifted the Lion Rock land to the ARC.' ARC then secured the purchase Piha Mill Camp (Stedfast Park) in August 2007 from the Piha Boys' Brigade Northern Regional Trust.*

### ARC PARK RANGERS

It is expected Park Rangers will be the most regular user-group of this document through implementing new park infrastructure and green assets on regional park land at Piha. Their contribution to the usability, readability and accessibility of the Piha Design Guidelines is vital to ensure its success.

### WAITAKERE CITY COUNCIL

Twenty four Piha reserves are managed by WCC and include a mixture of recreation reserves, scenic reserves, plantation reserves, accessways, and formed and unformed road. Waitakere City Council also provide services such as waste collection, road maintenance and hold a regulatory role as a consenting agency.

### PIHA COMMUNITY

The Piha community plays an important role in defining the values and character of the Piha area. Comments, suggestions and design ideas from the community have been incorporated into the document from an open day held on 27 March 2010. ARC has provided informative presentations to the Piha Ratepayers and Residents Association throughout the process of developing these design guidelines.

### SIGNIFICANCE OF THE PIHA AREA TO LOCAL IWI

The iwi Te Kawerau a Maki hold strong cultural and historical connections to Piha. Iwi play an important role in ensuring the spiritual, archaeological and cultural heritage of the Piha area is a key driver in the design guidelines. (Refer to Section 4.5 for further information)

# 1.3 HISTORY OF THE PIHA AREA

## MAORI

Te Kawerau a Maki are the iwi or Maori tribe of the West Coast. Historically, large areas were cleared of forest along the coast so that Te Kawerau settlements could be better defended.

There were a number of Kawerau pa (fortified village) sites on the headlands and midden sites, terraces, pits, rock and cave shelters are evident across the Piha area. Maungaroa was the main pa on the ridge behind Seaview Road, Lion Rock the site of Whakaari pa, and Te Wahangu was on the headland at the north end of the beach. The hill to the south of The Gap was traditionally used by Te Kawerau a Maki fishing parties.

The large number of sites indicate that Piha was, at different times, home to large numbers of Maori. Although there are a number of reports of Maori occupation of Piha from the 1870s until the 1890s, this seems to have come to an end around the turn of the century. Today, Te Kawerau a Maki descendants regard themselves as holding 'mana whenua' or 'traditional ownership' of their Waitakere domains. They still own Taitomo Island (Camel Rock). Lion Rock is now owned by the ARC.

## EARLY FARMING

The Piha area was bought from the Maori in 1854 and allocated in crown grants to settlers. Two reserves were retained by Maori at Piha and Weketahi (North Piha). In 1886, Dr William Stockwell bought both blocks having previously leased them from the Maori owners. His primary interest was the kauri timber although he never managed to cut it because of difficulty in getting it out.

## CAMPING

From the late nineteenth century, Piha was also a popular holiday destination for campers and in the 1890s paid accommodation became available at the Usshers' farm and at Blowhole Bay (The Gap).

## MILLING

In 1910 an entrepreneurial Canadian with a flourishing dental practice in Auckland took over Piha to mill the kauri timber. Fred Rayner and his wife, Ethel, an American meat heiress, built the Piha Mill. Men scoured the steep hillsides for trees which were felled and brought down to the mill with bullock teams and a series of timber dams. To access trees further afield, a railway line was built into valleys to the north, from where the logs were brought along a line on North Piha Beach to the mill in the engine A196. From Piha the timber was taken by hauler to neighbouring Karekare then by a rail line along the coast to the wharf at Whatipu. The mill closed in 1921 when all the timber had been cut out. There are still remnants of the milling throughout the hills behind Piha, such as the Black Rock Dam. Many of these remnants are accessible by walking tracks.

## SURF LIFE SAVING

The Piha Surf life saving club was established in January 1934 and was the first surf club on the West Coast. Today it performs the most rescues of any surf club in New Zealand and has achieved further recognition through the popular television programme 'Piha Rescue'.



## SURFING

When two US lifeguards turned up at Piha in 1958 they created a sensation. Piha surf club members were impressed by the possibilities of Malibu board riding. Piha is now a popular surfing destination. Good swells come from the south-west and the best wind from the east. The waves peel along a sandbar and surfers can often get long rides all the way into the centre of the beach.

*Photos left to right:*
*Cars, caravans and tents in PIha Campground December 1947 (COURTESY WHITES AVIATION ALEXANDER TURNBULL LIBRARY); Overlooking Piha - circa 1917 (COURTESY ALBERT PERCY GODBER PHOTOGRAPHS, ALEXANDER TURNBULL LIBRARY); Overlooking Piha - January 2005 (COURTESY AUCKLAND REGIONAL COUNCIL PHOTO LIBRARY); Piha Surf Life Saving Club (COURTESY PIHA SURF LIFE SAVING CLUB); Tram line used for transportation - circa 1915 APG-0665-1/2-G (COURTESY ALBERT PERCY GODBER PHOTOGRAPHS, ALEXANDER TURNBULL LIBRARY); Kauri Boom at Piha - circa 1915 APG-0825-1/2-G*

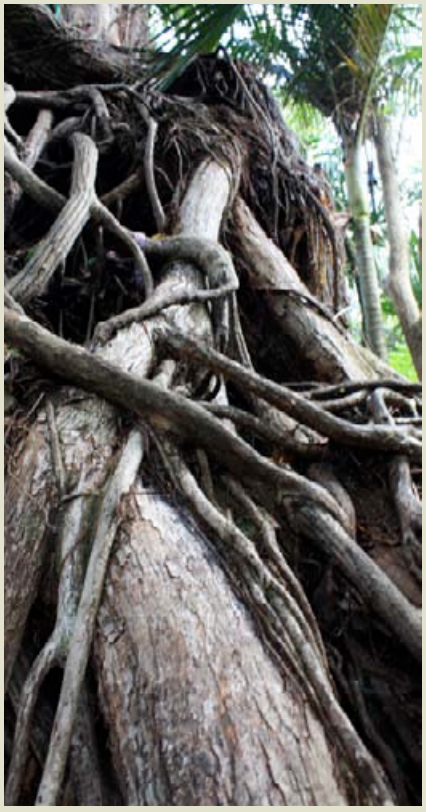
# 2.0 ESSENCE

# 2.1 ESSENCE OF THE PIHA AREA

*Surf Life Saving*

Piha is well known for its surf, with many thousands of visitors flocking to experience the consistent large waves formed from the Tasman Sea swells. This coastal environment is a hub for the surfer, or for the brave swimmer amid the wild west coast waves. The western flanks of the Waitakere Ranges serve as a great tramping experience for active recreationalists.

The Piha area is located within a catchment. Tall vegetated hills and headlands surround the Piha valley and beaches. A cluster pattern of settlement is located on the coastal flats and sporadic houses perched on the hills.



*Natural Heritage*

*Waitakere Ranges*

*Iron sands*

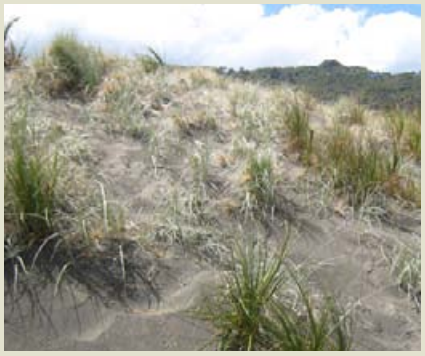
*Extensive beach*

*Cultural Heritage/Tangata Whenua Values*

*Streams and tributaries*

*Native flora and fauna*

*Surfing and swimming*



*Sand dunes*

*Walking and tramping tracks*

*Coastal village*

# 2.2 STUDY AREA

For the purpose of these design guidelines, the study area will focus on land owned and managed by ARC between Anawhata in the North to Mercer Bay in the South. The extent of the study area will reach as far east as the upper reaches of the Winstone Track. The study area has been divided into 6 nodes. The purpose of creating study area nodes is to ensure that new development is relative to the immediate natural environment and takes ques from any existing local best practice examples.

## Study Nodes:

A] ANAWHATA
B] WHITES BEACH, TE WAHA POINT, NORTH PIHA
C] WHAKAARI (LION ROCK)
D] PIHA VALLEY, WAI O KAHU (GLEN ESK) & PIHA MILL CAMP (STEDFAST PARK)
E] TASMAN AND GAP TRACK AND LOOKOUTS
F] MERCER BAY LOOP TRACK AND LOOKOUTS

## Auckland Context Map:

## Piha Study Area Map:

## A] ANAWHATA

Anawhata is one of the more remote areas of the park. Access is via Anawhata Road, The parkland includes Anawhata Farm, the Anawhata Stream and catchment and access to a wild, West Coast beach. The area offers a remote experience within a unique ancient volcanic setting that has retained many of the intrinsic natural qualities of the West Coast, including natural unmodified coastal dune systems. The deeply incised Anawhata Gorge and adjoining beach are of regional geological significance. General public access to the beach is restricted to pedestrian access from the end of Anawhata Road. There are a number of tramping and walking tracks through the locality.

## B] WHITES BEACH, TE WAHA POINT, NORTH PIHA

North Piha Regional Parkland and at the north Kohunui Bay contains a sealed car park and picnic area, and provides access to the northern end of the beach. The area is a popular destination for surfers and leads to tramping tracks to Whites Beach and Anawhata. The area is dominated by the dune system behind the beach and Te Waha Point. Further north there are cliffs surrounding Whites Beach and Paikea Bay and one of the best exposed craters in the Waitakere Ranges. Northern blue penguins and grey-faced petrels nest

## C] WHAKAARI (LION ROCK)

North Piha Regional Parkland and at the north Kohunui Bay contains a sealed car park and picnic area, and provides access to the northern end of the beach. The area is a popular destination for surfers and leads to tramping tracks to Whites Beach and Anawhata. The area is dominated by the dune system behind the beach and Te Waha Point. Further north there are cliffs surrounding Whites Beach and Paikea Bay and one of the best exposed craters in the Waitakere Ranges. Northern blue penguins and grey-faced petrels nest along the coast.

## D] PIHA VALLEY WAI O KAHU (GLEN ESK) AND PIHA MILL CAMP (STEDFAST PARK)

The Piha Valley has high ecological value, a rich mature broadleaved forest with regenerating kauri that is contiguous to the more exposed coastal vegetation to the south and the kauri forest in the upper Piha catchment. The area was the site of the Piha Mill, one of the ranges' major timber milling operations which was established in 1910 and closed in 1921. It is a popular destination with people seeking accessible walks within mature native bush and views of the scenic Kitekite Falls. The falls are one of several regionally significant waterfalls that reflect the interaction of fluvial erosion processes with the varied lithology of the Waitakere Ranges. The area is popular as a picnic area and provides extensive tramping opportunities as an access point for a range of tramping tracks in the wider area, including the Maungaroa Lookout Track. The area currently known as Piha Mill Camp (Stedfast Park) includes an outdoor education camp based at the foot of the valley which is operated under licence. There is also a small green along Glen Esk Road (Sir Algernon Thomas Green).

## E] TASMAN AND GAP TRACK AND LOOKOUTS

The Tasman Lookout Track provides views over the southern reaches of Piha beach, Lion Rock and The Gap. The Gap Lookout overlooks Taitomo Island, owned by Te Kawerau o Maki. There is a gate near the entrance to the Tasman Lookout Track which the Piha Deep Sea Fishing Club use to access the beach and for boat launching.

## F] MERCER BAY TRACK AND LOOKOUTS

The Mercer Bay Loop Walk provides an accessible route to spectacular elevated vistas of the rugged West Coast shoreline, Whatipu and the Tasman Sea. The Maori pa, known as the Te Ahua pa, is surrounded by steep natural defences. The area is accessed off Log Race Road.

# 3.0 DESIGN PRINCIPLES AND GUIDELINES

# 3.1 DESIGN PRINCIPLES AND DESIGN CRITERIA

The following design guidelines are based on a set of overarching principles that inform more specific design criteria. The criteria act as a checklist rather than a specification. We recognise that in some situations where development is proposed these criteria may be challenged.

## Design Principles:

1. All development will respect, conserve, and where appropriate, enhance and restore the key characteristics of Piha. Future development will not detract from the unique natural aesthetic and spatial qualities of Piha.

2. All development will be restricted to only that which is necessary to serve the needs of park visitors or conservation values and, where appropriate, the local community.

3. All development will be clustered and located against natural features, such as hillsides and mature vegetation, to minimise the visual impact.

4. All development will, where practicable, use natural materials and reflect the materials of the locality of the development.

5. Existing structures (including signs, railings, planting surrounds etc) that no longer serve a demonstrable purpose will be removed as budget and resource are available.

6. All development will be planned to ensure scale and colours are appropriate within the context of the proposals location within the regional park.

7. All development will pay particular attention to the design criteria and elements outlined within the Piha Design Guidelines.

8. All development where possible will avoid multiple structures, formalisation through straight lines, hard surfaces and edges, road markings and urban elements.

## Design Criteria:

### DESIGN WITH NATURE AND SENSE OF PLACE

- Respect and respond to the complexities of the surrounding Piha landscape/environment
- Earthworks should be kept to a minimum
- An energy conscious and renewable material specification is preferred.

### AESTHETICS

- Design should enhance the appeal of the natural environment rather than detract from it and acclimatise people to the natural setting

### SITING AND LOCATION

- Structures should be located in close proximity to each other where appropriate
- A backdrop of native vegetation is preferred
- Avoid placing structures on visible ridgelines

### COLOUR AND TEXTURE

- Local cues should be used to source materials and colours that blend with the local landscape
- Sustainable and natural materials that weather are preferred over concrete/ metal and other hard urban elements.

### FIT FOR PURPOSE/ ACCESSIBILITY

- Consider the main user groups and design accordingly
- Structures should be robust and adaptable to changing use over time
- Barrier free designs are preferred
- Surface design should be appropriate for climate and classification

### SCALE

- Scale should be relative to the location
- Structures should be in relation to a human scale where appropriate
- In context of other developments, buildings and structures within the vicinity

### FORM

- Tie into the natural landform
- Structures within beach settings should take cues from the horizontal axis
- A bush or enclosed setting should consider exposing elements of the structural frame

### VISIBILITY

- Site lines and view shafts should be maintained
- Create new visual cues towards structures when proposing new development

## CLUSTERING AND ECOLOGICAL FOOTPRINT

- The footprint of the proposed structure or base footing should be kept to a minimum
- Minimise structures by grouping them into one

## CULTURAL HERITAGE

- All infrastructural development should respect cultural heritage sites
- Ensure existing or proposed vegetation will not have a potential undesirable effect on the site

## ECOSOURCING AND SPECIES SPECIFICATION

- Propose species that can be easily sourced from the local environment to ensure survival
- Take cues from the existing species on or surrounding the site
- Avoid urban style planting

## ALTERNATIVES

- Alternative sites and design concepts should be considered before the final proposal is defined

## SAFETY

- Encourage community ownership of spaces, structures and green assets
- Well maintained, good quality structures attract people
- Consider proximity to high activity areas to encourage informal surveillence e.g. proximity of buildings to carpark
- Maintain plantings to ensure visibility into, out of and around

## MAINTAINENCE

- Access and material specification must be considered to ensure regular maintainence can be undertaken with ease and the design is cost efficient.
- Flexible to seasonal change, weathering and erosion
- Construction materials should be easily transported to the site
- Vandalism deterrant strategies should be considered

## PROTECTION

- Provide protection for green assets such as staking, wind cloth and pest or disease control.
- If protection or barrier is no longer required then remove redundant infrastructure

# 3.1 BUILDING DESIGN GUIDELINES

## Existing Buildings on Regional Parkland at Piha:

*ARC service shed Wai o Kahu (Glen Esk)*

*ARC park office*

*Piha Mill Camp (Stedfast Park) house*

*Wai o Kahu (Glen Esk) toilet*

*Piha Mill Camp (Stedfast Park) building*

*Piha Mill Camp (Stedfast Park) toilets*

*Mercer Bay Track toilet*

*Wai o Kahu (Glen Esk) toilet*

*Anawhata carpark toilet*

## Buildings on Regional Parkland at Piha:

Buildings often create a focal point within the landscape whether they plan to or not. Buildings in the Piha area form key components of the park infrastructure, providing service depots for park maintenance and visitor facilities including toilets and information.

When proposing new buildings, the context of the whole park should be considered to ensure the best site is chosen, and subsequent form, colour and texture of construction materials are sympathetic to the surrounding environment. Buildings can increase pedestrian and vehicular traffic of an area placing strain on sensitive environments. Thought should be given to how the area can cope with an increase in use.

Buildings within regional parkland at Piha are currently kept to a minimum. Buildings placed within bush covered areas such as Wai o Kahu (Glen Esk) have the ability to be easily designed using materials and textures that reflect that setting. However they do inadvertedly increase foot traffic and carparking in a sensitive environment. Often, the building design itself has been thoroughly worked through, but the associated infrastructure such as paths and directional structures (bollards etc) are last minute additions to ensure the design works adequately.

Design of buildings within environments such as these should consider revegetation efforts to create dense planting to restrict access to certain areas and visibly open and welcoming planting efforts where pedestrian traffic is encouraged. Buildings designed for open areas such as North Piha should consider low roof profiles and mitigation planting surrounding the building.

