Hibiscus and Bays Local Board Workshop Programme

Date of Workshop: Tuesday 21 March 2023
Time: 10:00am – 2:00pm
Venue: Council chamber – Orewa Service Centre
Apologies:

Item	Time	Workshop Item	Presenter	Governance role	Proposed Outcome(s)
		Welcome and apologies	Gary Brown - Chairperson		
1.	10:00am	Revising the Mairangi Bay Beach Reserves Management Plan (2015) - variation **Attachments:** • Mairangi Bay Reserves Management Plan presentation • Mairangi Bay Reserves Management Plan memo • Mairangi Bay Reserves • Management Plan (A) • Mairangi Bay Shoreline Management Options (B) • Mairangi Bay Beach Reserve – extent of parcels (C) • Development Plan – Mairangi Bay Beach Reserves (D)	Tommo Cooper-Cuthbert – Service and Asset Planner	Local initiatives and specific decisions	Seek the local boards feedback on the proposal to vary the Mairangi Bay Beach Reserves Management Plan.
2.	11:00am	Watercare introduction **Attachment:** • Watercare Induction 2022 presentation	Ben Halliwell – Elected Member Relationship Manager	Keeping informed	Introduce key staff and receive an overview of Watercare Services.

3.	11:30am	Orewa Community Centre – hire subsidy **Attachment:** • Orewa Community Centre – hire subsidy presentation	Rosetta Mamea – Continuous Improvements Advisor Jamie Adkins – Place and Partner Specialist Marilyn Kelly – Strategic Broker	Local initiatives and specific decisions	Discuss the Orewa Community Centre subsidy and seek the local boards direction on how to progress with the subsidy.
	12:00pm	**BREAK**			
4.	12:30pm	Hibiscus Coast indoor recreation facility options analysis **Attachments:** • Hibiscus Coast Indoor Recreation Facility Options Analysis memo • Hibiscus Coast Indoor Recreation Facility Options Analysis presentation	Shaun Watkins – Sport and Recreation Lead	Local initiatives and specific decisions	Discuss the indoor recreation facility options analysis and seek direction from the local board on the future work programme.
5.	1:15pm	Event Partnership Fund **Attachments:** • Event Partnership Funding 2023/2024 presentation • Event Partnership Guidelines 1 July 2023 • Accountability report – Destination Orewa Beach	Lisa Kent – Manager Event Facilitation Ruchita Patel – Senior Event Facilitator	Keeping informed	Receive an update on the Event Partnership Fund and review the proposed criteria and Event Partnership Guidelines.
6.	1:45pm	**(NON-PUBLIC)**			
	2:15pm	Workshop concludes			

Role of workshop:

(a) Workshops do not have decision-making authority.
(b) Workshops are used to canvass issues, prepare local board members for upcoming decisions and to enable discussion between elected members and staff.
(c) Workshops are not open to the public as decisions will be made at a formal, public local board business meeting.
(d) Members are respectfully reminded of their Code of Conduct obligations with respect to conflicts of interest and confidentiality.
(e) Workshops for groups of local boards can be held giving local boards the chance to work together on common interests or topics.

Mairangi Bay Beach Reserves Management Plan (2015) review

- Based on information raised in the Tonkin and Taylor Mairangi Bay Shoreline Management Options Report (2022)

21 March 2023

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Focus of today's session

1. Discussion of current reserve and requirement for varying the Mairangi Bay Beach Reserves Management Plan (2015)
2. Outline of existing site and threats to this posed by climate change
3. Shoreline realignment options outlined
4. Discussion of proposed scope for varying management plan and other options
5. Next steps

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Existing site

Source: Auckland Council GIS 2022

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Threat posed by climate change

Source: Tonkin and Taylor Shoreline Management Options Report 2022 - showing existing Reserve Management Plan concept, overlaid with erosion susceptibility layers for next 50 and 100 years (adopted by WSP Opus, 2018)

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Shoreline realignment options

Option 1 - Do nothing - used as a baseline to compare other options, gauging their benefit. Considered unsuitable in the long-term due to the high economic and amenity values of the area impacted by coastal hazards and sea-level rise over time.

Option 2 - Maintain existing defence – considers maintaining the current state of the sea wall, requiring periodic repairs to address continued structural deterioration and storm damage. Considered an unsuitable solution, as this would require regular repairs to a poorly designed structure, and given sea-level rise, the degradation of the dry high tide beach over time.

Option 3 - Renew existing defence - seeks to replace the existing masonry seawall with a properly engineered seawall and raising the ground level of the reserve to mitigate against coastal inundation. Considered unsuitable, as this option presents a high capital renewal cost, does not align with best practice coastal policy, and does not manage the ongoing issue of beach lowering.

Option 4 - Realign shoreline – considers softening the coastal edge by removal of the existing seawall and enhancing the transition between the grassed reserve and beach. This includes relocating the surf club outside of the erosion susceptibility area and sand transfer to increase the width of the available dry high tide beach. **Most preferred option.**

Option 5 - Advance shoreline - moves the current coastline seaward by placing large volumes of imported sand in front of the seawall to create a wider high tide beach and the provision of control structures such as rock groynes. This is considered unsuitable/unfeasible owing to high ongoing maintenance costs and natural character impacts.

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Proposed scope of the plan variation

Proposed scope of the variation	Pros	Cons
Preference 1 - Full review of whole plan – **not recommended**	More thorough than reviewing parts of plan	Time consuming, unnecessary compared to partial review of policies and full review of concept plan. No issues with majority of plan.
Preference 2 - Vary coastal processes policies and concept plan triggered by coastal processes - **recommended**	Shoreline management approach outlined in management plan, informed by public engagement. Surf club wants security of knowing building location. Montrose Terrace may require realigning.	Non apparent
Preference 3 - Vary policies relating to coastal processes and remove concept plan from MBBRMP – **not recommended**	Simple to do	Delays decision on location of key reserve features (surf club building and Montrose Terrace), included on the concept plan.
Preference 4 - Development plan review – **not recommended**	Out of scope.	Time consuming, too early to plan detailed design of reserve area.
Preference 5 - Extend surf club building lease through notified process under Reserves Act 1977, without varying plan – **not recommended**	The surf club could apply for a new lease and raise different options for lease footprint at their convenience.	Could confirm new club location following consultation but risks inconsistencies and conflict with existing reserve management plan, limiting club footprint. Therefore, higher risk of lease not being granted.

Next steps

1. Seeking feedback from local board on proposal variation of Mairangi Bay Beach Reserves Management Plan. Variation to be informed by Tonkin and Taylor Mairangi Bay Shoreline Management Options Report, highlighting issues with current management plan.
2. If local board supports proposal, next step would be reporting to April business meeting with formal recommendation to vary management plan and notify the public.
3. To support public notice, key messaging around the plan variation will require drafting to explain why management plan review is being proposed (and which sections of the plan are likely to be reviewed). This explanation will include focussing on findings from the shoreline management options report addressing long-term coastal hazards (including opportunities to find nature-based solutions), providing clarity for surf club leasing and investigating enhanced open space areas in the reserve.

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Memorandum

13 March 2023

To:	**Hibiscus and Bays Local Board**
Subject:	**Proposal to vary Mairangi Bay Beach Reserves Management Plan**
From:	Tommo Cooper-Cuthbert, Service and Asset Planner
Copy:	Jeff Lyford - Principal Advisor, Parks and Community Facilities Natasha Carpenter - Coastal Management Practice Lead Angela Levet - Senior Growth Development Specialist

Purpose

1. To seek Hibiscus and Bays Local Board feedback on the proposal to vary the Mairangi Bay Beach Reserves Management Plan (Attachment A), guided by the Tonkin and Taylor Mairangi Bay Shoreline Management Options Report (Attachment B), that highlights issues with the current management plan.

Summary

- A variation to the Mairangi Bay Beach Reserves Management Plan (MBBRMP) 2015, and the concept plan contained within, is recommended to provide clarity on how the effects of coastal impacts in the reserve will be managed in the future.
- Mairangi Bay Beach foreshore is becoming increasingly exposed to the impacts of coastal hazards and climate change; this includes the Mairangi Bay Surf Lifesaving Club building site and the Auckland Council owned seawall.
- The surf club building has an existing lease within the reserve which is coming to an end on 31 May 2023. Therefore, exploring the relocation of the building is another prompt for revising the MBBRMP.
- The Tonkin and Taylor Mairangi Bay Shoreline Management Options Report (the T&T report) was completed in 2022, providing further evidence about coastal hazards in the reserve and outlining options to mitigate the effects of climate change impacting the reserve.
- The T&T report therefore provides new information that was not available when the MBBRMP (and the concept plan within) was adopted in 2015.
- Direction is therefore sought from the Hibiscus and Bays Local Board on:
    a) the proposal to vary the Mairangi Bay Beach Reserves Management Plan (and the concept plan within) in response to findings from the T&T report
    b) the requirement for public feedback on the location of the Mairangi Bay Surf Lifesaving Club building, given that the building footprint is currently in the coastal erosion susceptibility area 2070. This also provides the opportunity to reconsider the location of Montrose Terrace where it crosses the reserve, to reduce fragmentation of the reserve and increase the foreshore area.
- Given the significant impact of moving key features of the existing reserve (as outlined in b) above), council staff consider that the review is “comprehensive” under Section 41 of the Reserves Act 1977.

- Staff recommend the plan variation process involves comprehensive public consultation in two phases:
  - firstly, to engage the community on parts of the plan proposed for review (and why)
  - secondly, to seek feedback on a revised concept plan (and accordingly revision to relevant management plan policies associated with this concept plan).

Context/Background

Parks planning documents for Mairangi Bay Beach Reserves

Mairangi Bay Beach Reserve Management Plan (and concept plan within)

2. The Mairangi Bay Beach Reserves Management Plan (MBBRMP) guides the future management, development, and protection of the Mairangi Bay Beach Reserves. The plan was adopted by the Hibiscus and Bays Local Board in March 2015.
3. As administering body under the Reserves Act 1977, the local board has the responsibility of reviewing and preparing reserve management plans for all reserves in the local board area.
4. All the land within scope of the MBBRMP (including the associated coastal walkway) is held under the Reserves Act 1977 and classified as either recreation reserve or local purpose (esplanade) reserve, as shown in Attachment C.
5. The MBBRMP acknowledges that Mairangi Bay beach is a dynamic environment, subject to coastal inundation, coastal erosion and high winds. This means that consideration of the existing seawall's structural integrity may be required in the future, as it protects the valued foreshore reserve area. However, the existing plan does not suggest anything in detail to address coastal hazards, and the resulting impact on the beach.
6. The MBBRMP also contains a concept plan to guide works on the area most intensively used by the community, namely the Mairangi Bay beachfront and adjoining reserve land. This existing concept plan shows a summary of current park infrastructure which is proposed to be changed under this variation, to recognise the advice of the T&T report.
7. The MBBRMP identifies several significant projects which are interdependent, including projects that will be, or already have been, delivered by or with the assistance of Council Controlled Organisations, including Watercare and Auckland Transport. An example of one such project is the redevelopment and upgrade of the existing wastewater pump station, on land at 10 and 12 Sidmouth Street, by Watercare.
8. Section 41(4) of the Reserves Act 1977 states that *"the administering body of any reserve shall keep its management plan under continuous review, so that… the plan is adapted to changing circumstances or in accordance with increased knowledge"* such as the new information provided in the T&T report.

Mairangi Bay Beach Reserves Development Plan

9. In June 2017, the local board approved the production of the Mairangi Bay Beach Reserves Development Plan (MBBRDP). The subsequent MBBRDP, describes high-level scope and outcomes for multiple projects, seeking to action the goals of the reserve management plan (Attachment D). The MBBRDP prioritises these projects, creating broad cost estimates and a coordinated development programme to deliver them.
10. The Tonkin and Taylor Mairangi Bay Shoreline Management Options Report was identified as the first action required to begin implementation of the MBBRDP.

New information regarding coastal processes impacting the beach reserves

11. In August 2019, as part of preparing the development plan, council commissioned Tonkin and Taylor to carry out a coastal processes, issues, and options assessment.
12. The Tonkin and Taylor report, released in November 2019 and later updated in December 2022, detailed an updated assessment of coastal hazards and processes, including the likely effects

of climate change. It outlined the current condition of the existing seawall adjoining the reserve, and the likelihood of further degradation.

13. The report further explored options to manage coastal hazards and the beach environment, including the possibility of renewing the existing seawall in future years. The new information identified options for future reserve edge management in response to climate change effects and coastal hazards over time.

14. The T&T report proposes the redevelopment of the Mairangi Bay Surf Lifesaving Club (MBSLC/the surf club) building away from the shoreline. It also proposes the repositioning of Montrose Terrace from its current location to a location further inland. This new information was not considered by the 2015 MBBRMP (including the concept plan within) or the development plan.

15. In December 2020, Auckland Council released Te Tāruke-ā-Tāwhiri: Auckland's Climate Plan, which emphasised the need to plan for "managed retreat" from low-lying coastal areas, such as the Mairangi Bay Beach Reserves. The New Zealand Coastal Policy Statement, published in 1994 and updated in 2010, is another relevant document which sets out best practice consideration of coastal hazards.

16. It is noted that the 2022 Tonkin and Taylor Mairangi Bay Shoreline Management Options Report is written in accordance with principles and policies expressed in these national documents.

17. Following the release of the T&T report, it is recommended that the MBBRMP is reviewed to determine appropriate coastal hazard mitigations for the reserve. The possible mitigations will include exploring the relocation of the MBSLC and Montrose Terrace further inland, as well as the future of the existing seawall and shoreline.

Mairangi Bay Surf Lifesaving Club

18. The MBBRMP contemplates a larger lease area for the MBSLC, with an extended building footprint to accommodate the redevelopment of the MBSLC clubrooms. The management plan also allows for boat storage space, a refreshment kiosk, public toilets and changing facilities. However, the plan does not provide any details on the proposed location of this new building or an extended building footprint.

19. The MBSLC is eager to have the security of a confirmed new building location that is setback from the coastal hazard zone. The existing surf club building's lease comes to an end on 31 May 2023, meaning that now is an opportune time to consider the relocation of the building.

20. Any proposals to relocate key reserve infrastructure, like the existing MBSLC building, will involve changes to the concept plan, as contemplated under the Reserves Act 1977. The building is currently located within the coastal erosion susceptibility area 2070.

Analysis and Discussion

Issues being raised to consider in plan variation

21. As part of the process to vary the MBBRMP, it is proposed that the community is consulted on the intended solutions to the issues discussed below.

Shoreline realignment

22. The T&T report provided five options for addressing coastal hazards and sea level rise impacts in relation to the reserve as follows:

    Option 1 - Do nothing - used as a baseline to compare other options and gauge their benefit. This is considered unsuitable as a long-term option because of the high economic and amenity values of the area that would be impacted by coastal hazards and sea-level rise over time.

    Option 2 - Maintain existing defence – considers maintaining the current state of the seawall. This will require ongoing, periodic repairs to address continued structural deterioration and storm damage. This is considered an unsuitable solution, as this would require regular repairs to

a poorly designed structure, and with sea-level rise, the degradation of the fronting dry high tide beach over time.

Option 3 - Renew existing defence - seeks to replace the existing masonry seawall with a properly engineered seawall and raising the ground level of the reserve to mitigate against future coastal inundation. This is considered unsuitable, as this option presents a high capital renewal cost, does not align with best practice coastal policy, and does not manage the ongoing issue of beach lowering.

Option 4 - Realign shoreline – considers softening the coastal edge by removal of the existing seawall and enhancing the transition between the grassed reserve and beach. This includes relocating the surf club outside of the erosion susceptibility area, and sand transfer to increase the width of the available dry high tide beach.

Option 5 - Advance shoreline - seeks to move the current coastline seaward by placing large volumes of imported sand in front of the seawall to create a wider high tide beach and the provision of control structures such as rock groynes. This is considered unsuitable/unfeasible owing to the high ongoing maintenance costs and natural character impacts.

23. Option four is recommended by Tonkin and Taylor and is supported by council staff from Parks and Community Facilities, and Resilient Land and Coasts.
24. Option four provides a more sustainable, longer-term shoreline management response. The solution will be more resilient to the impacts of coastal hazards and sea-level rise, by creating a larger coastal buffer, without the need for extensive hard engineering structures near the coastline.
25. Option four is in accordance with the Auckland Unitary Plan, Ministry for the Environment coastal hazards and climate change guidance, and the New Zealand Coastal Policy Statement 2010. The documents specify that the effects of climate change should be considered over a minimum 100-year timespan, and that responses should consider alternatives to hard protection structures.
26. Option four also reflects the strategy of “managed retreat” to comply with Te Tāruke-ā-Tāwhiri: Auckland's Climate Plan. By moving structures away from the coastline, it allows greater flexibility and adaptive capacity in addressing climate change impacts.

Surf club relocation

27. The MBSLC is also eager to have the security of a new location within the reserve, away from the coastal hazard zone (see Figure 1 for imagery of the surf club building during a storm).
28. The surf club building’s lease comes to an end on 31 May 2023. The building is nearing the end of its design life, meaning now is an opportune time to consider relocation and a rebuild. The surf club may wish to present footprint location options during the submission process.
29. The potential space made available by relocating the MBSLC building allows for a range of future shoreline management options to be considered. These are considered to not only enhance the natural character of the beach and provide more open space for the public, but also provide future resilience to the effects of climate change.

Montrose Terrace relocation

30. The MBBRMP anticipates closing or realigning Montrose Terrace where it runs parallel to the beach front, bisecting the reserve land from the coast and leaving it fragmented (see Figure 2 for an image of the road’s location in the reserve). The recent T&T report also confirmed that the road’s location is within the erosion susceptibility area 2070.
31. This proposal to realign or close Montrose Terrace, where it crosses the reserve, would reduce fragmentation of the reserve and provide an extended beach front reserve, increasing the

coastal buffer in response to sea-level rise. The alternative route at this stage is envisaged to be at the back (east) of the reserve, as illustrated in Figure 3.

32. Montrose Terrace is a formed legal road which is controlled and managed by Auckland Transport.

Figure 1 above – the surf club during a 2016 storm event (source: Matt McNeal, Auckland Council)

Figure 2 above – the existing site, with Montrose Terrace and the surf club building (to the south) (source: Auckland Council GIS 2022)

Figure 3 above – extract from the Tonkin and Taylor Shoreline Management Options Report 2022, showing the concept plan from the existing Reserve Management Plan, overlaid with erosion susceptibility layers for the next 50 and 100 years (adopted by WSP Opus, 2018)

Proposed scope of the plan variation

33. The table below presents a list of plan variation options for the local board's consideration, and outlines why a full review of the MBBRMP is not being recommended.

34. It is recommended that the scope of the MBBRMP review be limited to amending the concept plan and associated policies. This review would concentrate on resolving the issues of future shoreline realignment, the location of the MBSLC building, as well as realigning Montrose Terrace where it crosses the reserve.

Proposed scope of the variation	**Pros**	**Cons**
Preference 1 - Full review of whole MBBRMP – **not recommended**	Would be more thorough than reviewing parts of plan.	Time consuming and unnecessary when partial review of relevant policies and concept plan would suffice. No operational issues with majority of plan, therefore review should be concentrated on specific areas.
Preference 2 - Vary policies relating to coastal processes	The local board's approach to shoreline adaptation in this	Non apparent

and spatial components in concept plan (triggered by coastal processes) - **recommended**	reserve would be clear in the management plan. Surf club wants the security of knowing where the new building will be located. Montrose Terrace may require realigning. Both issues will be informed by public engagement.	
Preference 3 - Vary policies relating to coastal processes and remove concept plan from MBBRMP – **not recommended**	Simple to do	Delays the decision about location of key reserve features such as MBSLC building and Montrose Terrace, which are included on the concept plan. Including the concept plan (as recommended under Preference 2) would be more comprehensive and provide clearer direction for the community.
Preference 4 - Development plan review – **not recommended**	Out of scope. Too early to look at this without resolving the variation of the management plan. Also, given that Opus wrote the existing development plan on behalf of the local board, it is considered that a consultant should again review the technical aspects of the development plan.	Time consuming, too early to plan detailed design of reserve area.
Preference 5 - Extend lease of surf lifesaving club building through a notified process under the Reserves Act 1977, without any variation to the MBBRMP – **not recommended**	The surf club could apply for a new lease and raise different options for lease footprint at their convenience.	Could confirm a new lease footprint following public consultation, but risks inconsistencies and conflict with existing reserve management plan (and concept plan within), that limits club to a different footprint). Therefore, higher risk of lease not being granted. Varying the management plan is the preferred preference as it enables a comprehensive

		review of any changes to surf club footprint related to wider reserve impacts.

What Reserves Act 1977 process to follow for a plan variation

35. Section 41 of the Reserves Act 1977 states that when a management plan review is considered comprehensive, the administering body shall notify the public twice – to notify its intention to review a management plan, and then to notify a draft plan. When a management plan review is deemed to be less than comprehensive, the administering body shall only notify the public once – with a draft plan for feedback.

36. Staff are expecting to change the concept plan within the MBBRMP considerably, to potentially recognise aspects like moving the surf club building to a new location and relocating Montrose Terrace. Therefore, our assessment is that a comprehensive review is required. We would anticipate high public interest and the ability to contribute towards the process, involving many and various stakeholders.

37. The proposed comprehensive review steps for the MBBRMP variation are:

- notify intention to vary the MBBRMP and inviting written submissions
- face to face engagement with groups
- draft updates to the management plan (and concept plan within)
- notify final draft MBBRMP for feedback and inviting written submissions
- hearings process and deliberations
- recommend final MBBRMP to local board for approval.

Key stakeholders to engage

38. Stakeholders that council would be attempting to engage with, include the following:

- Mairangi Bay Surf Lifesaving Club
- Neighbours to the reserve
- Mana whenua
- Park users
- Council departments (including Parks and Community Facilities, Heritage, Biosecurity/Ecology and Resilient Land and Coasts)
- Auckland Transport
- Watercare.

Project risks

39. The following risks have been identified as part of the proposed plan variation:

Risk	Level	Mitigation
If the public does not understand the purpose of the plan variation and they do not get involved.	Low	An explanation will be provided to the public to help them understand the scope of the plan changes sought and to enable informed submissions.
If there was no budget for the plan variation, then this would impact the ability to carry out the plan variation. Budget is required for public	Medium	Use available budget effectively to inform a quality decision. Please refer to paragraph 40 about the budget available for the plan variation process.

notices and specialist advice.		If there are budgetary pressures, the scope of the project would need to be altered/delayed.
If the local board/community wants to proceed with fortifying the coastline (renewing the seawall) in contrast to specialist advice.	Medium	Securing budget to implement the management plan is not within scope of the proposed plan variation process. The process to vary the management could provide an initial indication of costs associated with fortifying the coastline, depending on local board direction and what options are investigated through the planning process.
If the plan variation process raises community expectations about funding availability, especially for the new surf club building.	Low	To manage community expectations, consultation material can explain that securing funding for facility development is not within scope of the proposed plan variation process. Once the plan variation is adopted, this would trigger implementation planning, including investigation of funding streams as required.

Project budget

40. There will be an operational cost to revising the MBBRMP, and initial estimates suggest $30,000 LDI Opex will be required to facilitate this process.

Next steps

41. Feedback is sought from the Hibiscus and Bays Local Board on the proposal to vary the Mairangi Bay Beach Reserves Management Plan. The variation will be informed by the Tonkin and Taylor Mairangi Bay Shoreline Management Options Report, that highlights issues with the current management plan.

42. If the local board supports the proposal to vary the management plan, the next step would be to report to the April business meeting, with a formal recommendation to vary the management plan and to notify the public of this intention.

43. To support this public notice, key messaging around the plan variation will need to be drafted to explain to the community why the management plan review is being proposed (and which sections of the plan are likely to be reviewed). This explanation will include focussing on findings from the T&T report addressing long-term coastal hazards (including opportunities to find nature-based solutions), providing clarity for surf club leasing and investigating enhanced open space areas in the reserve.

Attachments

Attachment A - Mairangi Bay Beach Reserves Management Plan (2015)

Attachment B - Mairangi Bay Shoreline Management Options Report (2022)

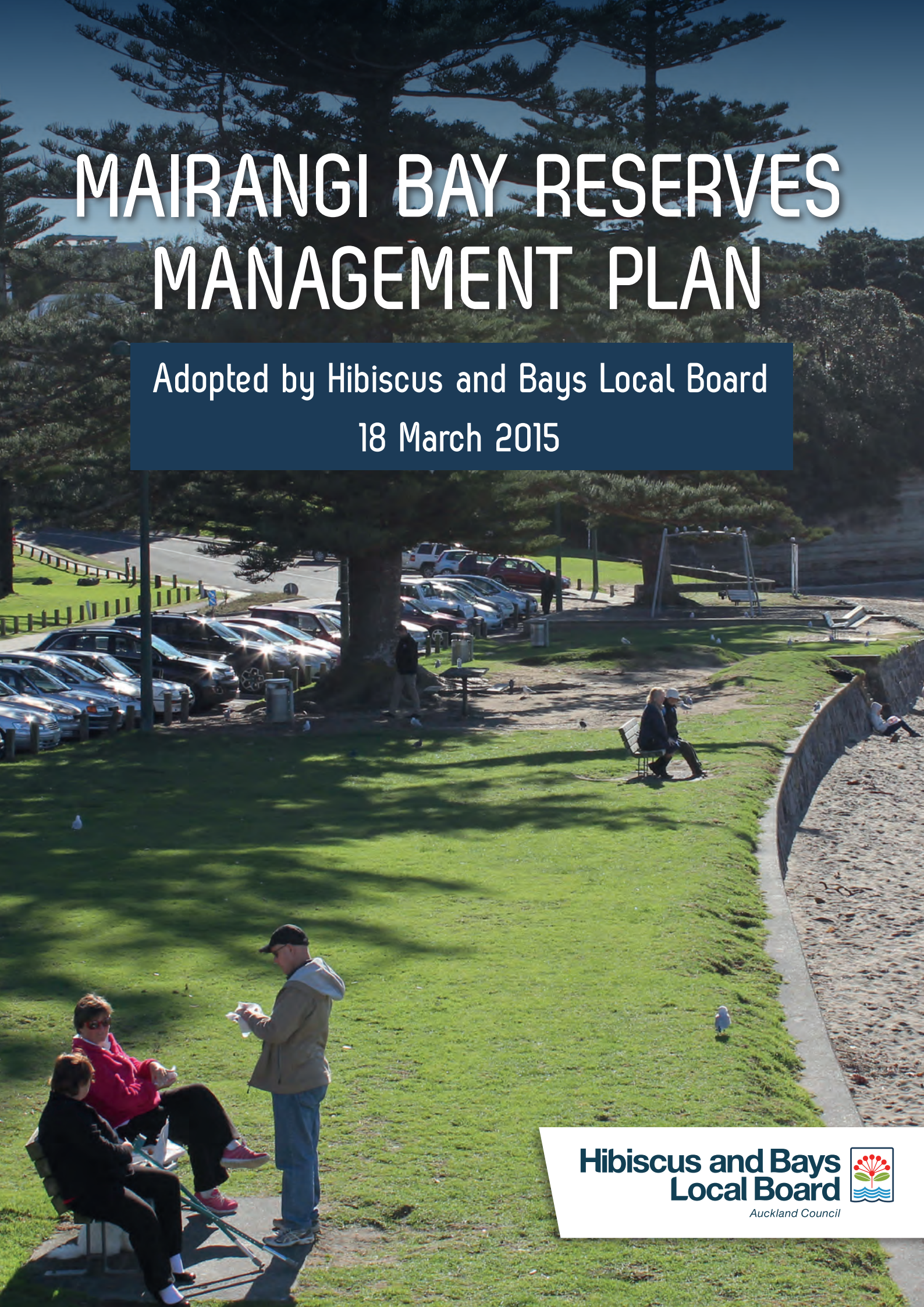
Attachment C - Extent of reserve map

Attachment D - Mairangi Bay Beach Reserves Development Plan (2018)

MAIRANGI BAY RESERVES MANAGEMENT PLAN

Adopted by Hibiscus and Bays Local Board

18 March 2015



Hibiscus and Bays Local Board

Auckland Council

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Mihi

E toko ake rā e te iti, whakatata mai rā e te rahi.
Kia mihi koutou ki ngā kupu whakarei
a te hunga kua tīpokotia e te ringa o te wāhi ngaro,
engari e kaikini tonu nei i ngā mahara i te ao, i te pō.
Ngā oha i mahue mai i tērā whakatupuranga,
kia āpitihia e tātou ki ngā tūmanako o tēnei reanga,
hei mounga waihotanga iho ki te ira whaimuri i a tātou.
Koina te tangi a ngākau māhaki, a te wairua hihiri me te hinengaro tau.
Oho mai rā tātou ki te whakatairanga i ngā mahi
e ekeina ai te pae tawhiti, ka tō mai ai ki te pae tata.
Ka noho au ki uta o Tīkapa Moana, ki te Whanga o Oho Mairangi,
ūnga mai o Te Arawa waka,
whakamāhorahoratanga ki ngā pūmanawa kua whakakāinga ki roto i a koe.
Ka titiro whakateraki ahau ki te puna o te ora,
ki te Pūkaki o Taiorahi.
Kei te pueanga o te rā, ko ngā maunga tipua o Rangitoto me te Motu-tapu a Taikehu.
Ka mutu taku mātaitanga ki runga i a Pupuke,
hua a te riri o Mataoho, papa rēhia mō te tini.
Kua tau te whakaaro i roto i a au,
Nō konei tēnei whanga e matapoporehia ai e te iwi kāinga.
Kia ora huihui mai koutou katoa.

Welcome to you all. Let me greet you with the eloquent words
of those who have long since been taken by the unseen hand of the unknown,
but for whom we still mourn.
Let us enjoin the legacy they left
to the hopes of this generation,
as our gift to those who will follow us.
That is the pledge of the humble heart, the willing spirit and the inspired mind.
Let us rise together and seek to do what is necessary
to draw distant aspirations closer to realization.
I sit inshore of Tīkapa Moana at Mairangi Bay,
landing place of Te Arawa waka,
haven to those of us who shelter within your sanctuary.
I gaze northward to the spring that brings life,
to Taiorahi.
Toward the rising of the sun are the magical mounts, Rangitoto and Motutapu.
My survey settles at Pupuke,
Aftermath of Mataoho's rage, now hub of recreation for many.
The thought dawns on me,
These are the fabric of the bay, so highly valued by the denizens.
Greetings to one and all.

VISION FOR THE MAIRANGI BAY BEACH RESERVES

Our vision for the Mairangi Bay Beach reserve land is a place that is connected to the sea and the associated coastal walkway which will continue as a valued place for both formal and informal water and beach activities, while protecting and preserving our environmental landscape features for enjoyment both now and in the future

1.0 Introduction

This management plan provides a guide for the future management of the Mairangi Bay beach reserves (including the associated coastal walk) which encompass Mairangi Bay Beach Reserve, Sidmouth Street Reserve and the Montrose Terrace reserve land.

Preparation of the plan is a statutory requirement under the Reserves Act 1977. The plan provides a general direction for management and expenditure by the council during the life of the plan. Budget allocation is carried out through the Long - term plan and annual plan processes.

This draft provides an opportunity for the community to have a say in the management of the reserve by making submissions to this plan. Communities and individuals can support initiatives outlined in the management plan during the Long-term plan and annual plan processes.

The management plan clearly states goals and objectives which will provide flexibility to respond to matters of detail. Management policies should be readily understandable by both the community and the council. This will assist council by providing clear statements of agreed policy designed to encourage consistency in decision-making and reduce the potential for ad hoc decisions.

1.1 Location

The Mairangi Bay Beach reserves are located on the east coast of Auckland's North Shore (Plan 1) approximately 17 kilometres from the central business district of Auckland. Murrays Bay is the neighbouring bay to the north with Campbells Bay to the south. The reserves are in a mainly residential area with houses fronting on to the reserves facing the coastline. The adjacent commercial centre of Mairangi Bay is located approximately 150 metres inland.

1.2 Structure of the plan

- Part one introduces the plan and the outcomes sought.
- Part two sets out the strategic and legislative context in which the plan is developed.
- Part three provides a description of the reserve including a brief history, site characteristics and recreational uses.
- Part four outlines issues that the management plan addresses.
- Part five discusses the potential development of the site and shows this graphically in a concept plan.
- Part six sets out the objectives and policies for managing the reserve.

Plan 1 Location plan

Mairangi Bay Beach Reserves
Management Plan

Scale: 1:100,000 at A4
Date: March, 2014
Source: Auckland Council GIS

1.3 Extent of the plan

The management plan covers development of Mairangi Bay Beach Reserve (including the associated coastal walk), Sidmouth Street Reserve and Montrose Terrace reserve land (plan 2).

The coastal walkways included extend south of Mairangi Bay to the coastal reserve that borders 38 Whitby Crescent (a residential property) and north to the coastal reserve that borders 23 Bournemouth Terrace (a residential property) at the southern end of Murrays Bay.

The area covered by the management plan is approximately 8,500 square metres.

1.4 Public and Stakeholder Engagement

In 2009 the former North Shore City Council initiated the process for the development of this management plan prior to the amalgamation creating the Auckland Council. In November 2009 the notice of intent to prepare the reserve management plan was publically notified.

Seventeen individual responses and four group responses were received. The council also undertook stakeholder consultation with nine local community groups.

The main concerns raised in regard to the future management of the Mairangi Bay Beach Reserves at this time were:

- the possible impact on local residents through the reconfiguration of the reserves
- potential for the proposed redevelopment of the Mairangi Bay Surf Lifesaving Club's (surf lifesaving club) facility to dominate the reserve
- over commercialisation of the beachfront through incorporation of cafe facilities within the proposed redevelopment of the surf lifesaving club
- need for improved maintenance and management of the coastal walk.

1.5 Outcomes sought

The Mairangi Bay Beach reserves are used for both formal and informal recreation, that is land and water based activities. This management plan seeks to ensure that a variety of user groups can recreate together so that any potential conflict is minimised. Use of the reserves will be cognisant of the environmental impact of the use and seek to protect its valued landscape characteristics.

The following outcomes are sought:

- an open expanse of reserve which has effectively integrated the land purchased at Montrose Terrace and the existing reserves
- a reserve which is open and free of new structures other than those necessary for existing uses
- improved accessibility, connectivity to the coastline
- appropriate provision of infrastructure and services in accordance with the proposed concept plan included in this management plan
- provision for both formal and informal recreation whilst protecting the valued landscape characteristics of the reserve
- protection/enhancement of the coastal edge and the coastal walkway
- effective stormwater and wastewater management of the site.

Plan 2 Extent of management plan

2.0 Strategic and Legislative context

2.1 Legislative framework

National legislation

- Reserves Act 1977
- Resource Management Act 1991
- New Zealand Coastal Policy Statement 2010
- Historic Places Act 1993
- Hauraki Gulf Marine Park Act 2000
- Local Government (Auckland Council) Act 2009
- Local Government Act 2002
- Local Government Act 1974
- Biosecurity Act 1993
- Wildlife Act 1953
- Health and Safety in Employment Act 1992
- New Zealand Biodiversity Strategy 2000

Auckland Council plans and policies

- Auckland Plan 2012
- Proposed Auckland Unitary Plan 2013
- Long Term Plan
- Annual Plan
- Auckland Council District Plan Operative North Shore Section 2002
- Auckland Council bylaws
- Parks and Open Space Acquisition Policy 2013
- Auckland Regional Plans: Coastal, Sediment Control and Air, Land and Water
- Auckland Regional Policy Statement 1999
- Auckland Council's Indigenous Biodiversity Strategy
- Auckland Council Parks and Open Space Acquisition Policy 2013
- Auckland Council Weed Management Policy
- Strategic Action Plans: Parks and Open Space 2013 and Sport and Recreation 2013

Hibiscus and Bays Local Board plans and strategies

- Hibiscus and Bays Local Board Plan
- Hibiscus and Bays Area Plan
- North Shore City Council:
  - Coastal Esplanade Reserves Guideline 2002
  - Parks Network Ecological Enhancement Plan 2008
  - Playgrounds Network Plan 2009 – 2024
  - Historic Heritage Strategy 2009
  - Walking Strategy 2009

2.2 Reserves Act 1977

Auckland Council is the administering body of the reserve, and is charged with the duty of administering, managing and controlling the reserves in accordance with the appropriate provisions of the Reserves Act 1977 . The Hibiscus and Bays Local Board has been allocated responsibility for most decisions on the reserve under the Reserves Act 1977.

Key responsibilities of the council are to:

- classify the land for it primary purpose (this is the means for determining the management focus and in turn the relevant objectives and policies)
- manage the land for its primary purpose
- prepare a management plan and keep it under continuous review
- put in place formal agreements for leases and licences

This plan fulfils the administering body's responsibilities to prepare a reserve management plan. A reserve management plan is a document outlining the objectives and policies for the development and operation of the reserves. The plan outlines council's general intentions for the use, development and maintenance of the reserves.

Once adopted by the council, a reserve management plan is kept under continuous review so that, if necessary, it may be altered in keeping with changing circumstances or in the light of increased knowledge.

Classifications

The majority of the land managed in the Mairangi Bay Beach Reserves Management Plan is classified as recreation reserve, with a small area classified as local purpose (esplanade) reserve (plan 3).

The classification and gazette notices for the Mairangi Bay Beach Reserve, Sidmouth Street Reserve and Montrose Terrace reserve land are outlined in Appendix A.

Recreation Reserves (section 17)

The purpose of these reserves is to provide areas for recreation and sporting activities. This is to provide for the physical welfare and enjoyment of the public, and for the protection of the natural environment.

The Act states that the public shall have freedom of entry and access to the reserve, subject to any leases and licences, and bylaws applying to the reserve, and such conditions and restrictions necessary for the protection and general wellbeing of the reserve and for the protection and control of the public using it.

Local Purpose Reserves (section 23)

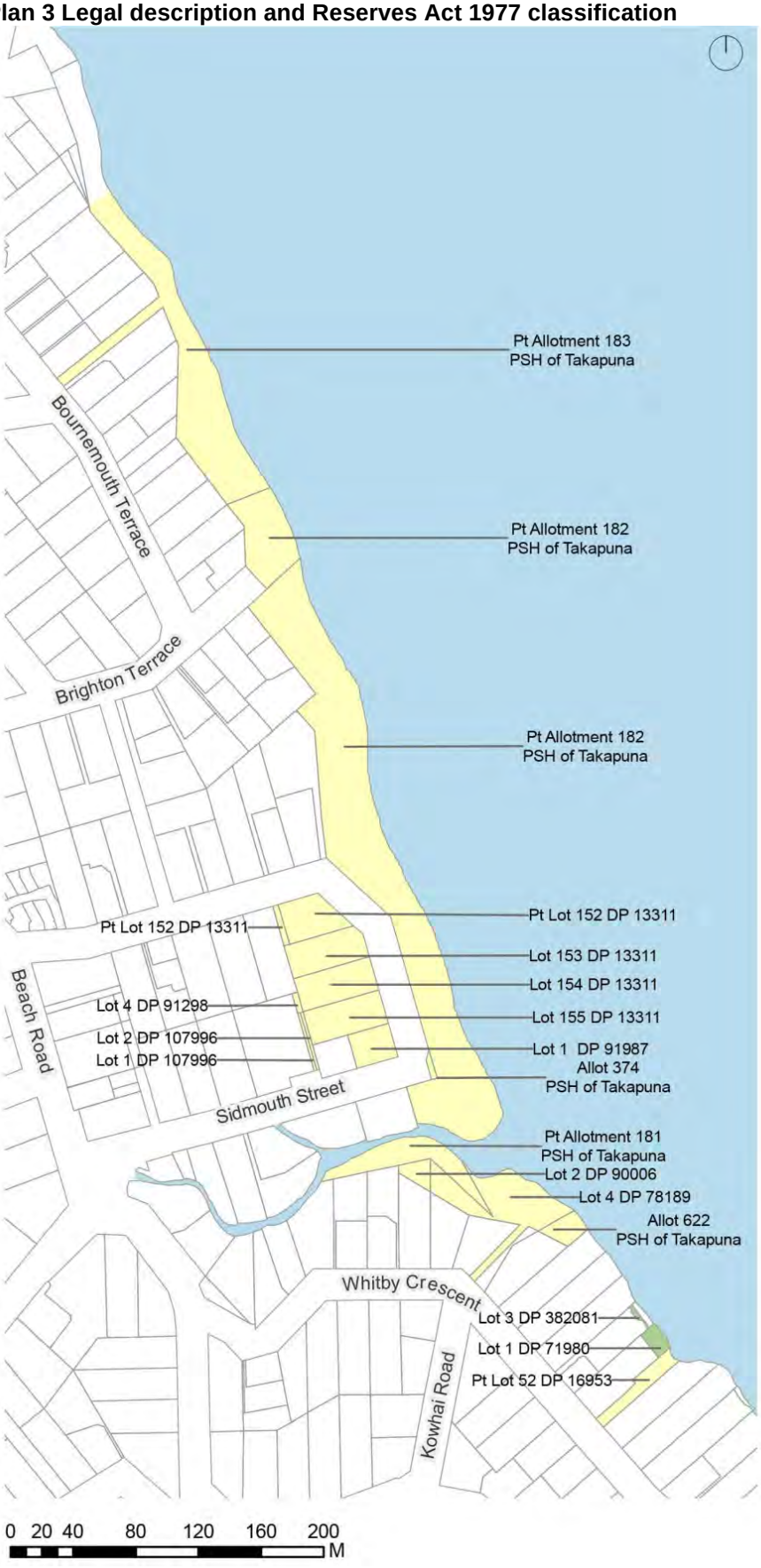
The purpose of these reserves is to provide areas for local use. These reserves are managed for the purpose specified in the classification of the reserve.

The Act also states that for local purpose reserves, where scenic, historic, archaeological, biological, or natural features are present on the reserve those features shall be managed and protected to the extent compatible with the principal or primary purpose of the reserve.

2.3 Legal Status

The legal descriptions and the status of land under the Reserves Act 1977 for the Mairangi Bay Beach Reserve, Sidmouth Street Reserve and Montrose Terrace reserve land are outlined in Plan 3 (more information is provided in Appendix A).

Plan 3 Legal description and Reserves Act 1977 classification



Recreation Reserve

Local Purpose (Esplanade) Reserve

Mairangi Bay Beach Reserves Management Plan

Scale: 1:100,000 at A4
Date: March, 2014
Source: Auckland Council GIS

3.0 Reserve description

This section introduces the Mairangi Bay beach reserves by outlining briefly the history of the site and describing the current features and uses of it.

3.1 History

Māori first occupied Auckland's North Shore centuries ago. The coastal environment provided an abundance of food that was sourced from the local streams and the coastal fishing grounds. The fertile land provided further sources of food and the coastal location provided opportunities for lookout points and transportation routes.

The coastal strip between Campbells Bay (south of Mairangi Bay) and Murrays Bay (to the north) was named by Māori 'Waipapa Bay'. Translated this means water over wood. The name referred to quantities of logs and timber thought to be the remains of a fossilised forest that were revealed at low tide.

Iwi who have identified with the area at the time of developing this management plan include Ngāti Whātua o Orākei, Ngati Paoa, Ngāi Tai Ki Tāmaki, Ngati Maru and Te Kawerau a Maki.

In the 1880s the first European settler (Mr Joseph Murray) arrived in Mairangi Bay and purchased land for pastoral farming. The natural vegetation of the area at this time is described as gum land. This is typically low growing vegetation that includes manuka and native flax. Gum unearthed in the development of the land funded improvements to the pastoral farm. Mr Murray cleared six to eight acres per year planting corn and wheat. In 1891 he erected a windmill in what is now Scarboro Terrace. This windmill was used by incoming ships as a landmark when entering Auckland.

At this time Mairangi Bay was called Little Murrays and Murrays Bay was known as Big Murrays. By 1900, the East Coast Bays area was becoming popular for holiday homes due to its coastal location. The sale of Murray's coastal farm in 1912 resulted in developers subdividing the land and sections were sold for holiday homes.

After Mr Murray left the district, a solicitor drew up a petition to rename Little Murrays Bay Awatea Bay. However, upon finding that there was a beach with this name in the South Island, Mairangi Bay was decided on. There is discussion on the full meaning of Mairangi. Translations include 'from the heavens', 'song from heaven', 'hidden (or sheltered) arm' and 'maire tree'. It is thought the residents ultimately chose the name as they understood it to mean 'welcome sun'.

The first store was opened in 1916 by a Mr Pond on the beachfront. In 1925 it was replaced further west away from the beach after the first store was washed away in a high tide. Buildings and general supplies for Mairangi Bay were shipped in by sailing scows, which were unloaded on the beach at low tide.

The road from Milford to Mairangi Bay was completed by 1925. At this time Mairangi Bay served primarily as a holiday resort with only a few permanent residents. By 1928 Montrose Terrace and Sidmouth Street were named.

Sites for property homes sold steadily up until the beginning of World War II. In 1942 efforts were made to fortify the New Zealand coast against possible invasion during World War II. The East Coast Bays would have provided a suitable landing area for an enemy wishing to

seize Auckland. Therefore machine gun emplacements and other materials were placed along the coast. One such emplacement was located to the north of Mairangi Bay Beach Reserve. Now obliterated it was located on the slope above Montrose Terrace on the inland side of the commencement of the walking track.

After the war permanent homes began to be built. In 1954 the Mairangi Bay Surf Lifesaving Club (surf lifesaving club) was formed and the clubhouse was built on Mairangi Bay Beach Reserve. Over the years the clubhouse has been extended as the club has grown.

The completion of the Auckland Harbour Bridge in 1959 meant easier access to Auckland's East Coast Bays and therefore the area became popular for permanent residents.

Urban growth in the area placed pressure on the Mairangi Bay Beach Reserve. As a result the former North Shore City Council purchased three properties on Montrose Terrace with the aim to extend the beachfront reserve. Sites 15, 17 and 19 Montrose Terrace were purchased between 2007 and 2010.

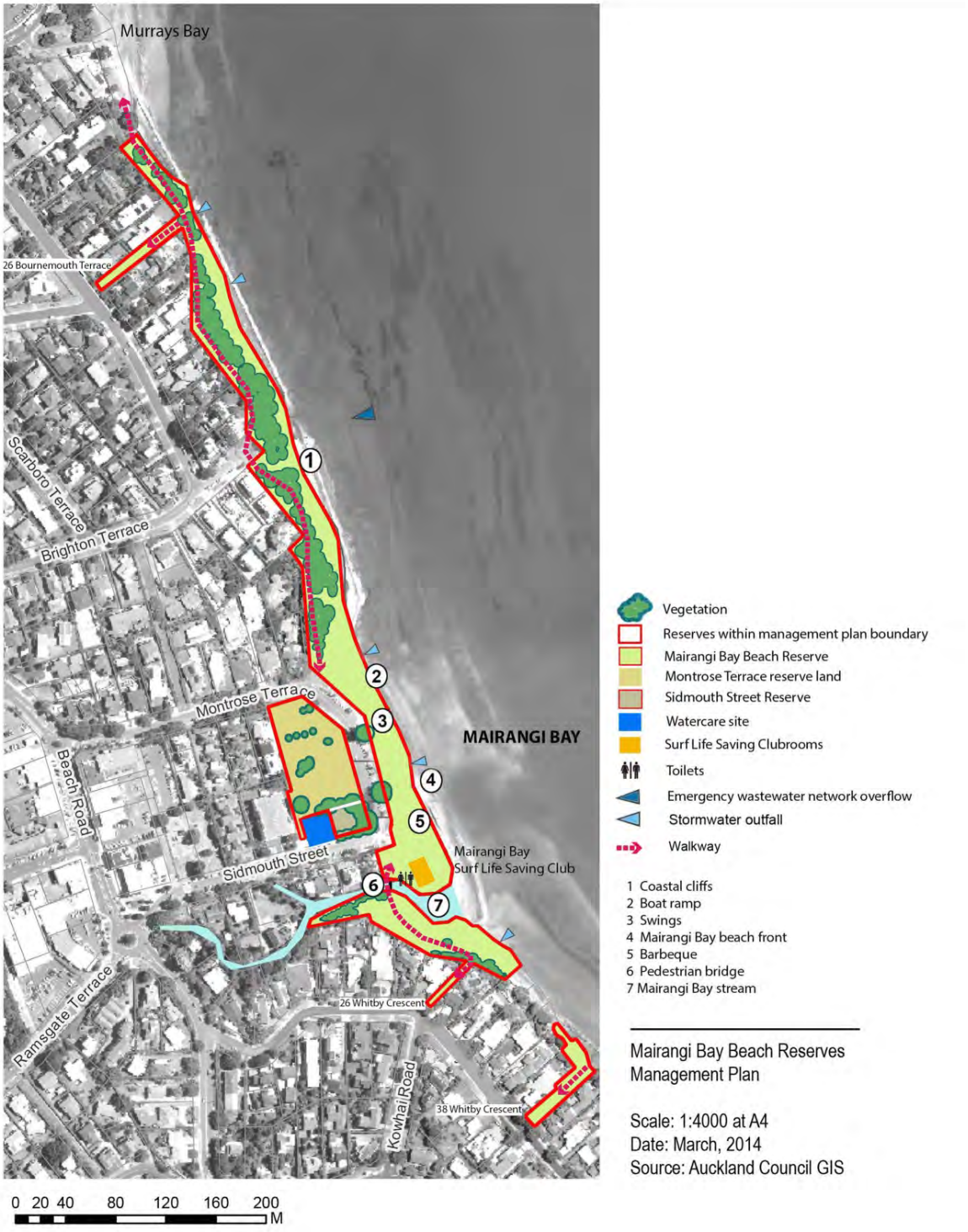
The houses at 15 and 17 Montrose Terrace have been removed to provide a greater grassed area. The vendor of number 19 Montrose Terrace has occupancy rights that expire on 26th September 2015 at the latest.

Looking south from Montrose Terrace over the beach settlement of Mairangi Bay Beach Reserve (formerly known as Little Murrays Bay) in the 1920s. Whitby Crescent provides access to baches on the hill in the background. (Auckland Libraries – North Auckland Research Centre ID# 233)

3.2 Reserve characteristics

The reserve area is primarily east coast beachfront and land adjacent to coastal cliffs (Plan 4). The area is a dynamic environment subject to coastal inundation, high winds and sea spray. There are no recorded archaeological sites registered by council, however early settlement of the area by Māori means that it could be possible that there are archaeological sites within the reserve area.

Plan 4 Existing site conditions



Mairangi Bay Beachfront

The beachfront Mairangi Bay provides a level area of approximately 4,000 square metres of grass covered ground that is retained at the coastal edge by a structural seawall. This generally flat land is composed of alluvial soils.

Four Norfolk Island pines (two on the road reserve and two on Montrose Terrace reserve land) provide identity to the coastal location and protection from the weather. They are a remnant of colonial navigation identification markers. Pohutukawa on the site are large and mature, softening the appearance of the buildings on site and on the neighbouring Watercare site.

The land is bisected at the southern end by the Mairangi Bay stream. A small pedestrian footbridge connects the main area of reserve with a smaller area of open space. This path connects to the coastal walk to the south. An assessment of the stream in 2009 identified five species of fish: inanga; banded kokopu; bullies; shortfin and longfin eels; and freshwater shrimp. Upstream of the footbridge on the true right bank of the stream is a mix of native and exotic vegetation with a canopy of predominantly pohutukawa.

Sidmouth Street Reserve and Montrose Terrace reserve land

Sidmouth Street Reserve and the Montrose Terrace reserve land provide an area of approximately 5,300 square metre of generally flat land that is bisected from Mairangi Bay Beach Reserve by legal road. Vegetation on this land includes two Norfolk Island pines and mature Pohutukawa. Two Phoenix canariensis located at the south end of the Montrose Terrace reserve land are on the schedule of notable trees in the District Plan. The remainder of the Montrose Terrace reserve land has limited vegetation. The northern end of this land slopes gently up to the road.

Bisecting the northern beachfront land is a public boat ramp. It is a small ramp with access limited by soft sand and/or hide-tide access only to the water.

Mairangi Bay stream looking east to the sea from the footbridge.

View from the Montrose Terrace reserve land to the Mairangi Bay beachfront reserve.

Coastal cliffs

The Mairangi Bay coastal walk follows the coastal cliffs to the north. The exposed coastal cliffs are a feature of this coastline and are composed of rocks belonging to the Waitemata Series. The cliffs are prone to instability and there is evidence of soil failures in the area. Cliff erosion is a natural ongoing process with rates estimated at two to six metres per century. This has management implications for activities such as coastal planting and setbacks for any public facilities such as pathways.

The rocks of the Waitemata Series are the familiar buff to grey sandstones and siltstones which form many of the cliffs around Auckland. The sea cliffs of the East Coast Bays, Hibiscus Coast and most of Waitemata Harbour all show similar exposures of Waitemata sandstone.

The Waitemata sandstones and siltstones accumulated in the Lower Miocene, some 20 million years ago, on the floor of the sea in a deep marine basin. The rocks that are now exposed were buried as sands and silts beneath a large depth of additional Waitemata Group sediments and under their weight, were compressed and hardened into the rocks we see today. Later they were faulted, gently tilted, uplifted, and the overlying rocks eroded away.[1]

Coastal cliffs - looking south along the foreshore between Mairangi Bay and Murrays Bay

[1] *The information in this section is taken from the Auckland Regional Council's Regional Parks Management Plan: Volume 2 Resource Inventory. 2003. P31*

3.3 Reserve use

The reserves primary use is for recreation. There is infrastructure in the reserves that provides the community with utilities that are ancillary to recreational use and for essential services. Reserve use is described under the following categories: formal and informal recreation, coastal and marine recreation, coastal walkway, and infrastructure.

Formal and informal recreation

The main public interface and access to the Mairangi Bay beach reserves is from Montrose Terrace and Sidmouth Street. Formal and informal recreation takes place on within the reserves.

The Mairangi Bay Surf Lifesaving Club has clubrooms located at the southern end of the Mairangi Bay beach front reserve. The club provides a professional and experienced life guard service from Long Bay to Takapuna and runs a safe water education programme for schools, public and surf lifesaving club members.

Mairangi Bay is typical of the smaller bays along the east coast of the northern region of the city where informal recreation activities can be enjoyed such as picnicking and games e.g. frisbee, beach cricket, ball games. At present the narrow grass verge adjacent to Mairangi Bay beach creates various pinch points and currently a swing set obstructs access and visually dominates this section of the beach. Mairangi Bay Beach Reserve provides opportunities for access to the coastline for swimming and other summer activities. Future development of the reserve will aim to consolidate reserve land to maximise open space and concentrate different activities where possible in specific sections of the reserve. This will help to minimise conflict between different activities and users of the reserve.

Grass verge at the Mairangi Bay Beach Reserve (looking north)

The public barbeque is located 20 metres from the surf club and public toilets

Coastal and marine recreation

Mairangi Bay Beach Reserve provides important access to the coast for marine recreation i.e. sailing, kayaking and other water based activities.

The surf lifesaving club has been in existence for over 50 years and currently holds a community lease with Auckland Council. The club has plans to redevelop their facilities after 2013 to keep pace with the growth and demands of their club and the expectations of the community (refer to section 4.2.1).

The public boat ramp located at the northern end of Mairangi Bay beach is suitable for small trailer boats. A shortage of suitable boat launching facilities within the north shore supports the retention of this valuable public asset. The usability of the existing boat ramp is compromised somewhat by the current road configuration.

The boat ramp, launching and mooring facilities survey (2014) concluded that the users of the boat ramp were more likely to use the ramp for canoe, kayak, waka and dragon boating launching and less likely to use it for trailer boat launching compared to the overall average in the Hibiscus and Bays Local Board area and the Rodney Local Board area.

Mairangi Bay Surf Lifesaving Club

Mairangi Bay beach looking south to the Mairangi Bay Surf Lifesaving Club

Access to beach from boat ramp

Looking south with entrance to the boat ramp just beyond the vehicles

Coastal walkway

The reserve includes a 950 metre uninterrupted segment of Te Araroa walkway. Te Araroa (New Zealand's trail) is a 3000 kilometre route stretching from Cape Reinga in the north of New Zealand to Bluff in the south. The section from Mairangi Bay to Murrays Bay offers a cliff top walkway experience taking in vistas of Hauraki Gulf. It is bordered to the west predominantly by residential properties. A pedestrian access way at 15 Bournemouth Terrace connects to the cliff top walkway.

South of Mairangi Bay Beach Reserve, Te Araroa follows a section of pathway "Forde Way" from Montrose Terrace to Whitby Crescent. There are pedestrian access ways to the coast located at 26 Whitby Crescent and bordering the residential property at 38 Whitby Crescent.

A coastal walk (tide dependant) can be taken between Mairangi Bay and Murrays Bay to the north and Mairangi Bay and Campbells Bay to the south.

Start of cliff top walkway from Montrose Terrace

Te Araroa between Mairangi Bay and Murrays Bay

Interface of Cliff Top Walkway and residential properties

Coastal edge walk between Mairangi Bay & Murrays Bay

Infrastructure

The reserves contains infrastructure that provides the community with utilities that are ancillary to recreational use and for essential services

Infrastructure ancillary to recreation use

The surf lifesaving club has club rooms located to the south of the main section of the beach front reserve. There are public toilets and limited changing facilities located adjacent to the surf club. Approximately 20 metres from the surf club is a public barbecue.

A coastal seawall is located at the beachfront with two sets of steps and two boat ramps providing access to the beach. The boat ramp at the northern end of the beach front reserve provides for high tide launching of boats. The boat ramp at the southern end of the beach is narrow, and fenced off which restricts use. A swing set is located close to the seawall.

Seating is provided along the beach front reserve and is located to take advantage of the sea views. Street lighting on Montrose Terrace provides lighting for this area.

A bridge provides access across the stream at the southern end of the beach front reserve.

Infrastructure for essential services

Infrastructure for each of the three waters: water, stormwater and wastewater is located within the reserves.

Water: Water pipes are located mainly within the existing road corridor. A further line connects the main line to the surf club.

Stormwater: There are a number of stormwater pipes which cross the reserves. There are approximately eight outfalls.

Wastewater: Watercare owns the site immediately to the west of Sidmouth Street reserve and borders the Montrose Terrace reserve land. The Watercare site houses a wastewater pumping station and Watercare infrastructure (including a biofilter) is situated across part of the Sidmouth Street reserve. Underground trunk lines also go through the reserves.

Playground swing set located midway along Mairangi Bay Beach Reserve beachfront (looking south)

Public toilets adjacent to the surf club

4.0 Management issues

Mairangi Bay beach reserves are a key part of Auckland's North Shore network of east coast beach reserves valued for their water and land based recreational opportunities. They are strategically located between Murrays Bay and Campbells Bay creating one of the longer sections of uninterrupted coastal walkway within the East Coast Bays. These characteristics coupled with the natural beauty of the reserve have made it a favourite with locals and walkers across the city.

This plan provides the framework for managing the Mairangi Bay beach reserves. It will allow the beach to accommodate the more unstructured recreational uses of the public with the formal ones of the surf club. It will try and balance requirements for vehicle access with pedestrian needs and community recreational users

Competing demands for recreational space has placed pressure on the Mairangi Bay beach reserves. The purchase of residential properties on Montrose Terrace is intended to assist in alleviating pressure. Closure or realignment of Montrose Terrace would consolidate these landholdings to achieve an extended beach front reserve. This presents the most significant challenge of this plan.

