MEETING
AGENDA
Ngā Take

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Western Bay of Plenty
District Council

OPERATIONS AND MONITORING COMMITTEE

Komiti Whakahaere

OP21
Thursday, 15 August 2019
Council Chambers
Barkes Corner, Tauranga
9.30am

Te Kaunihera a rohe mai i nga Kuri-a-Wharei ki Otamarakau ki te Uru

Notice of Meeting No. OP21
Te Karere

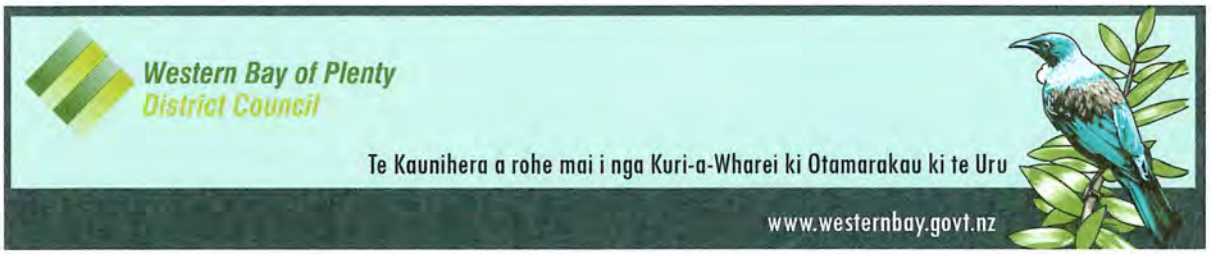
Operations and Monitoring Committee
Komiti Whakahaere

Thursday, 15 August 2019
Council Chambers
Barkes Corner
9.30am

His Worship the Mayor	G J Webber
Councillors:	D Thwaites (Chairperson) J Palmer (Deputy Chairperson) G Dally M Dean M Lally P Mackay K Marsh D Marshall M Murray-Benge J Scrimgeour M Williams

Media
Staff

Miriam Taris
Chief Executive Officer
Western Bay of Plenty District Council



Operations and Monitoring Committee Delegations
Mangai o Te Kaunihera

Quorum:

The quorum for this meeting is six members.

Role:

Subject to compliance with Council strategies, policies, plans and legislation:

- To monitor performance and outcomes over all of Council's service functions including the following:

  - Regulatory Operations
  - Roading Operations
  - Utilities Operations
  - Parks, Reserves, Cemeteries and other council property
  - Customer services, libraries
  - Corporate Property Operations and development
  - Sub Regional Parks
  - Operational service contracts (e.g. swimming pools, community halls)
  - Emergency Management
  - Rural Fire

General Delegations:

- To make decisions to enable and enhance service delivery performance.
- To approve operational policy including resolving operational policy matters defined as the implementation of policy.
- To resolve all operational matters as referred by Community Boards.
- To make decisions in regard to assets to implement Council's plans, policies and projects as contained in the Long Term Plan and Annual Plans.
- To monitor assets and resources required for the delivery of services.
- To monitor the implementation of Council's strategies, plans, policies and projects contained in Council's Long Term Plan and Annual Plans.
- To receive and resolve on or recommend to Council or its Committees as appropriate the reports, recommendations and minutes of the Joint Road Safety Committee and any other Joint Committee, working group or forum as directed by Council.
- To undertake on behalf of Council all processes and actions (including consultation) for the amendment of bylaw schedules relating to operational services precedent to the recommendation to Council for adoption of the amendments.

Financial Delegations:

Pursuant to Section 4(1) of the Public Bodies Contracts Act 1959, the Committee shall have the power to enter into contracts in respect of the Committee's functions to a maximum value of $5,000,000 for any one contract, provided that the exercise of this power shall be subject to, and within the allocation of funds set aside for that purpose in the Long Term Plan, the Annual Plan and Budget or as otherwise specifically approved by Council.

To report to Council financial outcomes and recommend any changes or variations to allocated budgets.

Other:

The Committee may without confirmation by Council exercise or perform any function, power or duty relating to those matters delegated by Council in like manner, and with the same effect, as the Council could itself have exercised or performed them.

The Committee may delegate any of its functions, duties or powers to a subcommittee subject to the restrictions on its delegations and provided that any sub-delegation to subcommittees includes a statement of purpose and specification of task.

The Committee may make recommendations to Council or its Committees on any matters to achieve the outcomes required in the role of the Committee but outside its delegated authorities.

Agenda for Meeting No. OP21

Pages

Present
In Attendance
Apologies

Declarations of Interest

Members are reminded of the need to be vigilant and to stand aside from decision making when a conflict arises between their role as an elected representative and any private or other external interest that they may have.

Public Excluded Items

The Council may by resolution require any item of business contained in the public excluded section of the agenda to be dealt with while the public are present.

Public Forum

A period of up to 30 minutes is set aside for a public forum. Members of the public may attend to address the Committee for up to three minutes on items that fall within the delegations of the Committee provided the matters are not subject to legal proceedings, or to a process providing for the hearing of submissions. Speakers may be questioned through the Chairperson by members, but questions must be confined to obtaining information or clarification on matters raised by the speaker. The Chairperson has discretion in regard to time extensions.

Such presentations do not form part of the formal business of the meeting, a brief record will be kept of matters raised during any public forum section of the meeting with matters for action to be referred through the customer contact centre request system, while those requiring further investigation will be referred to the Chief Executive.

OP21.1 **NZ Transport Agency – State Highway 2 Speed Review Update**

A representative(s) from the NZ Transport Agency will be in attendance to present.

OP21.2 **Waihi Beach Coastal Structures Review 2020** 8-84

Attached is a report from the Utilities Manager dated 30 July 2019. A representative(s) from Beca may be in attendance.

OP21.3 **Seawall Occupation by Landowners' Consent at Waihi Beach - Update**

Ivan Tottle, Chair of the Property Owners Group will be in attendance to provide a verbal update for the Committee.

The Information Pack (Item 1) includes a summary and background report on this matter.

OP21.4 **Proposal to Grant Pirirākau Incorporated Society Inc. Tourism Co-ordinator Status Section of the Omokoroa to Tauranga Cycle Trail in the Pirirākau Rohe** 85-92

Attached is a report from the Deputy Chief Executive dated 26 July 2019.

OP21.5 **Pohutukawa Park – Tree Shading Issues** 93-105

Attached is a report from the Reserves and Facilities Manager dated 29 July 2019.

The involved property owners will be in attendance to present their case.

OP21.6 **Infrastructure Services Report August 2019** 106-119

Attached is a report from the Deputy Chief Executive dated 30 July 2019

The open section of the Operations and Monitoring Committee Information Pack No. OP21 dated 15 August 2019 has been circulated with the agenda.

Local Government Official Information and Meetings Act

Exclusion of the Public

Schedule 2A

Recommendation

THAT the public be excluded from the following part of this meeting namely:

- *Infrastructure Services Report August 2019 - In Confidence*

The general subject to each matter to be considered while the public is excluded, the reason for passing this resolution in relation to each matter, and the specific grounds under Section 48(1) of the Local Government Official Information and Meetings Act 1987 for the passing of this resolution are as follows:

General subject of each matter to be considered	***Reason for passing this resolution in relation to each matter***	***Ground(s) under Section 48(1) for the passing of this resolution***
Infrastructure Services Report August 2019 – In Confidence	*THAT the public conduct of the relevant part of the proceedings of the meeting would likely result in the disclosure of information for which good reason for withholding would exist.*	*To protect the privacy of natural persons, including that of deceased natural persons.* *To enable the Council to carry on negotiations (including commercial and industrial) without prejudice or disadvantage.*

Western Bay of Plenty District Council

Operations & Monitoring Committee

Waihi Beach Coastal Structures Review - 2020

Purpose

As part of the Resource Consent Conditions for undertaking coastal protection works at Waihi Beach in 2011, a requirement is for Council to undertake a review of these works and provide context to security of these protection works over the next 50 years.

Western Bay of Plenty District Council engaged Beca a professional services consultant to carry out this assessment and provide the detailed report attached. **Attachment A**

The attached report will meet the Consent requirements.

Recommendation

1. ***THAT the Utilities Manager's report dated 30 July, 2019 and titled Waihi Beach Coastal Structures Review - 2020 be received.***
2. ***THAT the report relates to an issue that is considered to be of low significance in terms of Council's Significance and Engagement Policy.***
3. ***THAT this report be forwarded to Bay of Plenty Regional Council as part of the requirement of condition 13 of the Resource Consent number 62912 (SAR-03-36-05-05) granted on 26 April, 2008.***

Kelvin Hill
Utilities Manager

Approved

Gary Allis
Deputy Chief Executive

1. Background

Western Bay of Plenty District Council commissioned Beca, a Professional Services provider through a competitive tender process to undertake a review of the coastal protection works constructed in 2011.

The review is part of the requirements of the Resource Consent granted by Bay of Plenty Regional Council, which sought a detailed report to be provided by the year 2020.

The content of this report addresses;

- An assessment of the performance of the seawall in holding the shoreline in a static location.
- An assessment of the structural integrity of the seawall.
- The effects of the seawall on beach lowering.
- The effects of the seawall on sediment transport.
- The effects of the seawall on public access to and along the coastal marine area.
- The likely functional life of the seawall structure.
- The effectiveness of dune enhancement of the northern end of Shaw Road in mitigating coastal erosion effects.
- List of potential options.

2. Key Findings

Overall the seawall is performing adequately and is maintaining the rock revetment crest line and level which protects the properties behind.

There is erosion of the land immediately adjacent to the shoreline at the southern and northern sea wall termination of the rock revetment wall (commonly known as end effect erosion).

Based on observations, the coastline between the Flat White Café and the northern sea wall termination appears to be actively receding resulting in a further loss of the dune and seafront property. The vertical scarp is very close to the high tide zone. Extension of the seawall is an option, however this limits public access along the beach during high tides. However, access is already limited at high tide due to the dune and beach profile. Dune enhancement works undertaken have completely disappeared and it is likely that further dune enhancement under the existing consent would not last given the active beach front in this location.

The dune system adjacent to Coronation Park is functioning well. The barrier dune is planted with established vegetation which is trapping windblown sand, thereby supplementing the dune. There also appears to be an adequate berm width between the high tide contour and the dune contributing to the success of the dune enhancement in this location.

3. Actions Going Forward

Maintenance Works: The end wall effect experienced on both the southern and northern seawalls needs to be addressed. The report from Beca provides engineering solutions to manage this and staff will look to undertake these repairs during this financial year.

No funding is sought for this work as the current operating maintenance account has sufficient funds to cover the scope.

The coastline between the Flat White Café and the northern seawall termination will continue to be monitored by staff. While also working with local property owners who wish to apply for a Resource Consent to undertake a back stop wall type structure. The property owners would also fund the application and construction works. A number of challenges still need addressing and while noting the above summary, this project does not form part of this report and will be subject to a different process.

4. Report Outcome

The report highlights that the functional life of the seawall can be considered long-term (i.e. 50-100 years) provided regular monitoring and maintenance works are undertaken.

It should also be noted that there is always a risk that a storm event or natural hazard occurs which exceeds the design event and significant damage may result.

The expected sea level rise will over time reduce the dry beach area in front of the seawall. This will restrict public access along the beach.

This report will be provided to Bay of Plenty Regional Council as a requirement of the Resource Consent conditions which sought an independent review of the coastal protection works by 2020.

While some potential coastal erosion options have been generated in this report, it is noted that no consultation has been undertaken with the community to this point. However, future work will need to be undertaken while working with the community to develop a long term coastal hazard strategy.

Timing of such future works will be considered as part of Council's environmental strategy.

Interested/Affected Parties	Completed/Planned Engagement/Consultation/Communication
Name of interested parties/groups	In-house Council discussions with Policy Team.
BOP Regional Council	Discussions have taken place with BOPRC to establish the requirements of the report to meet Condition 13 of the Resource Consent number 62912.
General Public	No discussions have taken place within the community regarding this report. Future works will require public consultation.

5. Issues and Options Assessment

Option A ***2. THAT this report be forwarded to Bay of Plenty Regional Council as part of the requirement of condition 13 of the Resource Consent number 62912 (SAR-03-36-05-05) granted on 26 April, 2008.***	
Assessment of option for advantages and disadvantages taking a sustainable approach	To undertake maintenance activities to manage end wall erosion effects as per consultants report.
Costs (including present and future costs, direct, indirect and contingent costs) and cost effectiveness for households and businesses	Costs are covered under operational current account. No additional funding required.
Option B **Status Quo**	
Assessment of option for advantages and disadvantages taking a sustainable approach	Maintenance of the existing rock structure is a requirement of the Resource Consent. Failure to undertake action would result in premature failure of the wall and/or major erosion to sections of the wall.
Costs (including present and future costs, direct, indirect	Increased maintenance costs would eventuate if no proactive measures are taken.
Other implications	Possible legal actions being taken by property owners

5. Statutory Compliance

The recommendation(s) meets:

- Legislative requirements/legal requirements
- Current council plans/policies/bylaws
- Regional/national policies/plans.

Resource Consent No. 62912 condition 13 requires Council, as the consent holder, to undertake comprehensive investigations prior to 31 December, 2020 to determine the best practical option for long term management of the coastal hazard risk at Waihi Beach.

6. Funding/Budget Implications

Budget Funding Information	Relevant Detail
	This report was funded from additional levels of service 61/01/02/0090 Waihi Beach Shoreline Option Assessment. The suggested maintenance work required for end erosion effect will be coded against existing operational current account for coastal structures.

Beca

www.beca.com

Final Report

Waihi Beach Coastal Structures Review

Prepared for Western Bay of Plenty District Council

Prepared by Beca Limited

5 July 2019

Revision History

Revision N°	Prepared By	Description	Date
	Tom Craigie	Draft for Internal Review	13 February 2019
	Tom Craigie	Working Draft for client	15 February 2019
	Andrew Hill	Draft for client including requested changes	10 May 2019
	Kane Satterthwaite / Cushla Loomb	Final	5 July 2019

Document Acceptance

Action	Name	Signed	Date
Prepared by	**Tom Craigie/ Andrew Hill**		10/05/2019
Reviewed by	Kane Satterthwaite		10/05/2019
Approved by	**Cushla Loomb**		05/07/2019
on behalf of	Beca Limited		

Executive Summary

Western Bay of Plenty District Council engaged Beca to assess the existing seawall at Waihi Beach (including structural condition, expected life and any impacts on beach lowering, sediment transport and public access), the performance of dune enhancement undertaken to date and suggest some potential options that can be developed further with the community and built on when a long term vision for the coast is developed (in subsequent stages). The study area is from three-mile creek in the south to Coronation Park in the north.

Waihi Beach is a barrier beach - a narrow and elongated beach situated parallel to the shoreline that provides a barrier between the mainland and a remnant wetland. The wetland can be seen in the northern section of the beach at Coronation Park and acts as a buffer for separating residential development from the beach. Elsewhere the dune and wetland system has been reclaimed and replaced with residential development.

The Waihi Beach sediment system is highly dynamic due to cross shore and longshore sediment transport. As an active ocean beach system, the beach experiences onshore/ offshore movement of sand. During periods of high wave energy sand is transported from the intertidal beach offshore to form a bar. The offshore bar promotes wave breaking that dissipates wave energy subsequently reducing the erosion potential on the intertidal beach. During calmer swell dominated conditions (typically experienced in summer months) sand is transported back to the intertidal beach from the offshore bar. This process results in short-term changes to the beach profile (known as 'cut and fill' cycle).

The beach system is also subject to longshore sediment transport processes whereby sediment is transported alongshore as a function of the variation of wave energy along the shoreline and predominant wave direction. In the short term these effects are highly dynamic with a net longshore sediment direction to the southeast (towards Bowentown). Studies by Tonkin and Taylor have concluded that the sediment transport from the North into the Waihi Beach sediment cell is limited.

Longer term changes to the beach from sea level rise is likely to result in landward retreat of the intertidal beach as the beach system adjusts to the increased sea level and wave break closer to the shore. In response to coastal erosion a seawall approximately 1km long was constructed north and south of two-mile creek in 2011 to protect properties located on the dune system. At the date of the inspection (November 2018) the beach appeared to be in an accretional state. There was no observed scouring at the seawall toe during the site visit (noting again that the beach was in an accretional state).

Overall the seawall is performing adequately and is maintaining the bank crest line and level, which protects the properties behind. The seawall location is generally seaward of the former dune location hence there is loss of beach space and access along the beach at high tide. Based on observations the seawall does create a minor promontory system which is subject to higher wave energy compared to the adjacent unprotected shoreline. The rock quality appears adequate and there were no signs of rock splitting or weathering. During the site visit the presence of some undersize rock was observed on the crest which would be unstable in storm conditions. There is erosion of the land immediately adjacent to the shoreline at the southern and northern seawall terminations of the wall (commonly known as end effect erosion). The end effect erosion occurring at the southern termination of the southern seawall structure could be modified to reduce this erosion by constructing a 'tie back' of the hard structure with the adjacent land and burying the structure into the dune (noting this would be on private property). A preliminary engineering design and cost estimate has been provided for this work.

The functional life of the seawall can be considered long-term (i.e. 50-100 years) provided regular monitoring and maintenance is undertaken. However, we note that there is always a risk that a storm event or natural

hazard occurs which exceeds the design event and significant damage may result. It is also noted that although the seawall has an expected long-term life (with maintenance), observed erosion of the land at the ends of the structure and the coastal processes operating at the site mean that recession of the adjacent shoreline is expected to continue. In addition, with expected sea level rise, the dry beach area in front the seawall is expected to be lost over time, restricting public access along the beach.

Based on observations the coastline between Flat White Café and the northern seawall termination appears to be actively receding, resulting in a further loss of the dune and seafront property. The vertical scarp is very close to the high tide zone. Extension of the seawall is an option, however, this will limit public access along the beach during high tides (in a similar way to the existing structure as described above). Dune enhancement was attempted in this location but failed as the enhancement was within the active beach (high tide line) and a storm is reported to have occurred immediately after the sand was placed, removing it offshore. It is unlikely that further dune enhancement under the existing consent would provide protection to beach front properties from further recession in this location, particularly if sea levels rise as predicted.

The dune system adjacent Coronation Park is functioning well. The barrier dune is planted with established vegetation, which is trapping windblown sand thereby supplementing the dune. There appears to be adequate berm width between the high tide contour and the dune, contributing to the success of the dune enhancement in this location. A post and rope fence with signage warns people not to enter and damage the planted dune area.

There are a number of potential options for the long term management of the coast depending on what the objective or 'vision' for the coast is (i.e. to protect private properties, or to maintain a sandy beach area for public access). Future work is required to develop a vision for the beach and assess options for the coast based on a long term coastal hazard strategy developed with the community. This is suggested as part of future work.

Attachment A

Contents

Appendices

Appendix B – Aerial Photographs

Appendix C – Tonkin & Taylor Seawall Construction Drawings and Beach Profile Monitoring Cross Sections

Appendix D – Preliminary Engineering Design for Southern Seawall, southern termination end effect erosion

Appendix E – Cost estimate for Southern Seawall, southern termination end effect works

1 Introduction

1.1 Location

Waihi Beach is a barrier beach north of Matakana Island in the Western Bay of Plenty District as shown in Figure 1. It is approximately 8.8 km long from Bowentown in the south to Beach Road in the north and is a popular recreational beach. Two seawalls were constructed in 2011 at Waihi Beach (refer to Figure 2):

- The northern section – starting at 43 Shaw Road, and finishing at 3 Edinburgh Street (590m)
- The southern section – starting at 7 Ayr Street, and finishing at 34 The Loop (390m).

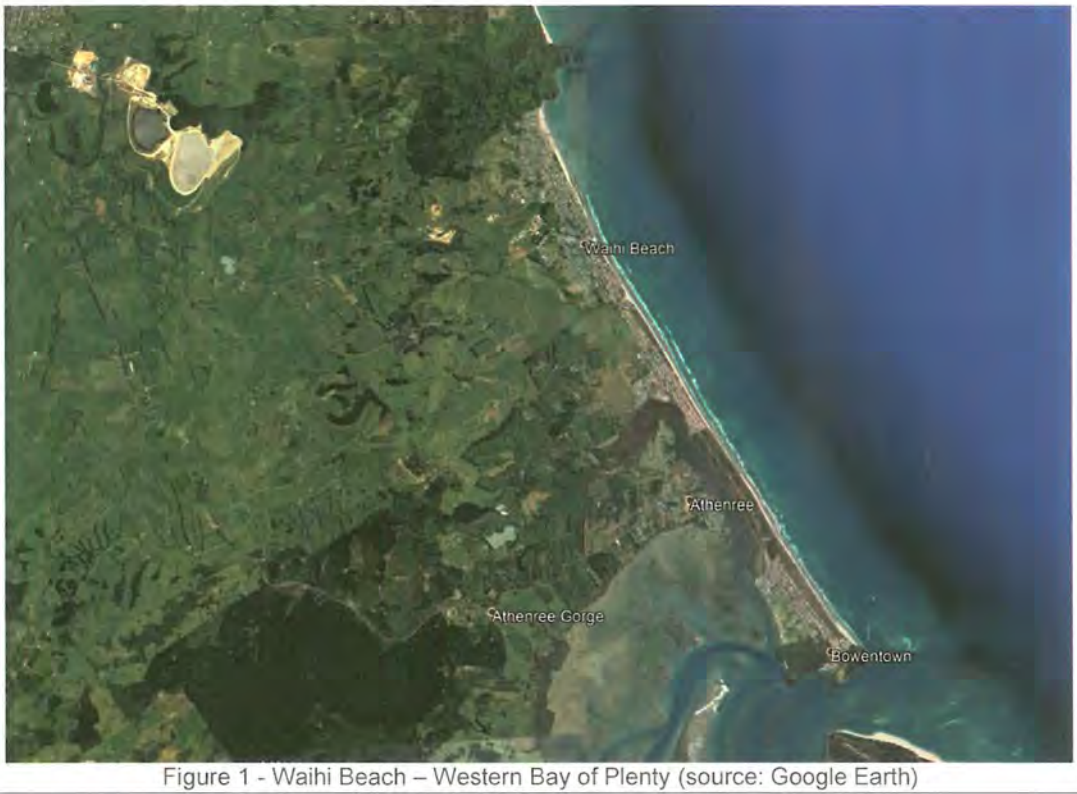


Figure 1 - Waihi Beach – Western Bay of Plenty (source: Google Earth)

1.2 Study Extent

The extent of the study area is from Three-Mile Creek in the southwest to Coronation Park in the North West (Figure 2).

