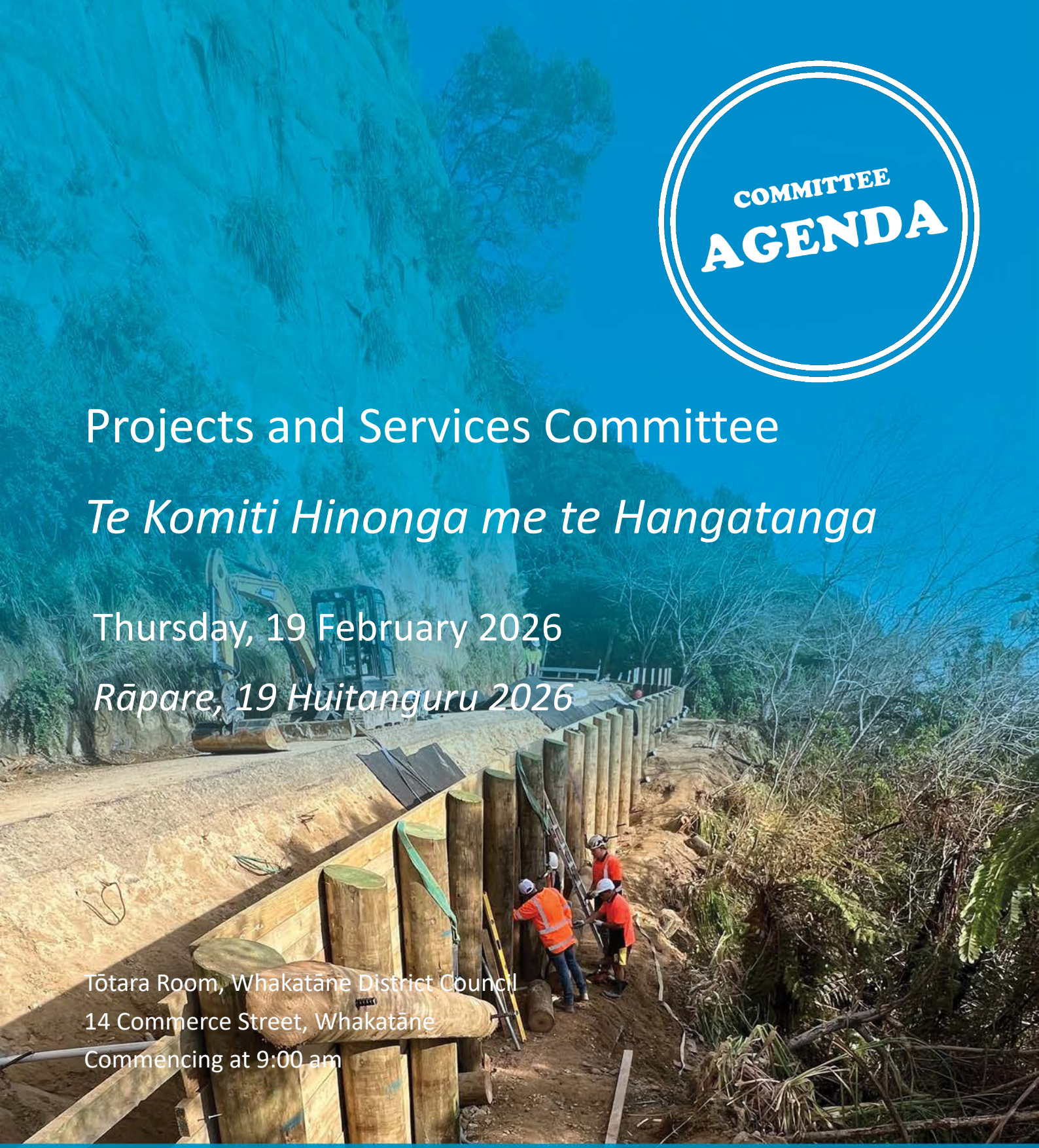
COMMITTEE AGENDA

Projects and Services Committee

Te Komiti Hinonga me te Hangatanga

Thursday, 19 February 2026

Rāpare, 19 Huitanguru 2026



Tōtara Room, Whakatāne District Council
14 Commerce Street, Whakatāne
Commencing at 9:00 am

Chief Executive: Steven Perdia | Publication Date: 13 February 2026

whakatane.govt.nz

WHAKATĀNE District Council
Kia Whakatāne au i ahau

Live Streaming the Meeting - *Ka whakapāho mataora te hui*

PLEASE NOTE
The **public section** of this meeting will be Live Streamed via YouTube in real time. The live stream link will be available via Council's website.
All care will be taken to maintain your privacy however, as a visitor in the public gallery, your presence may be recorded. By remaining in the public gallery, it is understood your consent is given if your image is inadvertently broadcast.
The opinions or statements expressed during a meeting by individuals are their own, and they do not necessarily reflect the views of the Whakatāne District Council. Council thus disclaims any liability with regard to said opinions or statements.

A Membership - *Mematanga*

Mayor Nándor Tánczos

Deputy Mayor Julie Jukes

Councillor Andrew Iles - Chairperson

Councillor Wilson James - Deputy Chairperson

Councillor Toni Boynton

Councillor Gavin Dennis

Councillor Lesley Immink

Councillor Jesse Morgan-Ranui

Councillor Tu O'Brien

Councillor Malcolm Whitaker

Councillor Carolyn Hamill

B Delegations to the Projects and ServicesCommittee - *He Komiti Hinonga me te Hangatanga*

1. Purpose

To oversee the implementation of Council's Infrastructure Strategy, capital works programme and operational service delivery.

To oversee the implementation of Council's community wellbeing strategies, policies and services, and facilities and programmes that enhance and support community health and wellbeing.

2. General Delegations

1. Approve the transfer of expenditure to other estimates within the same activity;
2. Receive correspondence and reports;
3. Make decisions that have the effect of furthering investigations or obtaining information that will assist or enable the Committee to decide on a substantive course of action at a later date;
4. Appoint a sub-committee.

3. Specific Functions and Delegations

a. To oversee the implementation of projects in Council's capital works programme and operational service delivery.

b. Recommend to Council budget requirements for the implementation of capital works and operational delivery.

c. Oversee and review the development of proposals and options related to implementation of associated capital and operational activities.

d. Approval of tenders and contracts that exceed the level of staff delegations.

e. Approve Council submissions to Central Government, Councils and other organisations including submissions to any plan changes or policy statements.

f. Develop and review bylaws (Note: the Council cannot delegate to a Committee to "make" (adopt) a bylaw).

g. Consideration of proposals to change the status or revoke the status of a reserve as defined in the Reserves Act 1977 (including the hearing of submissions and recommendations to Council).

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1 Meeting Notices - *Ngā Pānui o te hui*

1. Live Streaming

The Whakatāne District Council livestreams Council and Standing Committee meetings held in Tōtara Room, within the Council building. The webcast will live stream directly to Council's YouTube channel in real time. The purpose of streaming meetings live is to encourage transparency of Council meetings.

Welcome to members of the public who have joined online and to those within the public gallery.

By remaining in the public gallery, it is understood your consent has been given if your presence is inadvertently broadcast. Please be aware the microphones in Totara Room are sensitive to noise, so please remain quiet throughout the meeting unless asked to speak.

2. Health and Safety

In case of an emergency, please follow the building wardens or make your way to the nearest exit. The meeting point is located at Peace Park on Boon Street.

Bathroom facilities are located opposite the Chambers Foyer entrance (the entrance off Margaret Mahy Court).

3. Other

2 Apologies - *Te hunga kāore i tae*

At the time of compiling the agenda, an apology was received from Councillor Morgan-Ranui.

3 Acknowledgements / Tributes - *Ngā Mihimihi*

An opportunity for members to recognise achievements, to notify of events, or to pay tribute to an occasion of importance.

4 Conflicts of Interest - *Ngākau kōnatunatu*

The Elected Member Register of Interest is available on the Whakatāne District Council website. If you wish to view the information, please click this Register link

Members are reminded of the need to stand aside from decision making when a conflict arises between their role as an elected member and any private or other external interests they might have. Elected Members are also reminded to update their register of interests when changes occur.

Financial Conflict

- Members present must declare any direct or indirect financial interest that they hold in any matter being discussed at the meeting, other than an interest that they hold in common with the public.
- Members cannot take part in the discussion, nor can they vote on any matter in which they have a direct or indirect financial interest, unless with an approved exception.
- Members with a financial interest should physically withdraw themselves from the table. If the meeting is public excluded, members should leave the room.

Non-Financial Conflict

- If a member considers that they have a non-financial conflict of interest in a matter they must not take part in the discussions about that matter or any subsequent vote.
- Members with a non-financial interest must leave the table when the matter is considered but are not required to leave the room.

5 Public Participation- *Wānanga Tūmatanui*

5.1 Public Forum - *Wānanga Tūmatanui*

The Committee has set aside 30 minutes for members of the public to speak in the public forum at the commencement of each meeting. Each speaker during the forum may speak for five minutes. Permission of the Chairperson is required for any person wishing to speak during the public forum.

With the permission of the Chairperson, Elected members may ask questions of speakers. Questions are to be confined to obtaining information or clarification on matters raised by a speaker.

- Ms Georgina Monsill - 100 km/h speed limit on Huna Road

5.2 Deputations - *Nga Whakapuaki Whaitake*

A deputation enables a person, group or organisation to make a presentation to Committee on a matter or matters covered by their terms of reference. Deputations should be approved by the Chairperson, or an official with delegated authority, five working days before the meeting. Deputations may be heard at the commencement of the meeting or at the time that the relevant agenda item is being considered. No more than two speakers can speak on behalf of an organisation's deputation. Speakers can speak for up to 5 minutes, or with the permission of the Chairperson, a longer timeframe may be allocated.

With the permission of the Chairperson, Elected members may ask questions of speakers. Questions are to be confined to obtaining information or clarification on matters raised by the deputation.

6 Reports - *Ngā Pūrongo*

6.1 Amendments to the Register of Parking Restrictions, Prohibitions and Limitations Report

To:	**Projects and Services Committee**
Date:	**Thursday, 19 February2026**
Author:	**W Bryenton – Technical Administration Officer Transportation**
Authoriser:	**D Bewley / GM Planning, Regulatory and Transportation**
Reference:	**A3028327**

1. Reason for the report - *Te Take mō tēnei rīpoata*

This report is presented to the Projects and Services Committee for consideration and approval of amendments and proposed amendments to the Register of Parking Restrictions, Prohibitions and Limitations.

Since the last review in July 2025, there have been two amendments recently actioned prior to approval due to urgency. A new time restricted car park was required due to the newly installed public toilets on Lovelock Street and the installation of broken yellow lines outside Te Kura o Te Teko for health and safety reasons.

In addition to the amendments, we have three proposed amendments for review and approval:

- relocation of the bus stop on Stewart Street from the western side of the maternity clinic driveway to the eastern side which will provide extra carparks.
- A request from the business owners of Ariba to install a parklet outside 80 The Strand.
- A request to install a disability carpark outside the croquet club in Whakatāne.

These proposals and amendments aim to address the current parking needs more effectively and require endorsement by the committee before they can be publicly notified and enforced. This approval process ensures that all modifications are thoroughly reviewed and aligned with the community's best interests.

2. Recommendations - *Tohutohu akiaki*

1. THAT the Projects and Services Committee **receive** the Amendments to the Parking Restrictions, Prohibitions and Limitations Report; and
2. THAT the Projects and Services Committee **approve** the following parking amendments, including the need for the amendments to be publicly notified, as set out in Appendix 1 ‘Register of

Parking Restrictions, Prohibitions and Limitations Schedule of Amendments – February 2026'; and

3. THAT the Projects and Services Committee **notes** that following public notification and once the parking amendments are in place, the Parking Restrictions, Prohibitions and Limitations Register will be updated to reflect these changes.

3. Background - *He tirohanga whakamuri*

The Whakatāne District Council maintains a register of all parking restrictions, prohibitions, and limitations. This register operates as a separate schedule from the Traffic and Speed Limits Bylaw 2018. Amendments can be made through a publicly notified resolution without undergoing a bylaw review process.

Following the last review in July 2025, further reviews have identified two existing parking amendments, two proposed new parking improvements and a request for a parklet. The existing amendments are detailed in Appendix 1 - Schedule of Amendments – February 2026, and Appendix 2 – Map of Amendments. The Proposed parking amendments and parklet request is detailed in Appendix 3 – Map of Proposed New Amendments.

4. Discussion – Kōrerorero

The following is a summary of the existing parking amendments:

4.1. Update Register for the addition of two P10 parking spaces on Lovelock Street outside the new Pak n Save toilet block.

Due to the James Street toilets in Kopeopeo being decommissioned and removed from site, Council has recently installed new accessible toilets on Lovelock Street. The project included the construction of two parallel P10 carparks adjacent to the toilet block, with an accessible ramp.

Reference Appendix 1 – Schedule Item 1.1 Addition of two P10 parallel carparks, Lovelock Street.
Reference Appendix 2 – Schedule Item 2.1 Addition of two P10 parallel carparks, Lovelock Street.

4.2. Update Register for the addition of broken yellow lines outside Te Kura o Te Teko

Te Kura o Te Teko requested the installation of no-parking lines at the school entrance to improve visibility for school vans entering and exiting the site and to provide safety for children, particularly during pick-up and drop-off periods when parking demand and congestion are high. In addition, no-parking lines will be installed at the adjacent pedestrian crossing in accordance with Waka Kotahi best-practice guidance. As both measures were safety-focused and were not expected to result in any adverse effects, these installations have been completed.

Reference Appendix 1 – Schedule Item 1.2 Addition of broken yellow lines on outside Te Kura o Te Teko,
Reference Appendix 2 – Schedule Item 2.2 Addition of broken yellow lines outside Te Kura o Te Teko.

The following is a summary of the proposed new amendments:

4.3. Proposal to relocate bus stop on Stewart Street from the western side of the maternity clinic driveway to the eastern side along with the removal of 25metres of yellow broken lines to create additional carparks.

Relocating the bus stop will provide an additional two carparks near the maternity clinic. Providing additional carparks for minimal cost, where demand is high.

The Transportation Team also propose removing 25m of yellow broken lines further west on Stewart Street to create an additional four (4) carparks. This will create a total of six new carparks (refer appendix 3). Ultimately more parking in this area assists access to hospital services. Consultation with the Whakatāne Hospital and BOP Regional Council has been undertaken.

The proposed amendments better meet the safety and needs of the community and if approved is proposed for installation early 2026.

Refer Appendix 3 – Schedule Item 3.1 Proposed relocation of the bus stop to create two new carparks.
Refer Appendix 3 – Schedule Item 3.2 Removal of broken yellow lines to create four new carparks.

4.4. Proposal to erect a third parklet outside 80 The Strand, Ariba.

The proprietors of the business "Ariba" at 80 The Strand, Whakatāne have requested the installation of a third Parklet, which Council has in storage, to support their business. If approved, a Licence to Occupy Road Reserve Agreement will be established between the proprietors and Council for a fixed term and be reviewed annually (consistent with the two existing parklets). Each parklet takes up the space of two carparks once established.