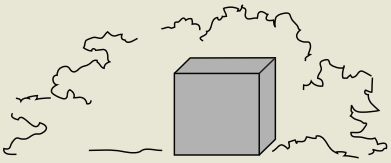
## Potential Design Improvements:

- SITING AND LOCATION
- ACCESS
- SAFETY AND VISIBILITY
- DESIGN WITH NATURE
- FORM
- AESTHETICS AND BALANCE
- COLOUR AND TEXTURE
- CLUSTERING
- SCALE

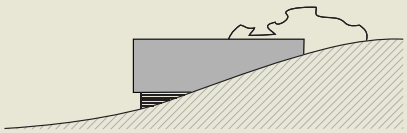
KEY: EXCELLENT ADEQUATE NOT ADEQUATE

IMPROVEMENTS :
*Low planting such as Muehlenbeckia complexa or grass softens the front of the building.*

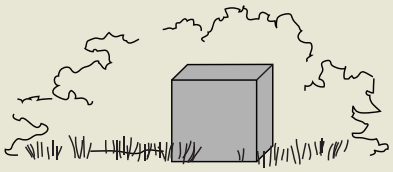
## Building Guideline Diagrams:



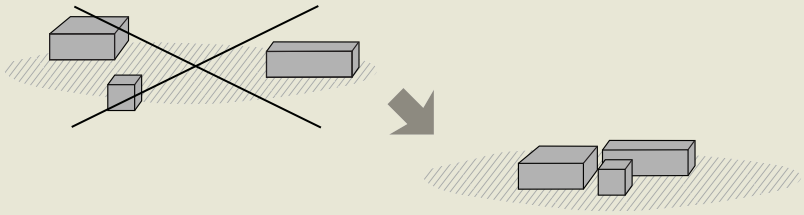
BACKDROP OF VEGETATION



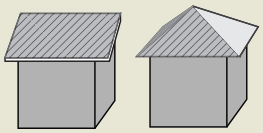
SIT INTO THE LANDSCAPE RATHER THAN DOMINATE IT



FOREGROUND VEGETATION UNDER 1M IN HEIGHT



CLUSTERING TO MINIMISE STRUCTURES



ANGLED RATHER THAN PEAKED ROOVES

## Design Exemplars:

*WCC public toilet (North Piha)*

*WCC public toilet (Piha)*

*Roof garden design*

*Ngarunui Beach, Raglan*

*ARC Cascade Kauri*

*ARC public toilet (Muriwai)*

# Building Design Checklist:

| DESIGN WITH NATURE AND SENSE OF PLACE | |
|---|---|
| • *Responds to site history, culture, geology and landscape*<br>• *Earthworks kept to a minimum*<br>• *Energy conscious and renewable materials* | ☐ EXCELLENT<br>☐ ADEQUATE<br>☐ NOT ADEQUATE |
| **SITING AND LOCATION** | |
| • *Backdrop of landform or vegetation*<br>• *Building(s) do not sit on ridge line* | ☐ EXCELLENT<br>☐ ADEQUATE<br>☐ NOT ADEQUATE |
| **FIT FOR PURPOSE/ ACCESSIBILITY** | |
| • *Design for main user groups*<br>• *Robust and adaptable structures*<br>• *Barrier free*<br>• *Surface design appropriate for climate and classification* | ☐ EXCELLENT<br>☐ ADEQUATE<br>☐ NOT ADEQUATE |
| **FORM** | |
| • *Tie into the natural landform*<br>• *Roof profile - small number of peaks rather than one large* | ☐ EXCELLENT<br>☐ ADEQUATE<br>☐ NOT ADEQUATE |
| **AESTHETICS** | |
| • *Design enhances appeal of the natural environment*<br>• *Design acclimatises people to the setting* | ☐ EXCELLENT<br>☐ ADEQUATE<br>☐ NOT ADEQUATE |
| **COLOUR AND TEXTURE** | |
| • *Materials and colours that blend with the local landscape*<br>• *Natural materials chosen that weather with time* | ☐ EXCELLENT<br>☐ ADEQUATE<br>☐ NOT ADEQUATE |
| **SCALE AND BALANCE** | |
| • *Building scale relative to location*<br>• *Relative to human scale*<br>• *In context of other developments, buildings and structures within the vicinity.* | ☐ EXCELLENT<br>☐ ADEQUATE<br>☐ NOT ADEQUATE |

## VISIBILITY

- *Site lines and view shafts maintained*
- *Create new visual cues towards structures when proposing new development*

☐ EXCELLENT
☐ ADEQUATE
☐ NOT ADEQUATE

## CLUSTERING AND ECOLOGICAL FOOTPRINT

- *Footprint of building kept to a minimum*
- *Clustering of structures*

☐ EXCELLENT
☐ ADEQUATE
☐ NOT ADEQUATE

## SAFETY

- *Community ownership of asset encouraged*
- *Building in close proximity to high activity areas to encourage informal surveillence*

☐ EXCELLENT
☐ ADEQUATE
☐ NOT ADEQUATE

## MAINTAINENCE

- *Regular maintainence can be undertaken with ease*
- *Cost efficient design*
- *Flexible to seasonal change, weathering and erosion*
- *Construction materials should be easily transported to the site*
- *Vandalism deterrant stratagies should be considered*

☐ EXCELLENT
☐ ADEQUATE
☐ NOT ADEQUATE

## CULTURAL HERITAGE

- *Respect cultural heritage sites (refer to section.4.5)*

☐ EXCELLENT
☐ ADEQUATE
☐ NOT ADEQUATE

## ALTERNATIVES

- *Alternative sites considered*

ON SITE NOTES:

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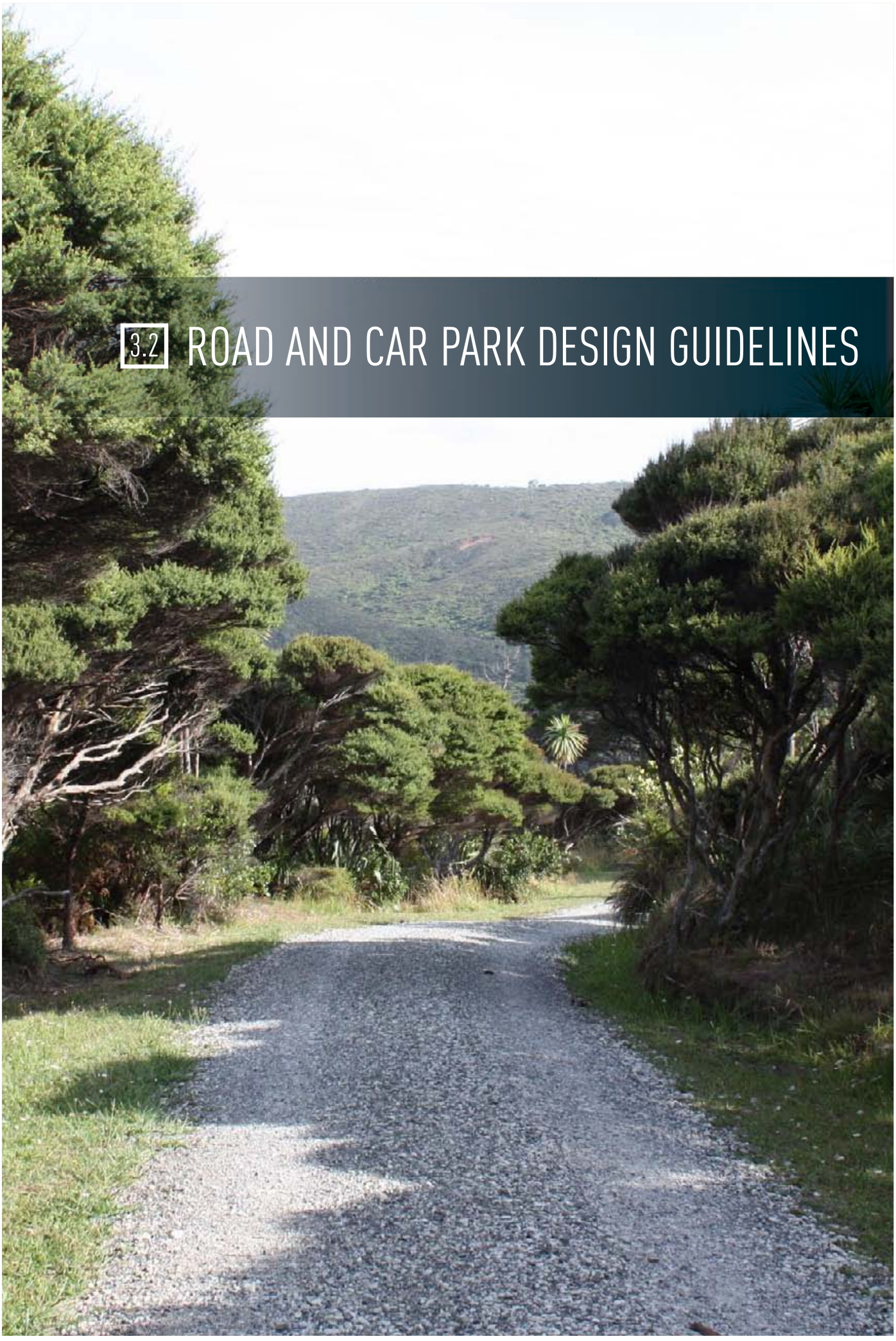
# 3.2 ROAD AND CAR PARK DESIGN GUIDELINES



## Existing Road and Car Park Photos:

*North Piha carpark*

*Anawhata carpark*

*Winstone Track carpark off Piha Road*

*North Piha carpark*

## Roads and Car Parks on Regional Parkland at Piha:

Park roads and carparks provide convenience and direct access to popular destinations at Piha. However, wide roads and carparks at Piha can significantly detract from the enjoyment of the qualities of the natural setting and they can affect biological corridors and fragment habitats by creating barriers to growth.

Roads and carparks need to be designed to withstand wear and tear, provide the service of proximity to destinations while minimising ecological disturbance. The use of vegetation in a carpark or alongside a road is not only important for biological function, but also for mitigating adverse effects of the development. Where possible, vegetation should be used instead of structural barriers for traffic calming measures.

Carparks are often large open-spaced areas in close proximity to natural attractions. It is recommended that carparks are based on single-lane circulation (one way in, one way out) to minimise the width of surface area across the carpark.

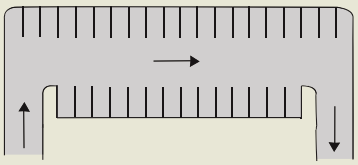
## Potential Design Improvements:

- SITING AND LOCATION
- ACCESSIBILITYANDUSABILITY
- VISIBILITY
- DESIGN WITH NATURE
- AESTHETICSANDBALANCE
- COLOUR AND TEXTURE
- SCALE

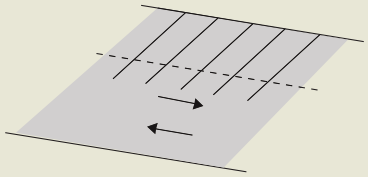
KEY: EXCELLENT ADEQUATE NOT ADEQUATE

IMPROVEMENTS :
*Low planted 'islands' sporadically placed along car park edge to break expanse of sealed area.*

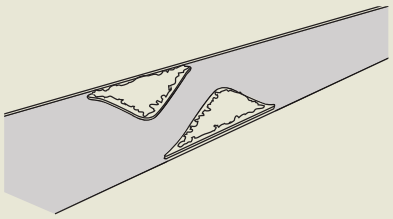
## Road and Car Park Guideline Diagrams:



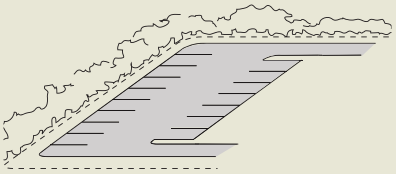
ONE WAY IN ONE WAY OUT



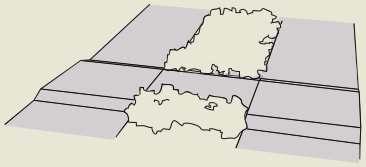
ILLUSION OF LONGER CARPARKS TO SLOW TRAFFIC SPEED



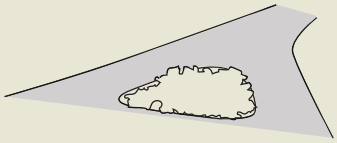
CHICANES TO SLOW TRAFFIC



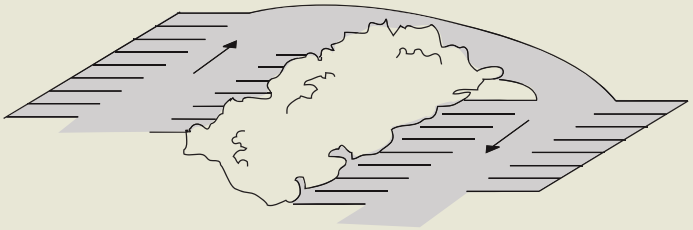
2 METRE BUFFER OF LOW GROWING SPECIES SURROUNDING CAR PARK



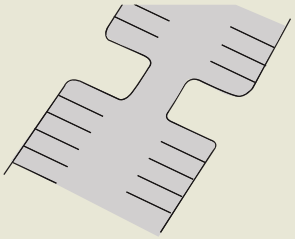
RAISED PEDESTRIAN CROSSINGS TO SLOW TRAFFIC



PLANTED ISLANDS



LEVELED PARKING SEPARATED BY VEGETATED ISLANDS



SMALL VEGETATED ISLANDS ALONG CARPARK EDGE TO BREAK EXPANSE OF SEALED AREA

## Design Exemplars:

*Scandrett Regional Park*

*Ngarunui Beach, Raglan*

*Muriwai Regional Park*

*Ngarunui Beach, Raglan*

## Road and Car Park Design Checklist:

### DESIGN WITH NATURE AND SENSE OF PLACE

- *Responds to site history, culture, geology and landscape*
- *Earthworks kept to a minimum*
- *Energy conscious and renewable materials*
- *Vegetation undisturbed on car park boundary*

☐ EXCELLENT
☐ ADEQUATE
☐ NOT ADEQUATE

### SITING AND LOCATION

- *Shade and shelter from existing trees*
- *Backdrop of landform or vegetation*
- *Car park does not sit on ridge line*

☐ EXCELLENT
☐ ADEQUATE
☐ NOT ADEQUATE

### FIT FOR PURPOSE/ ACCESSIBILITY

- *Design for main user groups*
- *Close to important recreation areas*
- *Barrier free where possible*
- *Surface design appropriate for climate and classification*
- *Circulation (one way in, one way out)*

☐ EXCELLENT
☐ ADEQUATE
☐ NOT ADEQUATE

### FORM

- *Tie into the natural landform - follows contours (leveled parking where appropriate)*

☐ EXCELLENT
☐ ADEQUATE
☐ NOT ADEQUATE

### AESTHETICS

- *Design enhances appeal of the natural environment*
- *Design acclimatises people to the setting*

☐ EXCELLENT
☐ ADEQUATE
☐ NOT ADEQUATE

### COLOUR AND TEXTURE

- *Materials and colours that blend with the local landscape*
- *Natural materials chosen that weather with time*

☐ EXCELLENT
☐ ADEQUATE
☐ NOT ADEQUATE

### SCALE AND BALANCE

- *Car park scale relative to location*
- *Relative to human scale*
- *In context of other developments, buildings and structures within the vicinity.*

☐ EXCELLENT
☐ ADEQUATE
☐ NOT ADEQUATE

## VISIBILITY

- *Site lines and view shafts maintained*
- *Create new visual cues towards roads and car parks when proposing new development*

☐ EXCELLENT
☐ ADEQUATE
☐ NOT ADEQUATE

## CLUSTERING AND ECOLOGICAL FOOTPRINT

- *Ecological footprint of carpark kept to a minimum*

☐ EXCELLENT
☐ ADEQUATE
☐ NOT ADEQUATE

## SAFETY

- *Community ownership of asset encouraged*
- *Car park in close proximity to high activity areas to encourage informal surveillence*
- *Use of traffic calming measures - narrow lanes, central islands/medians, curved road, raised crossings, chicanes.*
- *Use of shared space techniques if appropriate (pedestrians/ cyclists/ vehicles)*

☐ EXCELLENT
☐ ADEQUATE
☐ NOT ADEQUATE

## MAINTAINENCE

- *Regular maintainence can be undertaken with ease*
- *Cost efficient design*
- *Flexible to seasonal change, weathering and erosion*
- *Construction materials should be easily transported to the site*
- *Vandalism deterrant stratagies should be considered*
- *Materials chosen that withstand wear and tear*

☐ EXCELLENT
☐ ADEQUATE
☐ NOT ADEQUATE

## CULTURAL HERITAGE

- *Respect cultural heritage sites (refer to section.4.5)*

☐ EXCELLENT
☐ ADEQUATE
☐ NOT ADEQUATE

## ALTERNATIVES

- *Alternative sites considered*

ON SITE NOTES:

