

WAIKŌWHAI PARK CONCEPT PLAN

June 2018 . For Local Board Adoption





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1.0 Introduction

1.1 The site

Waikōwhai 'Kowhai by the water'

Waikōwhai Park is a public park approximately 20 hectares in size, located at 8 Waikōwhai Road, Hillsborough. The park is within the Puketāpapa Local Board area. The site is legally comprised of four land parcels described as Part Section 14 DP 18768, Part Lot 1 DP68578, Part 24 SO67474 Crown Land and the Waikōwhai Road Legal Road.

The majority is identified in the Auckland Unitary Plan (operative in part) as a Significant Ecological Areas (SEA).

The park forms part of a ribbon of public parks and reserves located along the northern banks of the Manukau Harbour, stretching from Blockhouse Bay to Onehunga. These parks have a strong connection to the dynamic coastal processes of the harbour environment and provide a linkage and buffer between the coast and adjacent residential areas. Waikōwhai Park offers sweeping views across the Manukau Harbour to Māngere Mountain, Ambury Farm Park and Puketutu Island.



1.2 Project scope

The site was used as a landfill between 1963 and 1974. Rehabilitation works were carried out on the site in the 1980s and 1990s. Additional works are now required to address surface water drainage and land stability issues on site.

The project involves creation of a concept plan for the park that identifies both short and long term improvements. The concept plan is to be developed with the closed landfill team, who will be undertaking significant works in the park to improve the landfill cap over the next few years. These include:

- *stabilisation of the existing rock wall uphill of the boat ramp at Faulkner Bay*
- *improvements to open stormwater swale drains throughout the reserve*
- *addressing slope instability along the foreshore at Waikōwhai Bay*
- *installation of subsoil drainage*
- *construction of a new 100m long retaining wall along the shoreline at Waikōwhai Bay*

Any short term improvements identified in the concept plan may be delivered as part of the landfill remediation works.

1.3 Related projects

Playground Renewal

The existing playground is due to be upgraded, with works scheduled for summer 2018/19. This will involve replacing old equipment, adding extra play equipment and other general improvements to the playspace.

Manukau Walkway

The Manukau Walkway is approximately 12km long walkway taking in beaches, coastal bush reserves and headland lookouts. When complete it will connect Blockhouse Bay to Onehunga Bay via Waikōwhai Park. Three areas within the park; Waikōwhai Bay foreshore, the playground and Faulkner Bay, are identified as destinations along this route. The Manukau Walkway links to a number of Greenway routes within the Puketāpapa Local Board area.

Landfill Cap Improvements

These improvements, as described in section 1.2, include works to improve the landfill cap and site stability via drainage swale upgrades, stormwater treatments, installation of subsoil drainage, drainage trenches and new retaining walls where the fill area meets the foreshore. These works are split into stages and will be implemented over a two year period.

1.4 Process

The following diagram shows the process involved in the creation of this concept plan.



2.0 Context



2.1 Statutory context

The Auckland Unitary Plan identifies Waikōwhai Park as a Public Open Space - Conservation zone. Conservation zoning recognises the landscape, cultural and historic heritage values of the site

The objectives of the conservation zone are as follows:

Public Open Space - Conservation Zone

Objectives:

1. *Public open spaces with natural, ecological, landscape, and heritage values are protected and enhanced and available to the public to use and enjoy.*
2. *Recreational activities and associated buildings and structures complement and protect the values and qualities of the public open space.*

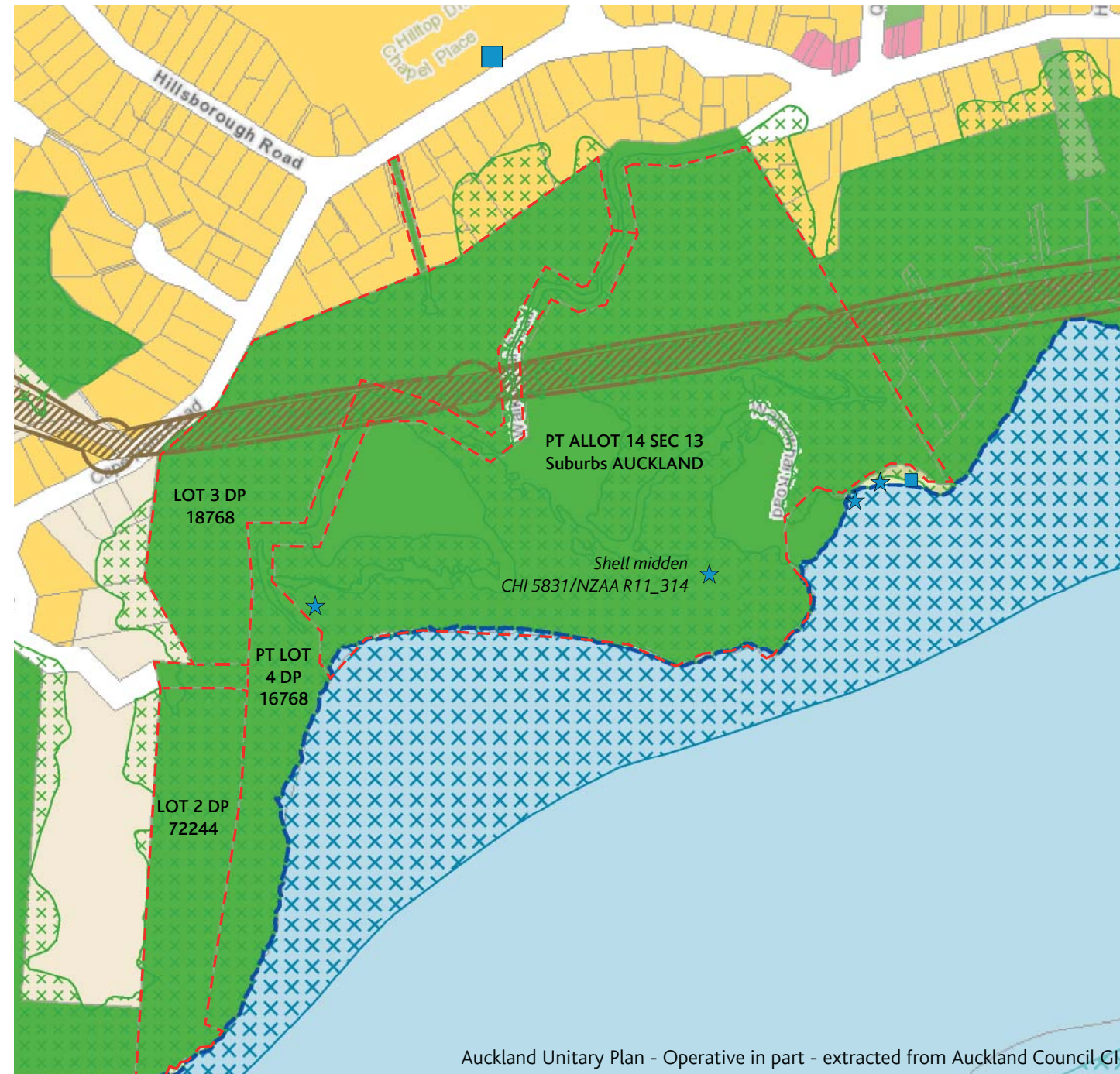
Adjacent open space along the Manukau coastline also has conservation zoning while the residential properties along the ridgeline to the north of the site are zoned single house.

A Significant Ecological Area (SEA)- Terrestrial applies to the majority of the site and coastal margins, with the exception of the three open grassed areas.

A National Grid Corridor Overlay also runs through the site.

2.2 Archaeological sites

The Cultural Heritage Inventory (CHI) identifies two recorded archaeological sites within the park boundary. An additional two archaeological sites and a historic structure are located just outside the park boundary at Faulkner Bay.