Feedback has been requested from business owners adjacent to Ariba. To date we have received confirmation of support for the parklet from one of these businesses. No response has been received from another. The third has expressed concerns regarding the proposal and are opposed to losing two carparks, particularly for elderly clients and those with mobility challenges.

The transport team has assessed the effects of this request as minor. While concerns about the loss of carparks adjacent to affected businesses is noted, there is no guarantee that these carparks would be available. The loss of two carparks is not considered significant in the context of the overall number of carparks available in the town centre, including those nearby in Kakaharoa Drive.

The Council originally considered three parklets along the Strand to be appropriate acknowledging the benefit that parklets could bring to the vibrancy of the town centre. It was also acknowledged that this would lead to the overall loss of six carparks in the town centre. One parklet has been in storage for several years, and this application provides an opportunity for the additional parklet to be used.

The parklets are administered through a licence to occupy which is annually reviewed. If negative effects of the parklet become an issue, this can be further considered and mitigated as part of the licence review.

If approved, the costs associated with installation of the parklet will be at the applicant's expense.

Refer Appendix 3 – Schedule Item 3.3 Proposed Parklet outside 80 The Strand.

4.5. Proposal for a new disabled carpark on Short Street outside the Croquet Club.

The Whakatāne Croquet Club has recently installed a disabled toilet on their premises, and following discussions with Council staff, it was agreed for a disabled parking space to be installed near the club and the Whakatāne War Memorial Hall. It is proposed the carpark on the corner of Short Street and Frances Street be utilised as a disabled carpark.

Refer Appendix 3 – Schedule Item 3.5 Proposed disability carpark Short Street, outside the croquet club.

5. Options Analysis - *Ngā Kōwhiringa*

5.1. Option 1 Approve Existing and Proposed Parking Amendments

Recommended option

This option will ensure that the existing amendments can be formally approved, publicly notified and enforceable. These amendments are a result of requests from the public and aim to enhance road safety and optimise parking for the majority of road users.

Advantages	**Disadvantages**
<u>For existing amendments:</u> • Ensures all implemented parking changes are enforceable. • Improve safety and parking efficiency for road users. <u>For proposed amendments:</u> Stewart Street Amendments • Provides an extra six carparks. Short Street accessible car park • Provides additional accessible parking in this area Request for Parklet • Increased vibrancy in the town centre. • Use of the third parklet as originally planned.	• No disadvantages have been identified. • Loss of one standard carpark, in exchange for the accessible park • Loss of 2 parking spaces. • Potential inconvenience to neighbouring business patrons due to lack of parking.

5.2. Option 2 Do not approve or approve some of the Existing Parking Amendments

This option would see only some or none of the existing and proposed amendments approved.

Advantages	Disadvantages
• No advantage.	• Existing amendments are not enforceable and would require removal. • Non approval will negate the improvements to road safety being made through the proposed changes.

5.3. Option 3 Do not approve or approve only some of the Proposed Parking Amendments

This option would see some or none of the proposed amendments approved.

Advantages	Disadvantages
<u>Stewart Street Amendments</u> • Current parking and bus stop to remain as current. <u>Request for Parklet</u> • Parking to remain as current. • No disruption to neighbouring business patrons. <u>Request to install a disability carpark outside croquet club</u> • Carpark to remain as current.	• No new parking spaces. • Parklet to remain in storage. • Limited accessibility for patrons. • Nearest disability carpark is 190m away.

6. Significance and Engagement Assessment - Aromatawai Pahoehoe

6.1. Assessment of Significance

The decisions and matters of this report are assessed to be of low significance, in accordance with the Council's Significance and Engagement Policy. Affected parties have been engaged with.

6.2. Engagement and Community Views

Engagement on proposed amendments has occurred with affected parties.

The Parking Restriction Register is appended to the Whakatāne District Council Traffic and Speed Limits Bylaw 2018, clause 5.1 and 5.4 and is published on the Council's website.

7. Considerations - *Whai Whakaaro*

7.1. Strategic Alignment

All proposed changes align with the Council's strategic direction in the LTP outcomes and priorities and are within the Council and Waka Kotahi's approved standards and rules.

7.2. Legal

The proposed changes are made to the Parking Restriction Prohibitions and Limitations Register; a schedule appended to the Bylaw. The Infrastructure and Planning Committee has the delegation to approve the proposed changes.

7.3. Financial/Budget Considerations

The costs associated with the proposed changes in parking restrictions and the implementation are low and can be completed within existing traffic signs and line marking budgets.

7.4. Climate Change Assessment

There are no significant or notable impacts associated with the matters of this report.

7.5. Risks

There are no significant or notable risks associated with the matters of this report.

8. Next Steps – E whai ake nei

Following approval of the existing and proposed changes to the Parking Register, the proposed amendments will be implemented, and the public will be notified of all changes before any enforcement, as required by Clause 5(1) of the Traffic and Speed Limits Bylaw.

Attached to this Report:

- Appendix 1 - Schedule of Amendments February 2026
- Appendix 2 - Map of Amendments February 2026
- Appendix 3 - Map of Proposed New Amendments February 2026

6.1.1 Appendix 1 – Schedule of Amendments

Whakatāne District Council
Register of Parking Restrictions, Prohibitions and Limitations
Schedule of Amendments: February 2026

1. Amendments

1.1 - Lovelock Street

Remove the following:

Parking Prohibitions	**south** side, , from a point 59 metres east of the eastern kerb alignment of King Street extending east to the western kerb alignment of Soutars Avenue.

Add the following:

Parking Prohibitions	**south** side, from the western kerb alignment of Souters Avenue extending west for a distance of 15metres.
Parking Restrictions P10	**south** side, from a point 15 metres west of the western kerb alignment of Souters Avenue extending west for a distance of 20 metres.
Parking Prohibitions	**south** side, , from a point 35 metres west of the western kerb alignment of Souters Avenue extending west for a distance of 5 metres.

1.2 - Te Teko Road

Add the following:

Parking Prohibitions	**west** side, from a point 78 metres north of the northern kerb alignment of SH30 extending north for a distance of 23 metres.
Parking Prohibitions	**east** side, from a point 102 metres north of the northern kerb alignment of SH30 extending north for a distance of 15 metres.
Parking Prohibitions	**east** side, from a point 134 metres north of the northern kerb alignment of SH30 extending north for a distance of 17 metres.

6.1.2 Appendix 2 - Map of Amendments February 2026

Whakatāne District Council
Register of Parking Restrictions, Prohibitions and Limitations
Maps of Amendments – February 2026

2. Map of new amendments:

2.1
Addition of parking restrictions P10 for the newly erected toilet block on Lovelock Street.

6.1.2 Appendix 2 - Map of Amendments February 2026(Cont.)

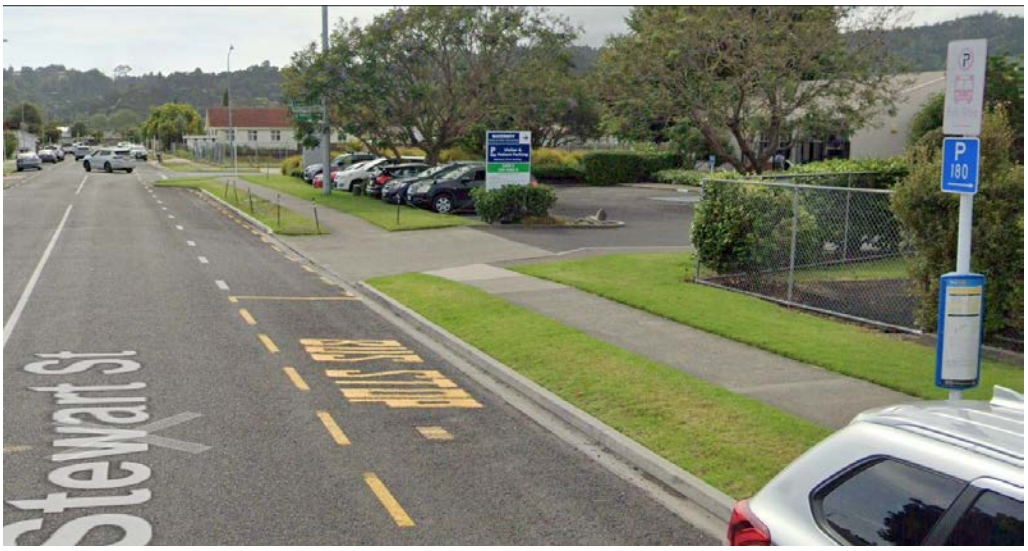
2.2
Addition of broken yellow lines outside Te Kura o Te Teko

6.1.3 Appendix 3 - Maps of proposed new amendments

Whakatāne District Council
Register of Parking Restrictions, Prohibitions and Limitations
Map of Amendments - Proposed New Changes February 2026

3. Map of proposed new amendment:

3.1
Proposed changes to Stewart Street, relocate current Bus Stop from the western side of the maternity clinic to the eastern side.

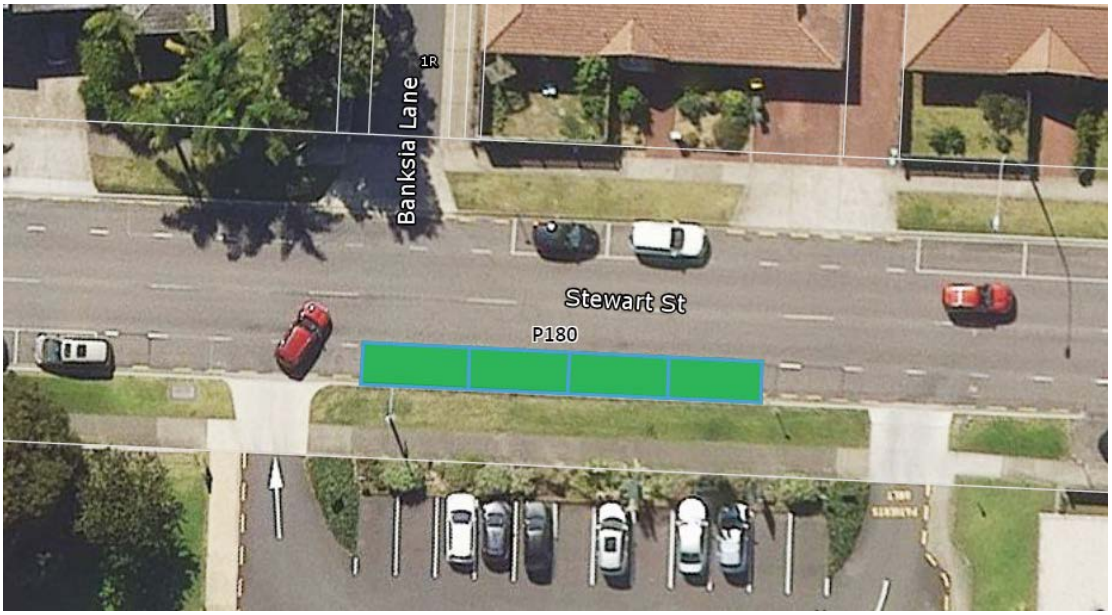


Potential new street parking layout in front of maternity clinic on Stewart Street.

6.1.3 Appendix 3 - Maps of proposed new amendments(Cont.)

3.2
Proposed changes to Stewart Street, removing broken yellow lines, creating additional carparks.

Removing a section of the existing broken yellow lines (above) to create four additional carparks (below).



6.1.3 Appendix 3 - Maps of proposed new amendments(Cont.)

3.3
Proposed Parklet outside 80 The Strand.

3.4
Proposed disability carpark Short Street, outside the croquet club.

6.2 Event Road Closures: Matatā Bike Week, HMNZS Matataua Charter Parade and Light-up Whakatāne

To:	**Projects and Services Committee**
Date:	**Thursday, 19 February 2026**
Author:	**W Bryenton / Technical Administrator Transportation**
Authoriser:	**D Bewley / GM Planning, Regulatory and Transport**
Reference:	**A3028523**

1. Reason for the report - *Te Take mō tēnei rīpoata*

To request approval for three temporary road closures to enable the safe and successful operation of the Matatā Bike Week Event, Royal NZ Navy HMNZS Matataua Charter Parade and the Horizon Trust Light-up Whakatāne Event.

2. Recommendations - *Tohutohu akiaki*

1. **THAT** the Projects and Services Committee **receives** the report titled *Event Road Closures: Bike Week Event, HMNZS Matataua Charter Parade and Light-up Whakatāne*; and
2. **THAT** the Projects and Services Committee **recommend** to the Whakatāne District Council to **approve** the temporary road closures for the events detailed below:

Event number 1:	**Matatā Bike Week**
Road Closure Location:	Arawa Street (east of Warbrick Terrace to west of Division Street)
Date:	Thursday, 9 April 2026 to Sunday, 12 April 2026 (3-day Temporary Road Closure)
Time:	6:00am, Thursday 9 April to 6:00am, Sunday 12 April 2026
Event number 2:	**HMNZS Matataua Charter Parade**
Ceremonial Parade Route for rolling road closure:	Departing from Mataatua Reserve at 10am, onto Muriwai Drive, Muriwai Drive through to The Strand, The Strand through to Boon Street, Boon Street, finishing at Margaret Mahy Court.
Date:	Thursday 23 April 2026
Time:	10:00am to 10:45am
Event number 3:	**Trust Horizon Light-up Whakatāne**

Rolling Road Closure Route for opening night:	Kakahoroa Drive and The Strand (from Kakaharoa Drive Service Lane through to Commerce Street roundabout)
Date:	Saturday, 11 July 2026 (Postponement date – Sunday, 12 July 2026)
Time:	To be confirmed

3. Background - *He tirohanga whakamuri*

Under Schedule 10, Clause 11(e) of the Local Government Act 1974, Council approval is required for temporary road closures for events. The Council may impose conditions and must consult with the Police and the NZ Transport Agency.

The temporary road closures sought in this paper have been assessed by the Transportation Team as unlikely to impede traffic unreasonably for the duration of the events.

4. Discussion – *Kōrerorero*

4.1. Matatā Bike Week

Cindy Signal, owner of the Matatā Hotel, has made an application for a Temporary Road Closure along a portion of Arawa Street, Matatā. This is to enable holding the Matatā Bike Week Event from her Hotel and garden premises, from 6am on Thursday 9 April through to 6:00am Sunday 12 April, 2026. These dates and times include the set up and pack down time for temporary traffic management. The Event is a "Celebration for Bikes" of all types (including motorbikes) and is being held as a fundraiser to support the Matatā Volunteer Emergency Services and the Matatā Community. There will be live music and food stalls. Ticket sales are limited to 1500 tickets. The temporary road closure is to allow a safe area for parking of the bikes and for safe pedestrian movements between the Matatā Hotel and the lagoon area on the opposite side of the road where the food stalls will be stationed.