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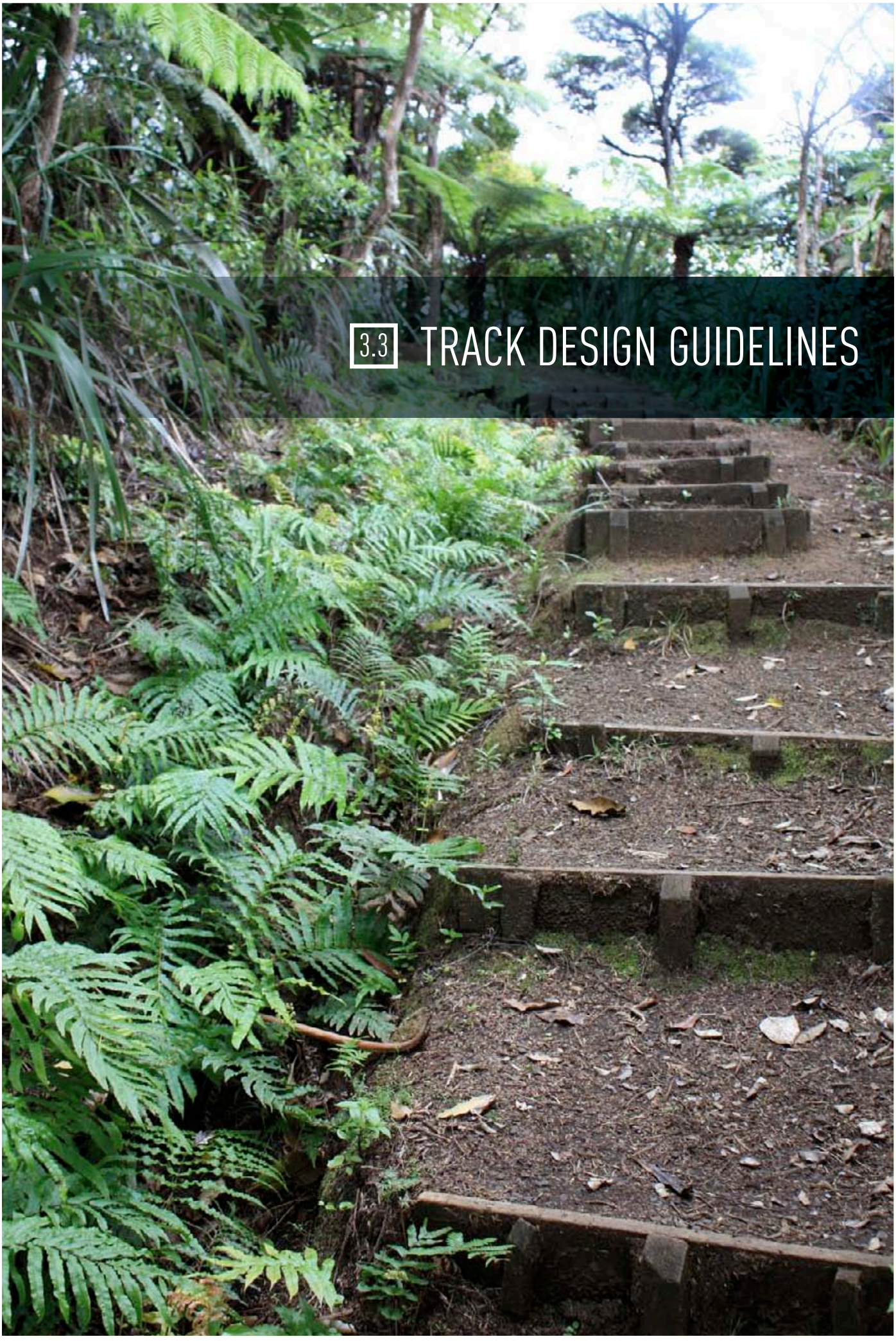


# 3.3 TRACK DESIGN GUIDELINES

## Existing Track Photos:

*Lion Rock Track*

*Marawhara Track*

*Tasman Lookout Track*

*Kitekite Track*

*White Track*

*White Track*

*White Track*

*Kitekite Track*

## Track Descriptions and Standards (refer to Regional Parks Management Plan):

| Track type | Description | Location |
|---|---|---|
| *Paths* | • *Commonly consist of sealed, concrete or compacted gravel surfaces, and may contain timber boardwalks and bridges over permanent waterways*<br>• *Sensitive ecosystems and tree roots will be avoided or, if necessary, bridged*<br>• *Sign-posted with directional signs at track entrances and junctions and safety signs where required*<br>• *Easy grades, with all-weather surfaces, and if necessary, steps*<br>• *Seats and viewing platforms may be provided at areas of interest and limited mobility access will be provided in a range of selected locations* | *Arrival zones only and selected destinations designed for people with disabilities or limited mobility.* |
| *Walking tracks* | • *Generally consist of a compacted and drained surface and may contain timber boardwalks and bridges over permanent wet areas and waterways*<br>• *Sensitive ecosystems and tree roots will be avoided or, if necessary bridged*<br>• *Sign-posted with directional signs at track entrances and junctions and safety signs where required*<br>• *Easy to moderate grades with drained surfaces with limited provision of steps on excessively steep areas. Suitable walking foot ware is recommended*<br>• *Seats may be provided at areas of interest and key views maintained* | *Commonly offering walks of up to 1 hour from arrival zones.* |
| *Tramping tracks* | • *Tramping tracks will consist of formed and drained surfaces*<br>• *Permanent wet areas may be bridged with rafts, where appropriate, but waterways will not generally be bridged*<br>• *Sensitive ecosystems and tree roots will be avoided or, if necessary, bridged*<br>• *Tracks may contain steep grades and difficult terrain where suitable tramping foot ware is recommended*<br>• *Track entrances and key junctions will be signposted*<br>• *Seats may be provided at areas of interest and key views maintained* | *Generally outside main arrival and destination zones but may provide direct access to remote areas from arrival areas.* |
| *Routes* | • *Consist of unformed trails with marker posts only*<br>• *Seats may be provided at areas of interest and key views maintained* | *Open farmland and areas outside main arrival and destination zones.* |
| *Shared-use Tracks and Roads* | • *Walking and tramping tracks that have appropriate topography and track design may be used for other purposes such as mountain biking*<br>• *Internal park roads and service roads may be used as shared-use tracks but walking, tramping and running will take precedence*<br>• *Sign posted as multi-use with user hierarchy outlined* | *Appropriate tracks and internal park roads and service roads within a park.* |

## Tracks on Regional Parkland at Piha:

Tracks in the Piha area provide recreational opportunities within bush and coastal settings that are removed from many of the sounds, sights and smells of the city. They enhance the physical and social wellbeing of people in the region, provide accessible routes from one location to another and connect to significant natural or cultural sites. Tracks in the Piha area can reach quite steep terrain and are exposed to high levels of rainfall during the winter months. Material specification is often hard to propose to ensure the track is suitable from both an aesthetic point of view and is practical from a maintenance perspective.

New tracks and the realignment of existing tracks should follow these recommendations:

- Track surfaces should be relative to the type of activity they have been designed for whether it be walking or tramping (refer to Track Description Chart on page 44)
- Tracks should be maintained at a reasonable standard consistent with their historical use.
- Tracks need to be designed to withstand wear and tear but avoid formalisation through straight lines and hard surfaces (urban elements). The use of natural surfaces and structures is desired as long as the design is consistent with levels of use
- Re-routing of tracks should be considered to avoid dips, wet spots and rare plant species.
- Care must be taken when managing/clearing track side vegetation to ensure continued protection of threatened plants.
- Mitigate adverse environmental impacts such as erosion or impacts on sensitive ecosystems, tree roots and areas affected by pathogens, such as Kauri dieback and disease.
- Signage should be kept to track entrances and car parks. If required, low-impact signage may be implemented along the route to notify changes in track type or to ensure only well-equipped trampers proceed past a certain point on the track.
- Provision of looped tracks or consideration of return journeys by linking a number of tracks where appropriate.

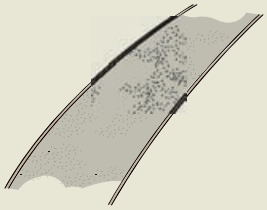
## Potential Design Improvements:

SITING AND LOCATION
ACCESSIBILITY AND SAFETY
DESIGN WITH NATURE
FORM
AESTHETICS AND BALANCE
COLOUR AND TEXTURE

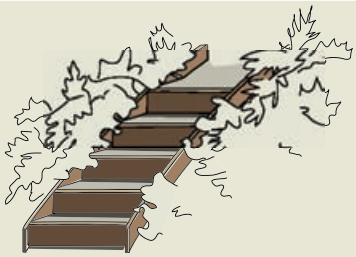
KEY: EXCELLENT ADEQUATE NOT ADEQUATE

IMPROVEMENTS:
*Low planting surrounding the track softens the wooden structure and reinforces the visual path.*

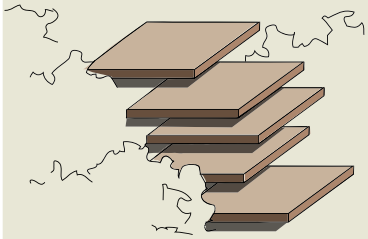
## Track Guideline Diagrams:



GRAVEL/ HOGGIN PATH

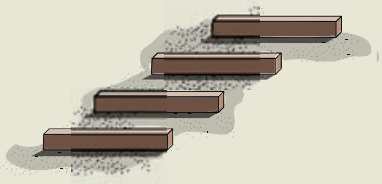


TIMBER EDGED STEPS WITH SURROUNDING LOW VEGETATION

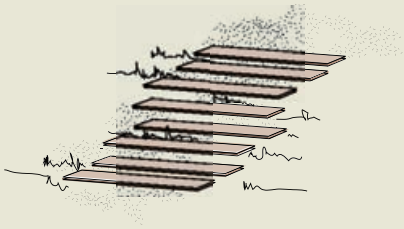


DESIGNED STEPS

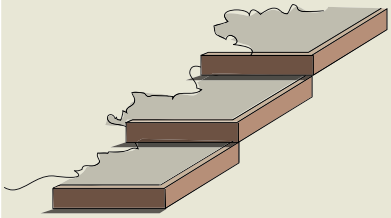
VEGETATION EDGED PATH



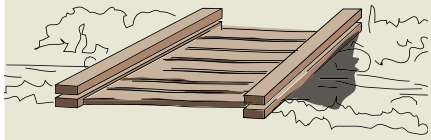
TIMBER RISERS



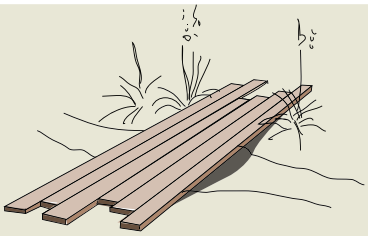
SUNKEN TIMBER PLANKS



BOXED STEPS THAT SIT INTO ONE SIDE OF EMBANKMENT



LOW SIDE BARRIERS ON BRIDGE (FOR DESIGNS 1M IN HEIGHT ABOVE CHANNEL/STREAM)



INFORMAL EDGE TO BRIDGE CROSSING (FOR SHALLOW CHANNEL CROSSING)

## Design Exemplars:

*Boardwalk design*

*ARC Piha track*

*Footbridge design*

*ARC Piha track*

*Waitangi Park, Wellington*

## Tracks Design Checklist:

### DESIGN WITH NATURE AND SENSE OF PLACE

- *Responds to site history, culture, geology and landscape*
- *Earthworks kept to a minimum*
- *Energy conscious and renewable materials*

☐ EXCELLENT
☐ ADEQUATE
☐ NOT ADEQUATE

### SITING AND LOCATION

- *Vegetated edge*
- *Where possible ensure rracks do not sit on ridge line or in highly visibile location*
- *Logical location for track*
- *Track destinations considered*
- *Avoid tree roots and rare plants on track side when proposing track location*

☐ EXCELLENT
☐ ADEQUATE
☐ NOT ADEQUATE

### FIT FOR PURPOSE/ ACCESSIBILITY

- *Design for main user groups*
- *Barrier free where possible*
- *Surface design appropriate for climate and classification*
- *Appropriate for seasonal use patterns*

☐ EXCELLENT
☐ ADEQUATE
☐ NOT ADEQUATE

### FORM

- *Tie into the natural landform*

☐ EXCELLENT
☐ ADEQUATE
☐ NOT ADEQUATE

### AESTHETICS

- *Design enhances appeal of the natural environment*
- *Design acclimatises people to the setting*

☐ EXCELLENT
☐ ADEQUATE
☐ NOT ADEQUATE

### COLOUR AND TEXTURE

- *Materials and colours that blend with the local landscape*
- *Natural materials chosen that weather with time*

☐ EXCELLENT
☐ ADEQUATE
☐ NOT ADEQUATE

### SCALE AND BALANCE

- *Track scale (height above ground and width) relative to location*
- *Relative to human scale*
- *Relevant in context of other developments, buildings, structures and viewpoints within the vicinity.*

☐ EXCELLENT
☐ ADEQUATE
☐ NOT ADEQUATE

## VISIBILITY

- *Site lines and view shafts maintained*
- *Create new visual cues towards tracks when proposing new development*

☐ EXCELLENT
☐ ADEQUATE
☐ NOT ADEQUATE

## CLUSTERING AND ECOLOGICAL FOOTPRINT

- *Ecological footprint of track kept to a minimum*

☐ EXCELLENT
☐ ADEQUATE
☐ NOT ADEQUATE

## SAFETY

- *Community ownership of asset encouraged*
- *Well maintained and good quality structures to encourage high use of track*

☐ EXCELLENT
☐ ADEQUATE
☐ NOT ADEQUATE

## MAINTAINENCE

- *Regular maintenance can be undertaken with ease*
- *Cost efficient design*
- *Flexible to seasonal change, weathering and erosion*
- *Construction materials should be easily transported to the site*
- *Vandalism deterrent stratagies should be considered*

☐ EXCELLENT
☐ ADEQUATE
☐ NOT ADEQUATE

## CULTURAL HERITAGE

- *Respect cultural heritage sites (refer to section.4.5)*

☐ EXCELLENT
☐ ADEQUATE
☐ NOT ADEQUATE

## ALTERNATIVES

- *Alternative sites considered*

ON SITE NOTES:

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# 3.4 SIGN AND NOTICEBOARD DESIGN GUIDELINES

## Existing Sign and Noticeboard Photos:

*Lion Rock*


*Glen Esk*

*Piha Mill Camp (Steadfast Park)*

*Kitekite Falls Track*

*Lion Rock*

*Lion Rock*

*North Piha*


*North Piha Noticeboard*

*Kitekite Track*


*Kitekite Track*

## Signs and Noticeboards on Regional Parkland at Piha:

Signs and noticeboards are important in the Piha area to inform people of the unique features of the park and to warn of the possible dangers of such a wild and untamed coastline and landscape. They convey a sense of place in the park landscape while encouraging ease of use.

In many instances signs can tend to dominate the landscape and override people's natural instincts to keep away from unsafe environments. A visitor to the park should be able to make appropriate, safe choices through being informed by signage which is appropriate for the situation.

The challenge is to provide clear and visible signs that warn of potential danger, without significantly detracting from the natural environment which people are exploring.

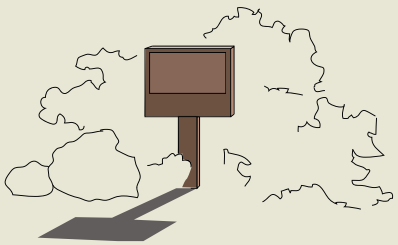
## Potential Design Improvements:

- SITING AND LOCATION
- ACCESSIBILITY & USABILITY
- VISIBILITY
- DESIGN WITH NATURE
- AESTHETICS AND BALANCE
- COLOUR AND TEXTURE
- CLUSTERING

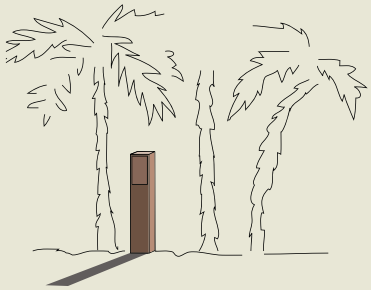
KEY: EXCELLENT ADEQUATE NOT ADEQUATE

IMPROVEMENTS:
*Clustering the signs minimises their intrusion on the landscape.*

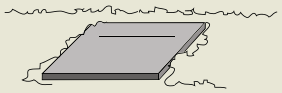
## Sign and Noticeboard Guideline Diagrams:



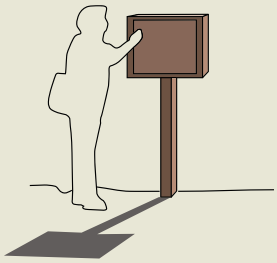
BACKDROP OF VEGETATION/ LANDFORM



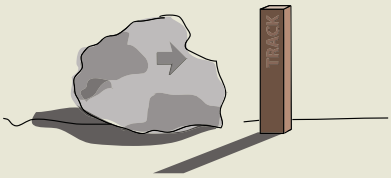
DESIGN TAKES CUES FROM LOCAL ENVIRONMENT



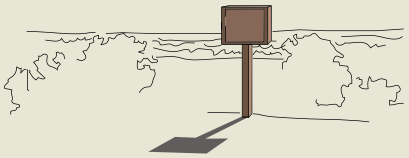
MOUNTED IN GROUND (TO RETAIN VIEWSHAFTS ETC)