4.1 Balancing competing uses

One of the main issues facing the reserves is the ability to balance the need for land for informal and formal recreation activities and required infrastructure. Mairangi Bay is a popular destination for land and sea recreation activities. This is placing pressure on the reserves and adjoining environments. Increased population densities will put extra pressure on the reserves for unstructured activities and there is the possibility of more events when the reserves have been consolidated.

The existing road layout is a safety issue and restricts use of reserve land. The amount of reserve land on which to provide all these activities is not large and parking during events and at peak times is limited.

4.2 Land use agreements

Mairangi Bay Surf Lifesaving Club

The surf lifesaving club has a community lease over the area that their clubrooms are situated on, being part of Pt Allot 182 Parish of Takapuna.

The club is valued by the community providing for their safety in the East Coast Bays from Takapuna beach to Long Bay and providing surf lifesaving education to the younger generation.

The community lease agreement covers the building including the associated concrete pad outside the garage door and does not include any of the surrounding land. The community lease is for a term of 10 years commencing 1 June 2013 until 30 May 2023. There is no right of renewal. Public toilet and changing facilities are located adjacent to the building.

The clubs current clubrooms are dated and need to be redeveloped to provide for the expanding community in the medium to long term and additional boat storage is required.

Sidmouth Street Reserve is used for temporary boat storage (shipping containers) by way of an informal arrangement with the council.

The club is in the process of developing a plan for a new facility. This management plan contemplates an extended lease area to provide for redevelopment of the clubrooms and for boat storage. A refreshment kiosk, public toilets and changing facilities are contemplated as part of the redevelopment of the clubrooms. A refreshment kiosk that is operated by the surf lifesaving club is considered appropriate in the recreation reserve to provide for the benefit of the club members. Details of the lease arrangement are to be in accordance with the Reserves Act 1977 and council policies and guidelines.

Watercare

Watercare Services Limited (an Auckland Council controlled organisation) owns 10 Sidmouth Street. This site borders Sidmouth Street Reserve to the east. Watercare was granted landowner consent in 1996 for use of approximately a third of Sidmouth Street Reserve for a bark biofilter

An impending infrastructure upgrade is placing pressure on the Watercare site and significant works are planned for their site and part of Sidmouth Street Reserve. It is proposed that a similar footprint will be required of Sidmouth Street Reserve as is currently used for the existing infrastructure and that the redevelopment will include an underground storage tank and a new biofilter. This may require a variation to their existing agreement with council.

4.3 Transport and access

One very important issue for the management of the reserve is the future of Montrose Terrace, in particular the section parallel to the beach front. When the three properties on Montrose Terrace were purchased by the former North Shore Council the intention was to consolidate the existing reserve area. The road in its current location bisects the reserve land leaving it fragmented and disconnected from the coast.

Other transport and access issues relate to the car parks and boat ramps. Parking is currently limited at the reserve especially during events and at peak times. The boat ramp in its current state is suitable for small trailer boats and handheld craft but its useability is compromised by the current road location.

This plan needs to manage the use of the reserves to accommodate both vehicular and pedestrians' needs.

4.4 Consideration of mana whenua values

Local iwi with historical and cultural links with Mairangi Bay were involved in the drafting of this management plan. Iwi identified management issues important to them and opportunities for the future management and development of the reserves.

The following shared management issues have been identified:

- Environmental health is protected, maintained and /or enhanced. The protection and improvement of water quality is important as it provides a source for food. It is necessary to monitor stream health and manage stormwater outfalls;

- Mana whenua significant sites and cultural landmarks are acknowledged. Opportunities have been identified for consideration that include the inclusion of iwi history within or as part of cultural design elements, incorporating cultural elements in the design, and the installation of appropriate site interpretation;

- Sites and items of significance and value to Māori who have a history with the area are protected. Appropriate precautions are required during earthworks i.e. accidental discovery protocols, should items of importance be discovered;

- The natural environment is protected, restored and /or enhanced. The planting of native vegetation and eco-sourcing is a priority. It provides a sustainable solution for planting.

4.5 Protecting and enhancing the natural environment

Mairangi Bay and the surrounding coastal environment possess many natural values. Increased use and development of the reserves will place greater pressure on this natural environment. This management plan seeks to appropriately manage the reserve by protecting the natural character and landscape values while allowing the use and enjoyment of the spaces. Any adverse effects from use or development of the reserve will, to the extent possible under the Reserves Act 1977 be avoided or mitigated.

Specific issues that need to be addressed include the instability of the coastal cliffs north of the reserve, the water quality in the stream, the coastal seawall and odour issues associated with Watercare infrastructure.

The walkway will need to be maintained, managed and monitored due to its position on these cliffs. The cliffs could also affect the low tide walkway option along the beach.

The Mairangi Bay stream estuary to the south of the surf lifesaving club is generally affected by the natural formation of sand bars which block flows and tides resulting in the stagnation of water behind the sand bars. Issues arising from long periods of stagnant water are mitigated by excavating a channel through the sand bar to allow tidal flows which flushes the stagnant water out to the gulf. The Mairangi Bay beach is one of the beaches monitored under the Safeswim water quality monitoring programme. Sampling and testing of beach water quality is carried out regularly over the summer months from November to March.

A programme is being worked out to prepare Consolidated Receiving Environment (CRE) Plans including one for the Hibiscus Coast covering all catchments with outfalls to the Hibiscus Coast. The CRE will identify measures necessary to mitigate flooding, enhance water quality, recreational amenity and the attractiveness of the beach.

A coastal seawall protects the Mairangi Bay beach front reserve including social, recreation and essential infrastructure such as the surf club facility, public toilets and Watercare assets. Consideration of the seawall structural integrity may be required in the future as it protects the valued foreshore reserve area. Ongoing management of the coastal edge may also include investigation of the use of alternative treatments.

Watercare has pollution controlling infrastructure (a biofilter) located on part of Sidmouth Street Reserve and odour issues arise periodically. This infrastructure will soon be improved as part of a wider upgrade to the pump station and installation of a new underground storage tank and biofilter.

5.0 Future Development

The management plan gives a general indication of the intended use and management of the reserve and proposed development during the life of the plan. Budget allocation is carried out through the long term plan and annual plan processes. Communities and individuals can support initiatives outlined in the management plan during these processes.

A concept plan provides direction for the future development of an area where intensive community use occurs. This includes the Mairangi Bay beachfront, Sidmouth Street Reserve, the Montrose Terrace reserve land and a small section of existing legal road on Montrose Terrace (plan 5).

5.1 Concept plan

Activities and uses identified in the concept plan will be considered to be “contemplated” under the Reserves Act 1977 which means that the Act expressly provides for the activity and uses to be carried out in the reserve if incorporated in an approved reserve management plan.

A North Shore City Council resolution (CSP-161) provides for the closure of the portion of Montrose Terrace between Montrose Reserve, Sidmouth Reserve, 15-19 Montrose Terrace and the existing Mairangi Bay Beach Reserve subject to the outcome of the reserve management plan public process. Other mechanisms may need to be investigiated to achieve the road alignment.

A detailed traffic engineers report will be required to inform the detailed design of the proposed road through the reserve prior to development. This will consider issues that include traffic flow options, road width and access for buses, events and essential services.

It is proposed that the road will be developed as a parks asset. This will provide flexibility around the design of the road. The road will not be a legal road; therefore adjoining properties will not beable to acquire access to their properties from the reserve road.

Background

In November 2009 the North Shore City Council publically notified the intention to prepare a management plan for the Mairangi Bay beach reserves.

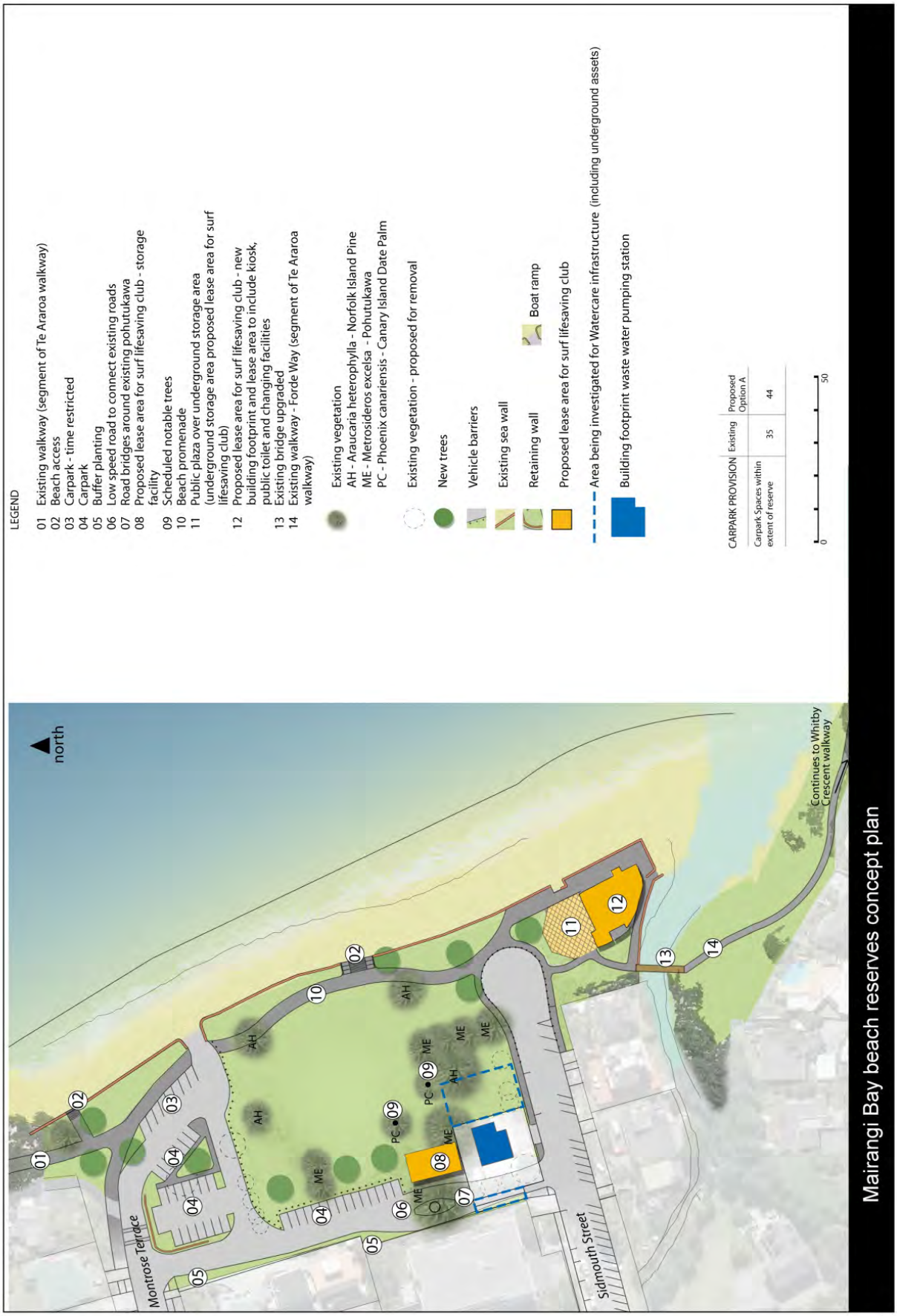
In 2014 Hibiscus and Bays Local Board updated the draft management plan and undertook informal stakeholder consultation regarding concept design options. All options included parking at the northern end of Montrose Terrace reserve land with two options providing further parking. The concept design options considered included:

- closing the beachfront section of Montrose Terrace
- closing the beachfront section of Montrose Terrace and providing a connecting road through the back of the reserve with angle parking
- a narrow road along the beachfront section of Montrose Terrace with angle parking.

Feedback was gathered from the Hibiscus and Bays Local Board Expo at Browns Bay and two meetings with key stakeholders who were involved in the initial consultation in 2010. After due consideration of the different concept design options and all the feedback received the Mairangi Bay Beach Reserves Concept Plan on page 28 is the preferred option of the Hibiscus and Bays Local Board.

Plan 5 Extent of concept plan

Plan 6 Concept plan



6.0 Objectives and policies

6.1 Administration and management

Discussion

Auckland Council is the administering body, and the Hibiscus and Bays Local Board is charged with the duty of administering, managing and controlling the reserves in accordance with the appropriate statutory requirements of the Reserves Act 1977. This part of the plan identifies the council's objectives for monitoring the plan and the basis on which it would make changes to the plan.

Objective 6.1

To ensure that this document reflects the council's goals for the development and management of the reserves as required under the Reserves Act 1977.

Policies

6.1.1 The plan will be kept under review as required by the Reserves Act 1977. However any review is subject to priority resourcing and funding.

6.1.2 A plan change may be initiated for any one of the following reasons:

- any proposed new use, activity, facility or development that is in conflict with the management objectives and policies of this plan
- any proposal for a new lease or concession operation on the reserves not contemplated in this plan
- any statutory or legislative change which would render the plan inoperable or illegal
- any major change in recreation needs or any other factor that Council sees as warranting a change to the plan
- plan changes will be made in accordance with the Reserves Act 1977.

6.2 Informal and formal recreation

Discussion

The pressure from competing demands on Mairangi Bay Beach Reserves is expected to grow in the coming years, due to the relatively small size of reserves and anticipated growth in the area. A potential increase in net area through consolidation of the disjointed reserve area will enable different activities to be managed better, reducing conflict between user groups.

Objective 6.2

To provide for use of the reserves in a way that has limited impact on the natural environment or the enjoyment of park users.

Policies

6.2.1 The following uses and activities on the reserve land are considered appropriate:
- informal recreation that is land based such as picnicking, sun bathing, walking, jogging, ball games
- low key play elements (recognising the close proximity of the the Mairangi Bay Village Green playground)
- informal recreation that is water based such as swimming, sailing, surfing, kayaking, small motor craft etc.
- formal recreation activities associated with the surf lifesaving club as agreed with the council.

6.2.2 All activities on the reserve shall be conducted in a way to minimise adverse effects on the neighbourhood.

6.3 Land use authorisations

Discussion

This section identifies the formal uses provided within the Mairangi Bay beach reserves. It outlines all activities on the reserve which require an authorisation from council. These include Reserves Act 1977 concessions such as leases, licences and easements and events which require landowner approval. Some of these are a continuation of existing arrangements while others may be contemplated new leases. It is expected that leases and licences will be kept to a minimum.

Objective 6.3

To contemplate leases, licences, easements and events which facilitate the use of the reserves without compromising the function and character of the reserve.

Policies

6.3.1 Any leases and licences will be issued and managed in accordance with relevant council policies and guidelines, in accordance with the Reserves Act 1977 and with the objectives and policies of this management plan.

6.3.2 Any decision regarding landowner approval for a lease, licence or easement will include consideration of matters such as:
- recognition of existing use
- effects on the reserve, beach and surrounding area
- benefits to the reserve and beach users
- demonstrated need of the activity
- degree of exclusivity
- precedent and cumulative effects
- consideration of possible compromise of future linkages and future park use
- safety and passive surveillance
- access

6.3.3 This plan contemplates an increase in the area occupied by Watercare on Sidmouth Reserve and Montrose Terrace reserve land for the purpose of impending infrastructure upgrades.

6.3.4 Terms and conditions of leases will be consistent with the need to maintain reasonable access for the public, mitigate the impact on the surrounding area and provide reasonable tenure for organisations.

6.3.5 This plan contemplates an increased lease area for the Mairangi Bay Surf Lifesaving Club for new clubrooms (that includes a kiosk) and for boat storage (single storey facility).

6.3.6 Commercial uses may be considered where they facilitate and meet the recreational needs of the community without compromising the function and character of the reserve and are consistent with council policy on the commercial use of reserves e.g. equipment hire, sale of refreshments.

6.3.7 Commercial leases will be charged at the comparative commercial/market rate.

6.3.8 Landowner approval will be required for all events seeking to locate on the reserve.

6.3.9 Event guidelines for the Mairangi Bay beach reserves must comply with any future Auckland Council event strategy and region-wide policies. Any decision regarding landowner approval will give consideration of matters such as:

- relevant provisions of the Reserves Act 1977 for temporary use in accordance with the reserve classifications
- the sustainable level of impact from activities on the physical environment
- the range of events considered suitable for the coastal environment
- programming, maximum participation numbers, duration and frequency
- the booking system
- application procedures for event organisers
- costs and cost recovery
- remediation to original condition at the conclusion of the event
- protection of access for the general public
- public safety
- management of adverse effects
- provision for temporary built structures
- approvals or consents required from other agencies
- temporary closure and public notification procedures
- public liability and other relevant insurances
- prioritisation of events based on their benefit to the local community.

6.3.10 Any events that would negatively impact other users' enjoyment of the reserve for a sustained period of time are prohibited.

6.3.11 Temporary installation of structures for events will be permitted subject to council policy, landowner approval and/or district plan permitted activity standards or resource consent requirements.

6.3.12 Filming will be permitted in accordance with Auckland Council's policy and guidelines

6.4 Physical development

Discussion

The Mairangi Bay beach reserves are divided by a road corridor that limits the best community use of the available space. Best use of the reserves is through consolidation of the disconnected sections of land adjacent to Mairangi Bay beach front reserve land, potentially increasing its net area and reducing competing demands by different user groups.

The relatively small size of the Mairangi Bay beach reserves means that limitations need to be placed on parking, new buildings, and structures within the reserves. The concept plan will help guide the placement of facilities in accordance with the stated objective below.

Objective 6.4

To promote the integrated development of the reserves for formal and informal recreation, whilst protecting and enhancing the recreational, environmental and visual amenity of the reserves.

Policies

6.4.1 The concept plan in section 5.1 of this reserve management plan will guide the physical development for the Mairangi Bay beachfront reserve land. The plan provides a spatial layout for the realignment of the existing road, provision of car parking and future development locations for Watercare infrastructure and the Mairangi Bay Surf Lifesaving clubrooms and boat storage areas.

6.4.2 A detailed traffic engineers report will be required prior to development of the proposed road on the reserve to inform detailed design.

6.4.3 No further buildings or extensions to existing buildings will be considered unless they are ancillary to activities occurring on the reserves or they show clear and direct links to:

- the outcomes sought in this management plan
- land use arrangements contemplated in this plan
- recognition of the historical location of existing facilities.

6.4.4 Permanent buildings will be co-located/clustered on the reserves so as to preserve the character and unobstructed open space of the reserves.

6.4.5 Built elements are to be sympathetic to the key elements, features and patterns of the natural landscape and environment.

6.4.6 Usability of and access to the boat ramp will be improved as part of the consolidation of reserve land and road realignment. It will continue to cater for small trailer boats only.

6.4.7 Park furniture provided on the reserve will be in accordance with councils design standards and be sensitive to the character of the reserves.

6.4.8 Low impact infrastructure such as picnic tables and barbecues will be clustered on site to maximise the reserve land that is unobstructed and free for more active recreational activities.

6.4.9 Unique structures or artworks that celebrate the character or history of the area will be considered where appropriate by the local board for placement within the reserves.

6.5 Natural environment

Discussion

Mairangi Bay is highly valued for its coastal environment. The rocky shore, marine environment, sandstone cliffs, and sandy beach provide a range of ecosystems in which there is a diverse assemblage of animals, birds and plants. This plan seeks to protect these natural values and maintain and enhance the wider coastal environment.

Council will look to preserve the open vistas along the coastal walk and develop an open grassed Mairangi Bay beachfront.

Other mechanisms such as Resource Management Act 1991 and Hauraki Gulf Marine Park Act 2000 also protect the reserves qualities and values.

Objective 6.5

To maintain and enhance the natural values of Mairangi Bay beach reserves, and protect ecological and geological significant features.

Policies

6.5.1 Manage all use and development within the extent of the management plan area to ensure that it does not compromise the integrity of the natural coastal environment.

6.5.2 Stormwater discharge will be managed through the range of interventions to be identified by the Stormwater team. This includes measures necessary to mitigate flooding, enhance water quality, recreational amenity and the attractiveness of the beach and its cliffs.

6.5.3 Any new coastal protection structures or steep embankments are prohibited where these would promote greater wave run-up and therefore wave overtopping, causing accelerated erosion.

6.5.4 New built structures are to take account of predicted sea-level rise and increased inundation level of an additional 0.8 metre by the year 2100. For any proposed development involving seawalls or steep embankments, site specific assessments shall be undertaken.

6.5.5 The coastal cliffs will be regularly monitored for erosion, which could impact on the cliff top, as well as low tide walkway. If the monitoring programme indicates that the walkway is at risk, the walkway will be temporarily closed and if practicable, realigned.

6.5.6 The coastal walkway will be maintained to a high standard. Weed species will be controlled and replaced with appropriate plants, whilst protecting the views across the Hauraki Gulf.

6.5.7 A vegetation palette will be established that is relevant to the coastal setting.

6.5.8 Planting should be limited to small groupings or individual specimen trees to preserve the open space quality of the reserves and the expansive views from the reserves.

6.5.9 Landscape planting will be considered where it doesn't compromise the open space or activities contemplated in this plan.

6.6 Collaboration with mana whenua

Discussion

There are no recorded archaeological sites registered by council, however early settlement of the area by Māori means that it is likely that there are archaeological sites within the reserve. The council seeks to work with associated iwi and hapu to ensure that Māori connections and spiritual values are recognised and protected within the reserves.

Objective 6.6

To work collaboratively with mana whenua representatives who have a customary interest in the reserve land on issues of importance to Māori.

Policies

6.6.1 Mana whenua representatives will be given the opportunity to contribute in decision-making on management issues of importance to Māori and the development of the park.

6.6.2 Ensure that the appropriate protocols are in place, should any items of importance to mana whenua be discovered on the site.

6.6.3 A tikanga Māori approach to knowledge and wisdom to the sustainable management of the natural environment will be fostered, including sustainable management practices and appropriate native, eco-sourced plantings.

6.6.4 Work with mana whenua to agree on appropriate interpretation of Māori heritage on the reserves (this may include carvings, signage and interpretation boards).

6.7 Partnership with the community

Discussion

The Mairangi Bay beach reserves are valued by the local community and it is important that council develops strong relationships with the local community and schools including, but not limited to, the Mairangi Bay Business Association, Mairangi Bay Surf Lifesaving Club and the Mairangi Bay Arts Centre.

Objective 6.7

To foster involvement of the local community and schools with the management of the Mairangi Bay beach reserves.

Policies

6.7.1 Community input will be sought regarding development decisions on the reserves where appropriate.

6.7.2 Participation and involvement of local community and schools in the care of the reserve through volunteer programmes will be encouraged.

6.8 Design and amenity standards

Discussion

This reserve management plan does not specify design in any detail. Design standards will be determined though a range of documents principal of which is the Auckland Design Manual (or successor documents). All design on site will be encouraged to follow these design documents to ensure cohesive development and design of the reserve.

Objective 6.8

To support the creation of design standards for the Mairangi Bay beach reserves that acknowledge and reinforce its coastal character and integrate design and design standards.

Policies

6.8.1 Future development will be guided by the concept plan included as part of this management plan.

6.8.2 Design decisions for development on the reserves will be guided by the Auckland Design Manual.

6.8.3 Material choice of any built elements should ensure cohesive design to create a sense of place within the reserves. This also applies to the Mairangi Bay Surf Lifesaving Club and Watercare developments. Design of the reserves shall reflect mana whenua's association with the site and make use of iwi design and values.

6.8.4 The following design principles will underpin design decisions for the reserve.

- respond to and reinforce the coastal character
- make visible and express past histories and cultural heritage values
- consider scale, colour, form and rhythm
- adopt quality design standards relevant to the urban context of Mairangi Bay
- ensure integration with the surrounding area
- ensure an efficient use of the finite land resource
- use Crime Prevention Through Environmental Design (CPTED) principles
- protect and reinforce natural character
- integrate with the coastal character
- choose local materials where possible
- reinforce native plantings
- make natural processes visible where possible.

Appendix A - Legal description and status of land

Table 1 Legal description and status of land

Street Address	Legal Description	CT	Area (ha)	Reserves Act 1977 Classification	Gazette Notice
Mairangi Bay Beach Reserve					
	Pt Allot 183 Parish of TAKAPUNA	NA26C/789 cancelled	On DP 13312 As The Spa	Recreation	Reclassified 1998 p.1591
	Pt Allot 182 Parish of TAKAPUNA	NA26C/789 cancelled	On DP 13312 As The Spa	~~Local Purpose (Esplanade)~~ Recreation	~~1981 p.499~~ Reclassified 1998 p.1591
	Pt Allot 182 Parish of TAKAPUNA,	NA26C/789 cancelled	On DP 13311 As The Spa	~~Local Purpose (Esplanade)~~ Recreation	~~1980p.1429~~ Reclassified 1998 p.1591
	Allot 374 PSH of Takapuna	NA2038/65	58 sq m	Recreation	1998 p.1591
	Pt Allotment 181 PSH OF Takapuna	NA26C/789 cancelled	On DP 13311 As The Spa	Recreation	Reclassified 1998 p.1591
	Lot 2 DP 90006	NA47B/256	264 sq m	Recreation	Vested on subdivision
	Lot 4 DP 78189	NA28B/757	2078 sq m	Recreation	Vested on subdivision – Deemed classified
	Allot 622 Parish of TAKAPUNA,	NA33A/1331	365 sq m	Recreation	1998 p.1590
	Lot 3 382081	328309	35 sq m	Local Purpose (Esplanade)	Vested on subdivision
	Lot 1 DP 71980	NA28B/757	191 sq m	Local purpose (Esplanade~~)~~	Vested on subdivision Deemed classified
	Pt Lot 52 DP 16953	NA31A/862	530 sq m	Recreation	1925 p.471
Sidmouth Street Reserve					
	Lot 1 DP 91987	NA48D/108	601sq m	Recreation	1998 p.1590
Montrose Terrace reserve land					
	Pt Lot 152 DP 13311 SO 68653	NA496/258 cancelled	907	Recreation	1998 p.1174
	Pt Lot 152 DP 13311	NA496/258	104	Recreation	1998 p.1590
15	Lot 153 DP 13311	NA74A/137 & NA452/281	1,081 sq m	Recreation	2010 p.3597
17	Lot 154 DP 13311 & Lot 4 DP 91298 & Lot 2 DP 107996	89C/136	1230 sq m	Recreation	2010 p.3597
19	Lot 155 DP 13311 & Lot 1 DP 107996	89C/135	1182 sq m	Recreation	2010 p.3848

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Whakakāhoretanga

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Auckland Council
Te Kaunihera o Tāmaki Makaurau

REPORT

Tonkin+Taylor

Mairangi Bay Shoreline Management Options

Coastal processes, issues, and options assessment

Prepared for
Auckland Council
Prepared by
Tonkin & Taylor Ltd
Date
December 2022
Job Number
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13/12/2022	03	Final signed report	Andrew Brown	Richard Reinen-Hamill	Richard Reinen-Hamill

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Executive summary

Auckland Council (AC) commissioned Tonkin & Taylor Ltd (T+T) to carry out a coastal processes, issues, and options assessment to assist with the implementation of the Development Plan at Mairangi Bay. This project builds on the coastal hazard assessments T+T carried out for the Mairangi Bay Surf Club in 2016, the updated coastal hazard assessment for the Mairangi Bay Pump Station in 2018, and identifies options for future reserve edge management in response to climate change effects and coastal hazards over time. The identified options are:

Option 1 – Do nothing

- Used as a baseline to compare other options and gauge their benefit.

Option 2 – Maintain existing defence

- Considered the status quo option with periodic repairs as and when required from continued deterioration and storm damage.

Option 3 – Renew existing defence

- Replacing the existing masonry seawall with a properly engineered seawall.
- Raising the reserve to mitigate inundation from the sea.
- Replacing the rock armour along the stream edge with a properly engineered revetment.
- Placement of a rock toe along the East Coast Bays Branch sewer to the north of the beach to mitigate the effects of wave reflections and beach lowering.

Option 4 – Realign shoreline

- Alternative softened reserve edge throughout the central area of the beach.
- Relocation of the surf club outside of the erosion susceptibly area.
- Constructing a stream training seawall at the southern end of the beach to control the stream mouth dynamics.
- Replacing the rock armour along the stream edge with a properly engineered revetment.
- Sand transfer and nourishment to increase the high tide beach.
- Option to replace the northern section of seawall to mitigate beach lowering and inundation from wave overtopping.

Option 5 – Advance shoreline

- Not considered a viable option due to frequent maintenance and obstruction from control structures but discussed in the report.

Options 3 to 5 would require resource consent under the Auckland Unitary Plan as a discretionary activity. A resource consent application for this scale of works would involve a range of technical inputs and stakeholder engagement. Public or limited notification of any necessary resource consent application may be required depending on the attitudes and responses of stakeholders.

Whilst support can be found in the provisions of the New Zealand Coastal Policy Statement for the utilisation of soft defence measures to address coastal hazard risk, this must be balanced alongside the requirement to maintain and enhance public accessibility and natural character and landscape values of the coastal marine environment. Therefore, options to advance the shoreline have been excluded as viable options but are discussed for comparison.

The below table summarises the options providing an estimated design life, its effects on the beach system, resilience to climate change, indicative costs, and consenting implications.

Option		Design life (est.)	Effect on the existing beach system	Climate change resilience			Initial cost estimate ($)	On-going maintenance	Consenting
				Short term (0 to 10 years)	Medium term (10 to 50 years)	Long term (50 to 100 years)			
1	Do nothing	0 to 10 years	Negative	Uncertain	Unlikely	Unlikely	n/a	Approx. 45k for removal of debris (20% of seawall assumed)	n/a
2	Maintain existing defence	10 to 30 years	Beach lowering	Yes	Uncertain	Unlikely	175k	Approx. 40k post storm repairs and maintenance (yearly estimate)	Permitted
3	Renew existing defence	>50 years	Beach lowering	Yes	Yes	Uncertain	4M	n/a	Discretionary
4	Realign shoreline	>50 years	Positive	Yes	Yes	Uncertain	4M	Re-profiling beach as required	Discretionary
5	Advance shoreline	Option discounted based on maintenance required to retain the beach and obstruction from control structures.							

With the surf club nearing both the end of its design life, and the end of its current lease, the opportunity to relocate it to elsewhere on the reserve, outside of the erosion susceptibility area, is recommended. Preferably this would be behind the 2120 erosion line to provide maximum resilience to future erosion but should not be seaward of the 2070 erosion line as a minimum. Similarly, the turning circle at the end of Sidmouth Street proposed in the Development Plan should be relocated landward of the 2070 erosion hazard line.

The space opened up by relocating the surf club allows for shoreline management options that enhance the natural character of the beach and provide for more open space for the public as well as providing future resilience to the effects of climate change.

It is therefore recommended that realigning the shoreline (Option 4) would be the most suitable option for Mairangi Bay in the long term. In this option, coastal erosion and inundation are managed by providing a wider buffer along the seaward edge that can be adapted over time to mitigate against the effects of climate change as required.

A staged approach to achieving the long-term shoreline management option may consist of:

- Continuing to maintain the existing seawall in the short term, as per Option 2, to allow time for the surf club relocation plans to be made and any necessary adjustments to the road and reserve layout made to accommodate the long-term plan.
- Relocation of the surf club elsewhere on the reserve outside of the erosion susceptibility area.
- Constructing the stream training wall and realigning the shoreline as per Option 4.
- Monitoring the beach plan and profile shape.
- In the medium to long term it may be required to import sand to replace any lost from the system. This would improve coastal erosion and inundation resilience.

1 Introduction

Auckland Council (AC) commissioned Tonkin & Taylor Ltd (T+T) to carry out a coastal processes, issues, and options assessment to assist with the implementation of the Development Plan, prepared by WSP Opus (2018), for Mairangi Bay. This assessment is the first step in the completion of a number of technical studies necessary to support the design briefs for the reserve and enable progress to the next stage of design.

1.1 Problem definition

This project builds on the coastal hazard assessment T+T in 2018 carried out for the Mairangi Bay Pump Station that built on studies carried out for the Mairangi Bay Surf Club in 2016 with additional data considered. Based on the results of the previous assessments the proposed development plan lies within the erosion susceptibility area and is dependent on the seawall being maintained to prevent erosion.

The concept plan, with the erosion susceptibility lines for the next 50 and 100 years overlain, is provided in Figure 1.1. The erosion assessments assumed a sand coast and backshore without the presence of seawalls. The report concluded that if the seawall is adequately maintained, then it could be expected that the shoreline position would remain, although beach levels fronting the seawall would likely lower to bedrock as material is lost due to erosion. If the seawall were to fail, shoreline retreat would likely occur as it reverts towards an equilibrium.

In accordance with the Unitary Plan, Ministry for the Environment coastal hazards and climate change guidance, and the New Zealand Coastal Policy Statement, the reserve development plan should consider the effects of climate change over a 100-year period. Therefore, this issues and options assessment is required to understand the longevity of the existing seawall, ongoing maintenance costs of this option and the potential alternative options that may be more cost effective and have more positive effects on coastal processes.

With the surf club nearing the end of its design life there are plans for it to be re-built in the near future. As it is currently located within the erosion susceptibility area, it is recommended that it is relocated landward, preferably behind the red line (i.e. 2120 erosion susceptibility) but no further seaward than the yellow line (i.e. 2070 erosion susceptibility) elsewhere on the reserve. Relocating the surf club will provide resilience to the effects of climate change in the future. On this basis, all future shoreline management options presented in this report assume that the surf club will be relocated.

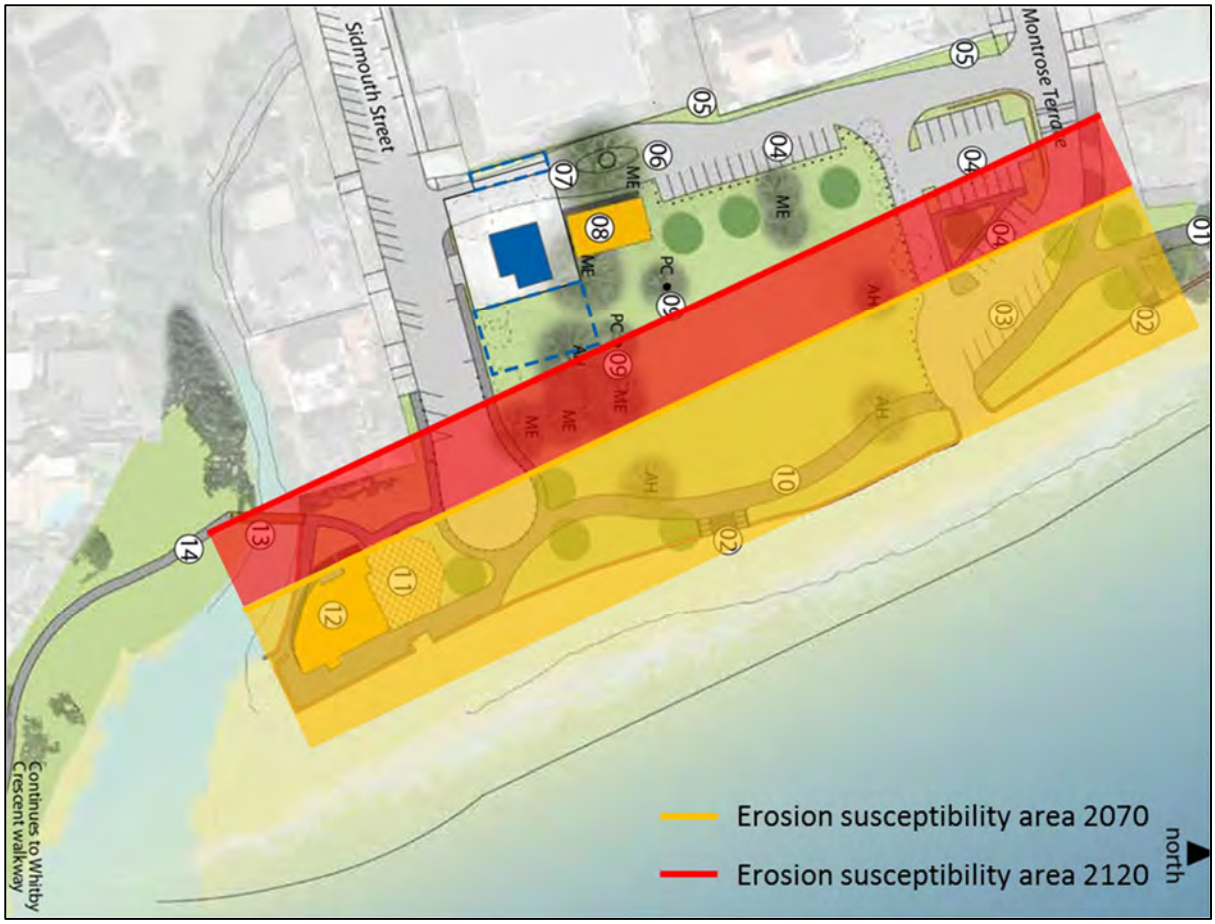

Figure 1.1: Concept plan for the Development Plan overlain with the erosion susceptibility area for the next 50 and 100 years (adapted from WSP Opus, 2018)

1.2 Scope of services

The scope of this assessment includes:

- A coastal processes assessment identifying associated issues and constraints for Mairangi Bay Beach Reserve.
- A detailed condition assessment of the seawalls armouring the Mairangi Bay Beach Reserve. This includes the rock masonry seawall that extends north from the stream mouth, and the rock armouring at the southern end of the reserve bordering the bank of the stream.
- Identifying options for future reserve edge management, as informed by the above coastal process assessment, in response to climate change effects and coastal hazards over time.
- Stakeholder engagement (limited to the Surf Life Saving Club).

1.3 Report layout

Following this introductory section, the site is contextualised in Section 2 with the location, existing infrastructure and landscape described. The seawall condition assessment is given in Section 3 and Section 4 presents the coastal processes assessment identifying issues and constraints. Future options are explored in Section 5 and our recommendations are provided in Section 6. Supplementary drawings, figures, field test results and other information are given in the appendices.

2 Site context

This section provides an overview of the site describing the location, existing infrastructure, geographic features and shoreline evolution over time.

2.1 Geographic location

Mairangi Bay is located on the east coast of Auckland's North Shore between Murrays Bay (to the north) and Campbell's Bay (to the south), refer Figure 2.1. The bay is orientated to the northeast and sits inside the Hauraki Gulf. Located in a predominantly residential environment, the beach and reserve are used for both land and water-based recreation typical of its urban setting.

Figure 2.1: Geographic location of Mairangi Bay, Auckland (Google Earth, 2019)

2.2 Bathymetry and topography

Mairangi Bay is a 350 m wide pocket beach, positioned between cliff headlands with rock shore platforms to the north and south. Mairangi Bay stream discharges at the southern end of the bay, with channel position and depth dependent on fluvial discharge and sand accumulation.

The bathymetry in the vicinity of the site is shown in Hydrographic Chart NZ 5322 for which an extract is provided in Figure 2.2. The levels in the hydrographic chart are relative to Chart Datum which is 1.742 m below Auckland Vertical Datum 1946 (AVD-46).

Auckland LiDAR from 2016 with 1 m resolution from Land Information New Zealand shows the topography for the site in Figure 2.3. The reserve, located landward of the existing sea wall, ranges in elevation between 3 and 4 m AVD-46. Beach levels at the base of the seawall were approximately 2.0 m AVD-46 during the LiDAR survey with higher levels to the south and lower levels to the north with a gradual beach slope of approximately 1(V):15(H). It is important to note that beach slope and bed level at the structure captured in LiDAR imagery represents a snapshot of time and these levels are known to fluctuate in response to seasonal and event scale weather systems.

Additional survey was carried out by Auckland Council and the data has been combined with the LiDAR to provide a more complete indication of levels of the reserve. The site plan with this level information is included in Appendix A. The additional data is suitable for this stage of reporting but a full topographic survey by a chartered surveyor will be required for any consent to detailed design work.

Key elevations are summarised as follows:

- Crest elevation of masonry seawall ranges from 3.38 m AVD-46 at its lowest to the north of the reserve and 3.83 m AVD-46 at its highest in the middle of the reserve.
- Toe elevation of the seawall was not captured in the survey.
- Grass reserve elevation undulates in the lee of the masonry seawall ranging from around 3.3 m AVD-46 to 4 m AVD-46.
- Crest elevation of the rock protection ranges from 1.1 m AVD-46 to 2.8 m AVD-46.

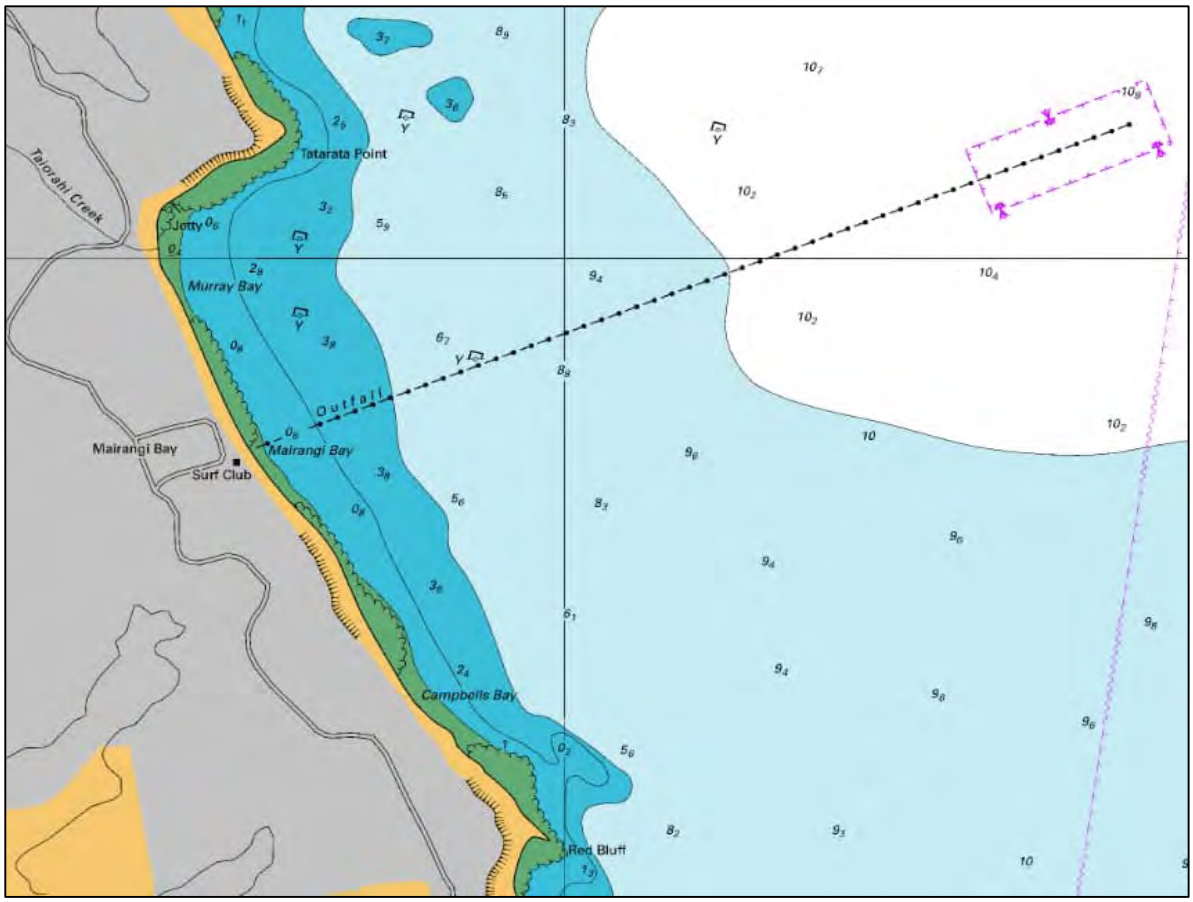

Figure 2.2: Local bathymetry - extract from hydrographic chart NZ 5322 (LINZ, 2019)

Figure 2.3: Local topography surveyed in December 2016, with elevations relative to AVD-46 (Auckland Council 2016-2017 LiDAR)

2.3 Geology and beach characteristics

Mairangi Bay is a small infilled valley between East Coast Bay Formation (ECBF) rocks. Based on the 250,000 GNS geologic maps, shown in Figure 2.4, the geology of this valley comprises predominantly of alluvium from the Tauranga Group overlain by sand deposits on the foreshore.

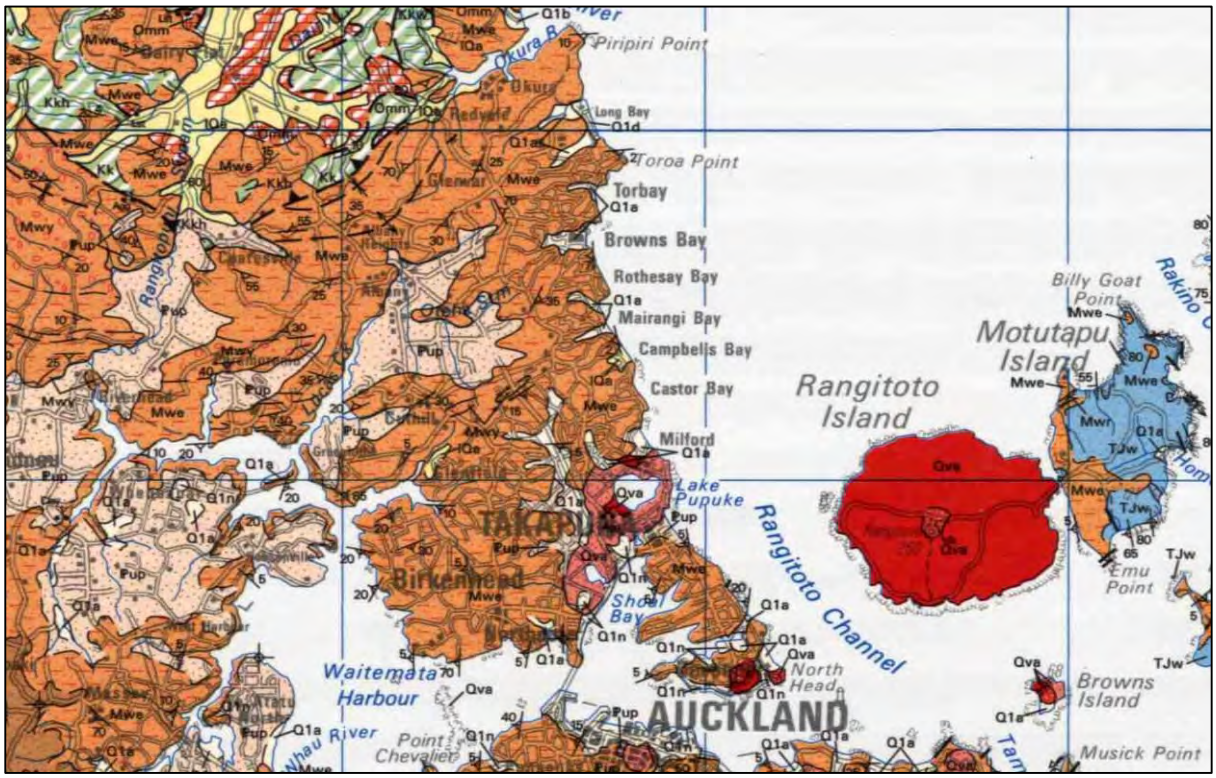

Figure 2.4: Extract from 1:250,000 geological map of Auckland (GNS, 2001)

A series of hand augers and scala penetrometer tests were carried out along the line of the existing seawall between the northern cliffs and the surf club. Eight hand augers were undertaken along the landward edge and four seaward of the wall. Two additional hand augers were taken along the reserve to the south of the stream. The site plan in Appendix A shows the location of the investigations and the hand auger logs are included in Appendix B (note that the hand augers are relative to NZVD-16 rather than AVD-46). Long sections have also been sketched up and the area is provided in Appendix B.

The results show ECBF formation is present along the northern half of the beach (from around HA5 northward) at a relatively high level meaning a shallow depth of sand along this area. Residual soils (weathered ECBF) and fill are present behind the wall.

Between the surf club and HA05, there is a greater depth of sand and alluvial deposits (HA08a and HA06a). This suggests the presence of a larger stream channel that has been filled with alluvial deposits and sand. Residual soils are also present to the south of the stream (HA09 and HA10).

Sediment grading from adjacent beaches, collected by Auckland Council, is provided in Figure 2.5. These grading curves are representative of the gradings of beach sand at Mairangi Bay and show the surf zone grainsize D_{50} of between 0.15 and 0.35 mm which can be classified as moderately to well-sorted fine sand.

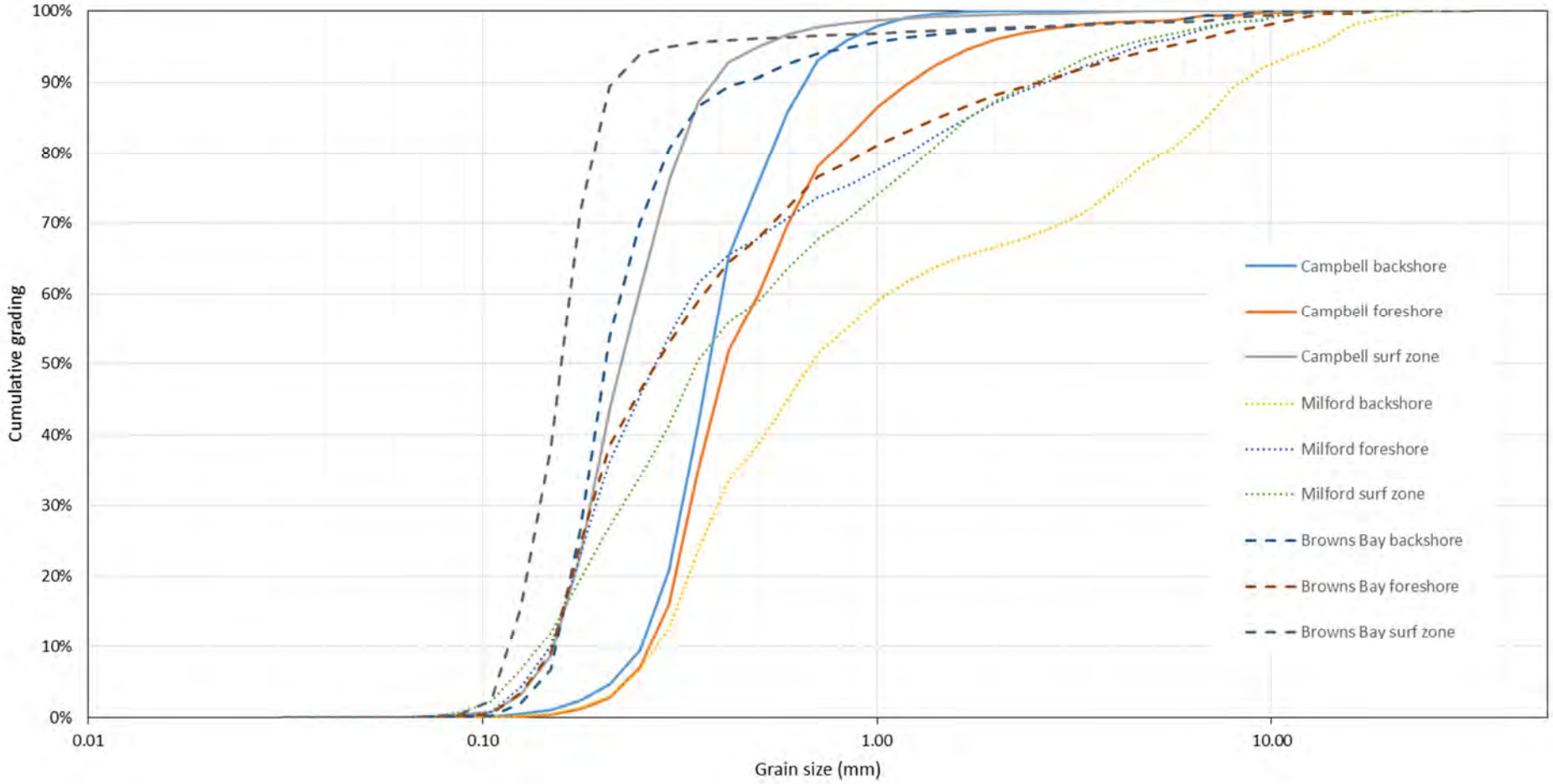

Figure 2.5: Sediment size distribution from samples collected on the backshore, foreshore and surf zone at beaches adjacent to Mairangi Bay (Source: Auckland Council)

2.4 Existing coastal structures and infrastructure

The Mairangi Bay Beach Reserve comprises some 4,000 m^2 of grassed reserve landward of a seawall. A surf club, initially constructed in 1954, is situated at the southern end of the reserve adjacent to Mairangi Bay Stream, with a community lease until 30 May 2023. A grouted stone wall extends along the perimeter of the grass reserve with beach access ramps at the northern and southern ends of the beach. The northern access ramp allows for high tide launching and the southern access ramp is narrow and fenced off which restricts access. Along the seawall, there are two sets of steps providing access to the beach. To the south, the Mairangi Bay stream drains to the sea near the surf lifesaving club. The southern side of the stream is protected with rock rip-rap and a small pedestrian bridge connects the main area of reserve with a smaller area of open space. A third access ramp is located along the bank of the stream.

The road corridor running adjacent to the coast contains the East Coast Bays Branch Sewer which is a 724 mm diameter buried concrete pipe that was installed in 1965. This is a gravity sewer falling from north to south towards the pump station at the end of Sidmouth Street. Review of historic drawings provided by Watercare shows a depth to invert level at the end of Sidmouth Street of around 11ft (3.4 m) with the invert elevation around 0 RL. At the end of Montrose Terrace the depth to invert level is around 13ft (4 m) with the invert elevation around 0.15 RL. The datum on these drawings is given as MSL at 0.00' RL. This pipe extends along the coast in front of the cliffs to the north of Mairangi Bay, tracks inland and through the Mairangi Bay Reserve heading south, continues under the stream before wrapping through the reserve and back to the shoreline to the south again. A coastal path has been established on top of this pipeline. A wastewater outfall also extends offshore (approx. 1 km) in line with Sidmouth Street.

The freshwater pipes around the reserve are largely contained within Montrose Terrace, Sidmouth Street and the western side of the road parallel to the shoreline but do extend into the grassed reserve behind the seawall to connect the facilities around the Surf Life Saving Club. There are also two water hydrants within the reserve adjacent to the road.

There are two stormwater outlets that are shown to go through the seawall, one is located on the northern section at the end of Montrose Terrace and the other in the middle of the site near the central set of steps.

These features are annotated on the Google Earth image in Figure 2.6 and a map of the utilities and services is provided in Figure 2.7.

Figure 2.6: Existing infrastructure along the Mairangi Bay Reserve (adapted from Google Earth, 2019)

Figure 2.7: Existing infrastructure along the Mairangi Bay Reserve (AC, 2019)

We are aware of plans to upgrade the Watercare wastewater pump station at 10 Sidmouth Street by building a new station alongside at 12 Sidmouth Street. The upgrade is required to provide for population growth in the catchment and to reduce the wastewater overflows to the CMA during heavy rain events. As part of the project, Watercare wanted to address the localised flooding in the Mairangi Bay beach reserve from surcharged manholes during wet weather by installation of a new 300 mm gravity sewer along Montrose Terrace to divert flow away from the area of undersized reticulation. The invert level of the pipe at the seaward end of Montrose Terrace is 0.11 m AVD-46 and the proposed locations of the pump station and gravity sewer are provided in Figure 2.8.

Figure 2.8: Location of proposed Mairangi Bay Pump station and gravity sewer

2.5 Summary – Site context

- Mairangi Bay is a 350 m wide pocket beach, orientated to the north east, and located on Auckland's North Shore inside the Hauraki Gulf.
- A stream discharges at the southern end of the beach.
- Mairangi Bay is a small infilled valley between East Coast Bay Formation (ECBF). The rock levels are relatively high along the northern part of the beach with relatively shallow sand deposits on top. To the south, the rock level drops and there are greater depths of sand and alluvial deposits.
- The beach sand is moderately to well sorted fine sand with a D_{50} between 0.15 and 0.35 mm.

- A network of utilities is present around the reserve, with the majority located within the roads. The large East Coast Bays Branch Sewer runs parallel to the shoreline with an invert level around mean sea level. A large outfall pipe also extends offshore in line with Sidmouth Street.
- A grouted stone wall extends along the perimeter of the grass reserve with beach access ramps at the northern and southern ends with two sets of steps providing access to the beach.
- The southern side of the stream is protected with rock rip-rap and a small pedestrian bridge connects the main area of the reserve with a smaller area of open space. A third access ramp is located along the bank of the stream.

3 Seawall condition assessment

This condition assessment covers the rock masonry seawall that extends north from the stream mouth, and the rock armouring at the southern end of the reserve bordering the stream bank.

Our assessment of the rock masonry seawall is based on observations / photographic records, a topographic survey (commissioned, managed and undertaken by Auckland Council), LiDAR and a series of scala penetrometer and hand augers along the landward side of the existing seawall (8 No. at around 25 m centres) and along the seaward side (4 No. at 50 m centres), a site visit and engineering judgement.

Based on our experience of historic seawall construction in Auckland, these walls were facing walls to prevent erosion and were not designed specifically to have retaining capacity. Determining the structural stability is beyond the scope of these assessments but the limitations of the historic designs are recognised.

The rock revetment along the southern edge of the stream has been assessed based on visual observation, 2 No. scala penetrometer and hand augers along the landward side of the revetment.

For ease of assessment the area has been divided into 13 specific sections, see Figure 3.1 and the stairs at the southern end of 14.

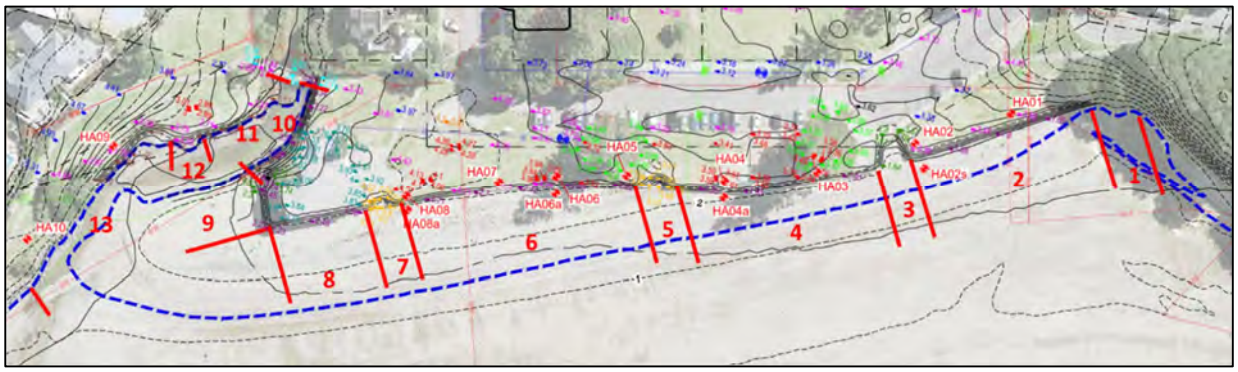

Figure 3.1: Sections of the seawall

The condition assessment uses the standardised condition assessment rating based on Auckland Council's adaptation of the UK's Environment Agency Condition Assessment Manual where:

Grade	Condition rating	Description
1	Very good	No significant visible defects. No maintenance required.
2	Good	Minor defects only. Minor maintenance required to no more than 5% of the structure.
3	Fair	Significant defects. Major maintenance required to no more than 20% of the structure.
4	Poor	Structurally unsound. Major remedial works needed within 5 years. Up to 50% affected.
5	Very poor	Totally failed or derelict. Require complete reconstruction or removal.