1.3 Purpose of Report

Western Bay of Plenty District Council (WBoPDC) has engaged Beca assess the existing seawall at Waihi Beach (including structural condition, expected life and any impacts on beach lowering, sediment transport and public access), the performance of dune enhancement undertaken to date and suggest some potential options that can be developed further with the community and built on when a long term vision for the coast is developed (in subsequent stages). This report addresses the following items:

- An assessment of the performance of the seawall in holding the shoreline in a static location
- An assessment of the structural integrity of the seawall
- The effects of the seawall on beach lowering

- The effects of the seawall on sediment transport
- The effects of the seawall on public access to and along the coastal marine area
- The likely functional life of the seawall structure
- The effectiveness of dune enhancement at the northern end of Shaw Road in mitigating coastal erosion effects.
- List of potential options

It is noted that no consultation has been included in the Beca scope of works. The report also therefore suggests future work to develop a long term coastal hazard strategy with the community so that options can be assessed against a vision for the coast and clear objectives.

Figure 2 – Seawall and Dune Rehabilitation Areas including report section references

1.4 Brief History of Waihi Beach Protection Works

Review of previous strategy and protection works at Waihi Beach was undertaken to provide context. We have collated aerial imagery from online tools and the raw images are included in Appendix B.

Development at Waihi Beach commenced in the early 1900s as a recreational area for the Waihi miners. In 1930 cuts were made to the beach to drain the back-land swamp area (now referred to as Two-mile and Three-mile Creeks). In 1948 subdivision work commenced at Shaw Road. Harray and Healy [1] noted that in the 1960s buildings were moved back from frontal dunes in response to dune recession and that in the 1970s various types of beach protection were constructed, including vertical semi-permeable seawalls (steel and timber), rock backfill to vertical walls, rock riprap and gabion baskets.

In response to ongoing beach recession and potential loss of property and buildings, seawalls were constructed in 2011, north and south of Two-mile Creek.

Table 1 provides commentary on high-level works and subsequent changes to the Waihi Beach coastline that have occurred over time with specific reference to the section spanning from Coronation Park to Three-mile Creek (study area).

Table 1 - High-Level Review Coastal Change

Period	Area of Interest	High-Level Coastal Change
1942-1963	- Two-Mile Creek - Three-Mile Creek - Coronation Park	- Training walls established at either embankment of Two-Mile Creek. - Watercourse has been realigned to allow for waterfront housing to be established south of Three-Mile Creek. - Beachline appears to have receded further into Coronation Park, at Oceanview Road access.
1963-1969	- Two-Mile Creek - Three-Mile Creek	- Outfall section beyond training wall has realigned to run in parallel to the wall, as opposed to the previous established angle (1963). - Substantial vegetation south of Three-Mile Creek Mouth is noted.
1969-1974	- Three-Mile Creek	- Property development on area of previous vegetation.
1974-1982	No change of note from aerial photos.	
1982-1986	- Three Mile Creek	- Further housing establishment south of Three-Mile Creek. - Watercourse near highwater mark noticeably tracking north.
1986-1991	No change apparent from aerial photos. Section at 67A Shaw Road is notably close to beachline.	
1991-2005	- 45 Shaw Road - Two-Mile Creek - 10 The Loop - Three-Mile Creek	- Establishment of rock bunding apparent, extending south. Finishes at 95 Shaw Road. - Rock deposited at the southern bank, from 1 Seaforth toward the shoreline (~40m). Appears to have re-established previous watercourse at outfall. - Establishment of rock bunding apparent, extending south. Finishes at 36 The Loop. - Establishment of rock bunding apparent.
2005-2010	- Shaw Road - Rock bunding - Two-Mile Creek	- Evidence of training groynes placed along sections of the beach. - Further rock build-up is noted in areas outlined during 2005. - Watercourse below highwater mark is tracking north to 26 Shaw Rd.
2010-2016	- Dune Enhancement - Seawall - Two-Mile Creek	- Dune enhancement constructed in June 2011 and was completely washed away from a storm event. - Seawall established October 2011, spanning further south to 3 Edinburgh Street. - Significant clearing and straightening works occurred, over and above routine maintenance (ranging from 40m^3 to 250m^3).

Period	Area of Interest	High-Level Coastal Change
	- Three-Mile Creek	- ElcoRock sand bag embankment solution has straightened the outlet alignment. - Significant clearing and straightening works occurred, over and above routine maintenance (ranging from 40m^3 to 200m^3).

1.5 Resource Consent

Resource Consent No. 62912 (SAR-03-36-05-05) was granted by the Minister of Conservation to Western Bay of Plenty District Council (WBoPDC) on 26 April 2008 for coastal works at Waihi Beach.

The Resource Consent permits WBoPDC to:

- *"Erect a Rip Rap Revetment Structure in, on, under or over the Foreshore and/or Seabed;*
- *Disturb Foreshore and/or Seabed as a Result of Beach Scraping and Site Preparation; and*
- *Deposit Material in, on or under Foreshore or Seabed; and Occupy Space in the Coastal Marine Area."*

Condition 13 of that consent requires the consent holder (WBoPDC) to undertake comprehensive investigations prior to 31 December 2020 to determine the best practicable option for the long term management of the coastal hazard risk a Waihi Beach. The development of the best practicable option for the coast should be determined following development of a long term strategy for the coast and in conjunction with the Waihi Beach community. This is a future suggested stage of work.

1.6 Structure of Report

The following sections are included in the report:

- Section 2 - Coastal Processes Background
- Section 3 - Site Visit Observations
- Section 4 - Effectiveness and Impacts of the Protection Measures
- Section 5 - Potential Beach Protection Options
- Section 6 - Future suggested works.

1.7 Existing Information Reviewed

Existing information was provided by WBoPDC, and the following documents were reviewed in preparing this report:

- Cadastral boundaries – Mapi [WBoPDC]
- Historical aerial photos – Mapi [WBoPDC], RetroLens
- Western Bay of Plenty District Council, *Contract No. 09/1018*, March 2009
  - 851225.001-07 Rev A
  - 851225.001-13 Rev A
  - 851225.001-21 Rev A
- Tonkin and Taylor, *Assessment of Beach Levels*, July 2011
- Tonkin and Taylor, *Beach Level Surveys*, February 2011 – April 2013
  - Drawing 851630-A04
  - Drawing 851630-A05
  - Drawing 851630-A07
- Tonkin and Taylor, *Coastal Profile - Dune Enhancement Survey*, May 2013
- Tonkin and Taylor, *5 Yearly Monitoring*, 13 January 2015

- Resource Consent No. 62912 (SAR-03-36-05-05), 26 April 2008

2 Coastal Processes Background

Waihi Beach is a barrier beach. Barrier beaches are narrow and elongated beaches situated parallel to the shoreline. The beach is the northern most section of the long sandy beach system in the Bay of Plenty. Further north the coast is rocky with occasional pocket type beaches. The beach provides a barrier between the mainland and adjacent nearshore wetland. A remnant of the wetland can be seen in the northern section of the beach at Coronation Park which acts as a buffer for separating residential development from the beach. Elsewhere the wetland system has been reclaimed and replaced with residential development.

A sand beach such as Waihi Beach exists because there is a balance between the supply and removal of sand. If a beach profile appears unchanged that does not necessarily mean its static (no new sediment added or old sediment removed). Often it represents dynamic equilibrium where the supply of new sand equals the removal of old sand. The beach is continually changing but appears unchanged as it remains in balance. Therefore when a beach profile begins to change the transport of sediment in and out is out of balance. Single violent events may alter a beach such as a great storm or a landslide. In either case the beach changes because of changes in sediment supply, transport and removal.

Waihi Beach undergoes many changes over different timescales including years, seasons and daily (in response to storm events). As an active ocean beach system, the beach experiences onshore/ offshore movement of sand. During sea storms sand moves offshore to form a bar which helps to protect the beach. Subsequent swell conditions move the sand back into the intertidal beach system. This process, sometimes referred to as diabathic transport or the 'cut and fill cycle', results in short-term changes to the beach profile. Observations and investigations to date indicate that large volumes of sand move within the nearshore beach-dune system in response to changes in wave conditions.

Harray and Healy [1] noted that the predominant littoral drift direction on Waihi Beach is south eastwards towards Bowentown and that the littoral drift from the north is not supplying much sediment. The Harray and Healey study concludes that it is this lack of littoral sediment supply from the north that is essentially causing the erosion problem at Waihi Beach. Bear [2] investigated sediment transport rates which indicated that littoral drift was bi-directional at northern Waihi Beach, but littoral drift was south easterly in the location of the study area. Bear [2] concluded that the net south easterly drift was the major contributor to net erosion in the study area as longshore transport of sediment exceeded the supply to the beach from diabathic movement of sediment onshore. Approximately 115,000 m^3 of sediment was estimated by Bear [2] to be moving within the defined northern Waihi Beach littoral cell during the study period (2007-2008). Bear derived a sediment budget showing a net deficit of sediment of approximately 36,000 m3/year or -8 m3/year during the year commencing November 2007.

Records show that beach recession has been significant since the 1950s. Harray and Healy [1] recorded that the mean retreat of the high water mark at Shaw Road between 1951 and 1968 was 49.2m and the dune system near the surf club was once up to 30m high.

In previous studies, Tonkin and Taylor Ltd [3] has noted the following coastal process affecting Waihi Beach.

- The Waihi Beach shoreline is considered to fluctuate between periods of accretion and erosion, based on beach profile information. During fair weather conditions a long period low wave height environment assists in producing shoreward movement of sediment, resulting in an accumulation of sand above the high tide mark as a beach berm. Over time, as the beach width increases, vegetation establishes and traps wind-blown sand and the dune toe extends seaward (accretion)
- During storm events, the combination of raised sea level and steeper waves results in an offshore movement of sand (erosion). Sand is lost from the beach and dune face with the sand moving offshore to form bars in the sub-tidal area of the beach. Soon after the peak of the storm passes and wave steepness reduces, onshore movement of sand occurs and the cycle repeats

- In a La Nina climate cycle, an increase in easterly winds and waves and increased frequency of storm/ cyclone events is expected
- Future shoreline movement may differ from historic trends due to climatic patterns associated with Inter-decadal Pacific Oscillation (IPO) and global climate change. Since 1999, La Nina conditions have dominated in the negative IPO phase. The negative IPO phase is expected to last for at least the next decade. During these conditions the local relative sea level is expected to rise and there is likely to be an increase in severe onshore wave storms. More frequent episodes of shoreline movement are expected during these conditions, as experienced in June 2011
- Every 18.6 years a tidal cycle occurs where tides are higher. At times of upper level tidal cycles, records indicate significant erosion has occurred at Waihi Beach.

3 Site Visit Observations

3.1 General Observations

On 19 November 2018, a site visit was conducted by Beca engineers and planners. Refer to the site visit report (Appendix A) for detailed observations.

The northern and southern seawalls (separated by Two-mile Creek) were inspected, and measurements of profile dimensions and rock sizes were taken at random locations. The northern seawall is approximately 600m long and the southern seawall is approximately 400m long. The depth of the toe cannot be ascertained from visual inspection. Several landowners have constructed steps down the seawall by way of strategic rock placement, of similar shape and size to the existing seawall rock revetment.

There are formalised public access points to the beach, with substantial access structures, constructed at intervals along the length of the seawall (Figure 3).

Figure 3 – Seawall showing accretion at seawall toe and a public access structure over the wall

At the date of the inspection the beach appeared to be in an accretional state – refer to Figure 3. There were no instances of scouring at the seawall toe, though it should be noted that sand migration is seasonal and movement of sand to offshore bars would be expected in winter months or during storm events. This seasonal sand movement was confirmed by Kelvin Hill (WBoPDC) who noted that that the toe of rock armouring is sometimes exposed during winter months.

Smaller-sized rock approximately between 0.3 - 0.4m Ø was observed on the crest section which would be outside the lower limits of the riprap grading. Such rocks, which are not well interlocked, would be unstable in wave overtopping conditions.

Two at-risk areas were identified; being the northern and southern seawall terminations. These areas are at risk of further erosion and these terminations are discussed in the following sections.

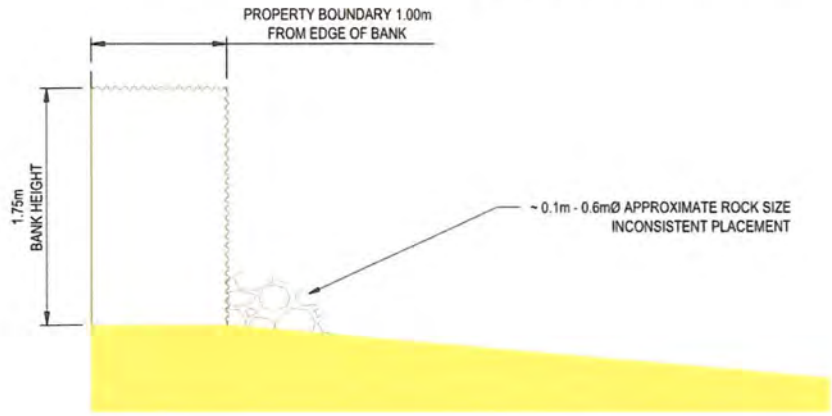
Figure 4 and Figure 5 show a plan and cross section information recorded from the site visit including existing measurement.

Attachment A

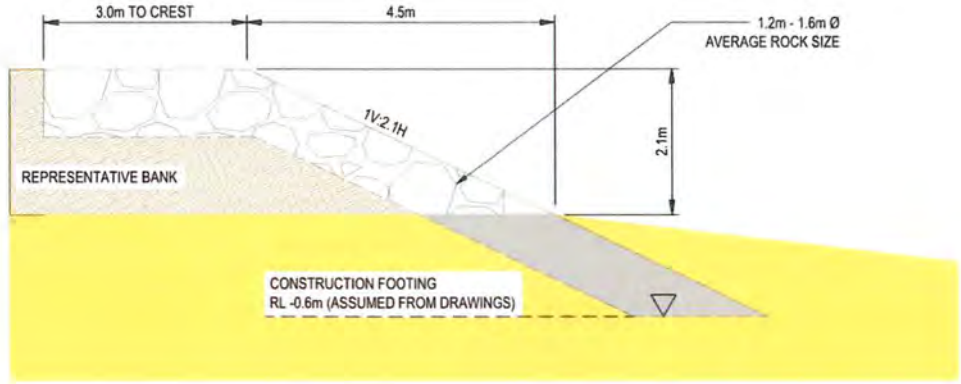
Figure 4 - Beach Profile Locality Plan

Figure 5 – Beca Seawall Rough Measurements based on Site Visit 19/11/2018)

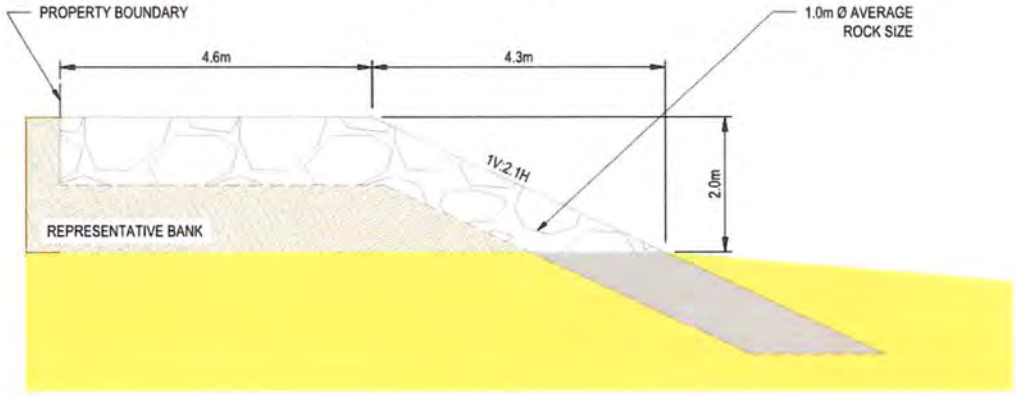
SECTION A-A



SECTION B-B



SECTION C-C



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WESTERN BAY OF PLENTY DISTRICT COUNCIL

WAIHI BEACH SEAWALL LONG-TERM STRATEGY ASSESSMENT

SITE VISIT
BEACH PROFILING
ROUGH MEASUREMENTS

3.2 Northern Seawall Termination to Flat White Café

The bank slope is generally vertical and approximately 1.8 – 2.2m high, with sporadic inclusion of buried construction debris (Figure 6). The top of the bank line meanders inside the property boundary in many cases and the crest line shows active areas of erosion.

From 2011-2013 there was regular beach profile monitoring. This indicated that the dune embankment had a slope of approximately 1V:1H during 2011-13. Although no profile measurements were taken as part of the site visit, the dune material is observed to have eroded to a vertical face.

Figure 6 – Vertical bank littered with buried construction debris (Section A-A)

3.3 Northern Seawall

3.3.1 General

The rock armour appears to be stable and the average rock size diameter is 1.2 - 1.6m Ø. There are no signs of erosion at the crest. There is a minor quantity of small rock on the seawall crest which is undersize for typical riprap grading.

3.3.2 Northern Seawall Termination

The northern seawall termination at the northernmost end (refer to Figure 7) does not currently have an adequate transition to the dune system. There is also a walkway located at the transition formed by sand bags (Figure 7). Minor erosion is observed at the rock/ dune interface and there are only scattered rocks at this location. The rock should be replaced in this location to protect against potential outflanking and vegetated sand placed over the buried rock in this location. It is possible for these minor works to be undertaken as maintenance works in accordance with condition 10.1 of the resource consent[1].

The northern seawall transitions into the Two Mile Creek training wall structure at its southern end with some rocks and a well vegetated dune area behind which provides continuous protection of the properties behind in this area (Figure 8).

Figure 7 - Northern Seawall Northern Termination

[1] Subject to confirmation with Bay of Plenty Regional Council as Consent Authority.

Figure 8 – Two mile creek showing rock training walls and northern seawall transition (red circle)

3.4 Two-mile Creek

The northern seawall ties into Two-mile Creek and rock protection continues up the creek. On the southern bank (true right) of Two-mile Creek, a seawall extends approximately 50m onto the beach before transitioning to a dune system. The dune system appears to be effective, with consistent vegetation present aside from beach access lanes.

At the termination of the southern rock training groyne (refer to Figure 10) there is an unvegetated sand bank approximately 20m in length which appears to be used as a pedestrian accessway or small boat ramp onto the beach. There is no vegetated dune in this location and this means this area may be particularly susceptible to erosion in the future. Vegetation in this area will assist in stabilising the dune and so WBOPDC may consider planting as a priority in this location.

Figure 9 – Two-Mile Creek Mouth

Figure 10 - Beach Access and Dune Tie-In (red circle)

At the Two-mile creek outlet location there is sand build up between the north and south training walls. Sand in this area is subject to the normal accretion and erosion cycles as well as the flushing ability of the creek. Due to low creek velocities for the majority of the year the flushing capability of the creek (i.e. the ability to scour and transport sand built up) is low which may result in the need to excavate sand from the channel of the creek from time to time to prevent back up of creek waters.

3.5 Southern Seawall Observations

3.5.1 General

The seawall terminates ~100m north of Three-mile Creek, and transitions to a dune system. Where the rock terminates there is some erosion of the dune face observed, typical of transitions from hard structures to soft

unprotected shoreline. The end effect erosion at this transition is more apparent at the southern end of the southern seawall (see Section 3.5.2 below)

The rock armour appears to be stable and the average rock size diameter is 1.0m Ø. There are no signs of erosion at the crest. There is a minor quantity of small rock on the seawall crest which is undersize for typical riprap grading. There is a pedestrian thoroughfare running parallel and adjacent to the crest of the seawall – refer to Figure 11.

Approximately mid length the seawall is constructed around a boat ramp which is located at a property along The Loop. This is a potential weak point and wave attack may undermine the concrete ramp in the future.

Figure 11 - Pedestrian Walkway Parallel to Seawall Crest (Section F-F)

Figure 12 in the fore area of the photo shows a zone where rock interlocking and placement could be improved.