4.2. HMNZS Matataua Charter Parade

The Royal New Zealand Navy has accepted Whakatāne District Council's invitation to mark the 10th anniversary of the Freedom of the District Charter with a ceremonial parade at 10am on Thursday, 23 April 2026. This is an exciting milestone with HMNZS Matataua exercising the Freedom of the District. The parade will feature up to 100 Navy personnel, including the renowned Navy Band. It will be run with rolling road closure traffic management, which means the roads will be closed from just prior and during the parade, then re-opened once the parade passes through. The route for the parade is:

- Starting location to be Mataatua Reserve,
- Mataatua Reserve onto Muriwai Drive,
- Muriwai Drive through to The Strand,
- The Strand through to Boon Street,
- Boon Street, finishing at Margaret Mahy Court.

4.3. Trust Horizon Light up Whakatāne

The annual Trust Horizon Light up Whakatāne Event is set for Saturday 11 to Saturday 18 July 2026. This annual event is a free event, celebrating light, art and community, drawing thousands of visitors to the CBD across eight nights. Festival opening night on Saturday 11 July will require a rolling temporary road closure for the parade (approx. 20 minutes) and is held in the carpark area behind The Strand shops. The actual time of the rolling closure is yet to be confirmed. Postponement date for the parade and festival is Sunday 12 July.

- The route for the parade is:
- Kakahoroa Drive Carpark onto Kakahoroa Drive,
- Kakahoroa Drive roundabout right onto The Strand,
- The Strand, along the shops and right into Wharaurangi (The Gap),
- Finishing back at the carpark.

Note: There is a chance this parade could be held on another night, and/or follow an alternative route along the riverbank. A decision will be made closer to the event date.

4.4. Event Maps

All events will have appropriate traffic management in place to advise road users of the road closure restricting all public access to the closure area.

For the three-day closure of Arawa Street, appropriate detour routes will be sign posted. The temporary road closures and traffic routes for these events are shown on the maps below.

4.4.1. Matatā Bike Week

Closure on Arawa Road (east of Warbrick Terrace to west of Division Street)

4.4.2. HMNZS Matataua Charter Parade

Rolling Closure Route.

4.4.3. Trust Horizon Light Up Whakatāne

Area displayed in red.

5. Options Analysis - *Ngā Kōwhiringa*

There are two options available:

5.1. Option 1: Approve the three proposed temporary road closures – Recommended option

Advantages	Disadvantages
• Allows all three events to proceed. • These events typically have high levels of attendance. • Events typically bring economic benefit to the district. • Positive outcomes from these event road closure applications, will encourage further event considerations in our district. • The closures have been assessed as unlikely to unreasonably impede traffic.	• Temporarily restricts traffic movements on these sections of road for the duration of the events. • Temporarily inconvenience to residents.

5.2. Option 2: Do not approve all or some of the temporary road closures

Advantages	Disadvantages
• Does not inconvenience residents or visitors.	• The events will not be permitted to proceed as planned. • Deters other event organisers from holding events in our district. • Loss of potential economic benefits that stem from the events. • A risk to Council's reputation and public dissatisfaction.

6. Significance and Engagement Assessment - Aromatawai Pāhekoheko

6.1. Assessment of Significance

The decisions and matters of this report are assessed to be of low significance, in accordance with the Council's Significance and Engagement Policy.

6.2. Engagement and Community Views

Public notices are placed advertising these road closures and the public are encouraged to make submissions. Legislation requires public submissions to be open until 28 days prior to the event, which falls after this Councils recommendation has been made. In the unlikely event we receive a justifiable submission that cannot be resolved directly with the event organiser, a further report will be presented to Council to confirm the decision for the event road closure.

Council staff have consulted with local Police and New Zealand Transport Agency (NZTA) regarding the proposed road closures for these events. The NZ Police has confirmed their support for all three events and NZTA is still to confirm. It is likely we will receive their feedback after the Committee meeting.

6.2.1. Matatā Bike Week

The Matatā Bike Week Event organisers have been working alongside the Matatā Fire Brigade to promote this Event. A Community Meeting was recently held for residents with approximately 35 people in attendance. Minutes of the meeting have been received, with the general consensus of attendees being positive and supportive.

We have received one anonymous complaint that does not support the road closure and event. The concerns were mostly around the alcohol component of the event. **This approval is for the temporary road closure for the event only**. The event organisers will still need to comply with all standard liquor licencing requirements in relation to this event.

Event organisers have engaged with Iwi regarding the use of the reserve area on Arawa Street for a Lagoon bar and have received the Iwi's written support for the Event, subject to Council approval. The area will have security fencing surrounding the event with patrols along the lagoon.

Ticket numbers have been limited to 1500 tickets, and if successful, their intention is to hold the event annually.

6.2.2. HMNZS Matataua Charter Parade

The HMNZS Matataua Charter Parade is promoted by Councils Events Team. The team is regularly updating the community and businesses via Epic and Eastern Bay Chamber of Commerce networks, along with various media and advertising platforms.

The Whakatāne RSA is also actively promoting the event within its community.

6.2.3. Light up Whakatāne

The Light Up Whakatāne event has run successfully over a number of years by Councils Events Team. They work extremely hard to promote this event which brings thousands of visitors into the CBD over the course of the Event.

The Events Team ensures the events they are promoting receive broad coverage and strong engagement across residents, businesses and key stakeholders.

This event has strong support from the community.

7. Considerations - *Whai Whakaaro*

7.1. Strategic Alignment

Approving these temporary road closures, to allow the safe and successful operation of these events, is consistent with Council's Strategic Priority: Enhancing the safety, wellbeing and vibrancy of communities.

7.2. Legal

The power to temporarily close roads for events is provided for in Schedule 10 of the Local Government Act 1974 which states:

Clause 11 – The council may, subject to such conditions as it thinks fit (including the imposition of a reasonable bond), and after consultation with the Police and the NZ Transport Agency, close any road or part of a road to all traffic or any specified type of traffic (including pedestrian traffic) –

> (e) for a period or periods not exceeding in aggregate 31 days in any year for any exhibition, fair, show, market, concert, filmmaking, race or other sporting event, or public function:
>
> provided that no road may be closed for any purpose specified in paragraph (e) if that closure would, in the opinion of the council, be likely to impede traffic unreasonably.

7.3. Financial/Budget Considerations

There is no budget considerations associated with the recommendations of this report. All advertising costs associated with this event, including the publishing of Public Notices, is borne by the event organisers.

7.4. Climate Change Assessment

There are no significant or notable impacts associated with the matters of this report.

7.5. Risks

There are no significant or notable risks associated with the matters of this report.

8. Next Steps – E whai ake nei

If an approval recommendation is received from the Projects and Services Committee, this recommendation will then be passed on to the Council for formal approval.

If formal approval for the Temporary Road Closures is received from the Council for these events, the Transportation Team will work with the event organisers to ensure an appropriate traffic management plan is approved, and necessary public notification is undertaken.

Attached to this Report:

- There are no appendices attached to this report.

6.3 Request for Easement - Horizon Network Cabling Works, Konini Place Reserve, Edgecumbe

To:	**Projects and Services Committee**
Date:	**Thursday, 19 February 2026**
Author:	**K Warren / Reserves Planner**
Authoriser:	**A Pickles / General Manager Community Experience**
Reference:	**A3033698**

1. Reason for the report - *Te Take mō tēnei rīpoata*

The purpose of this report is to provide the Projects and Services Committee with information relating to a request from Horizon Networks to install underground electricity cables across Konini Place Reserve, located at 11 Konini Place, Edgecumbe, and to approve the registration of an easement for this activity.

Figure 1: Location of Konini Place Reserve in Edgecumbe

Figure 2: Konini Place Reserve, shown from the road on google maps

2. Recommendations - *Tohutohu akiaki*

1. THAT the Projects and Services Committee **receive** the report; Request for Easement – Horizon Network Cabling Works, Konini Place Reserve, Edgecumbe; and
2. THAT the Projects and Services Committee **recommend** the Council approve the registration of an easement on the Record of Title for this activity in accordance with Section 48(1) of the Reserves Act 1977, subject to conditions; and
3. THAT the Projects and Services Committee **note** that in accordance with Section 48(2) of the Reserves Act 1977, this activity does not require public notification; and
4. THAT the Projects and Services Committee **recommend** the Council delegate authority to the General Manager Community Experience to sign all documents related to this approval process; and
5. THAT the Projects and Services Committee **recommend** the Council agree to a one-off payment to be made by the applicant for the easement.

3. Background - *He tirohanga whakamuri*

Konini Place Reserve is a neighbourhood reserve within Edgecumbe without any assets or improvements and is classified as a Recreation Reserve.

Horizon Networks are working on a sustainable energy transition project for Fonterra, which includes decommissioning gas turbines and relying on electricity to power the factory. As part of this project, Horizon Networks are proposing to install 33kV underground cables connecting a new substation at 520 Awakeri Road, Edgecumbe and the existing Plains Substation at 94 Hydro Road, as shown in Figure 3. Most of the works will occur within Konini Place road reserve however the cables will traverse Konini Place Reserve for approximately 53m, as shown in Figure 4.

6.3 Request for Easement - Horizon Network Cabling Works, Konini Place Reserve, Edgecumbe(Cont.)

The installation of underground cables through Council reserves is permitted under the Reserves Management Act and requires an easement to be registered on the Record of Title, which can only be granted by the Projects and Services Committee, as staff do not hold delegated authority for this purpose.

There will be temporary effects on the Konini Place Reserve during construction, resulting from the presence of machinery, safety equipment and some earthworks.

Horizon Networks expect to liven the cables by June 2026.

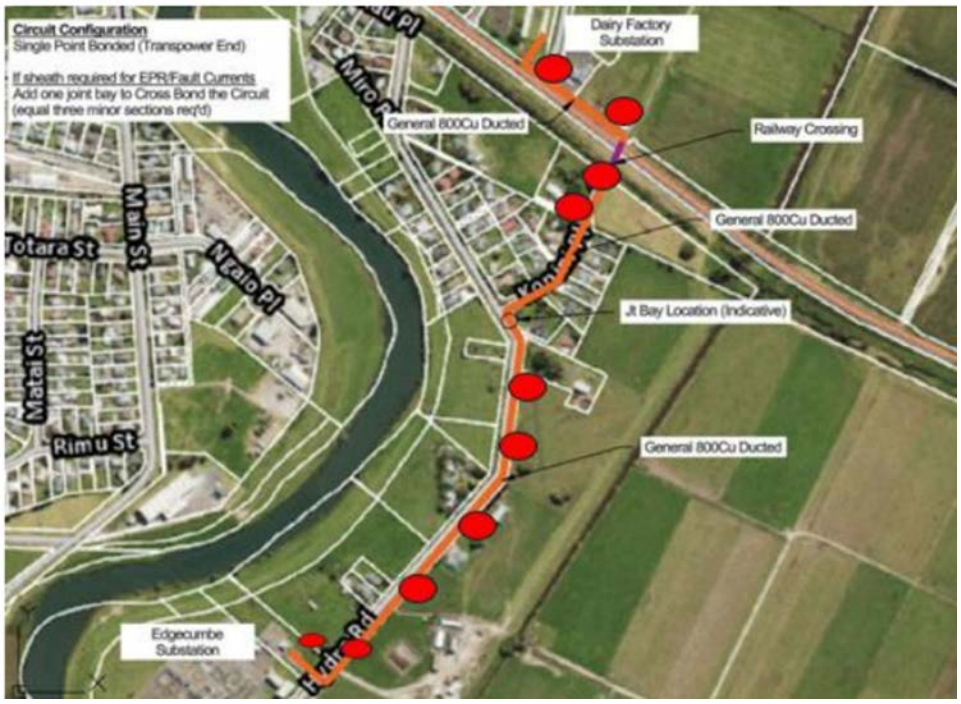


Figure 3: Indicative cable route

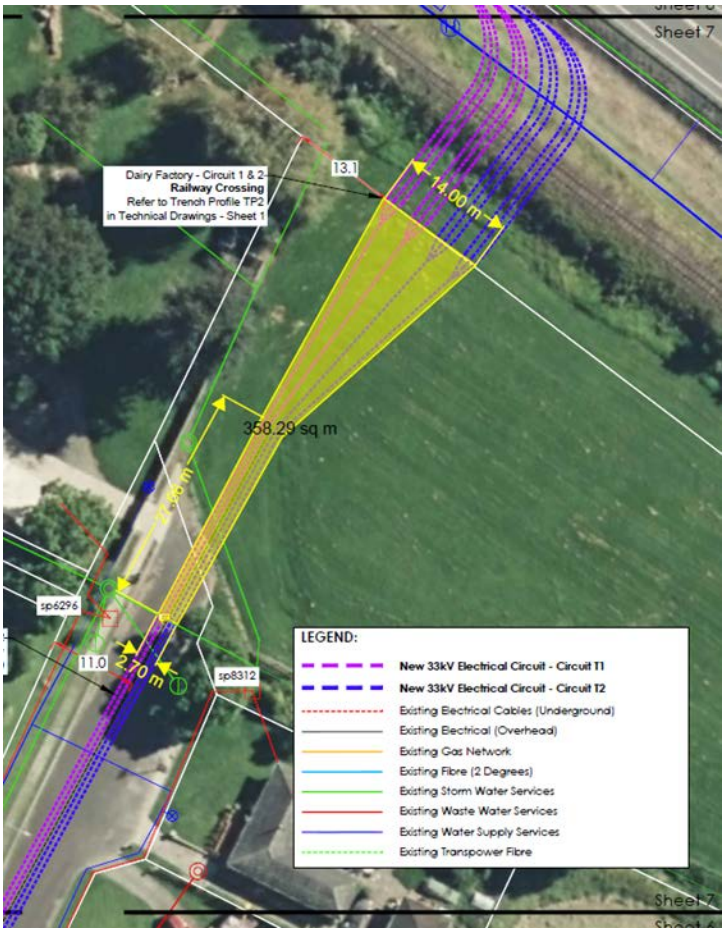


Figure 4: Map showing the proposed cable route within the Konini Place Reserve

4. Discussion – Kōrerorero

4.1. Council Approvals

The following approvals are required from Council to enable this project:

- Written approval to use Council reserve (as landowner) – a completed "Written Approval of Whakatāne District Council when it is Affected as a Landowner" form requiring signoff by the Chief Executive and General Manager Community Experience to allow Horizon Networks to use the reserve for this purpose is attached to this report. This form is also required for the purposes of a resource consent.
- Approval for an easement to be registered on the Record of Title of the reserve with final approval by the Projects and Services Committee.
- Resource consent for earthworks as a discretionary activity under the District Plan.

4.2. Registration of easement on Record of Title subject to conditions

Section 48(1) of the Reserves Act 1977 states that Council's may grant easements over reserves for electrical installation.

Section 48(4) stipulates that the Registrar-General of Land (Land Information New Zealand) must, on the application of the Council, register the instrument granting the right or easement against any Record of Title that may have been issued for the reserve.

The power to grant easements under Section 48 has been delegated to local authorities by the Minister of Conservation pursuant to the 'Instrument of Delegation for Territorial Authorities' dated 2013.