The full condition assessment is provided in Appendix C where the condition of each section is described along with a series of typical photos of the area. A summary of the findings is included in Table 3-1.

The following observations have been made on the condition of the seawalls:

- Numerous repairs to the grout of the masonry rock wall (refer Figure 3.2).

- Repairs to the toe and crest of the masonry seawall (refer Figure 3.3).
- Lack of drainage holes at lower levels but some along the crest.
- Haphazardly placed rock armour and concrete debris around the stream (refer Figure 3.4).

An evaluation of the seawalls performance with future sea levels is given in Section 4.6and discussion on their suitability as a future shoreline management option and associated costs for maintaining are given in Section 5.2.

Table 3-1: Summary of condition assessment

Segment	Asset type	Factors affecting asset life	Grade	Condition rating
1	Sloping rock masonry wall	• Moderate energy coastal environment • No filter between wall and reserve	4	Poor
2	Sloping rock masonry wall	• Moderate energy coastal environment • No filter between wall and reserve	2	Good
3	Concrete beach access ramp	• Moderate energy coastal environment • No filter between wall and reserve	2	Good
4	Near vertical rock masonry wall	• Moderate energy coastal environment • No filter between wall and reserve	3	Fair
5	Concrete steps on rock masonry base	• Moderate energy coastal environment • No filter between wall and reserve	3	Fair
6	Near vertical rock masonry wall	• Moderate energy coastal environment • No filter between wall and reserve	3	Fair
7	Concrete steps on rock masonry base	• Moderate energy coastal environment • No filter between wall and reserve	3	Fair
8	Near vertical rock masonry wall	• Moderate energy coastal environment • No filter between wall and reserve	3	Fair
9	Near vertical rock masonry wall	• Moderate energy coastal environment • No filter between wall and reserve	3	Fair
10	Near vertical rock masonry wall	• Stream flows and stream erosion • Scour of foundations	3	Fair
11	Unprotected bank	• Stream flows and stream erosion	N/A	
12	Concrete ramp on rock armour base	• Moderate energy coastal environment • No geotextile • Ungraded rock armour	4	Poor
13	Rock armour revetment	• Moderate energy coastal environment • No geotextile • Ungraded rock armour	4	Poor
14	Southern beach access point	• Moderate energy coastal environment • Variable toe/foundation support • Ungraded rock armour	4	Poor

Figure 3.2: Example of grout repairs

Figure 3.3: Example of toe repairs to the seawall

Figure 3.4: Haphazardly placed rock armour

4 Coastal processes

4.1 Water levels

The water level at any coastal location varies across a range of timescales. Key components are:

- Astronomical tide.
- Storm surge.
- Medium term fluctuations.
- Long term changes in sea level.
- Wave effects through wave set-up and run-up.

4.1.1 Tide

The astronomical tide is the rise and fall of the ocean surface due to the gravitational attraction between the Earth, Moon and the Sun. The tidal regime around the coastline of New Zealand is semi-diurnal meaning there are typically two high tides and two low tides each day at any given location. The position of Mean High Water Spring (MHWS) is important because it is used to delineate the landward jurisdictional boundary of the coastal marine area under the Resource Management Act 1991 and the Foreshore and Seabed Act 2004.

There are several definitions for MHWS; the Mean High Water Perigean Spring (MHWPS) is as an upper level of MHWS related to higher perigean-spring tides. Perigean-spring combination tides peak about every 7 months when a new or full moon occurs at the same time as the moon is in its perigee or closest position to earth (sometimes called king tides). It is calculated by the combination of the three major tidal constituents: lunar (M2), solar (S2) and elliptical lunar (N2).

Other definitions of high tide include the MHWS-10 which is calculated by the level exceeded by the highest 10% of all high tides; the Cadastral MHWS which is based on average levels of all monthly spring tides; and, the nautical MHWS which is calculated by the combination of the lunar and solar tidal constituents.

High tide levels have been defined at numerous coastal locations within the Hauraki Gulf and Waitemata Harbours by Stephens et al. (2016). The closest of these points to Mairangi Bay is approximately 2 km south of Milford Beach, off J.F. Kennedy Park. Low tide levels have been taken from the secondary port tables produced by LINZ for Murrays Bay. A summary of the astronomical tide levels for Mairangi Bay are presented in Table 4-1.

Table 4-1: Astronomical tide levels for Mairangi Bay

Tidal state		Tidal level (m AVD-46)
Highest Astronomical Tide (HAT)		1.72
Mean High Water Springs (MHWS)	Mean High Water Perigean Springs (MHWPS)	1.55
	Mean High Water Springs 10% (MHWS10)	1.49
	Mean High Water Springs Cadastral (MHWSC)	1.39
	Mean High Water Springs Nautical (MHWSN)	1.34
Mean High Water Neaps (MHWN)		0.86
Mean Sea Level (MSL)		-0.04
Mean Low Water Neaps (MLWN)		-0.84
Mean Low Water Springs (MLWS)		-1.44

4.1.2 Storm surge

Storm surge results from the combination of barometric setup from low atmospheric pressure and wind stress from winds blowing along or onshore.

The combined elevation of the predicted tide and storm surge is known as the storm tide. Stephens et al. (2016) derived storm tide estimates for the Hauraki Gulf and Waitemata Harbours by probabilistically combining the astronomical tide, with storm surge and the monthly mean sea level anomaly.

Results offshore of Campbells Bay, approximately 800 m to the south of Mairangi Bay, for a range of annual exceedance probabilities (AEP) / return periods are shown in Table 4-2 and show a 1% AEP value of 2.06 m AVD-46.

Table 4-2: Storm tide elevations near Mairangi Bay (Stephens et al., 2016)

AEP	50%	20%	10%	5%	2%	1%
Return Period	2 years	5 years	10 years	20 years	50 years	100 years
Elevation (m AVD-46)	1.84	1.90	1.94	1.98	2.03	2.06

4.1.3 Long term sea levels

Historic sea level rise (SLR) in New Zealand has averaged 1.7 ± 0.1 mm/year (Hannah and Bell, 2012) and climate change is predicted to accelerate this rate into the future.

The Ministry for the Environment (MfE, 2017) guidelines on climate change use four sea level rise scenarios based on the Intergovernmental Panel on Climate Change (IPCC, 2015) projections of three Representative Concentration Pathway (RCP) emission scenarios. These are the median projections of the RCP 2.6, RCP 4.5 and RCP 8.5, and RCP 8.5+, the upper end of the 'likely range' (i.e. 83rd percentile) of the RCP 8.5 projection. The latter is primarily for the purposes of stress-testing adaptation plans, where the risk tolerance is low and/or future adaptation options are limited, and for setting SLR for greenfield development or major new infrastructure where the foreseeable risk is to be avoided (MfE, 2017).

The projections of the potential future scenarios (RCP 2.6, RCP 4.5, RCP 8.5 and RCP 8.5+) adjusted to the New Zealand regional scale, shown in Table 4-3, give the specific values used for 2070 and 2120 i.e. the next 50 and 100 years.

MfE (2017) provides guidance on minimum SLR allowances for planning instruments for the next 100 years. This includes a level of 0.65 m for non-habitable short-lived assets with a need to be at the coast and either low-consequence or readily adaptable, and 1 m for land use planning controls for existing coastal development and asset planning.

The Unitary Plan requires consideration of 1 m of sea level rise but also a 100 year timeframe. As can be seen from Table 4-3, 1 m of sea level rise represents the RCP 8.5 M scenario up to the year 2120.

Table 4-3: Sea level rise projections from the 1986-2005 baseline (MfE, 2017)

Year	RCP 2.6 M (m)	RCP 4.5 M (m)	RCP 8.5 M (m)	RCP 8.5+ (m)
2070	0.32	0.36	0.45	0.61
2120	0.55	0.67	1.06	1.36

Note: MSL is the same for both 1986 -2005 and 2006-2011 baselines

4.2 Waves

Mairangi Bay is located in a predominantly sheltered area inside the Hauraki Gulf, with exposure to ocean wave energy blocked by the Coromandel Peninsula, and a number of Hauraki Gulf Islands. The largest localised fetch is approximately 80 km to the ENE which allows reasonably energetic waves to reach the coast during periods of prolonged strong wind from the east or northeast. Some open ocean swell wave energy does propagate into the inner Hauraki Gulf and reach the East Coast Bays which transports sediment to the upper portion of the beach. The 100 year annual return interval wave height for Mairangi Bay is approximately 3 m (Stephens et al., 2016) with a peak period of around 9 seconds (MetOcean, 2019).

Waves can both super-elevate the mean water level during the breaking process (termed wave set up) and cause impulsive damage due to wave run-up. Wave setup is generally included in static flood assessments while wave run-up is only of concern close to the coastal edge where the momentum of the wave front may cause damage or hazard.

Stephens et al. (2016) assessed significant wave heights offshore of Campbells Bay utilising the empirical formula of Stockton et al. (2006) to assess the combined wave setup and storm-tide level. The results, presented in Table 4-4, show that static water levels at the shoreline can reach more than 2.4 m ADV-46 during storm conditions which will increase if sea levels rise as predicted.

Site experience shows that overtopping of the seawall can occur during present day storms, and along the northern section during spring tides and longer period swell events. This is assessed further in Section 4.6.2.

Table 4-4: Offshore wave heights and combined storm tide plus wave setup at the shoreline (Stephens et al., 2016)

Event	Significant wave height, H_s (m)	Combined storm-tide plus wave setup[1] (m AVD-46)
100 year ARI (1% AEP)	3.06	2.44
50 year ARI (2% AEP)	3.03	2.40
10 year ARI (10% AEP)	2.93	2.24
2 year ARI (50% AEP)	2.71	2.07

[1]Setup derived using empirical formula derived by Stockton et al. (2006)

4.3 Tidal currents

Data on tidal currents at the coast of Mairangi Bay are not available. Tidal currents typically increase away from the coast or in areas where the flow is constrained through a narrow inlet or channel.

4.4 Sediment transport mechanisms

Sediment transport in the nearshore and coastal zone is driven by hydrodynamic currents that can be driven by wave processes, tidal water exchange, fluvial discharge and direct wind stress blowing across the water surface.

A threshold velocity is required to initiate sediment transport by overcoming sediment inertia, which is largely a function of grain size and density. Sediment entrainment in the coastal zone is typically driven by wave orbital velocity, wave breaking or swash motions. Once sediment is mobilised, transport can occur as bed-load movement, saltation (periodic suspension and settlement), and as suspended load. Mobilised sediments typically remain in transport until the current decreases to equal the particles settling velocity, which is primarily a function of grain size and density. The settling threshold of a particle is typically smaller than the entrainment threshold velocity. Therefore, tidal and wind driven currents that may not exceed the threshold velocity still have the potential to transport particles in suspension. In general, instantaneous currents associated with wave motions are responsible for entrainment and mean (time-averaged) currents determine the resulting sediment transport pathway.

At Mairangi Bay, the most significant mode of sediment transport is likely to be wave motions during periodic easterly wind or storm events. Longer period ocean swells also transport sediment to the upper portion of the beach. The net longshore drift is from the north to south along and cross shore transport moves sediment on and offshore. Sediment accumulation around the mouth of the stream can cause water to become stagnant during periods of low flushing. During heavy rainfall and discharge this blockage is opened. The East Coast Bays Branch sewer located in front of the rock armouring to the south of the bay can also block discharge from the stream.

4.5 Shoreline morphology

Shorelines are complex and dynamic, changing shape in both space and time in response to natural forcing conditions and availability of sediments. The key hydrodynamic driving processes are from swell and sea waves, tides, storm surge, currents, storm sequences and the effect of climate variability. Coastal features respond to the hydrodynamic processes and the rate and the relative balance of sediment supply and loss, i.e. sediment budget, determines the balance of the system. It is predicted that climate change will affect the hydrodynamic processes through increased storm frequency and severity and sea level rise will translate the shoreline landward.

Coastal morphology occurs over timescales that range from individual storms, through annual and medium-term fluctuations, up to long-term retreat at decadal or century scales. Human intervention can disrupt the natural coastal processes through for example, removing sediment from the system; constructing protection works that disrupt littoral processes; or modifying the coastal margin.

4.5.1 Beach position and levels

A qualitative assessment of the historic changes in beach levels and position change has been undertaken using historic photographs with comparison to recent satellite imagery from Google Earth. Images from the 1920s and 1950s are shown in Figure 4.1 and Figure 4.2 respectively. When compared to recent oblique images, refer Figure 4.3, it can be seen that there has been a significant loss of beach sediment and the underlying bedrock is exposed to the north and south of Mairangi Bay. However, Figure 4.1 shows the bank material at the northern end of the beach which is consistent with the geotechnical investigation showing weathered soils rather than sand behind the

seawall at the northern end. Sediment supplies to Mairangi Bay have been disrupted with the installation of the East Coast Bay Branch Sewer by reducing erosion of the up-drift cliffs. This lack of sediment supply along with fortification of the reserve edge are likely causes of the beach levels dropping.

Figure 4.1: Looking south from Montrose Terrace over the beach settlement of Mairangi Bay Beach Reserve in the 1920s (Source: Mairangi bay reserves management plan, 2015)

Figure 4.2: Mairangi Bay, 18 February 1954 (Source Whites Aviation, Alexander Turnbull Collection)

Figure 4.3: Oblique aerials from UAV captured on 30 June 2019

4.5.2 Historic shoreline change

In order to assess shoreline change over time, a series of historic satellite images have been georeferenced and overlaid. Through delineation of the high water mark, in each image, we can track the pattern of shoreline retreat. This analysis is shown in Figure 4.4 where the 1963 high water mark, shown in red, is further seaward than the cluster of lines from 2001 onwards. This pattern suggests some retreat followed by some natural fluctuations.

Figure 4.4: Historic shoreline change (red line 1963, dark blue 2001, green 2006, pink 2008, orange 2010, light blue 2015 and brown 2017)

4.6 Coastal hazards

A coastal erosion and inundation hazard assessment was carried out by T+T for Mairangi Bay Surf Club in 2016 and subsequently updated for the Mairangi Bay Pump Station in 2018 utilising further data. This section provides a summary of our findings.

4.6.1 Erosion

The Areas Susceptible to Coastal Erosion (ASE) have been established from cumulative effect based on the following formula:

$$ASE_{Beach} = STF + DS + \left(LTR_H \times T\right) + SLR$$

Where:

STF = Short Term Fluctuations of horizontal coastline movement including storm cut (m). This was based on the observed movement of the shoreline from the aerial photograph analysis. The dry beach level has fluctuated by around 9 m from 2000 to the present, refer Figure 4.4. Shoreline retreat during storms in the order of 10 m results in a drop of beach level in the order of 0.6 m to 1.0 m. These drops in beach level are not considered unrealistic.

DS = Dune Slope is characterized by the horizontal distance from the seaward edge of vegetation to dune crest (m). At this location there is no dune as the reserve has been built on top of the low dune system. A nominal distance of 3 m has been applied indicative of low dune/bank.

LTR_H = Long Term Rate of horizontal coastline movement (m/yr). As can be seen from the coastal morphology analysis, Figure 4.4, there has been a significant change from 1963 to the present. The fact that beach levels in the 1920's and 50's were higher is also suggested in Figure 4.1 and Figure 4.2. There has been around a 10 m retreat from 1963 to 2017 which equates to an annual rate of change of 0.19 m/yr.

T = Timeframe (years). A period of 50 and 100 years were used.

SLR = Horizontal coastline retreat due to possible accelerated sea level rise (m). This was assessed based on an equilibrium beach concept of the profile translating landward as a result of increased water depth increasing wave height and therefore erosion pressure. The traditional Bruun Rule was not considered appropriate in this location as the morphology and material changes offshore from sand to a finer platform. Using a slope based on the distance to an offshore 'closure-depth' was not applied at this location, but rather the upper beach slope of 1V:15H was used based on the LiDAR data at this location.

The Auckland Unitary Plan (AUP) requires consideration of sea level rise of 1.0 m for the next 100 years. This represents the 50% of emission scenario RCP8.5. A lower sea level rise (0.50 m) has also been considered being the sea level rise that could occur around 2070 (MfE, 2017), some 50 years from the present.

In terms of erosion assessment, the historic rate of sea level rise of around 1.7 mm/year can be deducted from the predicted rate of sea level rise as beach systems are likely to have adjusted to this historic rate and this is included in the historic long term trend. Therefore, the revised sea level rise values to use are 0.42 m (0.5 m – 0.0017 m x 50 years) and 0.83 m (1.0 m – 0.0017 m x 100 years) respectively.

Table 4-5 summarises the resulting hazard widths for the existing situation, 50 and 100 years. To establish a shoreline free from the effects of the seawall, the nearshore bathymetric contours and historic photographs have been used to locate an inferred vegetation line. The calculated erosion hazard areas have been measured from this adjusted shoreline.

The present day erosion hazard as a result of storms is 12 m. Based on historic shoreline changes the shoreline could migrate an additional 19 m excluding the effects of future sea level rise over the next 100 years. The potential erosion susceptibility including sea level rise for 50 and 100 years is 27 m and 43 m respectively.

Table 4-5: Width of areas susceptible to erosion hazard

Hazard		Width of area (m)
Current hazard area due to storms	SF + DS	9 + 3 = 12 m
Current hazard based on historic projections	LTR x T_{50} LTR x T_{100}	0.19 x 50 = 9 m 0.19 x 100 = 19 m
Erosion due to 0.5 m sea level rise	$SLR_{0.5}$ x 0.0017 x 50 years	15 x 0.42 = 6 m
Erosion due to 1.0 m sea level rise	$SLR_{1.0}$ x 0.0017 x 100 years	15 x 0.83 = 12 m
Erosion susceptibility 50 years (Possible)	SF + DS + (LTR x T) +$SLR_{0.5}$	12 + 9 + 6 m = 27 m
Erosion susceptibility 100 years (Unlikely)	SF + DS + (LTR x T) +$SLR_{1.0}$	12 + 19 + 12 m = 43 m

The erosion assessment assumed a sand coast and backshore without the presence of seawalls. The results of the geotechnical investigations completed for this study show that the northern part of the beach is backed by weathered soils. These are likely to have lower erosion rates but will still be subject to erosion forces due to wave action and wetting and drying.

If the seawall is adequately maintained then it could be expected that the shoreline position would remain, although beach levels fronting the seawall would likely be lowered to the bedrock as the material is lost due to erosion. If the seawall were to fail, shoreline retreat would likely occur as the shoreline reverts towards an equilibrium position.

Toe scour calculations have been made for present and future sea level scenarios to determine the likely effects. Long sections of Sections 2, 4, 6 and 8 (refer Figure 3.1 for section location) have been sketched up to show the elevations of the seawall crest, beach and underlying rock determined from the topographic survey and geotechnical investigations. These are provided in Figure 4.5 to Figure 4.8.

The toe scour results are provided in Table 4-6 where it can be seen that the northern end of the beach (Section 2, Figure 3.1) is eroded to the rock level in all scenarios and the southern end of the beach lowered by around 1 to 2 m depending on the scenario. With the depth of the toe unknown we are unable to comment on the stability of the seawall due to these levels of scour but in general loss of material in front of the seawall will mean there is less support on the seaward side.

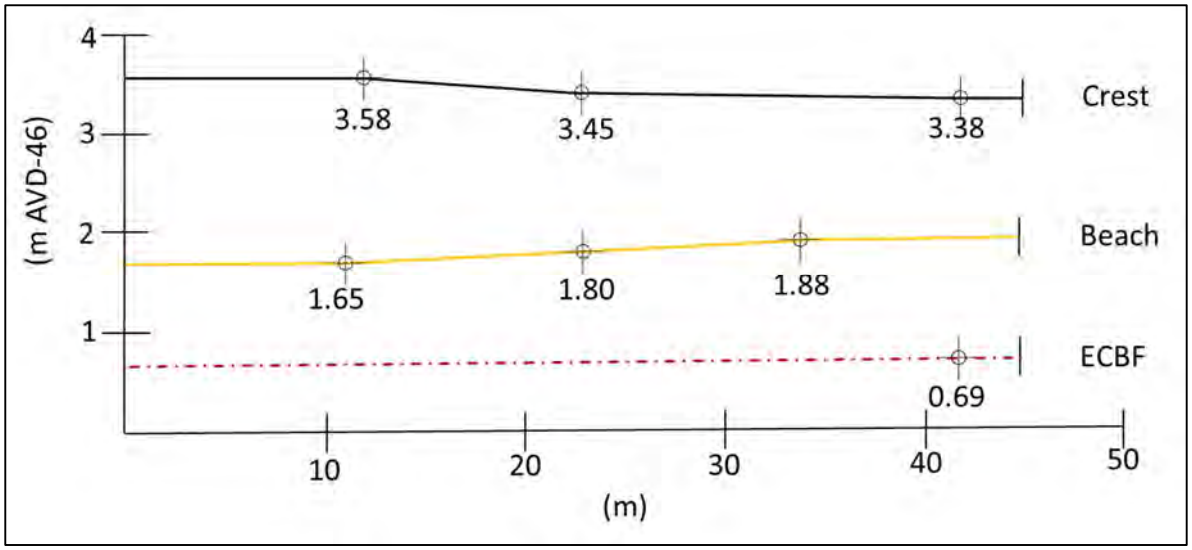

Figure 4.5: Long section sketch of Section 2 of the masonry seawall (not to scale)

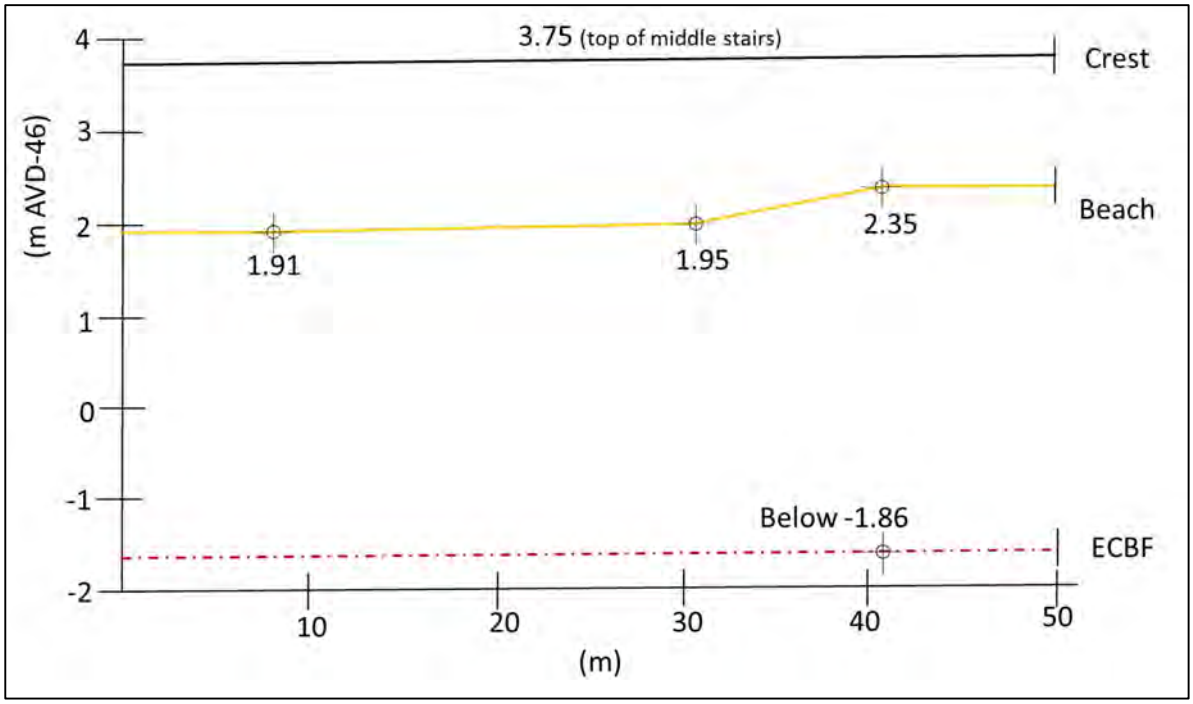

Figure 4.6: Long section sketch of Section 4 of the masonry seawall (not to scale)

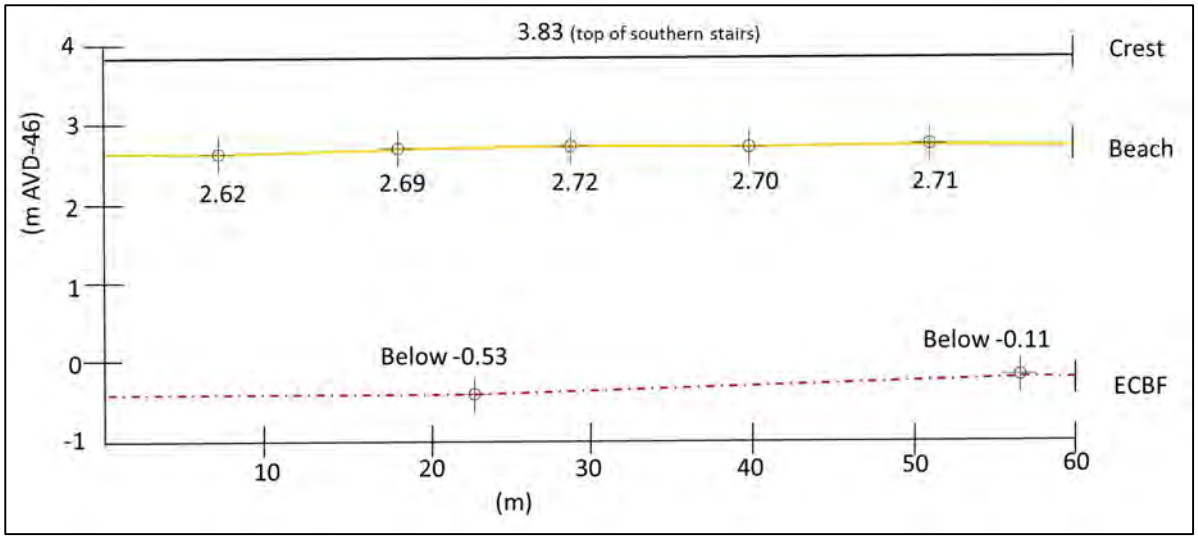

Figure 4.7: Long section sketch of Section 6 of masonry seawall (not to scale)

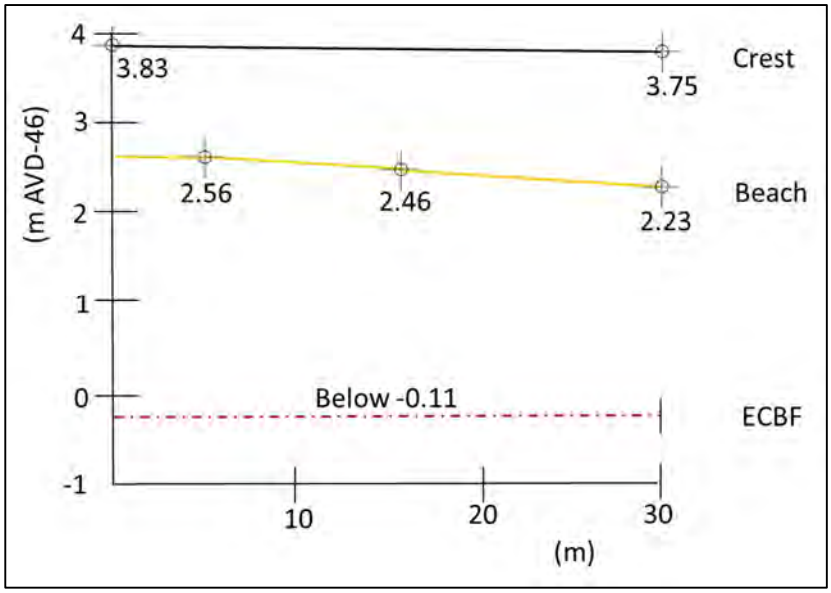

Figure 4.8: Long section sketch of Section 6 of the masonry seawall (not to scale)

Table 4-6: Toe scour results

Section	Scenario[1]	Water level	Beach level	Depth at toe	Beach slope	Offshore wave height (H_{m0})	Peak wave period (T_p)	Rock level	Predicted toe scour[2]	Predicted scour elevation
		(m AVD-46)	(m AVD-46)	(m)	(rad)	(m)	(s)	(m AVD-46)	(m)	(m AVD-46)
2	1% AEP	2.44	1.65	0.79	0.04	3	9	0.69	1.34	Rock
2	1% AEP + 0.5 m SLR	2.94	1.65	1.29	0.04	3	9	0.69	1.88	Rock
2	1% AEP + 1 m SLR	3.44	1.65	1.79	0.04	3	9	0.69	2.14	Rock
4	1% AEP	2.44	1.91	0.53	0.05	3	9	<-1.86	0.98	0.93
4	1% AEP + 0.5 m SLR	2.94	1.91	1.03	0.05	3	9	<-1.86	1.76	0.15
4	1% AEP + 1 m SLR	3.44	1.91	1.53	0.05	3	9	<-1.86	2.17	-0.26
6	1% AEP	2.44	2.62	0.00	0.05	3	9	<-0.53	0.00	2.62
6	1% AEP + 0.5 m SLR	2.94	2.62	0.32	0.05	3	9	<-0.53	0.51	2.11
6	1% AEP + 1 m SLR	3.44	2.62	0.82	0.05	3	9	<-0.53	1.48	1.14
8	1% AEP	2.44	2.23	0.21	0.04	3	9	<-0.11	0.19	2.04
8	1% AEP + 0.5 m SLR	2.94	2.23	0.71	0.04	3	9	<-0.11	1.22	1.01
8	1% AEP + 1 m SLR	3.44	2.23	1.21	0.04	3	9	<-0.11	1.82	0.41

1 Combined storm-tide plus wave setup

2 Toe scour calculated based on the HR Wallingford (2008) method provided in the CIRIA (2010) Beach Management Manual

4.6.2 Inundation

The present day sources of coastal inundation at Mairangi Bay are from the tide, storm surge and waves. In the future, the inundation hazard may be exacerbated by sea level rise, land use changes and changes in storm frequency and intensity.

Our assessment considered the 1% AEP storm surge level and sea level rise in accordance with existing Ministry for the Environment (MfE) recommendations and the Unitary Plan for a 1 m rise over a period of 100 years.

Our previous assessments were based on a seawall crest elevation of 3 m AVD-46 which is lower than actual. The topographic survey conducted as part of this project has given us more accurate levels and so this assessment has been updated. An investigation into wave overtopping has also been carried out to investigate periodic inundation by wave action. Cross section sketches are provided in Figure 4.9 to Figure 4.12 to show the elevations of the crest in relation to present and future sea levels. The wave overtopping results are provided in Table 4-7.

The results show that damage is expected from wave overtopping to the northern section of the masonry seawall (Section 2) during present day sea levels and storm conditions which correlates with the damage seen during the storms of Jan 2018 which scoured the crest. The geometry and impermeable nature of Section 2 are such that it exacerbates wave run-up to increase wave overtopping. For the remainder of the seawall, the empirical calculations suggest limited damage during present day but increased levels of damage for the 50 and 100 year scenarios if not protected. The type of damage expected would be like that experienced during the January 2018 storm. More frequent salt spray will kill off non-salt tolerant grass/planting leaving more readily erodible bare earth. With increases in volumes of overtopping this will scour out and create voids in the lee of the seawall.

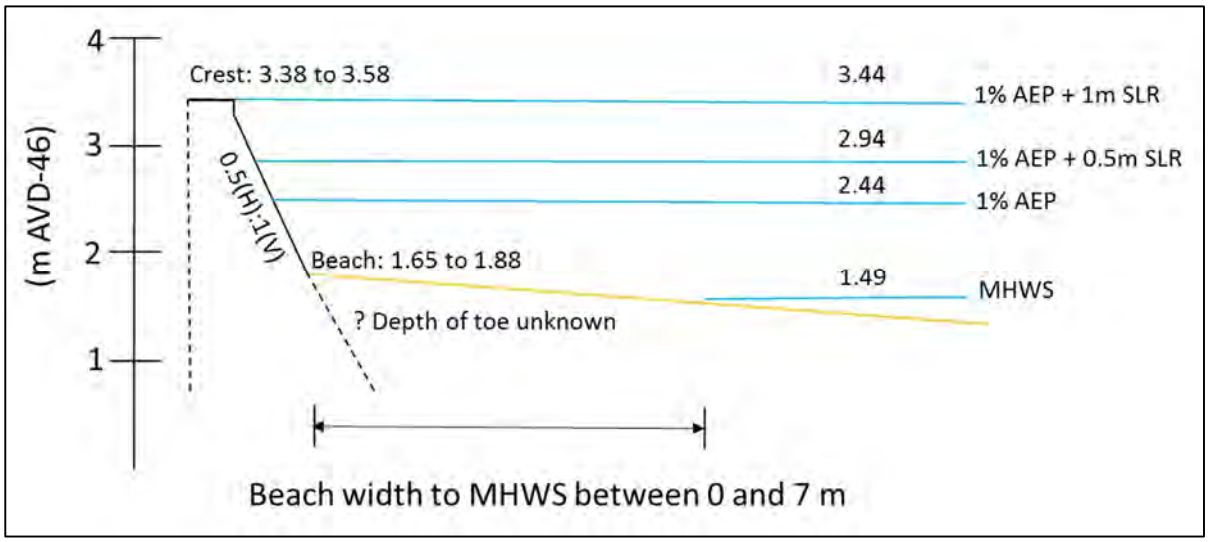

Figure 4.9: Cross section sketch of Section 2 of the masonry seawall (not to scale)

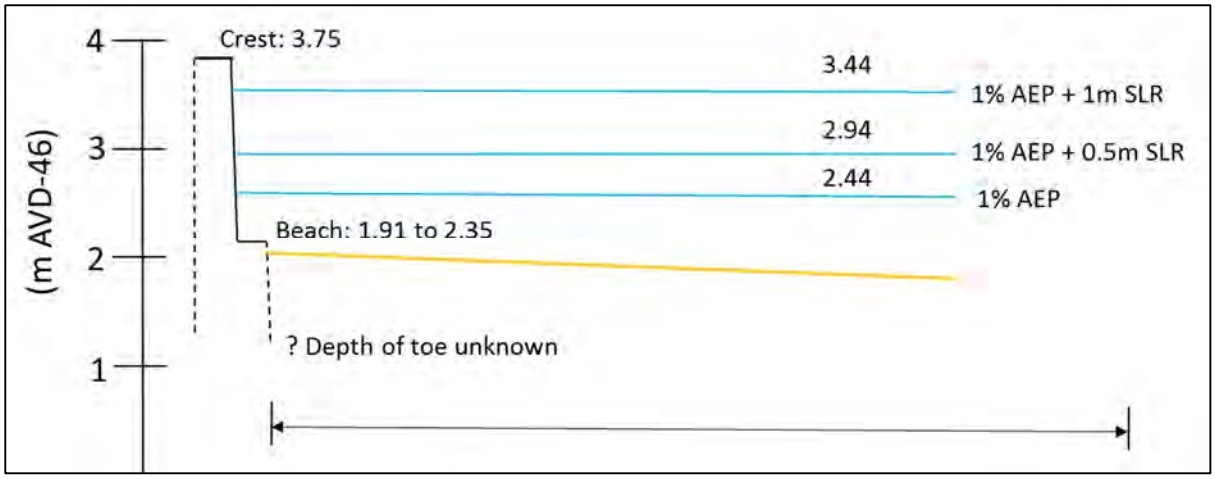

Figure 4.10: Cross section sketch of Section 4 of the masonry seawall (not to scale)

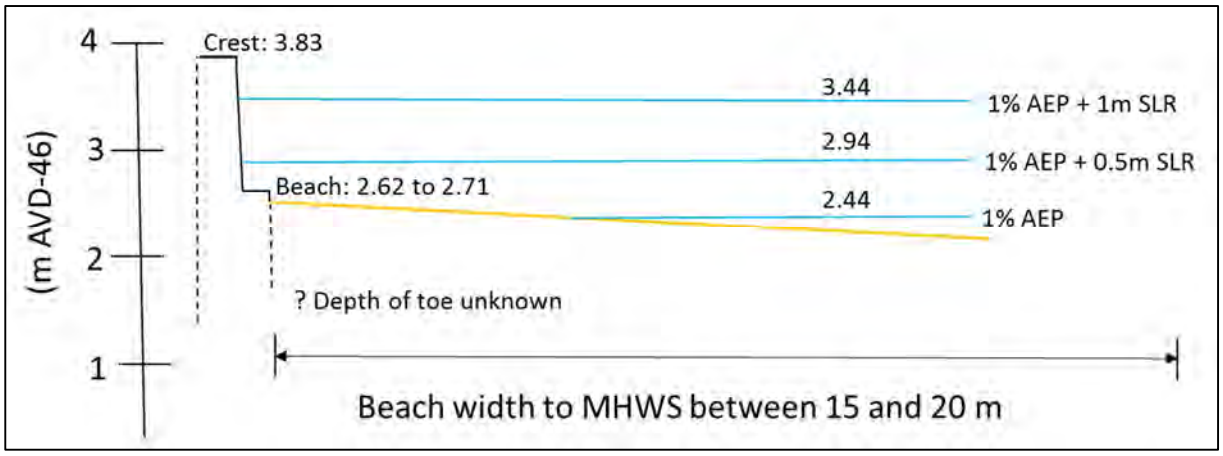

Figure 4.11: Cross section sketch of Section 6 of the masonry seawall (not to scale)

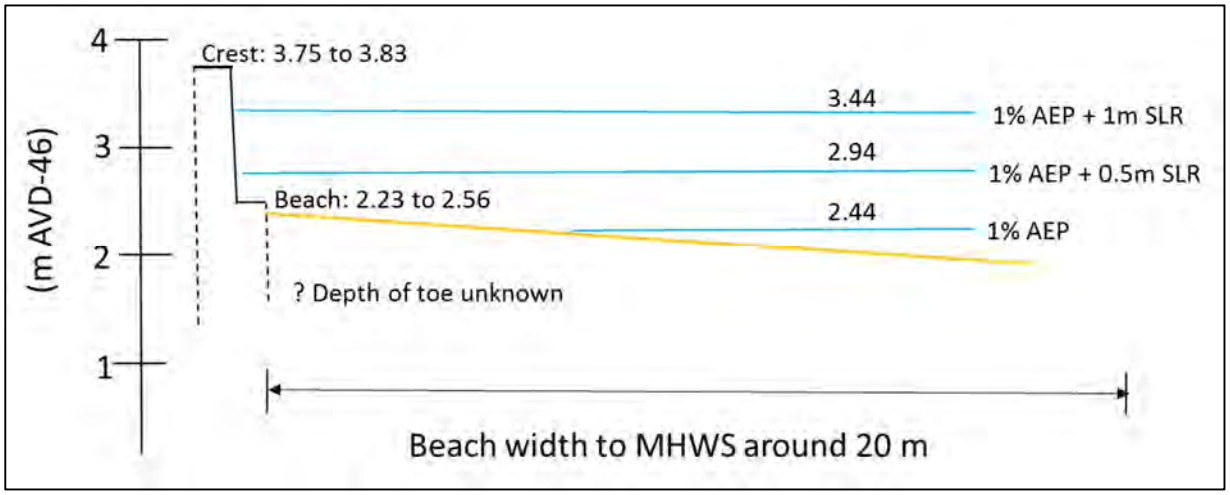

Figure 4.12: Cross section sketch of Section 8 of the masonry seawall (not to scale)

Table 4-7: Wave overtopping results

Section	Scenario	Water level	Toe level	Depth at toe	Wave height at toe (H_{m0})[1]	Peak wave period (T_p)	Crest level	Overtopping discharge (q)[2]	Maximum volume of overtopping (V_{max})[2]	Structural damage[3]
		(mAVD-46)	(mAVD-46)	(m)	(m)	(s)	(mAVD-46)	[l/s/m]	[l/m]	
2	1% AEP	2.44	1.65	0.79	0.47	9	3.38	3	202	Damage if crest not protected
2	50 year	2.94	1.65	1.29	0.77	9	3.38	84	3088	Damage even if fully protected
2	100 year	3.44	1.65	1.79	1.07	9	3.38	465	31000	Damage even if fully protected
4	1% AEP	2.44	1.91	0.53	0.32	9	3.75	0.2	21	No damage
4	50 year	2.94	1.91	1.03	0.62	9	3.75	13	815	Damage if crest not protected
4	100 year	3.44	1.91	1.53	0.92	9	3.75	169	4551	Damage even if fully protected
6	1% AEP	2.44	2.62	0.00	0.00	9	3.83	0	0	No damage
6	50 year	2.94	2.62	0.32	0.19	9	3.83	0	6	No damage
6	100 year	3.44	2.62	0.82	0.49	9	3.83	33	1081	Damage if back slope not protected
8	1% AEP	2.44	2.23	0.21	0.13	9	3.75	0	1	No damage
8	50 year	2.94	2.23	0.71	0.43	9	3.75	3	192	Damage if crest not protected
8	100 year	3.44	2.23	1.21	0.73	9	3.75	111	2965	Damage even if fully protected

1 Depth limited wave height based on breaker index of 0.6

2 Wave overtopping calculations based on the empirical formula provided in the 2018 EurOtop II manual for vertical walls

3 Structural damage classification based on the 2006 Coastal Engineering Manual for embankment seawalls

4.7 Summary - Coastal processes

A summary of the coastal processes, issues, constraints and opportunities are given below and in Figure 4.13.

- The Mean High Water Spring elevation is 1.49 m AVD-46 and the 1% AEP storm surge is at an elevation of 2.05 m AVD-46.
- Future sea levels are expected to be around 0.5 m to 1 m higher in 50 and 100 years respectively.
- Mairangi Bay is open to waves arriving from the NE to SE with typical storms arriving from the NE. The 1% AEP offshore wave has a height of 3 m and peak period of 9 seconds and the nearshore waves are limited by depth. Reflected waves off the existing seawall, East Coast Bays Branch sewer and northern headland contribute to beach erosion along the northern section of seawall.
- The most significant mode of sediment transport is by wave action and the net longshore drift is from the north to south along and cross shore transport moves sediment on and offshore.
- Sediment accumulation around the mouth of the stream can cause water to become stagnant during periods of low flushing. During heavy rainfall and discharge this blockage is opened. The East Coast Bays Branch sewer located in front of the rock armouring to the south of the bay can also block discharge from the stream.
- Beach position and levels have fluctuated over time. The combination of the East Coast Bays Branch Sewer limiting sediment supply from the north and the fortification of the reserve edge have interrupted the natural evolution of the shoreline and beach lowering are likely attributed to these human interventions.
- Beach widths from the toe of the seawall to MHWS are between 0 m and 7 m at the northern end of the beach and increase to around 20 m to the southern end in front of the surf club.
- The erosion assessment (T+T, 2016) assumed a sand coast and backshore without the presence of seawalls and predicted the present day erosion hazard as 12 m and the potential erosion susceptibility over 50 and 100 years to be 27 m and 43 m respectively. The results of the geotechnical investigations completed for this study show that the northern part of the beach is backed by weathered soils which are likely to have lower erosion rates than previously calculated.
- Scour of the sand at the toe of the seawall increases with rising sea levels and therefore it is expected that the northern section of the beach will lower to the rock level over time and the middle and southern section lower by 1 to 2 m in the future. With the depth of the seawall toe unknown it is not possible to determine the stability of the seawall with these levels of scour but in general loss of material in front of the seawall will mean there is less support on the seaward side.
- The previous inundation assessment was based on a lower seawall elevation and so has been updated and includes wave overtopping analysis. Given the geometry and crest height of the northern section of seawall it is most vulnerable to wave overtopping and therefore damage as experienced in the Jan 2018 storm. The levels of the remainder of the seawall are sufficiently high that they would not be directly inundated by future sea levels but wave overtopping will occur to sufficient levels to cause damage to the unprotected crest.

4.7.1 Issues, constraints and opportunities

- Fortification of the reserve edge and the East Coast Bays Gravity Sewer have disrupted the natural evolution of the shoreline.
- The surf club is located within erosion susceptibility zone for the next 50 years should the seawall not be maintained. By relocating this landward, outside of the erosion susceptibility area, other shoreline management options are available that are more in keeping with the natural character and coastal processes.
- The proposed turning circle at the end of Sidmouth Street currently sits within the 50 year erosion susceptibility zone.
- Accumulation of sediment around the stream mouth has previously caused temporary stagnation of water behind.
- Wave overtopping is an existing issue, especially at the northern section of seawall where the impermeable slope increases wave run-up. Inundation of the reserve from wave overtopping will be exacerbated in the future from rising sea levels.

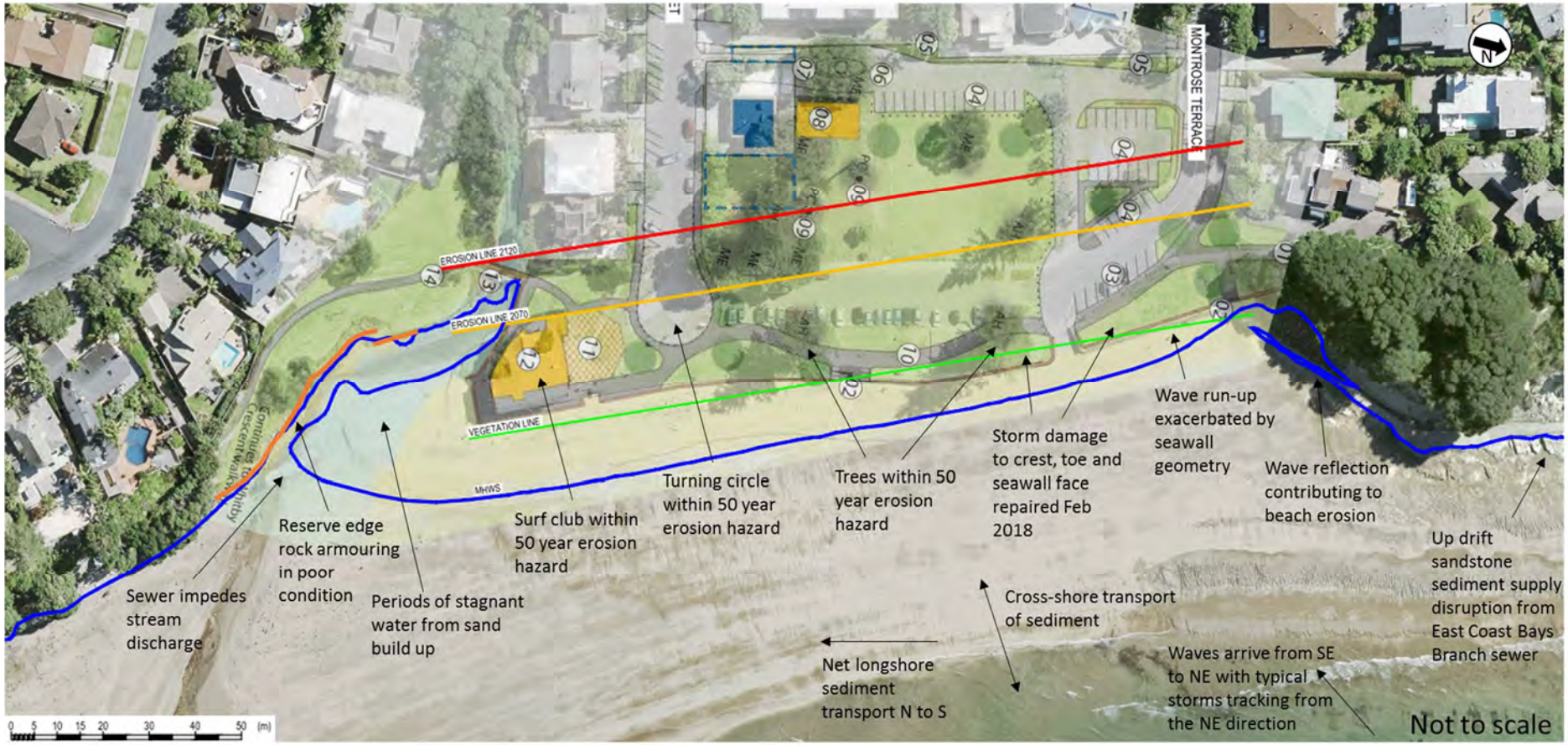

Figure 4.13: Summary of coastal processes and issues

5 Options

This section reviews potential shoreline management options for Mairangi Bay reserve assuming the surf club is relocated landward and outside of the erosion susceptibility area, ideally behind the 2120 erosion line but no further seaward than the 2070 erosion line.

Each option is described before its ability to provide resilience to future climate changes effects is evaluated and comments given on the effects to the coastal processes. Indicative high-level costs are assigned for comparative purposes and exclude consenting, design or approvals. These costs are based on our experience of recently completed projects and our engineering judgement and should not be used for budgeting or design costing. The consenting implications for each option are also discussed.

5.1 Option 1 - Do nothing

Given the urban setting, beach use and development plan in place, this option is not considered a viable option. It is, however, useful to consider this option as a baseline to compare other options and gauge their benefit. This option would involve no further active intervention resulting in the existing defences failing over time. Figure 5.1 provides an overview of this option.

It is anticipated that the masonry seawall would eventually fail as the grout degrades over time. Periodic overtopping of the seawall would erode the crest of the seawall creating voids that would be unsafe for the public. As sea levels rise in the future it is anticipated that the beach levels would lower exposing the toe of the seawall which may also be undermined. Continued erosion of the crest and toe could lead to a collapse of the masonry seawall leaving a compromised reserve edge that is not only unsafe to the public but also deteriorates the natural character of the beach. Once the structure is compromised, inundation and erosion potential would be greatly increased.

The rock revetment to the south of the site along the bank of the stream is not a properly engineered rock revetment and is in poor condition. If left, it would continue to be re-shaped by wave action and overtime would leave an unprotected reserve edge free to dynamically evolve with wave action and sediment fluctuations around the stream mouth.

The associated costs with this option would be the gradual removal of damaged reserve edge and any associated damage to the surf club. Damage to the surf club has not been quantified in this scenario but would require consideration. Indicative costs for this option are provided in Table 5-1 which represents 20% removal only. The costs of removal would accumulate until total removal of the structures is achieved.

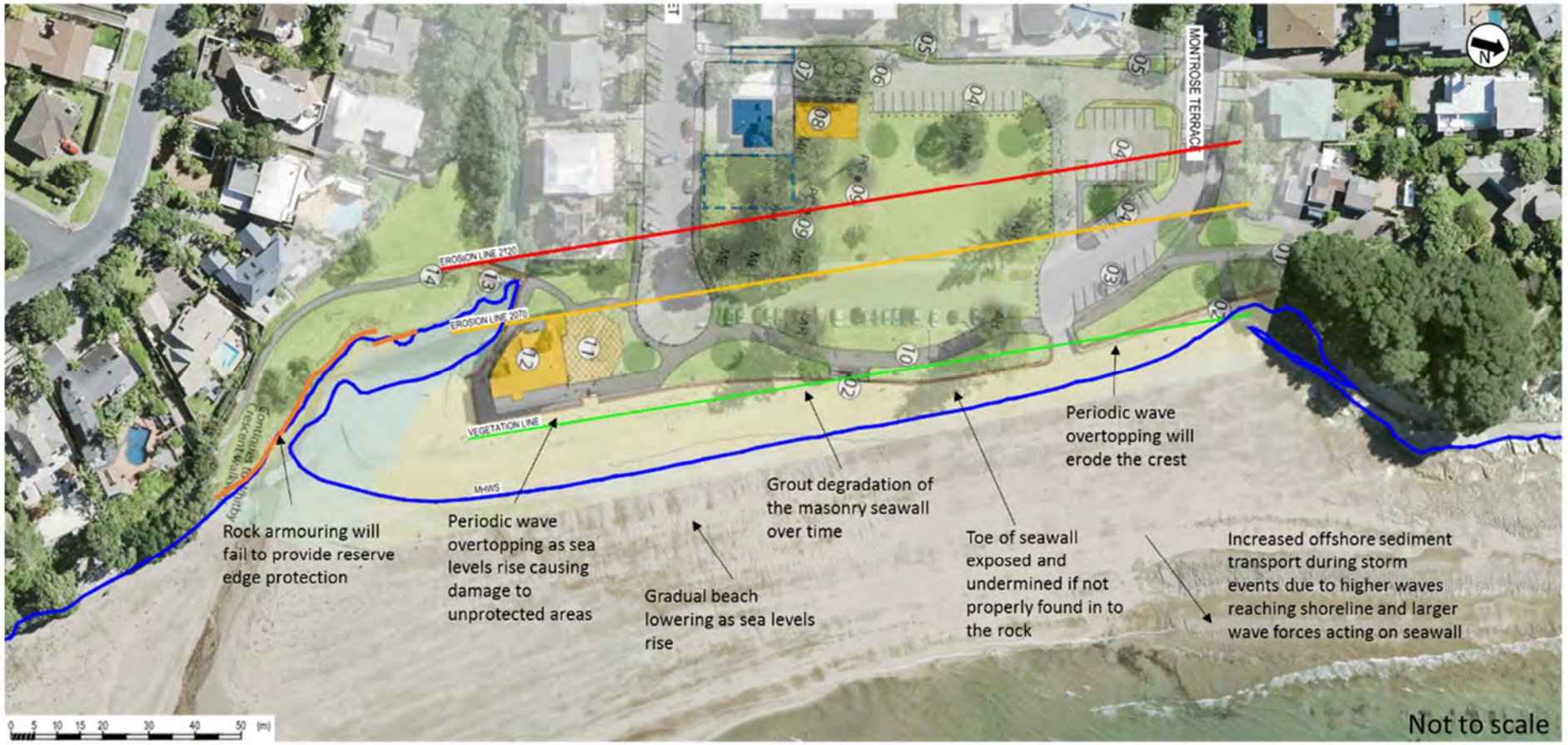

Figure 5.1: Option 1 – Do nothing

Table 5-1: Indicative cost estimates for Option 1 (removal of 20% of the seawall only)

Item	Description	Quantity	Unit	Rate	Value ($)
1.0	Preliminary and general[1]			20%	5,000
2.0	Remove damaged rock rip rap from site[2]	10	Lin.m	500	5,000
3.0	Remove damaged masonry seawall from site[2]	40	Lin.m	500	20,000
4.0	Damage to surf club	Not quantified			
				Subtotal	*30,000*
5.0	Contingency[3]			50%	12,500
				Indicative cost estimate	42,500

1. 20% of construction costs
2. Assumes 20% removal
3. 50% construction costs

5.2 Option 2 - Maintain existing defence

This option would consist of periodic repairs to maintain the existing standard of defence. This is considered the status quo option as this has been the approach thus far.

Typical works would include:

- Re-stacking rock armour along the bank of the stream / reserve edge.
- Re-grouting masonry seawall.
- Repairs post storm events to the masonry seawall.

It is recognised that over time there will be a gradual decline in the defence standard because of climate change i.e. risk of failure increases due to rising sea levels and greater wave exposure as described in Section 4.6. Given that the rock armouring is lacking a geotextile and underlayer, the potential for on-going maintenance issues from washout of fines and scour behind the structure is a risk that will not be resolved in this option. Holding the shoreline in its current location will ultimately result in a lowering of the beach levels as sea levels rise. This will reduce the overall width of the beach at higher stages of the tide and with that there will be a loss of amenity for the public. Figure 5.2 provides an overview of this option.

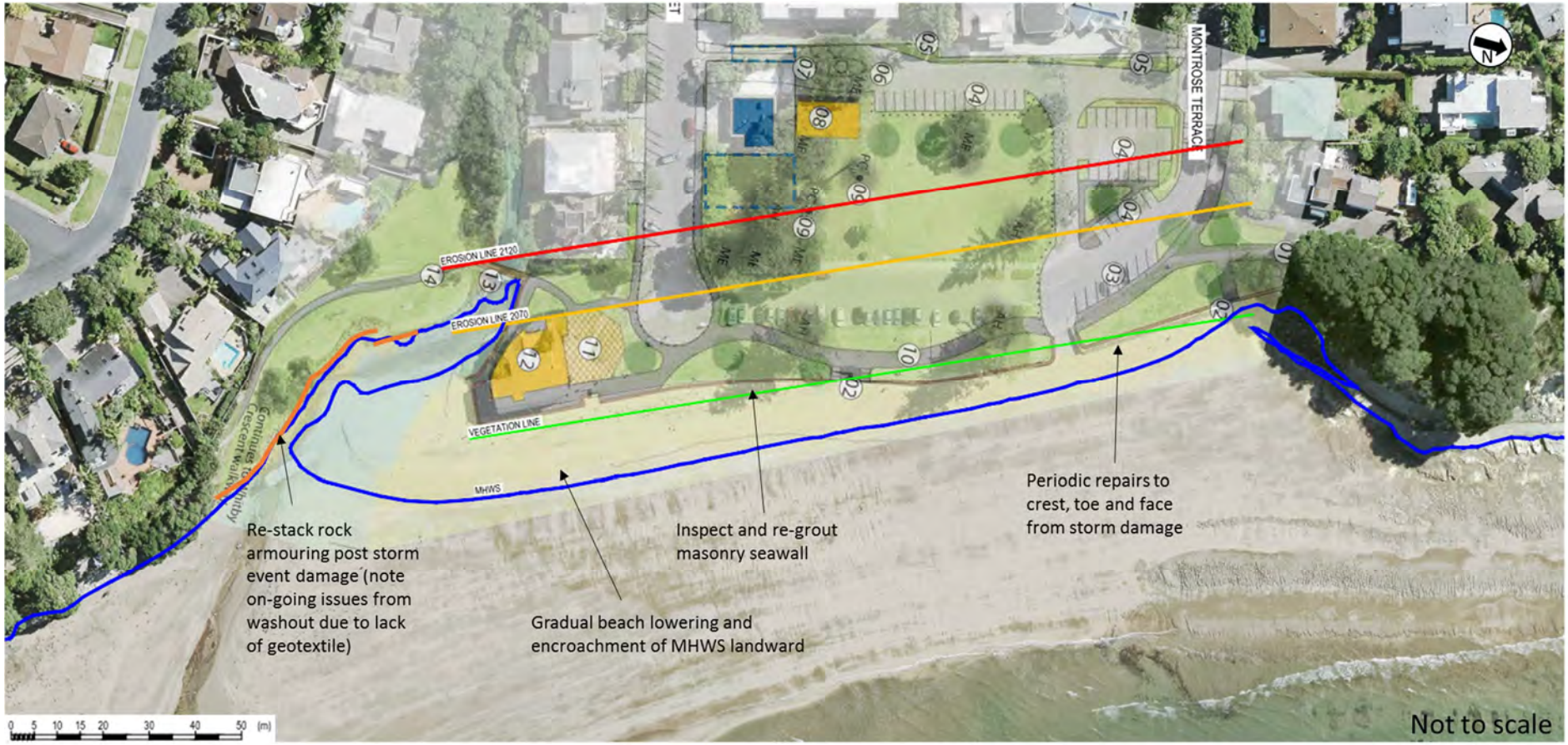

Figure 5.2: Option 2 – Maintain existing defence

Future maintenance costs will be dependent on both the gradual deterioration of the seawall over time and damage caused by future storms. In order to establish indicative maintenance costs, previous repairs have been used to determine linear meter rates for reinstating the crest, toe and seawall face (refer to Figure 5.3 and Table 5-2) for the masonry seawall.