Figure 12 – Seawall Condition and Slope (Section C-C)

3.5.2 Southern Seawall Terminations

The terminations (both northern and southern) of the southern seawall are not well constructed (Figure 13a and Figure 13b). There is minor end effect erosion observed at the northern termination (Figure 13a) and more significant end effect erosion at the southern end (Figure 13b). Seawall terminations will always need maintaining and natural beach processes may continue to result in recession of the dune profile outside the seawall zone.

Given the minor nature of end effect erosion at the northern termination of the seawall, maintenance in the form of placing rocks back at the termination of the seawall could be undertaken and this is unlikely to require resource consent[2].

The dune bank at the southern termination is actively eroding and vegetation is slipping from the top of bank and geotextile is exposed approximately 5m from the end of the seawall. Typically, the rock would extend landward and be buried by vegetated sand material to mitigate against potential outflanking. Such work would involve excavation of the dune, rock placement, sand replacement and planting. It is not clear whether such an arrangement was originally constructed or part of the consented design. It is possible these works could be considered maintenance under condition 10.1 of the resource consent[2]. However, given the more substantial nature of the works, it is suggested that this is confirmed with the BoPRC prior to any work.

If this termination area is to be addressed, we would recommend a design such as the preliminary engineering design included in Appendix D to this report. An indicative assessment of the capital cost requirements of the seawall termination works based on the preliminary engineering design is included in Appendix E. We note that, if the works are to go ahead, a topographical survey would need to be completed and discussion and agreement reached with landowners (as works may extend into private property).

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[2] Condition 10.1 of the resource consent allows maintenance of the rock revetment structure to maintain it in a safe and structurally sound condition

Figure 13a - Northern Termination of the Southern Seawall (red circle shows minor end effect erosion)

Figure 14b - Southern Termination of the Southern Seawall (red circle indicates more significant end effect erosion)

3.6 Three-mile Creek

Sandbag training groynes have been established at the mouth of Three-mile Creek in the form of ElcoRock sand bags. The dune behind the groynes on both northern and southern extents of the creek appears to be stable. One reason for the stability is that the dunes are set back well above the high tide line and therefore will not be subject to wave attack frequently.

There is also apparent sand build up either side of the training walls providing localised increased beach volumes that provide an increased erosion buffer for the backshore area (Figures 15 and 16). This accumulation is not unexpected particularly over moderate time scales for shorelines that are dynamically stable with close to zero net littoral drift. In these situations sediment accumulates either side of the walls until it is bypassed, either over the top of the walls or around the seaward toe of the training walls. The sediment volumes accumulated either side of the training walls are likely to be highly dynamic during short term storm events, ranging from sedimentation to lee side erosion. Sediment deposited in between the training walls is either scoured during creek discharge events and deposited at the lower beach or, during periods of low flow where there is insufficient sediment transport potential, sediment is likely to accumulate requiring ongoing removal. WBOPDC have a resource consent to undertake this periodic removal of sand and this will need to continue to keep a channel open for the creek. The durability (life) for geosynthetic material can be expected to be 20-30 years. Damage to bags from sharp objects (particularly through vandalism) will necessitate replacement of the affected bags periodically to maintain groyne integrity.

Figure 15 - Three-mile Creek Mouth

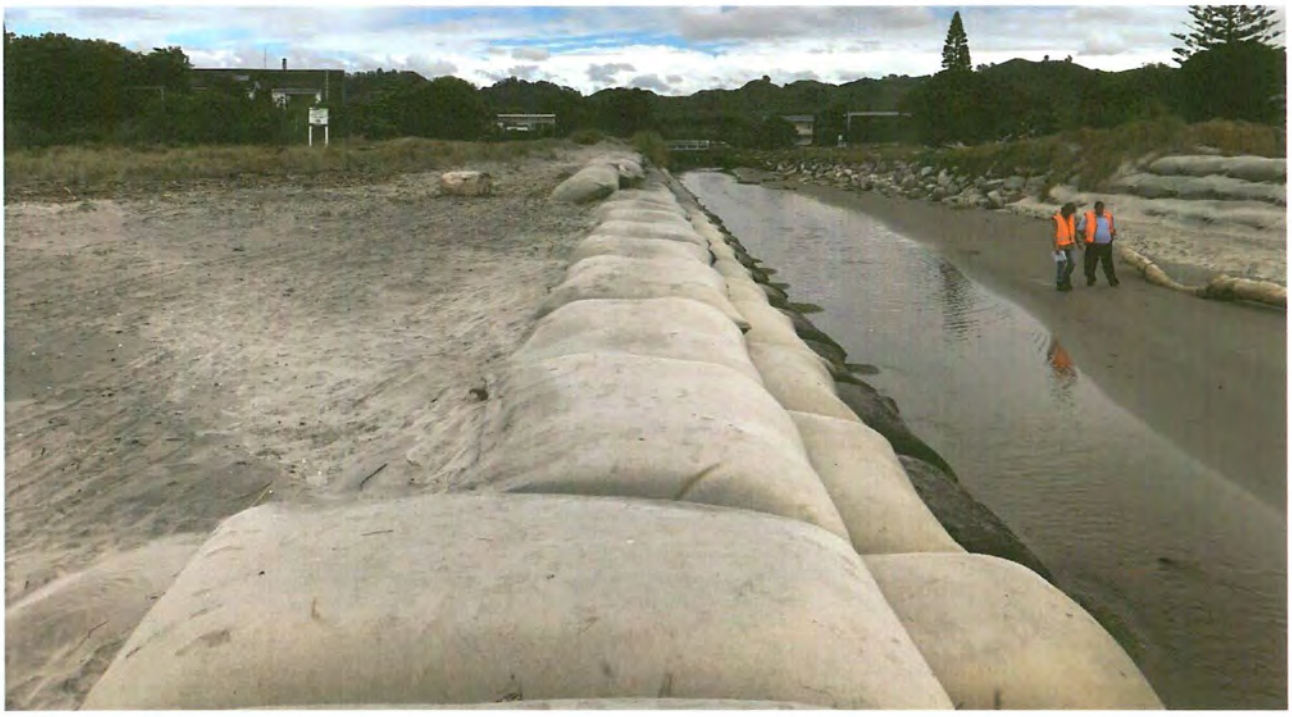


Figure 16 – Sand Build-up at Southern Groyne

4 Effectiveness and Impacts of the Protection Measures

4.1 Performance of the Seawall

Overall the seawall is performing adequately and is maintaining the crest line and level, which protects properties behind. The beach appeared to be in an accretional state and sand was buried up against the lower section of the seawall at the time of the site visit. In an erosive cycle, we understand that beach sand is removed at the toe and the integrity of the seawall will then rely upon having the toe deep enough to mitigate against undercutting. The construction drawings indicate the toe is built to between -0.6m and 0m MSL which was not able to be verified during the visual inspection.

The southern and northern seawall terminations are not tied back into the coastline and as a result erosion is occurring in these locations. We recommend that the hard structure is returned landward and buried into the dune in these locations. An overlying smoother transition zone comprising sandbags and/ or vegetation would provide a better lead into the natural dune system.

The seawall location is generally seaward of the former dune location hence there is loss of beach space and public access along the beach at high tide. Typically the presence of the seawall in the active beach zone will create a minor promontory system and focus of wave energy. The alternative would have been to construct the seawall further landward and encroaching onto private properties (such as a back stop wall, see Section 5.1).

The rock quality appears adequate for the energy of the site. There were no signs of splitting rock or deeply weathered rock. We did observe the presence of some undersize rock on the crest which would be unstable in storm conditions. In some isolated locations, the rock armour interlock and placement could be improved – this is not a major issue and could be improved when general maintenance is undertaken.

The area between Flat White Café and the northern seawall termination appears to be actively receding, resulting in a further loss of the dune and seafront property. The vertical scarp is very close to the high tide zone. Extension of the seawall is an option, however, this will limit beach access at high tides. An alternative is to construct a rock backwall and overlying dune, however, there is limited horizontal width to allow wave dissipation and minimise wave runup on the dune.

4.1.1 Beach lowering

WBoPDC have requested an assessment of beach lowering that may be caused by the seawall structure. Beach lowering due to hard erosion protection structures such as seawalls is well documented (T & T). Seawalls interfere with natural beach processes by removing access to the sand reserves stored in beach ridges and dunes behind the seawall. As sediment is no longer available during periods of high wave energy, which transports sediment offshore, sediment is sourced from the intertidal area fronting the seawall and from adjacent unprotected beach areas. In the short term the effects of this process are difficult to discern in terms of beach levels apart from local scour fronting the revetment and end effect scour.

During periods when beach levels are low that result in direct wave action on the revetment, the revetment promotes wave reflection which in turn enhances the wave energy promoting scour. With increasing water depth at the toe of the revetment the higher the wave energy and sediment transport. In the short term this results in revetment toe scour which is often restored during periods of calmer weather that promote the onshore transport of sediment.

It is important to note beach lowering happens on such a wide range of time scales and space scales that the entire process cannot reasonably be modelled in a single numerical or conceptual model (HR Wallingford

Report SR 633, 2003). The HR Wallingford Report SR 633 (2003) also noted that interaction between beaches and seawalls are extremely complex and Kraus and McDougal (1996) found that seawalls have not been proven to actively cause wide scale beach erosion in the short term. However, seawalls do promote localised scour from hydrodynamic processes including wave reflections, currents, groundwater flows, and permeability changes. The existing seawall is a sloped rock revetment and this type of structure has been shown to dissipate wave energy and reduce wave reflection more than a vertical, solid structure which reduces the potential for beach lowering.

Longer term changes to the beach from sea level rise is likely to result in landward retreat of the intertidal beach as the beach system adjusts to the increased sea level. For Waihi Beach, should the revetment be maintained in its current position the revetment will likely form a promontory as the surrounding shoreline retreats. In order to maintain equilibrium sediment volume sediment along the beach it is likely that sediment will be sourced from the adjacent unprotected shoreline areas to address the sediment that is locked in the revetment lee.

The actual beach lowering caused by the Waihi seawall is not able to be accurately determined as the natural variations in beach profile are over large timescales and the seawall has only been present for 8-9 years. Any direct changes by the seawall on beach lowering is therefore masked by large natural variations in beach level.

There are three long term beach profile monitoring sites in the vicinity of the seawall:

- Off Mako Ave (south of the seawall)
- Off the Loop – adjacent to the seawall
- Off Hinemoa Road (north of the seawall.

Beach profile data from Waihi beach shows the beach level was near to the lowest on record in 2011 (T&T). A storm event in June 2001 exposed previous erosion protection works (old seawall and gabion basket groynes constructed in 1969) showing again how beach levels were very low at that time.

Tonkin and Taylor monitored beach levels along sections of Waihi Beach from February 2011 to April 2013. Beach levels for section A-A (DWG851630-A04) were fairly similar. The only profile that stood out was collected in April 2012, where the beach level appears much lower but by April 2013 the beach level had lifted around 0.4m. Section B-B (DWG851630-A05) lacked 2011 data. However, from April 2012 to February 2013 the beach lifted around 1m and then by April 2013 it had lowered 0.3m. This section is most likely showing the natural variation of sand coming in and going out but has no clear signs of beach lowering. Section C-C (DWG851630-A07) showed no major or visible change in the beach morphology over the monitoring period. Based on the 3 drawings there is no clear indication of beach lowering occurring. However, the data is limited and only has a timescale of 25 months which is very short in the coastal process timescale. 25 months is not long enough to see any clear signs of change to the beach profile, other than perhaps the scour occurring at the termination of the seawall. More data over a longer period of time needs to be collected to truly determine if the beach morphology is changing due to the presence of the seawall.

4.1.2 Sediment transport

Sediment transport is the movement of organic and inorganic particles by water. In general, the greater the flow the more sediment that will be moved. The flow force can come from many natural forces such as wind, tides, waves, ocean currents and river flow. Generally the further a particle travels from its source the finer it becomes due to weathering.

Sediment transport is a natural process that has been occurring throughout geologic time and will continue to do so. There are two main types of sediment transport in the coastal zone:

- Onshore transport: Caused by waves moving towards the beach that produce a current in the surf zone that moves water onshore and along the beach. This current transports sediment towards the shore.
- Longshore transport: Caused by wave patterns that do not approach the shore parallel to the beach but strike at an angle (very common). This pattern sets up a longshore shore current that transports sediment along the beach

When a seawall is introduced into a coastal zone the biggest problem it poses is that natural processes such as wind or erosion can no longer access the sediment behind the wall. Consequently only the sand between the wall and water level can be moved by natural longshore sand transport. However, if the sand behind the wall was never a part of the dynamic equilibrium (sand in, sand out) the beach should remain unchanged.

Seawalls may also act as promontories if they are in the active beach zone. The Waihi Beach seawall is in the active beach zone with high tides reaching the base of the structure. As predicted sea level rise occurs the wall will be in the active beach zone more frequently. Promontories, such as groynes (or in this case, a seawall structure in the active beach zone), interrupt along shore sediment movement and can cause accretion on the updrift side and erosion on the downdrift end. As littoral drift volumes are limited on Waihi Beach it is not expected that the seawall will cause a major interruption to sediment transport.

4.1.3 Public access

The New Zealand Coastal Policy Statement (Objective 4) requires the maintenance and enhancement of the public open space qualities and recreation opportunities of the coastal environment by:

- recognising that the coastal marine area is an extensive area of public space for the public to use and enjoy;
- maintaining and enhancing public walking access to and along the coastal marine area without charge, and where there are exceptional reasons that mean this is not practicable providing alternative linking access close to the coastal marine area; and
- recognising the potential for coastal processes, including those likely to be affected by climate change, to restrict access to the coastal environment and the need to ensure that public access is maintained even when the coastal marine area advances inland.

Seawalls can limit public access to and along the beach if they are not designed in a way to facilitate safe access over the structure. The existing seawall has been constructed with formalised public access points from the land to the beach at intervals along the structure (Figure 3). Private property owners have also established their own access over the structure in certain locations. In some instances this has been achieved by filling the gap between the private property and the seawall with concrete to achieve a level platform and by placing smaller rocks on the face of the seawall to create steps down to the beach. It is noted that some properties would need to use nearby public access points rather than gain direct access to the beach as they would have been able to do prior to the construction of the seawall. Given the seawall fronts private properties it is considered that public access from land to the beach has remained relatively unaffected by the structure given the formalised access points established.

However, the seawalls location in the high tide beach area is limiting public access to a dry beach area at high tides as water levels reach the base of the structure. This means it is not possible for the public to walk along the beach at high tide in the vicinity of the seawall and not get their feet wet. Over time, as a sea level rises (and if beach lowering occurs, see previous section), it is expected that the periods of available dry beach in front the seawall for public access along the shore will become less frequent.

4.1.4 Functional Life of the Seawall

The functional life of a seawall can be long-term (i.e. 50-100 years) provided regular monitoring and maintenance is undertaken. However, we note that there is always a risk that a storm event or natural hazard (e.g. Tsunami) occurs which exceeds the design event and significant damage may result.

There are several aspects that need to be considered for the Waihi seawall related to functional life:

- Weathering and splitting of rock – monitor over time and replace rocks as necessary
- Undersize or relocated rock – replace as necessary
- Sea level rise and increased overtopping – raise the crest level in stages. This will result in a crest width reduction and/ or landward extension of rockwork
- Undercutting at seawall toe – extend toe deeper in affected sections.

4.2 Performance of the Dune Enhancement

4.2.1 Coronation Park

The dune system adjacent Coronation Park is functioning well – refer to Figure 17 and Figure 18. The barrier dune is planted and trapping windblown sand thereby supplementing the dune. The park area behind the barrier dune is likely to be an old marsh or swamp remnant. There appears to be adequate berm width between the high tide contour and the dune. A post and rope fence with signage warns people not to enter and damage the planted dune area.

Figure 17 - Barrier Dune Adjacent Coronation Park – View North

Figure 18 - Planted Barrier Dune – View South

4.2.2 Dune enhancement between Shaw Road and Glen Isla Place

Dune enhancement was also carried out between Shaw Road and Glen Isla Place. Sand for the dune enhancement was sourced from offshore maintenance dredging from Two and Three Miles Creeks and from beach scraping. Following storm events the beach underwent a dramatic correction, resulting in the beach lowering by 1.0m and erosion of the new dune enhancement and existing dune. The erosion resulted in historic beach protection measures, comprising poorly graded undersized rock, timber and steel retaining structures and gabion baskets groynes, being exposed. The recommendation from T&T was to remove the timber and steel retaining structure and gabion baskets, however, to leave the existing rock in place.

Figure 18: Dune enhancement between Two Mile Creek and the Southern Seawall

5 Potential Coastal Erosion Options

5.1 General

The following section outlines some high level potential physical options for management of the coastal hazard risk. The choice of option or options for coastal management at Waihi Beach will depend on the overall objective/vision for the coast. For example, if the objective is to protect landside infrastructure/property, then the options that may be appropriate will be different from the options if the objective is to maintain a dry beach at high tide and beach amenity.

The diagrams provided below are generic and intended to assist with an understanding of some potential options rather than providing any design specifics, scale, etc. Future work is outlined in Section 6 and includes developing a vision for the coast and developing a list of potential options further through consultation with stakeholders and the community.

1. Maintain Status Quo: This option is essentially a continuation of the existing situation that has been established for the last 10-15 years. It involves the maintenance of the existing structure including patch repairs as needed– to achieve effective interlock and filling of voids and repair relocated rocks after storm events or replace weathered rocks. Ongoing monitoring would be required and wave overtopping of the structure would become more frequent as sea levels rise. It is expected that end effect erosion of the adjacent unprotected shoreline would continue (as described in sections 3.3.1 and 3.5.1, especially with predicted sea level rise) and that ongoing repairs may be needed to remedy this. It is likely that minor patch and end effect repairs could be undertaken in accordance with the existing resource consent for the seawall (i.e. no new resource consents would be required for the term of the existing consent). This would need to be confirmed with the Regional Council as Consent Authority. Dry access along the beach is expected to be further restricted in the future, eventually removing public access along the beach at all stages of the tide.

2. No hard protection structures. This option would involve removing the seawall at the end of its consented period and letting nature take its course. This option means that erosion of beach front properties would occur as there would be no hard protection.

3. Soft engineering. This would include removing the existing seawall, managing use and development of the land to minimise risk to dwellings, WBOPDC eventually purchasing beach front properties at market value or relocating (as risks become too great or unacceptable), removal of dwellings and reinstating the dune system. This option involves major disruption to private property owners and would require alternative sites to be identified and purchased for future relocation, potentially land rezoning, and dune replenishment/planting. Public infrastructure such as the Coronation Park carpark and roads would eventually be at risk and beach front infrastructure lost over time.

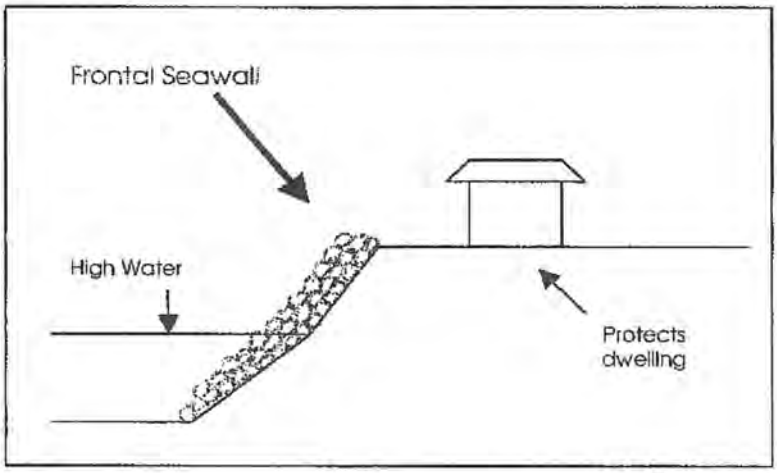
4. Dune enhancement. This would involve removing the hard structures along the shore and shaping the coastline and replenishing with sand reserves above the high tide line, followed by planting to stabilise the dunes. In order to be effective, the foreshore would need to be reshaped and replenishment occur above the high tide mark and so it is envisaged that works on private property would be required. To be effective the dune planting would need time to establish and so access over the dunes from private properties or by the public would need to be restricted. Fencing and signage could be used to achieve this in a similar way to the dune enhancement adjacent to Coronation Park.

   Council have an existing consent for dune enhancement and have requested a consideration of the continued operation under that consent as an interim, short term option for the section of coast between

the northern termination of the seawall and Flat White Café/Elizabeth Street. Section 5.2 outlines the considerations of that approach.

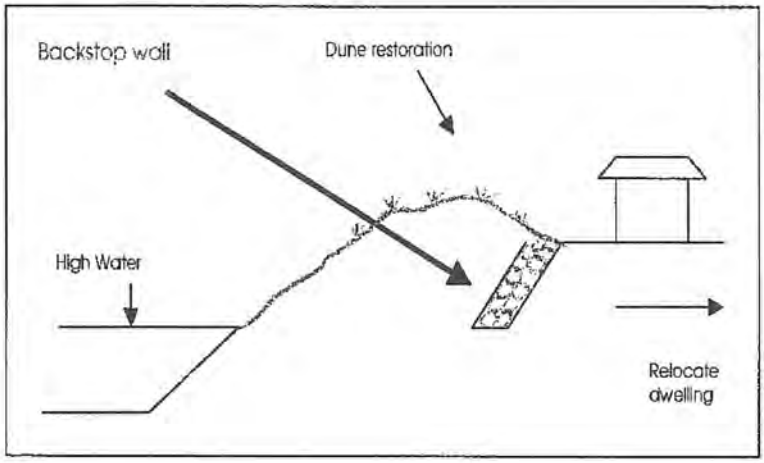
5. Modify the existing seawall. This would be for the purpose of minimising end effect erosion and would consist of constructing end wall transitions at the southern and northern seawall termination points. This upgrade item can be undertaken independently or in conjunction with patch repairs (option 1). A suggested preliminary engineering design for the more significant end effect erosion at the southern termination of the southern seawall is provided in Appendix D. Any modifications to the existing seawall structure that are in line with the originally consented structure may be considered within the existing resource consent and therefore potentially not require a variation or new consent from the Regional Council[3].