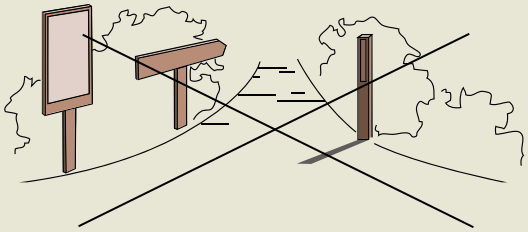
AT HUMAN SCALE

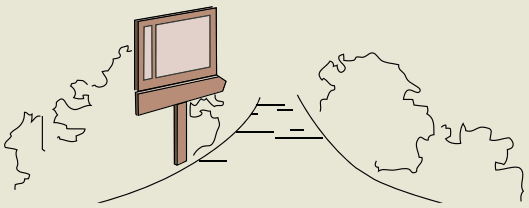



ROUTED WOODEN/ STONE SIGNAGE



ENSURE SIGNAGE DOES NOT RESTRICT VIEWSHAFTS/ SIGHT LINES





MINIMISE STRUCTURES BY GROUPING

## Design Exemplars:

*ARC Piha routered sign*


*ARC Muriwai*

*Montana Heritage Trail*

*ARC Tawharanui*

*WCC North Piha*


*ARC Wenderholm*

## Sign and Noticeboard Design Checklist:

| DESIGN WITH NATURE AND SENSE OF PLACE | |
|---|---|
| • *Responds to site history, culture, geology and landscape*<br>• *Energy conscious and renewable materials* | ☐ EXCELLENT<br>☐ ADEQUATE<br>☐ NOT ADEQUATE |
| **SITING AND LOCATION** | |
| • *Backdrop of landform or vegetation*<br>• *Sign(s) do not sit on ridge line*<br>• *Sign does not obscure views*<br>• *Signs should be located at carparks or at the start of tracks where possible* | ☐ EXCELLENT<br>☐ ADEQUATE<br>☐ NOT ADEQUATE |
| **FIT FOR PURPOSE/ ACCESSIBILITY** | |
| • *Design is appropriate for the intent of the sign - directional/ designative/ regulatory/ cautionary/ informative.*<br>• *Robust structures*<br>• *Sign easy to read and interpret*<br>• *Conform with the requirements of the ARC sign manual* | ☐ EXCELLENT<br>☐ ADEQUATE<br>☐ NOT ADEQUATE |
| **FORM** | |
| • *Tie into the natural landform*<br>• *Keep signs as low as possible* | ☐ EXCELLENT<br>☐ ADEQUATE<br>☐ NOT ADEQUATE |
| **AESTHETICS** | |
| • *Design enhances appeal of the natural environment*<br>• *Design acclimatises people to the setting* | ☐ EXCELLENT<br>☐ ADEQUATE<br>☐ NOT ADEQUATE |
| **COLOUR AND TEXTURE** | |
| • *Materials and colours that blend with the local landscape*<br>• *Natural materials chosen that weather with time* | ☐ EXCELLENT<br>☐ ADEQUATE<br>☐ NOT ADEQUATE |
| **SCALE AND BALANCE** | |
| • *Sign scale relative to location*<br>• *Relative to human scale*<br>• *In context of other developments, buildings, structures and signs within the vicinity.* | ☐ EXCELLENT<br>☐ ADEQUATE<br>☐ NOT ADEQUATE |

## VISIBILITY

- *Site lines and view shafts maintained*
- *Create new visual cues towards structures when proposing new development*

☐ EXCELLENT
☐ ADEQUATE
☐ NOT ADEQUATE

## CLUSTERING AND ECOLOGICAL FOOTPRINT

- *Footprint of sign or noticeboard kept to a minimum*
- *Clustering of structures to avoid confusion of multiple signs*

☐ EXCELLENT
☐ ADEQUATE
☐ NOT ADEQUATE

## SAFETY

- *Community ownership of asset encouraged*

☐ EXCELLENT
☐ ADEQUATE
☐ NOT ADEQUATE

## MAINTAINENCE

- *Regular maintenance can be undertaken with ease*
- *Cost efficient design*
- *Flexible to seasonal change, weathering and erosion*
- *Construction materials should be easily transported to the site*
- *Vandalism deterrent strategies should be considered*

☐ EXCELLENT
☐ ADEQUATE
☐ NOT ADEQUATE

## CULTURAL HERITAGE

- *Respect cultural heritage sites (refer to section.4.5)*

☐ EXCELLENT
☐ ADEQUATE
☐ NOT ADEQUATE

## ALTERNATIVES

- *Alternative sites considered*

ON SITE NOTES:

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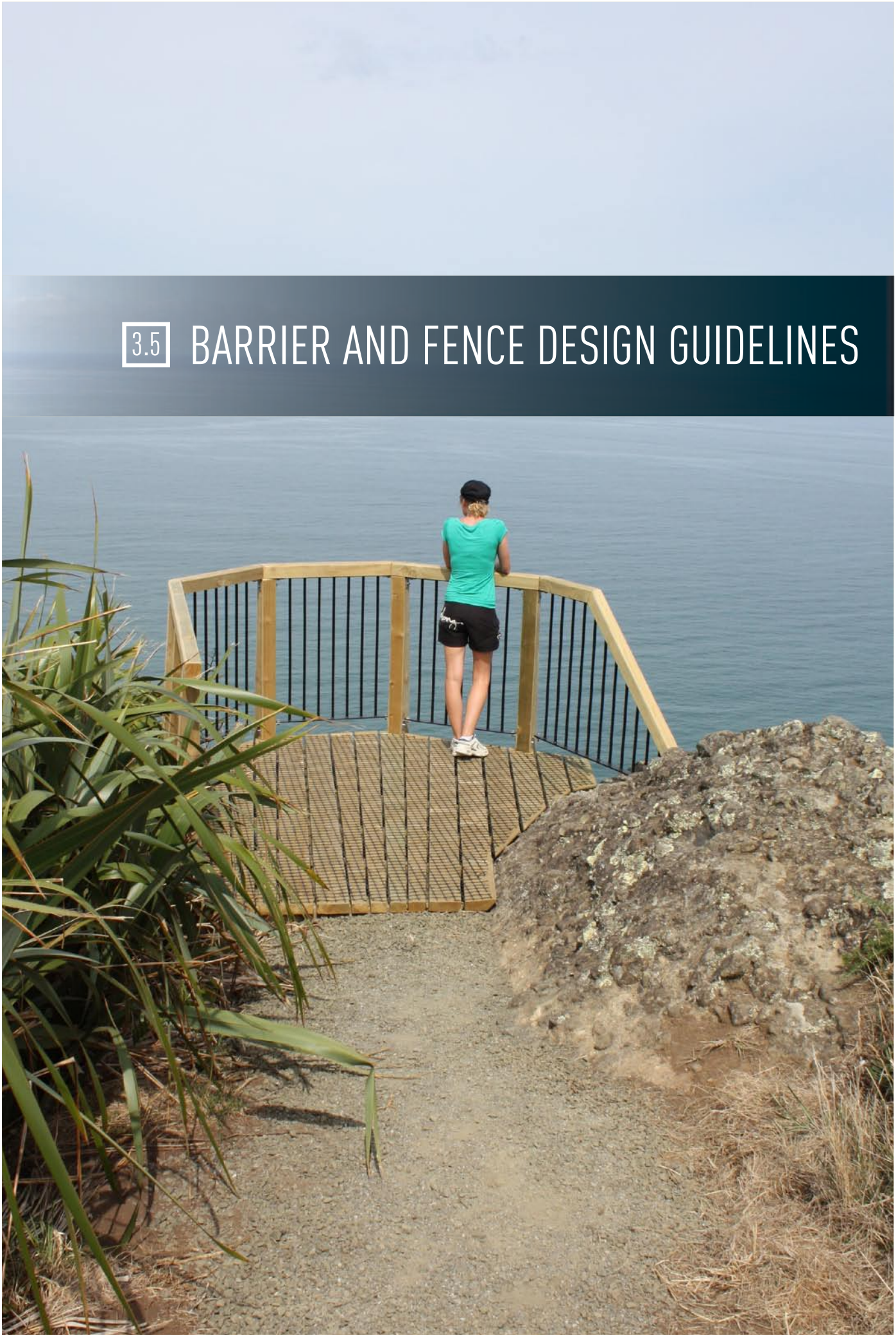
# 3.5 BARRIER AND FENCE DESIGN GUIDELINES



## Existing Barrier and Fence Photos:

*Lion Rock post and wire fence*

*North Piha post and rail barrier*

*Tasman Lookout*

*Glen Esk bollards*

*Kitekite Track*

*Lion Rock*

*Lion Rock*

*Mercer Bay Track Lookout*

*North Piha*

*Laird Thomson Track (Te Waha Point)*

## Barriers and Fences on Regional Parkland at Piha:

Safety of park visitors is a high priority at Piha. ARC is required to provide infrastructure in a manner to facilitate safe park use, whilst not over-emphasising a particular messege or detracting from the natural settings.

Therefore appropriate demarcation of environmentally protected areas or safe and unsafe areas through barriers and fences is required, to enable the park visitor to make appropriate choices within the park.

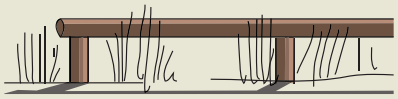
## Potential Design Improvements:

IMPROVEMENTS:
*Planting infront of the rock wall/seat reduces the hard angles of the rock structure and helps the wall to sit into the landscape rather than perch on it.*

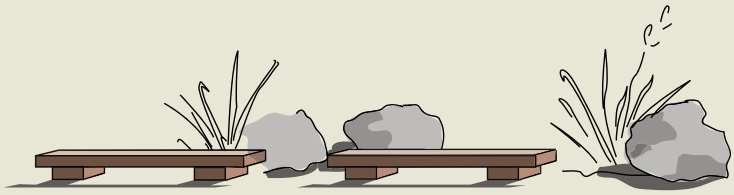
| | |
|---|---|
| SITING AND LOCATION | FORM |
| ACCESSIBILITY | AESTHETICS AND BALANCE |
| VISIBILITY | COLOUR AND TEXTURE |
| DESIGN WITH NATURE | SCALE |

KEY: EXCELLENT ADEQUATE NOT ADEQUATE

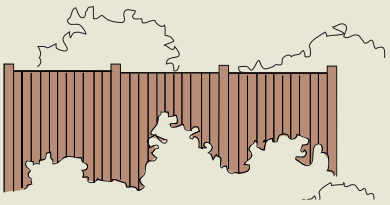
## Barrier and Fence Guideline Diagrams:



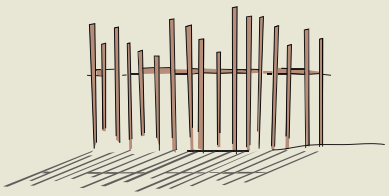
VEGETATION ALONG BARRIER LINE



COMBINATION OF NATURAL SITE ELEMENTS AND TIMBER WHEEL STOPS

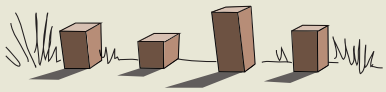


BACKGROUND AND FOREGROUND PLANTING TO MINIMISE IMPACT.

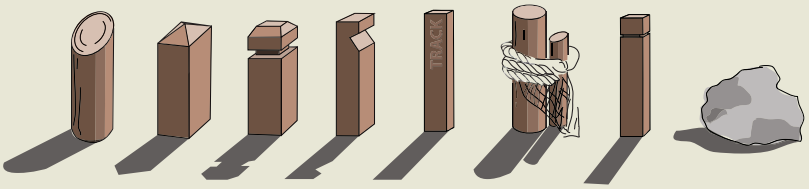


INFORMAL EDGE/ STRUCTURE DESIGN

USE OF NATURAL SITE ELEMENTS AND PLANTING



VARIOUS HEIGHTS TO BOLLARDS




BOLLARD DESIGN IDEAS

## Design Exemplars:

*WCC Piha*

*Muriwai photomontage*

*ARC Tawharanui*

*Piha (private property)*

*WCC Piha*

*Waitangi Park fence*

*Fence design*

## Barrier and Fence Design Checklist:

| DESIGN WITH NATURE AND SENSE OF PLACE | |
|---|---|
| • *Responds to site history, culture, geology and landscape*<br>• *Earthworks kept to a minimum*<br>• *Energy conscious and renewable materials* | ☐ EXCELLENT<br>☐ ADEQUATE<br>☐ NOT ADEQUATE |
| **SITING AND LOCATION** | |
| • *Backdrop of landform or vegetation*<br>• *Barriers/ fences do not sit on ridge line* | ☐ EXCELLENT<br>☐ ADEQUATE<br>☐ NOT ADEQUATE |
| **FIT FOR PURPOSE/ ACCESSIBILITY** | |
| • *Robust and adaptable structures*<br>• *Effectively demarcate unsafe/no-go areas as well as allowing adequate access* | ☐ EXCELLENT<br>☐ ADEQUATE<br>☐ NOT ADEQUATE |
| **FORM** | |
| • *Tie into the natural landform*<br>• *Terrain or vegetation screening used where barrier/fences are intrusive*<br>• *Ensure barriers do not create a hard edge* | ☐ EXCELLENT<br>☐ ADEQUATE<br>☐ NOT ADEQUATE |
| **AESTHETICS** | |
| • *Design enhances appeal of the natural environment*<br>• *Design acclimatises people to the setting* | ☐ EXCELLENT<br>☐ ADEQUATE<br>☐ NOT ADEQUATE |
| **COLOUR AND TEXTURE** | |
| • *Materials and colours that blend with the local landscape*<br>• *Natural materials chosen that weather with time* | ☐ EXCELLENT<br>☐ ADEQUATE<br>☐ NOT ADEQUATE |
| **SCALE AND BALANCE** | |
| • *Scale of barrier/fence relative to location*<br>• *Relative to human/ vehicle scale*<br>• *In context of other developments, buildings and structures within the vicinity.* | ☐ EXCELLENT<br>☐ ADEQUATE<br>☐ NOT ADEQUATE |

## VISIBILITY

- *Site lines and view shafts maintained*

☐ EXCELLENT
☐ ADEQUATE
☐ NOT ADEQUATE

## CLUSTERING AND ECOLOGICAL FOOTPRINT

- *Clustering of structures where possible*

☐ EXCELLENT
☐ ADEQUATE
☐ NOT ADEQUATE

## SAFETY

- *Community ownership of asset encouraged*
- *Structure in close proximity to high activity areas to encourage informal surveillence*

☐ EXCELLENT
☐ ADEQUATE
☐ NOT ADEQUATE

## MAINTAINENCE

- *Regular maintenance can be undertaken with ease/ cost efficient design*
- *Flexible to seasonal change, weathering and erosion*
- *Construction materials should be easily transported to the site*
- *Vandalism deterrent strategies should be considered*

☐ EXCELLENT
☐ ADEQUATE
☐ NOT ADEQUATE

## CULTURAL HERITAGE

- *Respect cultural heritage sites (refer to section.4.5)*

☐ EXCELLENT
☐ ADEQUATE
☐ NOT ADEQUATE

## ALTERNATIVES

- *Alternative sites considered*

ON SITE NOTES:

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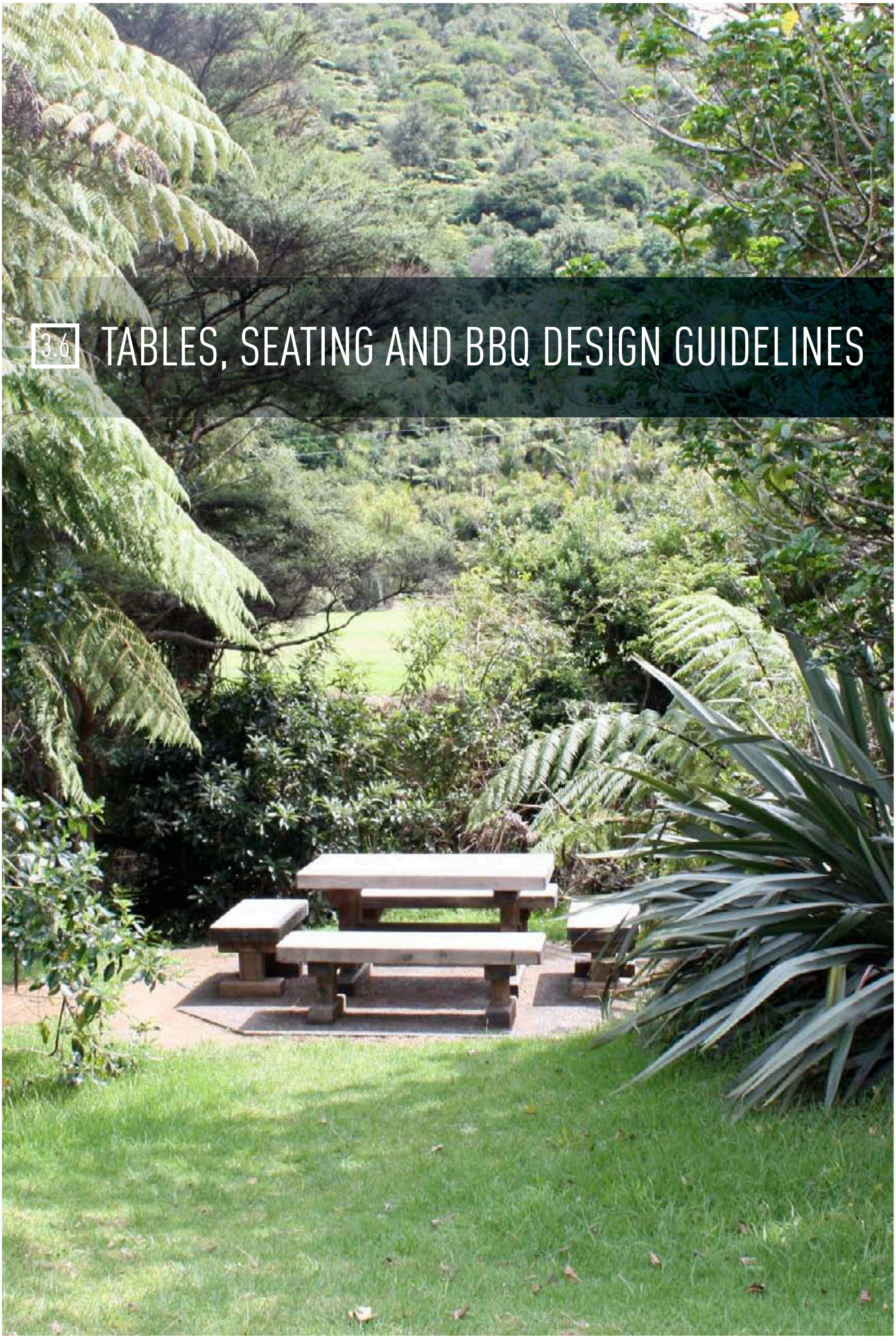
# 3.6 TABLES, SEATING AND BBQ DESIGN GUIDELINES



## Existing Table, Seating and BBQ Photos:

*Glen Esk BBQ*

*Lion Rock*

*Mercer Bay Lookout*

*Te Waha Point*

*Glen Esk drinking fountain*

*Glen Esk picnic area*

*The Gap Lookout*

*Kitekite Falls Lookout*

*Glen Esk*

*Tasman Lookout Track*

## Tables, Seating and BBQs on Regional Parkland at Piha:

The Piha area provides many recreational structures for the enjoyment of visitors. These include electric BBQs, picnic tables and seating.