The seaward facing portion of the masonry seawall is approximately 200 m in length. To undertake maintenance along its entire length using a linear meter rate of $2,000 would cost $400,000 using present day rates (refer Table 5-2). This assumes similar repairs are required for future storm damage (i.e. crest, toe and facing), contractor rates are comparable and design fees are excluded on the basis that Auckland Council could undertake the works as repairs. It is unlikely that the entire length of seawall would need repair. Therefore, based on a 5 year cycle of repairs and 20% of the seawall requiring repair, indicative cost estimates are provided in Table 5-3.

For this option on-going inspections would be required to identify maintenance requirements. This would be particularly important post storm events. Inspecting and maintaining may last a further 10 to 30 years with increasing damage if sea levels rise as predicted.

The rock armour along the bank of the stream is approximately 50 m. Costs to reinstate this section would be limited to the time and cost of replacing the lost rock from the bank. This is not a properly engineered and placed rock revetment and so it is at risk of regular reshaping. Once fully re-placed on-going maintenance costs would likely be limited to post storm events which would need to be monitored.

Under the AUP Operative in part, maintenance and repairs to the existing seawall may be undertaken as a permitted activity (without resource consent). This is subject to works complying with the relevant permitted activity standards[1] in the AUP. If works are unable to comply with these standards, resource consent will be required as a discretionary activity.

Indicative cost estimates for this option are provided in Table 5-3.

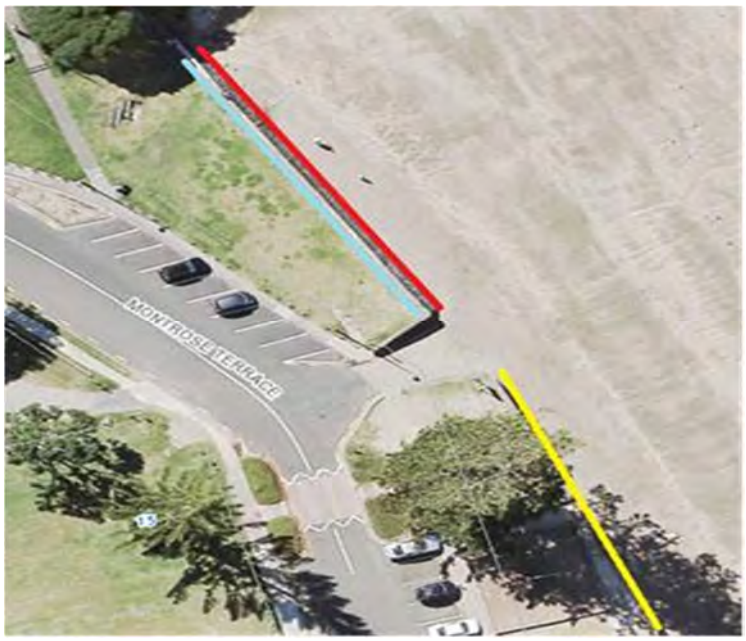

Figure 5.3: Location of seawall repairs from the Jan 2018 storm

[1] Works will need to comply under Standard F2.21.1, which sets out general standards in relation to the store of excess building material, disturbance to the coastal marine area, noise and vibration, lighting and the storage of hazardous substances.

Table 5-2: Previous seawall repair costs (Feb 2018)

Section	Repairs to:			Length (m)	Cost ($)	Linear meter rate ($)
	Crest	Toe	Face			
Yellow	Yes	Yes	Yes	35	65,000	1,857
Red	Yes	Yes	Yes	40	82,000	2,050
Blue	Yes	No	No	40	12,500	313

Table 5-3: Indicative cost estimates for Option 2 (repairs to 20% of the seawall only)

Item	Description	Quantity	Unit	Rate	Value
1.0	Preliminary and general[1]			20%	23,000
2.0	Re-stack rock armour	50	Lin.m	500	25,000
3.0	Grout repairs to masonry seawall[2]	40	Lin.m	250	10,000
4.0	Storm damage repairs[2]	40	Lin.m	2,000	80,000
				Subtotal	*138,000*
5.0	Contingency[3]			30%	34,500
				Indicative cost estimate	172,500

1. 20% of construction costs
2. Assumes repairs to 20% of seawall, repeat and future maintenance required
3. 30% construction costs (lower for this option as previous repair costs known)

5.3 Option 3 - Renew existing defence

This option would include carrying out work to improve the existing standard of defence to increase resilience to future climate change effects. Rather than modify the existing seawall it would likely be more cost effective to replace it.

Erosion at the toe of the seawall would be managed by founding or pinning the toe within the underlying rock. This option would not prevent future beach lowering. Inundation along the reserve would be managed by raising the reserve rather than the crest elevation. Figure 5.4 provides an overview of this option with cross sections provided in Figure 5.5 to Figure 5.7.

This option would include:

- Removing the existing rock armour along the bank of the stream / reserve edge and replacing with an engineered rock revetment with geotextile, underlayer rock, armour rock, with the option for stabilising the upper slope with matting and planting. Where possible, existing rock armour of suitable size and geometry can be re-used.
- Removing the existing masonry seawall along its approx. 200 m length and replacing with a seawall that has the toe founded / pinned to the underlying rock and weep holes installed to allow drainage. The crest height of the seawall would remain at the same elevation as present with inundation managed by raising the reserve edge to form a bund.
- Placing a rock toe along the approx. 50 m length of East Coast Bays Branch sewer to the north of the beach in front of the East Coast Bay Branch Sewer to dissipate reflected wave energy and help with retaining the beach levels.

Holding the existing shoreline will not manage the issue of beach levels lowering in the future and with that the amount of useable beach for the public will be reduced.

Option 3 would require resource consent under the AUP as a discretionary activity (see Appendix D for further details). This would be required by the following activities:

- Alteration to the existing seawall, under Rule F2.19.10 (A123) as a restricted discretionary activity.
- Placement of a rock toe in front of East Coast Bays Branch sewer under Rule F2.19.10 (A142) as a discretionary activity.

In addition to this, specialist effects assessments would be required to support a resource consent application and to identify and manage potential effects from reconstruction works.

Indicative cost estimates for this option are provided in Table 5-4.

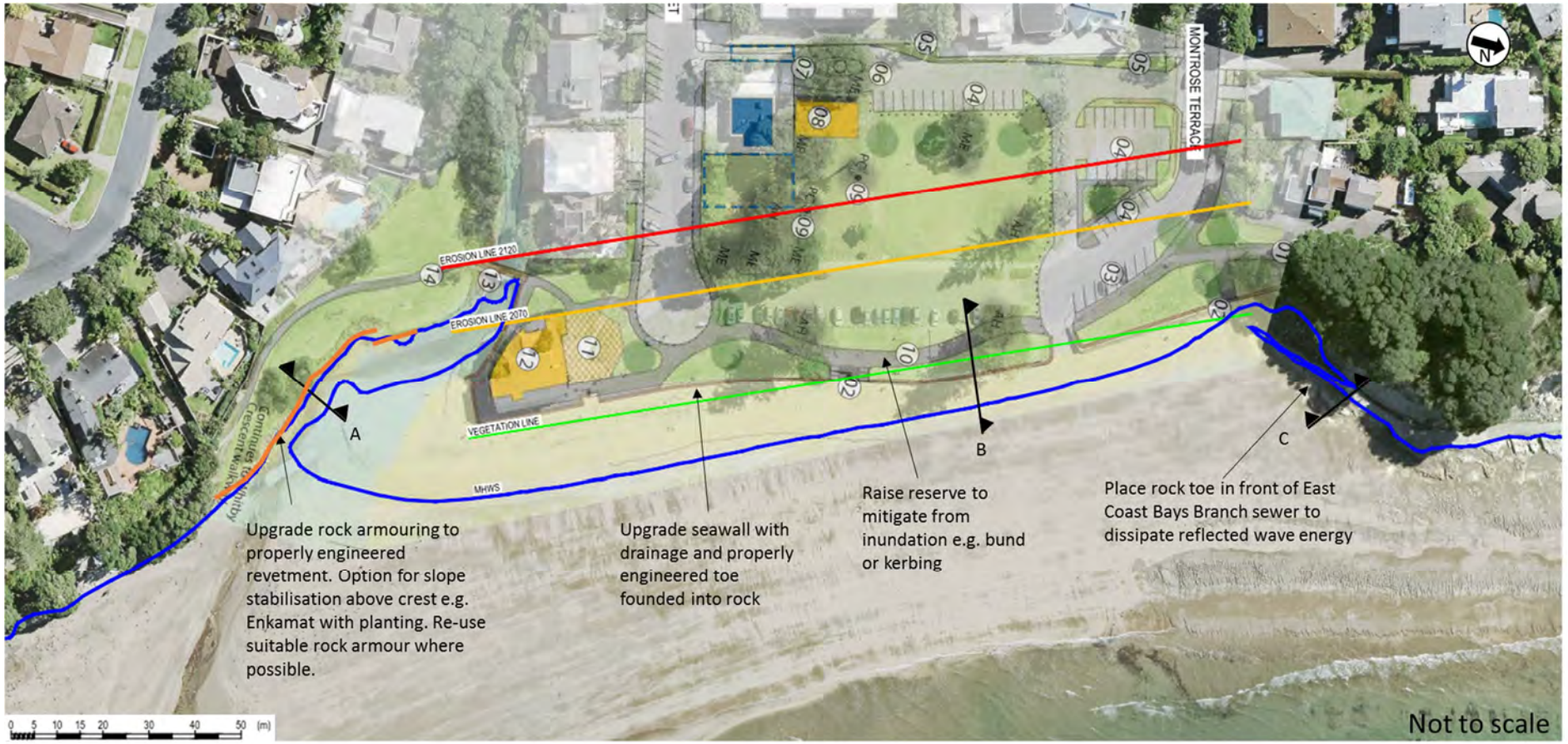

Figure 5.4: Option 3 – Renew existing defence

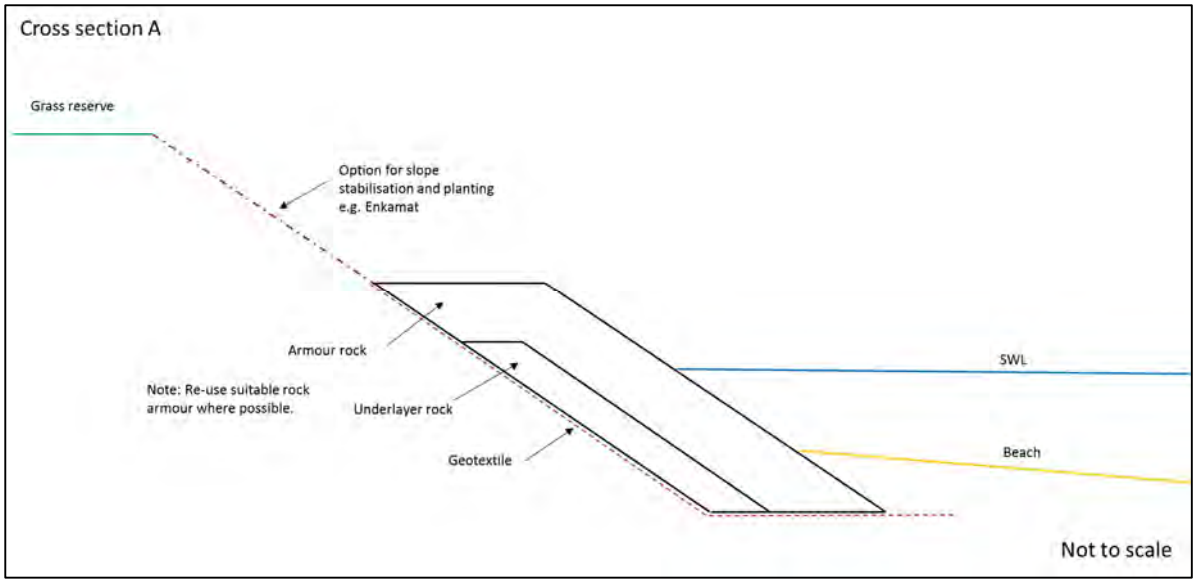

Figure 5.5: Cross section A

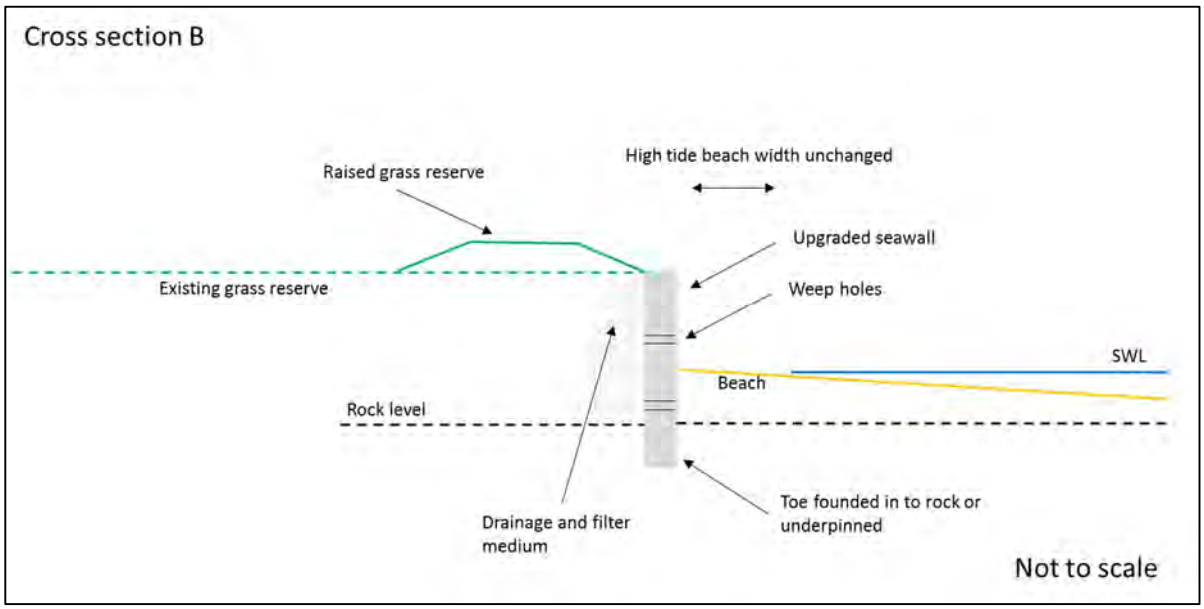

Figure 5.6: Cross section B

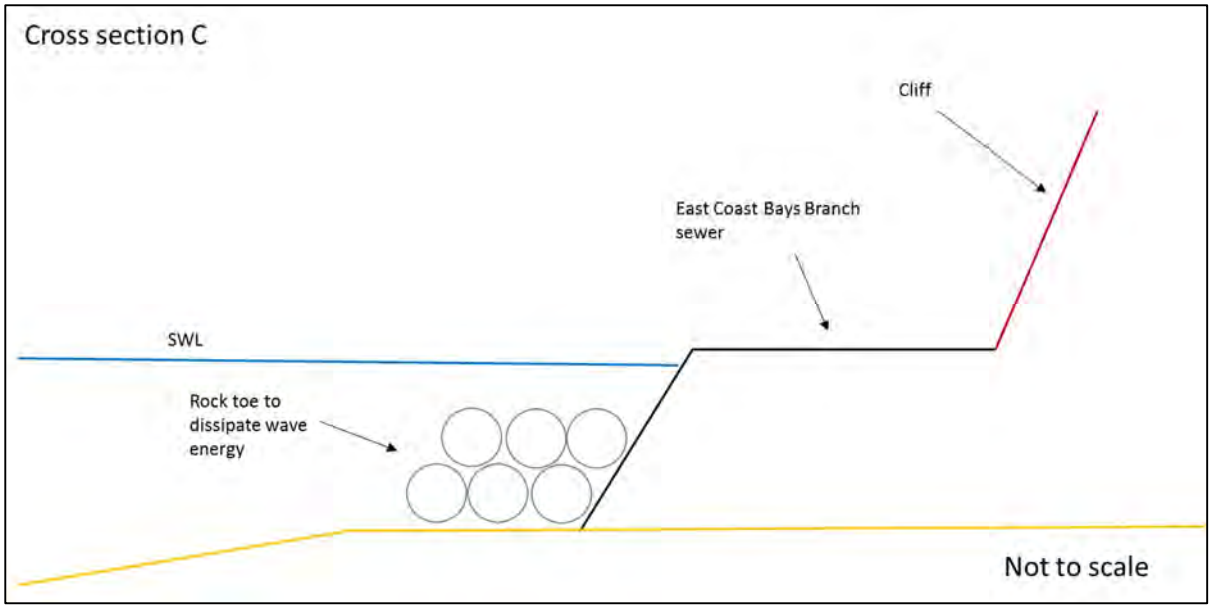

Figure 5.7: Cross section C

Table 5-4: Indicative cost estimates for Option 3

Item	Description	Quantity	Unit	Rate	Value
1.0	Preliminary and general[1]			20%	480,000
2.0	Rock armour				
2.1	Remove existing rock rip-rap	50	Lin.m	500	25,000
2.2	Supply materials and construct rock revetment	50	Lin.m	5,000	250,000
3.0	Seawall				
3.1	Remove existing masonry seawall	200	Lin.m	500	100,000
3.2	Supply materials and construct seawall	200	Lin.m	7,500	1,500,000
3.3	Raise reserve and topsoil/grass	200	Lin.m	500	100,000
4.0	Rock toe				
4.1	Supply materials and construct rock toe	50	Lin.m	2,500	125,000
5.0	Landscaping		PI		200,000
				Subtotal	2,760,000
6.0	Contingency[2]			50%	1,150,000
				Indicative cost estimate	3,910,000

1. 20% of construction costs
2. 50% construction costs

5.4 Option 4 - Realign shoreline

This option softens the reserve edge in the central area by removing the existing seawall and widening the beach and grassed area. Realigning the shoreline manages erosion by providing a wider buffer that can be adapted overtime to changing sea levels and erosion. Raising the reserve either in a stepped fashion with staggered backstop walls or with a dyke type arrangement with wider beach berm are proposed to manage inundation.

This option promotes the natural characteristics of a beach environment and provides a large open space for the public to enjoy throughout the tidal cycle.

It is recommended that the turning circle at the end of Sidmouth Street is moved outside of the 50 year erosion hazard area and the proposed northern beach access would need to be realigned.

This option is sketched up in Figure 5.8 to Figure 5.12 and would consist of:

- Removing the existing rock armour along the stream edge and replacing with an engineered rock revetment with geotextile, underlayer rock, armour rock, with the option for stabilising the upper slope with matting and planting.
- Removing the existing masonry seawall along approx. 130 m of reserve edge in the central area between the newly formed stream training wall and northern beach access.
- Creating a stream training wall at the southern end of the beach.
- Replacing the central bay with a re-profiled beach berm, backstop wall and grassed dyke or steps. This option will likely need to be augmented with imported sand or sand transfer from the elsewhere on the beach depending on the ability to reuse existing sediments within the reserve.
- Optional - Remove existing masonry seawall along approx. 35 m of the northern reserve edge and replace with either a rock revetment or vertical masonry seawall with the shoreline re-aligned landward. The existing seawall in this location currently exacerbates wave run-up due to being impermeable and sloping. The benefit of the rock revetment therefore would be to dissipate wave energy to reduce these effects, this would also help with dissipating wave reflections and with that beach erosion in this location. It is recognised that rock revetments are less popular in an urban setting and therefore the vertical wall option is also provided. Realigning the shoreline landward by approx. 5 m would create a wider beach in this area.
- Transfer of sand from southern end of the beach in front of the surf club and stream mouth to in front of the northern section of seawall can be done for up to 100 m^3, the remainder would need to be imported.
- Placing a rock toe along approx. 50 m length of the East Coast Bays Branch sewer to the north of the beach in front of the East Coast Bay Branch Sewer to dissipate reflected wave energy.

Resource consent requirements may apply in relation to the proposed relocation of the surf club, depending on the specific location that is chosen.

The following activities for Options 4 would require resource consent overall as a discretionary activity (see Appendix D for further details):

- Removal of the existing rock armour and construction of a rock revetment.
- Placement of a rock toe along the East Coast Bays Branch sewer.
- Removal of the existing masonry seawall.
- Stream training wall.

Resource consent may also be triggered for earthworks associated with raising the profile of the land to create a dyke.

Furthermore, the transfer of sand may also require resource consent. Under Rule F2.19.4 (A33) of the AUP, the transfer of up to 1500 m^3 of sand within the same coastal cell in a 12 month period is a permitted activity. Any quantity above this volume will trigger resource consent as either a restricted discretionary or discretionary activity. Importation of sand will also require resource consent under Rule F2.19.2 (A9) as a restricted discretionary activity. Similar to Option 3, a range of technical inputs would likely be required to support a resource consent application for these activities.

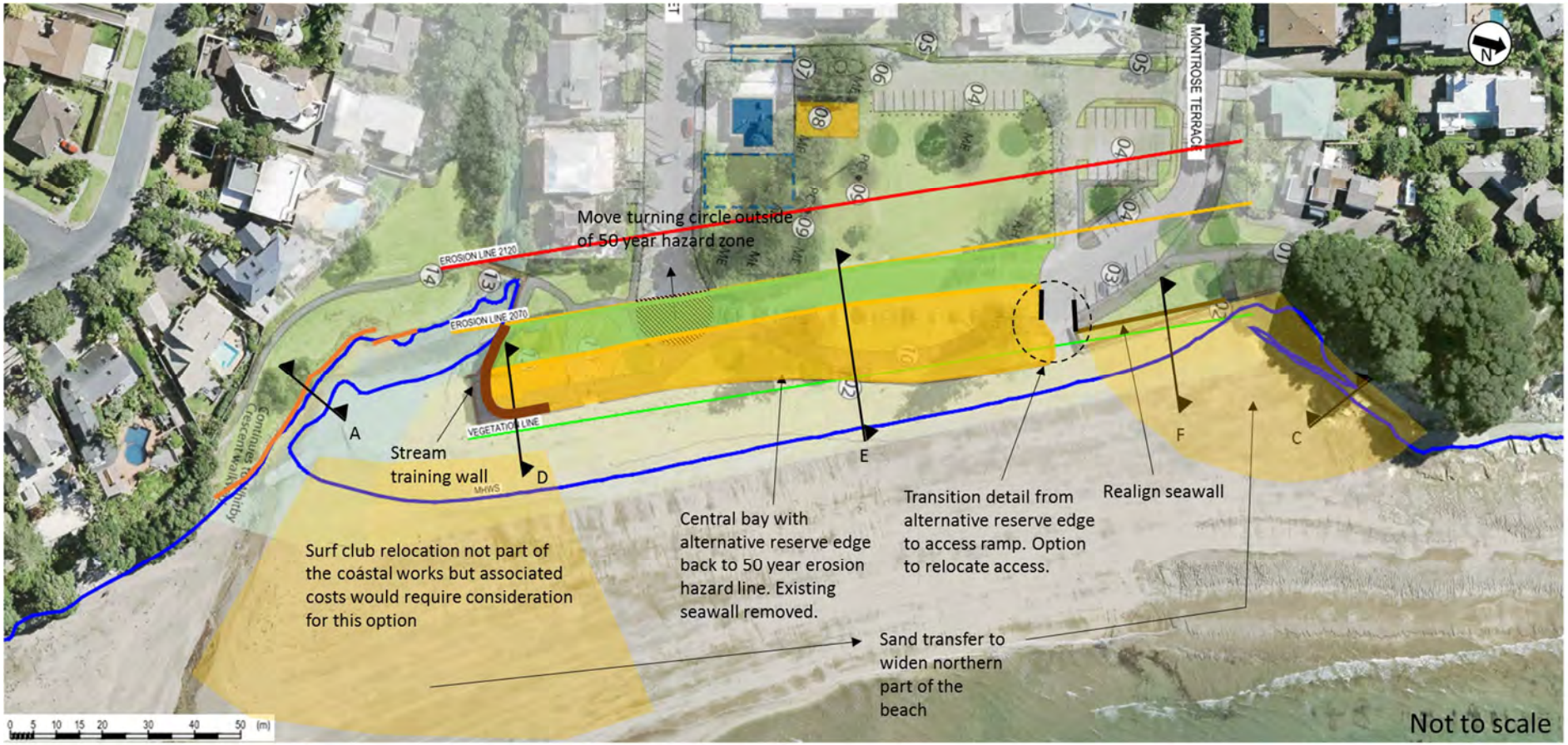

Figure 5.8: Option 4 – Realign shoreline

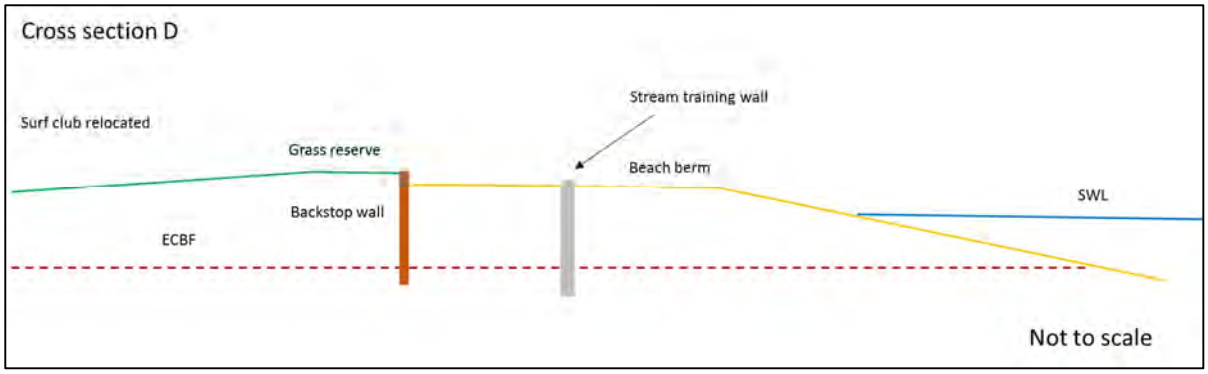

Figure 5.9: Cross section D

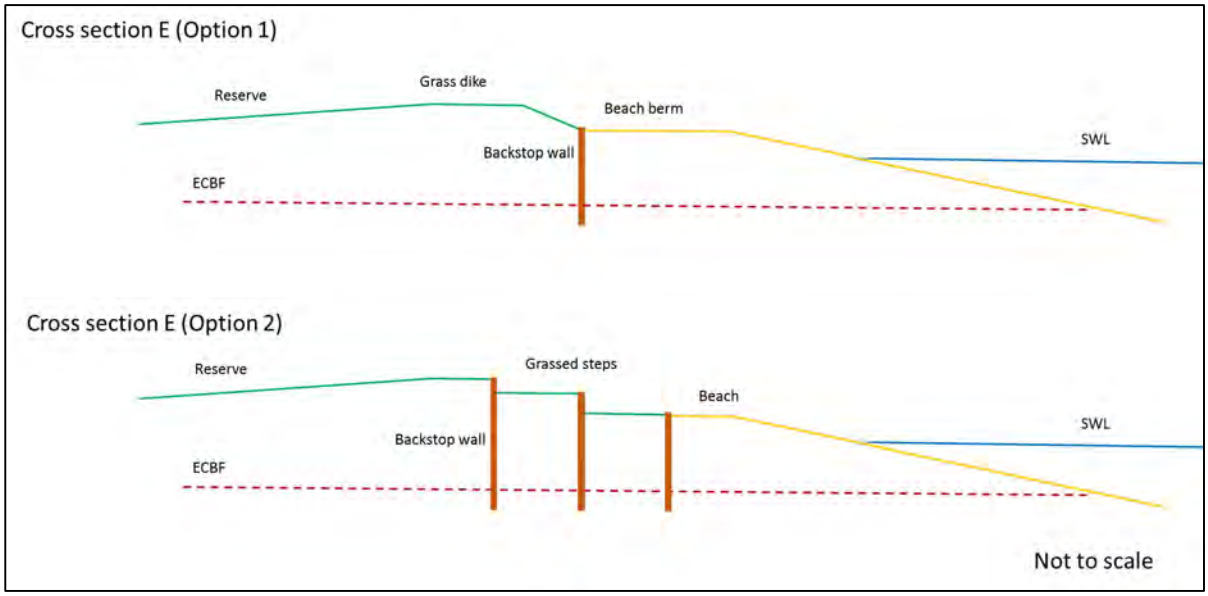

Figure 5.10: Cross section E

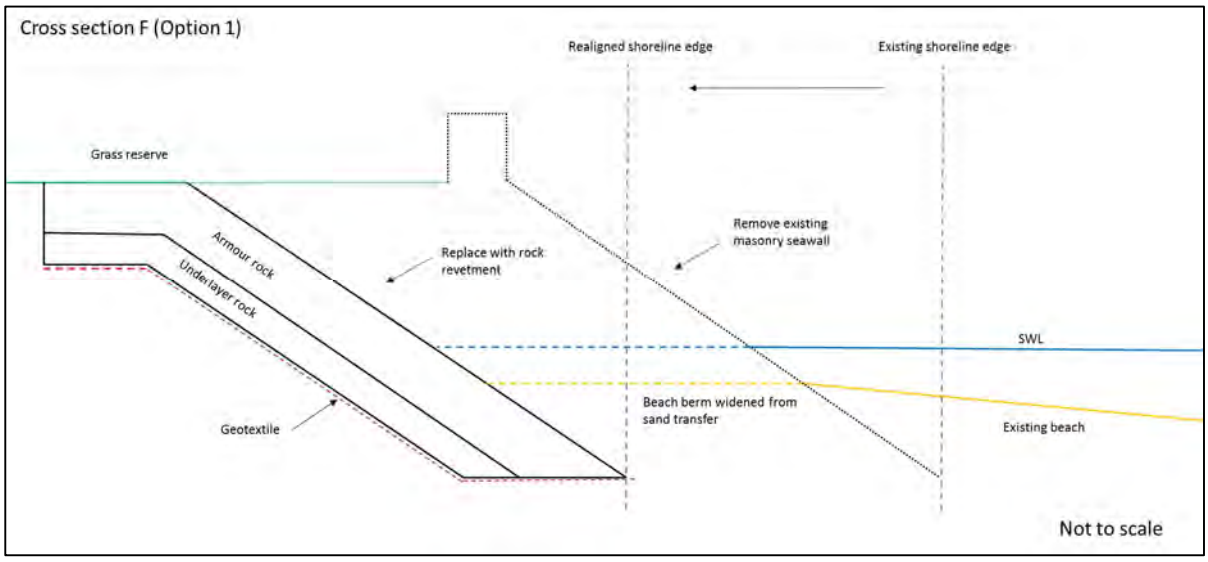

Figure 5.11: Cross section F (Option 1)

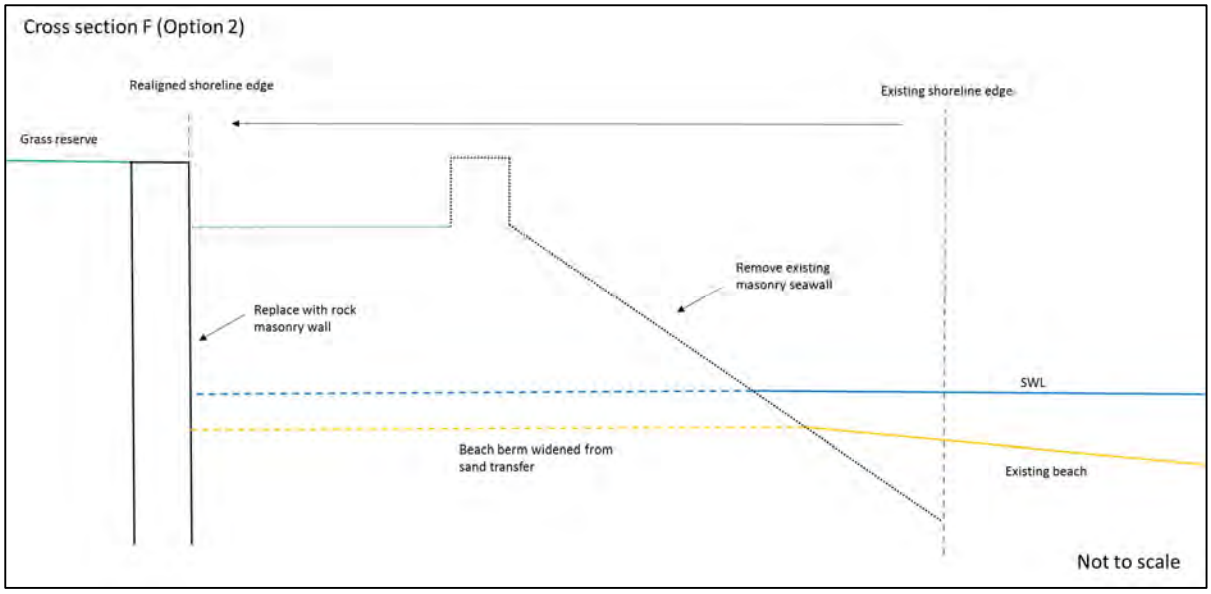

Figure 5.12: Cross section F (Option 2)

Indicative cost estimates for this option are provided in Table 5-5. All costs associated with moving the surf club are beyond the scope of the coastal works programme and are therefore excluded but would need further consideration for this option.

Table 5-5: Indicative cost estimates for Option 4

Item	Description	Quantity	Unit	Rate	Value
1.0	Preliminary and general[1]			20%	432,640
2.0	Rock armour				
2.1	Remove existing rock rip-rap	50	Lin.m	500	25,000
2.2	Supply materials and construct rock revetment	50	Lin.m	5,000	250,000
Relocation of surf club: Not part of the coastal works but associated costs would require further consideration					
3.0	Stream training wall				
3.1	Supply materials and construct	1	LS	100,000	100,000
4.0	Alternative reserve edge				
4.1	Remove existing seawall, trees and reserve area	130	Lin.m	2,000	260,000
4.2	Supply materials and construct backstop walls	130	Lin.m	5,000	650,000
4.3	Raise reserve and topsoil/grass	130	Lin.m	500	65,000
4.4	Sand transfer and re-profiling beach	100	cu.m	32	3,200
5	Beach nourishment				
5.1	Supply place and profile sand (based on 12.5 m^3/m over 250m length)	3125	cu.m	100	312,500
6.0	Transition details				
6.1	Southern end	1	LS	20,000	20,000
6.2	Northern end	1	LS	20,000	20,000
7.0	Seawall				
7.1	Remove existing seawall (north)	35	Lin.m	2,000	70,000
7.2	Supply materials and construct new northern seawall	35	Lin.m	7,500	262,500
8.00	Rock toe				
8.1	Supply materials and construct rock toe	50	Lin.m	2,500	125,000
9.00	Upgrade beach access ramp		PI		100,000
10.0	Landscaping		PI		200,000
				Subtotal	2,895,840
11.0	Contingency[2]			50%	1,231,600
				Indicative cost estimate	4,127,440

1. 20% of construction costs
2. 50% construction costs

5.5 Option 5 - Advance shoreline

This option advances the shoreline by importing and placing sediments in front of the existing seawall to create a wider high tide beach. This would help to manage beach erosion by providing a larger buffer. Advancing the shoreline with and without control structures (groyne) are options for this management approach.

The wider beach berm would help to mitigate wave overtopping by initiating breaking further from the seawall. An adaptive measure for this option would be raising the reserve like the previously discussed dyke arrangement to further mitigate the effects of inundation from the sea.

It is recognised that the beach will evolve over time and would need re-profiling and re-distributing on a regular basis to maintain the high tide beach and provide erosion protection.

Importation of approximately 4,500 to 6,500 m^3 of sand would be required and need resource consent under Rule F2.19.2 (A9) as a restricted discretionary activity. Advancing the shoreline is not considered a suitable management option for Mairangi Bay given the on-going maintenance required to retain the beach. Controlling sand movement with a groyne structure would restrict sand migration but would impede on the natural character of the beach and obstruct the intertidal zone for beach walkers and surf zone users.

5.6 Summary - Options

Notwithstanding Options 1 and 2, the options proposed in this report will require resource consent under the AUP as a discretionary activity. A resource consent application for this scale of works will involve a range of technical inputs and stakeholder engagement. Public or limited notification of any necessary resource consent application may be required depending on the attitudes and responses of stakeholders.

Whilst support can be found in the provisions of the NZCPS for the utilisation of soft defence measures to address coastal hazard risk, this must be balanced alongside the requirement to maintain and enhance public accessibility and natural character and landscape values of the coastal marine environment.

A comparison of all the options is provided in Table 5-6 with an estimated design life, effects on the beach system, resilience to climate change effects, indicative costs, and consenting implications summarised.

Table 5-6: Comparison of options

Option		Design life (estimate)	Effect on the existing beach system	Climate change resilience			Initial cost estimate ($)	On-going maintenance	Consenting
				Short term (0 to 10 years)	Medium term (10 to 50 years)	Long term (50 to 100 years)			
1	Do nothing	0 to 10 years	Negative	Uncertain	Unlikely	Unlikely	n/a	45k for removal of debris (20% of seawall)	n/a
2	Maintain existing defence	10 to 30 years	Beach lowering	Yes	Uncertain	Unlikely	175k	40k post storm repairs and maintenance (yearly estimate)	Permitted
3	Renew existing defence	>50 years	Beach lowering	Yes	Yes	Uncertain	4M	n/a	Discretionary
4	Realign shoreline	>50 years	Positive	Yes	Yes	Uncertain	4M	Re-profiling beach as required	Discretionary
5	Advance shoreline	Option discounted based on maintenance required to retain the beach and obstruction from control structures.							

6 Recommendations

With the surf club nearing the end of its design life the opportunity to relocate it to elsewhere on the reserve, outside of the erosion susceptibility area, is recommended. Preferably this would be behind the 2120 erosion line to provide maximum resilience to future erosion but should not be seaward of the 2070 erosion line as a minimum. Similarly, the turning circle at the end of Sidmouth Street proposed in the Development Plan should be relocated landward to behind the 2070 erosion hazard line.

The space opened up by relocating the surf club allows for shoreline management options that enhance the natural character of the beach and provide for more open space for the public as well as providing future resilience to the effects of climate change.

It is therefore recommended that realigning the shoreline (Option 4) would be the most suitable option for Mairangi Bay in the long term. In this option, coastal erosion and inundation are managed by providing a wider buffer along the seaward edge that can be adapted over time to mitigate against the effects of climate change as required.

A staged approach to achieving the long-term shoreline management option may consist of:

- Continuing to maintain the existing seawall in the short term, as per Option 2, to allow time for the surf club relocation plans to be made and any necessary adjustments to the road and reserve layout made to accommodate the long-term plan.
- Relocation of the surf club elsewhere on the reserve outside of the erosion susceptibility area.
- Constructing the stream training wall and realigning the shoreline as per Option 4.
- Monitoring the beach plan and profile shape.
- In the medium to long term it may be required to import sand to replace any lost from the system. This would improve coastal erosion and inundation resilience.

7 References

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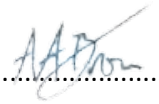
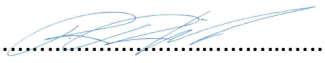
Tonkin + Taylor (2016) Mairangi Bay Surf Club Coastal Hazard Assessment

WSP Opus (2018) Mairangi Bay Reserves Development Plan

8 Applicability

This report has been prepared for the exclusive use of our client Auckland Council, with respect to the particular brief given to us and it may not be relied upon in other contexts or for any other purpose, or by any person other than our client, without our prior written agreement.

Tonkin & Taylor Ltd
Environmental and Engineering Consultants

Report prepared by:	Authorised for Tonkin & Taylor Ltd by:
	
.....	.....
Andrew Brown	Richard Reinen-Hamill
Senior Coastal & Maritime Engineer	Project Director

ANBR
\\ttgroup.local\files\aklprojects\1009460\1009460.9000 mairangi bay - coastal development\issueddocuments\2022 12 13 - mairangi bay - shoreline management options - v3.docx

Appendix A Drawings

NOTES:

1. ALL DIMENSIONS ARE IN MILLIMETRES UNLESS NOTED OTHERWISE.
2. COORDINATE DATUM: NZGD2000, NEW ZEALAND TRANSVERSE MERCATOR (NZTM2000).
   LEVEL DATUM: LINZ (MSL) AUCKLAND VERTICAL DATUM 1946
3. AERIAL PHOTO, PROPERTY BOUNDARY AND SERVICES SOURCED FROM AUCKLAND COUNCIL GEOMAPS, LICENSED FOR RE-USE UNDER THE CREATIVE COMMONS ATTRIBUTION 4.0 NEW ZEALAND LICENCE (CC BY 4.0). CAPTURE DATE 04/09/2019
4. CONTOURS BASED ON 2016 LIDAR PROVIDED BY AUCKLAND COUNCIL.

SIDMOUTH STREET

MONTROSE TERRACE

PROPOSED PUMP STATION

HA01 HA02 HA02s HA03 HA04 HA04a HA05 HA06 HA06a HA07 HA08 HA08a HA09 HA10

LEGEND

- PROPERTY BOUNDARY
- 2016 EXISTING CONTOUR (1m INTERVAL)
- 2016 EXISTING CONTOUR (0.5m INTERVAL)
- MHWS -10
- STORMWATER LINE
- STORMWATER MANHOLE
- STORMWATER CATCHPIT
- WASTEWATER LINE
- WASTEWATER MANHOLE
- WATER LINE
- WATER VALVE
- WATER HYDRANT
- HA04 TONKIN + TAYLOR HAND AUGER LOCATION (AUG 2019)
- 3.42 CONTROL POINT
- 0.96 SEAWALL
- 3.60 GRASS AREA
- 3.95 FOOTPATH
- 1.55 RAMP
- 2.74 KERB
- 2.93 DRIPLINE
- 3.46 SURFCLUB
- 2.40 STAIRS
- 3.31 AMENITIES
- 3.54 BENCHMARK
- 2.40 REVETMENT
- 2.91 FOOT BRIDGE

A3 SCALE 1:1000

0 5 10 15 20 30 40 50 (m)

ORIGINAL IN COLOUR

PLOT STAMP

Plot Date: 11-Oct-19 12:43 PM
File path: L:\1009460\1009460.9000\WorkingMaterial\CAD\FIG

REVISION	DATE	AMENDMENT	BY	APPD.
1	04.09.19	PRELIMINARY DRAFT	BY	

DRAWN BY: JC — SIGNED: — DATE:
DESIGNED BY: ANBR — SIGNED: — DATE:
CHECKED BY: INITIAL AND SURNAME — SIGNED: — DATE:
APPROVED FOR RELEASE BY: INITIAL AND SURNAME — SIGNED: NOT FOR CONSTRUCTION — DATE:

Tonkin+Taylor

Auckland Council
Te Kaunihera o Tāmaki Makaurau

TITLE:
MAIRANGI BAY DEVELOPMENT
BUSINESS CASE DEVELOPMENT
MAIRANGI BAY SITE PLAN

ORIGINAL SCALE A3: 1:1000
WBS No.:
DRAWING No.: 1009460.9000-F1
REVISION: 1

DRAFT

Appendix B Geotechnical field test results

HAND AUGER LOG

HOLE Id: **HA01**

SHEET: 1 OF 1

PROJECT: Mairangi Bay Seawall	LOCATION: Mairangi Bay	JOB No.: 1009460.9000
CO-ORDINATES: (NZTM2000) 5932807.29 mN 1756751.91 mE	DRILL TYPE: 50mm hand auger	HOLE STARTED: 23/08/2019
		HOLE FINISHED: 23/08/2019
R.L.: 3.49m	DRILL METHOD: HA	DRILLED BY: GEOTECHNICS
DATUM NZVD2016		LOGGED BY: JOTI CHECKED: WIRO

GEOLOGICAL | ENGINEERING DESCRIPTION

GEOLOGICAL UNIT, GENERIC NAME, ORIGIN, MATERIAL COMPOSITION.	Description and Additional Observations
Topsoil	Clayey SILT; brown. Stiff, moist, low plasticity.
Fill	CLAY; mottled yellow brown. Stiff to very stiff, moist; moderate plasticity. 0.0m: Continously driven scala from surface Blows per 100mm 0,0,1,2,3,3,4,4,4,7 6,8,8,10,18,20,16,13,11,9 11,13,15,18,18,22 0.6m: silty CLAY 1.2m: black streaks
Topsoil	Sandy SILT; black brown. Very stiff, moist, non-plastic; buried topsoil.
Residual Soil	CLAY; grey. Hard, moist; moderate plasticity, sticky. SILT; light brown grey. Stiff to very stiff, moist to wet; moderate plasticity. SILT; grey blue. Very stiff, moist to wet; moderate to high plasticity.
	3.4m: Refusal

WATER: 23/08/2019 W/L after 4.5 hours inflow

CORE RECOVERY (%)

METHOD

SCALA PENETROMETER (Blows/100mm)

Depth (m)	Blows/100mm
0.0	1
0.1	2
0.2	3
0.3	3
0.4	4
0.5	4
0.6	4
0.7	7
0.8	6
0.9	8
1.0	8
1.1	10
1.2	18 >>
1.3	20 >>
1.4	16 >>
1.5	13 >>
1.6	11 >>
1.7	9
1.8	11 >>
1.9	13 >>
2.0	15 >>
2.1	18 >>
2.2	18 >>
2.3	22 >>

TESTS

0.3	100/33 kPa
0.6	97/26 kPa
0.9	63/21 kPa
1.2	114/43 kPa
1.5	UTP
1.8	88/20 kPa
2.1	60/20 kPa
2.4	131/34 kPa
2.7	131/31 kPa
3.0	68/29 kPa
3.3	UTP

SAMPLES

RL (m) / DEPTH (m): 3 (0), 2 (1), 1 (2), 0 (3), -1 (4), -2 (5)

GRAPHIC LOG: TS, T

MOISTURE CONDITION / WEATHERING: M; M-W

STRENGTH/DENSITY CLASSIFICATION: St; St-VSt; VSt; H; St-VSt; VSt

SHEAR STRENGTH (kPa): 10, 25, 50, 100, 200

COMMENTS

Hole Depth 3.4m

Scale 1:30

Rev.: A

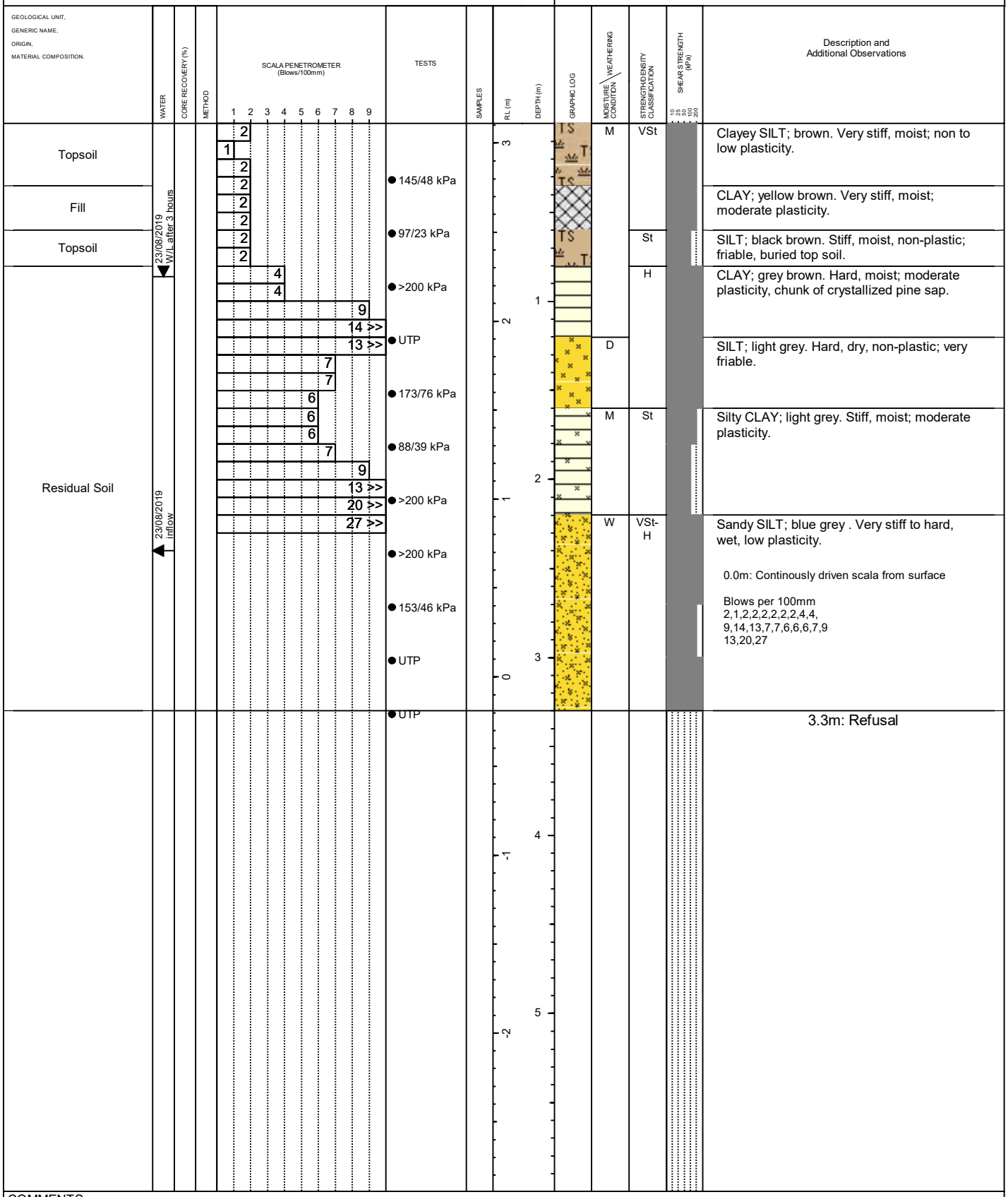
HAND AUGER LOG

HOLE Id: **HA02**

SHEET: 1 OF 1

PROJECT: Mairangi Bay Seawall	LOCATION: Mairangi Bay	JOB No.: 1009460.9000
CO-ORDINATES: (NZTM2000) 5932787.58 mN 1756764.78 mE	DRILL TYPE: 50mm hand auger	HOLE STARTED: 23/08/2019
	DRILL METHOD: HA	HOLE FINISHED: 23/08/2019
R.L.: 3.11m		DRILLED BY: GEOTECHNICS
DATUM NZVD2016		LOGGED BY: JOTI CHECKED: WIRO

GEOLOGICAL | ENGINEERING DESCRIPTION



COMMENTS

Hole Depth 3.3m

Scale 1:30

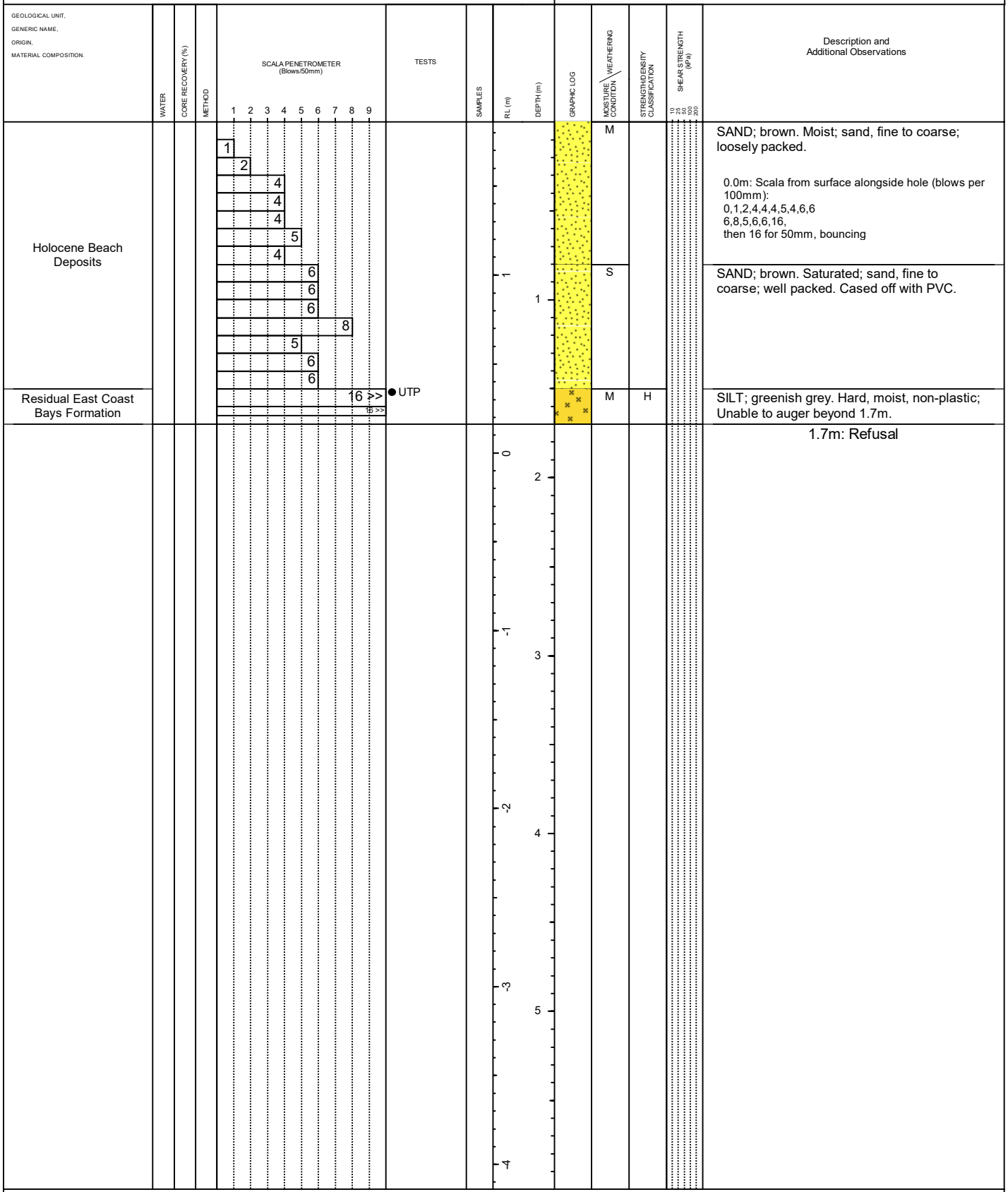
Rev.: A

HAND AUGER LOG

HOLE Id: **HA02A**

SHEET: 1 OF 1

PROJECT: Mairangi Bay Seawall	LOCATION: Mairangi Bay	JOB No.: 1009460.9000
CO-ORDINATES: (NZTM2000) 5932791.32 mN 1756769.84 mE	DRILL TYPE: 50mm hand auger	HOLE STARTED: 23/08/2019
	DRILL METHOD: HA	HOLE FINISHED: 23/08/2019
R.L.: 1.86m		DRILLED BY: GEOTECHNICS
DATUM NZVD2016		LOGGED BY: RBE CHECKED: JOTI



COMMENTS

Hole Depth 1.7m

Scale 1:30

Rev.: A

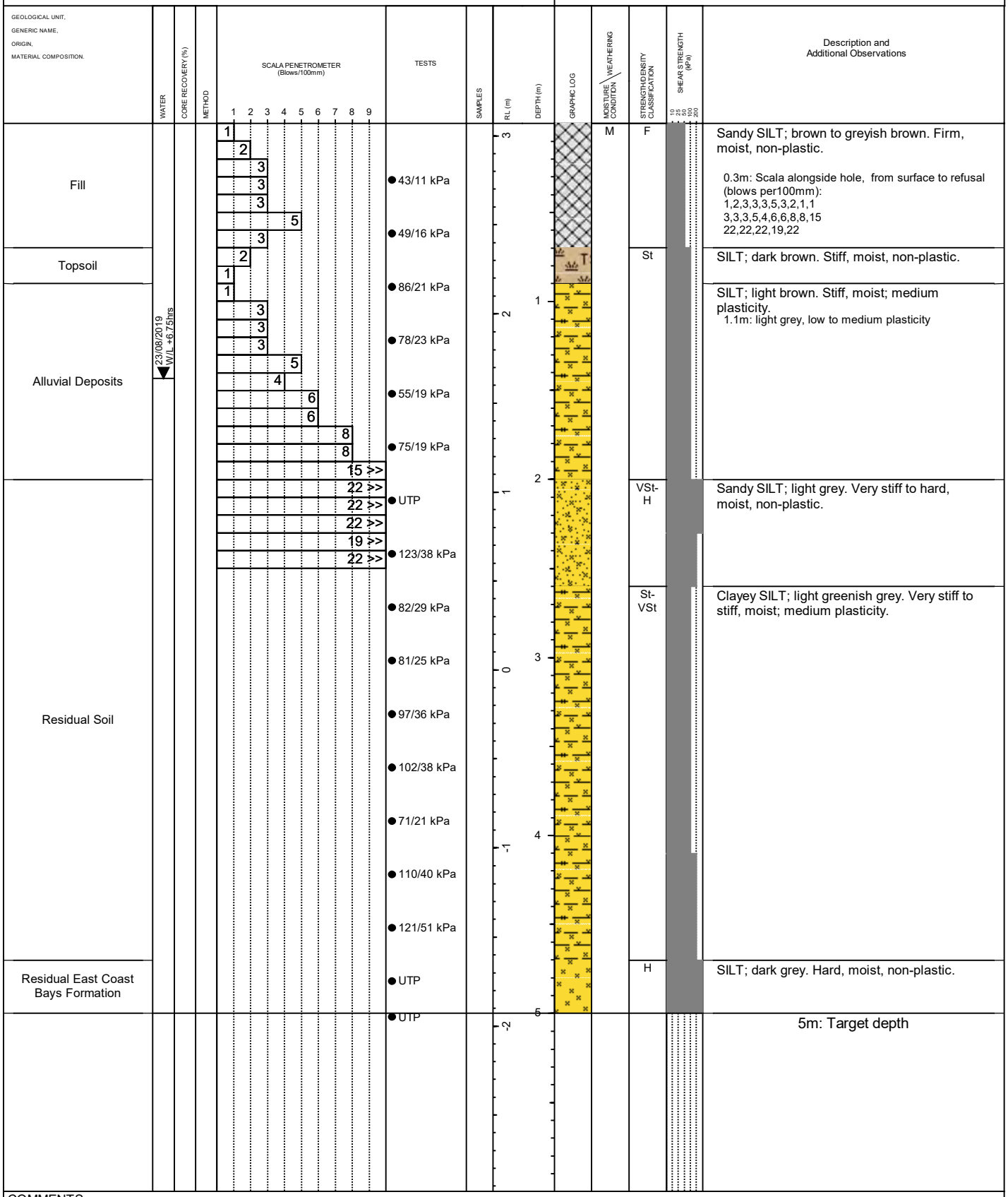
HAND AUGER LOG

HOLE Id: **HA03**

SHEET: 1 OF 1

PROJECT: Mairangi Bay Seawall	LOCATION: Mairangi Bay	JOB No.: 1009460.9000
CO-ORDINATES: (NZTM2000) 5932767.57 mN 1756777.65 mE	DRILL TYPE: 50mm hand auger	HOLE STARTED: 23/08/2019
R.L.: 3.07m	DRILL METHOD: HA	HOLE FINISHED: 23/08/2019
DATUM NZVD2016		DRILLED BY: GEOTECHNICS
		LOGGED BY: RBE CHECKED: JOTI