ZONING

RESIDENTIAL

- Single house

BUSINESS

- Neighbourhood centre

PUBLIC OPEN SPACE

- Conservation
- Informal Recreation
- Coastal - General Coastal Marine Zone
- Indicative Coastline

OVERLAYS

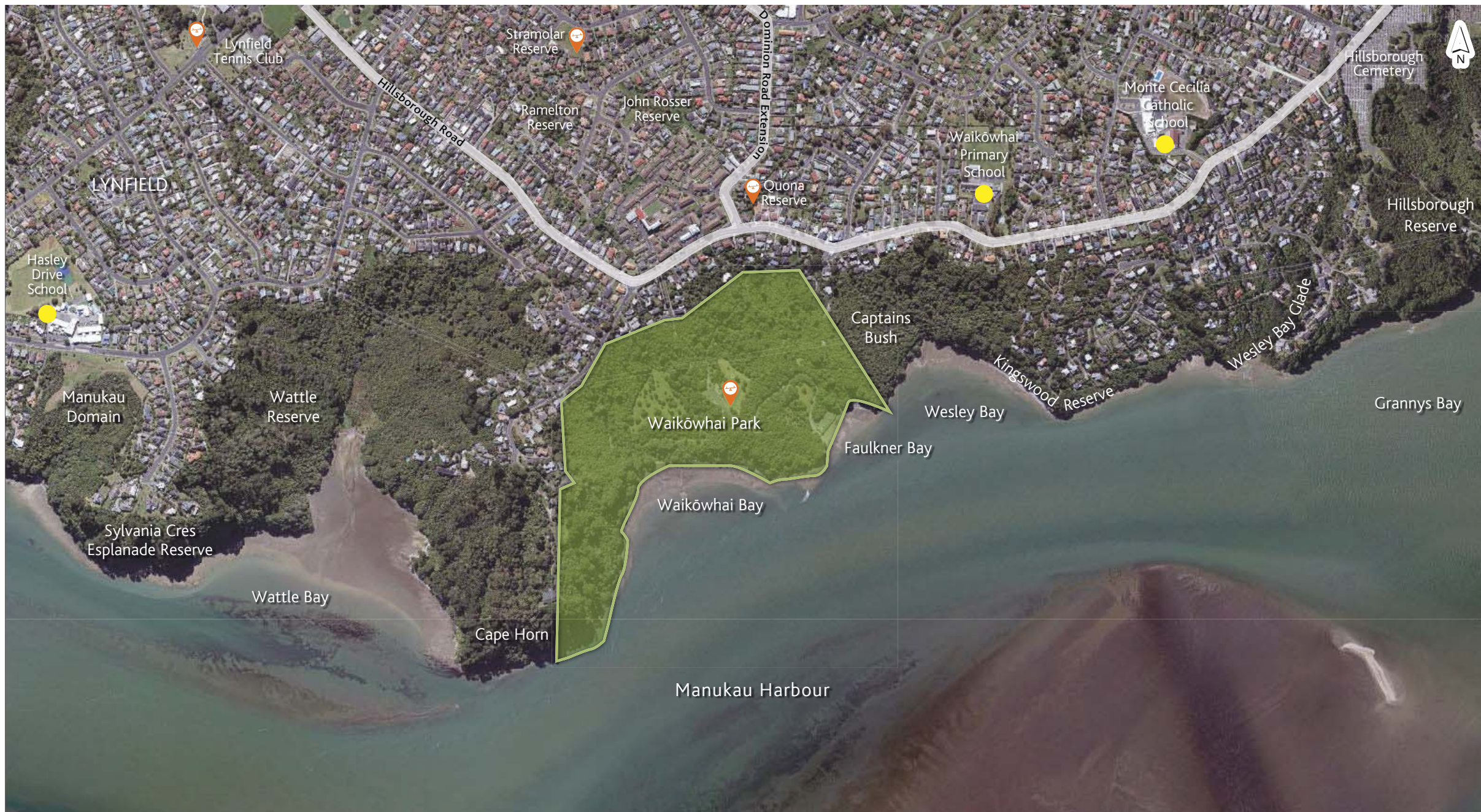
- Significant Ecological Area- Terrestrial
- Significant Ecological Area- Marine 1
- Infrastructure- National Grid Corridor Overlay- Uncompromised
- Lot Boundary

CULTURAL HERITAGE INVENTORY

- Archaeological Site
- Historic Structure



2.3 Wider site context



LEGEND

-  Playground
-  School

The site within its wider context. Not to scale



2.4 Existing land uses

Located on the northern banks of the Manukau Harbour, the park comprises steep bush clad slopes with flatter open grassed areas utilised for recreation.

Faulkner Bay occupies the eastern end of the reserve and has a children's playground, seating, picnic and barbecue facilities, a lookout, carparking and a public toilet on its upper slopes. A second carpark with boat launching facilities is located at the waters edge.

Waikōwhai Bay (at the western end of the reserve) contains a series of pedestrian walkways leading down to the harbour. The landscape comprises bush clad slopes and a large open grassed area which functions as a dog off-leash area. The remains of the historical changing rooms are located near Waikōwhai Bay foreshore.

2.5 Closed landfill

A landfill was established on site in 1963, and by 1969 three separate sections of the park were being used as tip sites. Residential waste as well as industrial waste from freezing works and tanneries was used to infill natural gullies, including the two eastern gullies that terminate at Faulkner Bay, and the western gully that terminates at Waikōwhai Bay. The site was used as a landfill until 1974.

Cap and cover

Historical investigations have noted that, in general, waste materials at the site are covered with a sand, clay and gravel mix of varying thickness. At Waikōwhai Bay, the cap comprises thin and irregular clay materials between 0.3 and 1m in thickness. At Faulkner Bay the cap comprises between 0.2 and 0.5m thickness of clay materials within the playground area, with little to no true cover across the remaining fill zone¹.

Leachate

Areas of iron precipitate surface water 'staining' on existing paths is considered to have an aesthetic impact on park users.

Gas release

Landfill gas is present at the site in concentrations typical of a landfill of this age. Safe management of landfill gas will be an important consideration and will be taken into account during site improvement works.

¹ Waikōwhai Park Improvement Works - Construction Methodology, Aecom (Draft, 15 Nov 2017)

Design considerations

The landfill presents a significant constraint, and any development, remedial and/or maintenance works which may impact on the cap or closed landfill infrastructure must be approved by the closed landfill asset manager.

Cap and cover is a constraint for water sensitive design solutions and the establishment of vegetation, including specimen trees and revegetation. Root penetration of the cover increases the likelihood that leachate and landfill gas will impact on the health of the plant. Unhealthy plants are more vulnerable to disturbance through windfall and flooding.

Continual settlement may also restrict the type of path surfaces possible as more rigid surfaces (i.e. concrete) may crack over time as the underlying materials shift. Any proposed path surfacing within the existing landfill area will need to balance the needs for an accessible surface with the ongoing maintenance requirements of that path.

3.0 History of the park

Sir George Grey Special Collections, Auckland Libraries, NZ Map 890



Part of a nautical chart of the Manukau Harbour, surveyed by Commander B. Drury, 1853.

In **1909** the land that would become Waikōwhai Park was gifted to the Mt Roskill Road Board by the Wesleyan Mission Trust for use as a public reserve. In **1911** the Waikōwhai Park Act was passed as a collaboration between the Mt Roskill Road Board and the Wesleyans. Central Government and the roads board came up with the finances to develop the park.

Sir George Grey Special Collections, Auckland Libraries, AWNS-19140305-39-1



On February 28th, **1914** the Hon, F.W. Lang, speaker for the House of Representatives and member for the Manukau Electorate, officially opened Waikōwhai Park

Waikōwhai Park was promoted as a resort, ideal for family outings with acres of natural beauty, including the distinctive kowhai trees and various sloping bays, making it one of the most picturesque parks in Auckland.

The park was also home to Auckland's first nudist club, 'The Sun Group', formed in **1938** at an inaugural meeting of 9 people. The New Zealand Herald reported in 7 January "the organiser stated he had made many enquiries in the Waikōwhai District, and members thought this would be a suitable locality..."



Pre European history
The Manukau Harbour and the Waikōwhai Coast are important to many Tamaki Makuarau iwi and hapu particularly Te Wai-o-hua, Te Kawerau a Maki and Ngāti Whātua o Ōrākei. The Manukau Harbour and Waikōwhai Coast have been occupied by mana whenua for over 800 years, and this relationship continues today.