The purpose of a recreational structure and how well it fits into the landscape should be considered simultaneously when designing and implementing.

The variety of environmental conditions, landscape sensitivities and the size of land available for park furniture call for a diversity of materials, sizes and placement. As desirable as objects are in some locations, in others it must be recognised that it is too difficult to implement and maintain.

## Potential Design Improvements:

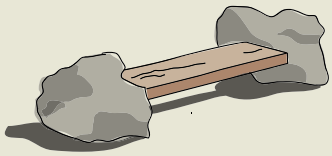
- SITING AND LOCATION
- ACCESSIBILITYANDUSABILITY
- VISIBILITY
- DESIGN WITH NATURE
- AESTHETICSANDBALANCE
- COLOUR AND TEXTURE
- CLUSTERING
- SCALE

KEY: EXCELLENT ADEQUATE NOT ADEQUATE

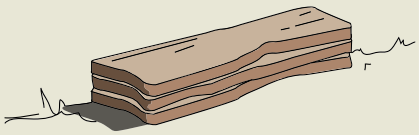
IMPROVEMENTS:
*The simple addition of planting behind softens the structure. Graffitti -prone surfaces are minimised by the removal of the backrest.*

## Tables, Seating and BBQ Guideline Diagrams:

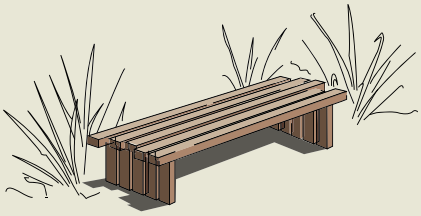
USE OF NATURAL SITE ELEMENTS



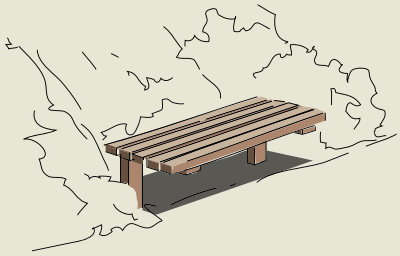
COMBINATION OF NATURAL SITE ELEMENTS AND TIMBER



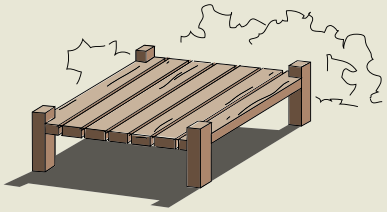
STACKING OF TIMBER



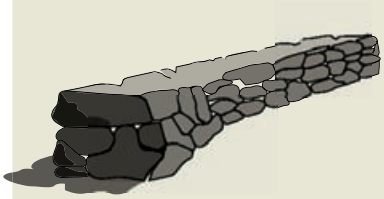
INFORMAL EDGES



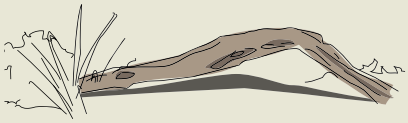
BACKDROP OF VEGETATION/ LANDFORM



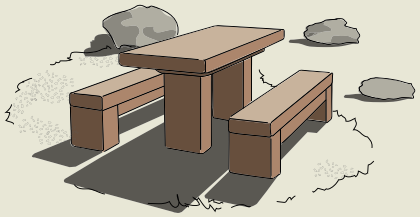
MULTI-PURPOSE FURNITURE (SEAT/ TABLE/ STAGE



CURVED SEATING TO FOLLOW SITE CONTOURS & LANDSCAPE ELEMENTS



USE OF NATURAL SITE ELEMENTS/ LANDFORM



INFORMAL SURFACE AROUND PARK FURNITURE

## Design Exemplars:

*WCC Piha*

*ARC Waitakere Ranges Visitor Centre*

*ARC Atiu Creek*

*ARC Piha*

## Tables, Seating and BBQ Design Checklist:

| DESIGN WITH NATURE AND SENSE OF PLACE | |
|---|---|
| • *Responds to site history, culture, geology and landscape*<br>• *Earthworks kept to a minimum*<br>• *Energy conscious and renewable materials* | ☐ EXCELLENT<br>☐ ADEQUATE<br>☐ NOT ADEQUATE |
| **SITING AND LOCATION** | |
| • *Backdrop of landform or vegetation*<br>• *Tables/ seating do not sit on ridge line*<br>• *Location has pleasant outlook, protection from wind and shade during summer* | ☐ EXCELLENT<br>☐ ADEQUATE<br>☐ NOT ADEQUATE |
| **FIT FOR PURPOSE/ ACCESSIBILITY** | |
| • *Ergonomically designed for main user groups*<br>• *Robust and adaptable structures*<br>• *Logical resting place* | ☐ EXCELLENT<br>☐ ADEQUATE<br>☐ NOT ADEQUATE |
| **FORM** | |
| • *Tie into the natural landform* | ☐ EXCELLENT<br>☐ ADEQUATE<br>☐ NOT ADEQUATE |
| **AESTHETICS** | |
| • *Design enhances appeal of the natural environment*<br>• *Design acclimatises people to the setting* | ☐ EXCELLENT<br>☐ ADEQUATE<br>☐ NOT ADEQUATE |
| **COLOUR AND TEXTURE** | |
| • *Materials and colours that blend with the local landscape*<br>• *Natural materials chosen that weather with time* | ☐ EXCELLENT<br>☐ ADEQUATE<br>☐ NOT ADEQUATE |
| **SCALE AND BALANCE** | |
| • *Scale of structure relative to location*<br>• *Design relative to human scale*<br>• *In context of other developments, buildings and structures within the vicinity* | ☐ EXCELLENT<br>☐ ADEQUATE<br>☐ NOT ADEQUATE |

## VISIBILITY

- *Site lines and view shafts maintained*
- *Create new visual cues towards table/seat/BBQ when proposing new development*

☐ EXCELLENT
☐ ADEQUATE
☐ NOT ADEQUATE

## CLUSTERING AND ECOLOGICAL FOOTPRINT

- *Footprint of structure kept to a minimum*
- *Clustering of picnic facilities and other structures*

☐ EXCELLENT
☐ ADEQUATE
☐ NOT ADEQUATE

## SAFETY

- *Community ownership of asset encouraged*
- *Picnic area in close proximity to high activity areas to encourage informal surveillence*

☐ EXCELLENT
☐ ADEQUATE
☐ NOT ADEQUATE

## MAINTAINENCE

- *Regular maintenance can be undertaken with ease/ cost efficient design*
- *Flexible to seasonal change, weathering and erosion*
- *Construction materials should be easily transported to the site*
- *Vandalism deterrent strategies should be considered*

☐ EXCELLENT
☐ ADEQUATE
☐ NOT ADEQUATE

## CULTURAL HERITAGE

- *Respect cultural heritage sites (refer to section 4.5)*

☐ EXCELLENT
☐ ADEQUATE
☐ NOT ADEQUATE

## ALTERNATIVES

- *Alternative sites considered*

ON SITE NOTES:

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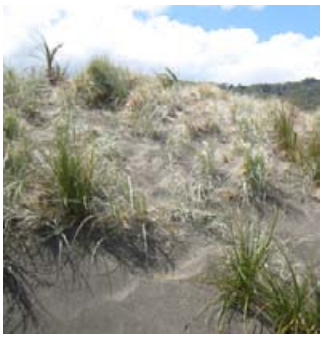
# 3.7 FLORA AND GREEN ASSET DESIGN GUIDELINES

## Flora and Green Asset Photos:









## Flora and Green Assets on Regional Parkland at Piha:

Vegetation is often the most significant feature of any park landscape - Piha is no exception. The type, extent and growth ability of the flora (green assets) along the coast of the Piha Area is dictated by the harsh environment and prevailing westerly winds off the Tasman Sea.

The visual quality of the parkland is enhanced through appropriate management and enhancement of the areas of native vegetation and landscape features, while still providing for public access and appropriate development. This requires careful integration of development and management practices with the natural systems and features of the landscape.

Facilities should be sited sensitively into the landscape, and revegetation programmes, roading and the layout of fencing and open space areas should relate to the natural contours of the landform and the existing visual vegetation patterns. Consideration should be given to the protection of endangered plants on track edges.

There are spectacular panoramic views from many sites within Piha that greatly enhance the experience and enjoyment of the park visitor. Natural regrowth and revegetation programmes can diminish and obliterate these views and need to be sensitively managed to retain the recreational amenity of these sites.

## Design Exemplars:

*ARC Cascade Kauri*

*Entrance planting design*

*Roof garden design*

*Riprap design*

*Planting edge design*

*Carpark edge design*

*ARC Tawharanui*

*ARC Wenderholm*

*WCC Piha*

*Waitangi Park, Wellington*

## Choosing the most appropriate species for the location:

The following is a comprehensive list of documents produced by the Auckland Regional Council that provide information on planting natives in specific environments. The pdfs can be found at:
*http://www.arc.govt.nz/environment/plants-and-animals/publications/publications_home.cfm*

### Coastal planting (Dunes)

*http://www.arc.govt.nz/environment/plants-and-animals/publications/publications_home.cfm*

- Coastal Planting 2: Dunes

### Coastal forest

- Coastal planting 3: Forest
- Native Forest Restoration - Planting
- Forest Fragments - Caring for Forest Fragments

### Coastal cliff tops

http://www.arc.govt.nz/environment/plants-and-animals/publications/publications_home.cfm

- Coastal Planting 4: Cliffs

### Coastal wetlands

http://www.arc.govt.nz/environment/plants-and-animals/publications/publications_home.cfm

- Coastal Planting 5: Coastal Wetland, salt marshes and estuaries
- Wonderful Wetlands
- Wonderful Wetlands - Wetland Restoration and Planting Guide in the Auckland region

### Coastal riparian planting

http://www.arc.govt.nz/environment/plants-and-animals/publications/publications_home.cfm

- Riparian facts - Streamside Planting Guide

### Pest plants

http://www.arc.govt.nz/environment/plants-and-animals/publications/publications_home.cfm

- Coastal Planting 1 - General

### Other

http://www.arc.govt.nz/environment/plants-and-animals/publications/publications_home.cfm

- Coastal Planting 1 - General
- Coastal Planting 6 - Clay Banks

## Native (indigenous) plants of the Piha area:

| BOTANICAL NAME | COMMON NAME | REQUIREMENTS |
|---|---|---|
| FERNS | | |
| Adiantum aethiopicum | makaka | shade to part sun, tolerates dry + moist soils |
| Adiantum cunninghamii | common maidenhair | shade to part sun, tolerates dry + moist soils |
| Adiantum hispidulum | rosy maidenhair | full sun + part shade, tolerates dry and + soils |
| Asplenium bulbiferum | hen and chicken fern | part sun + shade, tolerates moist soils |
| Asplenium flabellifolium | necklace fern | full sun, tolerates dry + moist poor clay soils and harsh wind |

| BOTANICAL NAME | COMMON NAME | REQUIREMENTS |
|---|---|---|
| FERNS | | |
| Asplenium flaccidum | makawe, hanging spleenwort | prefers shade, tolerates some moist + clay soils |
| Asplenium lamprophyllum | glossy asplenium | prefers shade, tolerates some moist + clay soils |
| Asplenium appendiculatum spp maritimum | | shade + part sun and tolerates dry + most soils |
| Asplenium northlandicum | leather leaf asplenium | full sun + shade, tolerates some dry, moist + boggy soils and harsh wind |
| Asplenium oblongifolium | huruhuruwhenua, shining spleenwort | prefers shade and tolerates moist soils |
| Azolla filiculiodes | floating fern | prefers boggy soils |
| Blechnum blechnoides | salt spray fern | full sun + shade, tolerates dry conditions, poor clay soil and harsh winds |
| Blechnum novae-zealandiae | kiokio | part sun + shade, tolerates moist, boggy, poor soils and harsh wind |
| Cheilanthes distans | woolly cloak fern | part sun + part shade, tolerates dry and poor clay soils |
| Hymenophyllum spp | filmy ferns | prefers shade and tolerates moist soils |
| Hypolepis ambigua | | prefers shade and tolerates moist soils |
| Hypolepis dicksonioides | giant hypolepsis | full sun + part shade, tolerates some dry and moist soils |
| Hypolepis distans | | sun + shade, tolerates some dry, some moist and clay soils |
| Lastreopsis glabella | | prefers shade and moist soils |
| Lastreopsis hispida | hairy legs | prefers shade and moist soils |
| Laestreopsis micrisora | | prefers shade and moist soils |
| Lastreopsis velutina | velvet fern | prefers shade and tolerates moist soils |
| Lindsaea linearis | | full sun + part shade, tolerates some dry, moist, boggy, poor soils and harsh wind |
| Lindsaea trichomanoides | | part sun + shade, tolerates some dry and moist poor clay soils |
| Doodia media | pukupuku | prefers shade, tolerates some dry + some moist soils |
| Doodia mollis | mokimoki | shade + part sun, tolerates dry + moist soils |
| Pteridium esculentum | bracken | full sun + part shade, tolerates dry + moist poor clay soils and harsh wind |
| Pteris macilenta | | prefers shade, tolerates moist soils |
| Pteris comans | nz coastal brake | part sun + part shade, tolerates some dry + moist soils |
| Pteris tremula | tuawera, trembling brake | Prefers sun + some shade and tolerates moist soils |
| Phymatosorus pustulatum | kowaowao. maratata | shade + part sun, tolerates some dry and moist soils and some harsh wind |
| Phymatosorus scandens | moki, fragrent fern | prefers shade and moist soils |
| Pellaea falcata | | full sun + part shade, tolerates dry + some moist soils and harsh wind |
| Pellaea rotundifolia | tarawera, button fern | full sun + shade, tolerates some dry and moist soils |
| Lygodium articulatum | mangemange | prefers shade and tolerates some moist soils |
| ASTELIA | | |
| Astelia banksii | coastal astelia | full sun, part shade, tolerates dry + occasional moist soil and harsh wind |
| Astelia solandri | kowharawhara, perching lily | full sun + shade, tolerates dry + moist soils and harsh winds |
| Astelia trinervia | kauri grass | shade + part sun, tolerates moist soils and harsh winds |
| FLAX | | |
| Cordyline pumilio | ti rauriki, dwarf cabbage tree | full sun + part shade, tolerates poor soils |
| Phormium cookianum | whaririki | full sun + part shade, tolerates dry + moist soils, poor clay + harsh wind |
| Phormium tenax | flax/harakeke | full sun, tolerates some dry + moist, poor and boggy soils + harsh wind |
| GRASS | | |
| Austrofestuca littoralis | dune grass | full sun, tolerates some dry + moist soils and harsh wind |
| Carex pumila | sand carex | full sun, tolerates dry + well drained soils and harsh wind |
| Carex secta | pukio, niggerhead | full sun + part shade, tolerates boggy soils and harsh wind |
| Carex testacea | orange sedge | shade + part sun, tolerates dry +moist soils and harsh winds |
| Cortaderia fulvida | toetoe | prefers sun, tolerates dry, moist, boggy, poor clay soils and harsh wind |
| Cortaderia splendins | coastal toetoe | full sun, tolerates dry, moist + poor clay soils and harsh wind |
| Desmoschoenus spiralis | pingao | full sun, tolerates dry and some moist soils and harsh winds |
| Dianella nigra | turutu, nz blueberry | full sun + shade, tolerates dry, moist + poor clay soils and harsh wind |
| Gahnia lacera | cutty grass | shade + part sun, tolerates dry, moist + poor clay soils and harsh wind |
| Gahnia setifolia | cutty grass | full sun + part shade, tolerates dry, moist + poor clay soils and harsh wind |
| Gahnia xanthocarpa | toikiwi, cutty grass | shade + part sun, tolerates moist, boggy and poor clay soils and harsh wind |
| Spinifex sericeus | kowhangatara, spinifex | prefers sun, tolerates dry, moist soils and harsh wind |
| Poa anceps | plumed tussock | full sun + shade, tolerates dry + moist soils and harsh wind |
| Microlaena avenacea | forest rice grass | part sun + part shade, tolerates some dry + moist soils and some harsh wind |
| Microlaena polynoda | native bamboo | full sun + shade, tolerates dry soils and some harsh winds |