GEOLOGICAL | ENGINEERING DESCRIPTION



COMMENTS

Hole Depth 5m

Scale 1:30

Rev.: A

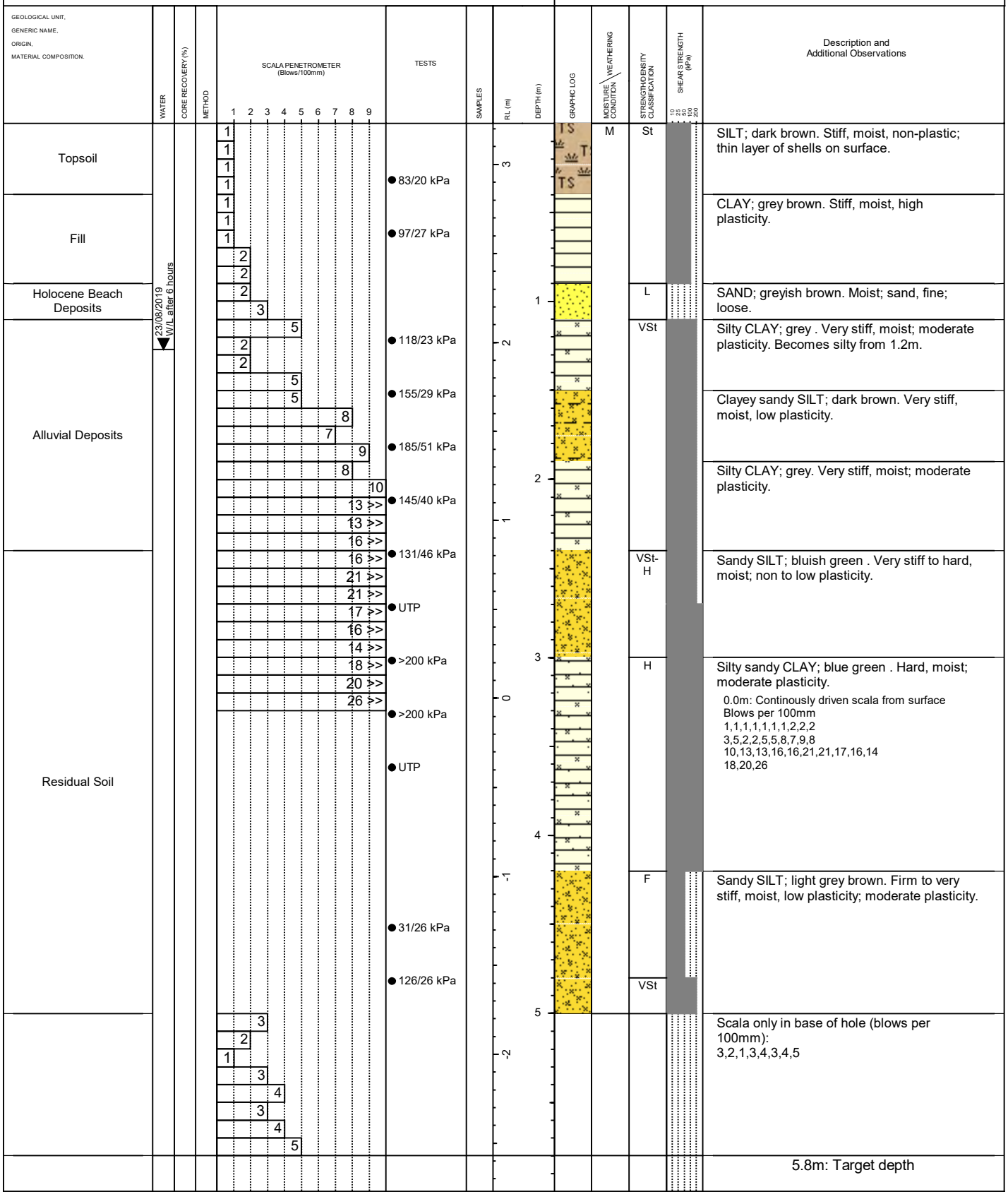
HAND AUGER LOG

HOLE Id: **HA04**

SHEET: 1 OF 1

PROJECT: Mairangi Bay Seawall	LOCATION: Mairangi Bay	JOB No.: 1009460.9000
CO-ORDINATES: (NZTM2000) 5932747.28 mN 1756785.65 mE	DRILL TYPE: 50mm hand auger	HOLE STARTED: 23/08/2019
	DRILL METHOD: HA	HOLE FINISHED: 23/08/2019
R.L.: 3.23m		DRILLED BY: GEOTECHNICS
DATUM NZVD2016		LOGGED BY: JOTI CHECKED: WIRO

GEOLOGICAL | ENGINEERING DESCRIPTION



COMMENTS

Hole Depth 5.8m

Scale 1:30

Rev.: A

HAND AUGER LOG

HOLE Id: **HA04A**

SHEET: 1 OF 1

PROJECT: Mairangi Bay Seawall	LOCATION: Mairangi Bay	JOB No.: 1009460.9000
CO-ORDINATES: (NZTM2000) 5932748.19 mN 1756789.44 mE	DRILL TYPE: 50mm hand auger	HOLE STARTED: 23/08/2019
	DRILL METHOD: HA	HOLE FINISHED: 23/08/2019
R.L.: 2.04m		DRILLED BY: GEOTECHNICS
DATUM NZVD2016		LOGGED BY: RBE CHECKED: JOTI

GEOLOGICAL | ENGINEERING DESCRIPTION

GEOLOGICAL UNIT, GENERIC NAME, ORIGIN, MATERIAL COMPOSITION.	WATER	CORE RECOVERY (%)	METHOD	SCALA PENETROMETER (Blows/100mm)	TESTS	SAMPLES	RL (m)	DEPTH (m)	GRAPHIC LOG	MOISTURE CONDITION \ WEATHERING	STRENGTH/DENSITY CLASSIFICATION	SHEAR STRENGTH (kPa)	Description and Additional Observations
Holocene Beach Deposits				1 2 3 3 2 3 5 4 3 2 1			2 1 0 -1 -2	1 2 3 4 5		M			SAND; brown. Moist; sand, fine to medium; some coarser layers.
										S			SAND; brown. Saturated; sand, fine medium; running. Cased off with PVC.
Alluvial Deposits				3 4 7 7 6	● 66/14 kPa ● 110/19 kPa					M	St VSt		Clayey SILT; light grey. Stiff, moist; medium plasticity. Sandy SILT; light grey. Very stiff, moist, non-plastic; sand, fine.
Residual Soil				8 7 8 9 11 >> 12 >> 12 >> 15 >> 20 >> 24 >>	● 81/41 kPa ● 113/60 kPa ● 118/63 kPa ● 111/67 kPa ● 166/69 kPa ● 110/38 kPa ● 137/44 kPa ● 181/58 kPa ● 189/60 kPa						St-VSt		Clayey SILT; light grey. Stiff to very stiff, moist; medium plasticity. 0.0m: Scala from surface to refusal (blows per 100mm): 0,1,2,3,3,2,3,5,4,3 2,1,3,4,7,7,6,8,7,8 9,11,12,13,15,20,24 3.2m: low plasticity, light grey
								5					4.2m: Target depth

COMMENTS

Hole Depth 4.2m

Scale 1:30

Rev.: A

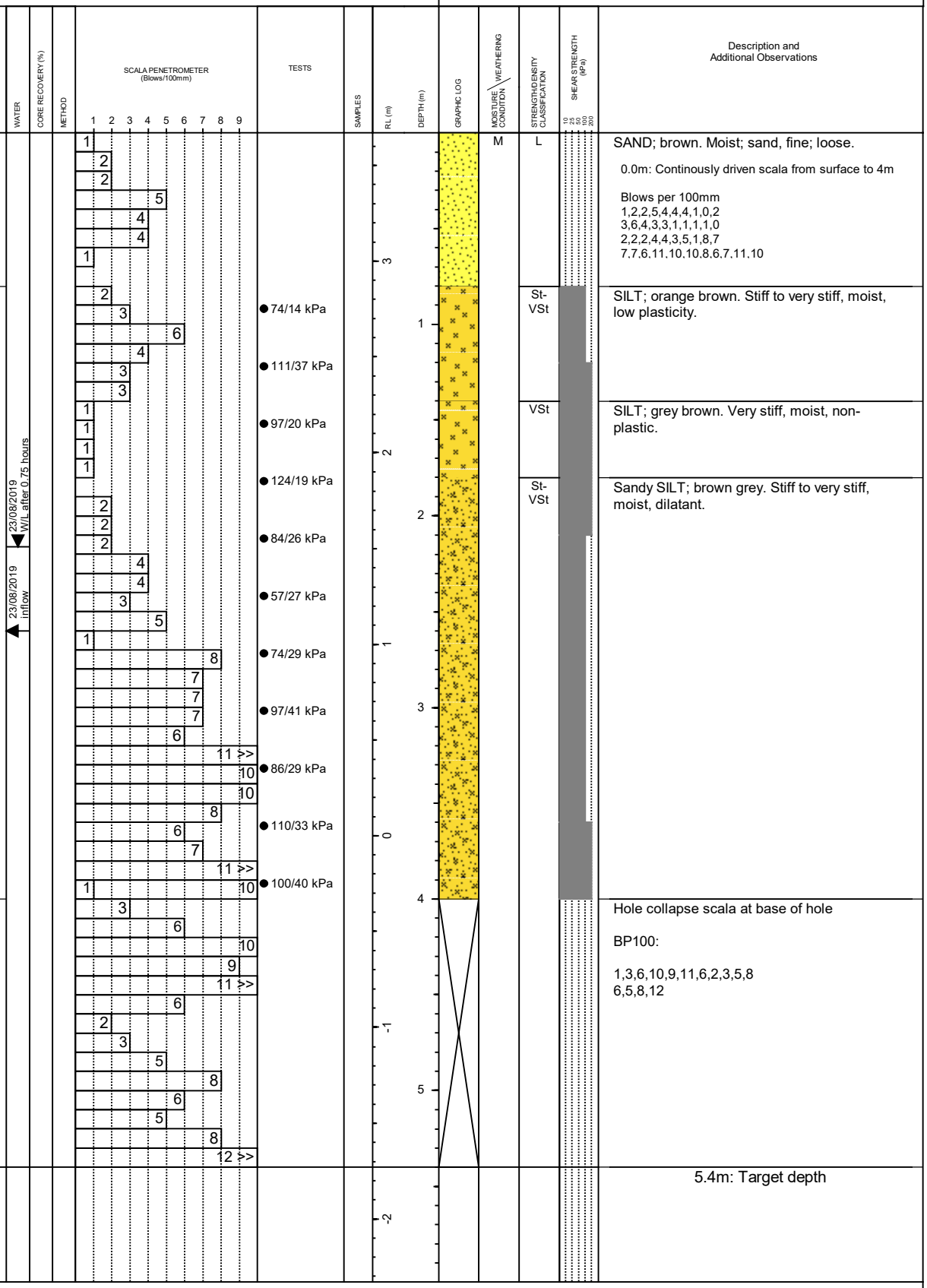
HAND AUGER LOG

HOLE Id: **HA05**

SHEET: 1 OF 1

PROJECT: Mairangi Bay Seawall	LOCATION: Mairangi Bay	JOB No.: 1009460.9000
CO-ORDINATES: (NZTM2000) 5932724.93 mN 1756790.70 mE	DRILL TYPE: 50mm hand auger	HOLE STARTED: 23/08/2019
R.L.: 3.67m	DRILL METHOD: HA	HOLE FINISHED: 23/08/2019
DATUM NZVD2016		DRILLED BY: GEOTECHNICS
		LOGGED BY: JOTI CHECKED: WIRO

GEOLOGICAL | ENGINEERING DESCRIPTION



COMMENTS

Hole Depth 5.4m

Scale 1:30

Rev.: A

HandAugerLog - 2/09/2019 6:36:13 a.m. - Produced with Core-GS by GeRoc

HAND AUGER LOG

HOLE Id: **HA06**

SHEET: 1 OF 1

PROJECT: Mairangi Bay Seawall	LOCATION: Mairangi Bay	JOB No.: 1009460.9000
CO-ORDINATES: (NZTM2000) 5932709.18 mN 1756795.50 mE	DRILL TYPE: 50mm hand auger	HOLE STARTED: 27/08/2019
R.L.: 3.64m	DRILL METHOD: HA	HOLE FINISHED: 27/08/2019
DATUM NZVD2016		DRILLED BY: GEOTECHNICS
		LOGGED BY: RBE CHECKED: JOTI

GEOLOGICAL | ENGINEERING DESCRIPTION

GEOLOGICAL UNIT, GENERIC NAME, ORIGIN, MATERIAL COMPOSITION.	Description and Additional Observations
Fill	Clayey SILT; dark brown. Moist, non-plastic.
	Silty SAND; light grey. Moist; sand, fine.
	Clayey sandy SILT; brown. Hard, moist, low plasticity; some gravel.
	Sandy SILT; light brown. Very stiff, moist, non-plastic.
	SILT, some sand; light brown. Stiff to firm, moist, non-plastic.
	1.3m: yellowish brown clayey inclusions, and fine gravel
Holocene Beach Deposits	SAND; brown. Moist; sand, fine to medium; loose.
	2.6m: brown and blackish brown, wet
	3.0m: brown, saturated, running. Hole collapsing
	Hole collapsing, abandoned.
	Scala from surface alongside hole (blows per 100mm): 1,2,2,6,6,4,4,5,4,4, 3,3,2,4,4,3,4,2,4,4 4,4,4,4,4,4,4,4,4,4 4,4,2,4
	Scala from base of hole to 5m: 0,1,0,0,0,4, 2,6,3,9,7,12,4,12,8,10
	5m: Target depth

WATER: 27/08/2019 Water level 2.5m approx, running sand collapsed

CORE RECOVERY (%)

METHOD

SCALA PENETROMETER (Blows/100mm)

TESTS: UTP; >192 kPa; 99/11 kPa; 71/12 kPa; 38/25 kPa

SAMPLES

RL (m) / DEPTH (m)

GRAPHIC LOG

MOISTURE CONDITION \ WEATHERING: M; M-W

STRENGTH/DENSITY CLASSIFICATION: H; VSt; F-St

SHEAR STRENGTH (kPa)

COMMENTS

Hole Depth 5m

Scale 1:30

Rev.: A

HAND AUGER LOG

HOLE Id: **HA06A**

SHEET: 1 OF 1

PROJECT: Mairangi Bay Seawall	LOCATION: Mairangi Bay	JOB No.: 1009460.9000
CO-ORDINATES: (NZTM2000) 5932710.16 mN 1756799.39 mE	DRILL TYPE: 50mm hand auger	HOLE STARTED: 23/08/2019
R.L.: 2.16m	DRILL METHOD: HA	HOLE FINISHED: 23/08/2019
DATUM NZVD2016		DRILLED BY: GEOTECHNICS
		LOGGED BY: RBE CHECKED: JOTI

GEOLOGICAL | ENGINEERING DESCRIPTION

GEOLOGICAL UNIT, GENERIC NAME, ORIGIN, MATERIAL COMPOSITION.	Description and Additional Observations
Holocene Beach Deposits	SAND; brown. Moist; sand, fine to medium; with coarse shelly layers. (M)
	SAND. Saturated; sand, fine to medium; running. Cased off with PVC. (S)
Alluvial Deposits	Sandy SILT; grey. Very stiff, wet, non-plastic; sand, fine. (M, VSt)
	Hole collapsing around casing, abandoned. Scala from surface alongside hole, blows per100mm: 0.1.2.5.5.5.3.3.2.2 3,2,3,2,3,2,2,2,3,1 1,2,3,4,5,5,6,7,8,4 5,12,9,9,13,9,12,11,9,6
	4m: Target depth

TESTS: ● 102/51 kPa; ● 102/15 kPa; ● 132/62 kPa

COMMENTS

Hole Depth 4m

Scale 1:30

Rev.: A

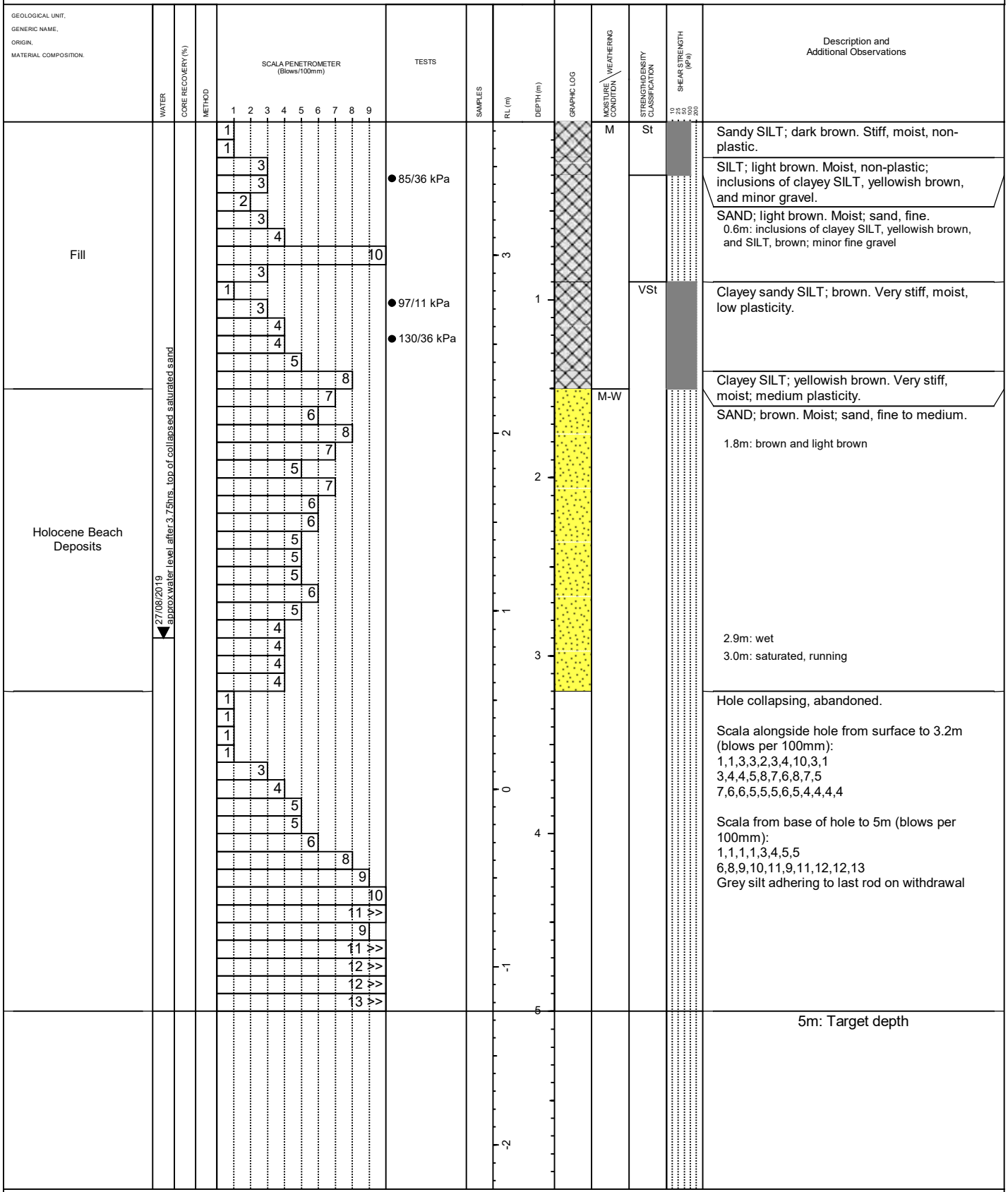
HAND AUGER LOG

HOLE Id: **HA07**

SHEET: 1 OF 1

PROJECT: Mairangi Bay Seawall	LOCATION: Mairangi Bay	JOB No.: 1009460.9000
CO-ORDINATES: (NZTM2000) 5932696.59 mN 1756800.47 mE	DRILL TYPE: 50mm hand auger	HOLE STARTED: 27/08/2019
		HOLE FINISHED: 27/08/2019
R.L.: 3.75m	DRILL METHOD: HA	DRILLED BY: GEOTECHNICS
DATUM NZVD2016		LOGGED BY: RBE CHECKED: JOTI

GEOLOGICAL | ENGINEERING DESCRIPTION



COMMENTS

Hole Depth 5m

Scale 1:30

Rev.: A

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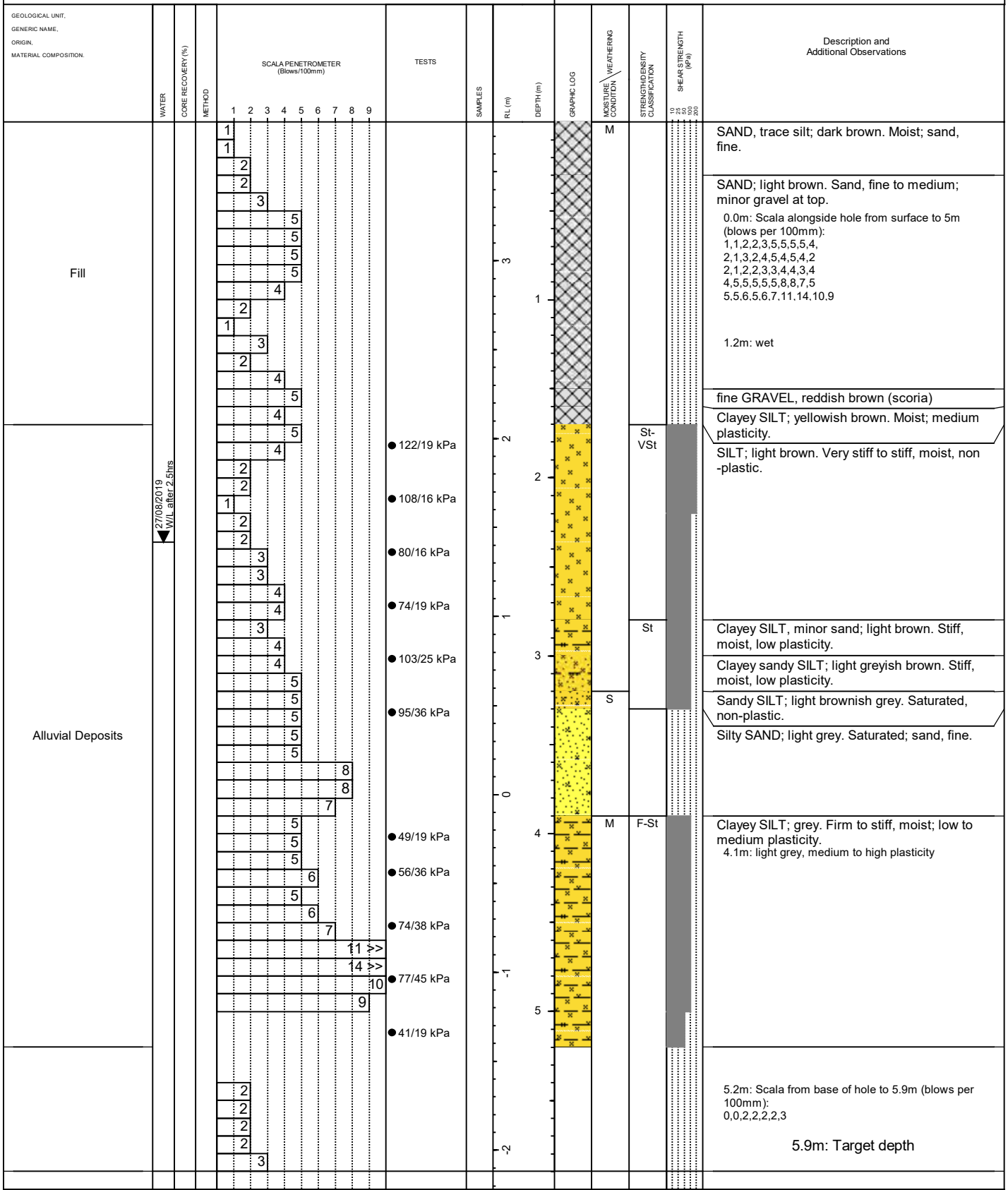
HAND AUGER LOG

HOLE Id: **HA08**

SHEET: 1 OF 1

PROJECT: Mairangi Bay Seawall	LOCATION: Mairangi Bay	JOB No.: 1009460.9000
CO-ORDINATES: (NZTM2000) 5932676.71 mN 1756809.61 mE	DRILL TYPE: 50mm hand auger	HOLE STARTED: 27/08/2019
	DRILL METHOD: HA	HOLE FINISHED: 27/08/2019
R.L.: 3.78m		DRILLED BY: GEOTECHNICS
DATUM NZVD2016		LOGGED BY: RBE CHECKED: JOTI

GEOLOGICAL | ENGINEERING DESCRIPTION



COMMENTS

Hole Depth 5.9m

Scale 1:30

Rev.: A

HAND AUGER LOG

HOLE Id: **HA08A**

SHEET: 1 OF 1

PROJECT: Mairangi Bay Seawall	LOCATION: Mairangi Bay	JOB No.: 1009460.9000
CO-ORDINATES: (NZTM2000) 5932677.87 mN 1756812.74 mE	DRILL TYPE: 50mm hand auger	HOLE STARTED: 23/08/2019
	DRILL METHOD: HA	HOLE FINISHED: 23/08/2019
R.L.: 2.19m		DRILLED BY: GEOTECHNICS
DATUM NZVD2016		LOGGED BY: RBE CHECKED: JOTI

GEOLOGICAL | ENGINEERING DESCRIPTION

GEOLOGICAL UNIT, GENERIC NAME, ORIGIN, MATERIAL COMPOSITION.	WATER	CORE RECOVERY (%)	METHOD	SCALA PENETROMETER (Blows/100mm)	TESTS	SAMPLES	RL (m)	DEPTH (m)	GRAPHIC LOG	MOISTURE CONDITION \ WEATHERING	STRENGTH/DENSITY CLASSIFICATION	SHEAR STRENGTH (kPa)	Description and Additional Observations
Holocene Beach Deposits				1,1,1,1,1			2			M			SAND; brown. Moist; sand, fine to medium; loosely packed.
				1,1,1,1,1			1	1		S			SAND; brown. Saturated; sand, fine to medium; Cased off with PVC pipe.
				2,2,2									
Alluvial Deposits				2,2,2,2,2,2	● 40/19 kPa		0	2		W	F		Clayey SILT; grey, with minor organics. Firm, wet, low plasticity.
				3,5,7,8,8,11>>,11>>,11>>,12>>,13>>,12>>,12>>,12>>			-1	3					Hole collapsing around casing, abandoned. Scala alongside hole, from surface to 4m (blows per 100mm): 1,1,1,1,1,0,0,0,0,0,0 0,1,1,1,1,1,2,2,2,0 0,2,2,2,2,2,2,3,5,7 8,8,11,11,11,12,13,12,12,12
							-2	4					4m: Target depth
							-3	5					

COMMENTS

Hole Depth 4m

Scale 1:30

Rev.: A

HAND AUGER LOG

HOLE Id: **HA09**

SHEET: 1 OF 1

PROJECT: Mairangi Bay Seawall	LOCATION: Mairangi Bay	JOB No.: 1009460.9000
CO-ORDINATES: (NZTM2000) 5932607.60 mN 1756817.26 mE	DRILL TYPE: 50mm hand auger	HOLE STARTED: 27/08/2019
		HOLE FINISHED: 27/08/2019
R.L.: 2.99m	DRILL METHOD: HA	DRILLED BY: GEOTECHNICS
DATUM NZVD2016		LOGGED BY: RBE CHECKED: JOTI

GEOLOGICAL | ENGINEERING DESCRIPTION

GEOLOGICAL UNIT, GENERIC NAME, ORIGIN, MATERIAL COMPOSITION.	Description and Additional Observations
Topsoil	SILT; dark brown. Moist, non-plastic.
Fill	Silty CLAY; yellowish brown and brown. Stiff, moist, low plasticity.
Fill	Silty SAND; brown. Moist, non-plastic; sand, fine.
Residual Soil	Clayey SILT; brown, with yellowish brown mottles; yellowish brown mottled brown from 1.1m. Firm to stiff, moist; medium plasticity. 0.0m: Scala alongside hole from surface (blows per 100mm): 0,1,1,1,2,1,2,2,1,2 2,2,2,4,4,6,9,11,12,9 9,8,9,11,13,13,11,13,12,11 10,10,10,8,8,15, bouncing
Residual East Coast Bays Formation	SILT, some clay; dark grey. Very stiff, moist, low plasticity.
Residual East Coast Bays Formation	SILT; dark grey. Hard, moist, non-plastic.
Residual East Coast Bays Formation	Sandy SILT; dark grey. Hard, moist, non-plastic; Unable to auger beyond 3.6m.
	3.6m: Refusal

WATER: 27/08/2019 W/L after 1hr

CORE RECOVERY (%)

METHOD

SCALA PENETROMETER (Blows/100mm)

TESTS: ● 70/22 kPa; ● 80/36 kPa; ● 77/36 kPa; ● 47/21 kPa; ● 52/21 kPa; ● 63/29 kPa; ● 126/52 kPa; ● >192 kPa; ● UTP; ● UTP

SAMPLES

RL (m) / DEPTH (m): 2 / 1; 1 / 2; 0 / 3; -1 / 4; -2 / 5; -3

GRAPHIC LOG

MOISTURE CONDITION / WEATHERING: M

STRENGTH/DENSITY CLASSIFICATION: St; F-St; VSt; H

SHEAR STRENGTH (kPa): 10, 25, 50, 100, 200

COMMENTS

Hole Depth 3.6m

Scale 1:30

Rev.: A

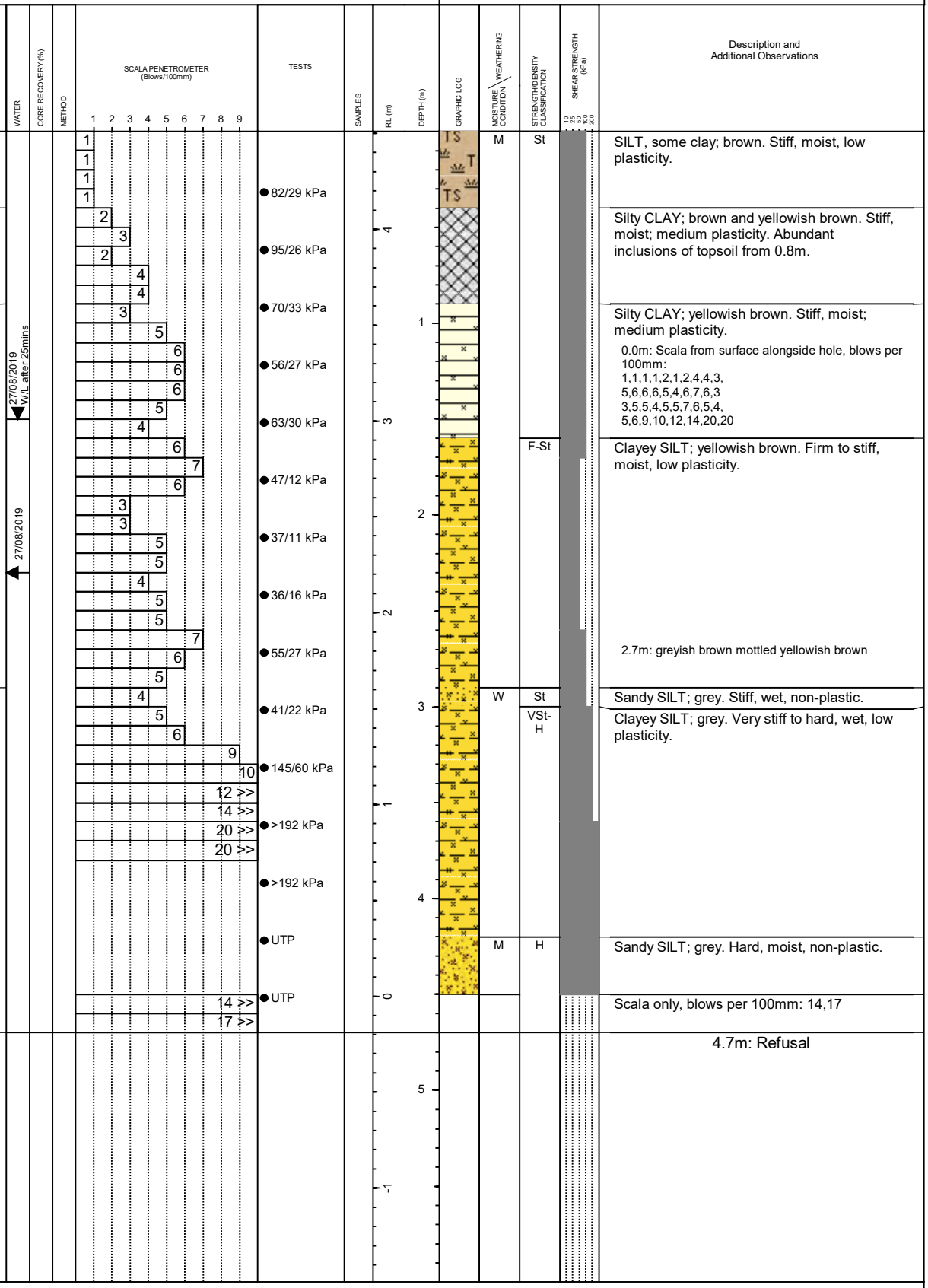
HAND AUGER LOG

HOLE Id: **HA10**

SHEET: 1 OF 1

PROJECT: Mairangi Bay Seawall	LOCATION: Mairangi Bay	JOB No.: 1009460.9000
CO-ORDINATES: (NZTM2000) 5932594.36 mN 1756843.94 mE	DRILL TYPE: 50mm hand auger	HOLE STARTED: 27/08/2019
R.L.: 4.51m	DRILL METHOD: HA	HOLE FINISHED: 27/08/2019
DATUM NZVD2016		DRILLED BY: GEOTECHNICS
		LOGGED BY: RBE CHECKED: JOTI

GEOLOGICAL | ENGINEERING DESCRIPTION



COMMENTS

Hole Depth 4.7m

Scale 1:30

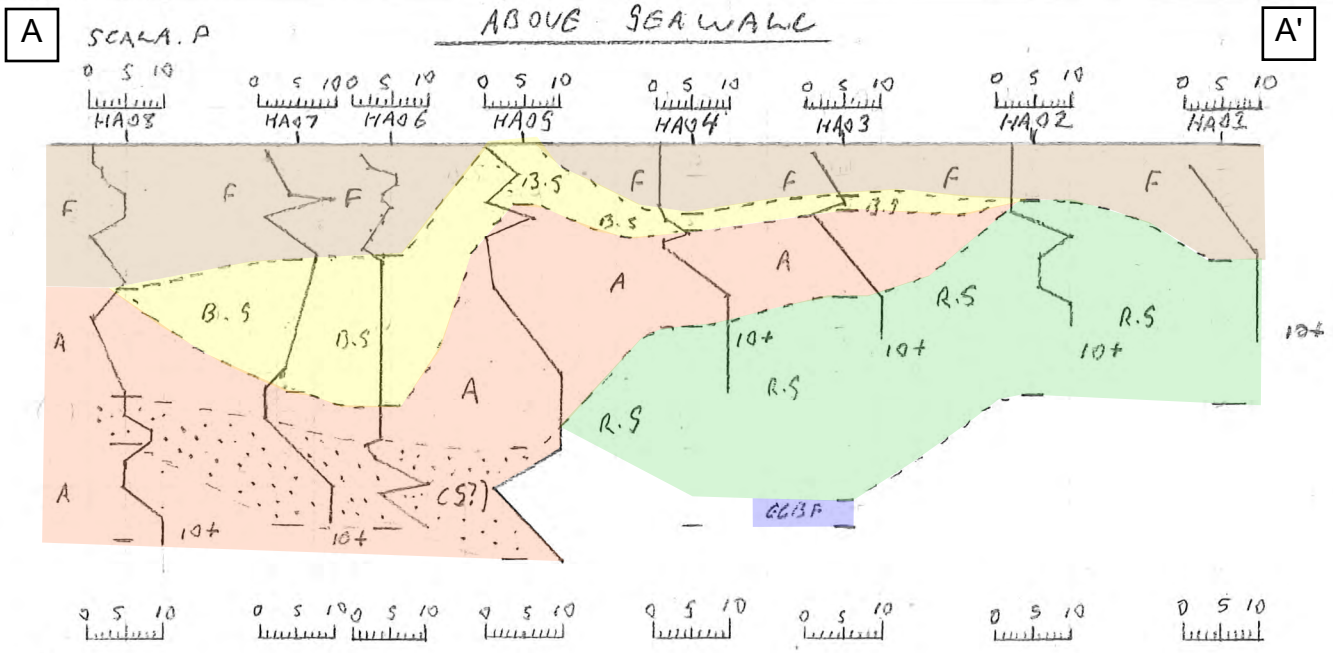
Rev.: A

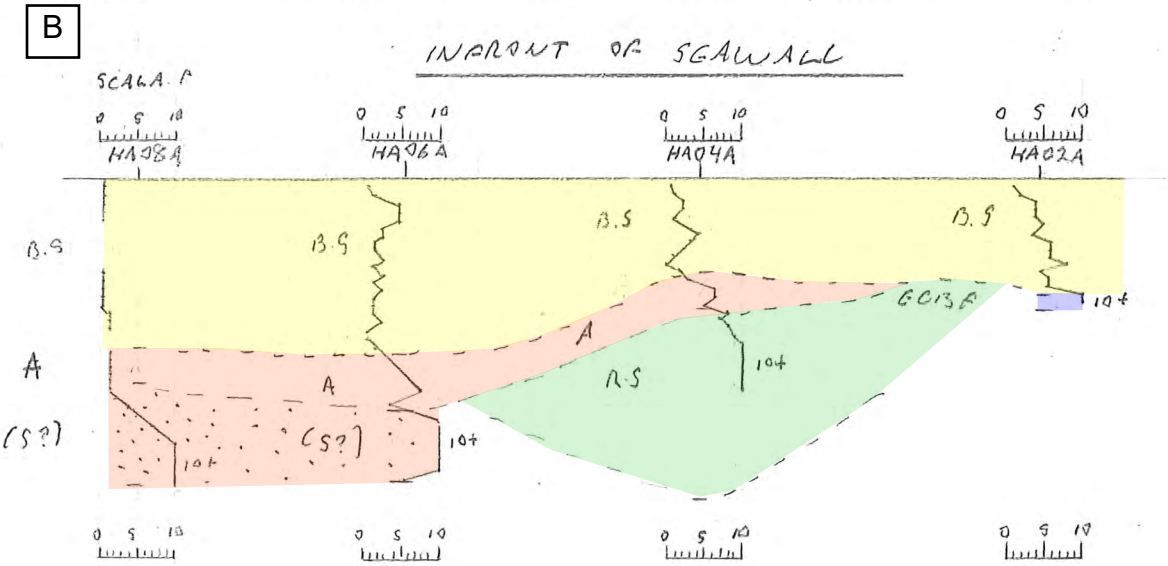
Tonkin+Taylor

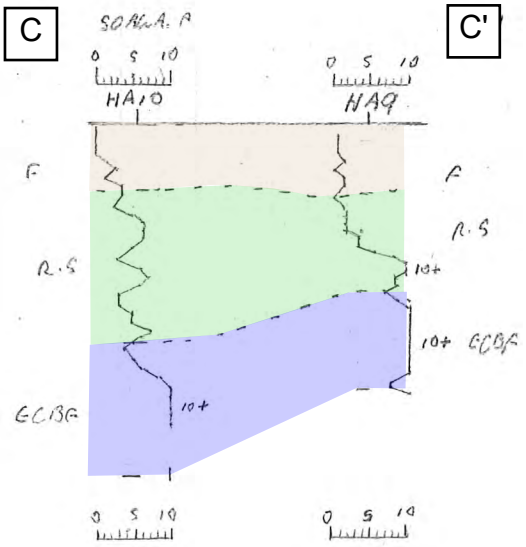
Description: GEOLOGICAL CROSS - SECTIONS

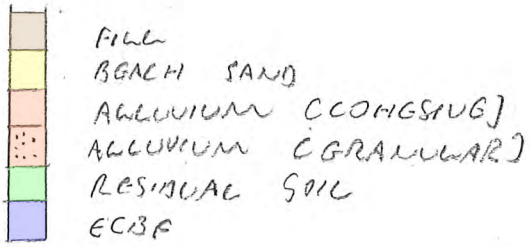
Project: MAIRANGI BAY SEAWALL

Computed:	27/09/2019	Office:	AKL
Checked:	20	Job No:	1009460.4000
Revised:	20	File:	
Checked:	20	Sheet No.	1 OF 1









Appendix C Seawall condition assessment

Section	Description	Photographs
1	<u>Northern transition</u> Asset description 15 m long convex facing wall with near vertical grouted basalt of irregular shape landward of East Coast Bays Branch sewer. Wall founded on existing rock shelf and abuts existing cliff. Gaps at toe due to shelf down-cutting and at northern end due to adjacent cliff erosion. Drainage holes at around 2 m centres along capping/upstand and evidence of multiple repairs and loose capping layer. Possibility of land movement from weathered slope pushing capping layer seaward. Factors affecting asset life Moderate energy coastal environment No filter between wall and reserve No rear protection Grade/condition rating 4 – Poor	

Section	Description	Photographs
2	<u>Wall from northern transition to beach access ramp</u> Asset description 45 m long sloping cement grouted irregular shaped basalt block facing wall (approx. 0.5(H):1(V)) with 0.5 m vertical upstand. Evidence of numerous repairs to grout and foundation repairs. Wall founded on rock shelf, but evidence of historic undercutting and gaps at toe and repairs and improved foundations carried out in February 2018. Wall Drainage gaps at around 2 m centres extending from 300 mm outfall to the northern end of the wall. No evidence of drainage holes at lower levels of the wall. Factors affecting asset life Moderate energy coastal environment No filter between wall and reserve No rear protection Grade/condition rating 2- Good	

Section	Description	Photographs
3	<u>Beach access ramp</u> Asset description Grouted rock walls extend perpendicular from the seawall on either side of the coloured concrete beach access ramp following a similar form to the adjacent seawalls (i.e. sloping with an upstand to the north and vertical to the south). Grout repairs on both walls evident as is repairs to concrete ramp. Factors affecting asset life Moderate energy coastal environment Beach lowering Grade/condition rating 2- Good	

Section	Description	Photographs
4	<u>Wall from beach access ramp to stair access</u> Asset description 50 m long near vertical cement grouted basalt block wall of regular shape with returns at beach access ramp and at stairs. No evidence of stormwater drainage through the wall, but evidence of historic undermining that was repaired in 2018. Factors affecting asset life Moderate energy coastal environment No filter between wall and reserve Variable toe/foundation support No rear protection Grade/condition rating 3 - Fair	

Section	Description	Photographs
5	<u>Stair access way</u> Asset description Near vertical grouted basalt rock embayment with stairs providing access to the beach from the reserve. Factors affecting asset life Moderate energy coastal environment No filter between wall and reserve Variable toe/foundation support No rear protection Grade/condition rating 3 - Fair	

Section	Description	Photographs
6	<u>Stair access way to surf club access point</u> Asset description 60 m long near vertical cement grouted basalt block wall of irregular shape. Concrete capping beam extends along the wall crest. 75 mm clay drain holes evidenced along southern 20 m stretch. Evidence of historic patching and repairs to grout. Wall appears to be largely been founded on rock and has a concrete toe. Factors affecting asset life Moderate energy coastal environment No filter between wall and reserve Variable toe/foundation support No rear protection Grade/condition rating 3 - Fair	

Section	Description	Photographs
7	<u>Surf club access point</u> Asset description Concrete stair access way with 90 degree return set back from wall supported and edged with irregular shaped cement grouted basalt with a concrete cap. Evidence of settlement and gaps in grouted rock under stair. Factors affecting asset life Moderate energy coastal environment No filter between wall and reserve Variable toe/foundation support No rear protection Grade/condition rating 3 - Fair	

Section	Description	Photographs
8	<u>Surf club access point to southern wall end</u> Asset description 25 m long near vertical cement grouted basalt block wall of irregular shape. Concrete capping beam extends along the wall crest. Some drain holes evident along southern part of wall. Evidence of historic patching and repairs to grout. Mass concrete evident at top of wall at southern end. Factors affecting asset life Moderate energy coastal environment No filter between wall and reserve Variable toe/foundation support No rear protection Grade/condition rating 3 – Fair	

Section	Description	Photographs
9	<u>Southern wall return along the stream to the concrete beach access ramp</u> Asset description 12 m long continuation of the vertical cement grouted wall present along the beach face. Evidence of repair on the seaward corner and re-grouting of the stones. No visible drain holes. Steep concrete ramp. Foundation not visible, but landward of ramp grass suggests an accretionary area, presumably due to localising sheltering/groyne effect of ramp. Factors affecting asset life Moderate energy coastal environment No filter between wall and reserve Variable toe/foundation support No rear protection Grade/condition rating 3 – Fair	

Section	Description	Photographs
10	<u>Beach access ramp to timber footbridge</u> Asset description 25 m long near vertical grouted rock wall with concrete cap founded on concrete toe. Localised re-grouting of wall evident, but generally appears in good condition. Factors affecting asset life Stream flows and erosion Variable toe/foundation support Grade/condition rating 3 – Fair	

Section	Description	Photographs
11	<u>Vegetated shore edge</u> Asset description 25 m long grass edge bank with rushes evident along the upstream area and with evidence of undercutting and localised areas of concrete debris and rock armour on the more exposed seaward facing part. Factors affecting asset life Stream flows and erosion Grade/condition rating N/A	

Section	Description	Photographs
12	<u>Beach access ramp</u> Asset description Concrete ramp providing access to the foreshore from the reserve with rock armour and construction debris forming the foundation of the ramp and approaches. Factors affecting asset life Moderate energy coastal environment Variable toe/foundation support Ungraded rock armour Grade/condition rating 4 - Poor	

Section	Description	Photographs
13	<u>Rock armour shoreline to southern beach access point</u> Asset description 65 m long haphazardly placed rock armour and concrete debris forming facing revetment with no geotextile or filter evident. Some smaller rock dislodged. Rock size variable from large boulders to small rock. Grass reserve hummocky and steep landward of the rock. Factors affecting asset life Moderate energy coastal environment Variable toe/foundation support No filter Ungraded rock armour Grade/condition rating 4 - Poor	

Section	Description	Photographs
14	<u>Southern beach access point</u> Asset description Concrete steps from path to the foreshore abutted on either side by haphazardly placed rock armour and debris. Reserve edge erosion evident to the south of the access way and private protection works further south. Factors affecting asset life Moderate energy coastal environment Variable toe/foundation support Ungraded rock armour Grade/condition rating 4 - Poor	

Appendix D Overview of planning implications

The requirements for resource consent are determined by the rules in the AUP. The rules which apply are determined by the zoning of the site, any identified limitations in the plan and the nature of the activities proposed. Appendix D Table 8-1 outlines the relevant zones and planning limitations that apply to the site.

Designation 9311 which is for the purposes of 'Wastewater Treatment Plant and Outfall' applies across part of the site. Under s176 (1) (b) of the Resource Management Act 1991 (RMA), any proposed works within the designation will require prior approval from WaterCare Services Ltd as the requiring authority.

Appendix D Table 8-1: AUP zoning and planning limitations

Zoning / planning limitation	Comment
Open Space – Conservation	This zone encompasses the area above MHWS.
Coastal – General Coastal Marine Zone	This zone applies to the majority of the Coastal Marine Area below MHWS. The purpose of the GCM zone is to provide for use and development that has a functional need to be undertaken in the CMA, and to manage conflicts between activities and adverse effects on the environment.
Designation 9311	Applies across Sidmouth Street and is for the purposes of 'Wastewater Treatment Plant and Outfall'. Watercare Services Limited is the Requiring Authority.
Coastal Inundation Control – 1 m sea level rise	Applies to the south- western section of the site
Macroinvertebrate Community Index – Urban	Applies across the entire site. No applicable rules.

We have reviewed the relevant provisions of the AUP, including Plan Change 15 (Improving consistency of coastal provisions).

Option 1 does not involve any proposed works and therefore no resource consent requirements apply.

Resource consent requirements for the Options 2-5 are set out in Appendix D Table 8-2.

Appendix D Table 8-2: Resource consent requirements

Option	Rule reference / description	Activity status
Option 2: Maintain existing defence	• Rule F2.19.10 (A122): Maintenance, repair, reconstruction of existing lawful coastal marine area structures or buildings.	Permitted[2]
Option 3: Renew existing defence	• Rule F2.19.10 (A123): Extension or alteration of existing lawful coastal marine area structures or buildings other than those that are a component of infrastructure • Rule F2.19.10 (A142): Hard protection	Discretionary
Option 4: Realign shoreline	• Rule F2.19.10 (A123): Extension or alteration of existing lawful coastal marine area structures or buildings other than those that are a component of infrastructure • Rule F2.19.10 (A142): Hard protection A limited amount of sand scraping is a permitted activity under AUP Rules F2.19.2(A7) and F2.19.4(A33): • Disturbance and deposition of up to 1,500 m^3 of material in a 12 month period below MHWS, where the deposited sediment is extracted from within the same coastal cell. • If sand importation is required in order to augment the existing supply, then Rule F2.19.2(A9) would apply: • Deposition of material from outside the coastal cell, maximum of 10,000 m^3 of material in a 12 month period.	Discretionary
Options 5: Advance shoreline	• Rule F2.19.10 (A123): Extension or alteration of existing lawful coastal marine area structures or buildings other than those that are a component of infrastructure • Rule F2.19.10 (A142): Hard protection • Rule F2.19.2(A9): Deposition of material from outside the coastal cell, maximum of 10,000 m^3 of material in a 12 month period • Rule F2.19.4(A37) Coastal marine area disturbance that is not otherwise provided for	Discretionary

[2] Subject to compliance with the relevant standards in the AUP.

Policy framework

The key policy framework is contained in:

- The New Zealand Coastal Policy Statement 2010 (NZCPS) – this is prepared under the RMA and sets national policy for activities in the coastal environment.
- The AUP – the regional policy statement, regional and district plan and regional coastal plan sets the resource consent requirements for works within the CMA.
- Marine and Coastal Area (Takutai Moana) Act 2011 (MACAA) – this sets the specific engagement requirements with Mana Whenua for works undertaken in the CMA.

In relation to the NZCPS, the following is noted:

- The NZCPS sets out a risk based approach which takes into account coastal hazards of 100 years. Specifically, the NZCPS directs that once coastal hazard risk is defined, responses to the coastal hazard should preferentially consider alternatives to hard protection structures, including enhancing coastal vegetation and the beach/dune system. Managed retreat should also be considered. Hard protection structures are essentially to be considered only as a last resort, if alternative measures cannot adequately address the coastal hazard risk.
- The general direction to consider alternatives to hard protection structures include enhancing natural defences, which is compatible with Policies 13-15 of the NZCPS to preserve, restore or rehabilitate nature character of the coastal environment and protect the natural features and natural landscape of the coastal environment.
- The maintenance and enhancement of public access to and along the coastal marine area is a matter of national importance under Section 6 of the RMA. This is reflected in the NZCPS objective 4 and Policies 6,18, and 19 which recognise the need for public open space within and adjacent to the coastal marine area, and public use and appreciation including active and passive recreation. Walking access is specifically recognised.
- Natural character and landscape values are of particular importance in the coastal environment. The NZCPS sets out specific direction on preservation and restoration of natural character (Policies 13 and 14) and protection of natural features and natural landscapes (Policy 15).

Other considerations

As works would take place on the public beach, discussions with Mana Whenua, the Local Board and the wider Mairangi Bay community would be recommended prior to lodging a resource consent application – where possible and practicable, feedback from these stakeholders should be worked into the design of the works. Furthermore, a detailed bathymetric survey, landscape and visual assessment and coastal processes assessment would need to be undertaken to determine potential effects from undertaking these works.

Under the MACAA, those seeking a resource consent in the common marine and coastal area need to notify and seek the views of any group that has applied for recognised customary marine title in the area.

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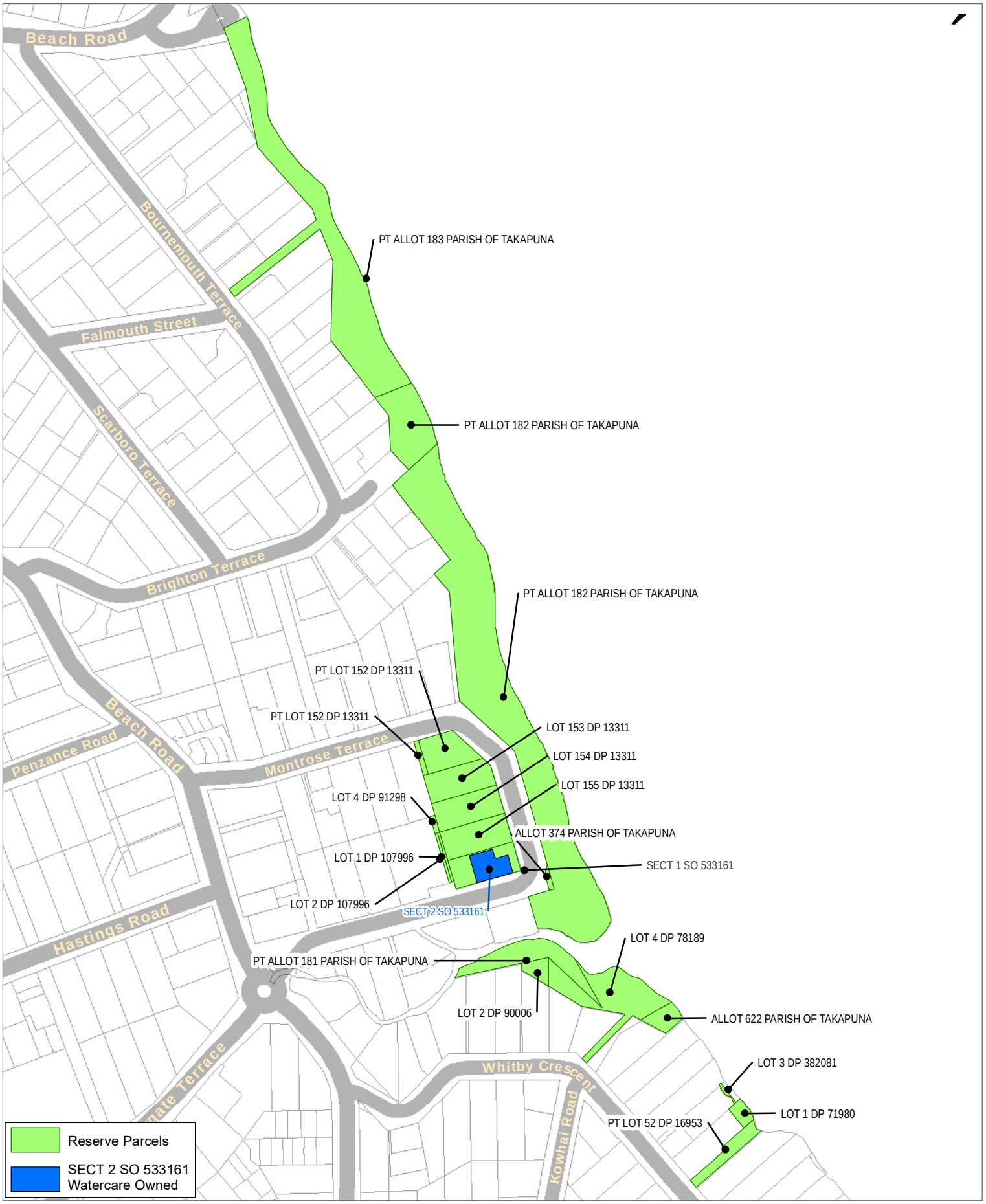


Mairangi Bay Beach Reserve extent of parcels

0 10 20 30 40 50
Meters

Scale @ A4
= 1:3,650

Date Printed:
20/12/2022

Auckland Council

Development Plan

MAIRANGI BAY BEACH RESERVES




17 AUGUST 2018

Landscape Architecture & Urban Design

Hibiscus and Bays Local Board
Auckland Council

Fig 1 *Mairangi Bay Reserve from Murrays Bay end looking south toward the beach*

Development Plan

Mairangi Bay Beach Reserves

WSP Opus NZ
Landscape Architecture
Level 3 The Westhaven
100 Beaumont Street
PO Box 5848, Auckland 1141
New Zealand

Tel: + 64 9 3537309

Date: 16 August 2018
Ref: 3-AL228.00
Status: Draft

Prepared by:

Tosh Graham
Landscape Architect

Released by:

Orson Waldock
Landscape Architect

Contents

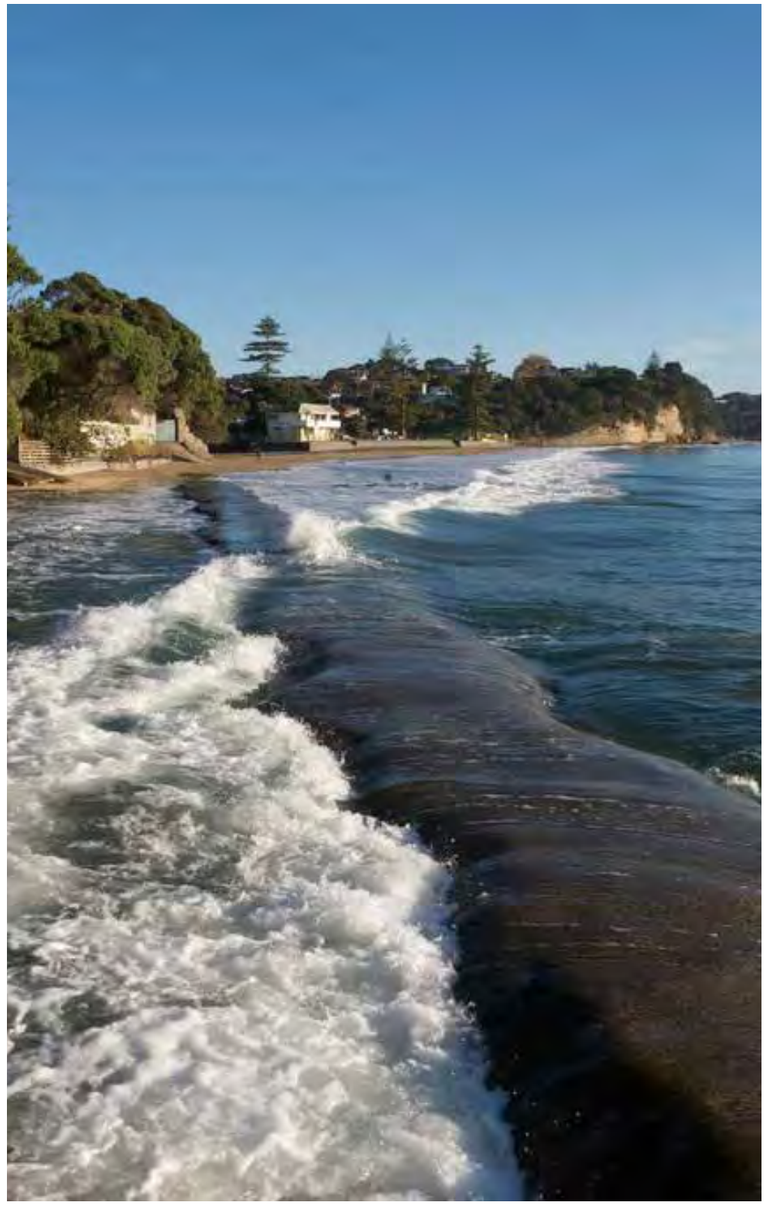


Fig 2 *Mairangi Bay footpath causeway from Campbell's Bay end looking north towards Surf Lifesaving Club*

MAIRANGI BAY RESERVES DEVELOPMENT PLAN

Fig 3 Mairangi Bay Stream estuary, south end of beach adjacent to the Surf Lifesaving Club

BACKGROUND

The Mairangi Bay Beach Reserves Management Plan (MBRMP) was adopted on 18 March 2015 by the Hibiscus and Bays Local Board. The MBRMP provides a guide for the future management of the Mairangi Bay Beach Reserve (including the associated coastal walk) which encompass Mairangi Bay Beach Reserve, Sidmouth Street Reserve and the Montrose Terrace Reserve land.