The land was purchased from Maori in the **1850s**

A summer camping party at Waikōwhai Bay in February **1902**, in the days of informal camping before the park was established



Sir George Grey Special Collections, Auckland Libraries, AWNS-19020227-8-3

Views of the Manukau Harbour from Waikōwhai Park, located on the hills that had been cleared for farming



Sir George Grey Special Collections, Auckland Libraries, AWNS-19130410-3-2

View taken from just inside the gates of Waikōwhai Park



Sir George Grey Special Collections, Auckland Libraries, AWNS-19140312-44-2



1940 aerial photograph, from Auckland Council GIS

Waikōwhai, Manukau, 1962. Whites Aviation Ltd :Photographs. Ref: WA-56928-G. Alexander Turnbull Library, Wellington, New Zealand. /records/22833496



In 1966 a stone retaining wall, drains and a boat ramp were built to stabilise the reclaimed land along the foreshore.

The park was used as rubbish tip until 1974

Significant remedial works undertaken at the site, including earthworks and planting



1950

1970

2000

Waikōwhai Bay beach scene, January 1955



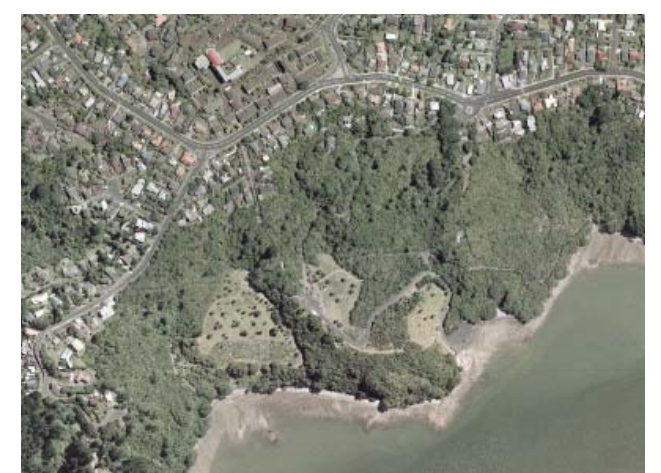
Beach scene including bathers, Waikōwhai Bay. Whites Aviation Ltd: Photographs, Ref: WA-36758-F Alexander Turnbull Library, Wellington /records/23526142

In 1963 a landfill was established in Waikōwhai Park. By 1969 three separate sections of the park were being used as a tip sites for residential waste as well as industrial waste from freezing works and tanneries. Waste was used to infill natural gullies at the site.



Auckland Council Archives MRB 009 243

2006 aerial photograph, from Auckland Council GIS



4.0 Site analysis

4.1 Existing amenities and structures

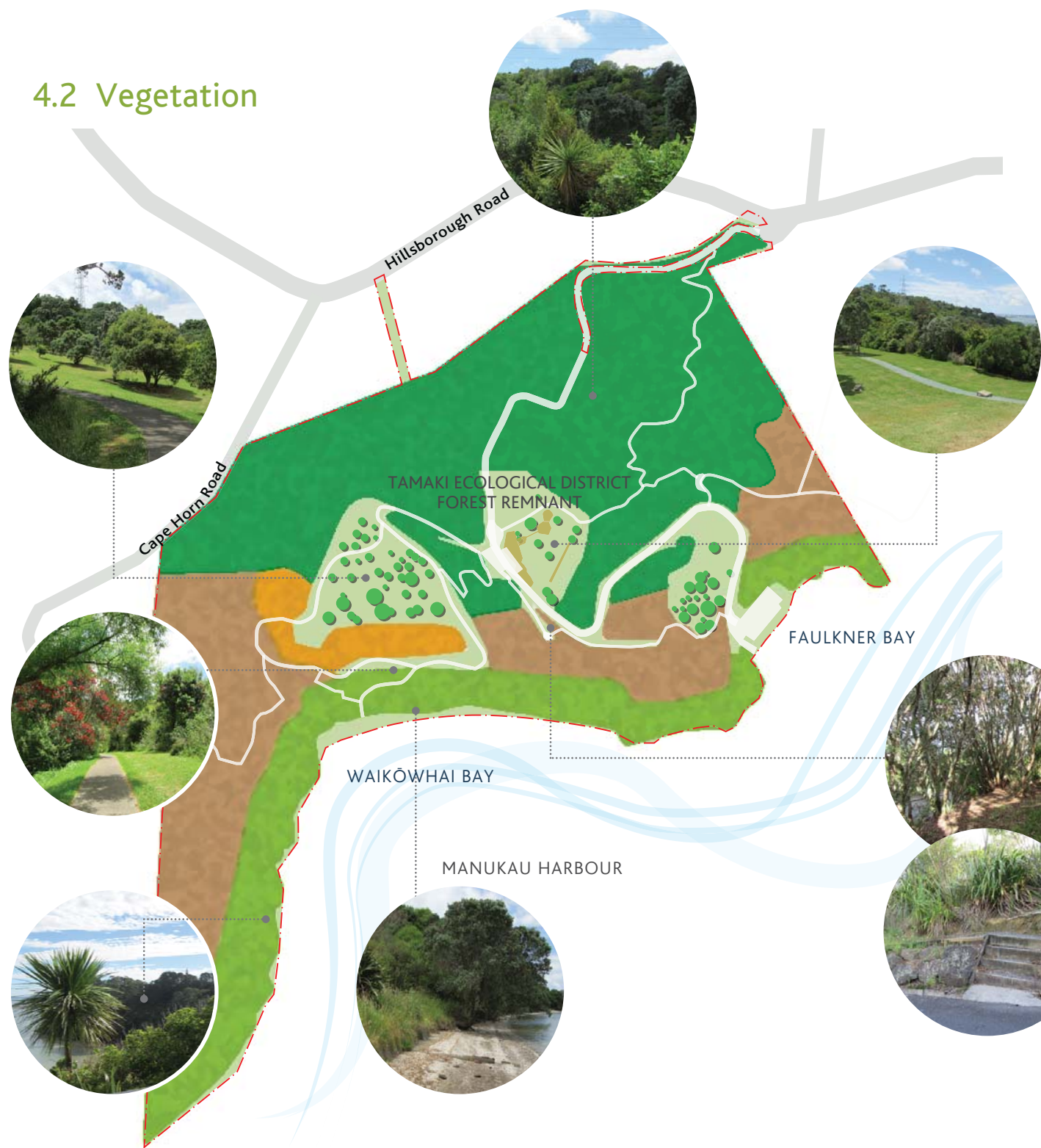


LEGEND

- | | | |
|------------|----------------------------------|--------------------|
| carparking | picnic and/or barbecue area | dog off-leash area |
| playground | viewing platform | |
| boat ramp | historic changing shed structure | |
| toilets | historic landfill extents | |