6. Extend the seawall north to the Flat White Café. This may require work on private property. This option will narrow the available beach area for public use especially at high tide and will eventually reduce the area of dry beach for public enjoyment. It will provide protection to beachfront properties owners but will require maintenance. Resource consents would be required for the new, extended section of seawall.



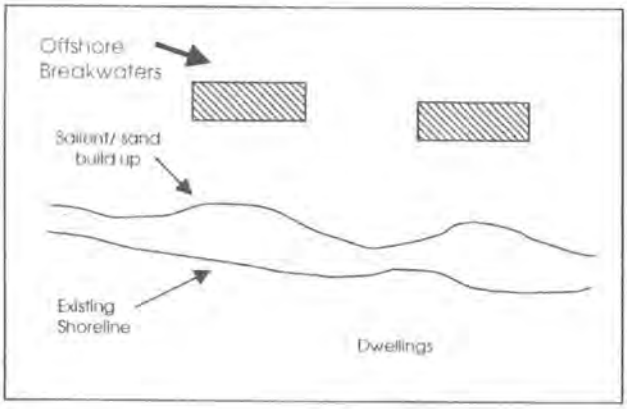
7. Backstop wall. This option involves removing the existing seawall and redevelopment of the site by constructing an engineered wall located sufficiently far enough landward (approx. 10-20m) so that the wall is buried and only exposed in extreme storm events. The sand in front of the backstop wall provides a natural dune buffer to protect properties during periods of accretion and the hard wall will only be exposed during period of erosion. Over time the wall would be exposed more often (as sea level rise and natural coastal retreat occurs). The walls placement inland allows a dry beach area to be maintained for longer and end effect erosion will be less as the wall will not be part of the active beach system for many years.

[3] Work that is considered able to be accommodated within the existing resource consent would need to be confirmed with the Bay of Plenty Regional Council as Consent Authority.



Council have requested further discussion regarding a backstop wall for the section of coast between Flat White Café/Elizabeth Street and the northern termination of the existing seawall. Section 5.2 provides more information.

8. Offshore Breakwater and nourishment: Offshore breakwaters are structures usually built parallel and offshore to the coast. Wave energy is either dissipated, reflected, refracted or diffracted resulting in reduced wave energy environment in lee of the breakwater. The breakwater can be built either to be submerged or emerging at low tide. It would also require placement of sufficient sand to assist the build up of a salient.



A combination of the above options may be adopted over time. For example a frontal seawall may be utilised for protection in the short term, in combination with purchasing beachfront properties over time (as they become available or funds allow) and rezoning the land (potentially to an open space zone). Once all properties are purchased and land is rezoned then the seawall can be removed and the natural coastline restored (with or without dune replenishment/planting) and allowed to recede naturally.

The options need to be further developed with the community and assessed against an overall vision for the coast. The options will need to balance the economic costs with social and environmental values.

5.2 Options for Erosion for Elizabeth Street and Northern End of Seawall

Council have requested further consideration of two options for the section of between Elizabeth Street/Flat White Café and the northern termination of the existing seawall. This includes a short term solution (dune enhancement under the existing resource consent) and a longer term solution (backstop wall).

5.2.1 Dune Enhancement

Dune enhancement was previously carried out by Council between Coronation Park and the northern termination of the existing sea wall. Following storm events the beach underwent a dramatic correction between Flat White Café/Elizabeth Street and the northern end of the seawall, resulting in the beach lowering by 1.0m and erosion of the new dune enhancement and existing dune. Sand for the dune enhancement was sourced from beach scraping at low tide from Coronation Park and the northern end of the seawall under the existing BOPRC resource consent 62912 (see Figure 18 below). While the option of dune enhancement is still available for the duration of the consent (consent expires in 2032), there are some opportunities and challenges with this option as outlined below.

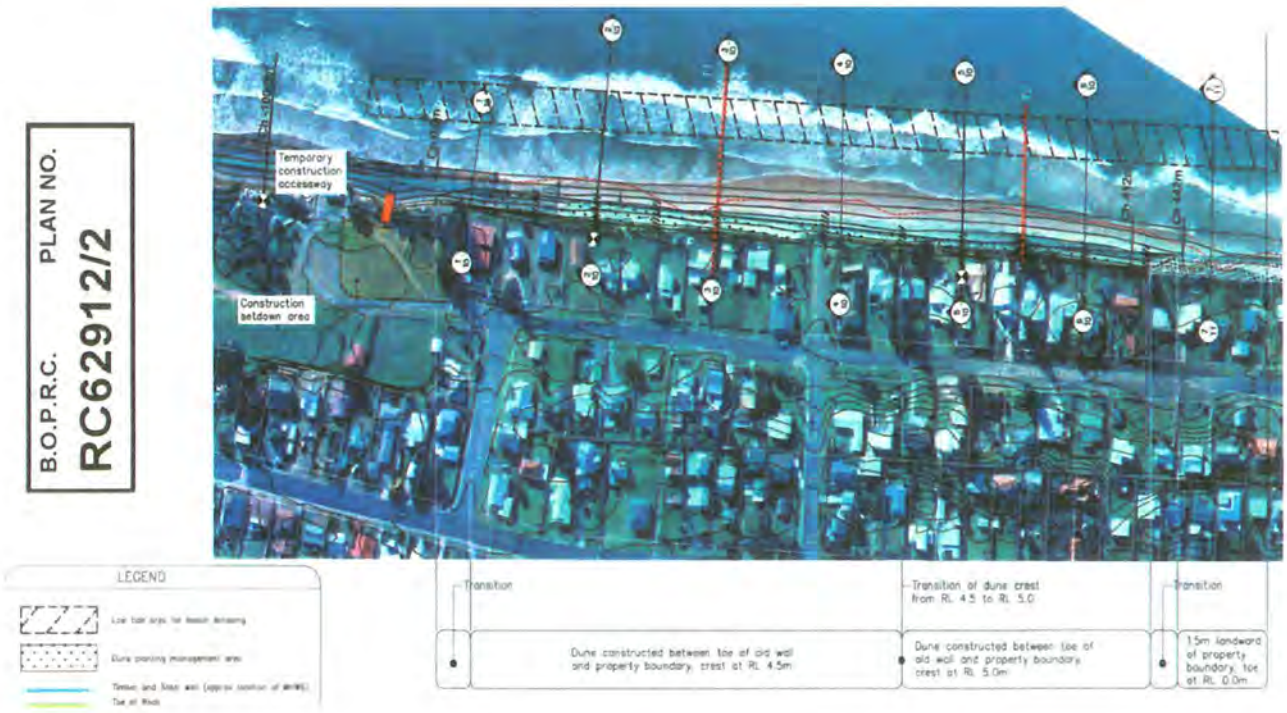


Figure 18: Bay of Plenty Regional Council Resource Consent 62912/2 showing the proposed area of beach scraping (hatched), between Coronation Park to Shaw Place.

5.2.1.1 Advantages of Dune Enhancement under the existing consent

As an existing consent Council has an immediate option that they can implement in the short term (duration of consent is until 2032) which would not require a lengthy and costly consenting process. Dune shaping is a 'soft option' for coastal protection as it does not involve hard engineering solutions and allows natural coastal processes to continue, whilst affording some protection through a dune that may act as a buffer for landside assets. Non-engineered options are more in line with the New Zealand Coastal Policy Statement including, Policy 14 (Restoration of natural character), Policy 19 (Walking access) and Policy 26 (Natural defences) which give preference to "soft solutions" over "hard" engineered solutions and for that reason, reconsenting of the works at the end of the consent term may present less challenges than other hard protection options.

As dune reshaping does not interfere with natural coastal processes there is less likely to be beach lowering and public access along the beach at high tide should be maintained for longer than may be the case with other options. It is likely that some form of planting of the dunes would be required to stabilise them and assist in their natural protective function against erosion.

The periodic clearance of sand built up in Two and Three mile creek beds could be a source of sand in the future (would be subject to a variation of consent).

5.2.1.2 Disadvantages of Dune Enhancement under existing consent

The existing consent allowed for an initial take of 4,000m^3 of sand via beach scraping and 500m^3 annually thereafter under certain circumstances (only permitted if erosion is within 5 meters of private properties). This would provide a limited amount of sand for protection and may be inadequate over the 150m section of beach (initial estimates of a 1.8m high dune with a width of 2.2m after compaction). There are also restrictions on when dune nourishment can occur as the consent only allows for scraping to be done between May and October each year. Any renourishment outside of this period would require an additional resource consent (or a variation to the existing consent).

The consent only allows for beach scraping when appropriate beach profiling has been completed to confirm the beach is higher than the long term average beach profile. This means the work is subject to natural processes, which cannot always be predicted. The consent also requires an ecological survey to show that there are not relatively significant numbers of shellfish (or other species) present and that beach scraping works will not result in significant or irreversible adverse effects on marine ecology. This cost would need to be factored in as part of management. Lastly the consent also requires a width of 5 metres between the area of dune enhancement and the location of mean high water springs, to allow for public access to the beach at high tide, this could be a challenge given rising sea levels. A variation could be sought to alter these conditions; however, this could result in a costly consent process if the variation is notified and submissions are received in opposition.

Dune enhancement provides less certainty of erosion protection for landside infrastructure than hard protection options. The feasibility of dune enhancement is also an issue given previous attempts at reinstatement and enhancement of the dunes in this section of the beach have failed and were washed away. There is no guarantee that the dunes would not be washed again even if the conditions of the resource consent could be followed.

Table 2: Summary of Pros and Cons of Dune Enhancement

Pros	Cons
• Existing consent enables coastal works, saving time and cost of a consent process • "Soft" solution, more in line with NZCPS Policies allowing a potentially easier variation/new consent process • Allows for Public Access • Natural Protection • Beach amenity maintained • Could use sand built up on creek mouth (need a variation to consent)	• Consent will need to be renewed if work to continue beyond 2032 • Consent may require variation to be workable • No guarantee that dune enhancement will work and provide protection • Limited amounts of sand can be sourced under existing consent • Consent only able to be implemented if erosion is 5m from private property • Must allow for a 5m gap between dune and high mean high water springs, which may not be possible in near future • Beach scraping only allowed from May to October • Beach profiling needed and a certain profile required before consent can be implemented • Dependant on ecological survey showing works will not result in significant adverse effects

5.2.2 Backstop Wall

Council have requested further consideration of a backstop wall for the section of coast between Flat White Café and the northern termination of the existing seawall. A backstop wall would need to be located on private property. Council have indicated that any consent process to construct a backstop wall may be led by the private property owners themselves. A backstop wall sits behind the dunes and the sand can rebuild in front of it during accretional periods. The hard wall will only be exposed during periods of erosion. Backstop walls are therefore well suited to coasts like the Waihi Beach that have onshore/offshore erosion cycles. Over time the wall would be exposed more often (as sea level rise and natural coastal retreat occurs). There are advantages and disadvantages to a backstop wall as described below.

5.2.2.1 Advantages of a Backstop Wall

The benefit of a backstop wall is that it allows the natural coastal processes associated with soft protection to occur, whilst providing the greater certainty of landside infrastructure protection afforded by a hard engineering option. Potential effects such as end effect erosion and beach lowering would be less, as the wall may not be part of the active beach system for many years. This means that public access along the beach would be maintained for longer. If the consent for the wall is led by the landowners themselves then there would be less cost to ratepayers and more chance of wider community support.

5.2.2.2 Disadvantages of a Backstop Wall

As the backstop wall would be located on private property there would be the need to gain landowner approval.

The seawall would require resource consent and would need to be assessed against the New Zealand Coastal Policy Statement (NZCPS) and the relevant regional and district planning documents. It is anticipated that as part of the consent process it will need to be demonstrated that the option has been considered as part of a wider long term strategy for the coast (as is currently indicating in the existing seawall consent). Significant consultation with the community and stakeholders will be required to develop the strategy resulting in time and cost implications. The consenting process could also be open to public submissions and could mean that the consent application could be contested and costly, much like the existing seawall (although we anticipate a backstop wall will be less contested that a frontal seawall). Joint ownership of the backstop wall and the consent also bring its own challenges, as owners may not be able to afford the works, may not want to proceed or may unable to reach consensus and there may be issues around responsibility for compliance with conditions of any resource consent granted.

Table 3: Summary of Pros and Cons of Backstop Wall

Pros	Cons
• Dry beach maintained and public access retained for a longer period • Consenting completed by land owners results in less ratepayer cost • Beach amenity maintained for longer • Allows natural coastal processes to continue in short term	• Requires resource consent, which may result in cost and time delays if contested • Private landowner approval required given it will be located on private property • Rising sea levels may not allow public access at high tide in the future and wall will become exposed more frequently as sea levels rise • Property owners may not reach consensus or there may be compliance issues

6 Future Work

In 2008 the Ministry for the Environment (MfE) developed guidance for local government on coastal hazard management, this document was called the *Coastal hazards and climate change: Guidance for local government,* and was updated in December 2017. The updated version introduces new material on hazard, risk and vulnerability assessments, and collaborative approaches to engaging with communities as an integral part of coastal management. The 2017 edition also explains adaptive approaches to planning for climate change in coastal communities and places community engagement at the centre of decision-making processes.

It is widely accepted that engagement with local communities, iwi/hapū and stakeholders will be essential in setting long term strategies and assessing options for coastal management because they (and future generations) will be affected by coastal hazards and change, and their lives and values are likely to be affected. As a consequence, it is generally accepted that they should have a role to play in decision-making regarding future adaptation.

The guidance recommends that options for hazard management is shared with the public and further consultation is undertaken to find the preferred options. Once the preferred options are identified and implemented then an adaptive pathway is established, which enables the options to be reviewed and changed as the climate and coastal conditions change.

It is for this reason that future work is recommended that includes developing a vision for the coast with the local Waihi Beach community and stakeholders, assessing potential options to meet the desired goals for the coast as outlined in the vision and utilising the stepped approach outlined in the MfE guidance for local government to develop a preferred long term option or options.

The best practice decision framework for the dynamic adaptive pathways includes 5 steps and 10 subheadings as shown in Figure 19 below:

Figure 19: Coastal Hazard Decision Cycle (Source: MfE, 2017)

Appendix A – Site Visit Records (19/11/2018)

seem to be affecting the stream mouth alignment.

- Rip rap is well interlocked up to the first bridge (One-Mile Creek).

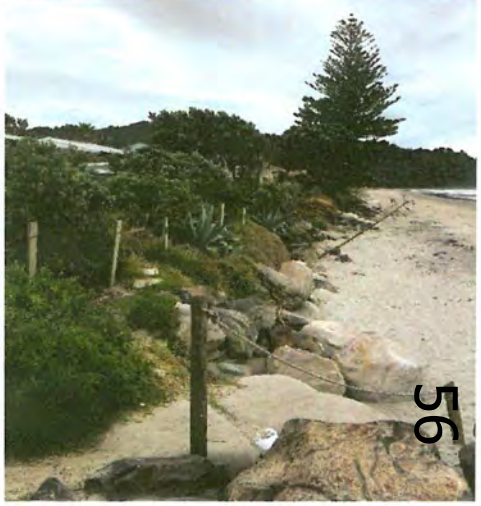
- High-tide line varies, yet dune enhancement remains consistent along the beach (Left column of photos)
- Crest of dune buffer is densely vegetated, however exposed dunes at beachline are sparser.
- Dune fence lines are not well maintained, allowing foot traffic to pass through easily.




- Café is newly established (last three years approximately). Noted that the building footprint extends to neighbouring fence line.
- Council park neighbouring Flat White is benched at a different level. Sporadic placement of large boulders that provide little to no protection for local scour in this area. Scattered boulders located around staircase piles.
- Steep bank section that is vegetated. High water mark is ~10m from the toe of bank.


- Timber posts indicate approximate property boundary. ~1.5m from the crest of the bank.
- Bank height approximately ~1.8m to the toe. 100mm - 500mm diameter stones and leftover construction debris line the toe.
- ElcoRock sandbags used for beach access.
- Active erosion occurring at banks.

- More ElcoRock accessways. Scour on either side of the accessways are more prominent in these locations.
- Property boundary line is present at the crest of embankment.
- Significant amount of construction debris exposed within bank. Debris has dislodged from the embankment and collected at the toe.



- Crest edge of seawall to property boundary is significant here. ~5-10m.
- Use of similar-sized slab rock to bench private accessways common along this section due to crest length.
- Sand accretion showing at base of seawall.
- Highwater mark often reaches toe of seawall at this section.

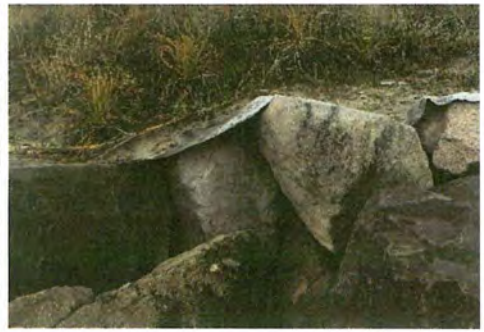
- Section located at property under-construction. Includes tabled seawall access, and a large offset of house from seaside boundary.
- Approximately ~1.0m from fence to beginning of seawall.

- House is constructed extremely close to edge of dune.
- Accretion of sand visible at seawall base.
- Noted that the sand recession during winter months reduces to the toe edge of seawall in this section.




- Noting the encroachment of seawall into several properties. Very close to building footprints.
- Conversation with Chris who owns 1 Edinburgh St. Talked about the wetland and how the creek functions. During storm conditions, wave overtops seawall and is near finished floor level of house.
- Currently, the creek outlet is following the training wall groyne, and is exiting straight out to ocean.
- Area at termination of southern training groynes appears to be used for public and boat access.
- Dunes south of creek appear to be well secured and flourishing.

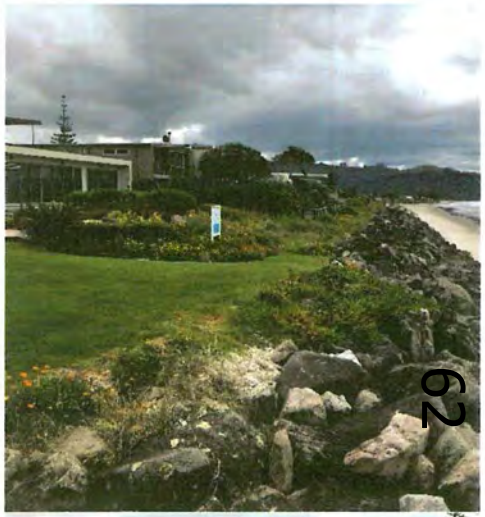

- At commencement of southern seawall, pedestrians are walking over the dune, displacing sand and exposing geotextile.
- Height of dune buffer is notably higher than more northern sections.
- Highwater mark appears to return to ~+10m outside of seawall toe.



- Rock seawall terminates at existing private boat ramp.
- Concrete ramp surface has cracks.

- Section measurements taken ~15m south of access staircase (RH column photos). Access 21.
- Properties positioned a substantial distance from beginning of seawall. Pedestrian thoroughfare parallel to top of seawall.

- Section measurements taken ~15m south of access staircase (RH column photos).
- Properties positioned a substantial distance from beginning of seawall. Pedestrian thoroughfare parallel to top of seawall.