A series of strategic land acquisitions by Auckland Council and former North Shore City Council have been completed in order to increase the size of Mairangi Bay Beach Reserve, increasing the provision of open space and opportunities to enhance recreation and amenity outcomes.

The MBRMP includes a Concept Plan which captures a number of projects which will be critical to the future development of Mairangi Bay. This includes projects which will be delivered by Council Controlled Organisations (CCO's) including Watercare, Auckland Transport as well as development associated with Mairangi Bay Surf Life Saving Club, who have provided surf life saving facilities at Mairangi Bay for over 50 years. MBRMP Concept Plan projects includes:

- Montrose Terrace carpark and Link Lane;
- Montrose Terrace and Sidmouth Street cul-de-sac;
- Montrose Terrace (Beachfront road removal);
- Reserve amenity enhancements;
- Pedestrian bridge enhancements;
- MBSLSC clubrooms and storage facility;
- Watercare pump station upgrade;
- Seawall renewal.

MBSLSC currently holds a community lease with Auckland Council for club rooms and storage which is located on the reserve. MBSLSC has plans to redevelop their facilities in order to keep pace with the growth and demands of their club.

PURPOSE OF DEVELOPMENT PLAN

With a number of complex, interdependent projects to be delivered there is a need to prepare a Development Plan to ensure these projects can be delivered in a coordinated way. The purpose of the Development Plan process is to work alongside the various project sponsors and identify all the critical issues, time frames, interdependencies and project budgets to inform funding and prioritising of projects through the Hibiscus and Bays Local Board.

In terms of informing the decision making and public engagement process, the Mairangi Bay Reserves Development Plan will provide information and guidance across the following areas:

- Provide an engagement process for all project stakeholders to collectively identify all of the projects details including opportunities, constraints and areas of overlap between stakeholders/projects;
- Prioritise all projects and develop a coordinated development programme;
- Develop broad cost estimates for all projects to assist the Hibiscus and Bays Local Board and Auckland Council in undertaking project funding;
- Identify a broad consenting strategy for all projects to assist Hibiscus and Bays Local Board and Auckland Council in project delivery;
- Ensure all aspects of the Mairangi Bay Beach Reserves Development Plan are aligned with the Objectives and Policies of the MBRMP.

WORKING WITH MANA WHENUA - TREATY PARTNERS

Hibiscus and Bays Local Board will continue to work with mana whenua to implement projects identified in the Mairangi Bay Beach Reserves Management Plan and subsequent Mairangi Bay Reserves Development Plan, with the guidance of the Te Aranga Principles, these are:

1. Rangatiratanga: The right to exercise authority and self determination within ones own iwi / hapū realm;
2. Kaitiakitanga: managing and conserving the environment as part of a reciprocal relationship, based on the Māori world view that we as humans are part of the natural world;
3. Manaakitanga: the ethic of holistic hospitality whereby mana whenua have inherited obligations to be the best hosts they can be;
4. Wairuatanga: the immutable spiritual connection between people and their environments;
5. Kotahitanga: unity, cohesion and collaboration;
6. Whanaungatanga: a relationship through shared experiences and working together which provides people with a sense of belonging;
7. Mātauranga: Māori / mana whenua knowledge and understanding.

WORKING WITH MANA WHENUA - TREATY PARTNERS

It is understood that these principles are for initial guidance only and in no way replace the need for individual mana whenua consultation on all projects. In support of the above principles and based on initial mana whenua engagement during the Reserve Management Plan process, the following key issues were identified:

- Iwi involvement in the design of the reserve including provision of other sculptural pieces;
- Provisions around earthworks being undertaken on site including accidental discovery protocols;
- Monitoring of the health of the stream;
- Stormwater outfalls and contamination management.

The process of developing this document requires the support of Mana Whenua, through working relationships and strengthened regular engagement, including liaison through the Mana Whenua Northern Iwi Forum, local iwi representatives and marae. Resourcing of iwi engagement will be achieved through the setting of work programme budgets and delivered through Auckland Council's project framework.

METHODOLOGY

The following methodology has been utilised as the basis for the preparation of the Mairangi Bay Beach Reserves Development Plan.

Review all Background Information/Stakeholder Engagement Plan

Review all relevant background information including MBRMP, Tonkin and Taylor Coastal Hazard Assessment, Hauraki Gulf Maritime Spatial Plan, Watercare and the MBSLSC development plans. Summarise all key information, prepare gap analysis and key questions which will be resolved during subsequent engagement phases.

Stakeholder Engagement Plan

Develop, alongside the client, a Stakeholder Engagement Plan. This will identify all stakeholders along with an engagement method with the aim of identifying overlap between projects, project sponsors, funding streams, programme dates and any information which relates to funding/delivery agreements between stakeholders and Auckland Council.

Stakeholder Engagement

Complete a series of stakeholder workshops with all key stakeholders with the aim to update parties with the vision for Mairangi Bay and ensure all key issues are captured. Where valuable, these workshops have included a site visit in order to identify key physical constraints on site.

Prepare Draft Development Plan

Prepare a Draft Development Plan as the key deliverable. This document will provide a summary of all the critical information and include an indicative location plan for projects, Planning requirements, project information, cost estimates and programme.

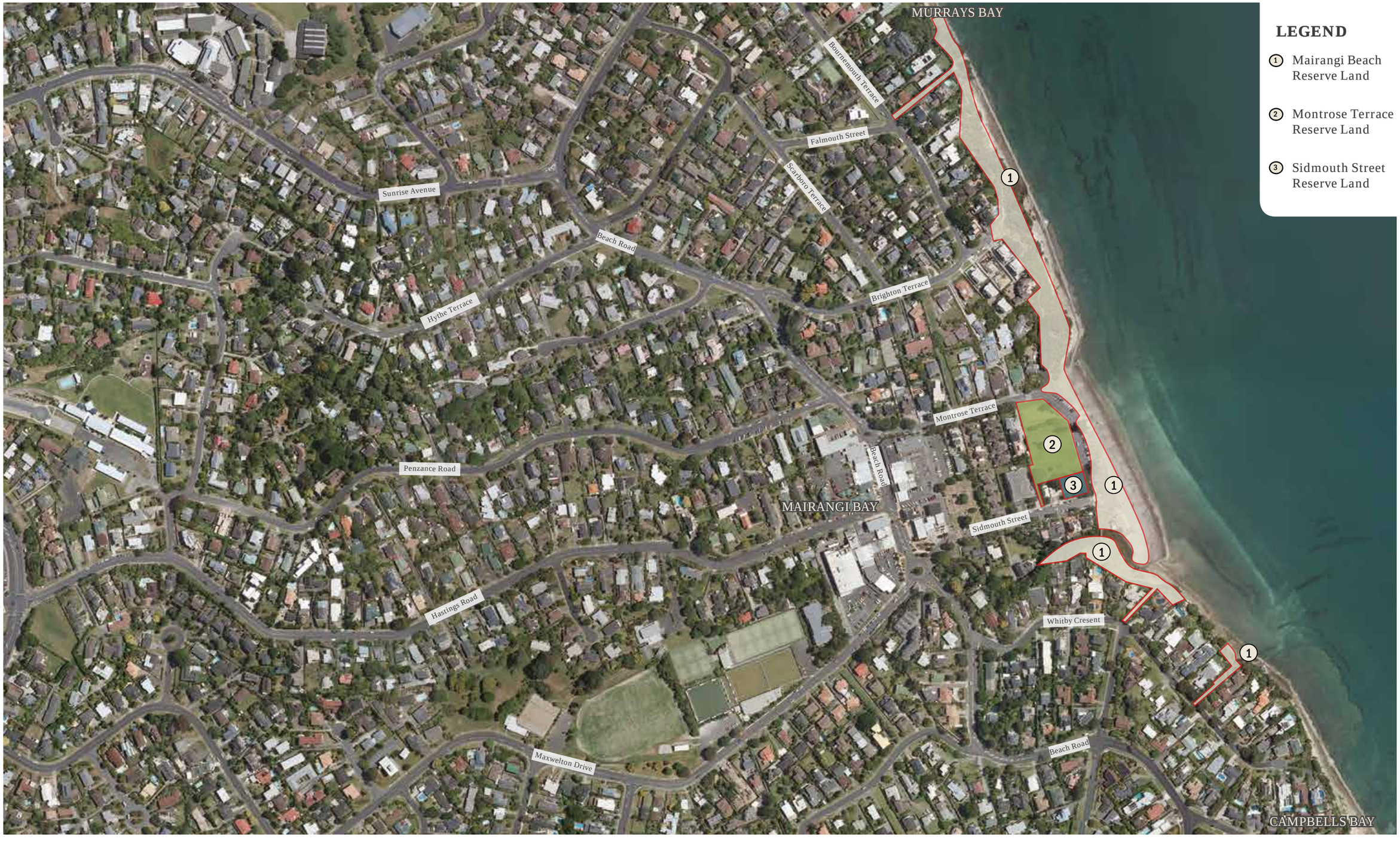
Hibiscus and Bays Local Board Workshop

Workshop with the Hibiscus and Bays Local Board to present the Draft Development Plan including any alternative development scenarios.
The workshop will provide any further input on the scope and extent of projects and provide feedback on the scheduling/prioritising of projects by stakeholders.

Prepare Final Form Development Plan

Based on feedback from the Hibiscus and Bays Local Board and any further stakeholder engagement, update the Development Plan to Final Form.
It is intended that the Development Plan is a "living" document and will be used as the basis for identifying funding for delivery of projects from within Auckland Council and as the basis for any agreements with external stakeholders.

Fig 4 *Looking north from the Campbells Bay end of the beach over the Mairangi Bay Stream outlet and at the Surf Lifesaving Club*



wsp | OPUS

Hibiscus and Bays Local Board
Auckland Council

Mairangi Bay Beach Reserves Development Plan
Map 1 - Context

REF: 3-AL228.00 REVIEWED BY: OW DRAWN BY: TG

SCALE: 1:5000 @ A3 17 August 2018

LEGEND

Open Space

- Informal Recreation Zone
- Conservation zone

Coastal

- Coastal Transition Zone
- Indicative Coastline

Residential

- Single House Zone
- Terrace Housing and Apartment Buildings Zone

Business

- Local Centre Zone
- Mixed Use Zone

- Source: Auckland Unitary Plan

WSP | OPUS

Hibiscus and Bays Local Board
Auckland Council

Mairangi Bay Beach Reserves Development Plan
Map 2 - Unitary Plan Land Use

REF: 3-AL228.00 REVIEWED BY: OW DRAWN BY: TG

SCALE: 1:1000 @ A3 17 August 2018

wsp | OPUS

Hibiscus and Bays Local Board
Auckland Council

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Mairangi Bay Beach Reserves Development Plan
Map 3 - Photo Locations

REF: 3-AL228.00

SCALE: 1:1000 @ A3 17 August 2018

1 Looking South into Mairangi Bay from the beginning of the cliff top walkway

2 Footpath causeway connection from Mairangi Bay to Murrays Bay looking south toward the Surf Club

3 Boat ramp access to the beach

4 Beachfront Norfork pines on the road reserve adjacent to Montrose Terrace

5 Existing coastal seawall with steps inserted for beach access

6 Mairangi Bay Surf Lifesaving Club current facility

7 The existing Watercare wastewater pumping station on Sidmouth Street

8 Mairangi Bay stream estuary

9 Footbridge over the Mairangi Bay stream

Review of Background Information

Mairangi Bay Beach Reserves

The following review of background information has been undertaken to both identify key development issues and identify any significant gaps in information.

REVIEW OF BACKGROUND INFORMATION

MAIRANGI BAY BEACH RESERVES MANAGEMENT PLAN

Summary

The Mairangi Bay Beach Reserves Management Plan (MBRMP) was adopted on 18 March 2015 by the Hibiscus and Bays Local Board. The MBRMP provides a guide for the future management of the Mairangi Bay Beach Reserves (including the associated coastal walkway) which encompass Mairangi Bay Beach Reserve, Sidmouth Street Reserve and the Montrose Terrace Reserve lands.

The MBRMP includes a Concept Plan which captures a number of projects which will be critical to the future development of Mairangi Bay. This includes a number of projects which will be delivered by Council Controlled Organisations (CCO's) including Watercare, and Auckland Transport as well as development works associated with Mairangi Bay Surf Life Saving Club who have provided surf life saving facilities at Mairangi Bay for over 50 years.

Outcomes

- An open expanse of reserve which effectively integrates land purchased at Montrose Terrace with existing reserve that is free of new structures other than those necessary for existing uses;
- Improved accessibility, connectivity to the coastline;
- Appropriate provision of infrastructure and services in accordance with the proposed concept plan included in the MBRMP;
- Provision for formal and informal recreation whilst protecting the landscape characteristics of the reserves;
- Protection and enhancement of the coastal edge and the coastal walkway;
- Effective stormwater and wastewater management of the site.

Constraints and Opportunities

- Mix of landuse classifications including Recreation Reserve and Road Reserve, the road's current location bisects the reserve land disconnecting it from the coast;
- Root systems of the two Norfolk Pines closest to the beach need consideration when the Montrose Terrace (beach front lane) is removed;
- Large mature Pohutukawa trees on site add amenity and will need consideration when improvements proceed;
- Two Phoenix canariensis at the south end of the Montrose Terrace reserve land are on the schedule of notable trees.

Giving Effect to Tangata Whenua Values

Māori first occupied the North Shore centuries ago. The coastal environment provided an abundance of food that was sourced from the local streams and the coastal fishing grounds. The fertile land provided further sources of food and the coastal location provided opportunities for lookout points and transportation routes.

The coastal strip between Campbells Bay (south of Mairangi Bay) & Murray's Bay (north of Mairangi Bay) was named by Māori 'Waipapa Bay'.

Translated this means water over wood. The name referred to quantities of logs and timber thought to be the remains of a fossilised forest that were revealed at low tide.

There are no recorded archaeological sites registered by council, however early settlement of the area by Māori means that it is likely that there are archaeological sites within the reserve area. The council seeks to work with associated iwi and hapū to ensure that Māori connections and spiritual values are recognised and protected within the reserve.

Iwi associated with the area include Ngāti Whātua o Orākei, Ngati Paoa, Ngāi Tai Ki Tāmaki, Ngati Maru, Ngati Whatua o Kaipara and Te Kawerau a Maki

Information Gaps

- Unsure if any significant sites and cultural landmarks have been identified by mana whenua within the site;
- No traffic engineering documentation to support removal of Montrose Terrace (beachfront lane);
- Detailed condition assessment and renewal options for seawall.

Fig 5 *Montrose Terrace Reserve land at Mairangi Bay*

01 Existing walkway (segment of Te Araroa walkway)
02 Beach access
03 Carpark - time restricted
04 Carpark
05 Buffer planting
06 Low speed road to connect existing roads
07 Road bridges around existing pohutukawa
08 Proposed lease area for surf lifesaving club - storage facility
09 Scheduled notable trees
10 Beach promenade
11 Public plaza over underground storage area (underground storage area proposed lease area for surf lifesaving club)
12 Proposed lease area for surf lifesaving club - new building footprint and lease area to include kiosk, public toilet and changing facilities
13 Existing bridge upgraded
14 Existing walkway - Forde Way (segment of Te Araroa walkway)

Existing vegetation
AH - Araucaria heterophylla - Norfolk Island Pine
ME - Metrosideros excelsa - Pohutukawa
PC - Phoenix canariensis - Canary Island Date Palm

Existing vegetation - proposed for removal

New trees

Vehicle barriers

Existing sea wall

Retaining wall

Proposed lease area for surf lifesaving club

Area being investigated for Watercare infrastructure upgrades

Building footprint waste water pumping station

CARPARK PROVISION	Existing	Proposed Option A
Carpark Spaces within extent of reserve	35	44

0 50

MAIRANGI BAY SURF LIFE SAVING CLUB - COASTAL HAZARD ASSESSMENT

In January of 2017, Tonkin + Taylor (T&T) were commissioned to undertake a site specific hazard assessment for the Mairangi Bay Surf Club site and surrounding reserve. The purpose of the assessment was to identify the potential effects of existing coastal processes and combined future climate change induced effects over the next 100 years to enable an assessment of the likely consequences of the proposed redevelopment works to the existing beachfront surf life saving club.

The surf club, constructed in 1954, is situated at the southern end of the reserve adjacent to Mairangi Bay Stream and a grouted stone wall extends along the perimeter of the grass reserve on which it stands. The existing surf club is located on a very active section of the beach reserve in terms of coastal processes and is effected by both tidal and wave action as well as outflows from the adjacent stream.

Constraints and Opportunities

- The proposed development (clubrooms, parking and horizontal infrastructure) is within an erosion susceptibility area;
- Seawall likely to be under increased erosion pressure due to lowering beach levels and likely increased overtopping and scour due to higher waves reaching seawall;
- Sand levels will continue to reduce in this area increasing the likelihood of future erosion pressures on the seawall and reserve areas where the surf club is situated;
- Further reduction of sand levels will also effect the use of the beach for MBSLSC activities as well as passive recreation, particularly around high tide periods.

Summary

- The proposed redevelopment of the MBSLSC is within an erosion susceptibility area and is dependent on the seawall being maintained to prevent erosion affecting the development;
- The existing ground levels adjacent to MBSLSC are sufficiently high that inundation of land will not be by direct inundation, but overtopping will occur during storm events and will potentially be exacerbated during king tides;
- Any development within the reserve needs to take into account the interrelated effects of climate change of at least 100 years, in accordance with relevant regulatory framework.

Fig 6 *Sea wall damage as a result of onshore storm surge and high tide (5th January 2018)*

Fig 7 *King tide inundating beach (7th December 2017)*

Fig 8 *King tide overtopping sea wall (7th December 2017)*

Fig 9 *Onshore storm and high tide inundating beach (5th January 2018)*

Planning Summary

Mairangi Bay Beach Reserves

PLANNING SUMMARY

A Draft Planning Assessment (refer Appendix 2) has been undertaken by WSP Opus which identifies the planning context and processes related to the delivery of a number of projects identified in the Mairangi Bay Reserves Management Plan (2015). Projects identified by the MBRMP and assessed by the appended report, include:

- Montrose Terrace Carpark and Link Lane;
- Montrose Terrace and Sidmouth Street cul-de-sac;
- Montrose Terrace (Beachfront Road Removal);
- Mairangi Bay Reserve Amenity Enhancement;
- Bridge Replacement and Stream Enhancement;
- MBSLSC Clubrooms and Storage Facility;
- Watercare Pump Station Upgrade;
- Seawall Renewal.

The proposed projects are considered to be consistent with the objectives and policies included in the Development Standards. The proposed projects will serve a variety of recreational needs and will provide a range of quality open space areas that provide for passive recreation.

These identified projects have been assessed against the Auckland Unitary Plan Operative in Part, Auckland Council Regional Plan: Coastal and the National Environmental Standards for Assessing and Managing Contaminants in Soil (NES). The Planning Assessment has identified that the proposed works will likely require resource consent as a Discretionary Activity under the Auckland Unitary Plan Operative (refer to appendix 2 Table 2-1 and 2-2 for detailed consent summary by activity).

There may be additional consents required subject to the findings of further technical investigations such as contaminated land consent under the NES and Auckland Unitary Plan Operative in Part (discharges). There may also be additional approvals required under the Heritage New Zealand Pouhere Taonga Act 2014.

The Planning Assessment is a "living" document and will be subject to change following stakeholder engagement, technical input and design being undertaken.

PLANNING FRAMEWORK

The Draft Planning Assessment has been based on the relevant planning legislation (Resource Management Act 1991 (RMA)), as well as the following:

- Auckland Unitary Plan (Operative in Part) ((AUP (OP));
- Legacy Plan - Auckland Council District Plan - Operative North Shore Section 2002 North Shore Plan), Auckland Council Regional Plan: Sediment Control (ACRP:SC) and Auckland Council Regional Plan: Air, Land and Water (ACRP: ALW) and Auckland Council Regional Plan: Coastal (ACRP:C) (as required); and
- National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health Regulations 2011 (NES Soil).

Other legislations that have been considered:

- Heritage New Zealand Pouhere Taonga Act 2014 (HNZPT); and
- Reserves Act 1977 (RA).
- New Zealand Coastal Policy Statement (NZCPS) 2010

ASSESSING AND MANAGING CONTAMINANTS IN THE SOIL

The predominant historic land use for the sites appears to be residential activities since the 1960's. However, the historical aerials suggest that part of the Mairangi Bay Beach Reserve may have been reclaimed. Therefore, the risk of encountering contaminated materials is considered to be low to medium. In order to ascertain any consenting requirements under the NES Soil, due to the proposed activities, which includes disturbing soil and change in land use; further information is required.

Subject to these findings, consent may be required as either a Controlled Activity or a Restricted Discretionary Activity under the NES Soil depending on the level of specialist input. Where the requirements in Regulation 9 and 10 are unable to be satisfied, consent will be required as a Discretionary Activity.

It is noted that the NES Soil does not apply where a Detailed Site Investigation demonstrates that any contaminants in or on the piece of land are at or below background concentrations.

LAND TRANSFER

The proposed Mairangi Bay Beach Reserves development as illustrated in the concept design requires the transfer of land from Auckland Transport to Auckland Council and vice versa. Land transfer will be required for the following key aspects of the project:

- Removal of beachfront lane - Transfer of land from Auckland Transport to Auckland Council - Approximately 1280m2
- Establishment of cul-de-sacs - Transfer of land from Auckland Council to Auckland Transport - Approximately 323m2

This land transfer process will require land that is currently gazetted Reserve to be transferred. Land that is gazetted reserve which needs to be transferred requires the approval from the Minister of Conservation, in accordance with requirements under the Reserves Act. The process for undertaking land transfer will need to be discussed with a property specialist. It is advised in order to streamline the consenting processes that the land be transferred prior to the lodgement of consent.

The North Shore City Council report dated 9th September 2010 is noted as a key background document which addresses the proposed land swap process as an enabler for the MBRMP concept plan. This report outlines the approval of 936.3m2 of reserve land to be used for the proposed Albany Highway Upgrade and vesting of approximately 2700m2 of Montrose Terrace (beach front lane) as mitigation for this. Refer to Appendix 1 for further details.

PLANNING SUMMARY

SPECIALIST INPUTS

Based on the assessment above a resource consent for parts will require an Assessment of Environmental Effects (AEE) to be undertaken. In preparing the AEE, a number of specialist assessments will be required that address the potential effects and mitigation provided to address adverse effects:

- Coastal Engineer;
- Environmental Engineer;
- Erosion and Sediment Control Specialist;
- Contaminated Land Specialist;
- Arboricultural;
- Geotechnical Engineer;
- Coastal Scientist;
- Ecology / Marine Ecology;
- Acoustic Engineer;
- Lighting Engineer;
- Transport Planner;
- Property Specialist;
- Archaeology.

CONSULTATION

There are a number of benefits from undertaking consultation with stakeholders and potentially affected parties. These benefits of effective consultation on this Project can include:

- Enhanced relationships between Council and stakeholders;
- Securing written approval from directly affected parties prior to lodging resource consent;
- Reducing the potential for submissions (if the applications are publicly notified).

In light of the consultation already undertaken, including that associated with the MBRMP, we recommend the following stakeholders are engaged with by Auckland Council as part of the design and consenting processes:

- Auckland Council internal stakeholders;
- Hibiscus and Bays Local Board;
- Iwi;
- Auckland Transport (AT);
- Watercare Services Limited;
- Minister of Conservation;
- Network Utility Providers;
- Surf Lifesaving Club;
- Private Property Owners;
- Respondents to the Reserve Management Plan;
- Local community groups and schools (such as Mairangi Bay Business association, and Mairangi Bay Arts Centre).

RECOMMENDATIONS

- Resource consent will be required as a Discretionary Activity. However, there may be additional consents required following further technical inputs;
- Engage specialists identified to support the preparation of an AEE;
- Engage in consultation with the landowners and stakeholders identified as soon as practicable, particularly iwi to determine if a cultural value assessment would be required;
- Consider a staged approach to consenting.

Engagement Summary

Mairangi Bay Beach Reserves

There are a wide range of stakeholders who may be involved in delivering these projects so the process in developing the Development Plan will require the preparation of a strategy to engage with all the parties to ensure all critical information is captured, areas of overlap established and the project sponsors and funding streams identified.

Key stakeholders include, but are not limited to:

1. Auckland Transport (Moving of road, cul-de-sacs and network planning);
2. Watercare (Upgrade of wastewater infrastructure);
3. Surf Life Saving NZ (Coordination of surf club upgrade, storage and access);
4. Auckland Council Coastal Hazards Management (Sea wall and coastal hazards);

AUCKLAND TRANSPORT (AT)

DATE: 31st August 2017
ATTENDEES:
Orson Waldock (Opus), Tosh Graham (Opus), Don Lawson (AC), Jade Ansted (AT), Murray Campbell (AT), Mitra Prasad (AT).

SUMMARY OF ENGAGEMENT:

Key discussion points included the road stopping process, adjustment of road reserve boundaries to accommodate the two proposed cul-de-sacs and the transportation outcomes and asset ownership options for the through reserve trafficable link.

KEY ISSUES:

Road Stopping and Transfer of Title Process

The current legal status of the beach front section of Montrose Terrace is Road Reserve and the Management Plan Concept calls for this road to be disestablished and amalgamated into the surrounding reserve as Informal Open Space.

The preference from AT is to undertake a formal Road Stopping and Transfer of Title Process to reclassify this section of Montrose Terrace (beachfront lane) as Informal Open Space and therefore moving the asset and its management to Auckland Council Parks. This process is mandated by the Local Government Act. There is a team and processes in place within AT to manage this process. This process is a significant undertaking and requires a standalone notification and consenting programme.

The notification process will require a 'call for objections' which must be advertised and is open for submission by any interested or affected party with the potential to go all the way to the Environment Court. Depending on the quantity and veracity of 'objections' the time frame for this process may take 6-8 months but could draw out for multiple years.

AT have established that the full extent of the two proposed cul-de-sacs should be accommodated within the proposed extent of Road Reserve. This will require further design study of these areas to ensure the cul-de-sacs and vehicle movements around the existing boat ramp can be fully accommodated spatially.

Proposed Reserve Link Lane

The design of the proposed Reserve Link Lane needs to be fully resolved and finalised alongside the proposed cul-de-sacs prior to undertaking the Road Stopping Process. This will be critical to demonstrate how this lane relates to the bigger picture from a vehicle and pedestrian network perspective as well as contributing to the overall character of this beach front reserve. It is also noted that there will be effects from the lane on adjacent properties, effects including noise and light spill will need to be addressed in subsequent design phases.

The MBRMP provides little clarity on several issues for this laneway including AT or Auckland Council asset, one way, two way or no vehicle access, hours of operation etc. All these issues will need to be consulted on and resolved in subsequent design phases.

Initial feedback from participants at the AT engagement meeting pointed towards a laneway which was closed to everyday through traffic with a focus on pedestrian and cycle access. This pedestrian laneway could then be used for intermittent access for emergency vehicles, events vehicles and MBSLSC for boat movement on club days. This initial feedback will need to be explored as part of a more detailed transport planning study and should include considering the following issues:

- AT or Auckland Council Parks asset (potential preference for Parks asset based on rationale of flexibility in terms of access and controlling operation);
- One way, two way or no vehicle access;
- Pedestrian and cycle provision;
- Hours of operation (potential to limit hours of use);
- Capacity to accommodate heavy vehicles, buses, emergency vehicles etc;
- Retention of MBRMP Concept Plan carpark provision (44no.);
- Impacts on the wider transport network, in particular the two roundabouts at Sidmouth Street and Montrose Terrace at Beach Road.

Transport Network Impacts

As identified above the design of the proposed link lane will have impacts on the wider transport network, in particular the two roundabouts where Sidmouth Street and Montrose Terrace intersect Beach Road. Further investigation including traffic and pedestrian counts and further design will be required to establish a preferred option for this laneway.

Albany Highway Land Swap

The North Shore City Council report dated 9th September 2010 is noted as a key background document which addresses the proposed road stopping process as an enabler for the MBRMP concept plan. This report outlines the approval of 936.3m2 of reserve land to be used for the proposed Albany Highway Upgrade and proposed vesting of approximately 2700m2 of Montrose Terrace (beach front lane) as mitigation for this.

KEY ACTIONS:

Design Development

As identified above, further design development across a number of issues relating to the proposed cul-de-sacs and reserve lane are required to be completed prior to undertaking the formal road stopping and transfer of title process. To fulfil the requirements of the road stopping and transfer of title process, the design process will need to be taken through to a level of detail which provides certainty in the following key areas:

- Transport planning study including modelling of adjacent intersections;
- Detail design of cul-de-sac and laneway including survey setout;
- Address any existing utility services under road to be stopped or relocated including infrastructure provider agreements;
- Operational management including control, maintenance and use/ ownership of link lane;
- Consider implications of coastal hazards including minimising footprint of cul-de-sacs in proximity in coastal inundation zone.

Fig 10 *Corner of Montrose Terrace and Sidmouth Street*

WATERCARE

DATE: 31st August 2017 (Opus)

ATTENDEES:

Orson Waldock (Opus), Tosh Graham (Opus), Marina Kudoic (Opus), Ajesh Jeram (Opus), Don Lawson (AC), Brent Evans (WC), Alan Sharp (WC).

SUMMARY OF ENGAGEMENT:

Key discussion points included the proposed new Watercare pump station and associated structures and where these would be located in relationship to existing trees, their scale and appearance. Discussion also included how MBSLSC storage facility might be accommodated within the Watercare development programme.

KEY ISSUES:

Pump Station

Watercare outlines general scope and scale of the proposed pump station which as proposed spans across the existing Watercare site, Recreation Reserve and Road Reserve. Underground structures include a wet well and pump chamber which will be to a depth of approximately 10 metres. Above ground will include a two-story building to accommodate control room, mechanical ventilation, switch gear and biofilter. Elements which are external to the building include hardstand area which provides access for pump maintenance and removal of electrical transformers and a number of service covers and access hatches.

Several key constraints have driven the proposed layout of the pump station including a 6m setback from the Recreation Reserve/residential boundary, 8 metre height limit and a number of significant trees including Pohutukawa, Norfolk Island Pine and protected Canary Island Date Palms. Any tree pruning will be subject to a Resource Consent application and all aspects of the design of this pump station will require Landowner Approval from the Hibiscus and Bays Local Board with input from Auckland Council Parks.

Watercare identified that the existing pump room must stay in place until work on the new pump station and associated structures are completed at which point this existing structure can be decommissioned.

Health and Safety

Watercare has a preference for fencing off the rear of the site to mitigate any health and safety concerns. Watercare has also noted a preference for not sharing the hardstand area with MBSLSC as 24 hour emergency access is required to the pump station and the presence of surf lifesaving club activities might impact on this.

Design Outcomes

Watercare agreed with principle that this is a high-profile space and particular care needed to be provided to ensure good urban design outcomes for the proposed pump station. Key issues discussed included:

- Consolidation of building forms where possible rather than a collection of buildings;
- Pump station to reflect the scale of the surrounding (predominantly low-rise residential) building forms using texture and variation in cladding to mitigate scale of building and provide a greater level of amenity to the street, consider materials and forms which reflect the surrounding natural environment;
- Use landscaping along street frontage to provide buffering and amenity.

Location & Land Swap

Given the scale of the proposed pump station and the need to retain the existing pump station for the duration of the build, Watercare propose to move the proposed pump station towards the east onto existing Recreation Reserve land. A land swap or establishment of an easement will need to be undertaken by Watercare to reflect the movement of the facility to the east and will therefore free up Recreation Reserve to the west to facilitate the implementation of the proposed Reserve Lane and/or MBSLSC storage facility.

MBSLSC Storage Facility

No definitive information has been provided to Watercare in terms of the size, footprint or access requirements for the proposed MBSLSC storage facility. The proposed pump station moving to the east and the decommissioning of the existing pump station however does free up an area of space at the western end of the site which could accommodate the storage facility or a portion of the clubroom facilities.

KEY ACTIONS:

- Auckland Council Parks and Watercare to work through process to confirm whether a land swap or easement will be appropriate;
- There may be opportunities to cost share further seawall studies (coastal management options) between Auckland Council and Watercare as the impacts of design and renewal works may impact on long term protection of Watercare infrastructure.

Fig 11 *Sidmouth Street Watercare pump station*

MBSLSC

DATE: 23rd November 2017 (Auckland Council - Bledisloe House)

ATTENDEES:

Orson Waldock (Opus), Don Lawson (AC), Matthew Ward (AC), Mace Ward (AC), Paul Klinac (AC), Kate Madsen (Paua Planning), Mark Gribble (Prendos), Tony Sands (MBSLSC)

DATE: 20th December 2017 (Mairangi Beach)

ATTENDEES:

Orson Waldock (Opus), Don Lawson (AC), Matthew Ward (AC), Leslie Jenkins (AC), Leigh Radovan (AC), Brent Evan (WC), Alan Shape (WC), Kate Madsen (Paua Planning), Mark Gribble (Prendos), Tony Sands (MBSLSC)

SUMMARY OF ENGAGEMENT:

Key discussion points included a briefing from Watercare on pump station progress and discussion around design development of MBSLSC clubrooms and storage facilities.

KEY ISSUES:

MBSLSC Clubrooms and Storage Location

MBSLSC and their consultant team of Paua Planning and Prendos Architecture are in the process of working through the design development process for the new clubrooms and storage facility. MBSLSC are considering a number of issues including the quantity of storage space required, building footprint and the impacts of some of the key findings from the T&T Coastal Hazard Assessment and a number of other technical considerations. The proposed building will be sited on the beachfront and is in line with the current clubroom location and the location identified in RMP Concept Plan.

While working through this design process MBSLSC will engage with Auckland Council and the Hibiscus and Bays Local Board to gain feedback on the developed design.

Watercare Design Programme

Watercare outlined their approach to decouple the Watercare programme from that of MBSLSC in order that the design and construction of the pump station can be progressed with urgency. Watercare are working on the basis of identifying the westward extent of the pump station so parties can progress schemes independently. There was however opportunity to shared access/ vehicle crossing and portions of hard stand area.

KEY ACTIONS:

- MBSLSC in consultation with Auckland Council to complete preliminary design phase and feasibility prior to engagement with Hibiscus and Bays Local Board;
- MBSLSC to determine, in line with RMP, space required for storage of boats, skis and related equipment;
- MBSLSC to engage with Local Board staff to coordinate timing of workshop to present developed design of clubrooms.

Fig 12 *Mairangi Bay Surf Life Saving Club*

AUCKLAND COUNCIL COASTAL HAZARDS MANAGEMENT

DATE: 21st February 2018 (Auckland Council - Bledisloe House)

ATTENDEES:

Orson Waldock (Opus), Don Lawson (AC), Paul Klinac (AC), Natasha Carpenter (AC)

SUMMARY OF ENGAGEMENT:

Key discussion points included the condition of the existing seawall seaward of the reserve, the implications of the recent coastal hazard assessment, climate change effects on the concept plan, implications of the status quo option to renew the existing seawall, and potential alternative coastal management options.

KEY ISSUES:

Coastal Erosion

In January 2017, Tonkin and Taylor completed a coastal hazard assessment for Mairangi Bay Surf Club. The assessment outlined the key coastal processes influencing the site including tides, storm surge and historic shoreline change. Future erosion and inundation risk at the site was also quantified. Erosion to 2120 in the absence of shore protection structures was predicted to total 53m from MHWS (including the effects of 1m sea-level rise) with additional ongoing beach lowering over time.

Coastal Inundation

Auckland Council Technical Report TR016/017 outlines the potential for coastal inundation by storm-tides and waves in the Auckland Region. At Mairangi Bay, extreme water levels to 2120 can be calculated considering the combined effects of the 100 year storm surge event, wave set-up and sea-level rise. This results in a predicted extreme water level of 3.44m RL. As a result, inundation of the site occurs through wave overtopping along with the ingress of water upstream to the lower lying land areas behind the reserve as demonstrated in Figure 13.

Maintaining the Existing Seawall – Status Quo Option

A grouted stone wall extends along the perimeter of the grass reserve, with beach access ramps at the northern and southern ends of the beach. The total length of the seawall is 286m. Following recent king tides combined with north-easterly storm events on the 5th January 2018, a 55m section of the wall has required emergency works including underpinning, regrouting and backfilling. Further urgent works are also scheduled to be undertaken immediately north of the boat ramp including backfilling of voids and underpinning. Total costs of the storm repair works at approximately $165,000. Such costs can be anticipated to continue over time with the predicted increase in the frequency and intensity in future coastal storm events.

Following recent emergency repair works, the seawall was assessed on the 7th March 2018 as in fair condition. This condition is defined as "*significant defects, major maintenance required to no more than 20% of the structure.*' Based on the results of the asset condition assessment, key issues and ongoing maintenance requirements with the seawall going forward will include:'

- The effects of climate change including sea-level rise and the increased frequency and magnitude of storm events which will result in more frequent and severe damages over the next 30+ years;
- Ongoing beach lowering will continue to undermine the seawall. Extension of recent underpinning works required along the length of the substructure to avoid wash out of fines and opening of voids;
- Increased overtopping of the wall at higher volumes. An increase in crest height will be required to achieve safe overtopping volumes for pedestrians and vehicles;
- Ongoing damage to wall, exceeding the current design criteria, resulting in a need for continuous regrouting and repointing.

The above highlights the likely ongoing and increasing costs associated with maintenance. Based on the existing works post storm damage, it is estimated that future annual maintenance could be in the range of $20-$75,000 (depending on magnitude of storm damage). Complete renewal and upgrade could alternatively be considered. Based on similar Auckland Council projects is likely to cost approximately $7000/m (excluding detailed design and consenting).

Alternative Coastal Management Option

Taking into account the immediate and ongoing costs relating to the renewal and continuous maintenance of the existing seawall, a range of alternative coastal management options (other than contiguous seawall) should be considered for the site. Based on the results of the coastal hazards assessment, Tonkin and Taylor (2017) recommended the potential to explore more landward locations of infrastructure to enhance long term resilience of the reserve. The alternative options would provide for more holistic, longer term management of the coastal environment in order to give effect to the New Zealand Coastal Policy Statement and latest guidance of the Ministry for the Environment. This approach would take into consideration the driving coastal system, effects of coastal hazards and climate change over time, and longer term adaptive and resilient coastal management options.

Programme

The renewal of the seawall is a priority project as it provides the protection to a significant amount of existing and proposed infrastructure. The design of these infrastructure projects, including carpark, cul-de-sac heads and surf lifesaving club cannot be progressed until the coastal management strategy and seawall renewal works are resolved.

KEY ACTIONS:

- Alternative coastal management strategies should be considered through investigation and design;
- Given the dependencies with other projects, investigation and design to include Assessment of Environmental Effects and consider coastal processes with respect to the outcomes identified for the reserve.

Fig 13 *Examples of coastal erosion and damage following storms/king tides*

Staging, Project Description and Cost Estimate

Mairangi Bay Beach Reserves

CONCEPT PLAN REFINEMENTS

1. Proposed Montrose Terrace carpark and Link Lane
2. Montrose Terrace and Sidmouth Street cul-de-sac
3. Montrose Terrace (beachfront road removal)
4. Mairangi Bay Reserve amenity enhancement
5. Bridge replacement and stream enhancement
6. MBSLSC clubrooms
7. MBSLSC storage facility
8. Watercare pump station upgrade
9. Seawall restoration

CONCEPT PLAN REFINEMENTS

A number of potential refinements have been identified to the existing Reserve Management Plan Concept Plan. These refinements have been undertaken in response to Auckland Council, Watercare and Auckland Transport stakeholder feedback. Areas of potential refinement include:

- Alignment of southern end of Link Lane has been shifted to the east to mitigate impacts on significant Pohutukawa and ease away from residential boundary. Surface treatment has been changed to a shared surface to reflect that this section of the lane may function primarily as a pedestrian and service lane. As indicated previously the design of the Link Lane, in terms of one way or two, operational hours etc will be resolved through subsequent design phases;
- Cul-de-sac heads have been re-sized to comply with current AT engineering standards and stay where possible within current extent of road reserve;
- Pump station footprint and location has been updated to reflect current Watercare scheme plan;
- Vehicle access from the Montrose Terrace Carpark to the head of the cul-de-sac has been omitted as it was considered to be not required from a vehicle circulation perspective and assists in the retention of a number of existing Pohutukawa which will provide shade and screen carpark from reserve.

As each of the distinct projects are developed over time additional refinements will be identified in response to further technical studies and wider public and stakeholder engagement. Through these subsequent design phases, all changes and impacts to the Mairangi Bay Concept Plan would be subject to local board approval.

MONTROSE TERRACE CARPARK & LINK LANE

DESCRIPTION: The informal grass overflow carparking at the northern end of the Mairangi Bay Reserve is to be formalised as a paved carpark. This will provide an offset for the parking loss from the removal of the Montrose Terrace (beachfront lane). Also anticipated in these works is the formation of a laneway at the rear of Mairangi Bay Reserve which will provide a vehicular and pedestrian link between Montrose Terrace and Sidmouth Street.

SPONSOR: Auckland Council - Community Facilities

FUNDING STREAM: Auckland Council - Long Term Plan

COST ESTIMATE: $684,998

PROGRAMME: Works to be completed prior to removal of Montrose Terrace (beachfront road) in order to mitigate loss of carparking.

DESIGN, PLANNING AND CONSENTING PROCESSES INCLUDES:

- Preliminary design (including traffic modelling) and stakeholder engagement;
- Resource Consent;
- Detailed design, Building Consent and tender documentation;
- Contract administration.

INDICATIVE SCOPE OF PHYSICAL WORKS INCLUDES:

- Tree protection, formative tree pruning works and vegetation removal works;
- Protection and/or upgrade to existing underground services including 725mm concrete wastewater, 225mm concrete stormwater and 100mm AC water supply;
- Construction of carpark and link lane including bulk earthworks, catch pits, stormwater connections, basecourse, kerb lines, asphalt, permeable paving, concrete carriageway, road marking, signage, street lighting (if appropriate), vehicle gates/bollards, footpaths, grass, shrub and tree planting;
- Construction of 44no. carparks split between Montrose Terrace cul-de-sac and carpark.

SUMMARY

- As identified previously the design of the proposed laneway will have impacts on the wider transport network in particular the two existing roundabouts at Sidmouth Street and Montrose Terrace at Beach Road;
- Further investigation including traffic and pedestrian counts and further design will be required to establish a preferred option for this laneway including management, ownership and maintenance;
- Engagement with MBSLSC will be required to identify any overlap with access requirements for storage facilities, club rooms, boat launching and retrieval.

Fig 14 *Indicative extents of carpark and Link Lane*

MONTROSE TERRACE & SIDMOUTH STREET CUL-DE-SACS

DESCRIPTION: The formation of two cul-de-sacs at the ends of Montrose Terrace and Sidmouth Street are fundamental in terms of the removal of the Montrose Terrace (beachfront road). The cul-de-sacs are required in order to maintain traffic movements at street ends and in the case of Montrose Terrace provide access to and manoeuvring space to the existing boat ramp which is to be retained. Note, given boat ramp is considered only suitable for small trailer boat launching (other than MBSLSC rescue boats), no significant improvements to boat ramp or boat trailer parking has been anticipated. Consideration will need to be given to size and location of the cul-de-sacs in relation to the seawall. Given the impacts of sea level rise and overtopping this roading infrastructure should be pushed landward as much as practicable. The overall footprint of the cul-de-sacs should also be minimised where practical in order to retain as much of the green character of the reserve as possible.

SPONSOR: Auckland Transport / Auckland Council Community Facilities

FUNDING STREAM: AT & Auckland Council - Long Term Plan

COST ESTIMATE: $1,195,410

PROGRAMME: It is assumed that both cul-de-sacs should be completed at the same time and should precede the removal of the beachfront road.

DESIGN, PLANNING AND CONSENTING PROCESSES INCLUDES:

- Preliminary design including traffic modelling, coastal processes and stakeholder engagement;
- Road stopping and transfer of title process;
- Resource Consent;
- Detailed design, Building Consent and tender documentation;
- Contract administration.

INDICATIVE SCOPE OF PHYSICAL WORKS INCLUDES:

- Decommissioning and removal of existing infrastructure including asphalt, basecourse, kerbs, signage, street lighting, catch pits and manholes etc;
- Protection and/or upgrade to existing underground services including 725mm concrete wastewater, 225mm concrete stormwater and 100mm AC water supply;
- Construction of cul-de-sac including bulk earthworks, catch pits, stormwater connections, basecourse, kerb lines, asphalt, permeable paving, road marking, signage, street lights, footpaths, grass, shrub and tree planting;
- Construction of 44no. carparks between Montrose Terrace cul-de-sac and carpark.

SUMMARY

- The formation of the two cul-de-sacs are connected with the removal of the beachfront road will be subject to a formal road stopping and transfer of title process;
- AT have established that the full extent of the two proposed cul-de-sacs are to be accommodated within the proposed extent of Road Reserve.

Fig 15 *Location of Montrose Terrace cul-de-sac*

Fig 16 *Location of Sidmouth Street cul-de-sac*

MONTROSE TERRACE (BEACHFRONT ROAD REMOVAL)

DESCRIPTION: The removal of the beachfront section of Montrose Terrace is a key aspect of the Management Plan Concept which enables continuous green open space to run right up to the beach edge. This project will require completion of a land transfer process prior to physical works being undertaken. This process is outlined on pages 12 and 15. This project will include decommissioning the road and supporting infrastructure in order to return this space to grassed reserve.

SPONSOR: Auckland Council Community Facilities

FUNDING STREAM: Auckland Council - Long Term Plan

COST ESTIMATE $354,310

PROGRAMME: Works cannot be completed until both cul-de-sacs are complete for Montrose Terrace and Sidmouth Street.

Fig 17 *Indicative extents of road stopping*

SCOPE OF ROAD CLOSURE PROCESS

The proposed Mairangi Bay Beach Reserves development as illustrated in the MBRMP Concept Plan requires the transfer of land from Auckland Transport to Auckland Council and vice versa. The North Shore City Council report dated 9th September 2010 is noted as a key background document which addresses the proposed road land transfer as an enabler for the MBRMP Concept Plan.

As identified in the Revised Concept Plan, land transfer will be required for the following key aspects of the project:

- Removal of beachfront lane - Transfer of land from Auckland Transport to Auckland Council - Approximately 1280m2;
- Establishment of cul-de-sacs - Transfer of land from Auckland Council to Auckland Transport -Approximately 323m2.

This land transfer process will require land that is currently gazetted Reserve to be transferred. Land that is gazetted reserve which needs to be transferred requires the approval from the Minister of Conservation, in accordance with requirements under the Reserves Act. There is a team and processes in place within AT to manage this process. This process is a significant undertaking and requires a standalone notification and consenting programme.

The notification process will require a 'call for objections' which must be advertised and is open for submission by any interested or affected party with the potential to go all the way to the Environment Court. Depending on the quantity and veracity of 'objections' the time frame for this process may take 6-8 months but could be drawn out for multiple years.

DESIGN, PLANNING AND CONSENTING PROCESS INCLUDES:

- Preliminary design including coastal processes and stakeholder engagement;
- Road stopping and transfer of title process;
- Resource Consent;
- Detailed design, Building Consent and tender documentation;
- Contract administration.

INDICATIVE SCOPE OF PHYSICAL WORKS INCLUDES:

- Decommissioning and removal of existing infrastructure including asphalt, basecourse, kerbs, signage, street lighting, catch pits and manholes etc;
- Protection and/or upgrade to existing underground services including 725mm concrete wastewater, 225mm concrete stormwater and 100mm AC water supply;
- Grass reinstatement including supply and installation of suitable fill material, topsoil, grading and turf.

SUMMARY

- Removal of the beachfront road will be subject to a formal road stopping and transfer of title process;
- Removal of road will reduce overall carpark numbers for Mairangi Bay, the timing of the construction of the Montrose Terrace carpark needs to be considered in the overall programme.

MAIRANGI BAY RESERVE AMENITY ENHANCEMENT

DESCRIPTION: Minor amenity upgrades to Mairangi Bay Beach Reserve including the formation of a new beachfront promenade which will displace the current playground. It is assumed that with significant re configuration of the Mairangi Bay Beach Reserve that amenity enhancements such as new carpark, footpaths and park furniture including seating, bollards, BBQ, signage etc would be undertaken.

SPONSOR: Auckland Council Community Facilities

FUNDING STREAM: Auckland Council - Long Term Plan

COST ESTIMATE: $578,448

PROGRAMME: It is assumed that amenity enhancements to the reserve would follow the formation of the two cul-de-sacs and be delivered alongside the new carpark and link lane.

DESIGN, PLANNING AND CONSENTING PROCESS INCLUDES:

- Preliminary design, stakeholder engagement and Resource Consent;
- Detailed design, Building Consent and Tender documentation;
- Contract administration.

INDICATIVE SCOPE OF PHYSICAL WORKS INCLUDES:

- Decommissioning and removal of existing park structures such as footpaths, swing set, park furniture etc;
- Construction of footpath network and associated drainage network;
- Construction of new carpark;
- Supply and installation of park furniture including seating, bollards, BBQ, signage, play equipment etc.

SUMMARY

- All aspects of the amenity enhancements i.e. scale of any playground, suitability of BBQ's, location of seating etc would be subject to the normal Local Board and community engagement process.

Fig 18 *Existing seating and play area*

BRIDGE REPLACEMENT & STREAM ENHANCEMENT

DESCRIPTION: An ageing timber bridge which connects the reserve to the Whitby Crescent walkway will likely require replacement over the coming years. The replacement of the bridge will also provide opportunities for stream enhancement planting and habitat creation.

SPONSOR: Auckland Council Community Facilities

FUNDING STREAM: Auckland Council - Long Term Plan - Capital Renewal

COST ESTIMATE $104,611

PROGRAMME: Programme for replacement will likely be driven by completion of condition assessment.

DESIGN, PLANNING AND CONSENTING PROCESS INCLUDES:

- Condition assessment
- Preliminary design, stakeholder engagement and resource consent
- Detailed design, Building Consent and tender documentation
- Contract administration

INDICATIVE SCOPE OF PHYSICAL WORKS INCLUDES:

- Decommissioning and removal of existing 2m wide timber bridge
- Stream edge works including vegetation removal, recontouring of stream edge, habitat creation and stream enhancement planting
- Construction of concrete bridge abutments and scour protection
- Supply and installation of 3m wide steel and timber bridge

SUMMARY

- Condition assessment will be critical in providing greater clarity of replacement programme. The renewal of this structure is not dependant on any other project.
- The existing bridge may need to be retained in place throughout the implementation of the new bridge to maintain pedestrian access to the coastal walkway, which forms part of Te Araroa Walkway.

Fig 19 *Existing bridge connection between Mairangi Bay Reserves and Whitby Crescent walkway*

MBSLSC CLUBROOMS & STORAGE FACILITY

DESCRIPTION: MBSLSC are undertaking an upgrade of their existing clubrooms and storage facility.

SPONSOR: Surf Life Saving New Zealand

FUNDING STREAM: Surf Life Saving New Zealand and charitable contributions

BUDGET: N/A

PROGRAMME: MBSLSC are yet to confirm a programme for works.

Fig 20 *Mairangi Bay Surf Life Saving Club*

INDICATIVE SCOPE OF PHYSICAL WORKS INCLUDES:

- Decommissioning and removal of existing clubrooms including building, foundations, and building services
- Remedial/renewal works to sea wall including underpinning and recladding of existing wall and/or construction of new sections of sea wall. Agreement will be required in terms of funding arrangements for this, as the sea wall is an Auckland Council asset and will likely require renewals works to enable the rebuilding of the clubrooms in their current location;
- Construction of new clubrooms and storage facility including site works, building services and construction of new building.

DESIGN, PLANNING AND CONSENTING PROCESSES INCLUDES:

- Preliminary design which determines footprint, form, access and operational requirements of new clubrooms and storage facilities is being undertaken by MBSLSC and their consultant team;
- Engagement with Auckland Council and the Hibiscus and Bays Local Board and will be required for Landowner Approval and Resource Consent processes;
- Detailed design and Building Consent;
- Contract administration.

SUMMARY

- MBSLSC to complete preliminary design prior to consultation with Hibiscus and Bays Local Board;
- All aspects of the preliminary design require Landowner Approval from Hibiscus and Bays Local Board prior to lodgement of Resource Consent;
- No work has been undertaken to understand the scope of works or costs associated with seawall remedial or renewals works triggered by the proposed MBSLSC clubrooms. The Coastal Hazard Assessment identifies the limitations of the current seawall in terms of managing erosion and overtopping. While additional works to the seawall are highly likely, no agreement is in place to identify the funding of potential remedial or renewals work.

WATERCARE PUMP STATION UPGRADE

DESCRIPTION: Watercare are undertaking an upgrade of their existing pump station. The proposed pump station will span across the existing Watercare site, Recreation Reserve and Road Reserve. Underground structures include a wet well and pump chamber to a depth of approximately 10 metres. Above ground will be a two-story building to accommodate control room, mechanical ventilation, switch gear and biofilter. Elements which are external to the building include hardstand area which provides access for pump maintenance and removal, electrical transformers and a number of service covers and access hatches.

SPONSOR: Watercare

FUNDING STREAM: Watercare

COST ESTIMATE: N/A

PROGRAMME: Construction late 2018 - 2019

DESIGN, PLANNING AND CONSENTING PROCESS INCLUDES:

- Preliminary design and stakeholder engagement;
- Resource Consent and Landowner Approval from Hibiscus and Bays Local Board;
- Preparation of design and build contract (currently underway);
- Appointment of design and build contractor;
- Detailed design, Resource Consent and Building Consent;
- Contract administration.

INDICATIVE SCOPE OF PHYSICAL WORKS INCLUDES:

- Tree protection works and formative tree pruning;
- Construction of new pump station including site works and construction of new building and pump chamber;
- Streetscape renewal works.

SUMMARY

- Watercare to complete preliminary design and feasibility phase in consultation with Auckland Council prior to engagement with Hibiscus and Bays Local Board;
- There may be opportunities to cost share further seawall studies (coastal management options) between Auckland Council and Watercare as the impacts of design and renewal works may impact on long term protection of Watercare infrastructure.
- All aspects of the preliminary design require landowner approval from Hibiscus and Bays Local Board prior to lodgement of Resource Consent.

Fig 21 *Existing Watercare Pump station on Sidmouth Street*

SEAWALL RENEWAL

DESCRIPTION: The existing seawall will require ongoing renewals works as it is likely to be under increased erosion pressure. The frequency and scale of renewal works will be affected by many factors including lowering of beach levels and increased overtopping and scour due to higher waves reaching the seawall. This is in a context of anticipated sea level rise and increased frequency of adverse weather events. No Coastal Processes Report has been carried out at this preliminary phase, but would be required to confirm the scale, extent and timing of likely renewals works. The replacement of a new MBSLSC clubrooms and storage facility in the current location would require significant works to this section of existing seawall to enable this building to be constructed.

SPONSOR: Auckland Council Community Facilities

FUNDING STREAM: Auckland Council - Long Term Plan

COST ESTIMATE: $2,342,000

PROGRAMME: Any works would be triggered by either the construction of a new MBSLSC club rooms and storage facility or renewals works triggered by a condition assessment and/or works triggered by an adverse storm event.

DESIGN, PLANNING AND CONSENTING PROCESS INCLUDES:

- Coastal Processes Report will identify the preferred holistic design outcome for sea wall based on impacts of climate change and coastal hazards over time;
- Preliminary design, engagement and Resource Consent;
- Detailed design, Building Consent and Tender documentation;
- Contract administration.

INDICATIVE SCOPE OF PHYSICAL WORKS INCLUDES:

- Demolition of selected sections of existing sea wall and salvaging of stone cladding;
- Remediation of selected portions of existing sea wall including underpinning, recladding and repointing of stone cladding;
- Upgrading/diversion of existing storm water outfalls;
- Construction of new sections of sea wall, access stairs pedestrian ramps/stairs and boat ramp including excavation, drainage works, concrete works, stone cladding, handrails etc.

SUMMARY

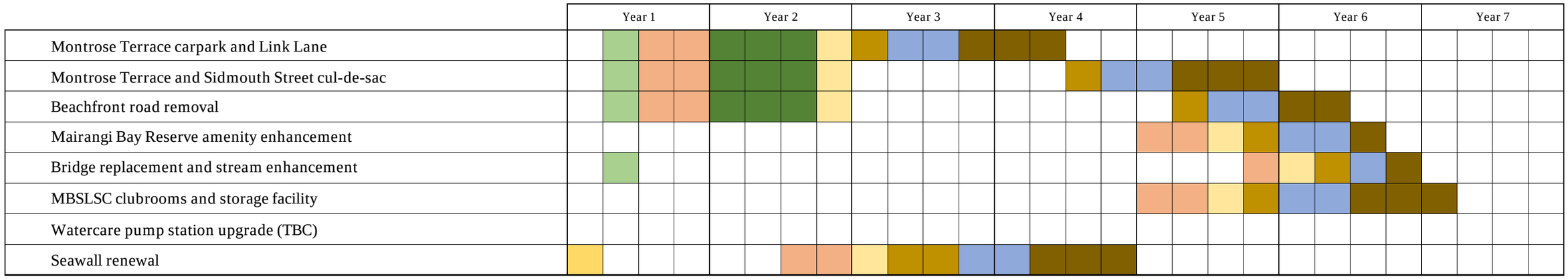
- Coastal Processes Report will be critical in providing greater clarity of future renewals works, this report will confirm the most appropriate coastal management option at this location;
- The replacement of MBSLSC clubrooms and storage facility in the current location will trigger significant renewal works to this section of seawall.