There is no delegation to Whakatāne District Council staff to grant approval for an easement to be registered on the Title of a Council reserve. Therefore, this decision requires approval of the Projects and Services Committee.

The Open Spaces Team, with approval from the Chief Executive and General Manager Community Experience, are amenable with this proposal, with the following conditions agreed between Council and the applicant to mitigate negative effects which may result from this activity:

1. The work must be undertaken lawfully and only after obtaining all requisite resource consents and be fully compliant with all relevant health & safety requirements.
2. An easement must be registered on the Record of Title of the property.
3. The following 'terms of approval' be accepted and adhered to by Horizon Networks:

Terms of Approval

a. A comprehensive Health & Safety Plan will be submitted to Council prior to the works.
b. Safety fencing with safety signs attached will be installed around the work site, including all earthworks, machinery and vehicles, for pedestrian and vehicle safety.
c. Neighbouring residents will be advised in advance of the works.
d. Public access to the reserve shall be provided throughout the duration of works, including vehicle access for Council reserve maintenance.
e. For directional drilling (as described in the application), support truck(s) for drilling fluid mixing and recycling will be set up. Pilot boring following the approved drill profile will be conducted. The required depth and separation from existing utilities will be maintained.
f. Erosion and sediment control measures will be in place to ensure any erosion and sediment run-off during construction is minimised.
g. The Reserve will be reinstated to its original state following the completion of the works including:

i. All machinery, temporary equipment etc. will be removed.
ii. The ground reinstated to a 'pre-works' condition.
iii. Exposed ground will be reseeded with DuraTurf Sports Oval ryegrass seed.
iv. The seeded ground will be watered and cared for by Horizon Networks until such time as the new grass is established.

h. The works will be managed by Horizon Networks to ensure there is no permanent damage to the reserve.
i. Council should be advised of any changes to the proposed timeframe of works as this may affect reserve maintenance.
j. Any future works required for maintenance of the cables shall be discussed with the Whakatāne District Council's Manager Open Spaces Operations prior to works commencing to ensure the

reserve remains safe for public use. Mitigations may be required at this time such as fencing, consultation with neighbours, or reinstatement at the Manager's discretion.

k. Horizon Networks will be charged all actual and reasonable costs of processing this application, including legal fees.

l. Horizon Networks will pay a one-off fee of $4,500 for the use of a public asset, which equates to 50% of the value of the land included in the easement.

4.3. Public notification of intention to register an easement on Council Reserve

Section 48(2) of the Reserves Management Act 1977 stipulates that before granting an easement, Council shall give public notice specifying the easement intended to be granted and should give full consideration to all objections and submissions received in respect of the proposal.

However, Section 48(3) states that public notification is not required in any case where:

a. the reserve is not likely to be materially altered or permanently damaged; and

b. the rights of the public in respect of the reserve are not likely to be permanently affected by the establishment and lawful exercise of the right of way or other easement.

The proposed activity will only materially affect the underground area of a minor section of the reserve. The reserve will be reinstated following completion of the works so that there is no change to the current use of the reserve. The only effects on the public as a result of these works are temporary from earthworks and machinery during installation. This activity will also remove any possibility of future improvements to this section of reserve such as trees, play equipment, seating, buildings or any other development which may penetrate the ground; however, the reserve is of sufficient size to enable future development outside of the proposed easement.

Due to the activity not permanently damaging the reserve, and public use not being excluded, Section 48(3) applies and therefore Public Notification is not required.

4.4. One-off payment to use the reserve

The underground cabling will occupy a small portion of the Konini Place Reserve, with the total area of the works being approximately 358.29m^2. The cabling will likely remain in place for many years. Although there are no current or future plans to use or develop this reserve, allowing underground cabling will remove any possibility of future improvements to the reserve within the area of the easement.

Council has the option to charge the applicant a one-off fee for use of the reserve. There is no Council policy to guide the value of the cost recovery being sought, however a 50% charge of the value of the land included in the easement is proposed which is comparable with payments for previous easements approved by Council. An independent valuer has provided a valuation of $4,500 for 50% of this portion of land.

5. Options Analysis - *Ngā Kōwhiringa*

5.1. Register an easement on the Record of Title for cabling to be laid under the Konini Place Reserve

5.1.1. Option 1 – Approve the registration of an easement on the Record of Title for cabling to be laid under the Konini Place Reserve, subject to conditions – Recommended option

Advantages	Disadvantages
• Align with Council's climate pathway to prioritise transition to low emissions and to reduce Whakatāne District emissions • Enable Fonterra to power their factory with electricity instead of gas via their proposed cabling route	• The area within the easement cannot be developed with trees, play equipment, seating, structures or any other development in future which may penetrate the ground or restrict cable maintenance

5.1.2. Option 2 – Reject the registration of an easement on the Record of Title for cabling to be laid under the Konini Place Reserve, subject to conditions

Advantages	Disadvantages
• Reserve will remain with its current use • Enables potential to develop the entire reserve for recreational use in the future	• Inconsistent with Council's climate pathway to prioritise transition to low emission and to reduce Whakatāne District emissions • Horizon Networks will need to change the cable route to a less acceptable, potentially more costly option • Fonterra may be unable to convert their power supply from gas to electricity

5.2. Require a one-off compensation payment to be made by the applicant

5.2.1. Option 1 – Require a one-off cost recovery of $4,500 for use of the land to be made by the applicant– Recommended option

Advantages	Disadvantages
• Council receives a payment of $4,500 for enabling this activity.	• Additional cost for Horizon Networks • Could be perceived as a disincentive to transition to low emission.

5.2.2. Option 2 –Require an alternative value one-off compensation payment to be made by the applicant

The Projects and Services Committee may decide to seek an alternative value as a one-off compensation.

Advantages	Disadvantages
• Enables the Committee to determine what compensation is fair • Council receives funding for enabling this activity	• The applicant may be forced to change plans if the compensation payment required is too expensive • Could be perceived as a disincentive to transition to low emission.

5.2.3. Option 3 –Do not require a one-off compensation payment to be made by the applicant

Advantages	Disadvantages
• Incentive to transition to low emissions and act on climate change.	• No financial benefit for Council or the public

6. Significance and Engagement Assessment - Aromatawai Pāhekoheko

6.1. Assessment of Significance

The decisions and matters of this specific report are assessed to be of low significance in accordance with the Council's Significance and Engagement Policy.

Significance Criteria	Comments	Impact Assessment
Level of community interest: Expected level of community interest, opposition or controversy involved.	The neighbouring residents may be interested in the use of the reserve for cabling.	Low
Level of impact on current and future wellbeing: Expected level of adverse impact on the current and future wellbeing of our communities or District.	Future use of the reserve in this area will be restricted to only grassed or low gardens in the cabling area.	Low
Rating impact: Expected costs to the community, or sectors of the community, in terms of rates.	Nil	Low
Financial impact: Expected financial impact on the Council, including on budgets, reserves, debt levels, overall rates, and limits in the Financial Strategy.	Small financial contribution if a one-off payment is required	Low
Reversibility: Expected level of difficulty to reverse the proposal or decision, once committed to.	Unlikely to be reversible once an easement is granted	High

Significance Criteria	Comments	Impact Assessment
Impact on Māori: Expected level of impact on Māori, considering the relationship of Māori and their culture and traditions with their ancestral land, water, sites, wāhi tapu, valued flora and fauna, and other taonga.	The overall climate benefit from changing Fonterra's power from gas to electricity aligns with Māori worldview.	Low
Impact on levels of service: Expected degree to which the Council's levels of service will be impacted.	Nil	Low
Impact on strategic assets: Expected impact on the performance or intended performance of the Council's Strategic Assets, for the purpose for which they are held.	The Konini Place Reserve will have no visible change in use as a result of granting the easement, however any future use of the land within the easement will be limited.	Moderate

7. Considerations - *Whai Whakaaro*

7.1. Strategic Alignment

No inconsistencies with any of the Council's policies or plans have been identified in relation to this report.

7.2. Legal

Section 48(1) of the Reserves Act 1977 states that Council's may grant easements over reserves for electrical installation.

An easement will need to be prepared by a lawyer and registered on the Record of Title of the property at 11 Konini Place through Land Information New Zealand.

7.3. Financial/Budget Considerations

There are no budget considerations associated with the recommendations of this report. All fees associated with registering the easement on the Record of Title will be charged to the applicant.

7.4. Climate Change Assessment

The overall goal of this project is for Horizon Networks to undertake a sustainable energy transition for Fonterra's power source from gas to electricity which will provide significant climate change improvements by substantially reducing greenhouse gas emissions. Council will be enabling this climate change initiative if the proposed easement is granted. This recommended option is aligning with Council's climate change pathway.

7.5. Risks

There are no significant or notable risks associated with the matters of this report.

8. Next Steps – E whai ake nei

If approved, an easement will be drafted by a lawyer and registered on the Record of Title for the property through Land Information New Zealand.

Attached to this Report:

- Appendix 1 - Signed "Written Approval of Whakatāne District Council when it is Affected as a Landowner" form with attached application and drawings.

6.3.1 Appendix 1 - Signed "Written Approval of Whakatāne District Council when it is Affected as a Landowner" form with attached application and drawings

6.3.1 Appendix 1 - Signed "Written Approval of Whakatāne District Council when it is Affected as a Landowner" form with attached application and drawings(Cont.)

WHAKATĀNE District Council
Kia Whakatāne au i ahau

WRITTEN APPROVAL OF WHAKATĀNE DISTRICT COUNCIL WHEN IT IS AFFECTED AS A LANDOWNER

APPROVAL OF THE WHAKATĀNE DISTRICT COUNCIL AS A LANDOWNER AFFECTED BY AN ACTIVITY

The Whakatāne District Council ("the Council") is the owner of the property at 11 Konini Place, Edgecumbe

Written approval is granted for Horizon Networks to use the Konini Place Reserve for cabling as described in the application form, email correspondence with Council and subject to the conditions listed below:

1. The work must be undertaken lawfully and only after obtaining all requisite resource consents and be fully compliant with all relevant health & safety requirements;
2. An easement must be registered on the Record of Title of the property,
3. The following 'terms of approval' be accepted and adhered to by Horizon Networks:

Terms of Approval

(a) A comprehensive Health & Safety Plan will be submitted to Council prior to the works;

(b) Safety fencing with safety signs attached will be installed around the work site, including all earthworks, machinery and vehicles, for pedestrian and vehicle safety;

(c) Neighbouring residents will be advised in advance of the works;

(d) Public access to the reserve shall be provided throughout the duration of works, including vehicle access for Council reserve maintenance;

(e) For directional drilling (as described in the application), support truck(s) for drilling fluid mixing and recycling will be set up. Pilot boring following the approved drill profile will be conducted. The required depth and separation from existing utilities will be maintained.

(f) Erosion and sediment control measures will be in place to ensure any erosion and sediment run-off during construction is minimised.

(g) The Reserve will be reinstated to its original state following the completion of the works including:

i) All machinery, temporary equipment etc. will be removed;

ii) The ground reinstated to a 'pre-works' condition;

iii) Exposed ground will be reseeded with DuraTurf Sports Oval ryegrass seed;

iv) The seeded ground will be watered and cared for by Horizon Networks until such time as the new grass is established.

(h) The works will be managed by Horizon Networks to ensure there is no permanent damage to the reserve.

(i) Council should be advised of any changes to the proposed timeframe of works as this may affect reserve maintenance.

(j) Any future works required for maintenance of the cables shall be discussed with the Whakatāne District Council's Manager Open Spaces Operations prior to works commencing to ensure the reserve remains safe for public use. Mitigations may be required at this time such as fencing, consultation with neighbours, or reinstatement at the Manager's discretion.

(k) Horizon Networks will be charged all actual and reasonable costs of processing this application, including legal fees.

6.3.1 Appendix 1 - Signed "Written Approval of Whakatāne District Council when it is Affected as a Landowner" form with attached application and drawings(Cont.)

PART B: AGREEMENT AND SIGNATUTORY

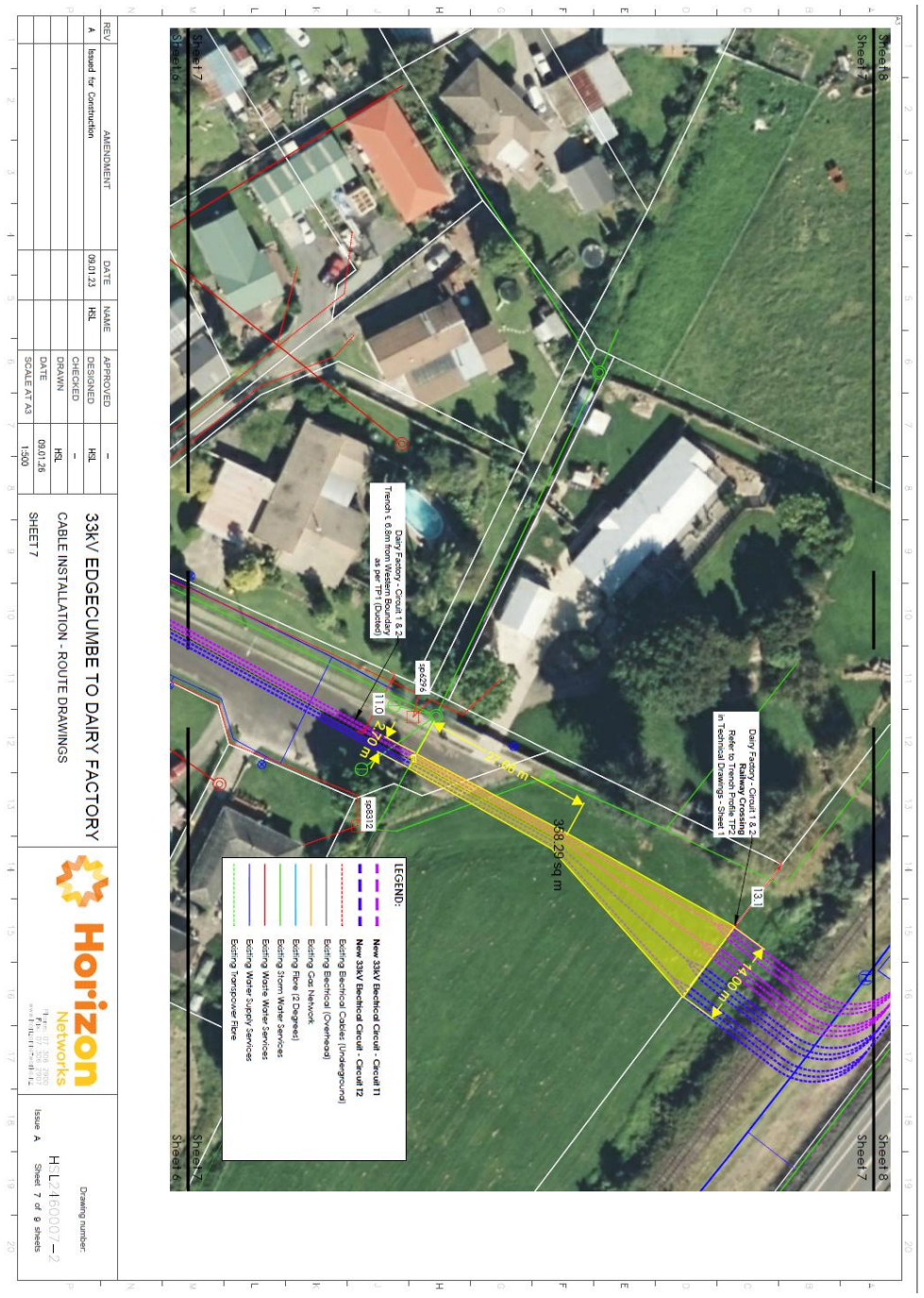
2. I have seen a copy of the application and the supporting information, including plans and the assessment of environmental effects (attached in Part C below).
3. I have signed a copy of the site plan (attached in Part C below).
4. I agree to the Whakatāne District Council giving written approval as a landowner for Horizon Networks to use the Konini Place Reserve for cabling as described in the application form and subject to the conditions listed above.
5. Approval is given by the Whakatāne District Council in its capacity as a landowner. This approval is under no circumstance to be construed as approval from the Council in its capacity as a regulatory authority where due process has to be followed as required by the Resource Management Act 1991 in considering Resource Consent applications.
6. This approval can be withdrawn by the Whakatāne District Council prior to an easement being placed on the Record of Title. If approval is withdrawn after any compensation has been paid, this will be reimbursed to the applicant.