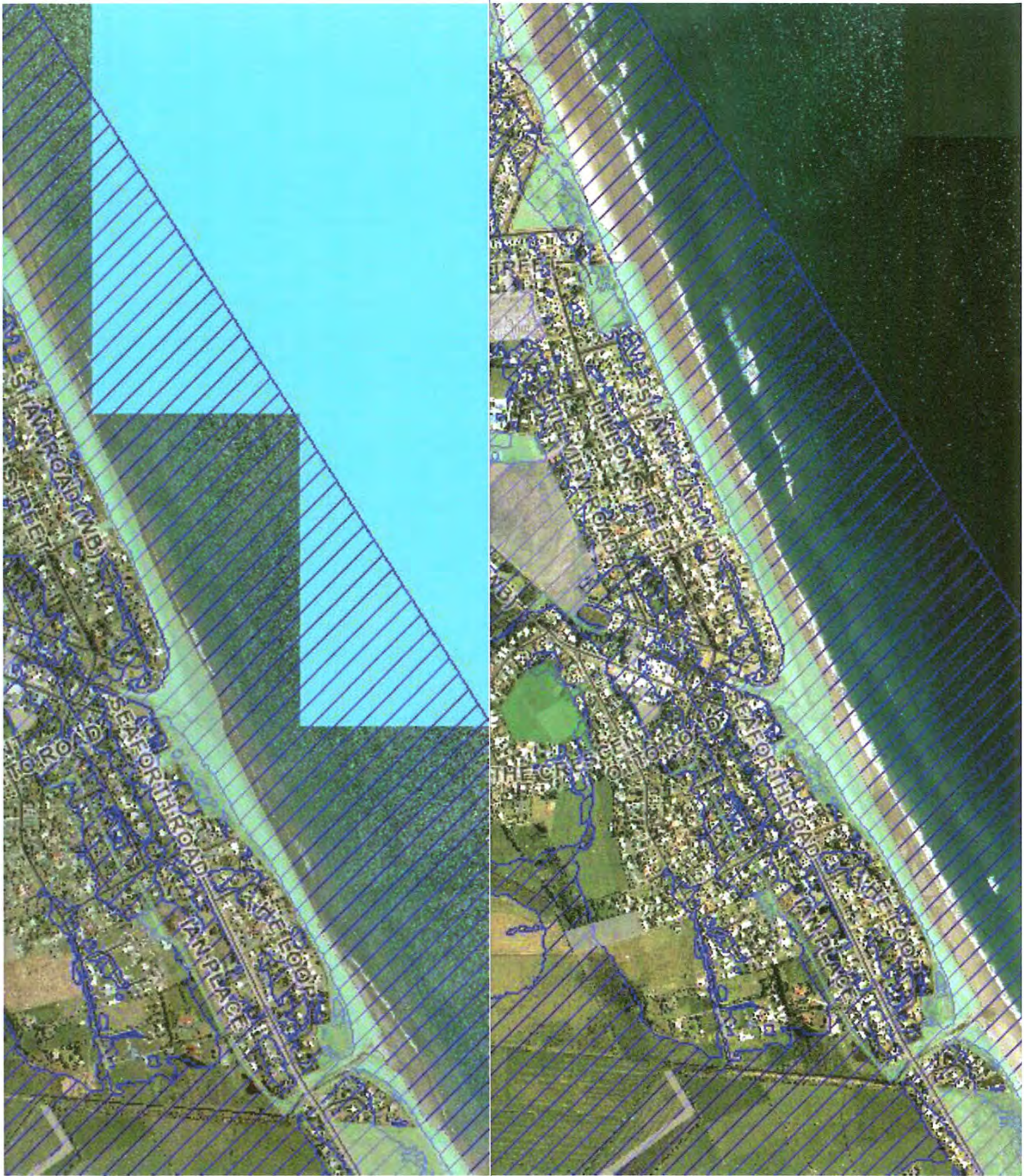


- Lead up to Three-Mile Creek – bank erosion occurring.
- Banks are approximately ~2.2m high.
- Access north of the creek has dunes which are notably inland from the elcorock wall.

- Northern sea section ElcoRock bank is keyed in and is trapping sand.
- The channel of the creek favours the southern embankment. There are some minor remedial works to the bags on the southern side also, close to current water level.
- Sand has built up to the top layer of the ElcoRock bags on the southern groyne.

Appendix B – Aerial Photography

m http://retrolens.nz and licensed by LINZ CC-BY 3.0


SEAFORTH ROAD
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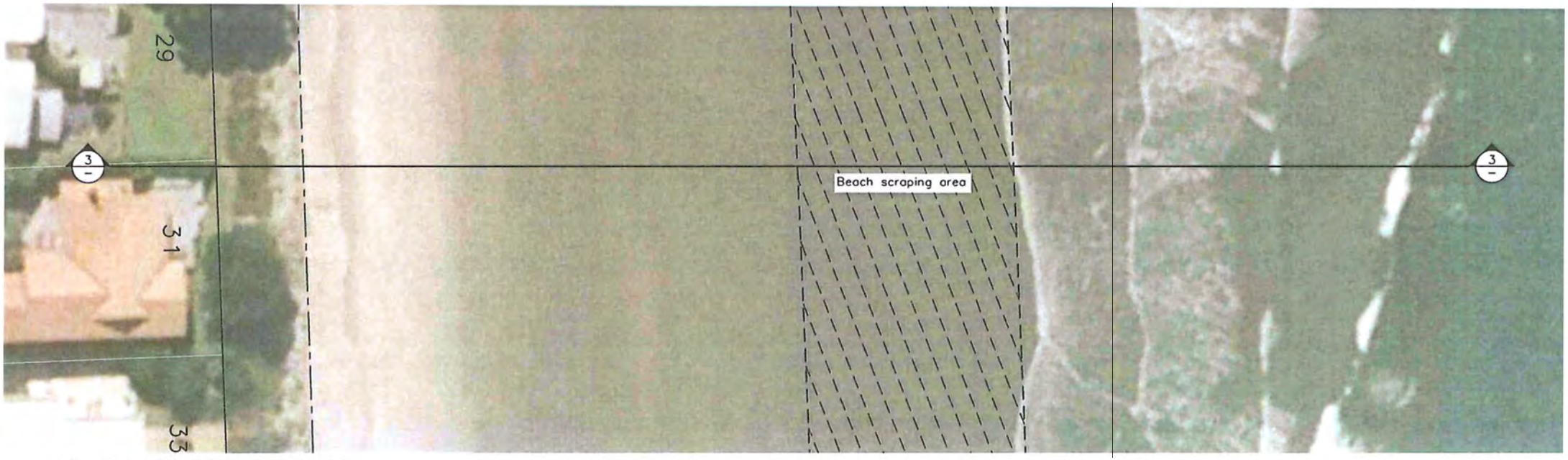
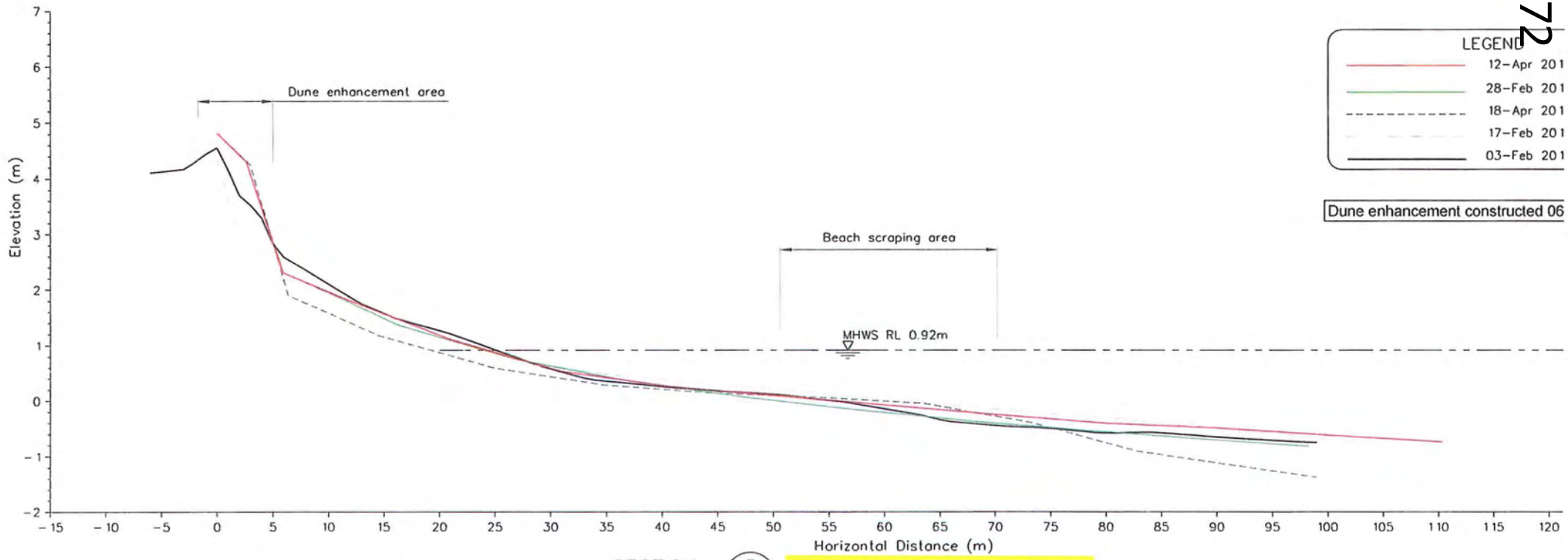
Attachment A

Appendix C – Seawall Construction Drawings and Beach Profile Monitoring (February 2011 – April 2013)



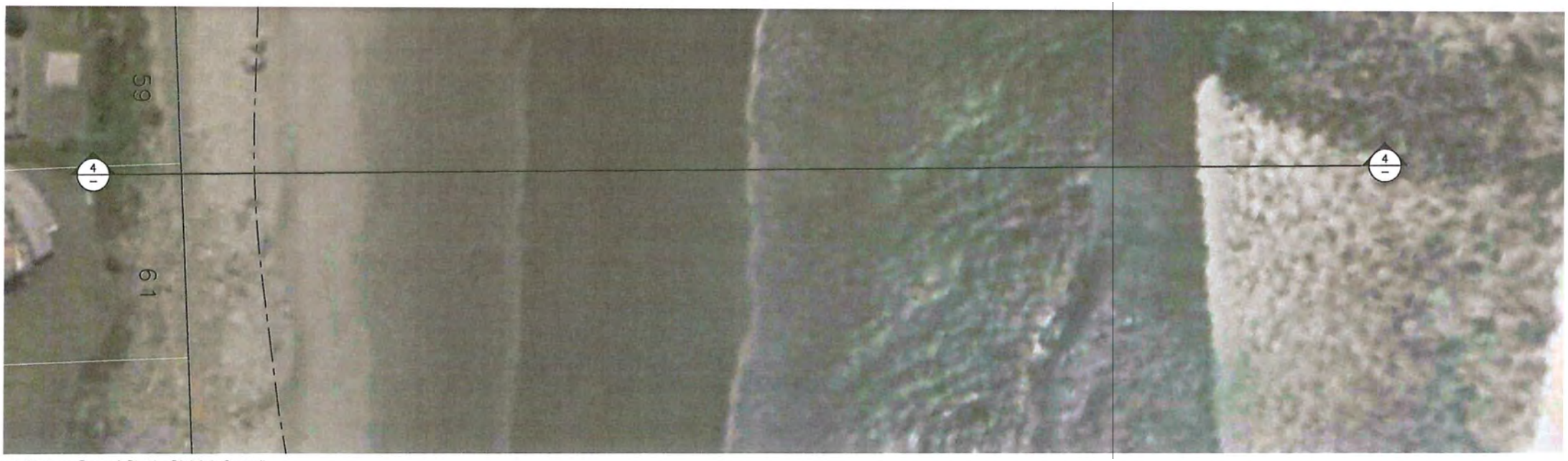
› sourced from Western Bay of Plenty District Council

29/31 SHAW ROAD (WCP3) PLAN
Scale 1:500



SECTION 3 / – SCALE 1:500H

Section A-A



59/61 SHAW ROAD (WCP4) PLAN
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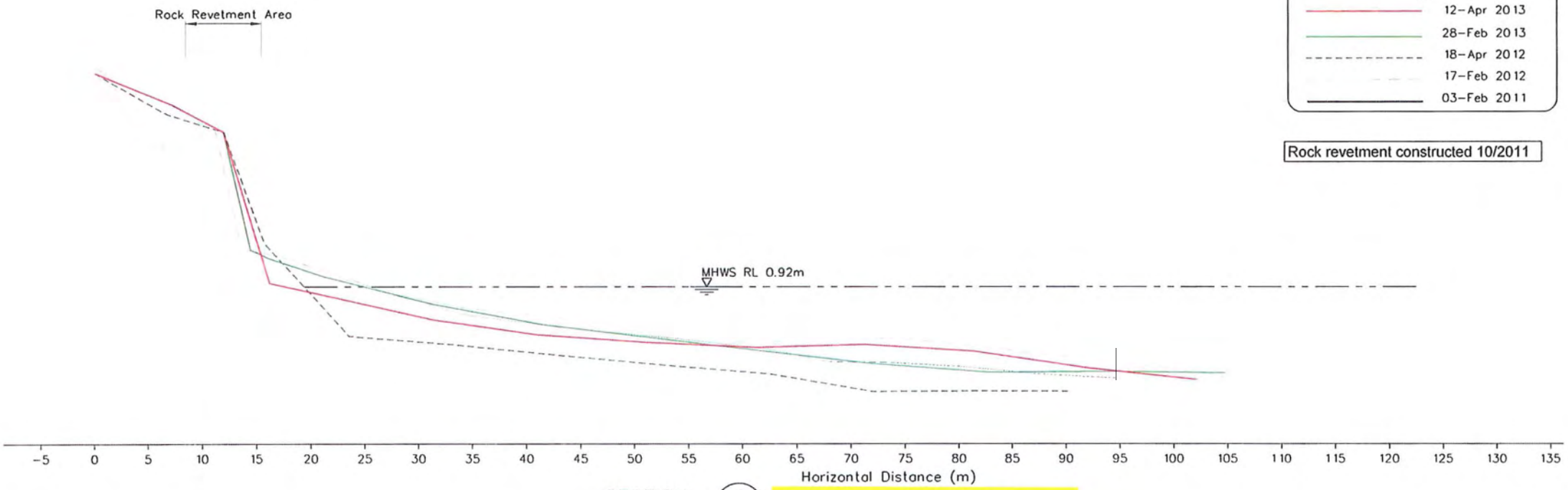
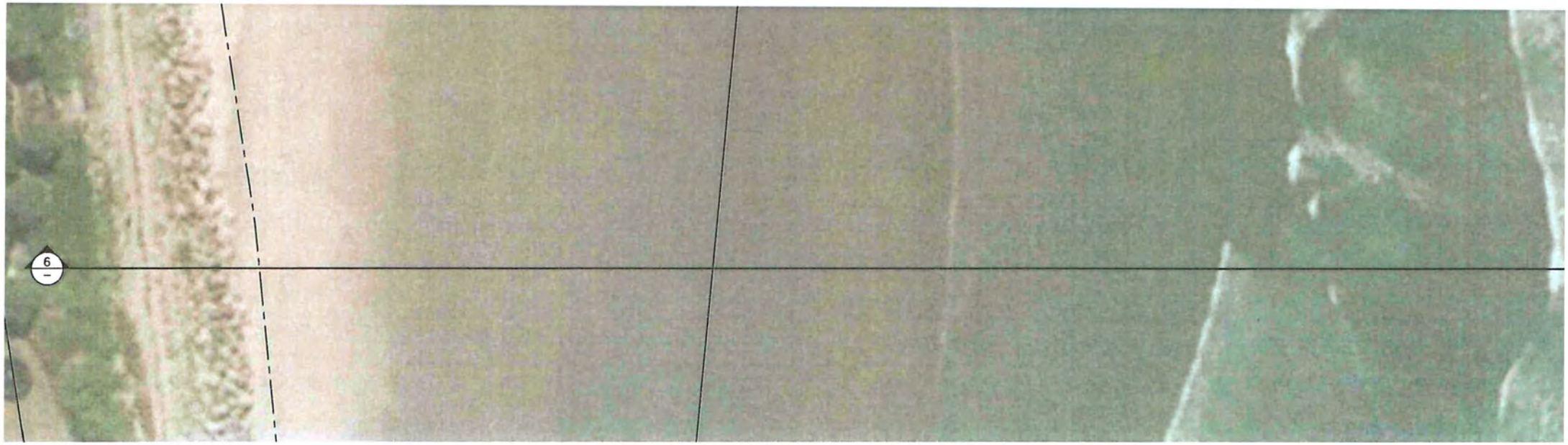


SECTION 4 — SCALE 1:500H

Section B-B



Western Bay of Plenty District Council

7 AYR STREET / 8 THE LOOP (WCP6) PLAN

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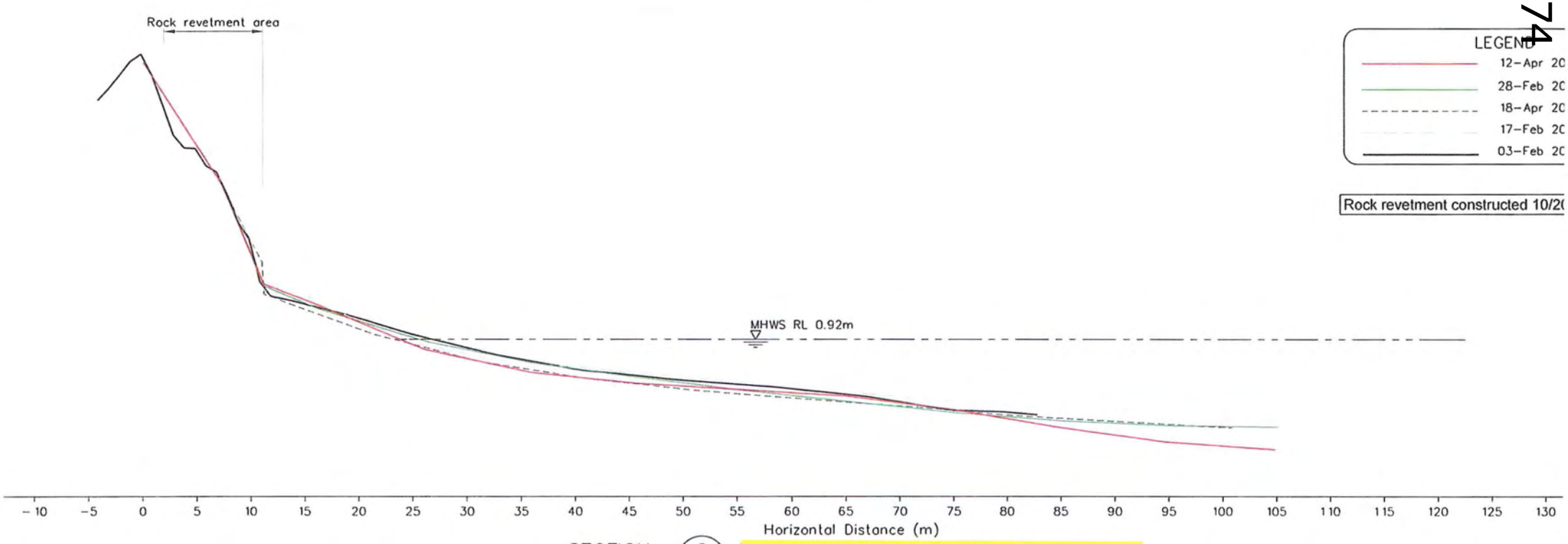

SECTION 6 –

SCALE 1:500H

Section C-C

Appendix D – Preliminary Engineering Design for End Effect Erosion

WAIHI BEACH LOCALITY PLAN
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SOUTHERN SEAWALL TERMINATION
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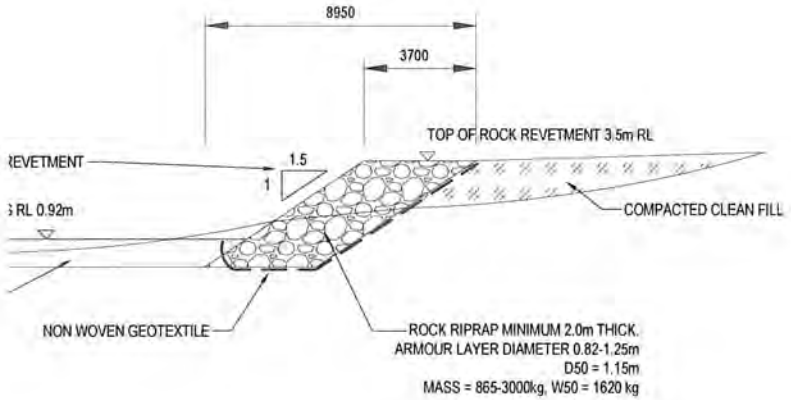
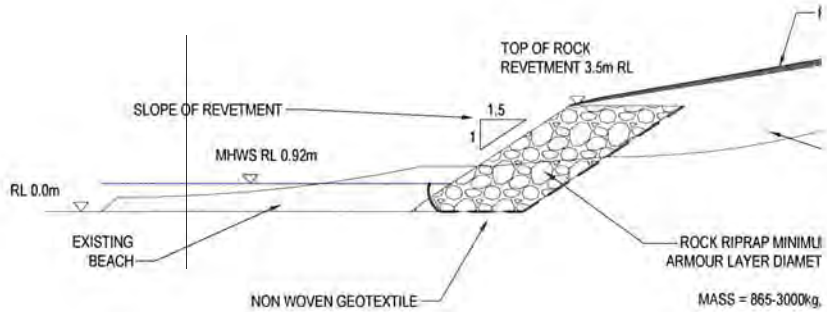


1 CA-001 EXISTING ROCK REVETMENT (AS PER T & T DRAWING 851225.001-27)
SCALE 1:250 (A3)



2 CA-001 ROCK REVETMENT
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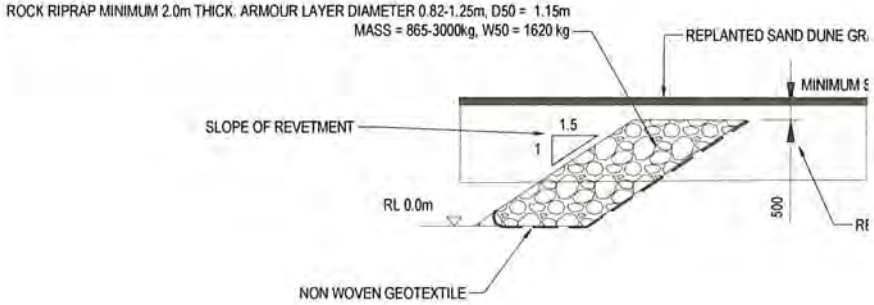
77



3 CA-001 ROCK REVETMENT
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Appendix E – Cost Estimate for End Effect Erosion Works

Attachment A

Project: **WESTERN BAY OF PLENTY DISTRICT COUNCIL**
WAIHI BEACH SOUTHERN SEAWALL TERMINATION

Doc: **CAPITAL COST ESTIMATE**

Rev: 0

Job No: 4287029-101

Date: 4 July 2019

Author: Bruno Deans (Verified by Mark Wilson)

Attachment A

MAIN SUMMARY

1.00 Executive Summary:

1.01 The following cost estimate has been prepared for the Western Bay of Plenty District Council for the proposed Southern Seawall Termination works located at Waihi Beach near Loop Road and Three Mile Creek Reserve. This estimate is an indicative assessment of the capital cost requirements of the project, based on the preliminary engineering design. Please note that the figures contained within this estimate are high level and are intended for initial budget establishment.