Fig 22 *Seawall by the Mairangi Bay boat ramp*

Staging and Costs

Mairangi Bay Beach Reserves

PROJECT STAGING SCHEDULE



LEGEND

- Investigation and Design - Coastal Processes Report
- Investigation and Design - Condition and Lifespan Assessment and Renewal Strategy
- Investigation and Design - Preliminary Design, AEE and Engagement
- Road Stopping and Land Transfer
- Landowner Approval
- Resource Consent
- Detailed Design / Building Consent / Tendering
- Construction

ASSUMPTIONS

- A number of critical technical studies will need to be completed prior to finalising design briefs and therefore progressing detailed design and physical works. These technical studies are best progressed in the following sequence and include:
  1) Seawall asset inspection, life span assessment and renewal strategy;
  2) Preliminary design phase for twin cul-de-sacs and link lane;
  3) Road Stopping and Land Transfer ;
- 2021 - 2031 Long Term Plan (LTP) funding has not been adopted yet;
- None of the projects identified within the Development Plan are currently funded;
- Bulk of renewals and capital work will need to be delivered post 2021 through the LTP process;
- Review of LTP for post 2021 to be complete by August 2020 at which point it will be issued for public consultation;
- Available funding for the 2021 - 2031 LTP will be available from July 1st 2021 onwards;

PROJECT COST ESTIMATE

	Montrose Terrace Carpark and Link Lane	Montrose Terrace and Sidmouth Street cul-de-sacs	Beachfront Road Removal	Mairangi Bay Reserve Amenity Enhancements	Bridge Replacement and Stream Enhancement	MBSLSC clubrooms and Storage Facility	Watercare Pump Station Upgrade	Seawall Renewal
Professional Services Fees								
Design, Engagement and Consenting	$ 100,244	$ 174,938	$ 36,346	$ 72,306	$ 10,729			$ 360,000
Project Management	$ 27,845	$ 48,594	$ 15,144	$ 24,102	$ 4,471			$ 150,000
Professional Services Fees Subtotal	**$ 128,089**	**$ 223,532**	**$ 51,490**	**$ 96,408**	**$ 15,200**	**n/a**	**n/a**	**$ 510,000**
Construction Costs								
Preliminary and General	$ 60,000	$ 90,000	$ 30,000	$ 30,000	$ 15,000			$ -
Site Clearance	$ 10,000	$ 40,000	$ 120,000	$ 20,000	$ 10,000			$ -
Services	$ 45,000	$ 100,000	$ 70,000	$ 35,000	$ 2,500			$ -
Kerbs, Asphalt and Carriageway Works	$ 165,379	$ 306,414	$ -	$ -	$ -			$ -
Footpaths and Paving	$ 58,009	$ 85,974	$ -	$ -	$ 4,609			$ -
Street Furniture	$ 10,800	$ 4,000	$ -	$ 242,300	$ -			$ -
Lighting and Electrical	$ 68,000	$ 136,000	$ -	$ -	$ -			$ -
Planting	$ 32,503	$ 18,710	$ 18,000	$ 60,000	$ 28,000			$ -
Maintenance	$ 14,400	$ 28,800	$ 14,400	$ 14,400	$ 14,400			$ -
Contingency (20%)	$ 92,818	$ 161,980	$ 50,480	$ 80,340	$ 14,902			$ -
Construction Costs Subtotal	**$ 556,909**	**$ 971,878**	**$ 302,880**	**$ 482,040**	**$ 89,411**	**n/a**	**n/a**	**$ 3,000,000**
Total Project Cost Estimate (2018 Costs)	**$ 684,998**	**$ 1,195,410**	**$ 354,370**	**$ 578,448**	**$ 104,611**	**n/a**	**n/a**	**$ 3,510,000**

YEAR BY YEAR COST PLAN

	Year 1 - 2021	Year 2 - 2022	Year 3 - 2023	Year 4 - 2024	Year 5 - 2025	Year 6 - 2026	Cost Estimate (2018 Costs)	Total Project Cost Estimate (Inflation Adjusted)
Montrose Terrace Carpark and Link Lane	$ 50,122	$ 50,122	$ 556,909				$ 684,998	
Montrose Terrace and Sidmouth Street cul-de-sacs	$ 58,313	$ 58,313		$ 58,313	$ 971,878		$ 1,195,410	
Beachfront Road Removal	$ 12,115	$ 12,115			$ 12,115	$ 302,880	$ 354,370	
Mairangi Bay Reserve Amenity Enhancements				$ 36,153	$ 36,153	$ 482,040	$ 578,448	
Bridge Replacement and Stream Enhancement	$ 5,365				$ 5,365	$ 89,411	$ 104,611	
MBSLSC clubrooms and Storage Facility							$ -	
Watercare Pump Station Upgrade							$ -	
Seawall Renewal		$ 747,413	$ 747,413	$ 747,413			$ 2,342,340	
Project Management	$ 36,709	$ 36,709	$ 36,709	$ 36,709	$ 36,709	$ 36,709		
Subtotal	**$ 162,624**	**$ 904,672**	**$ 1,341,031**	**$ 878,588**	**$ 1,062,220**	**$ 911,040**	**$ 5,260,176**	
Inflation Adjusted Total (4%/Year Compounding)	**$ 182,929**	**$ 1,058,339**	**$ 1,631,570**	**$ 1,111,695**	**$ 1,397,809**	**$ 1,246,822**		**$ 6,629,163**

APPENDIX 1 - ALBANY HIGHWAY / MAIRANGI BAY LAND SWAP

CSP-161 Parkland Required for Albany Highway Upgrade

TO: **Community Services & Parks Committee**

ON: **9 September 2010**

AUTHOR: **Parks Policy and Planning Advisor**

Summary:

The Transport Strategy and Planning Department are seeking approval from the Committee to acquire portions of the road frontage of six parkland parcels to facilitate the development of the proposed Albany Highway upgrade—see Table 1. For plans of the portions of parkland proposed to become road see Attachment 2.

While Council does not, in principle, endorse alienation of parkland from the city's park network, officers are cognisant of the need for an upgrade to the existing Albany Highway to accommodate current demand and future growth. Parks officers are satisfied that the impacts on public access, function and usability, and on amenity values, of the proposed land acquisitions by the Transport Department will be no more than minor.

Additionally, officers see this as an opportunity to undertake a land swap to obtain some strategically important road land for incorporation into Mairangi Bay Beach Reserve.

With the recent purchase of 19 Montrose Terrace, Mairangi Bay, Council has completed the last of its strategic land acquisitions which will facilitate the creation of an expanded recreational area at the Mairangi Bay beachfront. Closure of the road between Montrose Reserve, Sidmouth Reserve, the recently acquired Montrose Terrace properties and the existing Mairangi Bay Beach Reserve would maximise the area available for public recreation and fully capitalise on Council's expenditure on acquiring numbers 15, 17 and 19 Montrose Terrace.

Attachment 3 shows the draft concept plan for the expanded Mairangi Bay Beach Reserve, which will form part of the reserve management plan consultation process next year. (Note that this concept plan does not include 19 Montrose Terrace which was acquired subsequent to the creation of the plan.) Although this plan has not been formally approved yet, it gives the Committee an indication of how the beach reserve could be improved over time.

Figure 1 shows the approximately 2,700m² of road land that is recommended to be swapped for the parkland required for the proposed Albany Highway upgrade. This would facilitate the implementation of the proposed Mairangi Bay Beach Reserve redevelopment.

If the land swap were to be undertaken, the North Shore parks network would lose a total of 936.3m² of park road frontage in Albany but acquire approximately 2,700m² of prime parkland in Mairangi Bay. Officers are of the opinion that the nett gain of parkland obtained in the transaction would satisfy the Minister of Conservation who must approve all such land swaps.

Officer's Recommendations:

1. **That the report be received.**

2. **That approval be granted to proceed with the process to revoke the reserve status of portions of 6 parkland parcels as listed in Table 1 of this report, and as per the plans in Attachment 2 of this report, to facilitate the proposed Albany Highway upgrade subject to the following:**

   (a) That the portion of Montrose Terrace between Montrose Reserve, Sidmouth Reserve, 15-19 Montrose Terrace and the existing Mairangi Bay Beach Reserve, be closed and vested as recreation reserve under the Reserves Act 1977;

(b) That the identified road closure be timed to coincide with future development of the reserve

(c) That approval of the Department of Conservation be obtained.

Links to, and Consistency with:

Policy		**Description of link and the consistency or inconsistency**	**Reference**
(a)	City Blueprint:		
(b)	City Plan:	Contributes to City Plan outcomes	
(c)	Annual Plan:	Contributes to Annual Plan Objectives and Levels	
(d)	District Plan:	Compliant	
(e)	Other council strategies/plans:	Consistent with Council's Strategic Plan - Ease of Movement	Strategic Plan June 2001
(f)	Council Policy Manual:	N/A	

Significance		**High**	**Medium**	**Low**
(a)	Impact [implication × how many people affected]	All road users		
(b)	History of public interest	Significant interest in the Albany Senior High School project		
(c)	Impact on the council budget or capacity			Low
(d)	Can the decision, policy or proposal be reversed?	No, once the land is purchased and the road built it would be difficult to purchase the land back.		
(e)	Describe any alteration of service levels of any council significant activity	The project improves service levels for all road users.		
(f)	Describe any impact on any council strategic assets	Transport Infrastructure is improved and created some minor reduction on the cemetery site, although grave plots should not be disturbed.		
(g)	Does this decision involve changing the way in which a significant activity is delivered?	No		
(h)	If this is a significant decision, how does it take account of the relationship of Māori to ancestral land, water, sites, waahi tapu, valued flora and fauna, and other taonga?	N/A		

Community views		
(a)	What information does the council have on community views on this matter?	N/A
(b)	What communication and/or consultation has been undertaken?	N/A
(c)	What consideration has been given to community views on this matter?	N/A
(d)	Further consultation is required	

Auckland Transition Agency Requirements:

Tick Yes or No to each question			Yes	No
(a)	Does the decision being made -	• significantly prejudice the reorganisation		✓
		• significantly constrain the powers or capacity of the Auckland Council or any subsidiary of the Auckland Council following the reorganisation		✓
		• have a significant negative impact on the assets or liabilities that are transferred to the Auckland Council as a result of the reorganisation		✓
		• a decision in respect of which the Transition Agency has notified the existing local authority under Section 20		✓
(b)	Does this decision impact meet any of the following criteria -	***For policy development*** • Adopting a policy required by the Local Government Act 2002		✓
		• that is significantly inconsistent with, or is anticipated to have consequences that will be significantly inconsistent with, any policy or plan adopted by the existing local authority under the Local Government Act 2002		✓
		Funding • to set a rate other than in accordance with its long-term council community plan		✓
		• to borrow money for a period that extends beyond 30 June 2011		✓
		Assets and contracts • to purchase or dispose of assets other than in accordance with its long-term council community plan		✓
		• to enter into any contract (other than an employment agreement) — o that imposes, or will continue to impose, any obligation on the existing local authority after 30 June 2011; and o the consideration for which is, or is equivalent to, $20,000 or more		✓
		Council Controlled Organisations • to establish, or become a shareholder in, a council-controlled organisation		✓
		• to adopt or amend a policy concerning the appointment or remuneration of directors of a council-controlled organisation		✓
		• to appoint a person as a director of a council-controlled organisation		✓
		• to agree to, or modify, the statement of intent of a council-controlled organisation		✓

Background:

The following background is from the attached report from Brian Devitt—see Attachment 1:

The Albany Highway from Schnapper Rock/Bush Roads to State Highway 17 is a 3.7km stretch of Regional Arterial Road currently in two lanes with some footpaths but, in general, still a country road. The Highway supports

residential and commercial activities and is a major link between the Upper Harbour Highway in the south to State Highway 17 in the north with connections to the North Harbour Industrial Estate which accounts for much of the traffic. Currently 14,000 vehicles a day use the highway with growth anticipated to rise to 24,000 vehicles per day in 2024. The highway also supports four schools with a combined roll of 5,000 students and Massey University with a roll of 6,500 with many of the Massey students residing on the highway. Retaining this highway as a major Regional Arterial Route while ensuring the safety of a very large number of young people and parents provides a unique challenge.

In order to provide the infrastructure for a large number of vehicles while encouraging the use of alternate modes of transport by school children and adults, a four lane solution with dedicated footpaths and cycle paths, with good separation between these paths and the road, is seen as a minimum requirement. Given this, a minimum corridor width of 28.5 metres is required. While this is slightly under the nominal width for a Regional Arterial Route it does provide for good facilities without a major impact on land requirements. Discussions are under way with a number of land owners to secure the required property to build the highway and some land is required from a number of parks and reserves along the route.

The Transport Strategy and Planning Department are seeking approval to acquire portions of the road frontage of six parkland parcels to facilitate the proposed road-widening works—see Table 1. For plans of the portions of parkland proposed to become road see Attachment 2.

Reserve Name	Legal Description	Total Area of Parcel (ha)	Area Required for Road Widening (ha)	Total size of Reserve (ha)
Albany Domain	Pt Allot 690 Parish of PAREMOREMO	4.4353	0.01643 (164.3m²)	5.0399
Fernhill Escarpment	Pt Lot 1 DP 137152	10.7000	0.0130 (130.0m²)	16.2123
	Lot 4 DP 137152	2.1670	0.0186 (186.0m²)	
Days Bridge Esplanade Reserve	Lot 2 DP 132667	1.3800	0.0195 (195.0m²)	1.3800
Clear Reserve	Lot 78 DP 179305	0.4766	0.0105 (105.0m²)	0.4766
Parkhead Reserve	Lot 23 DP 115950	1.5795	0.0146 (146.0m²)	1.5887
		Total Areas (ha)	0.09363 (936.3m²)	24.6975

Table 1. A list of the affected parks and parcels and the area of each required for the proposed road widening. Total area of land required for road widening is 0.38% of total area of affected parkland.

While Council does not, in principle, support any alienation of parkland from the city's park network, officers are cognisant of the need for an upgrade to the existing Albany Highway to accommodate current demand and future growth. Parks officers are satisfied that the impacts of the proposed land acquisitions by the Transport Department on public access, function and usability of the affected reserves and their amenity values, will be no more than minor.

Additionally, officers see this as an opportunity to undertake a land swap to obtain some strategically important road land for incorporation into Mairangi Bay Beach Reserve.

With the recent purchase of 19 Montrose Terrace, Mairangi Bay, Council has completed the last of its strategic land acquisitions which will facilitate the creation of an expanded recreational area at the Mairangi Bay beachfront. Closure of the road between Montrose Reserve, Sidmouth Reserve, the recently acquired Montrose Terrace properties and the existing Mairangi Bay Beach Reserve would maximise the area available for public recreation and fully capitalise on Council's expenditure on acquiring numbers 15, 17 and-19 Montrose Terrace.

Figure 1 shows the approximately 2,700m² of road land that is recommended for the land swap proposal required for the proposed Albany Highway upgrade. This would facilitate the implementation of the proposed Mairangi Bay Beach Reserve redevelopment.

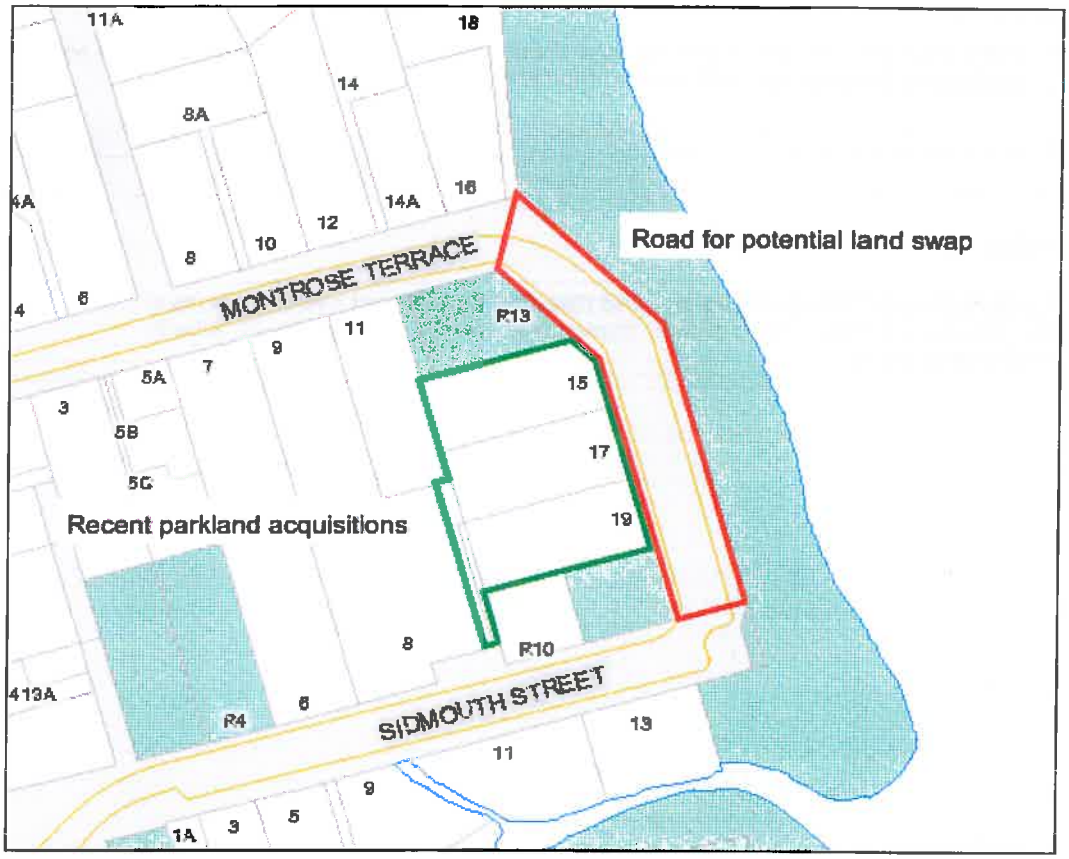


Figure 1. Plan of Mairangi Bay showing the recent parkland acquisitions (outlined in green) and the potential area of road to be swapped for the parkland required for the Albany Highway upgrade (outlined in red).

If the land swap were to be undertaken the North Shore parks network would lose a total of 936.3m² of road frontage in Albany but acquire approximately 2,700m² of prime parkland in Mairangi Bay.

	Name and title of signatories
Prepared by	Ezra Barwell, Parks Policy and Planning Advisor
	Confirmation of statutory compliance In accordance with section 76 of the Local Government Act 2002, this report is approved as: (a) containing sufficient information about the options and their benefits and costs, bearing in mind the significance of the decisions; and, (b) is based on adequate knowledge about, and adequate consideration of, the views and preferences of affected and interested parties bearing in mind the significance of the decision.
Approved by	Terry Baxter, Parks Policy and Planning Manager Martin van Jaarsveld, Parks Manager Lorretta Burnett, General Manager Community Services

Date: **26 August 2010**

Attachments:
Attachment 1: Letter from the Transport Strategy and Planning Department seeking approval to acquire parkland to facilitate implementation of the proposed Albany Highway upgrade

Attachment 1:

Letter from the Transport Strategy and Planning Department seeking approval to acquire parkland to facilitate implementation of the proposed Albany Highway upgrade

Parks – Reserve Land Required for Roading

TOPIC: Albany Highway Upgrade – Schnapper Rock /Bush Road to SH17

TO: Martin van Yaarsveld

AUTHOR: Brian Devitt – Project Manager

Executive Summary:

The Albany Highway from Schnapper Rock/Bush Roads to State Highway 17 is a 3.7km stretch of Regional Arterial Road currently in two lanes with some footpaths but, in general, still a country road. The Highway supports residential and commercial activities and is a major link between the Upper Harbour Highway in the south to State Highway 17 in the north with connections to the North Harbour Industrial Estate which accounts for much of the traffic. Currently 14,000 vehicles a day use the highway with growth anticipated to rise to 24,000 vehicles per day in 2024. The highway also supports four schools with a combined roll of 5,000 students and Massey University with a roll of 6,500 with many of the Massey students residing on the highway. Retaining this highway as a major Regional Arterial Route while ensuring the safety of a very large number of young people and parents provides a unique challenge.

In order to provide the infrastructure for a large number of vehicles while encouraging the use of alternate modes of transport by school children and adults, a four lane solution with dedicated footpaths and cycle paths, with good separation between these paths and the road, is seen as a minimum requirement. Given this, a minimum corridor width of 28.5 metres is required. While this is slightly under the nominal width for a Regional Arterial Route it does provide for good facilities without a major impact on land requirements. Discussions are under way with a number of land owners to secure the required property to build the highway and some land is required from a number of parks and reserves along the route. This latter requirement is the subject of this request to Iwi.

Officers Recommendations:

That Parks and Community Services supports the Albany Highway Project and the acquisition of reserve land for designation as road reserve.

Background:

The Albany Highway Project started in 2005 with investigation and was consulted on in 2007. At this time, the major driver for the project was to provide the requirements of a Regional Arterial Road without too much emphasis on urban design and land use. Initially a two lane highway was proposed with an upgrade to four lanes in a few years. Footpaths were provided but on road cycle lanes were

invisaged. Consultation in 2007 resulted in a complete re-think on the needs and demands of the highway with a very clear message that the project should not be staged (ie; two lanes now, expanding to four lanes later) and that much more thought needed to go into the requirements of the large number of school children on the highway.

In 2008 a new project was launched using a corridor management plan approach and the result of this planning is a design which meets both the needs of a regional arterial road as well as catering for welfare and safety of 5,000 school children. Consultation feedback indicates that parents will feel a lot happier about letting their children walk and cycle to school in this new environment.

Iwi were consulted in December 2009 on the building of the Oteha Stream Share with Care Foot/Cycle Bridge and path. Some of the reserves addressed in that consultation are also part of the Albany Highway project, replacement for the existing Days Bridge over the Oteha Stream being the most significant. An important goal of this project has been to minimise impact on the reserve areas affected by road widening activity. As with the Oteha Stream foot/cycle bridge, the stream itself will not be impacted by the Days Bridge replacement.

Similarly the Albany Cemetery has been a challenge for the project team. The unmarked graves of two children of early settlers are affected by the works. All appropriate authorities and to the extent possible, the descendant families of the children have been approached and agreement reached to their proper relocation within the central part of the cemetery.

Description of Project:

The aim of this project is to bring the Albany Highway up to Regional Arterial standards whilst retaining the character of the area and making vast improvements to the pedestrian and cycle facilities to encourage alternate modes of transport use on this corridor which needs to cater for 5,000 school children as well as high volumes of vehicular traffic.

Previous consultation resulted in a re-think of these requirements and acknolwleges a desire by the community to avoid a staged approach and thus multiple upheavals. Dedicated footpaths and dedicated cycle paths will vastly improve the safety and well being of our children and assist the parents in delivering children to their schools resulting in less traffic congestion especially during school drop off and pick up times. It is also intended that extensive planting, including indigenous trees, is carried out along the full length of the proposed works.

Preliminary Design is nearing completion and the council will be going back to the community with its revised plans over the next two months. Detailed design will commence following this, in parrallel with the land purchase and designation processes which are also under way. Construction is planned to start in 2012.

We request comment on the proposal and advice as to any issues of spiritual and cultural significance both for the building of the highway itself and more importantly at this time, the acquisition of land from reserves and parks required to build the highway, which are tabled below.

#	Area	Name	DP Number
1	R539	Albany Cemetery	Allot 577 Parish of PAREMOREMO
2	R8	Parkhead Place	Lot 23, DP115950

3	R21	Albany Domain	Pt Lot 14 DP 17618, Pt Allot 690 Parish of PAREMOREMO, Pt Allot 690 Parish of PAREMOREMO
4	R323	Next to 321 Albany Highway	Lot 78 DP 179305
5	P500	Just south of Days Bridge (Pump Station)	Lot 1 DP 160889
6	R473	Oteha Stream Surrounds	Pt Lot 1 DP 137152
7	R473	Oteha Stream Surrounds	Lot 4 DP 137152
8	R473	Oteha Stream Surrounds	Lot 2 DP 132667

Note: The Albany Cemetery land has already been approved by Parks and Community Services and is shown here for clarification only.

In general, we will be taking approximately five metres off the frontage of these properties except for R21 where only a sliver is required. The land plans are attached for your perusal.

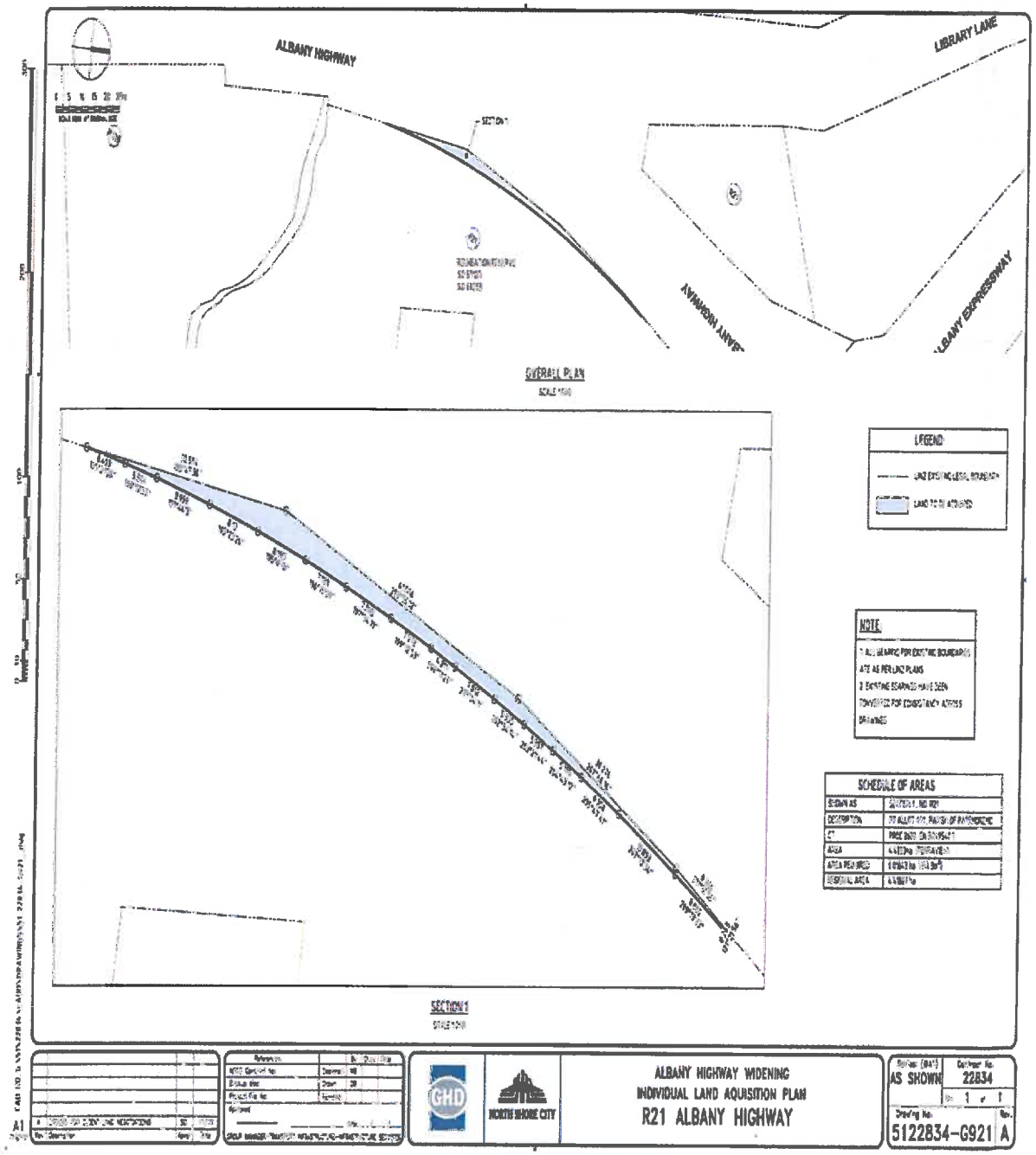
An early response is essential to the land purchase and designation processes so a response by the end of June would be very welcome.

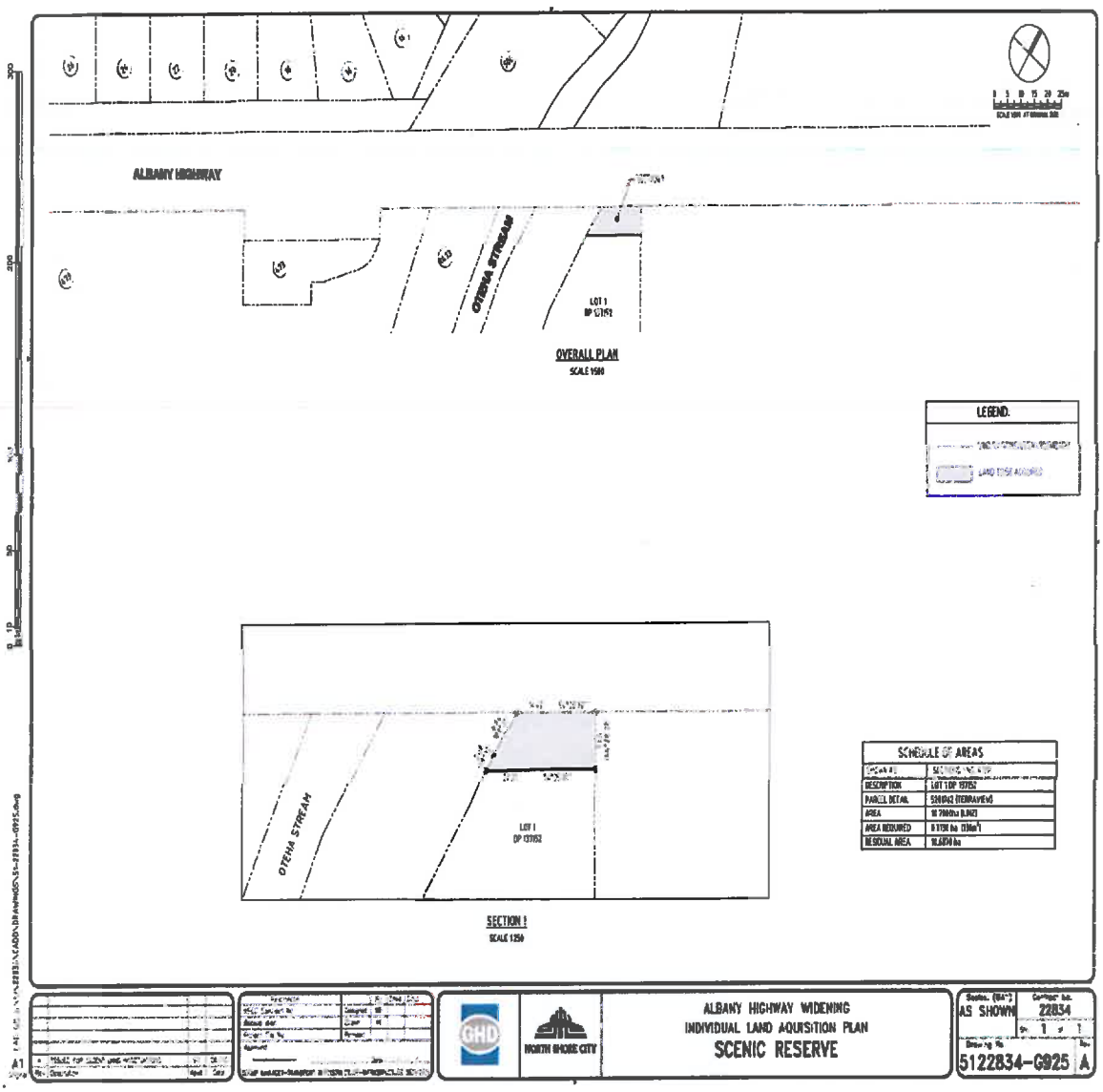
	Name and Title of Signatories
Prepared by	Brian Devitt
Approved by	Karl Hutton, Chris Jones
Date	28th May 2010

Attachments: Land Plans supporting the table above.

Attachment 2:

Plans of the sections of parkland which Transport Strategy and Planning are seeking to acquire from the Parks Department


ALBANY HIGHWAY
LIBRARY LANE
ALBANY HIGHWAY
ALBANY EXPRESSWAY
OVERALL PLAN
SECTION 1
LEGEND
NOTE
SCHEDULE OF AREAS
GHD
NORTH SHORE CITY
ALBANY HIGHWAY WIDENING
INDIVIDUAL LAND AQUISITION PLAN
R21 ALBANY HIGHWAY
AS SHOWN
22834
5122834-G921
A


ALBANY HIGHWAY
OTEHA STREAM
LOT 1
DP 137152
OVERALL PLAN
SCALE 1:500
LEGEND
SCHEDULE OF AREAS
DESCRIPTION
PARCEL DETAIL
AREA
AREA REQUIRED
RESIDUAL AREA
OTEHA STREAM
LOT 1
DP 137152
SECTION 1
SCALE 1:250
GHD
NORTH SHORE CITY
ALBANY HIGHWAY WIDENING
INDIVIDUAL LAND AQUISITION PLAN
SCENIC RESERVE
AS SHOWN
22834
5122834-G925
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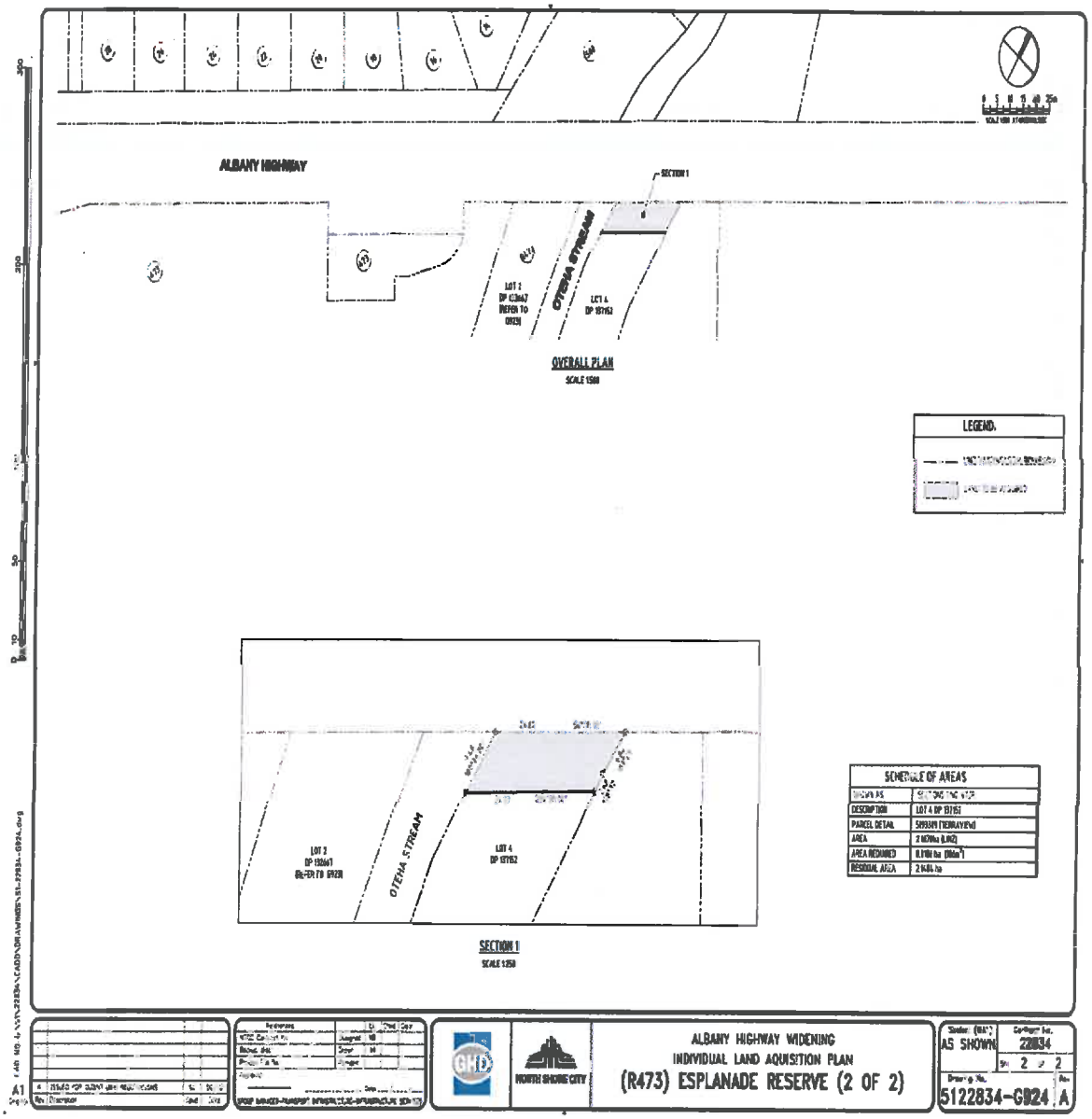
ALBANY HIGHWAY
OTEHA STREAM
OVERALL PLAN
SCALE 1:500
LEGEND
SECTION 1
SCALE 1:250
SCHEDULE OF AREAS
DESCRIPTION
PARCEL DETAIL
AREA
AREA REQUIRED
RESIDUAL AREA
ALBANY HIGHWAY WIDENING
INDIVIDUAL LAND AQUISITION PLAN
(R473) ESPLANADE RESERVE (2 OF 2)
NORTH SHORE CITY
AS SHOWN
228834
5122834-GD24
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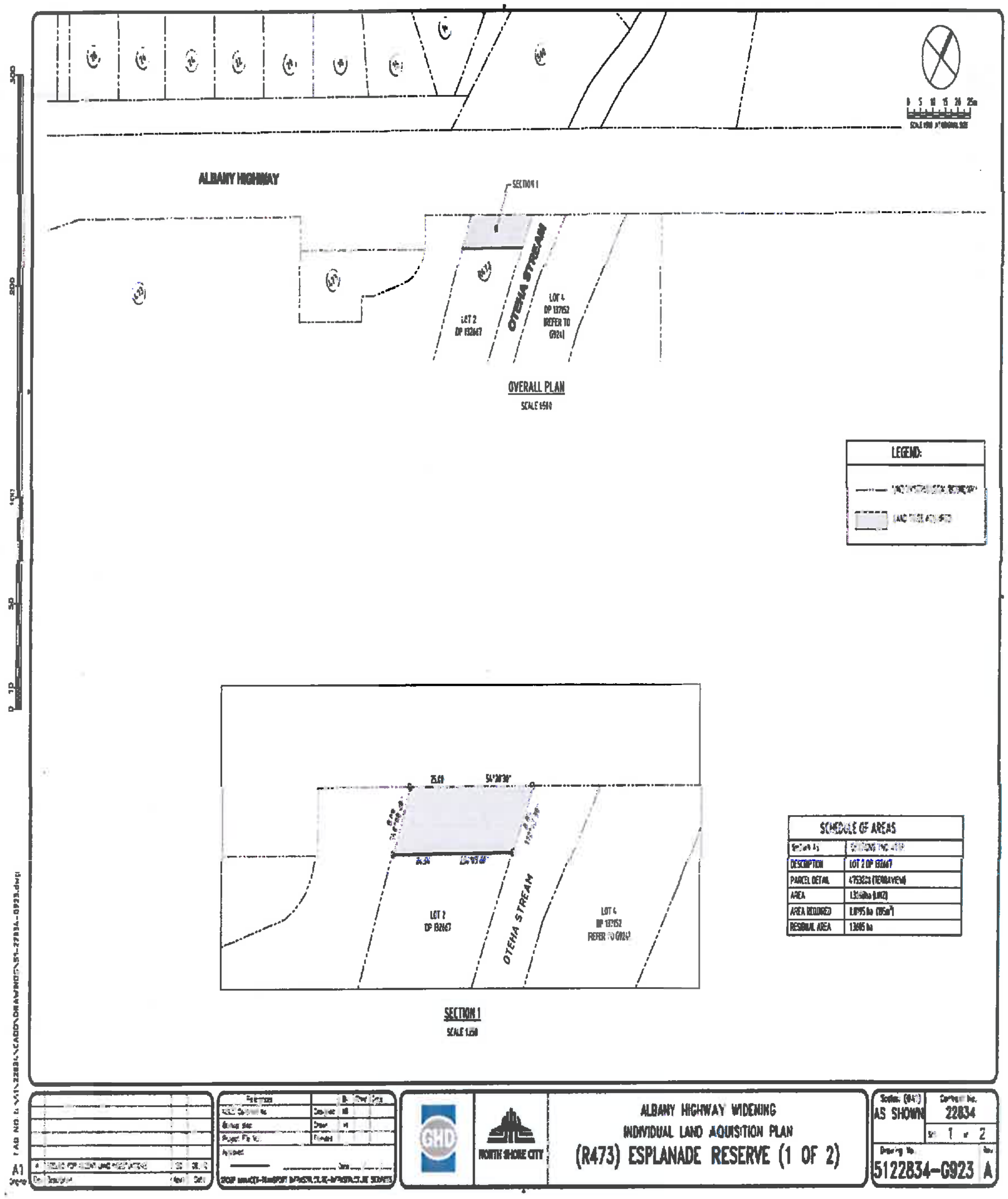
ALBANY HIGHWAY
SECTION 1
OTEHA STREAM
LOT 2
DP 132667
LOT 4
DP 137152
OVERALL PLAN
LEGEND:
SCHEDULE OF AREAS
DESCRIPTION
LOT 2 DP 132667
PARCEL DETAIL
AREA
AREA REQUIRED
RESIDUAL AREA
SECTION 1
ALBANY HIGHWAY WIDENING
INDIVIDUAL LAND AQUISITION PLAN
(R473) ESPLANADE RESERVE (1 OF 2)
NORTH SHORE CITY
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5122834-G923
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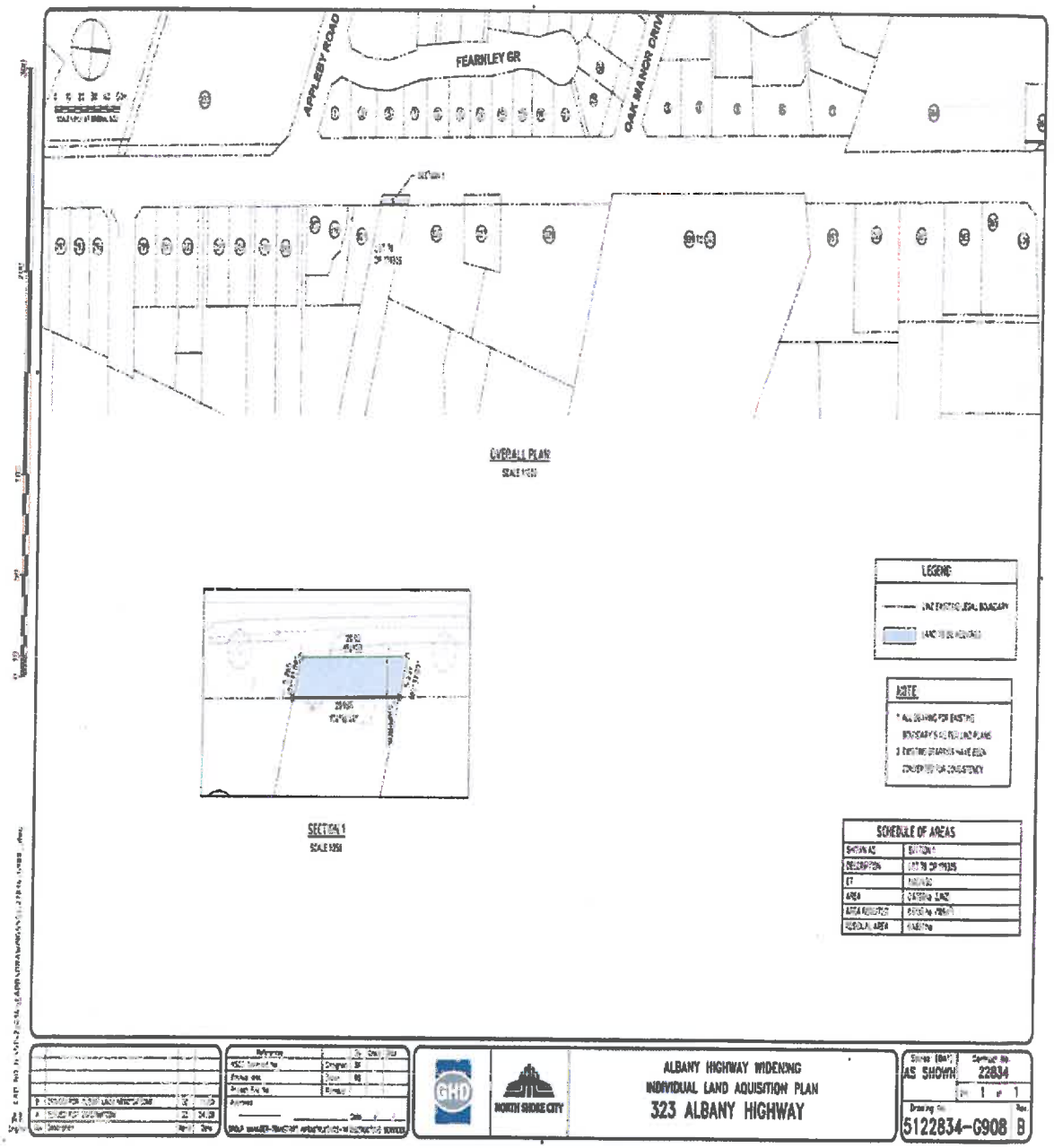
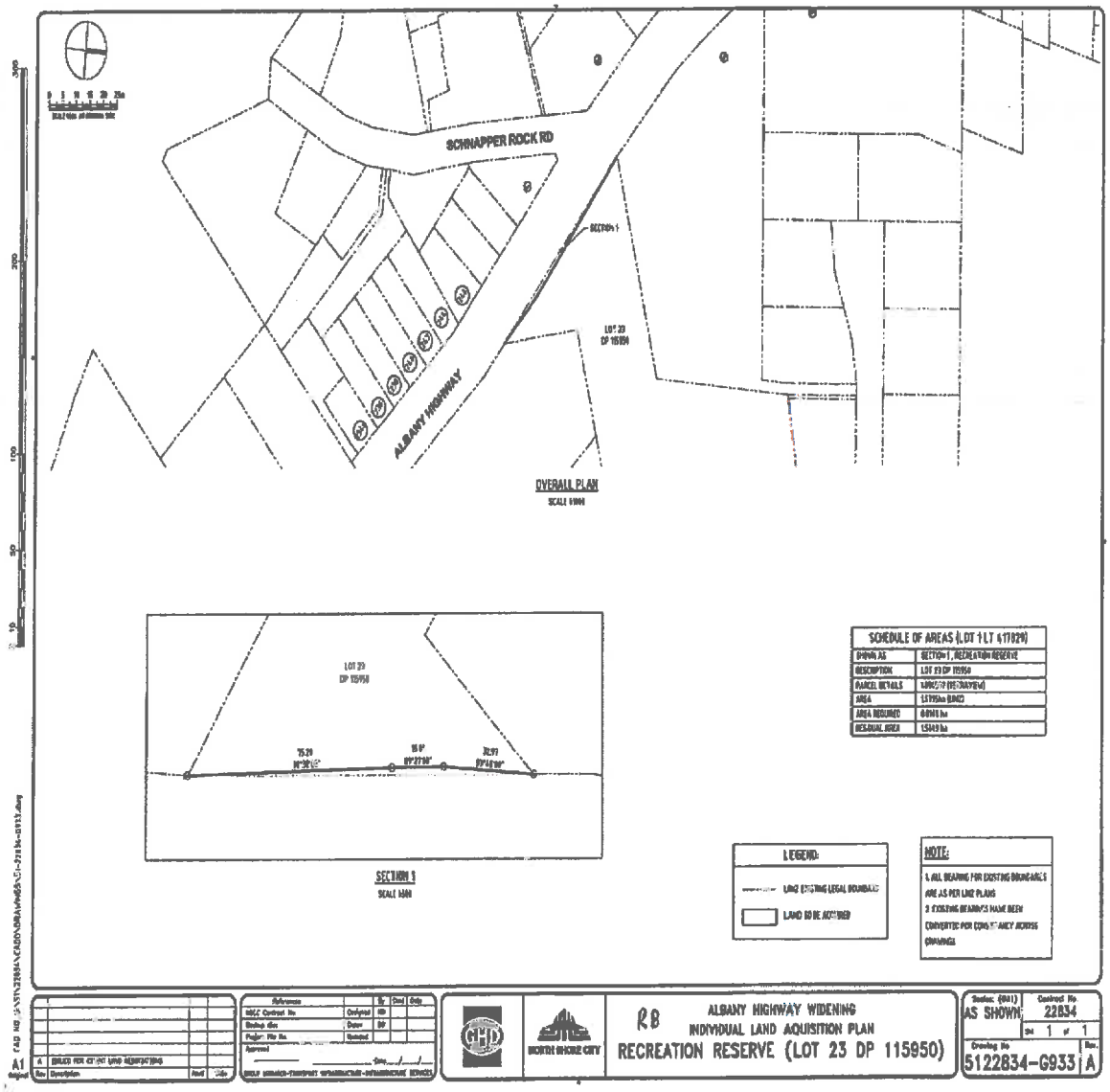
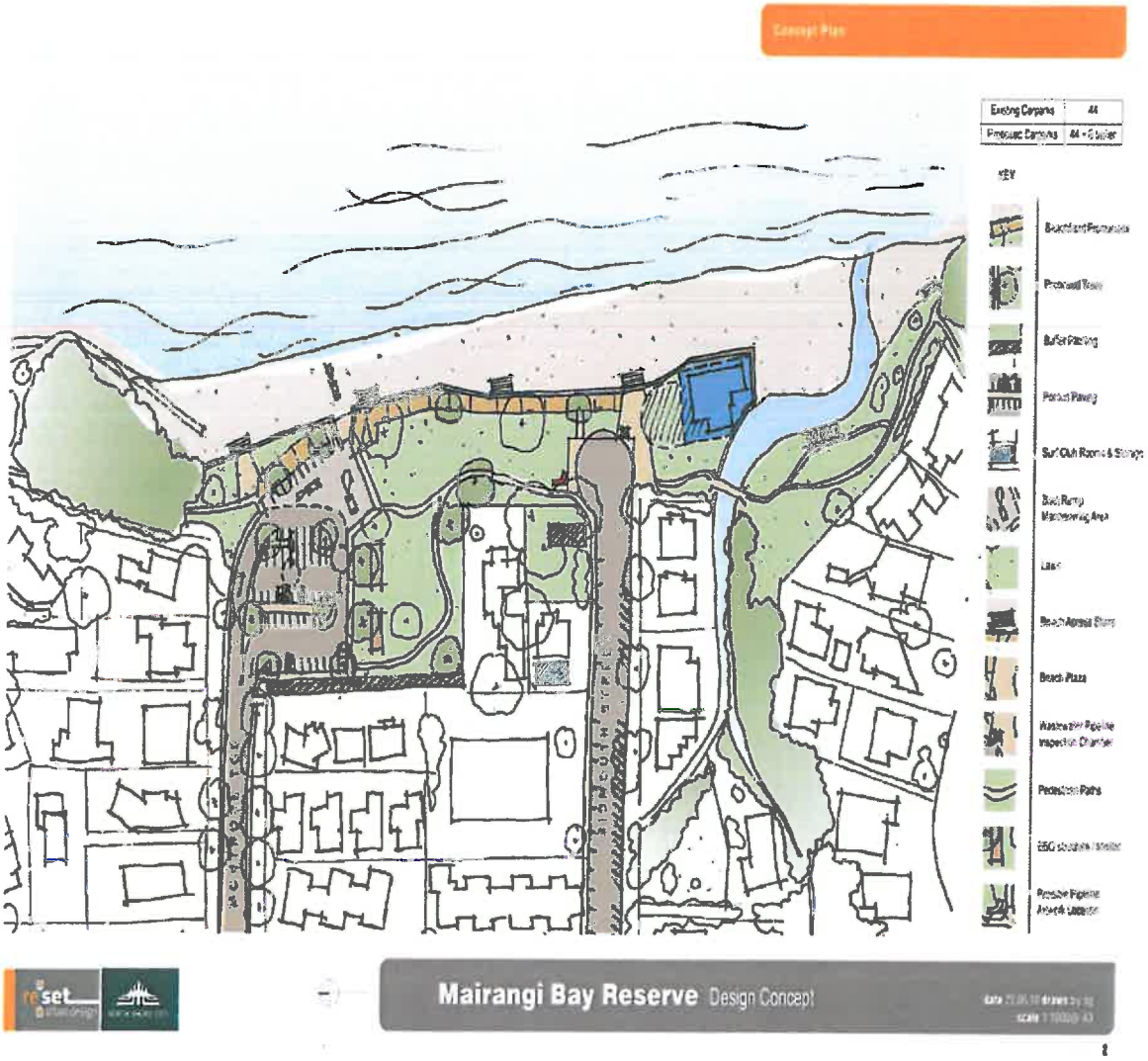

FEARNLEY GR
APPLEBY ROAD
OAK MANOR DRIVE
OVERALL PLAN
SECTION 1
LEGEND
NOTE
SCHEDULE OF AREAS
GHD
NORTH SHORE CITY
ALBANY HIGHWAY WIDENING
INDIVIDUAL LAND AQUISITION PLAN
323 ALBANY HIGHWAY
AS SHOWN
22834
5122834-G908
B


SCHNAPPER ROCK RD
ALBANY HIGHWAY
OVERALL PLAN
SECTION 1
SCHEDULE OF AREAS (LOT 1 LT 417029)
LEGEND:
NOTE:
R8
ALBANY HIGHWAY WIDENING
INDIVIDUAL LAND AQUISITION PLAN
RECREATION RESERVE (LOT 23 DP 115950)
AS SHOWN
22834
5122834-G933
A

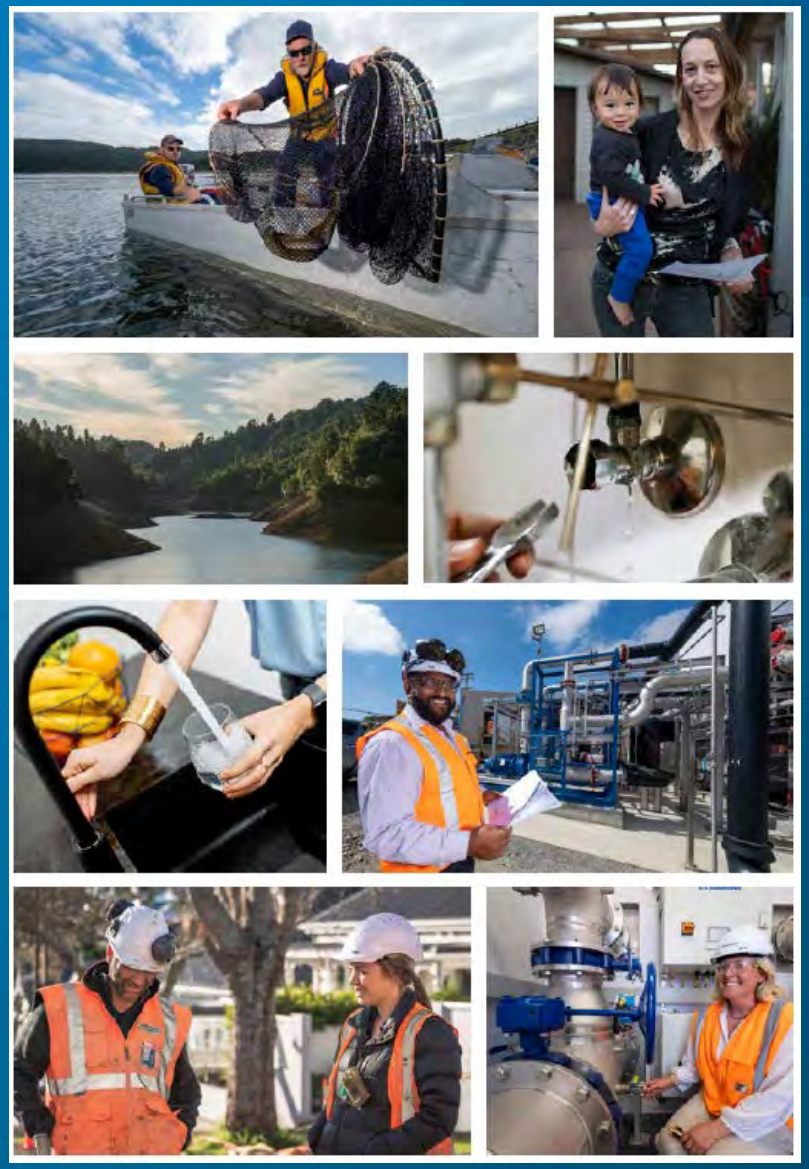
Attachment 3: Draft Mairangi Bay Beach Reserve Development Plan



WSP Opus NZ
Level 3 The Westhaven
100 Beaumont Street
PO Box 5848, Auckland 1141
New Zealand

t. +64 9 3537309

w. wsp-opus.co.nz



Watercare

Induction 2022

Watercare

From Sky to Sea – Watercare's assets and operations

Watercare

Where our drinking water comes from?

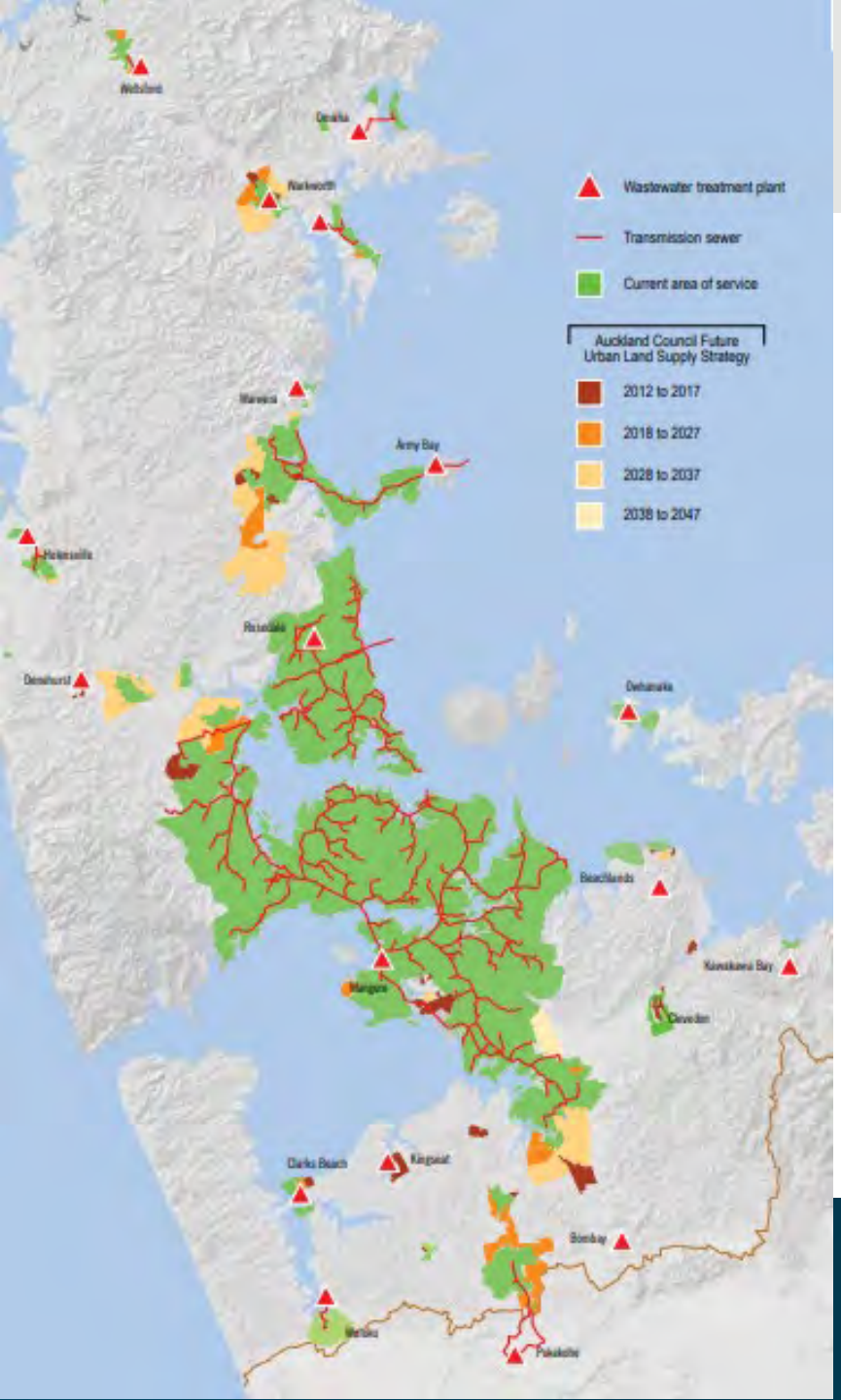
We supply on average 378 megalitres of water per day, the equivalent of 151 Olympic swimming pools, to sustain Auckland homes and businesses.