Signed: Ian Molony Manager Open Spaces Operations	Date: 11-02-2026 | 2:32 PM NZDT
Signed: Alexandra Pickles General Manager Community Services	Date: 12-02-2026 | 9:13 AM NZDT
Signed: Steven Perdia Chief Executive	Date: 12-02-2026 | 1:27 PM NZDT

Address all correspondence to:
Post: Chief Executive, Whakatāne District Council Private Bag 1002, Whakatāne 3158
Phone: 07 306 0500
Email: WDC.customerservices@whakatane.govt.nz

6.3.1 Appendix 1 - Signed "Written Approval of Whakatāne District Council when it is Affected as a Landowner" form with attached application and drawings(Cont.)

PART C: APPLICATION FORM



6.3.1 Appendix 1 - Signed "Written Approval of Whakatāne District Council when it is Affected as a Landowner" form with attached application and drawings(Cont.)

WHAKATĀNE District Council

RESOURCE CONSENT - WRITTEN APPROVAL OF WHAKATĀNE DISTRICT COUNCIL WHEN IT IS AFFECTED AS A LANDOWNER

Written approval of the Council when the Council is likely to be affected as a landowner by the granting of a Resource Consent

PART A : APPROVAL OF THE WHAKATĀNE DISTRICT COUNCIL AS A LANDOWNER AFFECTED BY A RESOURCE CONSENT APPLICATION

The Whakatāne District Council ("the Council") is the owner of the property at 11 Konini Place, Edgecumbe

This is written approval for the proposed activity that is the subject of a resource consent application at
[address of proposal] 11 Konini Place, Edgecumbe
from [applicant] Horizon Networks

1. I have seen a copy of the application described in Part B below, and the supporting information, including plans and the assessment of environmental effects;
2. I have signed a copy of the site plan or other relevant plan which is attached to this form;
3. I agree to the Council giving this written approval as a landowner likely to be affected by the granting of a Resource Consent
4. Approval is given by the Council in its capacity as a landowner and only in regard to the matter in which the applicant sought the Council's approval as an affected landowner. This approval is under no circumstance to be construed as approval from the Council in its capacity as a regulatory authority where due process has to be followed as required by the Resource Management act 1991 in considering Resource Consent applications.
5. I understand that the Council (in its regulatory capacity) will not have regard to any actual or potential effect of the activity on the Council as a landowner when considering the application, and the fact that any such effect may occur shall not be relevant grounds upon which the Council (in its regulatory capacity) may decline to grant the application.
6. This approval can be withdrawn by notice in writing from the Council (in its regulatory capacity) at any time before the date of the hearing (if any) or the determination of the application.

Signed:	Date:
Chief Executive Officer	

PART B : APPLICANT DETAILS

Name of applicant *(please provide full name)* Horizon Services / Horizon Networks

Contact phone number(s)	0275348093
Electronic address for service	52 Commerce Street, Whakatāne

The full legal address of property *(the subject of the resource consent application)* is
11 Konini Place, Edgecumbe

The legal description of the property is
Lot 26 Deposited Plan South Auckland 19321

I have applied to *(give full detail of the proposed activity)*
For installation of 33kV electricity cables within the Konini Place Reserve

Address all correspondence to :
Chief Executive, Whakatāne District Council, Private Bag 1002, Whakatane 3158 | Phone 07 306 0500 | Email planning@whakatane.govt.nz | Fax 07 307 0718

6.3.1 Appendix 1 - Signed "Written Approval of Whakatāne District Council when it is Affected as a Landowner" form with attached application and drawings(Cont.)

Align

Bringing places and communities to life.

To:	Whakatāne District Council
From:	Align Limited, on behalf of Horizon Networks
Job No.	HN001
Date:	15 October 2025
Subject:	Application for landowner approval – Konini Place Reserve

Application for landowner approval

Horizon Services, for Horizon Networks is seeking landowner approval from the Whakatāne District Council to install electricity cables within the Council park located at 11 Konini Place, Edgecumbe.

1.0 Applicant and contractor details

Applicant details	
Applicant	Horizon Services for Horizon Networks
Contact Name	John Perrott (Horizon Services)
Address	52 Commerce Street, Whakatāne
DDI	0275348093
Email	john.perrott@horizonservices.nz
Contractor details	
Name	TBC
Address	TBC
Mobile	TBC
Email	TBC

2.0 Site details

Park name:	Konini Place Reserve
Park address	11 Konini Place, Edgecumbe
Legal description	Lot 26 Deposited Plan South Auckland 19321
Lease number	N/A

A1207520

6.3.1 Appendix 1 - Signed "Written Approval of Whakatāne District Council when it is Affected as a Landowner" form with attached application and drawings(Cont.)

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Expiry date	N/A
Previous application/s	N/A

3.0 General application details

This application is for:

- Installing a private utility or service over or on the park.
- Requesting an easement in principle or right of way on a park.

4.0 Project details

4.1 Project description

Works proposed

Horizon Networks is working on a decarbonization project for Fonterra, which involves turning off gas turbines and relying on electricity to power the factory. As part of this project, Horizon Networks is proposing to install 33kV cables connecting a new substation at 520 Awakeri Road, Edgecumbe and the existing Plains Substation at 94 Hydro Road. There are currently two options for design. Option 1 is directional drilling the entire project, and Option 2 is open-cut trenching. The cable route is the same for both options. Please refer to Figure 1 below for the indicative route of the proposed cables.

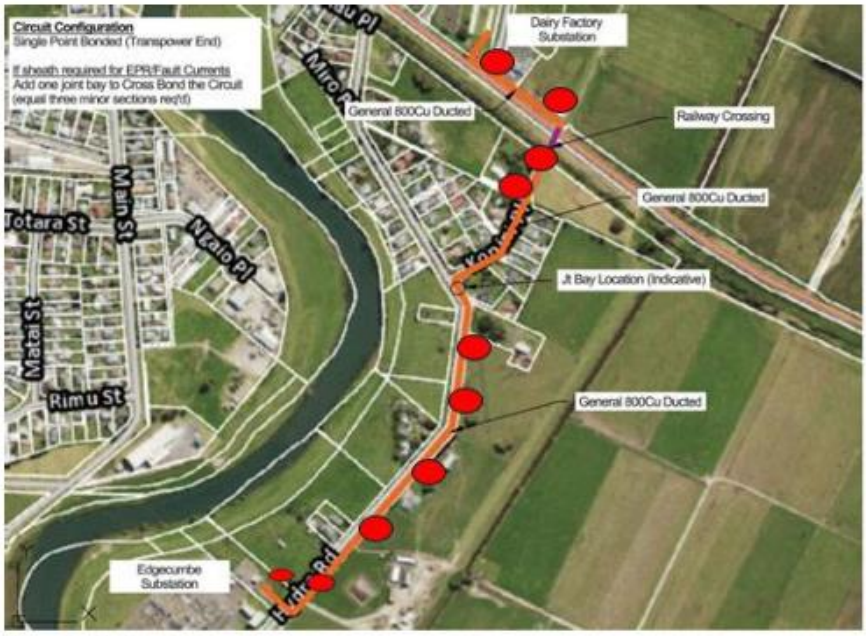

Figure 1: Indicative cable route.

6.3.1 Appendix 1 - Signed "Written Approval of Whakatāne District Council when it is Affected as a Landowner" form with attached application and drawings(Cont.)

Align

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Most of the works will occur within the road reserve. The cables will be traversing across the Konini Place Reserve for approximately **53m**.

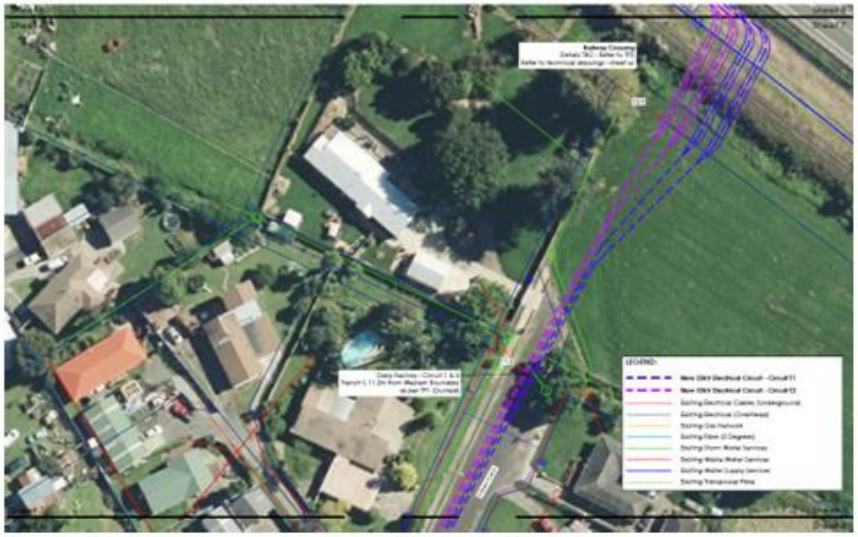

Figure 2 – Map showing the proposed cable route within the Konini Place Reserve.

Option 1- Open-cut Trenching

A detailed methodology for Option 1 - Open-cut Trenching is provided in Attachment 1. In summary, the open trench would be 1.0-1.2m wide and 1.2 to 3.0m wide. The excavation will be carried out by a 12–20t excavator. The trench will be backfilled once the cables have been laid.

Option 2 - Directional Drilling

A detailed methodology for Option 2 – Directional Drilling is provided in Attachment 2. In summary, entry and exit pits will be installed at 180m intervals for the entire 1,150m route.

The cables will require an easement. An application for a legal easement will follow any approval given in principle, but will not form part of this application.

At this stage, open-cut trenching is the more likely option, subject to thermal resistance testing. However, the Applicant wishes to apply for both options.

4.2 Alternative options and considerations

This route has been chosen as it is the most direct route with the least amount of engineering challenges and disruption to the general public. Engineering challenges include "Thermal Resistivity".

4.3 Impact to the reserves and the public

The cabling works will not occur within close proximity to any trees within the Konini Place Reserve. There is an open drain directly west of the cable route. It has been confirmed by Bay of Plenty Regional Council that this is not a stream.The disruption to the use of the park will

6.3.1 Appendix 1 - Signed "Written Approval of Whakatāne District Council when it is Affected as a Landowner" form with attached application and drawings(Cont.)

Align

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be for a short duration. The park does not appear to be be highly utilised. Therefore, it is anticipated that the works will not cause unacceptable disruption and any disruption will be temporary. Warning signs and physical barricades will be installed for pedestrian and vehicle safety and residents advised in advance of the works. Existing services will be located and marked on plans. They will also be marked on the surface with paint and trail holed where possible. Where the cables cross any existing services, the owners of these assets will be contained and notified.

There will be temporary visual effects on the parks during construction, resulting from the presence of machinery, safety equipment, open trenches (if this option is selected), etc. The work areas in this regard will return to their original state following the completion of the works, with all machinery, temporary equipment, etc. to be removed and the ground surface re-grassed/stabilised.

As the cables will be located underground, there will be no permanent impact on the use, function or visual effects on the park. The works will be managed to ensure there is no permanent damage to the park.

The works do not require resource consent and are permitted activities under the Whakatāne District Plan. Underground cables for conveying electricity at a voltage up to and including 110kV are permitted under the District Plan. Konini Place Reserve is not a public reserve under the Reserves Act 1977, which means that there are no specific thresholds for earthworks within the Konini Place Reserve under the District Plan. Aspects of the wider project require resource consent e.g. the new substation at 520 Awakeri Road and this consent will be lodged within the next month. The Applicant will also lodge a Deed of Grant with Kwiirail to drill under the railway.

Regional consents may be required from the Bay of Plenty Regional Council and will be obtained if required.

4.4 Proposed mitigation

- For both cabling options, warning signs and physical barricades for pedestrian and vehicle safety.
- For both cabling options, erosion and sediment control measures will be in place to ensure any erosion and sediment run-off during construction is minimised.
- For both options, broadcast grass seed or hydroseeding will be applied to restore vegetation cover.
- For Option 1, side support (shoring) will be proposed for trench depths more than 1.0m or in loose soil conditions.
- For Option 2, support truck(s) for drilling fluid mixing and recycling will be set up. Pilot boring following the approved drill profile will be conducted. The required depth and separation from existing utilities will be maintained.

4.5 Timing of overall works

- Proposed physical works start date (approx.): 21/012026.
- Proposed physical works end date: (approx.) 07/05/2026.

The cable is required to be live by 30 June 2026.

6.3.1 Appendix 1 - Signed "Written Approval of Whakatāne District Council when it is Affected as a Landowner" form with attached application and drawings(Cont.)