| BOTANICAL NAME | COMMON NAME | REQUIREMENTS |
|---|---|---|
| GRASS | | |
| Microlaena stipoides | meadow rice grass | part sun + part shade, tolerates some dry + moist soils and some harsh wind |
| GROUNDCOVER | | |
| Calystegia soldanella | nihinihi, shore bindweed | full sun, tolerates some dry + moist soil |
| Centella uniflora | marsh pennywort | full sun + part shade, tolerates dry, moist + poor clay soils and harsh wind |
| Coprosma acerosa | sand coprosma | full sun, tolerates dry + moist soils and harsh wind |
| Dichondra repens | mercury bay weed | full sun + part shade, tolerates dry and moist soils and harsh wind |
| Disphyma australe | horokaka, nz ice plant | full sun, tolerates dry soils and harsh wind |
| Selleria radicans | remuremu | full sun, tolerates some dry, moist + some boggy soils and harsh wind |
| Samolus repens | shore pimpernel | full sun, tolerates moist + some boggy soils and harsh wind |
| Scandia rosifolia | coastal angelica | full sun, tolerates some dry + moist soils and harsh wind |
| Pimelia prostrata | strathmore weed | full sun, tolerates dry + moist soils and harsh wind |
| Nertera depressa | duckweed | full sun + full shade, tolerates moist + some boggy soils and harsh wind |
| Nertera dichondrifolia | northern netera | full sun + part shade, tolerates some dry + moist soils |
| HERB | | |
| Celmisia major var major | waitakere rock daisy | full sun, tolerates dry + moist soils and harsh wind |
| Cotula coronopifolia | bachelor's button | full sun, tolerates moist + boggy soils and harsh wind |
| Tetragonia tetragonioides | NZ spinach | sun, tolerates well drained soil and harsh wind |
| Peperomia urvilleana | wharanui | part sun + shade, tolerates dry + moist soils and some harsh wind |
| LILY AND IRIS | | |
| Arthropodium cirratum | rengarenga lily | full sun + shade, tolerates dry + moist soils and harsh wind |
| Libertia grandiflora | large flowered iris | part sun + shade, tolerates dry, moist + poor clay soils |
| Libertia ixioides | native iris | part sun + shade, tolerates dry, moist + poor clay soils |
| Libertia peregrinans | creeping sand iris | sun + shade, tolerates dry, moist + poor clay soils |
| SEDGE AND RUSH | | |
| Baumea articulata | jointed twig rush | prefers full sun, tolerates moist, boggy soils |
| Baumea rubignosa | sedge tussock | prefers full sun, tolerates moist, boggy soils |
| Cyperus ustulatus | upoko tangata, giant umbrella sedge | full sun, tolerates moist + boggy soils and harsh wind |
| Juncus pallidus | giant rush | full sun, tolerates some dry, moist, boggy and poor clay soils |
| Leptocarpus similis | oioi, jointed rush | full sun + part shade, tolerates dry, moist, boggy and poor clay soils |
| Eleocharis sphacelata | kuta, bamboo spike sedge | prefers full sun, tolerates moist, boggy soils |
| Typha orientalis | raupo | prefers full sun, tolerates moist, boggy soils |
| Uncinia uncinata | forst hook sedge | full sun + shade, tolerates a wide range of conditions |
| Schoenoplectus validus | kapungawha | full sun, tolerates moist, boggy soils |
| Isolepsis nodosa | knobby clubrush | full sun, tolerates dry, moist and boggy soils |
| SHRUB | | |
| Ozothamnus leptophyllus | tauhinu | full sun + part shade, tolerates dry + poor clay soils + harsh wind |
| Coprosma arborea | mamangi | full sun, needs some shade to establish, tolerates some dry + moist soils |
| Coprosma crassifolia | stiff stemmed coprosma | full sun + part shade, tolerates dry + moist soils and some harsh wind |
| Coprosma lucida | shining karamu | full sun + part shade, tolerates dry + moist poor clay soils and some harsh wind |
| Coprosma repens | taupata | full sun + shade, tolerates dry + moist poor clay soils and harsh wind |
| Coprosma robusta | karamu | full sun + part shade, tolerates dry, moist, poor clay soils and harsh wind |
| Coprosma rhamnoides | | full sun + full shade, tolerates dry, moist + poor clay soils and harsh wind |
| Corokia cotoneaster | bluff korokio | full sun + part shade, tolerates dry, moist + poor clay soils and harsh wind |
| Cyathodes junipera | mingimingi | full sun + shade, tolerates dry, moist and poor clay soils |
| Dracophyllum sinclairii | spiderwood | full sun + shade, tolerates dry, moist and poor clay soils |
| Freycinetia banksii | kiekie | shade needed at base + to establish, tolerates moist, boggy soils and harsh wind |
| Gaultheria antipoda | bush snowberry | full sun + part shade, tolerates dry, moist, poor clay soils and harsh wind |
| Hebe obtusata | west coast cliff hebe | full sun, tolerates dry, moist soils and harsh wind |
| Hebe stricta | koromiko | full sun + part shade, tolerates dry, moist + poor clay soils and harsh wind |
| Hebe bishopiana | huia hebe | full sun, tolerates some dry, moist soils and harsh wind |
| Hebe macrocarpa | koromiko | full sun + part shade, tolerates dry, moist + poor clay soils and some harsh wind |
| Leucopogon fasciculatus | mingimingi | full sun + part shade, tolerates dry, moist + poor clay soils and harsh wind |
| Leucopogon fraseri | patotara | full sun + part shade, tolerates dry, moist + poor clay soils and harsh wind |
| Muehlenbeckia complexa | pohuehue | full sun, tolerates dry, moist, boggy soils and harsh wind |
| Olearia furfuracea | akepiro/tanguru | full sun, tolerates dry, moist, poor clay soils and harsh wind |
| Pomaderris kumeraho | kumerahou | full sun, tolerates dry + some moist soils |

| BOTANICAL NAME | COMMON NAME | REQUIREMENTS |
|---|---|---|
| SHRUBS | | |
| Pittosporum crassifolium | karo | full sun, tolerates some dry, moist soils and harsh wind |
| Pittosporum ellipticum | | full sun + part shade, tolerates some dry, moist + some poor soils and harsh wind |
| Pimelia arenaria | autetaranga, and daphne | full sun, tolerates dry, moist soils and harsh wind |
| Rhabdothamnus solandri | turepo | shade + part sun, tolerates dry + some moist soils |
| Melicope simplex | poataniwha | full sun + some shade, tolerates dry, moist, poor clay soils and harsh wind |
| Lophomyrtus obcordata | rohutu | full sun + some shade, tolerates some dry and moist soils |
| Lycopodium deuterodensum | tree clubmoss | part sun + shade, tolerates dry, moist and poor clay soils |
| VINE/ CLIMBER | | |
| Collospermum hastatum | kahakaha | full sun + shade, tolerates some dry, moist soils and some harsh wind |
| Parsonsia heterophylla | nz jasmine | full sun, tolerates moist soils |
| Metrosideros carminea | akakura, carmine rata | full sun + shade, tolerates some dry, moist soils |
| Metrosideros perforata | akatea, small white rata | full sun + shade, tolerates some dry, moist soils and harsh wind |
| Parsonsia capsularis | kaiwhiria, pink jasmine | full sun, tolerates moist soils and harsh wind |
| TREE FERN/ PALM | | |
| Cyathea dealbata | ponga | full sun + shade, tolerates some dry, moist and poor clay soils |
| Cyathea medullaris | mamaku | shade needed at base + to establish, tolerates moist, poor soil and harsh wind |
| Rhopalostylis sapida | nikau | shade needed at base + to establish, tolerates moist, boggy soil and harsh wind |
| SMALL TREES/ LARGE SHRUBS | | |
| Carpodetus serratus | putaputaweta | full sun + some shade, tolerates moist, some boggy and poor clay soils |
| Cordyline australis | cabbage tree | full sun + some shade, tolerates dry, moist, boggy, poor clay soils + harsh wind |
| Cordyline banksii | forest cabbage tree | full sun + some shade, tolerates dry, moist, some poor soils + some harsh wind |
| Leptospermum scoparium | manuka | full sun, tolerates dry, moist, boggy soils and harsh wind |
| Entelea arborescens | whau | full sun + some shade, tolerates some dry and moist soils |
| Toronia toru | toru | full sun + some shade, tolerates dry, moist, poor clay soils and some harsh wind |
| Schefflera digitata | pate | shade needed at base, tolerates moist and some poor clay soils |
| Pseudopanax arboreus | five finger, puahou, whauwhaupaku | some shade + shelter, tolerates moist soils |
| Pseudopanax lessonii | coastal five finger, houpara | full sun, tolerates some shade, dry, moist soils and harsh wind |
| Myoporum laetum | ngaio | full sun, tolerates dry, moist, poor clay soils and harsh wind |
| Melicope ternata | wharangi | full sun + some shade, tolerates some dry, moist, poor clay soils and harsh wind |
| Melicytus ramiflorus | mahoe | full sun + shade, tolerates some dry, moist, poor clay soils and some harsh wind |
| Macropiper excelsum | kawakawa | part sun + full shade, tolerates some dry, moist soils and some harsh wind |
| Dodonaea viscosa | akeake | full sun, tolerates dry, moist, poor clay soils and harsh wind |
| Griselinia lucida | puka | full sun + some shade, tolerates dry, moist, poor clay soils and some harsh wind |
| Geniostoma rupestre | hangehange | full sun + shade, tolerates dry, moist, some poor clay soils and some harsh wind |
| MEDIUM TREES | | |
| Beilschmiedia tarairi | taraire | full sun + some shade, tolerates moist soils and some harsh wind |
| Corynocarpus laevigatus | karaka | full sun + some shade, tolerates some dry, moist soils and some harsh wind |
| Metrosideros excelsa | pohutukawa | full sun, tolerates dry, moist, poor clay soils and harsh wind |
| Beilschmiedia tawa | tawa | full sun + some shade, tolerates moist soils and some harsh wind |
| Hedycarya arborea | pigeonwood, porakaiwhiri | full sun + some shade, tolerates moist and some poor clay soils |
| Knightia excelsa | rewarewa | full sun + some shade, tolerates some dry, moist, poor soils and some harsh wind |
| Litsea calicaris | mangaeo | full sun + some shade, tolerates some dry, moist, poor soils and some harsh wind |
| Laurelia novae-zelandiae | pukatea | full sun + shade to establish, tolerates dry, moist, poor soils and some harsh wind |
| Dysoxylum spectabile | kohekohe | full sun + shade to establish, tolerates moist soils |
| Elaeocarpus dentatus | hinau | full sun + some shade, tolerates some dry, moist and poor clay soils |
| Vitex lucens | puriri | full sun + some shade, tolerates some dry and moist soils |
| Sophora fulvida | west coast kowhai | full sun, tolerates dry + moist soils and some harsh wind |
| Pseudopanax crassifolius | horoeka, lancewood | full sun, tolerates some dry, moist and some poor clay soils |
| Pseudopanax ferox | fierce lancewood | full sun, tolerates some dry and some poor clay soils |
| Kunzea ericoides | kanuka | full sun + part shade, tolerates dry, moist, poor clay soils and harsh wind |
| TALL TREES | | |
| Agathis australis | kauri | full sun, tolerates some dry, moist, poor clay soils and some harsh wind |
| Dacrycarpus dacrydioides | kahikatea | full sun + shade to establish, tolerates moist, boggy soils |
| Dacridium cupressinum | rimu | full sun + shade to establish, tolerates moist, some boggy and poor clay soils |
| Prumnopitys ferruginea | miro | shade needed at base + shade, tolerates some dry, moist soils and harsh wind |
| Phyllocladus trichomanoides | tanekaha | full sun + part shade, tolerates dry, moist, poor clay soils and some harsh wind |

## Pohutukawas at Piha:

There are many notable wide sculpted pohutukawa within the northern and southern parts of the Piha landscape. The coastal cliffs provide a desirable habitat for these specimens, some of which are hundreds of years old and exhibit large twisted branches. Their survival should be noted and their function in the landscape is immeasurable. They provide spectacular bright red blooms in summer while the canopy provides much needed shade in the coastal setting. They are also vital to mitigating and reducing the possible dominance of residential structures along the coastal fringe.

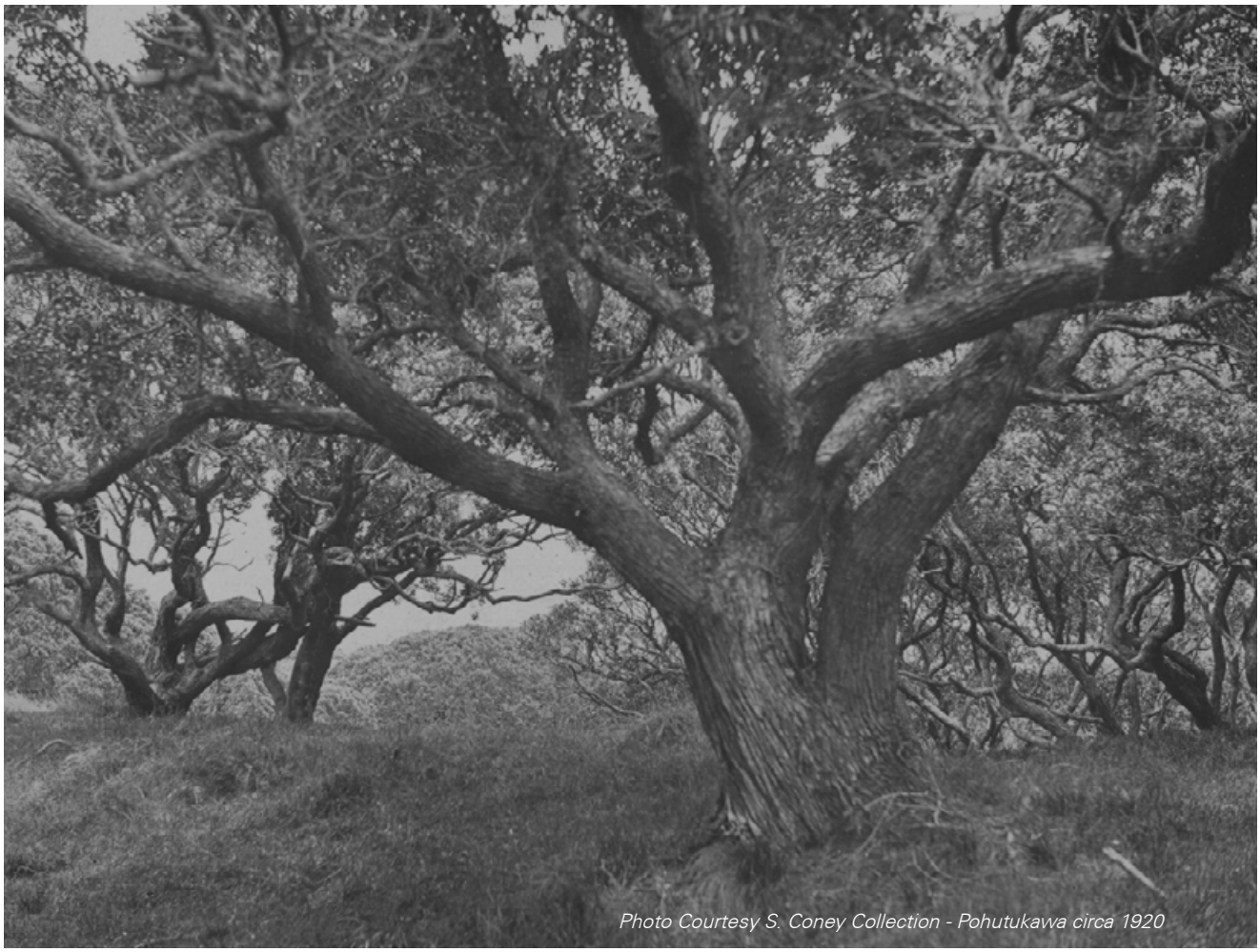


*Photo Courtesy S. Coney Collection - Pohutukawa circa 1920*

## Flora and Green Assets Design Checklist:

| DESIGN WITH NATURE AND SENSE OF PLACE | |
|---|---|
| • *Responds to site history, culture, geology and landscape*<br>• *Species chosen can be found in close proximity to the site* | ☐ EXCELLENT<br>☐ ADEQUATE<br>☐ NOT ADEQUATE |
| **SITING AND LOCATION** | |
| • *Size and growth characteristics of chosen species appropriate for location* | ☐ EXCELLENT<br>☐ ADEQUATE<br>☐ NOT ADEQUATE |
| **FORM** | |
| • *Tie into the natural landform* | ☐ EXCELLENT<br>☐ ADEQUATE<br>☐ NOT ADEQUATE |
| **AESTHETICS** | |
| • *Planting design enhances appeal of the natural environment*<br>• *Planting design acclimatises people to the setting* | ☐ EXCELLENT<br>☐ ADEQUATE<br>☐ NOT ADEQUATE |
| **SCALE AND BALANCE** | |
| • *Plant scale relative to location*<br>• *Design relative to human scale*<br>• *In context of other developments, buildings and structures within the vicinity* | ☐ EXCELLENT<br>☐ ADEQUATE<br>☐ NOT ADEQUATE |
| **VISIBILITY** | |
| • *Site lines and view shafts maintained*<br>• *Visual cues created by green assets* | ☐ EXCELLENT<br>☐ ADEQUATE<br>☐ NOT ADEQUATE |
| **SAFETY** | |
| • *Encourage community ownership of spaces, structures and green assets*<br>• *Well maintained areas attract people*<br>• *Maintain plantings to ensure visibility into, out of and around*<br>• *Adequate setback of tall growing species around carparks, recreational structures and buildings* | ☐ EXCELLENT<br>☐ ADEQUATE<br>☐ NOT ADEQUATE |

## MAINTAINENCE

- *Regular maintainence can be undertaken with ease*
- *Cost efficient design*
- *Flexible to seasonal change, weathering and erosion*

☐ EXCELLENT
☐ ADEQUATE
☐ NOT ADEQUATE

## CULTURAL HERITAGE

- *Respect cultural heritage sites (refer to section 4.5)*
- *Ensure existing or proposed vegetation will not have a potential undesirable effect on the site*