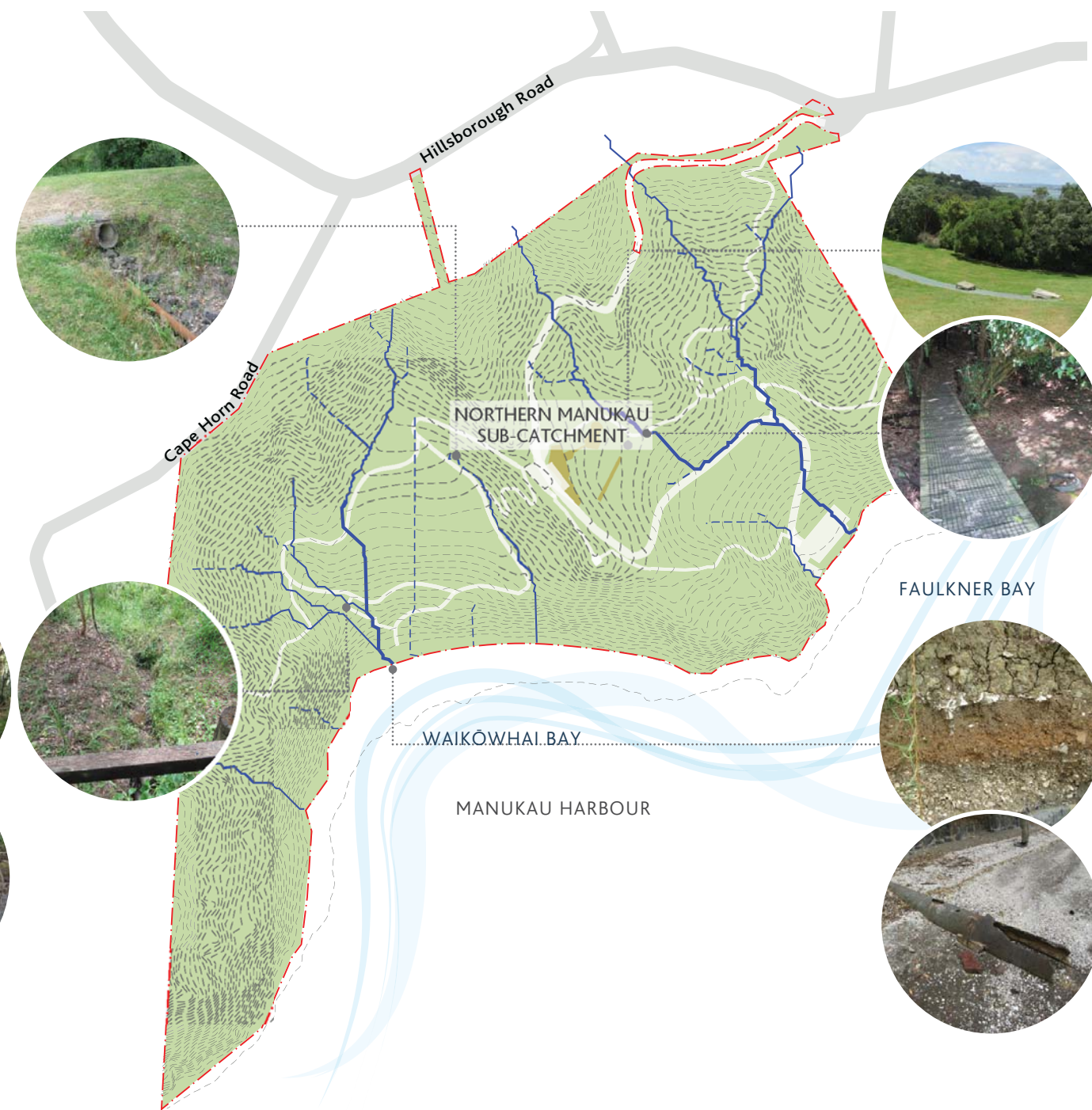
4.2 Vegetation



LEGEND

- grassed areas
- lawn/specimen trees
- coastal broadleaf forest
- pohutukawa tree/flax/rockland
- regenerating kanuka scrub/forest
- regenerating broadleaf scrub/forest