2.00 Scope of Work and Cost

2.01 The following scope of work and cost has been assessed as follows:

Ref	Item Description	%	Total ($ NZD)
a	Demolition and Temporary Works	3.5%	7,000
b	Earthworks	67.0%	134,000
c	Drainage Works	1.0%	2,000
d	Landscaping	4.5%	9,000
e	Pavement & Surfacing	0.5%	1,000
f	Traffic Management	2.0%	4,000
g	Environmental Compliance	1.5%	3,000
h	Services Protection	1.0%	2,000
i	Preliminaries & General/Off-Site Overheads & Profit	19.0%	38,000
	Total Physical Works Estimate	**100.0%**	**200,000**
j	Design & Engineering		Excluded
k	Project & Cost Management		Excluded
l	Geotechnical investigation		Excluded
m	Resource & Building Consent Fees		Excluded
n	Project Costs Sunk to Date		Excluded
	Total Base Estimate		**200,000**
o	Design Development Allowance (10%)		20,000
p	Construction Contingency (10%)		20,000
	Total Expected Estimate (Excluding GST)		**240,000**

Please also refer to the attached cost estimates for further detail relating to the above values

Project: **WESTERN BAY OF PLENTY DISTRICT COUNCIL**
WAIHI BEACH SOUTHERN SEAWALL TERMINATION

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MAIN SUMMARY

3.00 Estimate Approach & Methodology:

3.01 This estimate has been prepared using a combination of high level and detailed estimating principles (i.e. cost per functional area, cost per elemental item, cost resourcing, etc) for the key scope items identified. This estimate has also been priced on local construction industry rates at present date prices. The accuracy of this estimate is commensurate with the level of design information available and base assumptions made.

3.02 Main Contractor Preliminary & General (P&G) otherwise known as On-Site Overhead costs covers items such as site supervision / management, site offices, stores, hoardings, amenities, plant, cranes, temporary works etc.

3.03 Main Contractor Off-Site Overheads and Profit (OH&P) covers the cost of the Main Contractor's Business operational costs, such as executive management, accounts, quality and health & safety systems and company profits.

3.04 The Design Development Allowance is integral to the estimate total and is a general allowance for residual cost risk including design development, omissions, sundry unmeasured items and assumptions made for construction details not shown based on the current project scope.

3.05 Construction Contingency is a risk contingency to cover the cost of variation claims made by the contractor during the construction phase of the project. This contingency is integral to the estimated outturn cost and should be separately monitored during the construction phase. It is estimated based on the current project scope, exclusive of any client driven scope changes.

3.06 Estimate accuracy range is an indication of the degree to which the final cost outcome for a given project may vary from the estimated cost. Accuracy is expressed as a +/- percentage range around the point of estimate after the application of contingency, with a stated level of confidence that the actual cost outcome would fall within this range. As the level of project definition increases and the tender date draws nearer, the expected accuracy of the estimate tends to improve, as indicated by a tighter +/- range.

3.07 This cost estimate is based on the preliminary engineering design information provided and is currently subject to an accuracy range of **-10% to +25%**.

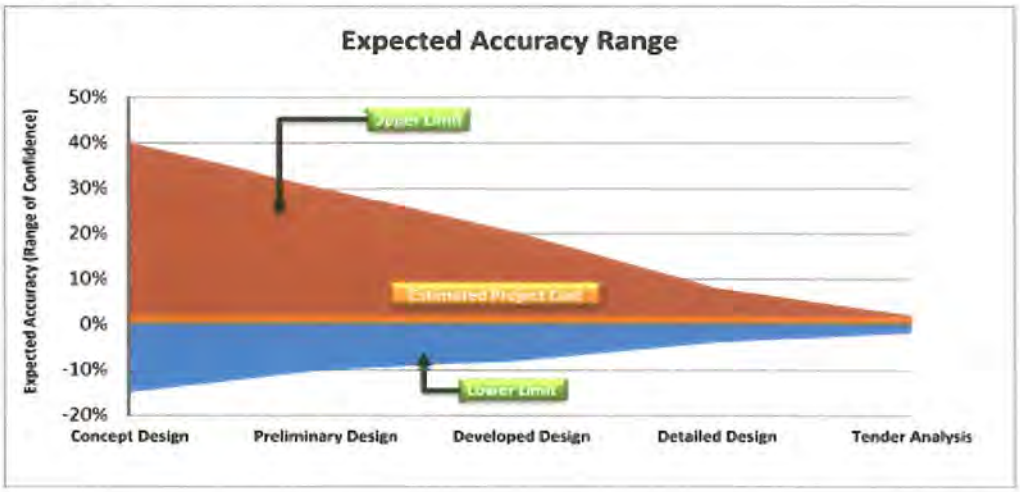
3.08 This accuracy range highlights the following unknown risks that can impact the project that are difficult to predict or value. As the project gets closer to tender this range will reduce to reflect the level of confidence in the design and information available and level of risk. These risks could include:

a Procurement routes – Additional costs may be incurred due to the chosen procurement route (outside of a standard competitively tendered process).

b Major fluctuations in the market – Currently we are experiencing significant movement in pricing across many sub-trades due to the current buoyant construction market. This is putting pressure on resources which is resulting in unpredictable and generally escalating pricing.

c Scope Definition - General accuracy of what is perceived 'defined scope' (e.g. Does the documented scope of work address all of the requirements as briefed by the client under the commission).

d Funding risk



Project: **WESTERN BAY OF PLENTY DISTRICT COUNCIL**
WAIHI BEACH SOUTHERN SEAWALL TERMINATION

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Attachment A

MAIN SUMMARY

4.00 Project Risks:

4.01 The following project risks have been identified with the current scheme:

a Archaeological discovery

b Overheated construction market limiting resource availability, resulting in prolonged programme and/or inflated costs.

c Removal and disposal of contaminated materials discovered on site

5.00 Value Management Opportunities:

5.01 The following Value Management Opportunities have been identified with the current scheme:

a None at this stage

6.00 Estimate Assumptions:

6.01 Our estimate of cost is based on the following working assumptions:

a The building works will be procured under competitive bid scenario via local building contractors.

b Unrestricted access to carry out the works.

c The works will be undertaken under normal working hours.

d The works will be undertaken concurrently. No allowance has been made in our estimate for staged works.

e The works will be carried out by a Single Main Contractor. No allowance has been made for multiple contracts.

7.00 Estimate Exclusions:

7.01 Our estimate of cost excludes the following:

a Goods & Services Tax (GST).

b Client management costs.

c Land acquisition costs (not applicable).

d Client insurances.

e Escalation allowances.

f Legal fees

g Financing costs

h Planning & Resource Consent fees (assumed not required)

i All other exclusions specifically noted in the cost estimate and covering summary

8.00 Reference Documentation:

8.01 Our estimate is based on the following documentation:

a Beca Preliminary Engineering Design dated 28-06-2019 - DWG's 427029-CA-001 & 002 (Rev A)

Project: **WESTERN BAY OF PLENTY DISTRICT COUNCIL**
WAIHI BEACH SOUTHERN SEAWALL TERMINATION

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Attachment A

MAIN SUMMARY

9.00 Disclaimers

9.01

9.02 This report has been prepared by Beca on the specific instructions of our Client. It is solely for our Client's use for the purpose for which it is intended in accordance with the agreed scope of work. Any use or reliance by any person contrary to the above, to which Beca has not given its prior written consent, is at that person's own risk.

9.03 Where another party has supplied information for use in this report, it is assumed to be reliable.

9.04 Beca reserves the right, but not the obligation, to review all calculations included or referred to in this report and, if considered necessary, to revise its opinion in the light of any new or existing information.

9.05 This cost estimate has been developed solely for the purpose of comparing and evaluating options. They cannot be used for budget-setting purposes as common elements between options may have been omitted and/or the works not fully scoped. A functional design should be undertaken if a budget estimate is required.

Project: WESTERN BAY OF PLENTY DISTRICT COUNCIL
WAIHI BEACH SOUTHERN SEAWALL TERMINATION

Doc: CAPITAL COST ESTIMATE

Rev: 0

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Date: 4 July 2019

Author: Bruno Deans (Verified by Mark Wilson)

Beca

Attachment A

COST ESTIMATE DETAIL

Ref	Item Description	Calculation	Quantity	Unit	Rate (NZD $)	Sub-Total (NZD $)	Total (NZD $)
1.00	**Key Metric Information**						
1.01	Rock Wall Length	18.81	19.00	m	-	-	
1.02	Rock Wall Width	8.95	9.00	m	-	-	
1.03	Rock Wall Height	2.00	2.00	m	-	-	
1.04	Rock Wall Cross Sectional Area (Taken from cross-section)	13.00	13.00	m2			
1.05	Rock Wall Volume (Solid state)	244.47	245.00	m3	-	-	
1.06	Programme	4.00	4.00	weeks	-	-	
2.00	**Demolition and Temporary Works**						**7,000.00**
2.01	Allowance for forming site access and construction of lay down areas	1.00	1.00	LS	3,000.00	3,000.00	
2.02	Allowance for clearing all debris and rubble from site	1.00	1.00	LS	1,000.00	1,000.00	
2.03	Allowance for reinstating all working areas back to existing	1.00	1.00	LS	3,000.00	3,000.00	
2.04	Rounding Adjustment	1.00	1.00	LS	0.00	0.00	
3.00	**Earthworks**						**134,000.00**
3.01	Remove/strip topsoil to stockpile	252.46	253.00	m2	5.00	N/A - Sand Only	
3.02	Excavate dune for new seawall, cut to stockpile on site (Measured solid in the cut)	862.96	863.00	m3	25.00	21,575.00	
3.03	Trim excavations	189.18		m2	5.00	950.00	
3.04	Heavy duty geotextile cloth	189.18	190.00	m2	12.00	2,280.00	
3.05	0.80-1.25m diameter boulder fill supplied & delivered to site - Based on $80t delivered to site, excluding GST - J Swap advice 03-07-2019	611.16	612.00	tonne	80.00	48,960.00	
3.06	20t long reach excavator (24m3/day) and labour crew, place boulder fill (2.0m thick) to form new seawall termination	10.19	11.00	day	2,560.00	28,160.00	
3.07	Tracked dump truck - To take material from reserve to sea wall location	10.19	11.00	day	1,200.00	13,200.00	
3.08	Cut to fill profile of new seawall, sand from stockpile	251.80	252.00	m3	25.00	6,300.00	
3.09	Cart surplus stockpile material to waste	611.16	612.00	m3	20.00	12,240.00	
3.10	Rounding Adjustment	1.00	1.00	LS	335.00	335.00	
4.00	**Drainage Works**						**2,000.00**
4.01	Allow for protecting and reinstating existing drainage services	1.00	1.00	LS	2,000.00	2,000.00	
4.02	Rounding Adjustment	1.00	1.00	LS	0.00	0.00	
5.00	**Landscaping**						**9,000.00**
5.01	Replant dune with native sand grass (Pingao and Spinifex)	235.73	236.00	m2	30.00	7,080.00	
5.02	Allowance for protecting and reinstating existing grassed areas (on neighbouring properties)	1.00	1.00	LS	1,000.00	1,000.00	
5.03	Allowance for protecting and reinstating existing footpaths	1.00	1.00	LS	1,000.00	1,000.00	
5.04	Rounding Adjustment	1.00	1.00	LS	(80.00)	(80.00)	
6.00	**Pavement & Surfacing**						**1,000.00**
6.01	Allowance for protecting and reinstating existing road pavements	1.00	1.00	LS	1,000.00	1,000.00	
6.02	Rounding Adjustment	1.00	1.00	LS	0.00	0.00	
7.00	**Traffic Management**						**4,000.00**
7.01	Allowance for temporary traffic management plan	1.00	1.00	LS	1,000.00	1,000.00	
7.02	Allowance for implementing traffic management plan including installation, monitoring and removal of traffic management measures	1.00	1.00	LS	3,000.00	3,000.00	
7.03	Rounding Adjustment	1.00	1.00	LS	0.00	0.00	
8.00	**Environmental Compliance**						**3,000.00**
8.01	Allowance for preparing design, submit plan, implement and maintain erosion, dust, noise, silt and sediment control plan	1.00	1.00	LS	3,000.00	3,000.00	
8.03	Rounding Adjustment	1.00	1.00	LS	0.00	0.00	

Project: WESTERN BAY OF PLENTY DISTRICT COUNCIL
WAIHI BEACH SOUTHERN SEAWALL TERMINATION

Doc: CAPITAL COST ESTIMATE

Rev: 0

Job No: 4287029-101

Date: 4 July 2019

Author: Bruno Deans (Verified by Mark Wilson)

Attachment A

COST ESTIMATE DETAIL

Ref	Item Description	Calculation	Quantity	Unit	Rate (NZD $)	Sub-Total (NZD $)	Total (NZD $)
9.00	**Services Protection**						**2,000.00**
9.01	Allowance for ascertaining the position of all existing services and protection	1.00	1.00	LS	2,000.00	2,000.00	
9.02	Rounding Adjustment	1.00	1.00	LS	0.00	0.00	
10.00	**Preliminaries & General/Off-Site Overheads & Profit**						**38,000.00**
10.01	Allowance for site establishment & disestablishment	-	-	LS	-	Included below	
10.02	Allowance for all fixed charge, on-site overheads	-	-	LS	-	Included below	
10.03	Allowance for all time related charge, on-site overheads	-	-	LS	-	Included below	
10.04	Allowance for all project documentation and quality controls	-	-	LS	-	Included below	
10.05	Preliminaries & General	162,000.00	162,000.00	LS	15%	24,300.00	
10.06	Off-Site Overheads & Profit	186,300.00	186,300.00	LS	8%	14,904.00	
10.07	Rounding Adjustment	1.00	1.00	LS	(1,204.00)	(1,204.00)	
	TOTAL PHYSICAL WORKS ESTIMATE					**200,000.00**	**200,000.00**

Western Bay of Plenty District Council

Operations and Monitoring Committee

Proposal to Grant Pirirākau Incorporated Society Inc. Tourism Co-ordinator Status Section of the Omokoroa to Tauranga Cycle Trail in the Pirirākau Rohe

Purpose

Pirirākau Incorporated Society is developing a tourism and landscaping trail maintenance portfolio.

They have requested a partnership approach with Council where they be approved as or granted approved status to act as an umbrella organiser and co-ordination for commercial and tourism activities on the trail.

This is a new approach and one that has partnership merit. Council cannot transfer its statutory or landowner decision making powers but can act in partnership in an approach co-ordinated with Pirirākau.

The proposal is consistent with the approach to Te Tawa/Tahataharoa.

It is recommended that this proceed, noting that any such agreement can be modified or terminated if it proves not to be workable.

Recommendation

1. ***THAT the Deputy Chief Executive Officer's report dated 26 July 2019 and titled Proposal to Grant Pirirākau Incorporated Society Inc. Tourism Co-ordinator Status for the Pirirākau Section of the Omokoroa to Tauranga Cycle Trail in their Rohe be received.***

2. ***THAT the report relates to an issue that is considered to be of low significance in terms of Council's Significance and Engagement Policy.***

3. ***THAT the Council enters into a Memorandum of Understanding with Pirirākau Incorporated Society for:***
    - ***Pirirākau Incorporated Society Inc. to act as co-orindators for tourism activities on the Omokoroa to Tauranga Cycleway in the Pirirākau Rohe.***
    - ***An initial trial period of two years***
    - ***Generally in accordance with the attached Draft Memorandum of Understanding.***

Gary Allis
Deputy Chief Executive Officer

1. Background

Pirirākau Incorporated Society Inc. ["Pirirākau"] as part of their economic, cultural and tourism portfolio are developing:

- The Pirirākau Heritage Trail
- A landscape maintenance operation
- Cultural tourism
- Environmental and ecological restoration

These are aligned with the Omokoroa to Tauranga Cycle Trail, which is mainly within the Pirirākau rohe and is aligned with approach taken with the Te Tawa / Tahataharoa acquisition and restoration.

The proposed Pirirākau Heritage Trail extends beyond the Omokoroa to Tauranga Cycle Trail and will include areas of significance. It will provide along with Te Tawa / Tahataharoa opportunities for cultural education and tourism to the wider public.

Council has a strong relationship with Pirirākau and a Partnership Agreement for the acquisition, ownership and restoration of the Te Tawa / Tahataharoa.

Pirirākau have been contracted to from time-to-time to provide landscaping and planting services.

The proposed MoU on Agreement is an extension of the existing relationship and agreements.

The MoU is in draft form and will be finalised with any suggested changes if the Committee approves. **Attachment A**

2. Significance and Engagement

The Local Government Act 2002 requires a formal assessment of the significance of matters and decisions in this report against Council's Significance and Engagement Policy. In making this formal assessment there is no intention to assess the importance of this item to individuals, groups, or agencies within the community and it is acknowledged that all reports have a high degree of importance to those affected by Council decisions.

The Policy requires Council and its communities to identify the degree of significance attached to particular issues, proposals, assets, decisions, and activities.

In terms of the Significance and Engagement Policy this decision is considered to be of low significance because as it covers a single geographic location. There maybe interest from other hāpu in this model

3. Engagement, Consultation and Communication

3a. If there is no requirement for an engagement plan please fill in the following table with other communication which may have taken place or be required to keep our communities fully informed.

Interested/Affected Parties	Completed/Planned Engagement/Consultation/Communication
Name of interested parties/groups	
Tangata Whenua	Pirirākau Incorporated Society Inc.
General Public	

4. Issues and Options Assessment

The extent to which the following comparisons of options are completed depends on the significance and complexity of the decision as assessed above.

If the nature or circumstances of the decision are such that there can be no options and a Council decision is required (e.g. prescribed by legislative requirement/emergency situation) delete Options Assessment tables and use Table 2 describing the circumstances of the decision and why there is no need to consider options.

Option A ***3. THAT the Council enters into a Memorandum of Understanding with Pirirākau Incorporated Society for:*** • ***Pirirākau Incorporated Society Inc. to act as co-orindators for tourism activities on the Omokoroa to Tauranga Cycleway in the Pirirākau Rohe.*** • ***An initial trial period of two years*** • ***Generally in accordance with the attached Draft MoU.***	
Assessment of option for advantages and disadvantages taking a sustainable approach	Partnership approach with Pirirākau Hāpu. Tangata Whenua aspirations can be achieved. Increased opportunities for Pirirākau Hāpu to develop cultural and economic outcomes,
Costs (including present and future costs, direct, indirect and contingent costs) and cost effectiveness for households and businesses	- Nil Cost to Council or operators - Co-ordinated approach
Other implications	Potential interest by other hāpu. Could set a successful model as a precedent of process and methodology.

Option B ***THAT the Council DOES NOT enter into a Memorandum of Understanding with Pirirākau Incorporated Society for:*** • ***Pirirākau Incorporated Society Inc. to act as co-orindators for tourism activities on the Omokoroa to Tauranga Cycleway in the Pirirākau Rohe.*** • ***An initial trial period of two years*** • ***Generally in accordance with the attached Draft MoU***	
Assessment of option for advantages and disadvantages taking a sustainable approach	Does not take a partnership approach. Reduced opportunities for Pirirākau
Costs (including present and future costs, direct, indirect and contingent costs) and cost effectiveness for households and businesses	No impact
Other implications	

5. Statutory Compliance

This recommendation meets:

- Legislative requirements/legal requirements
- Current council plans/policies/bylaws
- Regional/national policies/plans.

6. Funding/Budget Implications

Budget Funding Information	Relevant Detail
	Nil

MEMORANDUM OF UNDERSTANDING

FOR CO-ORDINATION OF TOURISM ACTIVITIES ON THE OMOKOROA TO TAURANGA CYCLE TRAIL WITHIN THE PIRIRĀKAU ROHE

PARTIES

Western Bay of Plenty District Council ["the Council"]

AND

["Pirirākau"]

Pirirākau Hapū under their suitable entity, Pirirākau Incorporated Society Environment Division 'Pirirākau Tiaki Taiao' or the Pirirākau Treaty Settlement Trust.

FOR

Co-ordination of Tourism Activities on the Omokoroa to Tauranga Cycle Trail within the Pirirākau Rohe.