☐ EXCELLENT
☐ ADEQUATE
☐ NOT ADEQUATE

## ECOSOURCING AND SPECIES SPECIFICATIION

- *Propose species that can be easily sourced from the local environment to ensure survival*
- *Take cues from the existing species on or surrounding the site*
- *Avoid urban style planting*

☐ EXCELLENT
☐ ADEQUATE
☐ NOT ADEQUATE

## PROTECTION

- *Provide protection for green assets such as staking, wind cloth and pest or disease control*
- *If protection or barrier is no longer requiored then remove redundant infrastructure*

☐ EXCELLENT
☐ ADEQUATE
☐ NOT ADEQUATE

ON SITE NOTES:

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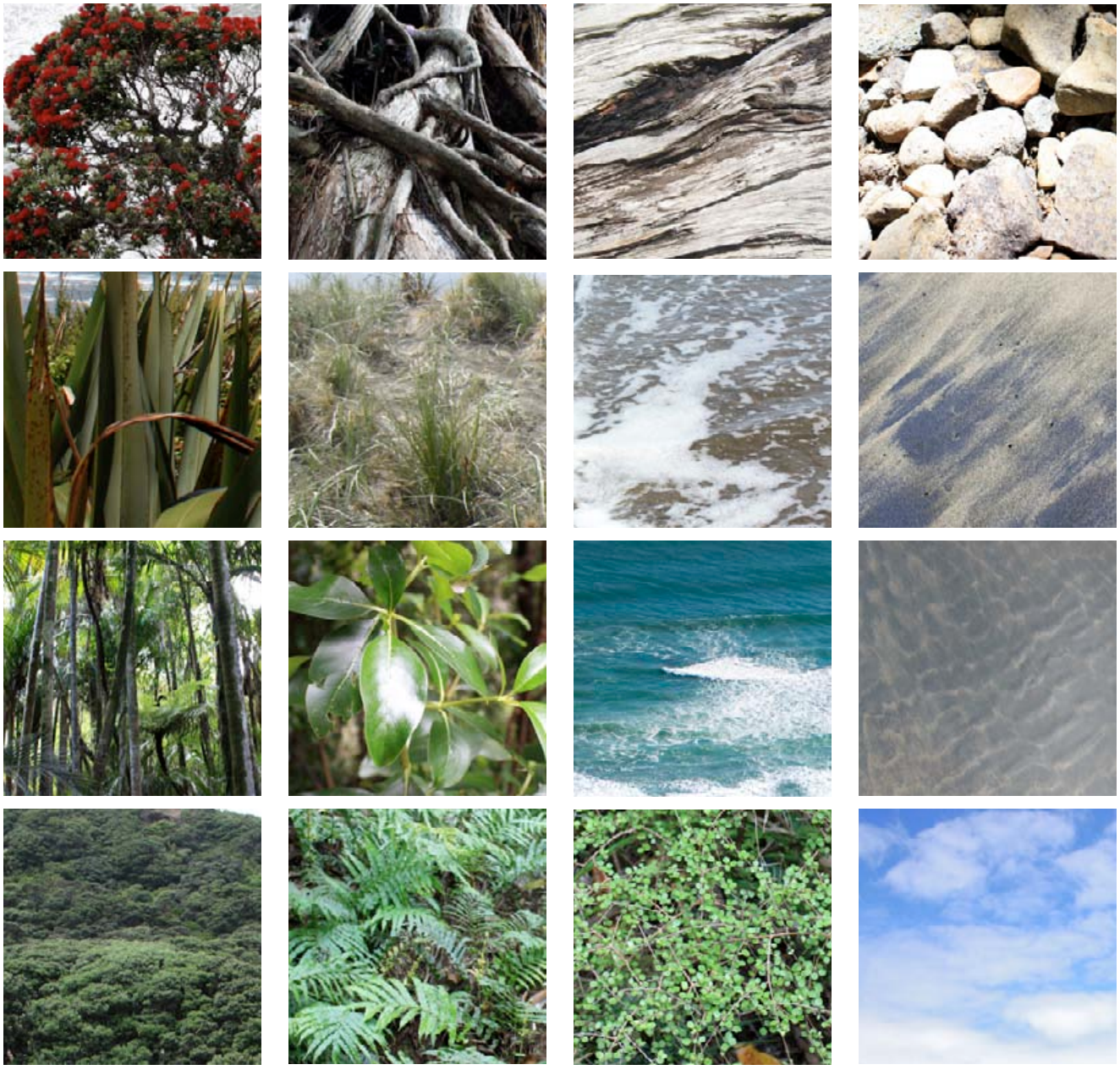
# 4.0 OTHER CONSIDERATIONS

# 4.1 TEXTURES OF THE PIHA AREA

Many of the textures of Piha have been formed by the harsh coastal environment and the steep vegetated landscape surrounding the Piha valley. Materials used to construct buildings, roads/car parks, tracks/edges, signs/noticeboards, barriers/fences and tables/seating should reflect these textures.



# 4.2 COLOURS OF THE PIHA AREA

The landscape at Piha provides a variety of colours. When implementing new infrastructure, this colour chart of rich greens and pastel earthy tones can be used as a guide to reduce the impact of development. Bright and reflective colours should be avoided.

# 4.3 SIGNIFICANT VIEWPOINTS AND VIEWSHAFTS

The steep vegetated landscape surrounding the Piha, Whites Beach and Anawhata Valleys allow for spectacular viewshafts throughout the catchments. The tall native vegetation often accentuates and frames these 'open pockets' within the forest. It is important that these viewpoints are maintained against obstructive development and preserved at a human scale. This will ensure that residents and visitors can continue to experience the relatively undeveloped and rugged wilderness of this park. The map below identifies main viewshafts on ARC Parkland and viewshafts on WCC land that look into ARC Parkland:

# VIEWPOINTS AND VIEWSHAFTS OF THE PIHA AREA

VP1

ANAWHATA CARPARK
Maintain low lying vegetation in immediate landscape. Ensure larger species in valley do not outcompete view.

VP2

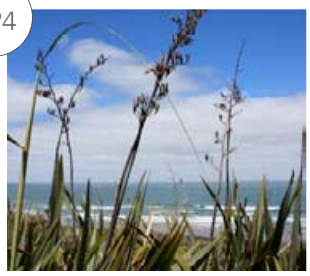
TE WAHA POINT
Maintain views to Whites Beach from Te Waha Point and back to Piha. Ensure predominance of pohutukawas over other native species.

VP3

LAIRD THOMSON TRACK
Ensure larger species below the clearing do not outcompete view. Upgrade seat.

VP4

WHITES TRACK (HALFWAY)
Retain low-growing natives to a suitable height and ensure any new or larger species do not block the viewshaft.



VP5

LION ROCK
Ensure the high pedestrian use of Lion Rock as a viewpoint locality does not detract from the natural qualities of the structure.

VP6

MAUNGAROA RIDGE TRACK
Maintain views down through the Piha valley by restricting the height of regenerating native bush in the immediate vicinity.

VP7

TASMAN LOOKOUT
Revegetate beside the rock wall with *Muehlenbeckia complexa* to reduce the dominance of the new structure on the landscape.

VP8

THE GAP LOOKOUT
Retain low-growing natives to a suibtable height and ensure any new or larger species do not block the viewshaft.

VP9

KITEKITE FALLS
Maintain 'pocket' of open space surrounding Kitekite Falls. Retain existing natural seating structures e.g. logs, rocks (no built structures).

VP10

PIHA ROAD
First view of Piha and coast from road. Rodney District Council to manage viewshaft.

VP11

NORTH FACING SEAT MERCER BAY
Retain low-growing natives to a suibtable height and ensure any new or larger species do not block the viewshaft.

VP12

MERCER BAY LOOKOUT 1
Establish low growing natives around the viewpoint platform.

VP13

MERCER BAY LOOKOUT 2
Plant directly below the new barrier with low growing flaxes and ensure views are maintained.

# 4.4 CPTED PRINCIPLES

Crime Prevention Through Environmental Design (CPTED) is about deterring and reducing opportunities for crime to occur through environmental design.

The Key Principles include:

- SURVEILLENCE
  i.e. who is present, when and whether they are able to see what is happening around them.

- ACCESS MANAGEMENT
  i.e. the design of public spaces in such a way as to attract people to some areas and discourage or restrict them from using other areas.

- TERRITORIAL REINFORCEMENT
  i.e. clear boundaries. Encourage "community ownership of spaces".

- QUALITY SPACES
  i.e. good quality, well maintained environments attract people and support the informal surveillance process.

Safety is of paramount concern at Piha. At peak times (during the summer months), visitors to the West Coast beaches can reach up to 10,000 per day. In the quieter months visitation is primarily located around major destination areas including the beach and township. This creates a safety problem for the more isolated areas of the park.

Vehicle crime and vandalism to park infrastructure occurs on a regular basis within the Piha area. Most vehicles are left unattended for long periods at a time. Sightlines around carparks can be poor and there is a tendency to surround the spaces with large native species that encourage offenders.

Steps to identify and then move to prevent crime and increase perceived safety of areas:

1) Locate crime hotspots
2) Identify vulnerable targets
3) Identify potential improvements and increase public awareness

Some simple prevention measures include:

- Ensure sight lines to surrounding populated areas e.g. main road, carpark.

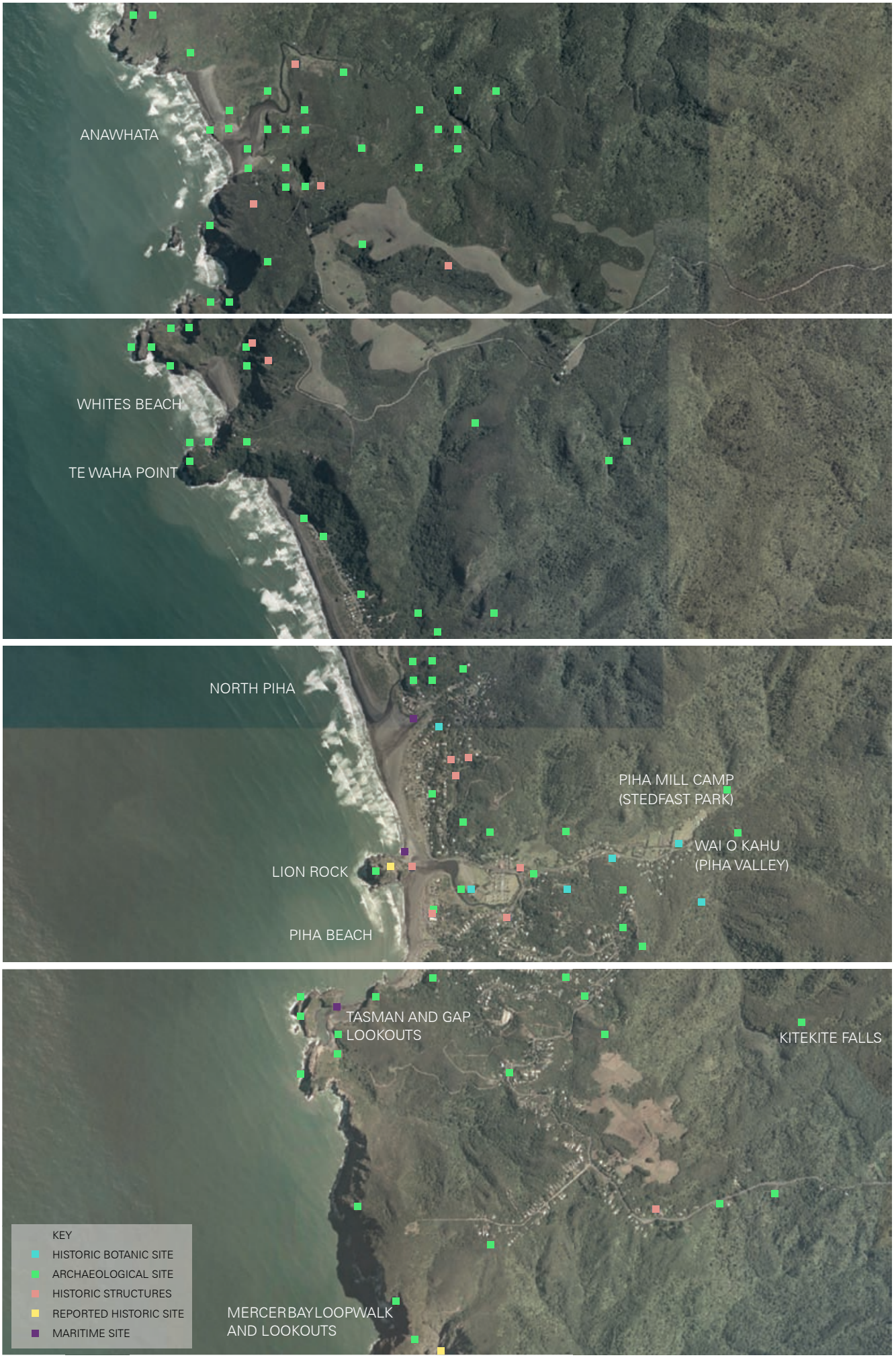
- Install public amenities in noted high-crime areas e.g. picnic tables, seating.

- Install further signage to warn of possible safety concerns e.g. install signs to encourage people not to leave valuables visible within their vehicle.

- Encourage the community to create watch groups and become key guardians of the park landscape. In many cases this has proven to have lead-on effects that increase community pride and ownership of the space.

- Increase spacing between carparks reduces space for the concealment of offenders.

- Where possible ensure areas encourage more than one different activity.


ANAWHATA
WHITES BEACH
TE WAHA POINT
NORTH PIHA
PIHA MILL CAMP
(STEDFAST PARK)
WAI O KAHU
(PIHA VALLEY)
LION ROCK
PIHA BEACH
TASMAN AND GAP
LOOKOUTS
KITEKITE FALLS
KEY
HISTORIC BOTANIC SITE
ARCHAEOLOGICAL SITE
HISTORIC STRUCTURES
REPORTED HISTORIC SITE
MARITIME SITE
MERCER BAY LOOPWALK
AND LOOKOUTS

# 4.5 CULTURAL HERITAGE

The numerous archaeological sites recorded at Piha are evidence of a long history of human occupation. Archaeological sites representing the full range of pre-European Maori settlement can be found there, along with sites of early European interest.

While some pedestrian archaeological survey and assessment has been undertaken at Piha, this survey has not been systematic or comprehensive. Given the long history of human occupation at Piha it is likely that unrecorded archaeological sites are present there.

All archaeological sites are protected under the provisions of the Historic Places Act 1993 making it illegal to destroy, damage or modify them without the written permission of the New Zealand Historic Places Trust. Cultural Heritage sites are scheduled in the Waitakere City Council District Plans. Contact with the local authority is important as consents may be required under the Resource Management Act (RMA).

Archaeological survey does not necessarily detect wahi tapu or sites of significance to tangata whenua, this information can only be supplied by tangata whenua. Consultation should be undertaken with cultural heritage staff and tangata whenua where appropriate in the design phase of projects at Piha.


*Pou and signage on Te Piha (Lion Rock)*

DISCLAIMER:
*INTERPRETATION OF ARCHAEOLOGICAL DATA FROM NEW ZEALAND ARCHAEOLOGICAL ASSOCIATION (NZAA):*
*The New Zealand Archaeological Association (NZAA) Site Recording Scheme was established in 1958 to encourage the recording of information about archaeological sites. Until mid 2009 it was a paper-based recording system using an electronic indexing system known as CINZAS (Central Index of New Zealand Archaeological Sites). This has now been replaced by the Digital Site Recording Scheme (DSRS) called ArchSite[1].*
*Please note that all archaeological sites whether they are recorded, registered or not, are protected under the Historic Places Act[2] from unauthorised damage, modification or destruction, and their contents may be protected under the Protected Objects Act 1975[3]. Any interference with an archaeological site is an offence punishable by a fine of up to $100,000.*

*USE OF ARCHSITE AND DSRS ARCHAEOLOGICAL DATA*
*1. NZAA does not guarantee the accuracy or completeness of the GIS (geographical information system) data. To the extent permitted by law, NZAA, its officers, employees, agents and contractors will not be liable for any costs, damages or loss whatsoever suffered by the user or any third person caused directly or indirectly by any error in the information represented by the GIS data or in the incorrect use of the information by the user.*
*2. NZAA geospatial data is a representation of the approximate location of the items that may be situated on or under the land shown. The information has generally been compiled from data supplied to NZAA by its members and must only be used as a guide. These observations represent the opinions of individual contributors and may be incomplete, incorrect, or obsolete.*
*3. NZAA advises that the user independently commission on-site verification by a qualified archaeologist to ascertain the exact nature, extent or precise location of any archaeological sites on the property.*
*4. The absence of data for any particular area should not be taken to mean that it contains no archaeological sites. It could reflect the fact that the area has not been surveyed or that sites were obscured at the time of survey.*
*5. Some recorded sites may no longer exist having been destroyed subsequent to recording.*
*6. Not all sites recorded in the DSRS are archaeological sites in terms of the Historic Places Act 1993. They may, for example, post-date 1900 or not be able, through investigation by archaeological methods, to provide evidence relating to the history of New Zealand.*
*7. NZAA does not necessarily record wahi tapu. Information about wahi tapu can only be supplied by appropriate iwi.*
*8. Information about burial sites will, in some circumstances, be withheld.*
*For many purposes, an inspection by a qualified archaeologist will be required. Information from the DSRS is not a substitute for this.*
*Copyright*
*The ArchSite website, the Archaeological Site Recording Scheme database and all its contents is owned by the NZAA and is subject to copyright. The NZAA holds copyright and/or exclusive license to all NZAA Site Record Forms (original hard copy and digitised) and digital archaeological site records.*

*1 http://www.archsite.org.nz/*
*2 http://www.legislation.govt.nz/act/public/1993/0038/latest/DLM300511.html*
*3 http://www.mch.govt.nz/protected-objects/index.html*

# 5.0 FUTURE DEVELOPMENT CONSIDERATIONS


ANAWHATA
ANAWHATA
BEACH
TRACK

# 5.1 ANAWHATA

- Manage Anawhata as a remote experience area with a small gravel car park, toilet and directional signs.
- Advocate for the retention and maintenance of Anawhata Road as a road serving a remote location.
- Maintain the views from the car park to Anawhata Beach through appropriate vegetation management.
- Retain the existing farmland at Anawhata Farm as open pasture to maintain the landscape values and main vistas. Implement sustainable farming practices and the Anawhata Farm revegetation plan for riparian enhancement, stock shelter and for erosion control.
- Protect and maintain coastal habitats and the dune ecosystem and undertake pest plant and animal control, in particular protect penguins and burrowing seabirds at Te Waha Point.
- Manage the Anawhata catchment as a remote experience area with a marked tramping route. Maintain tracks leading into the wider area as tramping tracks and routes suitable for people with moderate to high levels of fitness and tramping footwear.
- Investigate the opportunity to develop a track on Anawhata Farm that would provide an alternative to the road walking section of the Hillary Trail in this area.
- Continue to implement the recommendations of the Keddle House Conservation Plan 2003, and operate it as a bach for short-term accommodation to be available for general public use and under licence to the Auckland Outdoor Activities Club.
- Manage the fire risk around Keddle House and its access road, through the regular maintenance of surrounding vegetation and the use of low fire risk species in any further amenity plantings within the house grounds, its access road and surrounding area.
- Renovate the former Craw Homestead and investigate options to support the Hillary Trail or other recreation, educational, conservation or community uses appropriate to the remote nature of the location.
- Manage the Craw Campground as part of the Hillary Trail and for camping provision generally.
- Investigate opportunities for self-contained campervans to camp overnight in this area, including: the end of Anawhata Road or the use of the concrete pad in front of the Craw Homestead; being cognisant of any impacts on those staying in the campground or homestead.
- Retain the open space on the site of the former Hettig House, known as Hettig clearing, for group recreational opportunities.