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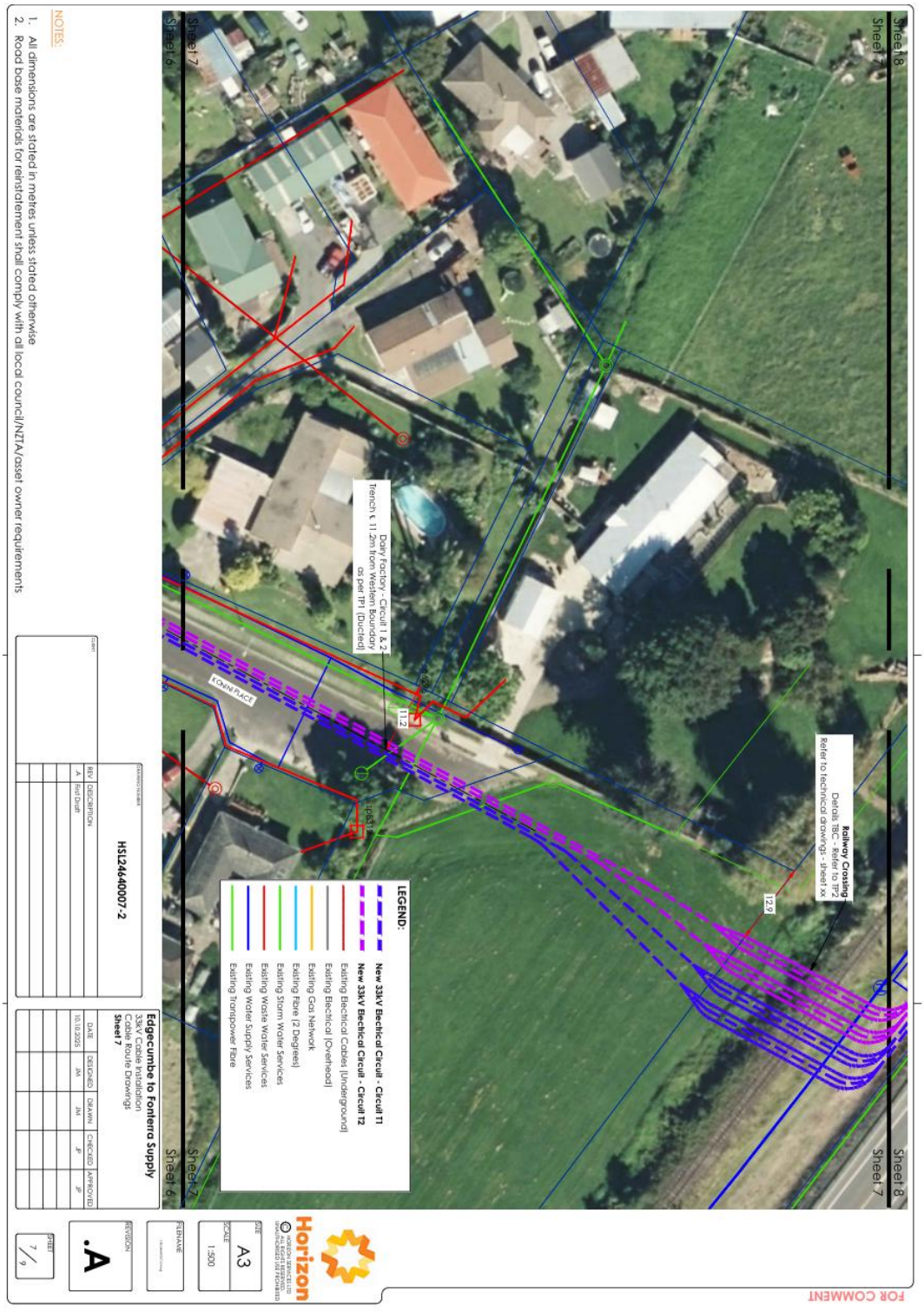
Conclusion

The works proposed within the reserves are necessary, and any effects associated with access, health and safety, park trees, and visual amenity are expected to be minimal and acceptable.

Appendices

Attachment A:	Methodology for Open-cut Trenching
Attachment B:	Methodology for Directional Drilling
Attachment C:	Cable Route Plans
Attachment D:	Open-cut Trenching Drawings
Attachment E:	Directional Drilling Drawings
Attachment F:	Written Approval Form

6.3.1 Appendix 1 - Signed "Written Approval of Whakatāne District Council when it is Affected as a Landowner" form with attached application and drawings(Cont.)



6.3.1 Appendix 1 - Signed "Written Approval of Whakatāne District Council when it is Affected as a Landowner" form with attached application and drawings(Cont.)

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17 December 2025

Kayla Warren
Reserves Planner
Whakatāne District Council

By email

RESPONSE TO QUERIES AND COMMENTS RELATING TO THE LANDOWNER APPROVAL APPLICATION FOR WORKS WITHIN THE KONINI PLACE RESERVE AT 11 KONINI PLACE, EDGECUMBE

Dear Kayla

Please find below responses to your comments and queries dated 19 November 2025, 27 November 2025 and 04 December 2025. We would like to confirm that Horizon Networks have decided on the methodology for the installation of the cables and is now applying for landowner approval for Option 2- Directional Drilling.

Response to queries received on 19 November 2025

- Will the work site be fenced to ensure the public is excluded from the works site with associated signage?

  Response: Yes, warning signs and physical barricades will be installed to inform the public of the works and exclude public from the works site

- Will there be machinery parked on the reserve during the works?

  Response: Yes there will be machinery parked on the reserve during the installation of the cables but the machinery will not be stored within the reserve when it is not in operation.

- Will the reserve be reinstated to a flat contour and seeded with oval turf after works are complete? Will any damage to the reserve be repaired?

  Response: Yes, the reserve will be reinstated to a flat contour and seeded with turf after works are completed. Any damage to the reserve will be repaired.

- How long will the works occupy the reserve for?

6.3.1 Appendix 1 - Signed "Written Approval of Whakatāne District Council when it is Affected as a Landowner" form with attached application and drawings(Cont.)

Response: The works within the reserve will be approximately one month.

- There will need to be access for the Council mower to get into the reserve at all times.

Response: This can be achieved.

Conditions of Landowner Approval

We understand from your email dated 04 December 2025 and our meeting on 11 December 2025 that the Konini Place Reserve is a reserve under the Reserves Act, therefore Section 48 of the Reserves Act 1977 applies, where Council must provide an easement for the cabling and have this registered on the title. The provision of easements through a reserve requires the approval of Council by way of Council resolution. The application may be approved or declined or subject to conditions. You will be recommending the following conditions

- Fencing to be installed for pedestrian and vehicle safety around the work site, including all earthwork, machinery and vehicles, with safety signs attached;
- Residents to be advised in advance of the works;
- Public access to the reserve shall be provided throughout the during of works, including vehicle access for Council mowers and reserve maintenance vehicles.
- For Option 1 (Open cut trenching as described in the application), side support (shoring) will be provided for trench depths more than 1.0m, or in loose soil conditions.
- For Option 2 (directional drilling as described in the application), support truck(s) for drilling fluid mixing and recycling will be set up. Pilot boring following the approved drill profile will be conducted. The required depth and separation from existing utilities will be maintained.
- For both cabling options, erosion and sediment control measures will be in place to ensure any erosion and sediment run-off during construction is minimised.
- For both options, the work areas will return to their original state following the completion of the works including:
  - All machinery, temporary equipment, etc. will be removed;
  - The ground recontoured to a 'pre-works' condition;
  - The ground will be reseeded with turf oval grass seed; and
  - The ground will be watered and cared for by Horizon Networks until such time as the new grass is mature.
- The works will be managed by Horizon Networks to ensure there is no permanent damage to the reserve.
- Council should be advised of any changes to the proposed timeframe of works as this may affect Councils reserve maintenance crew.
- Any future works required for maintenance of the cables shall be discussed with the Manager of Open Spaces Operations prior to works to ensure the reserve remains safe for public use. Mitigations may be required at this time such as fencing, consultation with neighbours, or reseeding at the Managers discretion.
- Horizon Networks will be charged all actual and reasonable costs of processing this application, including legal fees.
- A one-off compensation may be charged for the use of the reserve of (to be decided by Council).

6.3.1 Appendix 1 - Signed "Written Approval of Whakatāne District Council when it is Affected as a Landowner" form with attached application and drawings(Cont.)

Horizon Networks accepts the recommended conditions. Horizon Networks and their property consultants, Align Limited wish to discuss the proposed easement compensation value.

Please proceed with putting the proposal forward to Council. Please note that the works are associated with a critical infrastructure that is scheduled to go live in June 2026. The works are planned to commence in January 2026. It is important that the proposal is presented to the Council at the next available meeting.

Resource Consent

In your email dated 27 November 2025 and 04 December 2025 as well as in our meeting on 11 December 2025, you have questioned whether a resource consent will be required. We have undertaken an assessment and concluded that the works (installation of cables using the directional drilling method) within the Konini Place Reserve do not require a district consent. For completeness, we have provided a detailed assessment in the table below:

Rule / Standard		Status / complies
NU – Network Utilities		
NU-R4 **Electrical lines underground** **in** **Community and Cultural, Rural Coastal, Rural Ōhiwa, Rural Production, General Rural, General Residential, Medium Density Residential, Mixed Use, Town Centre, Commercial, Light Industrial, General Industrial, Open Space Zones**	Electrical lines for conveying electricity, including support poles at a voltage up to and including 110kv and associated telecommunications lines; and aerials up to 1 metre high: a) new or extension of underground lines.	**Permitted Activity** The proposed underground cables are for the conveyance of electricity, and they have a voltage of 33kV.
EW – Earthworks		
EW-R1 **Permitted standards for earthworks** **for** **All zones**	a) soil shall not, as practicable, be windblown from the site or taken from the site inadvertently on vehicle tyres or by other activity on-site. Where there is a risk of dust nuisance extending beyond the property boundary a form of dust suppression shall be available on-site at all times that earthworks are being	Will comply

6.3.1 Appendix 1 - Signed "Written Approval of Whakatāne District Council when it is Affected as a Landowner" form with attached application and drawings(Cont.)

	undertaken, and until such time as site restoration has occurred or a structure has been constructed over the area of the earthworks; b) all cut faces shall be battered to a grade that is self-supporting or retained to avoid instability of land behind the cut; c) the land shall be restored and this shall be completed within the first growing season after earthworks. Topsoil shall, as far as practicable, be retained on-site for use in restoring the land after earthworks. Topsoil shall be removed from both cut-and-fill areas before excavation and/or construction of embankments and restored to bare soil areas after completion of the works. Provided that this provision shall not apply if the purpose of the earthworks to create an access track or the area will be covered in an impermeable surface; d) only clean fill shall be used for the preparation of a building platform; e) stormwater discharge from the site shall not increase or disrupt existing overland flow paths; and f) measures to control stormwater and sediment during works shall be designed and constructed in such a way as to minimise soil erosion, dust, and sediment discharge. Compliance with NZS 4404:2010 is one means of meeting this rule.	

6.3.1 Appendix 1 - Signed "Written Approval of Whakatāne District Council when it is Affected as a Landowner" form with attached application and drawings(Cont.)

EW-R2 **Earthworks and land modification** **in** **General Residential, Medium Density Residential, Mixed Use, Town Centre, Commercial, Large Format Retail, and Education Zones** **General Industrial or Light Industrial Zoned sites that adjoin a General Residential, Medium Density Residential Zone or a marae** **Public reserves (that are not provided for under a management plan under the Reserves Act 1977)**	Earthworks undertaken within any 12 month period: a) do not exceed 350m2 in area; b) do not exceed 150m3 in volume; c) do not occur on slopes with a gradient steeper than 1 vertical:1.5 horizontal (35 degrees from horizontal); and d) do not encroach below or above the ground level of an adjoining site at a gradient steeper than 1 vertical:1.5 horizontal (35 degrees from horizontal) measured from the common boundary. Activity status where compliance not achieved: RDIS	**Permitted Activity** Compliance with EW-R2 can be achieved. The duration of work within the Konini Place Reserve will be approximately one month. The directional drilling method will require minimal earthworks. The earthworks required within the reserve would be approximately 68m^2 and 12m^3. The Konini Place Reserve is relatively flat. The works will not occur on slopes with a gradient steeper than 1:1.5 The works will not encroach below the ground level of an adjoining site at a gradient steeper than 1:1.5.

We also note the underground cables are for electricity distribution. Therefore, the National Environmental Standards for Electricity Transmission Activities does not apply to the proposal.

Resource consent application has been made to the Bay of Plenty Regional Council for the project. Applications for resource consents and Outline Plan of Works have been made to the Whakatāne District Council for the aspects of the project that requires consent/ Outline Plan of Works.

I trust the above provide you with the information needed to continue your assessment and reporting.

Please contact me on 027 233 3358 if you have any questions. Thanks.

Yours sincerely,

Qiuan Wang

Senior Planning Consultant
Align Limited

6.4 Nga Tapuwae o Toi Walkway Reinstatement Options Report

Ngā Tapuwae o Toi Walkway Options Report

To:	**Projects and Services Committee**
Date:	**Thursday, 19 February 2026**
Author:	**I Molony / Manager Open Spaces Operations**
Authoriser:	**A Pickles / GM Community Experience**
Reference:	**A3058685**

1 Reason for the report - *Te Take mō tēnei rīpoata*

The purpose of this report is to brief the Projects and Services Committee on geotechnical assessments of the Ngā Tapuwae o Toi Walkway between West End and Ōtarawairere Bay, and an assessment of future landslide risk to life and property on this section of the track including rough order costs for track reinstatement. The report recommends that Council not fund the reinstatement of the track between West End and Ōtarawairere Point Lookout due to the high likelihood of further slips and damage and instead investigate alternative route options.