1. **The Council appoints Pirirākau as co-ordinator of Tourism and commercial activities for the Omokoroa to Tauranga Cycle Trail within the Pirirākau Rohe for a two year trial period.**

2. **Role of Pirirākau in co-ordination:**

   - To act in partnership with Council
   - To engage with tourism operators that propose to set up tourism activities on or along the trail
   - To co-ordinate and align tourism activity to avoid overlap and confusion
   - To ensure professional products and delivered
   - To recommend licencing agreements and arrangements to Council (Council cannot delegate such powers)
   - To provide feedback to Council from users and operators
   - To work with Tourism Bay of Plenty on the development of products for the route
   - To keep council informed of enquires and potential operators.
   - Does not include any veto rights for any proposal unless they are in cultural competition to the leadership and cultural permissions of Pirirākau hapū.

3. **Role of the Council**

   - To work in partnership with Pirirākau
   - To link potential operators and enquiries to Pirirākau
   - To negotiate license and concession agreements
   - To maintain the Omokoroa to Tauranga Cycle Trail
   - To support branding initiatives for trail which includes Te Tawa - Tahataharoa
   - To install as appropriate cultural, heritage and environmental information
   - To allow Pirirākau Heritage Trail co-branding opportunties on the Omokoroa to Tauranga Cycle Trail

4. Pirirākau Hapū under their suitable entity and separate to this MoU can:

- Engage with tourism operators to offer Pirirākau hapū led collaborative and inclusive cultural, environmental and other products that are complimentary to the trail
- Provide input, information and advice to Council for historical and cultural signage on the trail
- Promote extensions to the trail that are commercial or environmental areas
- To provide a Pirirākau Heritage Trail overlay to the Omokoroa to Tauranga Cycle trail.
- To provide independently their own tourism products
- To develop in Partnership with Council, Te Tawa / Tahataharoa and utilise that area for environmental, cultural education, tourism and commercial purposes.
- To enter into arrangements with Council to build a suitably built all purpose and inclusive cultural arts hub and whare taonga (museum) to showcase and house Pirirākau hapū taonga tuturu (artefacts).
- To seek improvements of the associated cultural sites to the Omokoroa to Tauranga Cycle Trail.

5. Basis of the MoU

- Pirirākau hapū are undertaking the co-ordination in a voluntary capacity without expectation of payment from Council
- Commercial agreements or licenses shall be between Council and the application
- Council is entering into this Agreement in its capacity as a landowner.

6. Disputes

- The Parties shall operate in good faith at all times
- In the event of a disagreement between Pirirākau and potential operators shall be referred to Council.

7. Term

- The Agreement shall have an initial trial term of two years
- The term can be extended by agreement of both Parties
- The effectiveness of the MoU shall be reviewed by the Parties prior to an extension.

Western Bay of Plenty District Council

Operations & Monitoring Committee

Pohutukawa Park – Tree Shading Issues

Purpose

To consider a request from property owners adjoining Pohutukawa Park, Waihi Beach, who wish to have five Pohutukawa trees removed due to shading issues on their properties.

The property owners will be attending the Committee meeting to present their case.

Recommendation

1. ***THAT the Reserves & Facilities Manager's report dated 29 July 2019 and titled Pohutukawa Park – Tree Shading Issues be received.***

2. ***THAT the report relates to an issue that is considered to be of low significance in terms of Council's Significance and Engagement Policy.***

That it be recommended to Council:

3. ***THAT Council, as administering body of Pohutukawa Park, decline / approve the request received from the residents at 2 and 4A West Street to remove five pohutukawa trees adjacent to their properties.***

4. ***THAT subject to resolution 3 above, if the Committee recommends to Council that the request to remove the trees be approved, that the costs of removal be covered by the adjoining property owners including planting of replacement lower growing trees.***

Peter Watson
Reserves & Facilities Manager

Approved

Blaise Williams
Acting General Manager Infrastructure

1. Background

Mr Laurence (4A West St.) and Mr Steel (2 West St.), who are adjoining property owners next to Pohutukawa Park, Waihi Beach, have requested that Council remove five Pohutukawa trees from Pohutukawa Park, as the trees are causing shading onto their properties, particularly during the winter months.

On 20 November 2017, Mr Laurence made a presentation to the Waihi Beach Community Board in the public forum section of the meeting. **Attachment A**

The proposal effectively sought to initiate a staged community managed planting plan and tree management strategy for Pohutukawa Park.

However, the proposal included a condition, being that five Pohutukawa Trees adjacent to Mr Laurence's and Mr Steel's property would be removed at their cost.

At its meeting held on 5 February 2018, the Waihi Beach Community Board considered the pros and cons of the proposal and subsequently passed the following resolution;

> ***Resolved:*** *Members Parsons / Hepenstall*
>
> *THAT the Waihi Beach Community Board does not support the submission for the proposed development of the Archie Leach reserve area (within Pohutukawa Park) in particular the removal of five Pohutukawa trees.*

A full copy of the 5 February 2018 minute is included in the attached. **Attachment B**

Mr Laurence and Mr Steel were made aware of the Board's decision.

Subsequent to the Board's decision, Mr Laurence and Mr Steel have met with Reserves and Facilities staff and the Community Board Chairman to discuss the shading from the five Pohutukawa trees.

At the first site meeting, it was agreed that a report would be commissioned from a qualified Arborist to assess the five Pohutukawa trees and other trees in Pohutukawa Park.

The most recent meeting held on site, between staff and Mr Laurence and Mr Steel, was on 30 March 2019.

At this meeting, staff advised that their position aligned with that of the Community Board and they would not be removing or trimming the five Pohutukawa trees.

Mr Laurence and Mr Steel were not satisfied with the position taken by both the Community Board and staff, at which point it was explained that the matter could be referred to Council's Operations and Monitoring Committee for a decision. Mr Laurence and Mr Steel accepted the suggestion that the matter be considered by the Committee.

Attached are a number of photos of the subject trees:

Photo of the subject trees taken from the deck at 2 West Street. **Attachment C**

Photo of the subject trees taken from West Street. **Attachment D**

Photo of 4A West St. taken at 11:08 am on 26 June 2019.
Note: 4A West St. is the grey mono pitch roofed house closest to the right hand side of the picture. **Attachment E**

Aerial plan showing the subject trees in relation to the two West Street properties. **Attachment F**

Below is an extract from the Arborist's assessment report.

Pohutukawa Trees adjacent 2 West Street
There is a group of tall Pohutukawa directly opposite the driveway of 2 West Street. The trees are quite thin and spindly possibly as a result of other trees growing near them that have been since removed therefore exposing the Pohutukawa trees. Several stems appear to be leaning out toward the boundary and driveway of 2 West Street. Consideration should be given to reducing these stems back from the private boundary. There are 3-4 stems that can be removed at the base. Additionally the remaining trees in this small group are quite tall and spindly and would benefit from a very light overall canopy reduction to further strengthen the trees and make them more resilient to strong winds.

It was suggested that reducing the height in the trees would only be a temporary fix to the problem and that the trees should either be completely removed and replaced with another lower growing species or left to grow naturally.

2. Significance and Engagement

In terms of the Significance and Engagement Policy this decision is considered to be of low significance because there only several property owners affected by the proposal.

3. Engagement, Consultation and Communication

Interested/Affected Parties	Completed/Planned Engagement/Consultation/Communication
Name of interested parties/groups	Adjoining property owners. Local environmental groups.
Tangata Whenua	N/A
General Public	There has been past community interest in the proposal presented to the Waihi Beach Community Board on 20 November 2017.

4. Issues and Options Assessment

Option A ***THAT the Operations and Monitoring Committee does not approve the removal of the five Pohutukawa trees adjacent to the residents' property.***	
Assessment of option for advantages and disadvantages taking a sustainable approach.	Advantages; • Trees will remain in place • Reduced reaction from wider community • Aligns with the Community Board's resolution Disadvantages: • Adjoining residents not satisfied with the outcome
Costs (including present and future costs, direct, indirect and contingent costs) and cost effectiveness for households and businesses.	No costs
Other implications	The adjoining property owners may lodge proceedings through the District court under the provisions of the Property Law Act.
Option B ***THAT the Operations and Monitoring Committee does approve the removal of the subject Pohutukawa trees adjacent to the residents property.***	
Assessment of option for advantages and disadvantages taking a sustainable approach	Advantages: • Adjoining property owners outcome is satisfied • All costs are covered by adjoining property owners Disadvantages: • Decision is contrary to Community Board resolution
Costs (including present and future costs, direct, indirect and contingent costs) and cost effectiveness for households and businesses	Costs to be borne by the adjoining property owners
Other implications	N/A

5. Statutory Compliance

Pohutukawa Park is a Reserve pursuant to the Reserves Act 1977. Council is the administrating body for the reserve.

The trees are offered protection under the Reserves Act 1977.

Should the Committee resolve not to approve the removal of the trees, then the property owners could seek relief through the provisions of the Property Law Act 2007.

Policy – P22 Planting
Indigenous New Zealand species will generally be used within reserve plantings. Where appropriate these will be eco-sourced.

Where exotic species are planted these will be selected due to: an urban location; the desire for a deciduous species; an historical association; a particular connection to a place or individual; or the advantage of fruit or specimen feature trees or hedging. Exotic species will not include any species considered to be an ecological weed threat.

Plantings will generally be low maintenance, self sustaining and where appropriate support birdlife with fruit or nectar bearing plants.

Plantings, and the alignment of pathways that provide for public access will generally be designed to consider user safety and security. When planting is undertaken for forest revegetation, conservation, ground stabilisation, or environmental protection purposes, this primary objective may override public surveillance and visibility.

Shade trees will be planted in reserves to provide sun protection for users. Planting will give regard to retaining and enhancing significant views of existing local landowners.

Naturally occurring native trees on reserve land will not be pruned or removed to create or maintain private 'views'.

Council will consider any request from the public for the pruning or removal of planted trees located on reserve land on a case-by-case basis.

Council may approve or decline any such request. If site-specific circumstances justify the pruning or removal of a tree or trees those requesting pruning or removal will be required to meet the cost of the work, which shall be carried out in accordance with Council's instruction by an arborist registered with the NZ Arboriculture Association.

With respect to this Planting policy, due recognition shall be given to the Property Law Act 1952.

Explanation: *Many of Council's reserves abut harbour, lake or riparian margins and adjoin remnant and/or regenerating indigenous bush. These and other reserves contribute to, or have the potential to form ecological corridors that provide important linkages for flora and fauna. These reserves are important for their natural character, ecological and conservation values. It is appropriate that reserve plantings reinforce and enhance the indigenous vegetation and ecological values of these areas.*

Source: page 43/44 of the Katikati/Waihi Beach Ward Reserve Management Plan 2018

6. Funding/Budget Implications

Budget Funding Information	Relevant Detail
	If the Committee approves the removal of the trees and replacement with a suitable species, then the costs would be borne by the adjoining property owners.

ATTACHMENT A

Public forum on 20 November 2017

Presentation on Future Management of Pohutukawa Park Plantings

Mr Laurence advised the Board that he had lived in Waihi Beach for five years and had wanted to make a contribution to the community. He felt that there was an opportunity to instigate community involvement to clean up and manage the Pohutukawa Park Reserve with a bigger picture to ultimately develop a historic compilation of information about the rich history of Waihi Beach. He had earlier met with the Community Board Chairperson Allan Sole and Councillor David Marshall and discussed his proposal.

He wanted to pursue a proposal that included the participation of the local community and visitors alike and after speaking with a number of people saw that an opportunity to tidy up the Pohutukawa Park Reserve while passing on knowledge and learning about the local environment was an ideal way to do this. Earlier native plantings on the reserve area, by Archie Leach some 20 years earlier, were now overgrown and unkempt and swamped by noxious weeds. There were also a number of exotic trees in the park, which ideally should be dedicated to native species.

Mr Laurence had learned of environmental projects that had been undertaken by schools in neighbouring districts that had been funded by specific sponsors and he would make an approach to these providers.

He had spoken to the Principal of the Waihi Beach School Mike Tilyard and Sue Aitken (the schools leading environmental projects and initiatives teacher) and they were very keen to be involved with the proposal as part of an environmental teaching/learning component for pupils of their school. He had also taken advice from Nicky Oliver-Smith an Environment Restoration Scientist.

Stages of the Proposal:
Stage 1: Under the guidance of a management committee it is proposed that a quarter hectare block be cleared of all exotic plantings that included one large dying Plane tree, a Conifer, seven Lawsoniana and one Phoenix Palm. Other dead and dying trees along with some already fallen would also be removed from the block as well as noxious weeds.

It was also proposed to remove five mature pohutukawa trees that were growing in close proximity to residents in the West Street extension. These trees cast significant shade onto residences in West Street and when removed would be replaced with substantial plantings of Nikau palms.

Property owners were willing to fund the removal of the five pohutukawa trees. Western Bay of Plenty District Council would be approached to fund and supervise the removal of other dead and unwanted trees in the quarter hectare block.
Stage 2: Depending on funding/sponsorship - prepare a walkway through the block.
Stage 3: Depending on fund/sponsorship plant indigenous species throughout the block.
Additional Stages
Stage 4: Restore the old tennis pavilion to become a static display, visitor centre.
A fifth stage could be connecting walkways from the lake reservoir with the upper Pohutukawa Park walking track leading down to the beach.

Councillor Marshall noted that it was encouraging that a local group wanted to work together to improve the public reserve area.

There was a concern that the Stage 1 proposal to remove five Pohutukawa trees was an advantage to property owners before any other work was to be undertaken. In reply
Mr Laurence stated that the shading caused by the trees had immense impact on the personal health and wellbeing of affected residents, particularly those that had no sun for during the winter months and had nothing to do with creating a sea view outlook. Residents of the immediate vicinity were prepared to commit to the proposal with time and energy to enhance the whole reserve area.

Councillor Williams noted that in any community, trees were a highly emotive topic and the wider public would need to be advised of the proposal. If there was goodwill and engagement for the proposal then the Board would give their support the proposal in principle.

The Chairperson thanked Mr Laurence for the presentation of his proposal and advised that in the first instance he must make contact with the Western Bay of Plenty District Council Reserves and Facilities Manager, and ensure that the proposal was in line with the Waihi Beach Ward Reserve Management Plan. It was suggested that Mr Laurence make a submission to the Reserve Management Plan, which was coming up for review and include his proposal in the Council 'Have Your Say' community engagement process currently underway.

Resolved: Member Parsons / Councillor Williams
THAT the meeting be re-convened in formal session at 7.43pm.

5 February 2018 – Community Board meeting Minute

WB10.2.2 **Submission Regarding Pohutukawa Park**
At the Waihi Beach Community Board Meeting WB9 held on 20 November 2017, the Board received a presentation from Mr Phil Laurence who wished to instigate community involvement to clean up and manage the Pohutukawa Reserve. Included in the proposal was a request to remove five mature pohutukawa trees that were growing in the reserve.

The Board had given the proposal much thought and were unified in their thoughts that the Pohutukawa trees should not be cut down.
Minutes of WB10 held on 5 February 2018 6

A Board member had spoken to the local school who had expressed their interest in being involved with a clean-up of the reserve area as part of an overall environmental teaching project. In the schools association with Project Crimson the school would not support any cutting down of Pohutukawa trees. The school would still like to continue in a clean-up of the reserve, under the guidance of the Western Bay District Council Reserves and Facilities Manager.

The Reserves and Facilities Manager advised that he had offered to work with the community to tidy up the reserve. His position in regard to the proposed removal of the Pohutukawa trees aligned with that of the Board, in that the Pohutukawa trees should not be cut down.

The Reserves and Facilities Manager advised the Board that some large branches had broken off some trees and these needed to be made removed where required and made safe under the guidance of an arborist with other identified deadwood also being removed.

Resolved: Members Parsons / Hepenstall
THAT the Waihi Beach Community Board does not support the submission for the proposed development of the Archie Leach reserve area (within Pohutukawa Park) in particular the removal of five pohutukawa trees.

ATTACHMENT C

ATTACHMENT D

ATTACHMENT E

ATTACHMENT F

Date: 29/07/2019
Operator:
A4 Scale 1: 878
0 44 Meters

Western Bay of Plenty District Council

West Street - Pohutukawa Trees

N

Western Bay of Plenty District Council

Operations & Monitoring Committee

Infrastructure Services Report August 2019

Purpose

To monitor and provide updates to the Operations & Monitoring Committee on current projects, contracts and works programmes.

Recommendation

1. ***THAT the Deputy Chief Executive's Report dated 30 July 2019 and titled Infrastructure Services Report August 2019 be received.***
2. ***THAT the Open Section of the Operations & Monitoring Committee Information Pack No. OP21 dated 15 August 2019 be received.***
3. ***THAT the report relates to an issue that is considered to be of low significance in terms of Council's Significance and Engagement Policy.***

Gary Allis
Deputy Chief Executive Officer

1. Utilities

1.1 Ongare Point Wastewater Scheme Preliminary Investigations

There is no further update to this since the previous report. This project is largely completed with some minor reinstatement works still to be undertaken.

1.2 Katikati Alternative Options Assessment

The Katikati Wastewater Consent renewal was approved on 24 August 2018 and the Consent conditions requires Council to look at alternative options for the long-term discharge of the treated wastewater from the Katikati Wastewater Treatment Plant.

A working group has been formed that includes Tangata Whenua, Councillors and Community Board representatives. The group has been meeting on a regular basis to assess the various options available. Meetings held to date have discussed beneficial reuse of wastewater and were productive. Potential sites have been narrowed down for the beneficial reuse option and these sites are currently undergoing in-depth engineering assessment by technical consultants.

The in-depth engineering assessment has been broken into three stages. Stage one looks at refining the sites selected for further investigations. It includes undertaking a planning assessment, technical assessment on appropriate disposal methods and developing success criteria to help determine the best method. Stage 1 is complete and was reported to the working group on the 22 January 2019. The engineering team is now looking at developing concept designs for the different disposal methods. The meeting for July was re-scheduled due to a tangi.

1.3 Highfields Pond

There is no update for this item as the project is not about to commence until the New Year.

The final ground water monitoring report has been received. It indicates that the water level in the pond can be raised, initially on a trial basis for recreational purposes with some risk.

Council has approved funding the trial of raising the water level in the 2019/20 Annual Plan. The trial includes charges to the outlet structure and further ground water and embankment monitoring along with resident monitoring of pond condition, insect life and odour. A report was presented to the Operations and Monitoring Committee on 28 February 2019, outlining various pond levels for the trial and the risk. The Committee agreed to raise the pond level to a reduced level of 2.55 for the trial. This level can be achieved with minor modifications to the outlet structure.

1.4 Western Supply Zone Water Main Improvements

The upgrade to the water mains along Beach Road, Waihi Beach and replacement of the water mains attached to Tuapiro Stream Bridge and Waitekohe Bridge on State Highway 2 work is nearly complete with the final finishing works to be undertaken.

1.5 Two Mile Creek Update - Upstream Dillon Street Bridge

The Bay of Plenty Regional Council Resource Consent was lodged in June 2017. Two parties did not sign in favour of applying for the Consent.

BOPRC requested further information be supplied by WBOPDC including modelling of the effects of the new channel on the 100-year flood and environmental and ecological issues with the new concrete channel. These assessments are now complete and final information has been provided to BOPRC. Feedback received from the BOPRC and draft Consent conditions have been finalised. BOPRC has provided the Resource Consent, so ready to go from this perspective.

Due to the creek being located in a floodable zone, a separate Resource Consent is required from WBOPDC. The Consent has been lodged and Council staff have been working with two property owners regarding submissions. One submission has been resolved, the other is still in negotiation. The Consent was expected to be granted in September 2018.

Direction being given to WBOPDC resource consent manager to proceed with arranging a Commissioner to hold a hearing to deal with the one party who is objecting to the proposal based on other development issues with their land.

The property owner who objected to the Consent has entered into discussions with the Strategic Property Manager to see if a solution can be found to his existing development and the adjoining Two Mile Creek Project. We are awaiting the outcome of this discussion.

The decision was taken to appoint Hearing Commissioner, Alan Withy, on 18 June, 2019. Now that the hearings have concluded with two parties being heard. Commissioner Alan Withy will be assembling his decision report which is likely to be made available at the end late July to mid August 2019.

The Application was presented by Mr Hansen, a Principal Environmental Planner at Tonkin & Taylor, on behalf of the Utilities Department. He also gave expert evidence.

The proposal is to construct and use a concrete erosion protection structure (or "concrete channel" or "structure") within private property along the banks of Two Mile Creek ("the creek") at Waihi Beach

The key components of the proposal are:

- The creek will be temporarily diverted and the existing channel shaped to provide for the installation of the concrete channel.

  The concrete channel will be placed/formed in segments within the creek bed and banks.
- The landform behind the concrete channel will be modified in segments so as the crest of the structure ties into the landform.
- The structure will be approximately 290 m long, commencing at the Dillon Street Bridge and ending at 34 Wilson Road.
- The 290 m long segment of the creek that is subject to this application is located entirely within private land. That is, at the time the creek was cut through the back dune its alignment was not surveyed and a separate parcel of public land was not created to reserve a right for its ongoing function. Further, there is no easement in favour of the applicant to drain stormwater across the private land, or maintain the creek bed or banks for erosion protection, flow optimisation etc.

- Aside from the erosion protection benefits that will result from the proposal, the applicant proposes to take over the ownership of the stream corridor confined within the erosion protection structure following construction. The applicant intends to enter into a legal agreement process with the private landowners and then undertake a land transfer process.