4.3 Hydrology and topography

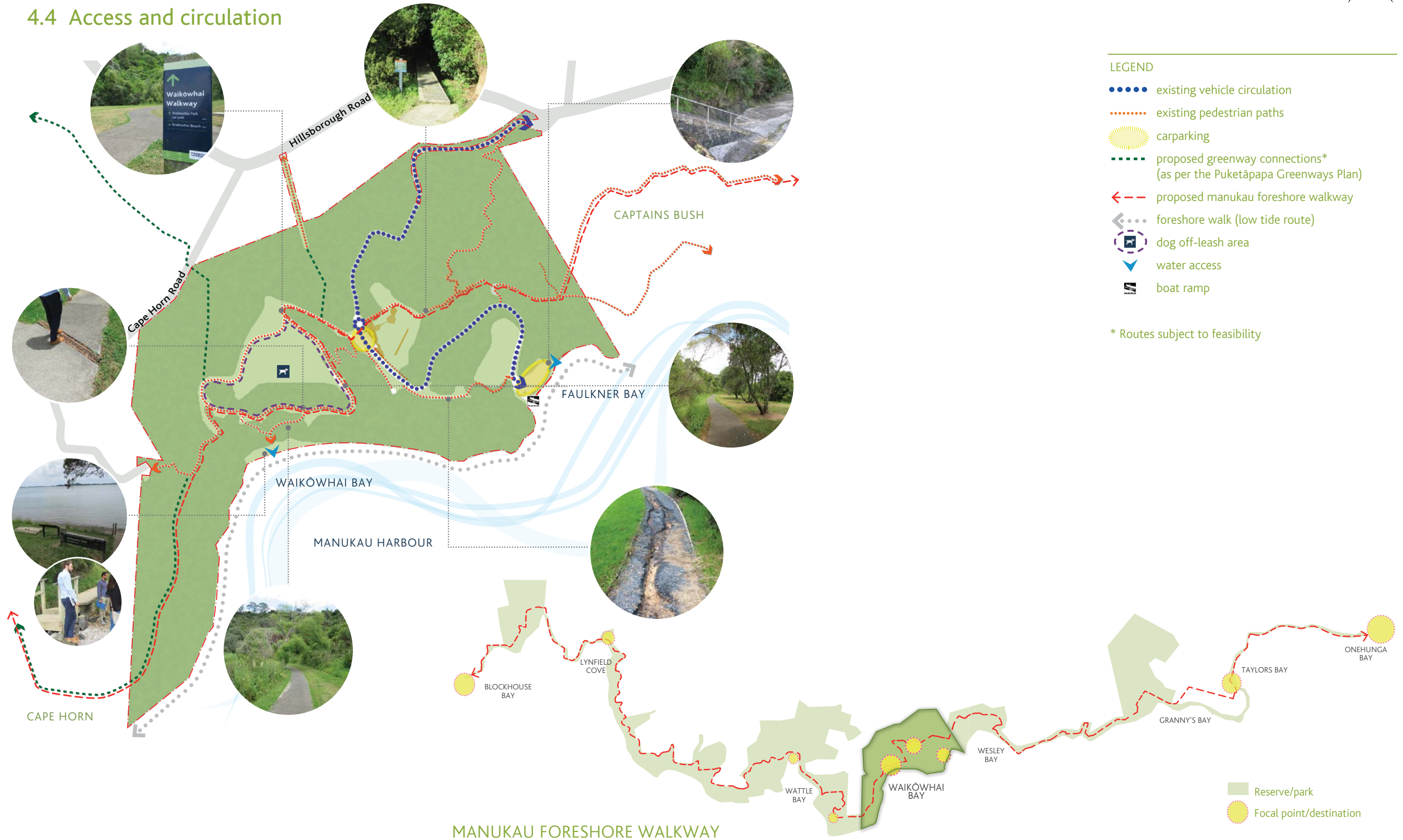


LEGEND

- 2m contours
- overland flow paths

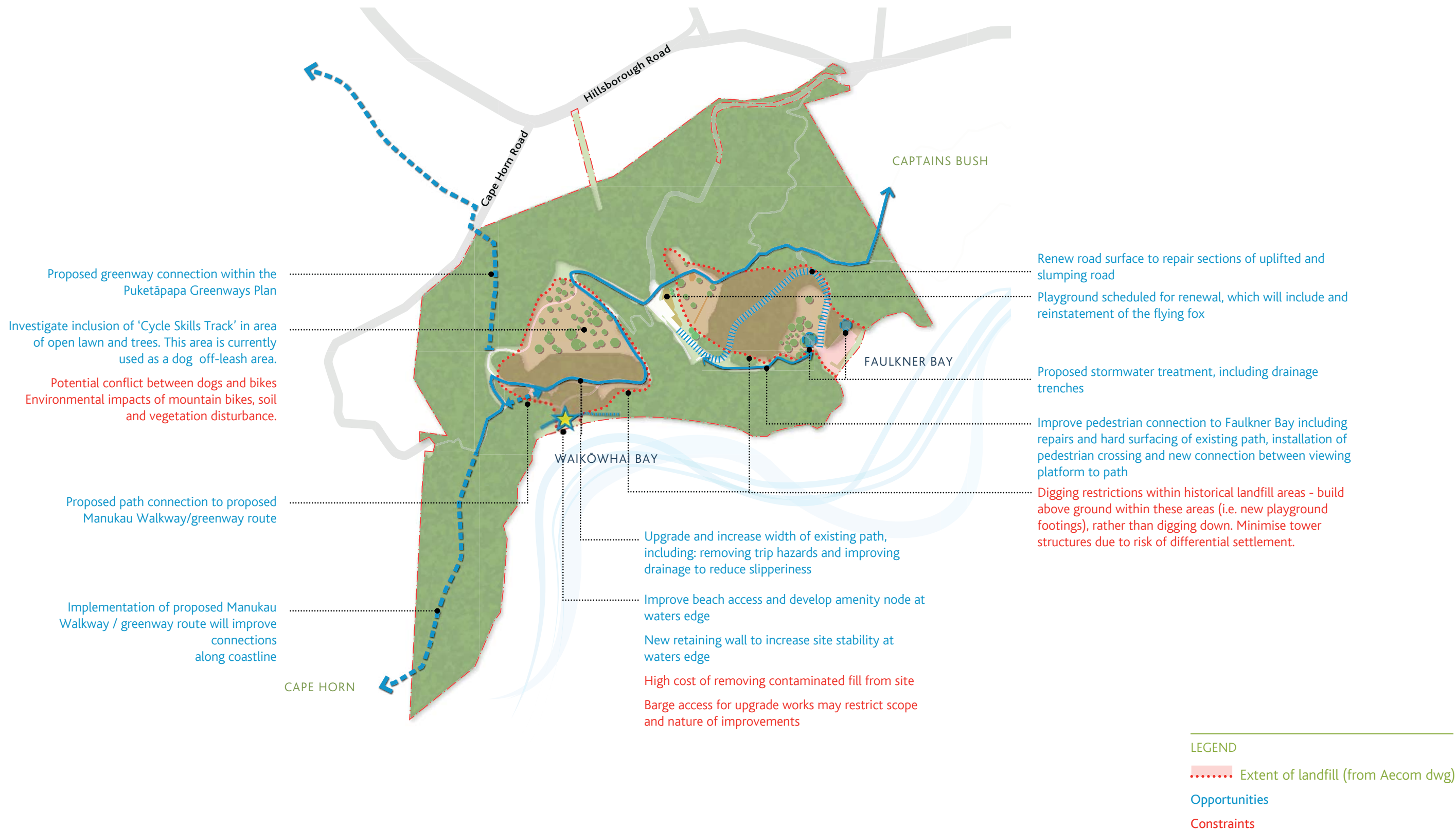


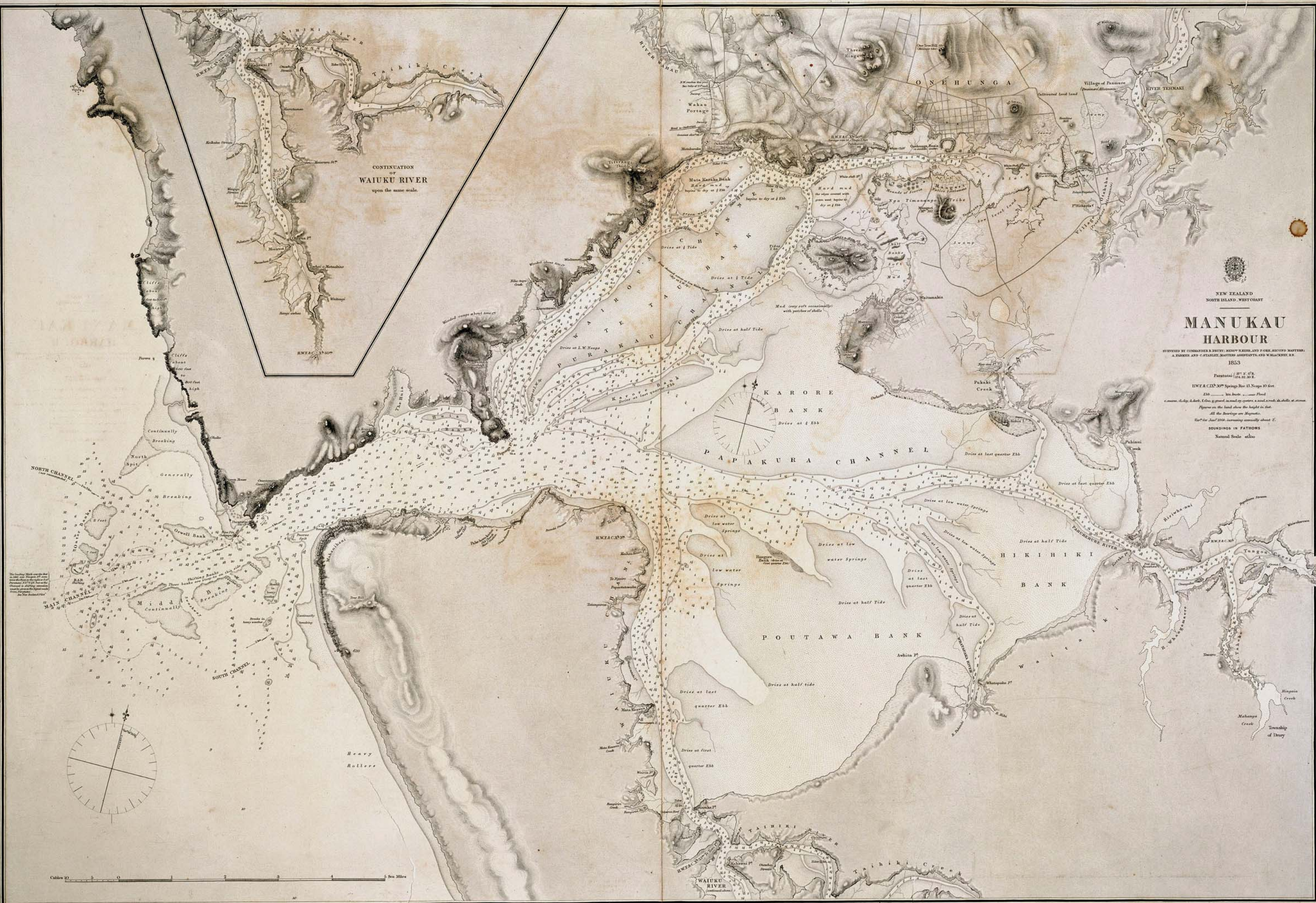
4.4 Access and circulation





4.5 Opportunities and constraints





CONTINUATION
OF
WAIUKU RIVER
upon the same scale.

MANUKAU HARBOUR

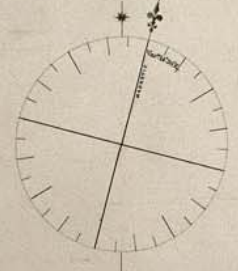
SURVEYED BY COMMODORE B. DUFFY, NEW ZEALAND FORCE, SECOND MASTER, A. FORBES AND C. STANLEY, MASTERS ASSISTANTS, AND W. JACKSON, R.N.

NEW ZEALAND
SOUTH ISLAND, WEST COAST

1853

Paratutu 37° 5' S. O.S.
174° 32' 30" E.

LOW & HIGH SPRINGS FOR 15 NEAPS 10 SECS.
Ebb 1/2 low water. Flood 1/2 high water.
SOUNDINGS IN FATHOMS
Natural Scale 4000



Scale 1/20000
0 1 2 3 4 5 6 7 8 9 10
Cables 1/2 1 1 1/2 2 2 1/2 3 3 1/2 4 4 1/2 5 5 1/2 6 6 1/2 7 7 1/2 8 8 1/2 9 9 1/2 10
Sea Miles

5.0 Design principles

The Waikōwhai Coast and the Manukau Harbour is of historical importance to many Tamaki Makarau iwi and hapu and has been continually occupied by mana whenua for over 800 years. The Waikōwhai Coast sits between two main portages: the Whau and the Otahuhu Portage which provided an easy access for waka between the Manukau and Waitemata Harbours. The harbour itself also provided an abundance of shellfish, fish, birds and marine mammals.

Te Aranga design principles have been embedded within the adjacent design principles that will be used to guide and underpin all development on site.

TE ARANGA DESIGN PRINCIPLES:

- **MANA (Rangatiratanga/Authority)**
The status of iwi and hapu as mana whenua is recognised and respected
- **WHAKAPAPA (Names and Naming)**
Maori names a celebrated and naming opportunities are supported
- **TOHU (The Wider Cultural Landscape)**
Mana whenua significant sites and cultural landmarks are acknowledged
- **TAIAO (The Natural Environment)**
The natural environment is protected, restored and/or enhanced
- **MAURI TU (Environmental Health)**
Environmental health is protected, maintained and/or enhanced
- **MAHI TOI (Creative Expression)**
Iwi/hapū narratives are captured and expressed creatively and appropriately
- **AHI KA (The Living Presence)**
Iwi/hapū have a living and enduring presence and are secure and valued in their rohe



Maintain and enhance the natural environment

The vegetated portions of the park are identified as Significant Ecological Areas in the Auckland Unitary Plan. Historical land uses have however damaged and contaminated the parkland. Remediation is required to restore and enhance natural values and ensure the reserve is safe for public use.