2 Recommendations - *Tohutohu akiaki*

1. THAT the Projects and Services Committee **receive** the Ngā Tapuwae o Toi Walkway Options Report.
2. THAT the Projects and Services Committee **receive** the:
   (a) CMW Geoscience Ngā Tapuwae o Toi Walkway, Ōhope Beach, Geotechnical Investigation Report, 11 December 2023;
   (b) Avalon Geotechnical Services West End Walkway Slip Inspection report, 20 April 2024;
   (c) reNature Limited West End Walkway, Geotechnical Report Review, 20 September 2024;
   (d) reNature Limited Nga Tapuwae o Toi Trail Ōhope to Ōtarawairere Beach Realignment Report, 25 October 2024; including HD Geo Assessment Report.
   (e) Tonkin + Taylor Ōhope Beach West End Walkway Quantitative Landslide Risk Assessment Report, June 2025; and
   (f) WSP high-level review of these reports, 9 December 2025.
3. THAT the Projects and Services Committee **note** the findings of the geotechnical investigations and assessments regarding the geology of the Ōhope escarpment between West End and Ōtarawairere Bay, that the Ngā Tapuwae o Toi Walkway traverses, including the rainfall and landsliding triggers for the escarpment; and
4. THAT the Projects and Services Committee **note** that reinstatement of the existing Ngā Tapuwae o Toi track between West End and Ōtarawairere Bay (Route 1) across the faces of the two landslides, without additional stability works and without suspended walkways being installed, is not viable because the risk to life to track users is assessed by HD Geo in their Whakatāne West

End Walkway Staircase Geotechnical Assessment Report, 3 September 2024, as 'High' and this represents a level of risk to life that is unacceptable; and

5. THAT the Projects and Services Committee **note** that the Annual Individual Fatality Risk from future landslide for the Ngā Tapuwae o Toi Walkway between West End and Ōtarawairere Bay for the existing track (Route 1) if reinstated with significant stability works and suspended walkways is assessed by Tonkin + Taylor in their June 2025 Quantitative Landslide Risk Assessment as being in the "Low" category of the Bay of Plenty Regional Policy Statement and in the "Reduce to as low as reasonably practicable" risk level of the Department of Conservation/GNS Science Natural Hazard Risk Assessment guidance; and
6. THAT the Projects and Services Committee **note** that the Annual Individual Fatality Risk from future landslide for the Ngā Tapuwae o Toi Walkway between West End and Ōtarawairere Bay for an alternative track (Route 2) including significant stability works and a new rock anchored staircase, is assessed by Tonkin + Taylor in their June 2025 Quantitative Landslide Risk Assessment as being in the "Low" category of the Bay of Plenty Regional Policy Statement and in the "Reduce to as low as reasonably practicable" risk level of the Department of Conservation/GNS Science Natural Hazard Risk Assessment guidance; and
7. THAT the Projects and Services Committee **note** that Tonkin + Taylor in its June 2025 Quantitative Landslide Risk Assessment assign a very high-risk level to both Route 1 and Route 2 for landslide risks to property for the Ngā Tapuwae o Toi Walkway between West End and Ōtarawairere Bay; and that while much of Route 2 is depicted as being moderate-risk, and consequently would have improved resilience overall, Route 2 remains reliant on Section 1 and Section 6a of the existing track, which are both assigned a very-high risk to property rating; and
8. THAT the Projects and Services Committee **note** the "rough order costs", presented by Tonkin + Taylor in its June 2025 Quantitative Landslide Risk Assessment, of maintaining public use of the Ngā Tapuwae o Toi Walkway between West End and Ōtarawairere Bay for Route 1 or Route 2, when future reinstatement work is required; and given the findings of the geotechnical assessments and assessment of landslide risk to property, repeated and potentially costly reinstatement is very likely to be required, particularly in the context of a changing climate; and
9. THAT the Projects and Services Committee **note** that liability for health and safety, under the Health and Safety Act 2015, cannot be delegated by Council; and that the Chief Executive and General Manager Community Experience are liable for health and safety on the Ngā Tapuwae o Toi Walkway between West End and Ōtarawairere Point Lookout, including during any reinstatement works, ongoing maintenance and management of the track; and
10. THAT the Projects and Services Committee **agree** to Option 4 to not fund the reinstatement of the Ngā Tapuwae o Toi Walkway between West End and Ōtarawairere Point Lookout due to the high likelihood of ongoing slips and damage to Council property and **instruct** staff to investigate alternate track routes that bypass the Ōhope escarpment and reconnect the full loop; and
11. THAT the Projects and Services Committee **agree** to continue exploring with Ngāti Awa and the Department of Conservation, that the reestablished Ngā Tapuwae O Toi Walkway be developed into an official Short Walks and Day Hikes track, that recognises its potential as an outstanding visitor attraction and its importance to the Whakatāne community.

3 Background - *He tirohanga whakamuri*

Ngā Tapuwae o Toi Walkway is a 17.4 km loop track traversing the hills between Whakatāne and Ōhope. The walkway includes the coastal escarpment track between West End and Ōtarawairere Bay which traverses very steep (>60 degree) slopes. This section of the walkway provides direct access to Ōtarawairere beach from Ōhope, and affords expansive views over the rugged coastline.

Major landslides in 2022 and 2023 destroyed sections of the escarpment track, leading the Council to close it. There is significant community demand for the track to be reinstated, including a community-led offer to help fund and undertake the reinstatement works required.

To inform Council's decision-making about the future of the track, several studies and investigations have been commissioned to determine the cause of the failures, to identify the potential mitigation measures and to better understand the on-going risk to the future of the walkway. This information is shared in this report and informs the options presented for Council's consideration and decision.

3.1 An important community and tourism asset

The track between West End & Ōtarawairere Bay has been a highly valued community recreational asset, with generations of locals enjoying direct access to Ōtarawairere beach and the sweeping coastal and ocean views.

As part of Ngā Tapuwae o Toi Walkway loop, the track between West End and Ōtarawairere Bay has also been an easily accessible year-round attraction for visitors. In 2022, the Whakatāne i-Site estimated that two-thirds of visitors to the visitor centre either asked for more information about the walkway or indicated they intended to walk it while visiting the district.

Discussions with Ngāti Awa and the Department of Conservation have considered the potential to include the walkway in the Department of Conservation's (DoC) Short Walk and Day Hike product set. This is a collection of the country's finest day walks and Ngā Tapuwae o Toi Walkway's inclusion would significantly raise its profile and support tourism in the district. DoC funding challenges meant the proposal was placed on hold for some time, but discussions to progress the project have recently recommenced.

3.2 Significance of Ngā Tapuwae o Toi Walkway to Mana Whenua

Toi is an important early ancestor of local iwi, particularly Ngāti Awa. Ngā Tapuwae o Toi (the footsteps of Toi) traverses the heart of what was once the domain of Toi. His stronghold, Kapu-te-Rangi Pā (Pā of Gentle Breezes), is located above Whakatāne, near the start of the walkway and is one of the oldest known pā sites in the country.

Various concepts have been developed to enhance the important cultural sites and tracks, to offer a special cultural visitor experience. Repairing and upgrading Ngā Tapuwae o Toi Walkway would be an essential step if this broader suite of projects was to be realised.

3.3 Closure of Ngā Tapuwae o Toi Walkway between West End and Ōtarawairere Bay

In October 2022 Ngā Tapuwae o Toi Walkway was closed between West End and Ōtarawairere Bay when a large landslide destroyed a section of the track following a prolonged rainfall event (see the location of Landslide 1 in Figure 1 and a photo of the landslide in Figure 2). An assessment of the site was undertaken by a structural engineer with extensive experience in building structures on walkways across New Zealand, and following consideration of the geology of Ōhope escarpment, an initial design was obtained to construct a suspended walkway across the face of the landslide.

Council resolved at its 15 December 2022 meeting "That Council **approve** additional budget of up to $0.2m for the slip on the Ngā Tapuwae o Toi walkway between West End and Ōtarawairere Bay."

The final estimate received for reinstatement of Landslide 1 was higher than the $200,000 initially anticipated, but in August 2023 Council secured additional funding of $451,000 excl. GST for reinstatement from MBIE's Tourism Infrastructure Fund Round 7 (TIF).

In September 2023 a second large landslide occurred on the same section of walkway, following another prolonged rainfall event (see the location of Landslide 2 in Figure 1 and a photo of the landslide in Figure 3). This resulted in considerable delay in the development of reinstatement options and necessitated further geotechnical assessment of both landslide sites.

6.4 Nga Tapuwae o Toi Walkway Reinstatement Options Report(Cont.)

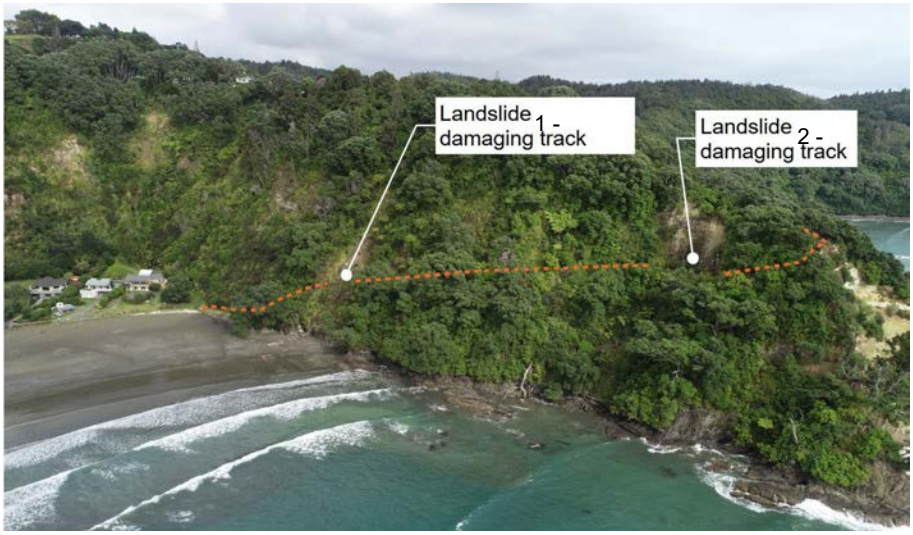

Figure 1: Ngā Tapuwae o Toi Walkway landslide locations

Figure 2 (2024): Upper section of landslide 1.

6.4 Nga Tapuwae o Toi Walkway Reinstatement Options Report(Cont.)

Figure 3 (2024): Landslide 2 – an underslip where most surface material has slid off exposing the sandstone underneath.

Due to the increasing costs associated with reinstatement, the history of frequent landslides on this section of track, and an increasing likelihood of future landslides as more frequent prolonged or high intensity rainfall events occur due to a changing climate, further technical assessments were commissioned. These have provided more detail on the geotechnical context of the escarpment track, the levels of life safety risk to track users and the level of property risk (and rough order costs) associated with landslide damage and reinstatement.

The findings of these technical assessments are discussed in the following sections, and four options for the future of the track between West End and Ōtarawairere Bay are presented for Council's consideration:

1. Reinstate the existing track with cantilevered boardwalks across both landslides and stability works (Route 1).
2. Construct an alternative route to by-pass the existing section of track, including a staircase up the face of landslide 1 and stability works (Route 2).
3. Permanently close the track between West End and Ōtarawairere Point Lookout.
4. Do not fund reinstatement of the existing track and investigate alternative options and costings for Council to consider.

Reinstatement of the existing track across the two landslides without significant additional stability works (such as installing multiple 6-8m long soil nails) and without suspended walkways, is not considered to be a viable option for Council to consider. The risk to life to track users is assessed as 'High', based on current track conditions, and this represents an unacceptable level of risk to life.[1]

[1] HD Geo Whakatāne West End Walkway Staircase Geotechnical Assessment Report, 3 September 2024

4 Discussion – Kōrerorero

4.1 Landslides and rainfall triggers on the Ōhope Escarpment

The Ōhope Escarpment has a long history of instability affecting use of Ngā Tapuwae o Toi Walkway. The geology is well understood and has been repeatedly assessed over the last 20 years.[2] Tonkin + Taylor's 2013 report "Quantitative Landslide Risk Assessment – Whakatāne and Ōhope Escarpments" noted a history of landslides on the Ōhope Escarpment, dating back to 1946.

The Tonkin+ Taylor June 2025 report "Ōhope Beach West End Walkway Quantitative Landslide Risk Assessment" includes a landslide inventory mapping 49 landslides (over 70 years) on the escarpment between 65 West End Road and Ōtarawairere Bay. This includes at least 15 landslides since 1962 in the area where the track is located (see Figure 4 showing past landslides of various sizes along a section of the coastal escarpment).

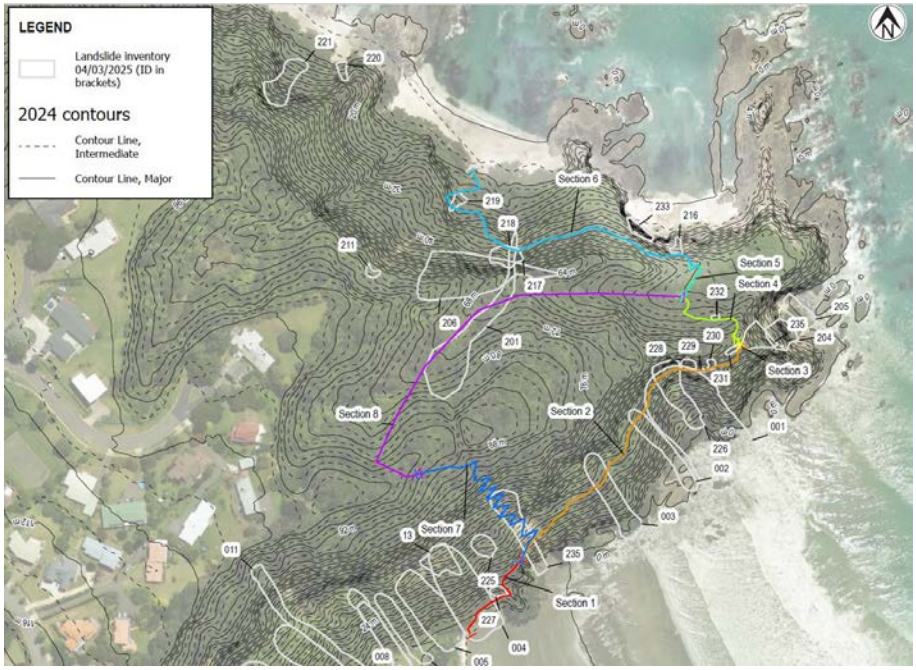

Figure 4: Landslide Inventory

In the last 20 years, there have been two occurrences of large-scale landsliding (multiple landslides): during and following an intense rainstorm in July 2004, and during an 18-month period between May 2010 and October 2011, with one landslide resulting in a fatality.

Tonkin + Taylor's reports have concluded that the steep slopes of the escarpment, mantled by weak deposits, are highly susceptible to landslide generation during high intensity rainfall events, and that

[2] Tonkin + Taylor Ltd. (2005). West End Escarpment Geotechnical Overview Report. Prepared for Whakatāne District Council, Department of Conservation and Earthquake Commission; Tonkin + Taylor Ltd. (November 2013). Quantitative Landslide Risk Assessment, Whakatāne and Ōhope Escarpments. Prepared for Whakatāne District Council; Tonkin + Taylor Ltd. (September 2023). Whakatāne, Ōhope and Matatā QLRA, Test case re-assessment for climate change. Prepared for Whakatāne District Council; Tonkin + Taylor Ltd (June 2025). Ōhope West End Walkway Quantitative Landslide Risk Assessment. Prepared for Whakatāne District Council.

all but one landslide can be attributed to prolonged or intense rainfall. They note the following rainfall and landslide triggers for the Ōhope escarpment, based on the historical landslide inventory:

1. Landsliding is always associated with rainfall in excess of 120 mm per day;
2. Landsliding becomes increasingly common once daily rainfall exceeds approximately 100 mm per day;
3. The number of landslides induced by such rainfall ranges from 5 to 7 on the Ōhope escarpment;
4. Landslides can occur when daily rainfall is less than 100 mm, although they are much more likely not to occur, and a single landslide is more likely than multiple landslides;
5. Antecedent rainfall and rainfall intensity are factors that can influence the occurrence of landslides in otherwise less extreme rainfall events; and
6. While landslides often occur on days with very high daily rainfall, many landslide events also occur during events with lower daily rainfall and hence, using daily rainfall as a trigger index for landslides has limitations. Short intense rainfall events in the order of hours, may have a significant impact on landslide triggering.

Prolonged or intense rainfall events in the Bay of Plenty are becoming more frequent as average ocean temperatures rise, the atmosphere contains more moisture and the climate changes. The escarpment and coastal cliffs have a well-documented history of repeated landslides, and further landsliding should be expected, particularly where rainfall exceeds the quantities outlined above.

4.2 Approaches to stabilising the track between West End and Ōtarawairere Bay

Between 2023 and 2025 a series of technical reports were commissioned to determine the cause of landsliding, to identify potential mitigation measures to allow the walkway to reopen and to better understand the on-going risks to the walkway and its users. Several approaches to stabilise and reinstate the track have been developed, on two alternate routes discussed below and illustrated on Figure 5.