- These mechanisms will address the current issue with the lack of a right to drain stormwater, as well as provide legal and physical access to the bed of the creek for the applicant to undertake construction and maintenance works.

- The applicant intends to allow the private landowners whose properties adjoin the erosion protection structure to use the land subject to complying with standards that will ensure the ongoing structural integrity of the erosion protection structure.

On the basis of the above, the applicant has had to develop the erosion protection structure in order to address legacy issues surrounding multiple party ownership of the creek bed, the proximity of urban development to the creek, the re-routing of stormwater. The Commissioner is therefore of the opinion that consent should be granted as a non-complying activity, subject to the conditions negotiated by Messrs Danby and Hansen in and around the hearing.

A 15 working day appeal period has lapsed with no objections being received.

This now allows council to proceed to the next stage which involves meeting with all property owners adjacent to the creek and gaining individual permission to construct within the private land area. A final alignment drawing showing the exact route of the concrete drainage channel will be produced to assist in land owner discussions.
Tender drawings and a contract will be produced to allow the physical works to be tendered.

It is anticipated that works will not be completed until later in 2020.

1.6 Comprehensive Stormwater Consents - Eastern Zone

There has been little change since the previous update. The Catchment Management Plan for the Eastern Catchment was lodged with the Bay of Plenty Regional Council prior to Christmas. The Eastern Zone includes the urban areas of Maketu, Te Puke, Pukehina and Paengaroa. The plan will form the basis for the Comprehensive Stormwater Consent Application. Consultation with the community was held on the Catchment Management Plan prior to it being lodged. Positive feedback was received. This application was notified and submissions closed on 10 July 2019. Three submissions were received.

1.7 Te Puke Wastewater Treatment Plant (WWTP) Resource Consent Renewal

The Resource Consent for the Te Puke WWTP was granted on 17 May for a 35-year term. No appeals have been received.

The draft Consent conditions submitted with the Consent requires Council to look at alternative options for the long term discharge of the treated wastewater from the Te Puke Wastewater Treatment Plant. A working group has been formed, which includes Tangata Whenua, Councillors and Community Board representatives.

The group has been working to narrow down suitable sites for different disposal options including wetlands, pasture, forestry and reserve land. They have reduced the lists based on a set of criteria to a short list for each option. These will now be used for a high level engineering feasibility assessment, which is underway.

1.8 KiwiRail Bridge 91 ECMT Replacement - Access to the site

KiwiRail have confirmed that they intend to replace the complete bridge that is located between the Council owned land of the Te Puke wastewater treatment plant and the existing Council Reserve.

The Physical Works Tender is going out end of January 2019 and at this stage no works will commence on site until the end of April 2019.

The cycleway section that passes under the bridge will need to be closed off for approximately 10-week period while works are undertaken. The contractor will have large machinery on site including a piling rig and large earth moving equipment / plant as such the area will be a high risk site with stringent Health and Safety procedures in place.

Works includes:

- Piles and new concrete abutments being constructed
- Erosion protection works under the bridge area where the current stream passes under
- The existing embankment formations will be widened along the entire length
- New bridge deck
- New railway track installed.

A meeting took place with KiwiRail's Project Manager and the preferred contractor, HEB Construction. The current programme now indicates that the works will be staged into two parts but undertaken over one long, continuous period. The contractor is expecting to commence on-site towards the end of July and undertake preliminary temporary works.

The works will require the existing community cycle/walkway being closed off from middle of August 2019 to end January 2020. The existing railway line is to remain operational through the entire construction period with a 36 hour shutdown of the lines in late December. Works will include not only piling operation for the new bridge supports but also a significant widening of the embankment that the current tracks are located on. Parts of the existing walkway will need to be shifted as part of the contractor's scope of work. The Utilities Manager is the main point of contact for this project.

1.9 Comprehensive Stormwater Consents - Central Zone

There has been no further developments on this item since the previous update. The Comprehensive Stormwater Consent (CSC) for the Central Zone (including Te Puna and Minden) was lodged with the Regional Council in 2017. A request for further information was received in February 2019 and a response was sent back to Regional Council.

The central CSC excludes Omokoroa as a CSC was obtained for Omokoroa in 2007. This application is currently sitting with the Bay of Plenty Regional Council for processing. Western Bay has requested the application be publicly notified.

1.10 Plastic Free July

Plastic Free July is a global challenge to give up single use plastic for the month of July. The challenge has been running in New Zealand for several years with different councils and community groups supporting it locally but this year for the first time WasteMINZ will be coordinating councils and community groups to run a national Plastic Free July campaign.

Why?

With markets for plastics 3-7's disappearing it is more important than ever before to be promoting the message of reduction not just recycling. In addition, with the government's plastic bag ban coming to effect on 01 July but only covering shopping bags and the collapse of the soft plastics recycling scheme it is a key opportunity to promote the *#choosetorefuse* message for other types of bags such as produce bags; and encourage buying items not packaged in soft plastic. What is Council doing - We are promoting the challenge through Council's social media channels and staff have been encouraged to join the challenge to have plastic free lunches for the month of July 2019. Activities of making beeswax wraps form part of the challenge.

1.11 Kerbside Rubbish & Recycling Collection

Council has, on 26 June 2019 made a final decision for the following:

- To continue with the procurement of contracted kerbside services for the district for:
  - pay-per-pick-up scheme for rubbish;
  - targeted-rate funded glass collection;
  - targeted-rate funded recycling collection;
  - targeted-rate funded food scraps collection (urban areas only).
- To work through kerbside service design elements, raised by submitters, with industry as part of the procurement process
- To not investigate a Council contracted kerbside garden waste service.
- To trial a rural recycling drop-off point over the next two years, in the Eastern area of the district.
- To explore the establishment of a community-led reuse facility with interested parties.
- To increase the opening hours of Athenree Community Recycle centre to cover long-weekends. The intention is to secure contract(s) by July 2020 for services to become operational in July 2021.

2. Reserves

2.1 Kauri Point Jetty – Walkway Re-Decking

There has been little change since the previous report. Minor repairs are being undertaken until complete walkway decking renewal can occur post landslip / road reinstatement access. This delay will extend into to 2019/2020.

2.2 Kauri Point Slip Repairs

Resource Consent applications have been received and are under consideration. Some additional information has been requested by BOPRC. Final design and tender documentation is under way with a target contract advertising date in early August.

2.3 Omokoroa to Tauranga Cycleway

Project Control Group Update. **Attachment A**

Sections 1, 2 & 6 (through to Lynley Park) have been completed.

Section 3:
The archaeological authority application has been revised to resubmit - however, iwi are reconsidering their support. Staff will arrange a hui to discuss and resolve any issues so that a more successful application to Heritage NZ is likely. Hui date to be advised.

Section 4:
Embankment repairs at the bridge are underway and should be completed by 12 July.
NOTE: The official opening of this section occurred on 20 July 2019 with 100-150 people in attendance.

Section 5:
Bridge across Mangawhai inlet – completed but the track will remain closed until the cycleway connection with Huharua Park is in place.

Section 6:
Plummers Point - the public has given the Plummers Point Connection cycleway a big thumbs up following this weekend's official opening.

More than 200 people, with bikes, scooters and pooches, joined representatives from Western Bay of Plenty District Council, the NZ Transport Agency and Tauranga City Council in marking the official opening of the cycleway, which is the latest section in the Omokoroa to Tauranga Cycleway.

The new connection to Plummers Point has been extremely popular over the weekend. Cyclists were more dominant than pedestrians – this is a complete switch from previous statistics (which were the opposite weighting). The shortcut route is attracting about 20% of the total Plummers point traffic and the weather probably assisted with the high numbers.

Weekend Trends Plummers Point (20/19 July 2019)

Counter location	Total Cyclists	Total pedestrians	TOTALS
Lynley Park (original)	714 (70%)	307 (30%)	1021
Plummers Point Main	1403 (62%)	851 (38%)	2254
Plummers Point Shortcut	386 (82%)	82 (12%)	468

Lockhead Road – Te Puna Station Road
This section is complete apart from the section under the rail bridge. Planting is underway. Delays are being experienced with KiwiRail approvals.

Wairoa Bridge
Brian Perry Civil has established on site with completion scheduled for early December.

SH2 Wairoa – Carmichael Road Section
Design and consultation is almost complete. Site works are expected to commence very soon and timed to finish in time for the Wairoa Bridge opening.

2.4 Rotoiti to Paengaroa Cycle Trail
The trail has been officially opened. Signage is being procured for the route, including at Paengaroa.

2.5 Omokoroa Sportsground Playground
The playground is being well used. The shade sail has been removed for winter storage and a minor repair. Final shrub garden planting has been completed.

2.6 Omokoroa Ferry to Opureora/Matakana Island – Facilities Upgrade
There has been little change since the previous report. The bulletin board (confirmed by the Island community) purchase and installation will be co-ordinated with the jetty replacement project - delays are anticipating a late July start date.

2.7 Omokoroa Slips
The house at No. 37 McDonnell Street, which has been purchased by Council will be removed. Contractors have been engaged and asbestos is currently being removed from the house. Once the asbestos has been removed, the house will be uplifted and the remnant land fenced and reshaped as a reserve.

The owners at No. 39 McDonnell Street are still in negotiation with their insurers.

2.8 Opuereora Marae Public Toilet
Downer has completed repairs and refurbishment to the toilet.

2.9 Waihi Beach Cycleways
Water-catchment trails: Planning processes continue to progress a shared use loop trail through the water catchment reserve and Council is working with Ngai Tara Tokunui within the forestry area. Construction timing is dependent on Archaeological Authority application (which has recently been lodged) and funding to construct.

Urban trails: The new clip-on cycleway bridge at 3-Mile Creek (Seaforth Road) has been completed.

Island View Reserve cycleway has not been located as originally intended. Staff are planning to complete the missing concrete path section, and to also improve the user experience, it is proposed that the carpark fence is removed, which will then allow for the widening and resurfacing of the gravel path.

The Emerton Road shared path on the harbour side of Emerton Road is under construction.

Waihi to Waihi Beach: Land owner discussion is continuing for the Waihi to Waihi Beach Cycle Trail.

This route has been affected by the Overseas Investment Office decision not to approve the purchase of the farm by Oceana Gold (NZ) Ltd. The farm and our agreement with Oceana Gold was a key section of the route.

2.10 Waihi Beach Dam – New Toilet & Site Improvement Concept Plan

Good progress is being made. The refurbished exeloo toilet (ex Wilson Road carpark) has been installed.

The old Depot building lean-to with concrete pad and footpath connections to Ocean View Drive, now provides a great trail-head rest stop for trail users. Overflow car-parking space onto the grass area opposite the depot building has been enabled with lockable bollards that can be removed during summer.
Bike racks, seating and signage for the lean-to have yet to be arranged but are part of the overall project to complete before summer.

It is also proposed that community artists may wish to paint artworks onto the building as a community led project.

The funding application to the Tourism Infrastructure Fund was successful, approving $86,000. The spillway pedestrian bridge was not funded from the Tourism Infrastructure Fund (TIF). The funding is available to construct overflow car-parking and other depot improvements.

2.11 Dotterel Point Reserve Capital Development (Pukehina)

There has been little change since the previous report. The monitoring of the upgraded septic tank system will remain ongoing and likely to remain this way until the Surf Club begin construction of their new facilities, the timing of which is subject to their funding being secured.

2.12 Surf Club Carpark Rock Revetment

The consultation on this project has concluded without sign off from all affected parties.

The Operations & Monitoring Committee has approved the additional cost required to take it to Resource Consent Hearing. Staff have a greed to a pre-hearing with the submitters - date to be confirmed but likely 23 July. The outcome of the pre-hearing will determine whether a hearing is required and/or the hearing focus. Hearing date is expected from 16 September 2019 (to be confirmed).

2.13 Omokoroa Golf Course and Precious Reserve

While Consent from Regional Council has been received, a variation is being sought to better enable the works. Four separable portions are envisaged to match funding and ensure that each separable portion can be constructed without significant constraint. While partial funding is available, additional funding is required and applications to funders are under preparation.

Final design and tender documentation is also under way with a target contract advertising date in August.

2.14 Matahui Reserve

Works by private owners on the reserve are in the defects liability period of the contract. Final planting by Council contractor is occuring.

2.15 Katikati Cemetery

Work on a draft scheme for the proposed new Hot Springs Road Cemetery near Sapphire Springs is progressing. A scheme plan and geotechnical report is due late July to mid August.

2.16 Waihi beach Top 10 Retaining Wall

Eight tenders were received and the successful tenderer (All About Construction Ltd) has been advised. The tender price was within budget. An initial contract meeting was held in the week commencing 8 July with works programmed for completion by Labour Weekend.

3. Strategic Property

3.1 Kaimai Views

Classic Builders have moved from Special Housing Area to KiwiBuild. Classic are maintaining the same sale price methodology as for SHA.

Classic have advised of strong demand for houses. There are currently 28 houses under construction. Sale of lots is still progressing well. Classic Builders have now purchased Stage 4 from Council.

3.2 Omokoroa Library and Sports Pavilion

The Building Consent application has now been approved. Council have been advised that there is a shortfall in funding available to the Sports Society that could delay the commencement of the project. This delay could have a significant affect on Council funding for its portion of contribution. It is understood that funding applications have been made by the Society to address this shortfall.

3.3 Te Puna Hall

Staff are working with the Hall Committee to develop a new lease between the Council and Hall Committee.

4. Engineering & Special Projects

4.1 Review of Te Puke Main Street

The installation of the additional carpark by the Plaza is planned for late September to Mid October. The physical works supplier is currently pricing the works.

4.2 Omokoroa Road Urbanisation – Western Avenue to Tralee Street

The design for the Omokoroa Road from Western Avenue to Tralee Street including the Tralee Street intersection is almost complete.

Omokoroa Road will be widened from 7.0m to 11.5m with provision for one lane of traffic in each direction with right turning facilities at several intersections.

The road will include a 1.5m footpath on the western side and a 2.5m shared pedestrian and cycle path on the eastern side. There will be several bus stops placed at strategic locations on both sides of Omokoroa Road. Two bus stops opposite the Fresh Choice supermarket on Tralee Street will be installed.

4.3 Western Avenue to Kayelene Place Cycleway

The design for the cycle and pedestrian link between Western Avenue and Kayelene Place is almost complete.

The project incudes 2.5m concrete/metalled pedestrian/cycle path on the future Hamurana Road alignment. The project will also include piping the existing two gullies, which flow across the Hamurana Road reserve with 1600mm and 1200mm diameter pipes and filling to enable the construction of the pedestrian /cycleway.

It is intended to use the existing fill material placed on the Hamurana Road Reserve at the Kayelene Street end of the project to reduce the cost of this project.

The consultants are currently undertaking an archaeological and contamination assessment of the site so these can be included in the resource consent application. Construction cannot proceed until resource consent has been granted by the Council.

Lighting will be included to illuminate both on and off road traffic, pedestrian and cycle traffic.

Power will remain as overhead and space between kerb & channel and the road boundary will be grassed and planted similar to the section south of Western Avenue.

The Tralee Street intersection will include a roundabout to facilitate traffic movements and improve safety of the intersection.

Please note timing of the work is subject to NZTA subsidy approval. If subsidy approval is not approved the project will be reviewed by the Council.

4.4 Omokoroa Stormwater PO2 Construction

The construction of the Omokoroa Stormwater Pond is being undertaken by Map Projects for $3.04M. The project works (the HAF area and the dam) is almost complete with the minor civil works expected to be completed by mid to late July 2019.

The stormwater retention pond when completed will accommodate the stormwater runoff from the residential development of the special housing area, Goldstone block, Neil Group block and areas beyond the currently zoned urban land. Surplus Material from the project may be utilised as fill for the planting in the gully and access tracks is being undertaken by a separate contractor.

4.5 Omokoroa Industrial Road – Stormwater Detention Pond – Investigation, Design & Construction

The design is well advanced and landowner discussions are occurring for the stormwater pond. Once the land issues are sorted, tenders will be invited for the construction work with the expectation to commence this project in 2019/20 financial year, however, timing is a risk.

4.6 Te Puke Highways – Pah Road Slip Reinstatement

While the Resource Consent has been granted by Bay of Plenty Regional Council for the reinstatement of the Pah Road slip, NZTA has not confirmed the timing for commencement of this project. This project will be delayed and constructed in the next four years when funding is made available by NZTA.

Staff are still waiting on NZTA to formalise the agreement made between WBOPDC and NZTA for a future timeline and funding for completing this project.

4.7 Omokoroa Western Avenue Urbanisation - Omokoroa to North of Gane Place

This project is in the structure plan for full urbanisation of Western Road from the Omokoroa Road to just north of Gane Place including the upgrading of Gane Place intersection. The project includes road widening, kerb and channel, footpath and cycle path and landscaping. The design is expected to be completed in 2019 and construction likely to be competed in 2020.

The project will include the parking bays funded from the Community Roading Budget.

5. Emergency Management

5.1 Waihī Beach

Community Response Team attended a meeting on 23 May 2019.

The Community Response Team has been liaising with Bowentown on their Community Response Plan.

The Team is looking for more members and will then start reviewing need for a response plan.

5.2 Athenree

Community Response Team has finalised their Community Response Plan.

5.3 Tanner's Point

Progress continues with the Community Response Team on the draft Community Response Plan.

5.4 Bowentown

The Community Response Team is finalising the update of their plan. EMBOP is awaiting confirmation that their plan is finalised.

5.5 Omokoroa

The Community Response Team is finalising the update of their plan. EMBOP is awaiting confirmation that their plan is finalised.

5.6 Maketū

The Draft Community Guide is ready for distribution.

The Community Response plan is currently checked by Emergency Management Bay of Plenty. Discussion with the team will follow this, once the team leader is back.

5.7 Te Puke

The Community Response Team conducted a desktop exercise with the support of Emergency Management Bay of Plenty. With the findings of this exercise, the team is reviewing its communication strategy and contact list of community organisations.

6. Roading

6.1 Katikati Bypass Update & Katikati SH2 Interim Works

There has been no further change since the previous update as this is still pending further announcements from the New Zealand Transport Agency, we have not yet been advised of a date.

NZTA will set a meeting for the SH2 Katikati interim upgrade Reference Group to review the concepts that were provided last year.

There currently is not any funding for implementation. The Council as part of the Annual Plan agreed to fund a review of the bypass to a local road standard. This will occur over the next year.

6.2 Omokoroa Road Construction - State Highway to Railway

The duplicate sewer main running from Omokoroa Road, adjacent to the fire station, to the transfer station is the one remaining construction item.

This work is expected to be undertaken in the coming months as resources become available.

6.3 Maketu Road Proposed Cycle Trail

The Community Workshop provided some good information and all design work is now complete. The Archaeological Authority is underway by WestLink.

Council will be seeking prices from contractors in the next few months.

6.4 Henry Road

The Henry Road footpath with kerb and channel project is nearing completion with the final areas of berm reinstatement currently being undertaken.

6.5 Middlebrook Drive Bus Shelter

The Community Board have requested a bus shelter be constructed on Middlebrook Drive to encourage people to use the park and ride bus service. The concrete slab has now been poured. Awaiting feedback from the bus shelter manufacturer for completion and installation date.

6.6 Wilson Road Pedestrian Diversion and Kerb Extension

This project was on hold after a design fault was identified with the stormwater. Further to onsite discussions with the Community board Chair and Deputy Chair, an alternative buildout concept design has been discussed and presented to WestLink for detailed design and costings.

Westlink staff will be deployed after the school Holidays to complete the works.

6.7 Earl Drive Loading and Parking Restructure

The Earl Drive parking restructure design is now complete and accepted by the Community Board. Westlink are currently notifying the local businesses. Physical works are starting in the forthcoming weeks.

6.8 Wilson Road/Waihi Beach Road Sign Declutter

Numerous advertising and yellow fingerboard signs have been identified as clutter and unnecessary at this roundabout.

There is some discussion with Community Board regarding which signs are not necessary and hence, should be removed. This work will complement the forthcoming vegetation gateway corridor that is also being considered.

6.9 Waihi Beach Road Vegetation Gateway Corridor

Further to numerous efforts to tidy the vegetation at the entrance to Waihi Beach near the Waihi Beach Roundabout, it is proposed that a significant tidy up and overhaul of existing plants will be undertaken. A managed grass berm will form a corridor into the township, which will draw attention to the sea views. This may also include feature Gardens and "Welcome to Waihi Beach" style signs. This project is currently in consultation phase between the Westlink Vegetation Manager and the Waihi Beach Community Board.

6.10 Wilson Road Footpath Bridge

As a result of additional investigations the flat deck bridge option was proposed to the Community Board at the recent Community Board Workshop. The Board indicated that the flat deck bridge option is an ideal choice. The contractor has completed on site investigations. Locating a suitable deck is now underway.

It must be noted that the flat rack bridge may not be consented by Regional Council, hence will be considered a temporary structure.

A further significant consideration due to length restriction of the flat deck bridge and the risk with the associated embankment stability concerns, the flat deck bridge option has been rejected.

Bridge-It NZ have been approached for Bridge design alternatives. The rough order costs for a stand-alone pedestrian bridge including all consultation and design fees is approximately $80k. The design is progressing.

6.11 Maketu Road Culvert Adjacent to Spencer Avenue

Bay of Plenty Regional Council (BoPRC) Resource Consent is required before any works are carried out. The stormwater Consent process is currently under full notification by BoPRC, which will take several months to finalise.