Proposals:

- *Protect and enhance the natural values of the park including indigenous coastal ecosystems to increase opportunities for people to enjoy nature*
- *protect and enhance indigenous vegetation*
- *manage weeds and animal pests to increase the ecological and biodiversity values in the park, involve schools, volunteers and community groups and develop educational opportunities around this*
- *enhance the mauri of all things, in particular stormwater systems and waterways*
- *engage with mana whenua to develop and maintain high standards of environmental sustainability*



Improve connectivity to and around Waikōwhai Park

The park has a relatively comprehensive network of paths. This could be further improved by implementing planned greenways routes and the Manukau walkway within the park. These would strengthen connections into the park for local residents, and between neighbouring reserves along the harbour foreshore. Existing paths vary in width and are in mixed condition, so opportunities exist to improve their condition, safety and create a stronger path hierarchy.

Proposals:

- *improve legibility of park entrances to enhance the street presence of the reserve*
- *ensure safe and legible pedestrian and cyclist priority at entry points and throughout the park*
- *implement the sections of the Puketāpapa Greenways Plan and the Manukau Walkway that runs through the reserve*
- *introduce hierarchy to existing path network*
- *improve drainage in some sections for amenity and safety reasons*
- *interpretation material should take the opportunity to reference historical material and names*



Improve the reserve as a recreation destination

The playground is currently up for renewal. It currently caters to preschool aged children and has known drainage issues. The reserve provides boat access to the harbour at Faulkner Bay and beach access at Waikōwhai Bay.

Proposals:

- *recognise and provide for the protection and interpretation of sites of historical and cultural significance*
- *provide for informal active recreation, play opportunities and passive recreation opportunities*
- *upgrade and/or develop the following areas identified as destinations along the Manukau Walkway:*
 1. *playspace upgrades and improvements*
 2. *amenity node at Waikōwhai Bay to improve beach access*
 3. *Faulkner Bay*
- *prevent any inappropriate developments within the park, reduce clutter by removing any unnecessary elements*
- *improve drainage to solve stormwater problems and improve safety*



6.0 Waikōwhai Bay: concept development and precedent imagery



Drainage upgrades



Coastal planting



Pohutukawa and kowhai specimen planting along coastal edge

Path connections



Path connection to Cape Horn

Waikōwhai Bay amenity node



Structure to provide shelter and frame views out to the harbour



Permeable balustrading for unobstructed views



Steps provide beach access and double as seats



Timber seating, including loungers

7.0 Faulkner Bay: concept development and precedent imagery



Supplementary play activities



Integration of natural play elements in area of planting adjacent to playground, utilise found objects i.e. logs and fix equipment to existing trees. Play equipment to be located outside landfill extents zone.



L: Grass bunding to along edge of grass slope to restrict flow of stormwater and damage to planting on lower slopes



8.0 Concept plan





LEGEND

- 1 Playground improvements (as part of separate renewals project). Playground upgrade to include new path through top play area to improve access from existing carpark to playground. New seating, picnic tables, drinking fountain and cycle racks also to be delivered with playground works.
- 2 Reinstate flying fox as part of the playground upgrade
- 3 Consolidate signage into single sign, and include interpretative and site map and wayfinding information. Highlight accessible routes in accordance with the recommendations from the 'Be accessible' report
- 4 Open stormwater drain upgrades (delivered as part of landfill remediation)
- 5 Increase width of existing path along the greenway/Manukau Walkway route
- 6 Remove trip hazard from existing path by removing slot drain
- 7 Re-vegetate area of vegetation cleared as part of landfill stabilisation works with eco-sourced native coastal pohutukawa, flax rockland planting, including specimen pohutukawa and kowhai trees. Ensure no flax borders path. New specimen trees to frame the view from the new seat/rest area adjacent the footpath
- 8 Develop amenity node at Waikōwhai Bay at the top of the retaining wall, including seating, shade, and generous beach access steps with handrail
- 9 Proposed beach retaining wall (delivered as part of landfill remediation), ensure wall is slightly curved to align with the existing coastal edge profile
- 10 Proposed path connection
- 11 Proposed greenway/Manukau Walkway connection to Cape Horn
- 12 Proposed greenway connection to Cape Horn Road (further investigation required)
- 13 Retain area of lawn and specimen trees for use as dog off-leash area
- 14 Investigate redesign of viewing platform, including provision of steps down to path leading to Faulkner Bay when this is up for renewal
- 15 Provide raised table/zebra crossing or similar to allow pedestrians to safely cross Waikōwhai Road
- 16 Repair drainage damage to the gravel path leading to Faulkner Bay. Consider upgrading to hard surface - ie concrete, to improve pedestrian access to the bay.
- 17 Repair areas of slumping in Waikōwhai Road when road is up for renewal (delivered as part of landfill remediation)
- 18 Formalise Faulkner Bay car park by consolidating parking and adding line markings for car and car/trailer parking and 1x accessible park (line markings shown are indicative). Potential reduction of the overall amount of hardstand.
- 19 Add additional seats to Faulkner Bay coastal edge and accessibility access from carpark to seating area
- 20 Increase width of the path leading to the lookout from 1.2m path to 1.8m the to enable access
- 21 Accessibility upgrades to top carpark including 1x accessible park and improved access to toilets with the removal of adjacent seat. Note: Future upgrade to toilets should include automated lighting and locking/opening mechanism and bag hook

Note: all upgrades to paths to remove trip hazards.

Wider connections



9.0 Indicative staging

DELIVERY :
 Short term: 1-5 years
 Long term: 10+ years

Short term improvements

ITEM/PROJECT	DESCRIPTION	BUDGET	DELIVERY	INDICATIVE COST
Playground upgrades/improvements	By others, includes reinstatement of flying fox and swings, and addition of supplementary play equipment. New seating, picnic tables, drinking fountain and cycle racks also to be delivered with playground works.	Capex renewal	CF	TBC
Signage upgrades	Consolidate existing signage and include interpretative information and site map of park paths and amenities. Highlight accessible routes in accordance with the recommendations from the 'Be accessible' report	TBC	CF	TBC
Open stormwater drain upgrades	Upgrade drains running alongside paths leading down to Waikōwhai Bay	TBC	Closed Landfill	TBC
Existing path repairs	Fix drainage and remove trip hazards from existing paths, including: a. concrete path to Waikōwhai Bay b. gravel path leading to Faulkner Bay c. ensure accessible paths are a minimum of 1.8m wide	TBC	TBC	TBC
Handrails	1. Upgrade existing handrails to a easier to grip material - currently wooden 2. Handrails to be installed along steep sections	TBC	TBC	TBC
Site stability works	Improvements as part of Closed Landfill teams works	TBC	Closed Landfill	TBC
Revegetation planting and plant maintenance	Revegetate land disturbed/cleared as part of site stability works. Trim flax from path edges (trip hazard). Consider long term replacement with a more suitable low species for along path	TBC	TBC	TBC
Accessibility upgrades to top carpark (refer to 'Be accessible' report)	1. Seat and bollard removal to ensure access to toilet and picnic area 2. Kerb ramps to accessible footpaths 3. Line-marking for 1x accessible park 4. Bring surface level of amenity area up to grade of seating / picnic tables and path (note: may be included as part of playground upgrade works). 5. New path from carpark to existing playground path and relocation of existing seat to rear of path. Reinstatement of planting bordering path (note: may be included as part of playground upgrade works).	TBC	TBC	TBC
Drinking fountain	Install a drinking fountain on the accessible route next to toilet facility (note: may be included as part of playground upgrade works).	TBC	TBC	TBC

Long term improvements

ITEM/PROJECT	DESCRIPTION	BUDGET	DELIVERY	INDICATIVE COST
Greenways/Manukau Walkway connections	1. Connection to Cape Horn as part of the Manukau Walkway 2. Connection to Cape Horn Road (note: steep grade, further investigation required to determine feasibility)	TBC	CF	TBC
Amenity node development	Upgrade and improve access to Waikōwhai Bay (include handrail to step sections)	TBC	TBC	TBC
Viewing platform and path connection	Upgrade/extend lookout structure and construct new steps down to existing path to Faulkner Bay. Recommend a raised table (or similar) to enable safer pedestrian crossing across Waikōwhai Road	Capex renewal	TBC	TBC
Reconfiguration of Faulkner Bay carpark area	Reduce hardstand area and demarcate car parking spaces for car and car/ trailer and 1x accessible park. Feature amenity planting or swales to treat runoff	TBC	TBC	TBC
Toilet renewals	When toilet is up for renewal ensure new facility allows for wheelchair accessibility, including automated lighting and locking/opening mechanism and bag hook	TBC	TBC	TBC

10.0 References

Manukau coastal walkway network - Development Plan (n.d), Puketāpapa Local Board

AECOM NZ Ltd, *Waikōwhai Park Improvement Works- Construction Methodology*, (November 15, 2017 - Draft). Auckland Council

Puketāpapa Local Board, Puketāpapa Greenways Plan (April 2012)

Be InSTITUTE, Be accessible - Waikōwhai Park (n.d).