ROSE
TRACK
WHITES BEACH
LAIRD
THOMSON
TRACK
TE WAHA
POINT
KOHUNUI BAY
WHITE
TRACK
NORTH PIHA
MAURAWHARA
WALK

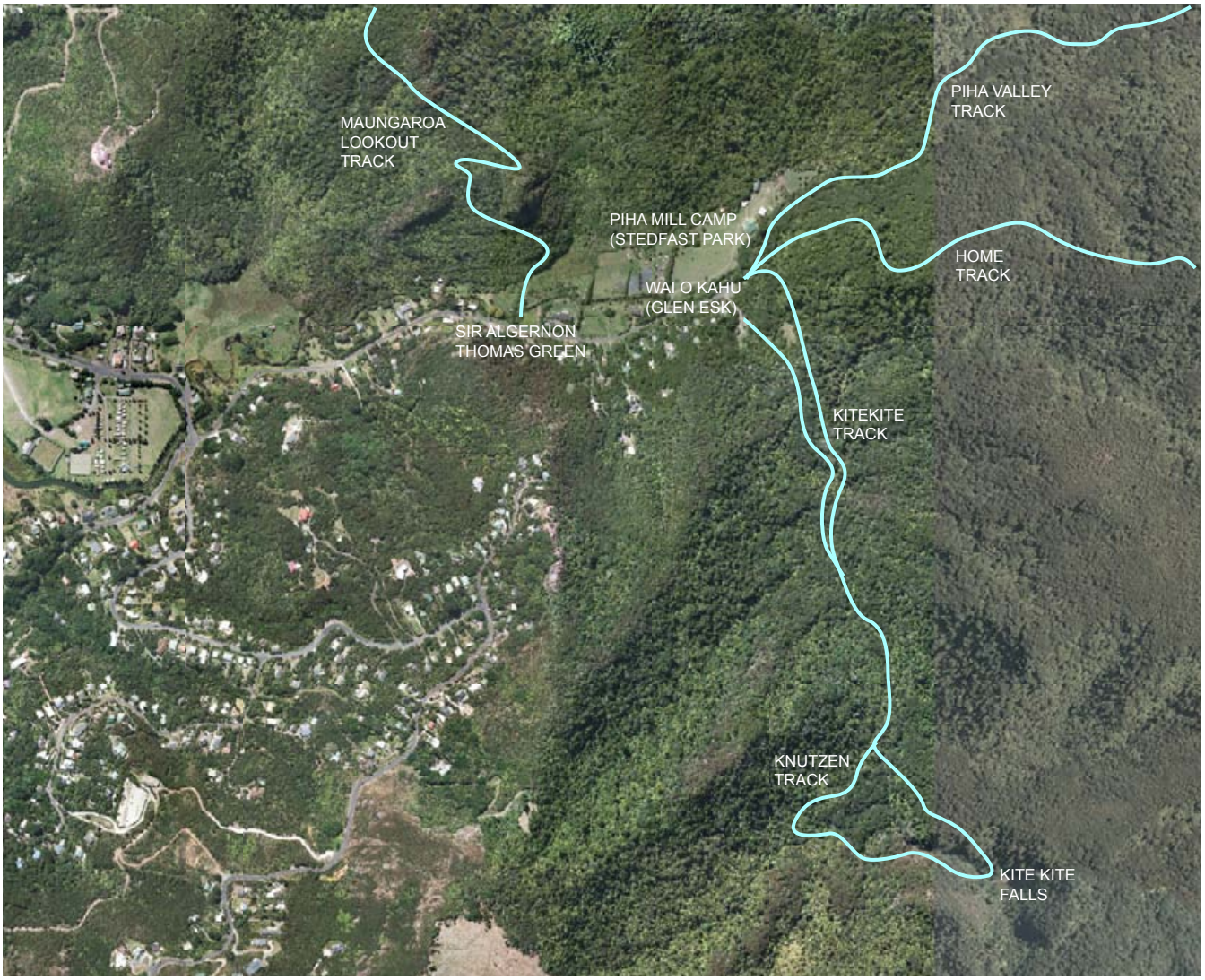
# 5.2 WHITES BEACH, TE WAHA POINT, NORTH PIHA

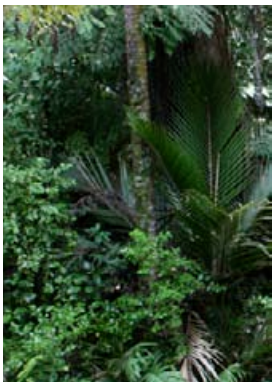
- Manage North Piha as a beach access point, informal picnic area and access point to tracks in a manner that protects its natural value.
- Protect dune systems by providing defined access points from the car parks and the road and maintain dune revegetation areas through pest plant and animal control.
- Protect fauna, especially nesting penguins and grey faced petrells, through ongoing pest animal control.
- Keep visitor infrastructure to a minimum with a car park, and directional and water safety signs.
- Promote and enforce restrictions related to vehicle use on the beach in accordance with Policy 31, including the modification of the car park surrounds to inhibit unauthorised access to the beach.
- Install public toilets in a discrete location, following consultation with the community.


LION ROCK

# 5.3 WHAKAARI (LION ROCK)

- Recognise the significance of the Lion Rock and wider area to Te Kawerau a Maki.
- Seek the scheduling of the plaques on Lion Rock in the District Plan.
- Undertake pest plant and animal control and small scale revegetation to restore the coastal vegetation and protect nesting penguins, taking into account the archaeological sites on the rock.


MAUNGAROA
LOOKOUT
TRACK
PIHA VALLEY
TRACK
PIHA MILL CAMP
(STEDFAST PARK)
HOME
TRACK
WAI O KAHU
(GLEN ESK)
SIR ALGERNON
THOMAS GREEN
KITEKITE
TRACK
KNUTZEN
TRACK
KITE KITE
FALLS



# 5.4 PIHA VALLEY, WAI O KAHU (GLEN ESK) AND PIHA MILL CAMP (STEDFAST PARK)

- Manage the end of Glen Esk Road as an access point to the track network in the area with unsealed car parking, toilets and picnic facilities, while retaining its natural setting.

- Maintain the Kitekite and Knutzen Tracks as walking tracks to and from the Kitekite Falls for visitors with moderate levels of fitness and walking footwear. A series of loop tramping tracks in the wider area will be maintained for people with higher levels of fitness and tramping footwear.

- Remediate the informal tracks off the Kitekite Falls track to stop off-track activity in the area.

- Review the future development of the Piha Mill Camp through the preparation of a development plan having regard to Policy 7.1.4 of the Regional Parks Management Plan, taking into consideration:

    - the continued provision of the outdoor education camp and the opportunity to provide for camping in association with this,

    - the potential to relocate the park depot and workshop, and

    - replacement of the current bridge with one that has the capacity and loading required to facilitate access for emergency vehicles, buses and other service vehicles.

- Maintain the Sir Algernon Thomas Green as a picnic area and investigate a track linking this with the forested hills donated by Sir Algernon Thomas.

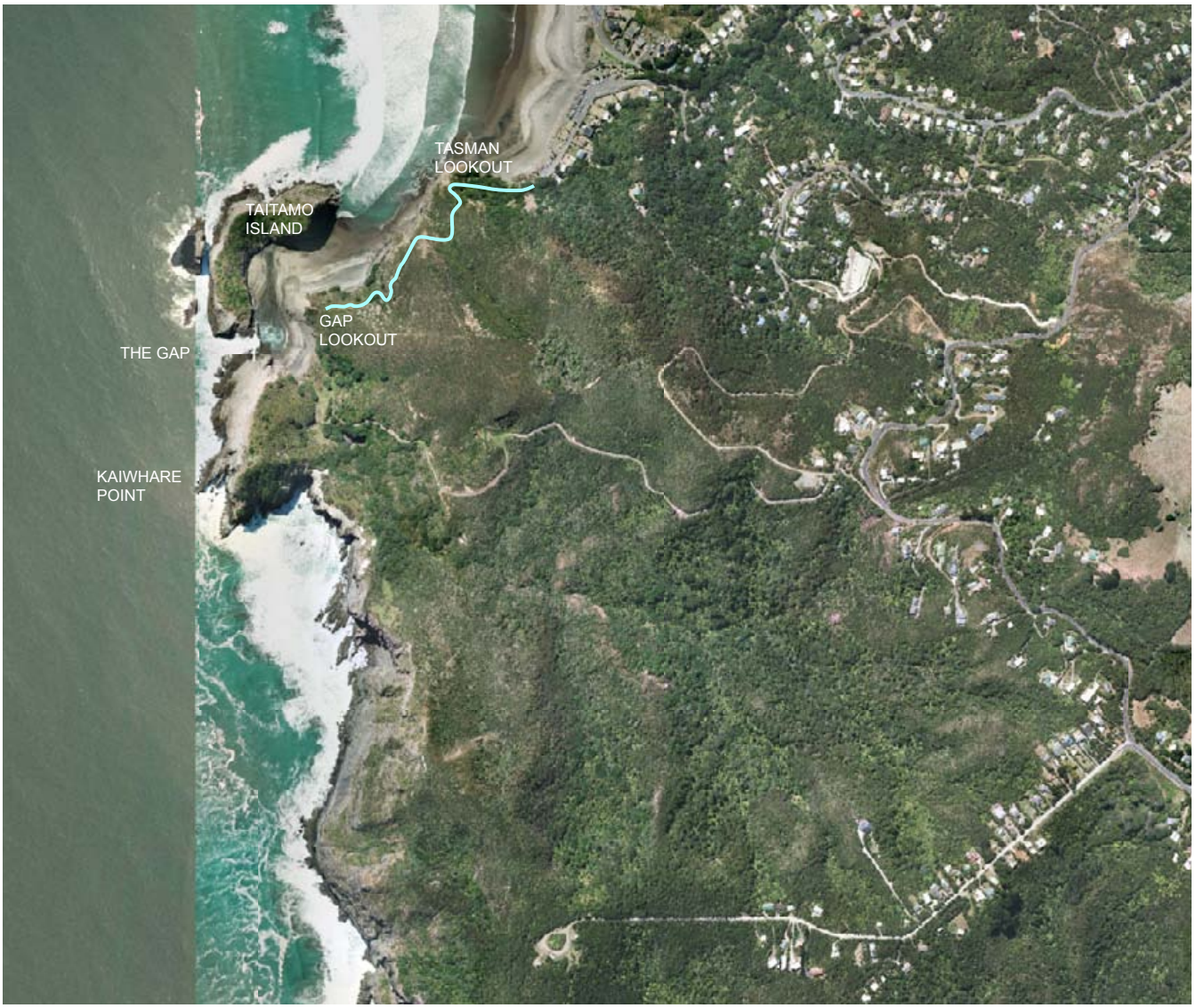
- Manage the Nigel Hanlon Hut under licence and in accordance with the Nigel Hanlon Memorial Hut Heritage Assessment 2010; and make it available to the public for short-term accommodation, including investigating its use as part of the Hillary Trail.

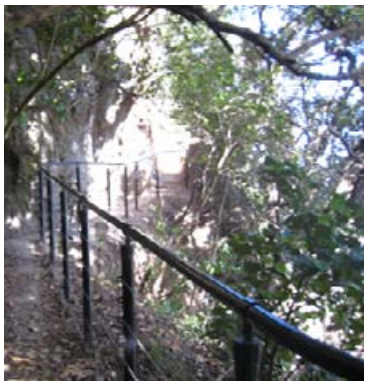
- Undertake riparian planting and pest plant control in the Piha Mill Camp area, while retaining vistas of the Piha Mill historic site.

- Undertake pest plant control at the entrance to the Maungaroa Lookout Track.

- Support the West Auckland schools' ecological restoration programme on the Ministry of Education land, adjoining the park land.

- Extend interpretation of the Piha Mill in conjunction with the licensee of the Piha Mill Camp


TASMAN
LOOKOUT
TAITAMO
ISLAND
GAP
LOOKOUT
THE GAP
KAIWHARE
POINT



# 5.5 TASMAN AND GAP TRACK AND LOOKOUTS

- Manage the Tasman and Gap Lookouts as coastal lookouts and tracks while retaining the natural character of the area.

- Investigate options to provide formed controlled access or to discourage access to the foreshore from the Gap Lookout, to address safety issues and prevent environmental damage, taking into account the landscape sensitivity of the area.

- Remove pest plants to minimise the fire risk in the area and progressively replace it with locally appropriate native eco-sourced and broadleaved species.

- Repair pedestrian erosion damage at the gap lookout.


TE AHUAHU
ROAD
WWII
RADAR
STATION
START OF
MERCER BAY
LOOP TRACK
TE AHUA POINT
MERCER BAY

# 5.6 MERCER BAY TRACK AND LOOKOUTS

- Manage Mercer Bay Loop Walk as an accessible walk retaining access to lookouts and coastal tramping tracks. Ensure track maintenance is sensitive to the nationally threatened forget-me-not *Myosotis petiolata* var. pansa that exists on the track edges.

- Prepare and implement a development plan to review the layout of the arrival area, to improve visitor convenience, safety, and to upgrade the toilets while maintaining the undeveloped and rugged nature of the area.

- Maintain coastal vistas and visibility of the beacon through appropriate vegetation management.

- Support the installation of a pou whenua in the area in consultation with Te Kawerau a Maki and Friends of Arataki.

- At the track entrance interpret the historic sites of the area including the Te Ahua pa, the World War II radar station and the discovery of radio stars.

# REFERENCES AND USEFUL RESOURCES


AUCKLAND REGIONAL COUNCIL

- Pest plants of the Auckland Region brochures
- Plant Me instead - plants to use in place of common weeds
- Coastal Planting Factsheets - a series of brochures on coastal planting
- Wetland Factsheets - a series of brochures on wetland planting
- Native Forest and Scrublands Factsheets - a series of brichures on native forest and scrubland planting
- Regional Parks Management Plan 2010
- Illustrations of Common Trees and Shrubs of the Waitakere Range
- The Good Start Planting Guide

WAITAKERE CITY COUNCIL

- Eco-sourcing flyer
- Eco-sourcing Code of Practice
- Native to the West - a guide for planting and restoring the nature of Waitakere City
- Riparian Restoration Guidelines
- Waitakere City's Coastal Villages Landscape Assessment (Melean Absolum Limited Landscape Architects)
- Piha Coastal Management Plan
- Piha Reserves Management Plan

DEPARTMENT OF CONSERVATION

- Track Construction and Maintenance Field Guide

OTHER

- Harvey, Bob (1998) Untamed Coast: Auckland's Waitakere Ranges and West Coast Beaches, Exisle Publishing Ltd
- Coney, Sandra (1997) Piha a History in Images, The Keyhole Press, Auckland
- Coney, Sandra (2009) Piha: Guardians of the Iron Sands, Piha Surf Life Saving Club Inc.

COMMUNITY PROJECTS

- The West Coast Plan - a plan for the future management of the West Coast & Waitakere Ranges
- West Coast Plan Liaison Group
- Piha Coast Care
- Piha Ratepayers and Residents Association Inc
- Protect Piha Heritage Society

PHOTOGRAPHIC COLLECTIONS

- National Library of New Zealand - Alexnder Turnbull Library (Timeframes)
- Waitakere City Council

IWI

- Te Kawerau a Maki

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