Water is sourced from:

- Storage dams in the Hūnua and Waitākere ranges
- Underground aquifers
- The Waikato River

Watercare

Our wastewater network



Our 18 treatment plants work night and day to collect and treat wastewater ensuring it is treated to a very high standard before being discharged safely to the environment.

We take our environmental responsibility very seriously and work with our communities to monitor operations and performance.

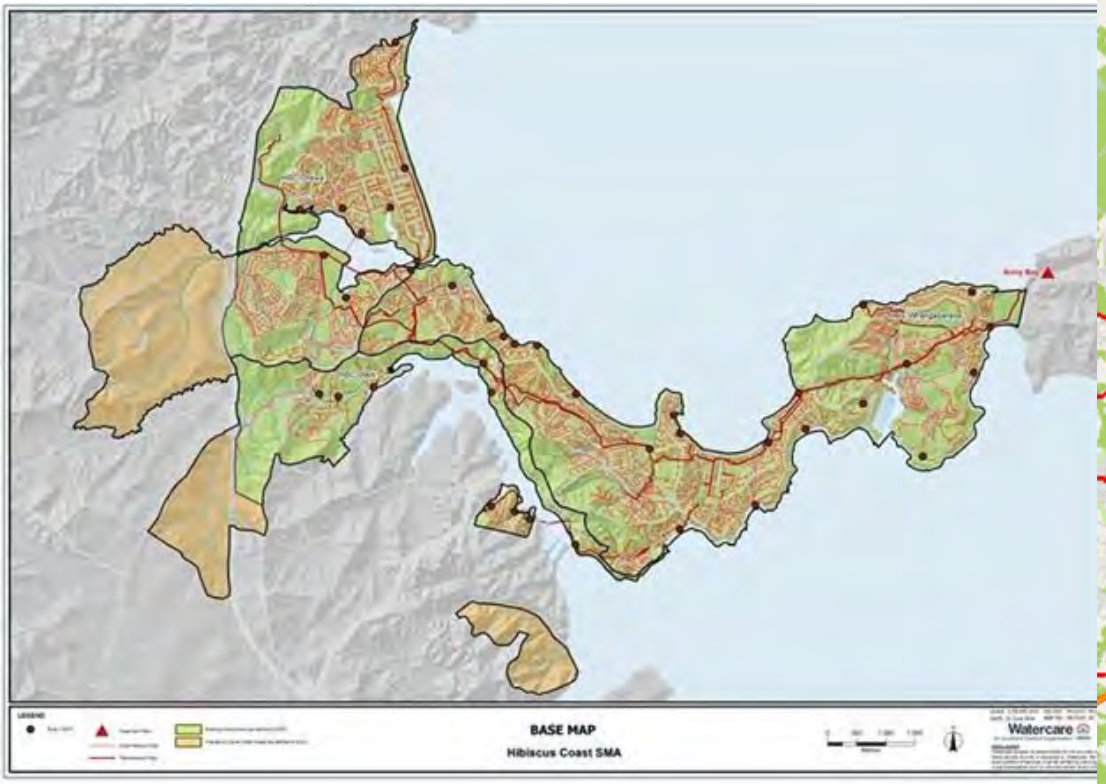
Watercare

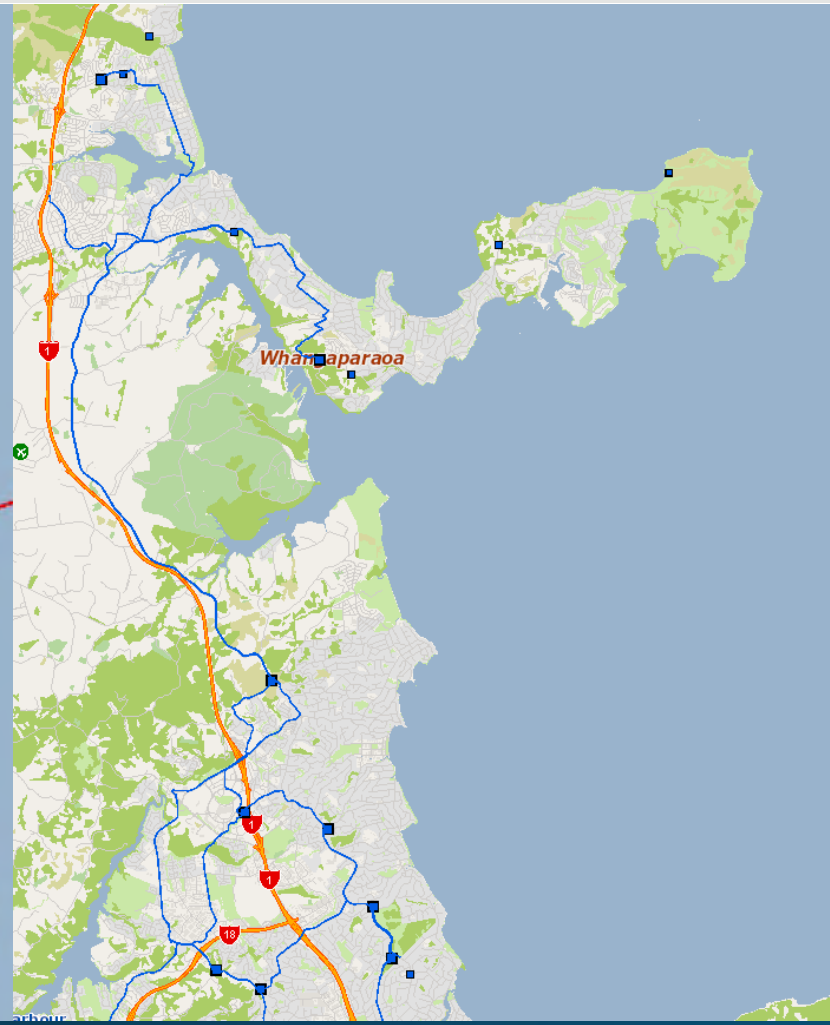
Governance


Watercare Board 2022


Councillor site visit to pump station 64

Wastewater Network





Watercare

Hibiscus and Bays – key projects

- Mairangi Bay – pumpstation replacement
- East Coast Bays – pipeline diversion
- Rosedale wastewater treatment plant upgrades

Watercare

Engaging with Watercare - Projects

Servicing strategies

Define the need

Options assessment

Business case

Preliminary design

Statutory Planning and consents

Detailed design

Tender and contract

Construction

Watercare

Engaging with Watercare - Operations

Faults at watercare include things like burst waterpipes or wastewater overflows.

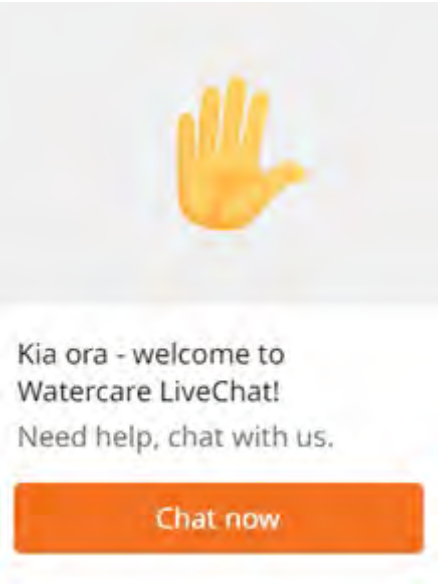
If it is an **emergency** always call our call centre 09 442 2222.

If it is a **new problem** that hasn't been reported, the quickest way to report is using the Watercare LiveChat! Function on the website.

If you want:

- Ensure you're made aware of an outcome
- Follow up on an existing reported problem
- Highlight that a problem is complicated
- Or complain about a response

Send this through to electedmember@water.co.nz



The difference between stormwater and wastewater?

Watercare

Thank you

He pātai?

Orewa Community Centre – Hire subsidy

Rosetta Mamea, Continuous Improvement Advisor, Venue Hire
Jamie Adkins, Place & Partner Specialist, Connected Communities
Marilyn Kelly, Community Broker, Connected Communities

Auckland Council
Te Kaunihera o Tāmaki Makaurau

Purpose

To create a collective understanding of the use of the Ōrewa Community Centre, the hire subsidy and how to move forward with the reduction in the LDI for hire subsidy.

Agenda

- the background
- the current usage
- the hire subsidy
- options going forward
- Local Board feedback

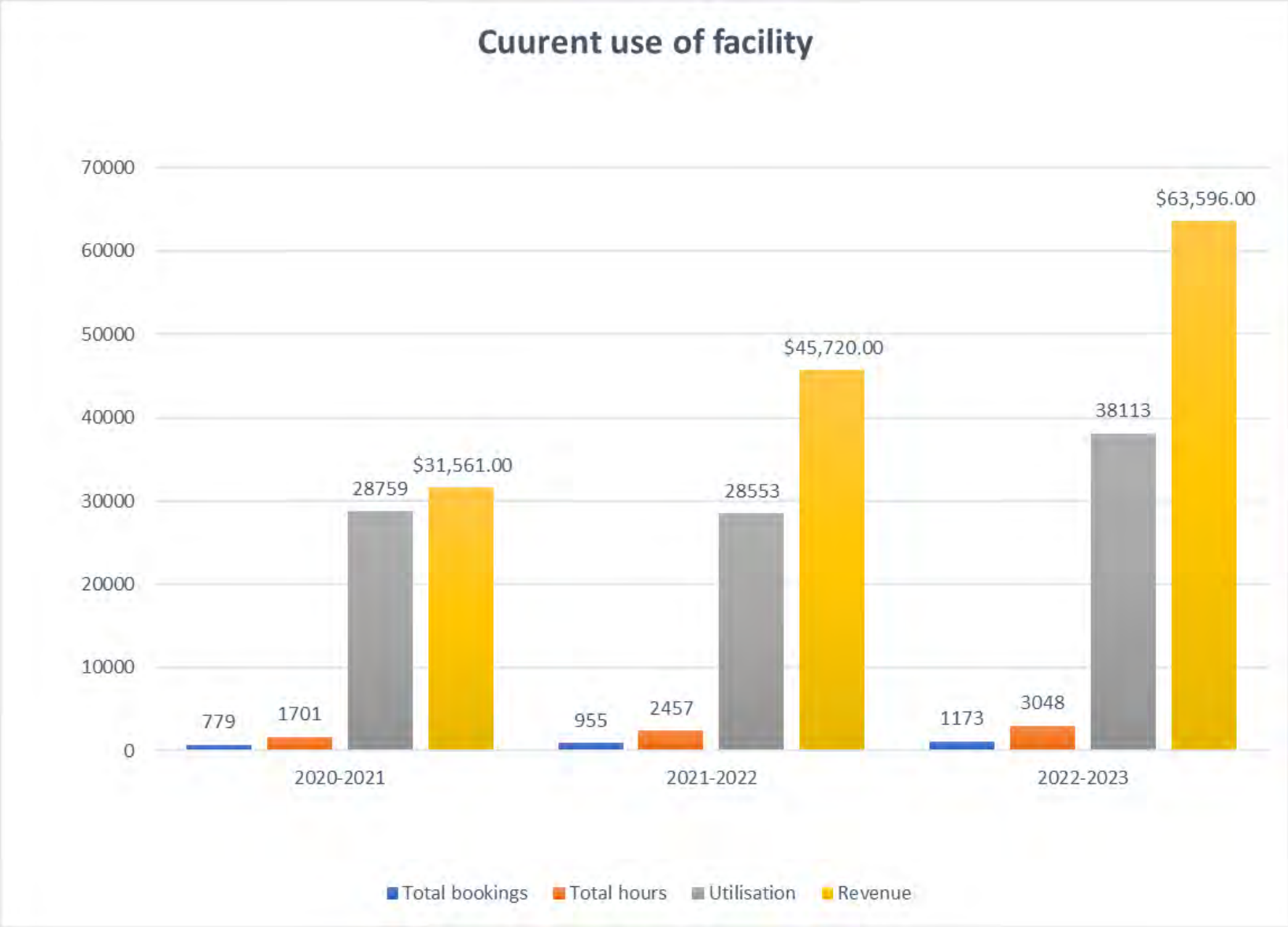
Background

Ōrewa Community Centre has a long history, but for the purpose of today.

In 2014 the Venue Hire Fee Framework was applied across Auckland to have some consistency of cost to hirers.

Hibiscus and Bays was one of the Local Boards who felt this negatively impacted some users – so they provided a subsidy through their LDI budget.

Current Usage



The top 5 activities booked

1. Fitness, Sports, Recreation

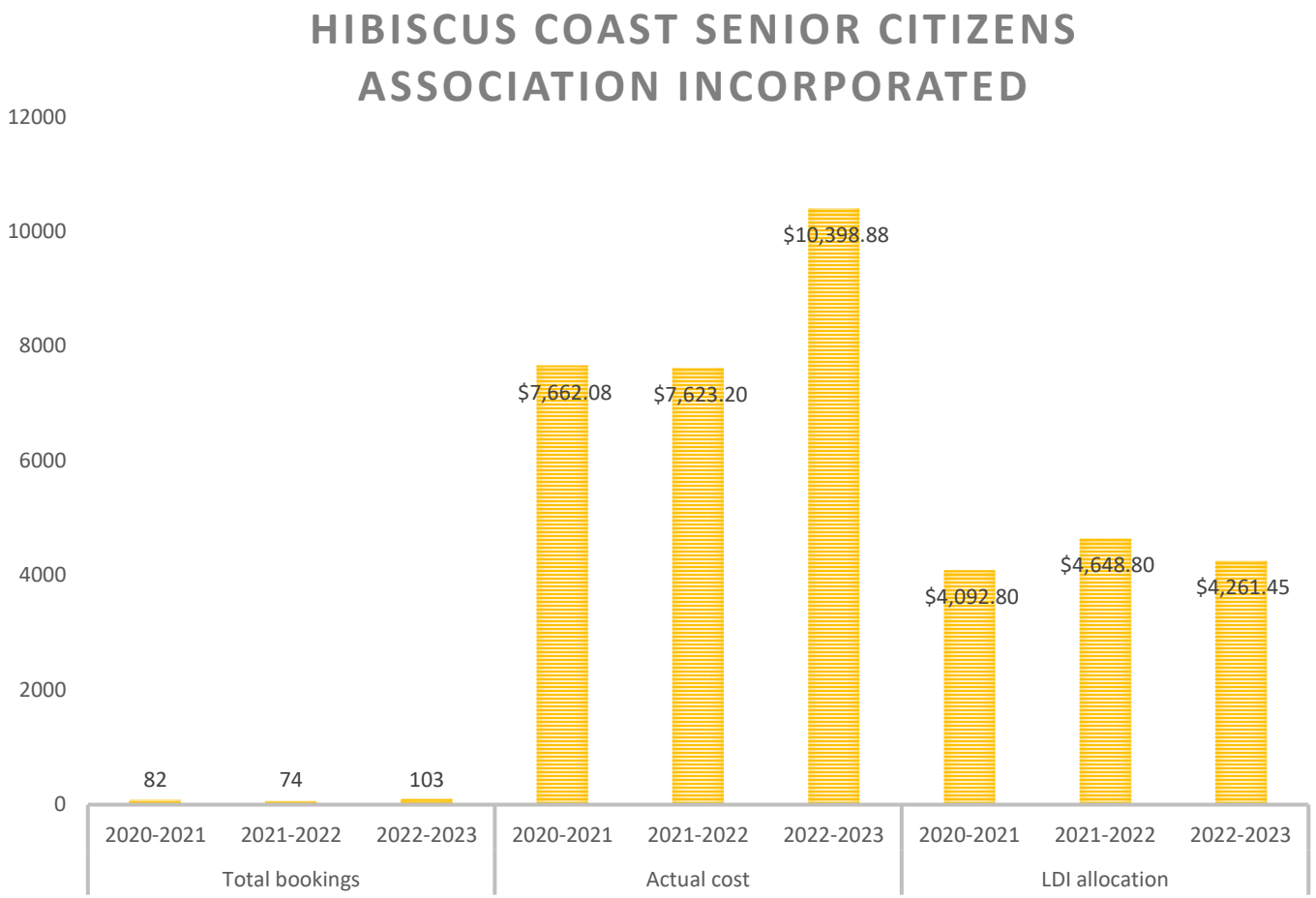
2. Meetings

3. Arts and Cultural events

4.Special interest

5.Private events

Breakdown of Hibiscus Coast Senior Citizens Association Incorporated



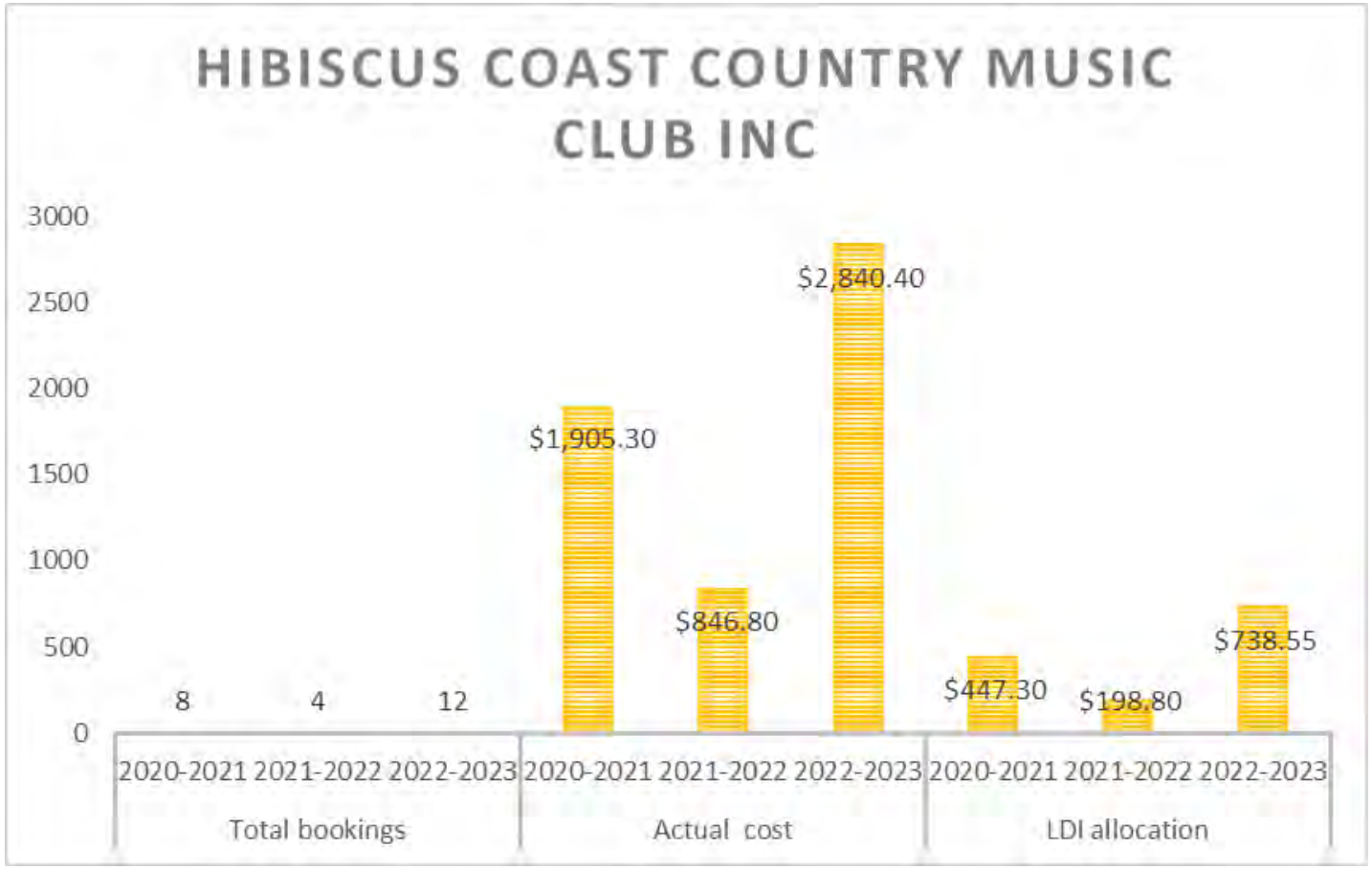
The Hibiscus Coast Senior Citizens Association has over 100 members who pay an annual subscription of $5

A $2 entry fee is charged to cover raffle and afternoon tea.

They use the Main hall and Supper room
Twice a week from 12 – 4pm
They say 70 people attend

Cost per booking is $100.96

Breakdown of Hibiscus Coast Country Music Club Inc

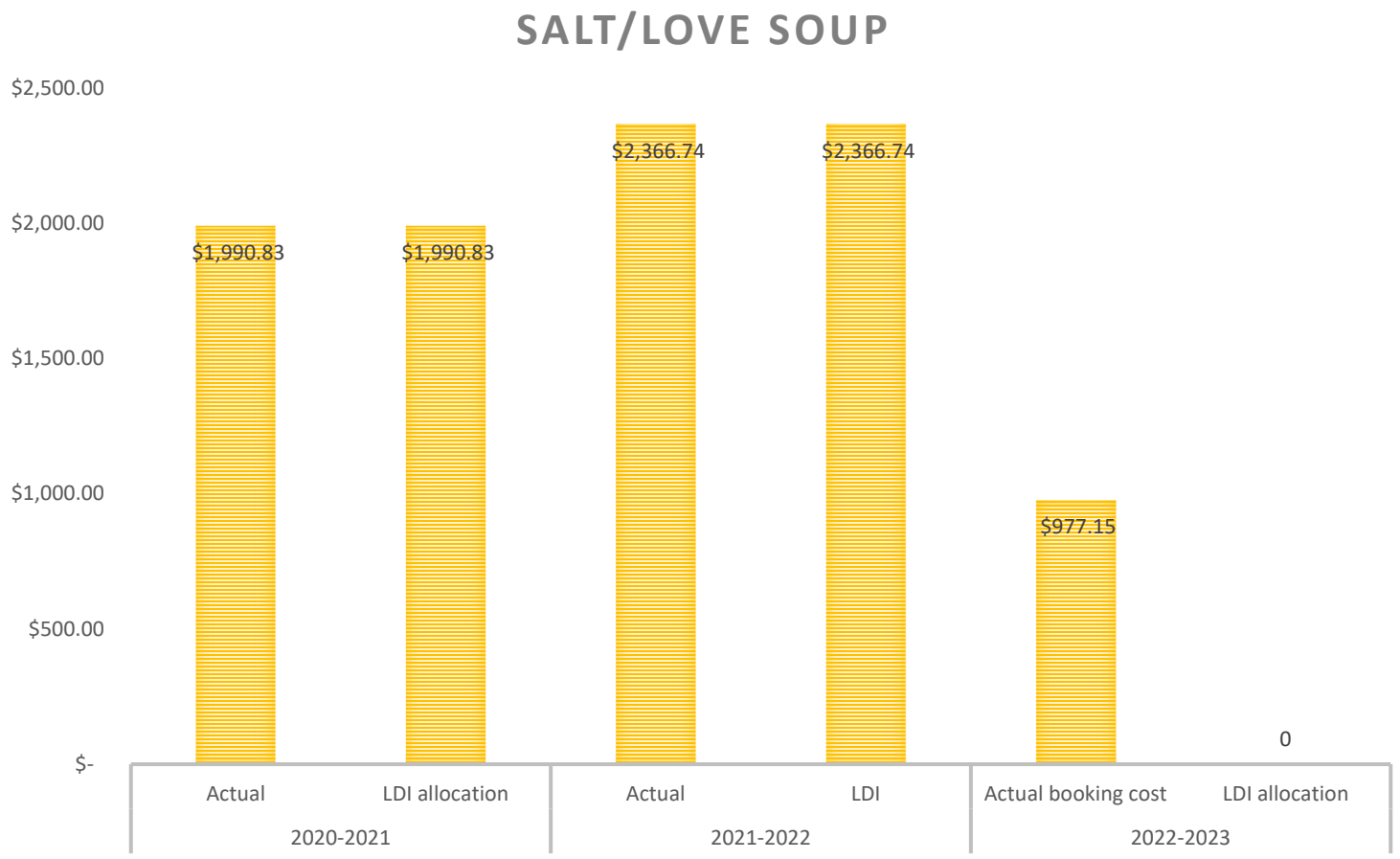


In the last year they have seen their membership drop to 40 from over 100 pre-covid and attendees drop from 120 plus to about 70. The club have an annual membership fee of $6 and have a door charge of $5.

They use the Main hall & Supper room once a month on a Sunday between 9.45am to 5.15pm

They say 12 people attend
Cost per booking $236.70

Breakdown of Love Soup/Salt booking



SALT/Love Soup provide the community Christmas Day lunch.

They utilise the entire venue from 7am Christmas eve through to 6pm Christmas day

The use all rooms

They say 70 people attend

The actual cost for this year $977.15

Breakdown of Hibiscus Coast Quilters

No bookings: booking was made in FY2020 for FY2021 – moved bookings twice (FY21 and then FY22) due to COVID, eventually cancelled
There request is usually for 50% subsidy on bookings
Previous years cost to LB: $433.62 (2016-17)
Attendees: 200
Group usually use: Combined main hall & supper room

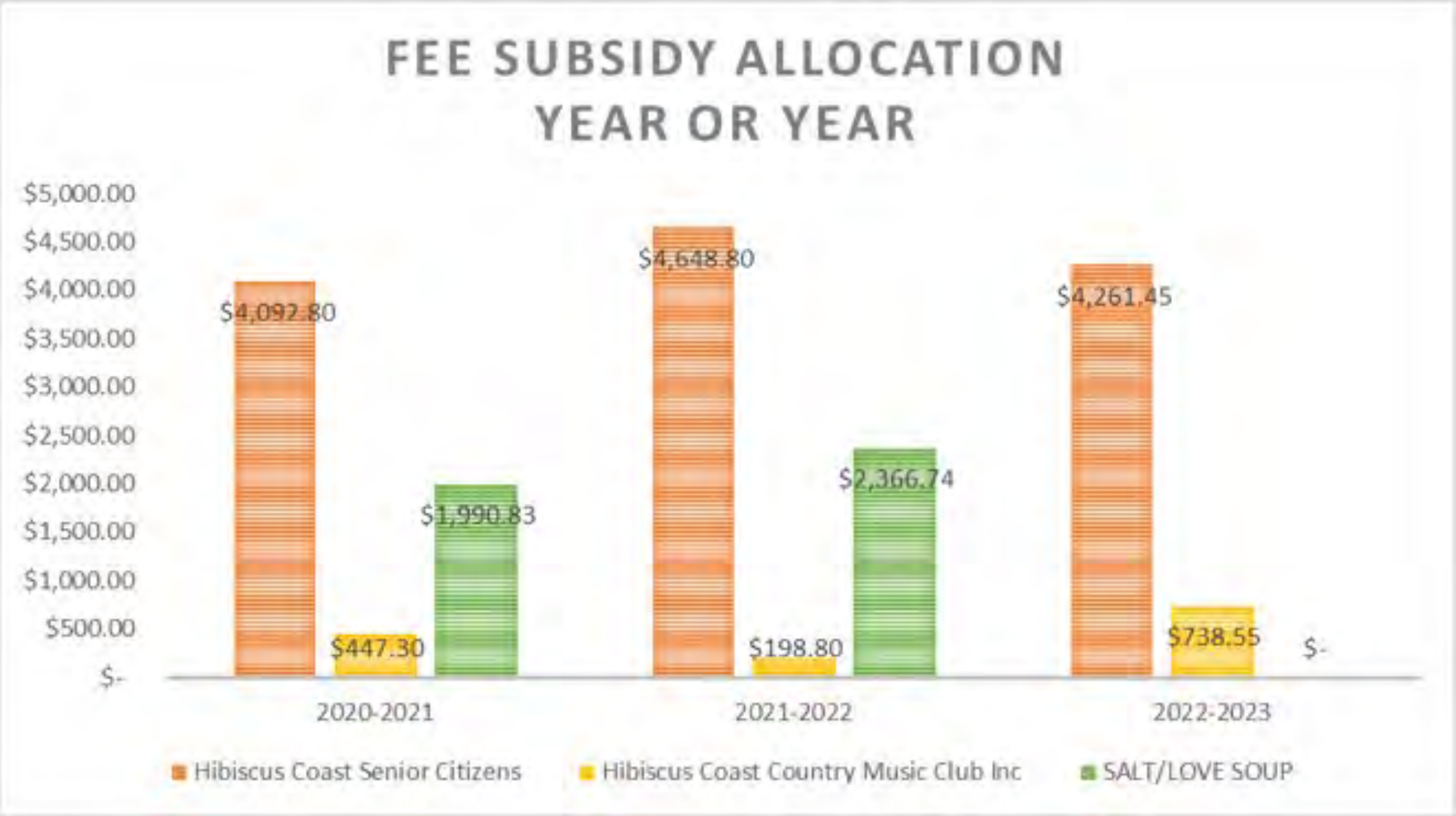
Other Options

Across the Hibiscus Coast Sub-division there are:

- Silverdale Hall – holds up to 200 people and costs $20p/h
- Stillwater Hall – holds up to 150 people and costs $25p/h
- Whangaparāoa Library – holds 20 people and costs $12.30p/h

- There are also various leased facilities but we don’t have visibility of them

Fee Subsidy



In 2020 – 2021 the Local Board resolved to decrease the LDI amount by $2.5k annual

In 2022-2023 it is $5,000

The total requested by the 2 groups was $7353.99

In 2023-2024 if it remains it will be $2,500

Local Board Feedback

Any questions?

It is important that we collectively come up with a plan going forward so we can give clear and consistent messaging to the groups impacted.

If we keep the $2,500 how should this be allocated?

THANK YOU

FOR YOUR TIME

Hibiscus Coast Indoor Recreation Facility Options Analysis

Hibiscus & Bays Local Board Workshop

21 March 2023

Purpose:

- Update the local board and seek direction on the Hibiscus Coast Indoor Recreation Facility Options Analysis

Silverdale War Memorial Park

Silverdale Bowls Club building was used by many community groups but after an inspection found asbestos and the building structure in poor condition, these groups were forced to vacate in 2016 and the building was subsequently demolished in 2019. Hibiscus Men's Shed has since been built near the previous footprint.

Before (with Silverdale Bowls building)

Now (with Hibiscus Men's Shed)

Hibiscus Coast Indoor Recreation Facility Options Analysis

- Community Facilities have a budget of $3,632,912 assigned to ‘12 Hibiscus Coast Highway, Silverdale – renew facility’ to replace infrastructure to ensure community facility provision is maintained.
- This budget can be used for any facility with the allocation of the renewal budget needing to be added to a future Work Programme approval by the local board.
- An indoor recreation facility options analysis was added to the Local Board Work Programme to inform local board decision-making on potential locations for the renewals funded replacement of the Old Silverdale Bowling Club building with a LDI opex of $25,000.

Potential Future Site: Metro Park East

- Metro Park East (218 Millwater Parkway, Millwater) has already been identified as a potential future site for a community facility / indoor recreation facility.
- A community facility / indoor recreation facility generally costs between 5-7 million dollars to build meaning the $3.6 million budget assigned to this facility will still have a shortfall of the overall cost.
- At this stage, it is unclear who will operate and be responsible for any community facility / indoor recreation facility that may be built as Council is not in a position to take on this responsibility.

Potential Future Site: Metro Park East

- YMCA North are interested in building a multi-use ‘Superhub’ at Metro Park that will combine sport and recreation facilities with facilities available to community groups.
- YMCA have applied to the Sport and Recreation Facilities Investment Fund (SRFIF) to undertake investigation and analysis work including concept designs to utilise the space to its maximum potential to allow for sport and recreation and community needs.
- The outcome of the SRFIF is in September 2023 after an independent assessment panel and Planning, Environment and Parks Committee decide on the recipients.

Recommendation

- Staff recommend the $25,000 budget for the Hibiscus Coast Indoor Recreation Facility Options Analysis be reallocated.

Memorandum

14 March 2023

To: Chairs and members of Hibiscus and Bays Local Board

Subject: Hibiscus Coast indoor recreation facility options analysis

From: Shaun Watkins, Sport and Recreation Lead

Contact information: shaun.watkins@aucklandcouncil.govt.nz

Purpose

1. To update the local board and seek direction on the Hibiscus Coast Indoor Recreation Facility Options Analysis.

Summary

2. Silverdale Bowling Club building located at Silverdale War Memorial Park was in poor condition and demolished in 2019 leaving multiple community groups without a location for community activities.
3. Hibiscus Men's Shed has since been built on the site of the old Silverdale Bowling Club
4. A 'Hibiscus Coast indoor recreation facility options analysis' was added to the Local Board Work Programme to identify the potential location for the funded replacement of the Old Silverdale Bowling Club building with LDI opex of $25,000.
5. Metro Park East has already been identified as a potential future site for a community facility / indoor recreation facility.
6. The renewal budget from Community Facilities of $3.6 million is still less than what it would cost to build a new community facility / indoor recreation facility that can serve as a replacement for community groups and left questions of who will own and operate the facility.
7. YMCA North are interested in building a multi-use 'Superhub' at Metro Park that will combine sport and recreation facilities with facilities available to community groups.
8. YMCA have applied to the Sport and Recreation Facilities Investment Fund (SRFIF) to undertake investigation and analysis work including concept designs to utilise the space to its maximum potential to allow for sport and recreation and community needs.
9. The outcome of the SRFIF is in September 2023 after an independent assessment panel and Planning, Environment and Parks Committee decide on the recipients.
10. Staff recommend the $25,000 budget for the Hibiscus Coast Indoor Recreation Facility Options Analysis be reallocated.

Context

11. The old Silverdale Bowling Club building was in very poor condition and had several Health and Safety issues with asbestos containing material (ACM) found to be present around the property, on the exterior, and in two interior locations of the building.

12. The building was tenanted by the Nippon Judo Club subleased to Air Training Corps and rented space to Coast Academy Brazilian Jiu Jitsu and the Silverdale Korean Church and housed a large amount of community activity within it.

13. After inspection found the building structure is also in very poor condition, a decision to move the tenants out of the building was made in September 2016 and find temporary locations for clubs.

14. The Silverdale Bowling Club building was subsequently demolished in 2019.

15. The Hibiscus Mens Shed has since been built on the site near where the old Silverdale Bowling Club building was.

Discussion

16. Community Facilities: Build Maintain Renew Work Programme has '12 Hibiscus Coast Highway, Silverdale – renew facility' as an item to replace infrastructure to ensure community facility provision is maintained.

17. The budget assigned to the renewal is $3,632,912 with a timeline of 'FY24/25/26 – design, planning and consents' and 'FY26/27/28 – physical works'.

18. This budget can be used on any facility, not just a facility located at 12 Hibiscus Coast Highway with the allocation of the renewal budget needing to be added to a future Work Programme approval by the local board.

19. A 'Hibiscus Coast indoor recreation facility options analysis' was added to the Local Board Work Programme to identify the potential location for the funded replacement of the Old Silverdale Bowling Club building with LDI opex of $25,000.

20. Item 3481 of the Hibiscus and Bays Local Board Work Programme FY22/23 was 'Hibiscus Coast indoor recreation facility options analysis' to inform local board decision-making on potential locations for the renewals funded replacement of the Old Silverdale Bowling Club building (in the Community Facilities work programme) with a LDI opex of $25,000.

21. Metro Park East (218 Millwater Parkway, Millwater) has already been identified as a potential future site for a community facility / indoor recreation facility.

22. A community facility / indoor recreation facility generally costs between 5-7 million dollars to build meaning the $3.6 million budget assigned to this facility will still have a shortfall of the overall cost.

23. At this stage, it is unclear who will operate and be responsible for any community facility / indoor recreation facility that may be built as Council is not in a position to take on this responsibility.

24. YMCA North has applied to the Sport and Recreation Facilities Investment Fund (SRFIF) to investigate a multi-use facility at Metro Park. The plan will be to build a Hub that will provide a range of core sport and recreation infrastructure, indoor courts, squash courts, gym and studio spaces, sports club facilities, play spaces, co-located with a range of community and commercial services.

25. The SRFIF is a contestable fund that is subject to an independent assessment panel recommendation and Planning, Environment and Parks Committee decision in September 2023.

26. The renewals capex budget can be given out as a grant to an external organisation by converting capex to opex, then the grant can be paid from opex.

Next steps

27. Staff recommend the $25,000 for the ‘Hibiscus Coast indoor recreation facility options analysis’ be reallocated.
28. The $25,000 can be put towards any future projects that are potentially facing budget cuts.
29. If YMCA are successful in their SRFIF application, many of the outcomes featured in the Options Analysis will be in their investigation and analysis works with concept designs to outline how the co-location of sport and recreation facilities with community tenants and auxiliary services will provide enhanced community outcomes and diversified income streams.

Attachments

Please find the PowerPoint doc ‘Hibiscus Coast Indoor Recreation Facility Options Analysis’ attached that includes site maps of Silverdale War Memorial and Metro Park.

Event Partnership Funding Hibiscus and Bays Local Board - 2023/2024

Presented by
Lisa Kent – Manager Event Facilitation

March 2023

Event Partnership Overview

1. The Event Partnership Fund is intended to be a three year term to align with the new elected term with a review at the end of each term.

2. The intended purpose is to support events that align well with the local board plan outcomes, or where the board support the outcomes of the event.

3. The funding is specifically targeted to support the growth and sustainability of community events in your local board area. With the goal being that the event will have grown to become sustainable and can operate without the need of the Event Partnership Fund by the end of the third year.

4. This model and having a criteria provides:
    - Greater transparency across the event applicants received as part of the application process. We are able to see event expenses, revenues and other funding sources and confirms who delivered the event.
    - The event assurance of multi-year funding for planning and development opportunities.
    - Effective use of staff administrative time only requiring the full process to be undertaken once every three years.

Current Event Partnerships

1. The Hibiscus & Bays Local Board currently funds 13 events through the non-contestable Event Partnership Fund (line 214) with a budget of $145,800. The funding allocations range from $4,000 to $22,500 for each event

2. The Hibiscus & Bays Local Board's Event Partnership Fund has had eight recipients in the fund for at least the last five financial years (including 2022/2023). Over this period, the costs to deliver an event have increased. This indicates that the current funding levels potentially no longer match the event requirements and this is an appropriate time to review the partnerships.

3. Currently the funding criteria for inclusion or intent is not set. This has allowed events to stay with in the Event Partnership Fund until the organiser opts out. It also means that the event organiser expects the same amount of funding, or an increase,every year.

4. The lack of structure and criteria around the Event Partnership Fund has limited staff's ability to recommend the removal of events that don't align to the local board's outcomes, plan or grants programme or add events into the work programme line.

Current recipients

Organisation	Event	2018/ 2019	2019/ 2020	2020/ 2021	2021/ 2022	2022/ 2023
Browns Bay Christmas Parade	Browns Bay Business Association	$10,000	$10,000	$10,000	$10,000	$10,000
ECBCP Events (formerly Heart of the Bays)	East Coast Bays Community Project	$17000	$20500	$20500	$20,500	$20,500
Hibiscus and Bays Art Awards	No recipient	First time in the event partnership			$5,000	$5,000
Hibiscus Bays Community Movie Event – Coast	Event Designers				$15,000	$15,000
Hibiscus Bays Community Movie Events – Bays	Browns Bay Business Association				$15,000	$15,000
Mairangi Bay Wine & Food Festival	Mairangi Bay Business Association	10000	10000	10000	$10,000	$10,000
Mairangi Christmas Parade	Mairangi Bay Business Association	$5,000	$5,000	$5,000	$5,000	$5,000
Okura Forest Festival	Friends of Okura Bush	NA	NA	$10000	$10,000	$10,000
Orewa Christmas Parade	Destination Orewa Beach	$10,000	$10,000	$10,000	$10,000	$10,000
Orewa Signature Events	Destination Orewa Beach	$17000	$20000	$20000	$22,500	$22,500
Rodders Beach Festival	Hibiscus Coast Rodders Club	$10,000	$13,800	$13,800	$13,800	$13,800
Sir Peter Blake Regatta	Torbay Sailing Club	$5000	$5000	$5000	$5,000	$5,000
Torbay Santa Day	Torbay Business Association	NA	$4,000	$4,000	$4,000	$4,000

Our Recommendation

1. Staff's recommendation for the 2023/2024 Work Programme is that the Event Partnership Fund continue with the goal of a new round opening in line with the 2023/2024 work programme.

2. Our original plan was for the 2022/2023 work programme to reflect an approved budget allocation and start the updated process. However due to the COVID situation we felt it was not appropriate to surprise the current event partners after the past two years of disruptions they have had to their event schedules.

3. Staff have updated our set of criteria and guidelines to help guide the local board in their decision making. Once completed, staff recommend adopting the new set of criteria to guide which events are included in this fund.

4. This new criteria and updated process will:

    - Provide an opportunity to ensure that the fund is aligned to the local board's plan and outcomes.
    - It will provide assistance to relatively new event organisers to become self sustaining.
    - It will provide clear connections between what the local board wants to achieve and what is funded.
    - Provides a clear exit path for those groups that are struggling to maintain an event and are reliant on local board funding

The Event Partnership Process

Managed by the Event Facilitation team with support from the Grants team

Work Programme Development

- FY 2023/2024
- Criteria and funding style is set by the local board.
- First year, the work programme will not stipulate the partnership events.
- Staff will open and manage a contestable round.

Contestable Round

- Any event organisers in the local board area will be able to apply to be included in the fund.
- Current recipients will be allowed to re-apply, allowing them an opportunity to update the board on their events and adjust their request for support for the next three year term.

Local Board Decision

- Staff will assess the applications received against the criteria.
- The applications will be workshopped and a report submitted to the relevant business meeting.
- A resolution will be passed and this will establish the event partnership funding and pre determine the following two years.

Next Steps

Do you support updating the Event Partnership?

Staff will complete the criteria and funding guidelines

Later workshop

Hibiscus and Bays Local Board Event Partnership Guidelines

1 July 2023

Purpose

The Local Board Event Partnership Fund is a three-year (term) fund specifically targeted to support the growth and sustainability of community events in the Hibiscus and Bays Local Board area that align to the Hibiscus and Bays Local Board's Plan and predetermined priorities - outlined below.

The goal is that upon completion of the third year. the event will have grown to become sustainable and can operate without the need of the Event Partnership Fund.

In year one, all event organisers must submit an EOI at the end of the term and the application will be treated as a fresh grant applicant. For the following two years, the fund becomes secured.

Unlike other grant options, there is no fixed monetary range of funding. The amount is at the discretion of the funding local board.

Organisers will be granted an amount agreed by the board for year one. Upon receipt of yearly accountability report, event facilitation will advise the board of their recommendation on whether the amount granted for the remainder of the term.

Process:

1. This process is managed and facilitated by the Event Facilitation team with support from the Grants team.

2. Event Partnership (Non-Contestable) Round opens.
    - Grants team to generate EOI forms/grants application link and send to Events Facilitation team.

3. Once the funding round closes, staff will present all options to the local board in a work programme workshop for a final decision.

4. Upon approval of work programme event facilitation will notify all applicants of the outcome.

5. Event Facilitation will supply successful applicants a funding agreement to be signed and returned for funding to be paid out.

6. An event permit application will need to be submitted and standard process followed ensuring the minimum 6-week timeframe for processing.

Signature Events

Events that are funded and delivered on behalf of the local board cannot be funded by the Event Partnership Fund.

Underpinning documents/ policies/ guidelines:

If there is a question, situation, definition, or process that is not covered in these guidelines, the following will be referred to and applied:

Hibiscus and Bays Local Board Plan

Hibiscus and Bays Local Board Community Grants Programme

Community Grants Policy

Auckland Council Events Policy

Hibiscus and Bays Local Board Event Partnership Guidelines

1 July 2023 - Community Version

The document for community will include the above also, however it will have the additional information provided to help them understand the process and how it works.

Important Advice Provided to Applicants

Applicants are encouraged to read the Hibiscus and Bays Local Board Plan before submitting an application.

You will be asked to identify how your event aligns with one or more of the local board plan priorities/outcomes and show how the event will benefit the community.

Ensure that you clearly outline the contribution you are making to the event within the local board area.

The Hibiscus and Bays Local Board would like to see applicants demonstrate that they are working collaboratively with other community groups and have identified alternative funding partnerships/avenues. It is important for the groups and organisations to be sustainable and deliver good community outcomes.

It is preferable for the supported events to have been running for a minimum of 3 years to show stability and capacity to deliver. Where this is not the case, the applicant will need to demonstrate the ability to deliver the event.

A change of event organiser during the partnership is at the board's discretion as to whether they commit to funding the remaining term. The event organiser taking over the funded event must be experienced with a relevant track record of successful delivery in line with the original organiser.

Higher Priorities

The Hibiscus and Bays Local Board has a set of specific priorities and outcomes for their local grants programme which can be read here. In your application identify how your event/s will contribute to one or more of them.

Exclusions

As per standard policy for local board grants, the below will not be considered for event partnership funding:

Events that are ticketed for commercial gain.	Events outside of the Hibiscus and Bays local board area.
Applicants who have had one successful grant application within the current financial year from the Hibiscus and Bays Local Board.	Applicants that are seeking multi-board partnership funding.
Applicants who have not previously submitted accountability forms (including receipts), proving that grants have been used for the right purpose within two months after the event date.	Events that were previously a recipient of the Event Partnership Funding during the previous local board plan duration.
Applicants who have previously breached event permit conditions.	Ongoing administrative costs.
Churches and Educational Institutions, except where these groups can demonstrate the wider community benefit.	Events that do not relate to one or more of the local board plan initiatives.
Events where the funding responsibility lies with another organisation or central government.	Prizes for sports and other events (except trophies).
Commercial business enterprises and educational institutions in accordance with the Council's Community Grants Policy (Scope and Eligibility, Page 20).	Applications to fund events run by Auckland Council or its employees.
Auckland Council CCO's or organisations who receive funding from the Auckland Regional Amenities Fund.	Applications that include support for promotion of extreme political views, activism, or religious ministry.
Commitment to ongoing funding or financial support.	Applications to subsidise rentals, reduce debt or payment of rates.
Applications for the purchase or subsidy of alcohol or costs associated with staging after - match functions.	Grants for the sole purpose of an individual.
Family reunions.	Debt servicing.
Legal expenses.	Activities whose purpose serves to promote religious, political, or contentious messages.
Medical expenses	Wages/Koha

Other key factors (where appropriate to a proposed event):

The Hibiscus and Bays Local Board will also consider whether the applicant:

- is contributing to the event (financial, volunteer time etc.).

- has identified collaboration and working with other groups to deliver an event and is seeking funding collaboratively. Any other funding that you hope to receive for the event e.g., contestable funding from Foundation North, Department of Internal Affairs, Central Government contracts.

- is utilising and supporting volunteer groups through the delivery of an event.

- will get the community involved early on, by working collaboratively and creating opportunities to meet new people and share experiences.

- The event organiser delivers a safe event.

- That the event has a positive economic benefit for local business and service providers.

- Promote a healthy environment approach
  - Promote smoke-free messages
  - The event organiser takes a proactive approach towards the goal of Zero Waste by actively encouraging and promoting waste minimization through all aspects of the event to reduce the impact of their waste on the event footprint and divert waste from landfill.
  - Healthy options for food and drink, including water as the first choice
  - Encouraging active lifestyles including movement or fitness programmes
  - Encourage the reduction of carbon emissions or increase community resilience to the impacts of climate change

- How your event/activity will achieve the below Māori outcomes e.g., there is a Maori participation, start the event with a Karakia led by Maori group and Maori performing groups. Maori outcomes include Maori events, Maori sculpture and public art or protection of Maori cultural heritage e.g., waahi tapu
  - Māori led - either a Māori organisation that is applying or Māori directed (came about as a request from Māori)
  - Māori involvement in the design/concept
  - Māori focus - tikanga (practices), mātauranga (knowledge), reo (language)
  - Māori participation - Māori priority group, target group, high representation or Māori staff delivering

Obligations if you receive funding

- To ensure that the Hibiscus and Bays Local Board Event Partnership Fund Grant achieves positive results, recipients will be obligated to provide evidence that the assistance has been used for the agreed purpose and the stated outcomes have been achieved. Obligations will be outlined in a funding agreement that the applicant will be required to enter.

- The following accountability measures are required:
    - The completion and submission of accountability forms (including receipts), proving that grants have been used for the right purpose within two months after the event date.
    - Any grant money that is unspent and not used for the project must be returned to the Local Board.
    - Recognition of the Hibiscus and Bays Local Board's support of your event (e.g., using the specific Local Board logos on promotional material).

Event Cancellation

If the event cannot occur during one or more of the partnership years, the event organiser must do the following:

- First and foremost, advise the event facilitation team of cancellation and an explanation as to why the event cannot occur so this can be communicated to the board.
- If there is no alternative to utilise the funds within that financial year, then funds must be refunded.
- If the organiser wishes to carry the amount over to the next year this is at the board's discretion and an amount of $0 will be marked for the next financial year.

Insurance

The recipient is required to hold public liability insurance for the event as per the standard Auckland Council event permit requirements.

Event Permit:

- The recipient is required to apply to Auckland Council for an event permit if the event is held on an Auckland Council public open space.
- The recipient will need to agree to comply with all the conditions set out in that permit and abide by the event permitting timeframes.

Other conditions or Compliance with other Auckland Council Policies

Healthy Eating at Events and Community Places Policy

The Recipient agrees to use all reasonable endeavours that all food and beverages provided as part of the activity/event aligns with the Ministry of Health National Healthy Food and Drink Policy available on the Ministry of Health website.

Smokefree Policy

The Recipient agrees to comply with Council's Smoke-Free Policy on the Auckland Council web site, and to ensure that its employees, members, contractors, guests, visitors and all other persons attending the activity/event are made aware of and comply with the Policy.

Waste Minimisation

Auckland Council's waste management and minimisation plan has an aspirational goal of Zero Waste by 2040. The plan has an action to move all events organised by Council and on Council properties to be run as Zero Waste events.

A Zero Waste Event is one where careful consideration is given to the products used on site and where these ends up post event. Planning in this manner may result in items being recycled, composted, or avoided altogether. This approach encourages organisers and stallholders to design an event that generates less waste, and/or the right kind of waste for reuse. It also involves educating patrons and raising environmental awareness about waste production and disposal.

The following site www.zerowasteevents.nz has all the resources needed to implement a Zero Waste Event.

The Recipient agrees to use its best endeavours to reduce all waste produced during the activity/event in line with Council's recommended approach to Zero Waste Events, as outlined at www.zerowasteevents.nz.

Recognition

Recipient shall give fair and proper public acknowledgement of the XXXX Local Board's support, including as follows:

Promotional materials: Placement of Funder's name and logo on advertising and promotional material (e.g., print advertising, posters, newsletters, signage).

Website: Acknowledgement of Funder on Recipient's website, including a link to Funder's website using Funder's logo.

Communications: Acknowledgement of Funder as a supporter, wherever possible, in press conferences, news releases, speeches, launches, articles sent to any publications, magazines, editorial and annual reports.

Opportunities: Recipient shall advise Funder of any marketing and promotional opportunities for Funder to promote its role as a supporter of Recipient.

The acknowledgements above shall be commensurate with the amount of the Funding (including placement and prominence relative to acknowledgements by Recipient of its other supporters). Use by Recipient of Funder's name and logo must be in accordance with Funder's brand guidelines, as notified by Funder from time to time, and Recipient shall copy all such promotional material to Funder's Representative.

2021/2022 Non-contestable North Hibiscus and Bays 2021/2022 Non-Contestable Events accountability report

Application 07NCE2206 From Destination Orewa Beach

Form Submitted 24 Mar 2022, 10:29am NZDT

Event Funded

*** indicates a required field**

Auckland Council is interested to know how your organisation spent the grant and how the event benefited your community.

Please note that all organisations that have received a grant from the Council are required to complete this accountability form and return it to us.

If we don't receive a completed accountability form within the required timeframe your organisation will not be eligible to apply for future funding.

Event Name *	Orewa Flagship events
Event Date *	24/11/21
Event Venue *	Moana Reserve
Amount Granted *	$32,500.00 Must be a dollar amount
Amount spent *	$33,207.00 Must be a dollar amount
Local Board granted by *	Hibiscus and Bays Local Board
Application Number *	HB/2021/64

Contact Details

Contact Details

Contact Person	Gayle Hill The person we can contact if we need to discuss your accountability form
Email Address	gayle@orewabeach.co.nz One that is accessed on a daily/frequent basis
Daytime Phone Number	021 916 980

Event Outcomes

*** indicates a required field**

Event Outcomes

2021/2022 Non-contestable North Hibiscus and Bays 2021/2022 Non-Contestable Events accountability report

Application 07NCE2206 From Destination Orewa Beach

Form Submitted 24 Mar 2022, 10:29am NZDT

How many people were involved in your event? *We are interested to know how many people were involved in the event and also the number of people from the community that participated and/or attended.*

Number of Attendees *	5000 Must be a number
Number of Participants *	150 Must be a number
Number of Staff *	2 Must be a number
How was your event promoted? *	We promote all events and initiatives through the following: radio advertising social media - facebook and instagram print media Orewa beach website
Provide a general overview of the event *	Due to the restrictions of Covid (red traffic light and only a maximum of 100 attendees), we have had to cancel all our events and therefore we had to alter our entire summer schedule. We created activities in town that didnt gather big crowds. Since the Santa Parade couldn't take place, we created a Christmas vibe in town by having entertainers performing with a christmas theme, gift wrapping, santa photos with a beach vibe plus a special 2 hour Santa photo session for low sensory children on a quiet reserve in Orewa. Throughout January to March, we created our 'Live Streets' program and organised local entertainers to play throughout Orewa every weekend. We brought our sand sculpturists (from Christchurch) up earlier to create some chalk art on the pavements. 3 places were chosen to create a chalk art piece. One on Moana Resere, one in Hillary Square and one on the corner of Moenui and Hibiscus Coast Highway. The girls created some great interest peices throughout town and the public were very engaging with them and really enjoyed watching them work and seeing the finished product. Sandcastle - although we couldnt run the competition,this is our 9th year for the sand scultpure. 15 tonnes of sand is dropped on Moana Reserve and two sculpturists from Christchurch work their magic.
What were the key highlights of the event? *	CHRISTMAS - The Santa photos with the sleigh on the beach and the low sensory photos were definitely the highlight. Huge public appeal and they were so engaging.

LIVE STREETS - on weekends from January to March entertainers filled the town. A highlight was the fire dancer .

CHALK ART - 3 places were chosen to create a chalk art piece. The largest piece on Moana Reserve was a Tui that was an optical illusion. This was so well received by the public and we have had many requests for the art work to be permanent.

SAND SCULPTURE - This has become a unique feature to Orewa every March and the locals look forward to watching it develop.

How did your event contribute to local board outcomes? *

Showcasing Orewa as a vibrant town with plenty on offer even in Covid times - plenty of fresh air and spaces for the locals.

Creating activities throughout town that did not gather more that 100 spectators.

Due to our events being cancelled we could not include as many community groups as we normally do. However we did help some - Christmas gift wrapping by the Orewa Girl Guides, Hibiscus Cricket Club was used for manpower to pound up the sandsculpture (the first process for the sculpture) and also the transport of the Santa Sleigh. We borrowed the Santa Sleigh from Warkworth Business Association and for 3 days the cricket club collected it for us and transported it around Orewa where we required it.

Please refer to the relevant local board outcomes and priorities in the respective local grants programme (can be found at http://www.aucklandcouncil.govt.nz/EN/newseventsculture/communityfundingsupport/Pages/grantspolicyandprogrammes.aspx)

Region attendance

What local board area did your participants come from?	Percentage
Hibiscus & Bays	
Rodney	
Kaipatiki	
Devonport-Takapuna	
Upper-Harbour	

Event Expenditure

*** indicates a required field**

2021/2022 Non-contestable North Hibiscus and Bays
2021/2022 Non-Contestable Events accountability report
Application 07NCE2206 From Destination Orewa Beach
Form Submitted 24 Mar 2022, 10:29am NZDT

Expenditure

In the table below please list what the grant was spent on.

For each item, please provide proof of expenditure. This can be either:

- Paid Receipts
- Paid Invoices
- Bank Statements clearly noting transaction (i.e) $200 - X Day Clown and a separate document providing the vendors used contact details (address, phone number, email and whether they are GST registered or not)

Breakdown

Spent on:	Exclusive GST $	Inclusive GST $	Attach scanned receipts/invoices, etc
Santa Parade / Christmas Activations	$10,214.00	$10,655.00	Filename: Santa Parade.xlsx File size: 2.2 MB
Live Streets / January Activation	$11,627.00	$12,194.00	Filename: Live Streets.xlsx File size: 4.9 MB
Chalk Art / February	$5,860.00	$6,009.00	Filename: Chalk Art.xlsx File size: 1.8 MB
Sandcastle March	$5,506.00	$5,930.00	Filename: Sandcastle.xlsx File size: 2.2 MB
	$	$	*No files have been uploaded*
	$	$	*No files have been uploaded*
	$	$	*No files have been uploaded*
	$	$	*No files have been uploaded*
	Total: $33,207.00	Total: $34,788.00	
	Must be a dollar amount	Must be a dollar amount	

Photos

Event photos *

Filename: Chalk Art.jpg
File size: 517.2 kB

Filename: Fire dancer.png
File size: 399.7 kB

Filename: sandcastle.jpg
File size: 577.1 kB

Filename: Santa and Pipe band.jpg
File size: 211.8 kB

Filename: santa sleigh beach style.jpg
File size: 389.6 kB
if you have any photos of your event, please attach them here (maxium of 5)

Declarations

*** indicates a required field**

Declaration

Declaration *

☑ I declare that, to the best of my knowledge and belief, the information supplied here on behalf of the organisation is correct
☑ I declare that this accountability report is made with the full knowledge of the organisation I represent.

You will receive an email acknowledging that Council has received your accountability form. If you do not receive an acknowledgement, please check to see if the emails has been treated as 'spam'.

Acknowldgement *

◉ I understand and will check my junk mail if an acknowledgement email is not received.