APPENDICES

A1 Consultation summary

Public consultation was carried out between 21 May to 8 June 2018. Consultation included a Shape Auckland survey and an open evening held at the Lynfield Recreation Centre on 2 May.

A total of 7 online submissions were received, the majority from local residents. There was low attendance at the open evening.

There was good support overall for the proposed improvements to Waikōwhai Park. The feedback was used to inform the final version of the Waikōwhai Park Concept Plan.

Key consultation themes

Existing reserve use:

- The submissions identified that people most frequently use the park for walk / dog walking, the playground and boating.
- Existing dog walking is supported

Note: the off leash area will remain in its current location (in the western grass area) to maintain separation from the playground and bbq amenity areas.

Amenities and connections:

- Support for the proposed amenity node at Waikōwhai Bay with seating, shade and improved beach access
- Support for the improvements to Faulkner Bay seating and car park
- Support for the path upgrades.

Natural environment:

- Support for the regeneration of the natural forest

Playground renewal:

- Support for the upgrade to the existing playground and the addition of natural play elements.

Note: specific feedback in relation to the playground will be considered as part of the playground upgrade which will commence in Summer 2019.



Draft Waikōwhai Park Concept Plan - landfill remediation works and playground renewals

We would like your feedback on the Draft Waikōwhai Park Concept Plan. The plan has been commissioned by the Puketāpapa Local Board to identify short and long term improvements to the park that can be achieved during the necessary landfill remediation works. The remediation works are at large below the surface, however there is opportunity to influence the aesthetics above ground.

The following concept plan shows what the proposed improvements could be like with completion of the remediation works.

Also featured as part of this consultation is the proposed renewal to the existing playground. This will be implemented following the remediation and stormwater works in the adjacent area.

Please read the information on the following boards and provide your feedback online at Shape Auckland.

Find out more:
visit shapeauckland.govt.nz
or call 09 301 0101



Selection of the consultation material exhibited at the open evening and downloadable online during the consultation period

1 Introduction and site context

The site
Waikōwhai Park is a public park approximately 20 hectares in size, located at 8 Waikōwhai Road, Hillsborough, within the Puketāpapa Local Board area. The majority of the park is identified in the Auckland Unitary Plan (operative in part) as a Significant Ecological Area (SEA).

Related projects
The existing playground is due to be upgraded, with works scheduled for summer 2018/19.

Wider connections
The Manukau Walkway is a 12km walkway connecting Blockhouse Bay to Onehunga Bay via Waikōwhai Park. Waikōwhai Bay forms the playground and Faulkner Bay are identified as destinations along this route. The Manukau Walkway links to a number of Greenway routes within the Puketāpapa Local Board area.

Existing photographs
Existing playground adjacent to the top-up park.
Waikōwhai Bay showing existing retaining wall.
Faulkner Bay park.

Historic photographs
Historic photographs showing the site's development over time.

Project scope
The site was used as a landfill between 1963 and 1974. Remediation works were carried out on the site in the 1980s and 1990s. Additional works are now required to address surface water drainage and land stability issues on site.

The project involves creation of a concept plan for the park that identifies both short and long term improvements. The concept plan is to be developed with the closed landfill team, who will be undertaking significant works in the park to improve the landfill cap over the next few years. These include:

- stabilisation of the existing rock wall uphill of the boat ramp at Faulkner Bay
- improvements to open stormwater swale drains throughout the reserve
- addressing slope instability along the shoreline at Waikōwhai Bay
- installation of subsurface drains, and
- construction of a new 100m long retaining wall along the shoreline at Waikōwhai Bay.

Find out more:
visit shapeauckland.govt.nz
or call 09 301 0101

6 Draft concept for playground

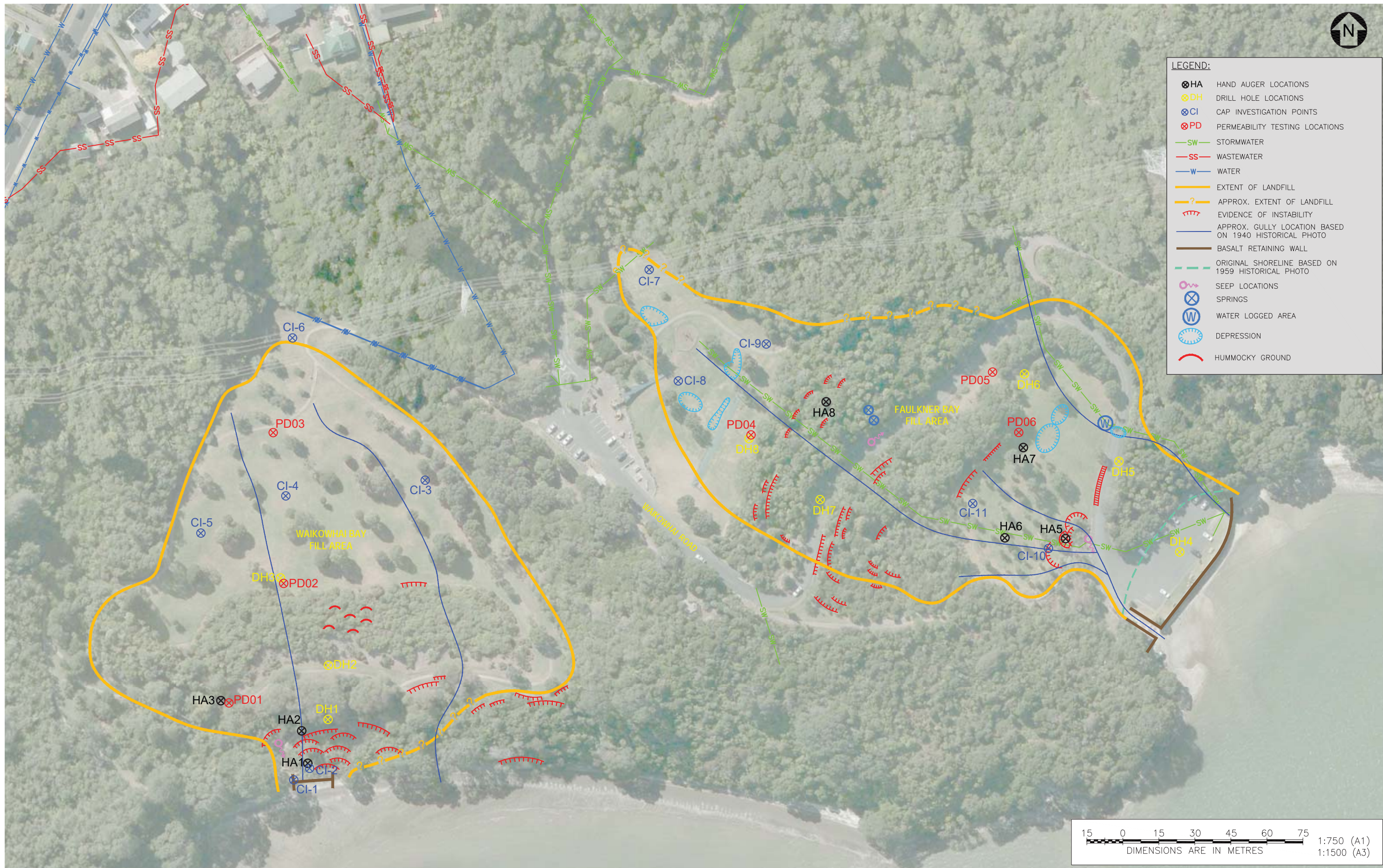
Upper area
New play structure, wooden play structure, wooden play structure, wooden play structure, wooden play structure.

Lower area
New play structure, wooden play structure, wooden play structure, wooden play structure, wooden play structure.

Find out more:
visit shapeauckland.govt.nz
or call 09 301 0101

Puketāpapa Local Board

A2 Technical drawings



This drawing is confidential and shall only be used for the purpose of this project. The signing of this title block confirms the design and drafting of this project have been prepared and checked in accordance with the AECOM quality assurance system to ISO 9001-2000.

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PROJECT
 WAIKOWHAI BAY
 CLOSED LANDFILL
 IMPROVEMENT
 WORKS

CLIENT
 AUCKLAND
 COUNCIL

REGISTRATION

CHECK PRINT	BACKDRAFT REQUIRED <input type="checkbox"/>	READY TO ISSUE <input type="checkbox"/>
	INITIAL	DATE
SELF CHECK		
DRAFTING		
DESIGN ENGINEER		
LEAD DESIGN		
VERIFIER		
BACKDRAFTED/CORRECTED		
CONFIRMED		

PROJECT MANAGEMENT INITIALS

DESIGNER	CHECKED	APPROVED

PROJECT DATA

DATUM	SURVEY

ISSUE/REVISION

A	25/08/2017	FOR CONSENT
IR	DATE	DESCRIPTION

PROJECT NUMBER
 60442268

SHEET TITLE
 SITE LAYOUT
 GENERAL ARRANGEMENT

SHEET NUMBER
 FIGURE 2



Last saved by: MCLLELLAN(2017-1-07) Last Picked: 2017-11-07
Filename: \\NZAKL\HPP001_AU_AECOM\NET\COM\PROJECTS\6042268\6042268\6042268\6042268-006_FaulknerBay_PROPOSED_UPDATED.DWG

LEGEND:

- SW— STORMWATER
- EXTENT OF LANDFILL
- APPROX. EXTENT OF LANDFILL



PROJECT
**WAIKOWHAI BAY
 CLOSED LANDFILL
 IMPROVEMENT
 WORKS**

CLIENT
**AUCKLAND
 COUNCIL**

REGISTRATION

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	INITIAL	DATE
SELF CHECK		
DRAFTING		
DESIGN ENGINEER		
LEAD DESIGN		
VERIFIER		
BACKDRAFTED/CORRECTED		
CONFIRMED		

PROJECT MANAGEMENT INITIALS

DESIGNER	CHECKED	APPROVED

PROJECT DATA

DATUM	SURVEY

ISSUE/REVISION

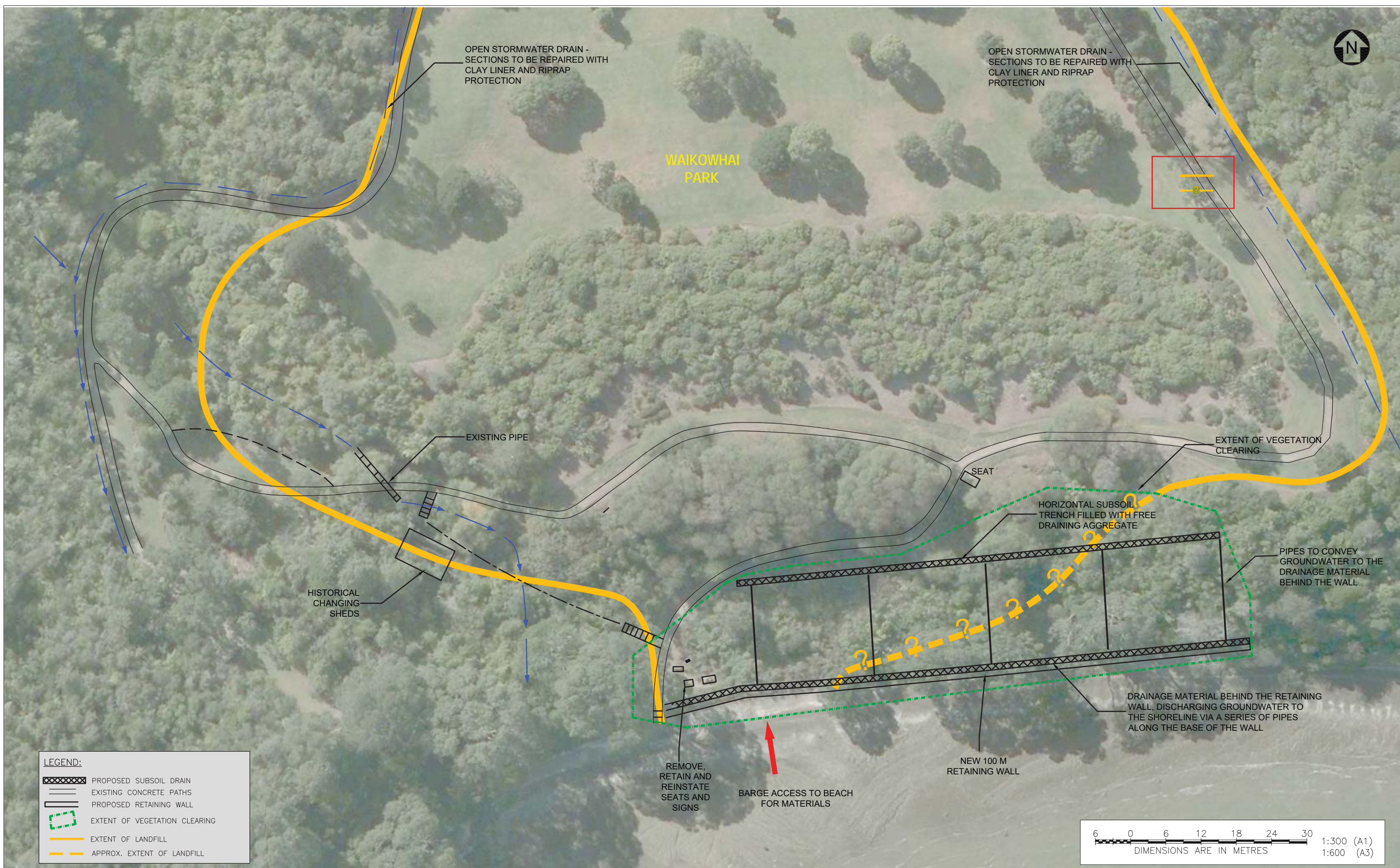
A	25/08/2017	FOR CONSENT
IR	DATE	DESCRIPTION

PROJECT NUMBER
60442268

SHEET TITLE
FAULKNER BAY
PROPOSED WORKS

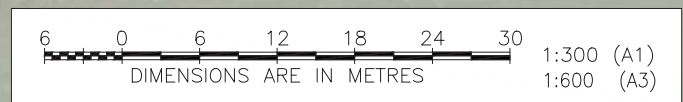
SHEET NUMBER
FIGURE 3

ISO A1 594mm x 841mm
 Last saved by: MCLELLANK (2017-08-25) Last Plotted: 2017-08-25
 Filename: \\NZAKL1FP001.AU.AECOM\NET_COM\PROJECTS\60442268-009-WAIKOWHAI_BAY_PROPOSED.DWG



LEGEND:

	PROPOSED SUBSOIL DRAIN
	EXISTING CONCRETE PATHS
	PROPOSED RETAINING WALL
	EXTENT OF VEGETATION CLEARING
	EXTENT OF LANDFILL
	APPROX. EXTENT OF LANDFILL



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 CLOSED LANDFILL
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REGISTRATION

CHECK PRINT	BACKDRAFT REQUIRED <input type="checkbox"/>	READY TO ISSUE <input type="checkbox"/>
	INITIAL	DATE
SELF CHECK		
DRAFTING		
DESIGN ENGINEER		
LEAD DESIGN		
VERIFIER		
BACKDRAFTED/CORRECTED		
CONFIRMED		

PROJECT MANAGEMENT INITIALS

MB	ET	ET
DESIGNER	CHECKED	APPROVED

PROJECT DATA

DATUM	SURVEY
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ISSUE/REVISION

B	27/04/2016	FINAL
A	15/03/2016	DRAFT
IR	DATE	DESCRIPTION

PROJECT NUMBER
 60442268

SHEET TITLE
 WAIKOWHAI BAY
 PROPOSED WORKS

SHEET NUMBER
 FIGURE 4