Figure 5: Ngā Tapuwae o Toi Existing Route 1(red line) and new alternate Route 2 (Blue line)

Route 1 – Reinstating the existing track

Repairing the existing track would involve using engineered solutions to improve track resilience by constructing suspended walkways across both landslides, supported by rock anchoring systems and rock mesh (see Figure 6)**.** A similar design solution could be applied to both landslides, however there is uncertainty about the stability of the escarpment above the landslides or between the landslides where it has not failed, with a remaining risk to users of the track. Mitigating the risk of wider instability may require wider engineered solutions such as soil nails, rock mesh and associated vegetation removal. These would have a significant visual and cultural impact on the escarpment.

Engineered solutions could also be supplemented with management solutions through reducing visitor access during and following heavy rain or seismic events, or permanent closure in the future, following significant events.

Figure 6: Example of rock anchors and rock mesh at the top of a slope to prevent future ground movement

Route 2 – Proposed alternative track

This would involve constructing a new track to by-pass some of the very high-risk track between the West End and Ōtarawairere Point Lookout, while utilising many other sections of the existing walkway, and constructing a staircase which traverses near vertically up the 70m escarpment face (see Figure 7). The staircase would be suspended off the ground and supported on footings tied into the slope using grouted soil nails, drilled 6-8m into the ground. The sections of original track that are by-passed are where the current landslides are located and the new stairs would provide access up and over the escarpment. Three sub-options are presented with varying degrees of slope stabilisation proposed:

- Construction of a new staircase, with no slope stabilisation behind or above the structure;
- Construction of new staircase structure, with slope stabilisation required behind and above the structure, in the form of rock mesh only; and
- Construction of new staircase structure, with slope stabilisation required behind and above the structure, in the form of soil nails and rock mesh.

The use of soil nails and rock mesh to stabilise the slopes behind and above the structure would require vegetation removal and have a significant visual and cultural impact on the escarpment.

WSP notes in its December 2025 high-level review of the prior geotechnical reports, that the route options detailed above appear to be high-level and conceptual at this stage. And that whilst limited geotechnical investigations have been undertaken, detailed geotechnical investigations, designs or reporting have not been completed. And that as a result, there remains a degree of risk associated with the viability of some or all of the options presented below.

Figure 7: Example of similar staircase up a steep rock face on the Omanawa Falls Track

4.3 Assessing Landslide Risk to Life and to Property and Rough Order Costs

To assess the risk to life and to property associated with future landslides, all sections of Ngā Tapuwae o Toi Walkway between West End and Ōtarawairere Bay were included in a robust Quantitative Landslide Risk Assessment (QLRA) commissioned from Tonkin + Taylor in June 2025. The risk analysis was undertaken using the well-recognised Department of Conservation (DOC)/GNS Science's (GNS) Guidelines for Natural Hazard Risk Analysis (NHRA) and the Australian Geotechnical Society (March 2007) Practice Note Guidelines for Landslide Risk Management 2007 (AGS2007)

A QLRA enables comparative analysis against regional, national and international standards of loss-of-life and property risk tolerance to determine whether or not risk reduction interventions are required. Incorporating all of Ngā Tapuwae o Toi Walkway sections from West End to Ōtarawairere Bay in the assessment helps avoid promoting investment in a localised trail repair option (to the landslide 1 section), when other parts of the trail may present equally high or higher levels of risk which may impact on the overall viability of any track repair and reinstatement option. (See Figure 8 below illustrating the sections of the walkway).

Using the two sets of guidelines, two risk metrics were assessed in the QLRA:

- Annual Individual Fatality Risk – calculated for a member of the public over the course of the year and for the most at risk Whakatāne District Council worker who visits the site several times a year; and
- Property risk – to determine an estimate of the risk of landslide related track damage, sufficient enough to render the track impassable and requiring repair/reinstatement.

Annual Individual Fatality Risk
Based on the methodology provided in Tonkin + Taylor's report, the Annual Individual Fatality Risk for all sections of Route 1 and Route 2 was summarised to be:

	Annual Individual Fatality Risk	
	Route 1	Route 2
Member of Public	1 in 16,000,000 to 1 in 1,500,000,000	1 in 13,000,000 to 1 in 1,500,000,000
WDC Worker	1 in 64,000,000 to 1 in 6,100,000,000	1 in 70,000,000 to 1 in 6,100,000,000

They indicate that the levels of loss-of-life risk for both route options have been determined to be within the **Low** category of the Bay of Plenty Regional Policy Statement and in the **Reduce to as low as reasonably practicable** risk level of the DOC/GNS NHRA guidance.

Route 2, the alternative route, including the staircase, has a slightly lower risk than the existing route (prior to the last damaging landslides). The **Low** assessed risk for both these options assumes that the entire slope within the footprint of the staircase section of the route, or suspended walkways are geologically stabilised with soil anchors and rock mesh.

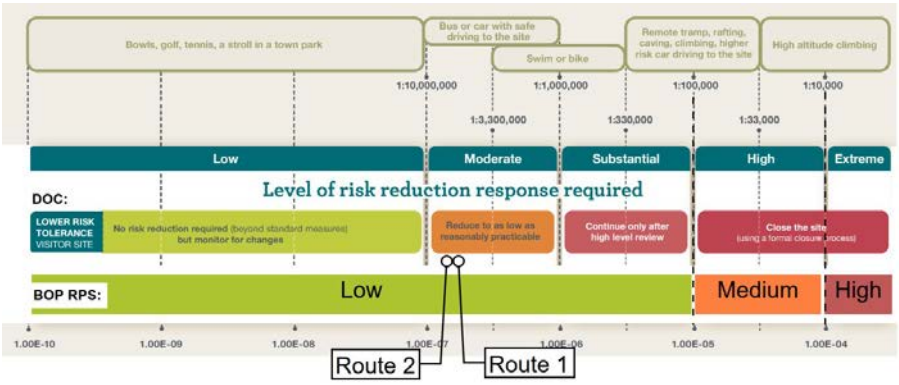

Figure 9: Route 1 and 2 risk levels based on RPS and DOC/GNS criteria

Risk to property
According to the Tonkin + Taylor report, there is a **very high-risk** level assigned to both routes for risk to property, as shown in the Figure 10. While much of the new alternative Route 2 (sections 7 and 8) is depicted as being **moderate risk** and consequently will have an improved overall resilience, it remains reliant on Section 1 and Section 6a, which are both assigned **very high-risk**, and therefore increasing the overall risk of this Route 2.

6.4 Nga Tapuwae o Toi Walkway Reinstatement Options Report(Cont.)

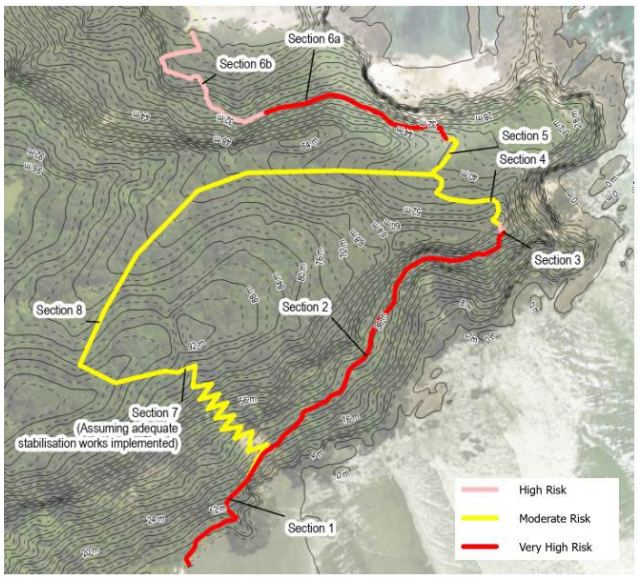

Figure 10: Site plan showing risk to property of the track sections 1-8.

Rough order costs of reinstatement
Approximate rough order costs of reinstatement following track damage have also been provided in the Tonkin + Taylor 2025 report. These costs are based on previous experience with similar projects, and while provided for comparison only are helpful in understanding the Council's potential future exposure to ongoing reinstatement costs, given the very high risk to property.

No design work has been undertaken to inform these costs, so Tonkin + Taylor note that the rough order costs should not be used out of context. If Council requires more detailed cost estimates to support decision making, further advice will need to be sought.

The rough order cost to reinstate damaged track sections are outlined in Table 1.

The lower figures in the rough order cost ranges represent reinstatement situations where minimal reinstatement would be required, such as minor clearance of debris.

The upper figures in the rough order cost ranges represent major failures, where reinstatement would require new structures, such as stairs or bridges, and/or geotechnical stabilisation is required. Tonkin + Taylor note that these upper figures of rough order costs should not be taken as upper bound values. Costs could be higher if multiple engineered solutions are required – rebuilding structures, and significant areas of rock anchors and rock mesh.

Track Section – From plan above	Rough order cost of Reinstatement	Possible reinstatement methodology
1	$10,000 - $500,000+	Bridges; stairs; or large structures
2	$10,000 - $500,000+	Bridges; stairs; or large structures
3	$10,000 - $500,000+	New staircase
4	$10,000 - $50,000	New at grade track or minor repair

5	$10,000 - $50,000	New at grade track or minor repair
6a	$10,000 - $500,000+	Bridges; stairs; or large structure
6b	$10,000 - $500,000+	New at grade track or stair structure
7	$10,000 - $1,000,000	Repair or replacement of proposed large staircase structure
8	$10,000 - $50,000	New at grade track or minor repair

Table 1: Rough order costs of reinstatement for sections 1-8

4.4 Other risk mitigation strategies

WSP in its December 2025 high-level review of previously commissioned technical reports has identified that other risk mitigation strategies may be available to the Council. WSP has provided some high-level thoughts, based on previous mitigation approaches successfully used for other landslide sites in the Bay or Plenty and wider North Island.

Most of these would be high-cost solutions. Developing any of them further would require robust geotechnical investigations and design, in collaboration with Ngāti Awa and other key stakeholders to determine their viability and affordability.

Mitigation Strategy	Overall walkway Resilience	Constructability	Other considerations
Cut or bench track in to more competent material around escarpment	Good – Providing walkway can be founded within competent rock	Difficult – Limited access for plant and machinery will require the use of rope access and hand tools	Improved track resilience will be dependent on the wider stabilisation or removal of loose debris and overhanging areas, or the potential need for stabilisation of other historical slip sites along the walkway
Create a new walkway around high tide mark	Good – providing structure is designed to withstand storm surges	Difficult – Limited access to base of escarpment particularly at high tide	Complex resource consenting and stakeholder engagement process On-going landslide from escarpment above may cover walkway
Construct a tunnel from Otarawairere Bay to Ohope Beach	Excellent – Likely to require minimal on-going maintenance	Very difficult – tunnelling through the Lower Ohope Beds or the Greywacke is likely to be challenging and very expensive	Tunnel is likely to take away the impact from one of New Zealand's greatest walks, however, could create a "go-to" location.
Install remote sensing to monitor the escarpment for movement	No improvement – Slips will still occur and potentially close the walkway	Difficult – installing monitoring devices and gauges, and then maintaining them is likely to require rope access	Mode of slip failure is understood to be quick and not necessarily at the same time as a rain event

Table 2: Other mitigation strategies

4.5 Potential for community assistance

Council have been approached by community members who are concerned that reinstatement of the track between West End and Ōtarawairere Bay may not occur if Council has to meet the full cost of the engineering works, particularly given current community pressure to reduce council spending.

Proposals involving community contributions to fund the required engineering works and/or community-led assistance in undertaking reinstatement of the track have been raised.

Community support to fund the reinstatement of the track
With respect to the funding offers, initial discussions have been held with the Eastern Bay Community Foundation which would be able to create a "pass-through" fund for the project. It would be positioned to be an independent repository of funds and be able to work alongside the Council to seek further donations.

A Memorandum of Understanding would be required whereby the Eastern Bay Community Foundation would receipt all donations over $5, provide a monthly financial statement and charge an administration fee of 2%. If this were implemented, this project would be one of the Eastern Bay Community Foundation's key projects.

Further due diligence would be required to test the viability of this proposal. This could occur as part of process to investigate alternative routes that bypass the Ōhope escarpment. (see Options Analysis section below for more detail.)

Community-led proposals to help reinstate and maintain the track

A newly formed West End Track group, presented to the Ordinary Council meeting on 4 December 2025, describing strong community support for reopening the track between West End and Ōtarawairere Bay. Representatives explained that local volunteers were ready to restore the track, proposing what they believed to be a practical and cost-effective approach, that would save ratepayer funds compared to contractor-led repairs.

They emphasised that health and safety concerns should not prevent community involvement, and urged Council to work with residents to find a safe solution so the track could once again provide access to Ōtarawairere Bay and benefit the wider community. They have also expressed an interest in undertaking general track maintenance of the whole Ngā Tapuwae o Toi Walkway.

The Department of Conservation

The Department of Conservation offer multiple volunteering opportunities including for track maintenance, managed by way of formal Maintenance Contracts/Agreements for large scale volunteering and co-ordinated through private entities or through Community Agreements for smaller scale or minor volunteering works. These Agreements outline the services and the standards required with the expectations being clear around general maintenance only. They do not include work around repairs to structures.

An example of this approach is the Pakihi Track, a 20km track for trampers and mountain bikers within the Ōpōtiki area. This is managed through a Joint Agreement with Te Whakatōhea and Mōtū Trails Ltd who manage the volunteers.

Health and safety liability

It is important to note that liability for health and safety, under the Health and Safety At Work Act 2015, cannot be delegated to any group (including community volunteers) supporting the Council to reinstate and/or maintain the track. The Chief Executive and General Manager Community Experience will continue to be responsible for (and liable for) health and safety relating to the Ngā Tapuwae o Toi Walkway between West End and Ōtarawairere Bay, including any reinstatement works, maintenance and management of the track.

5 Options Analysis - *Ngā Kōwhiringa*

5.1 Option 1

Council repair and reinstate the existing track with significant stabilisation of the escarpment above/adjacent to the track (Route 1)

This option includes reinstating the existing track with the construction of two suspended walkways, across the landslides, supported by rock anchoring systems and rock mesh. A similar design solution could be applied to both landslides, however there is uncertainty about the stability of the escarpment above the landslides or between and either side of the landslides where it has not failed, with a remaining risk to users of the track.

There is uncertainty about the stability of the escarpment above, between or either side of the landslides. Mitigating the risk of wider instability above and adjacent to the full length of this section of the track, may require wider engineered solutions such as soil nails, rock mesh and associated vegetation removal. These would have a significant visual and cultural impact on the escarpment.

Advantages	Disadvantages
• Likely to have lower construction costs than a new alternative track (Route 2 or other options) • Community has direct access between West End and Ōtarawairere Bay	• Uncertainty about the stability of the escarpment above, with significant stabilisation required and construction costs • Slightly higher loss-of-life risk than Route 2 – but assessed as "Low" risk assuming full stabilisation works undertaken • Potential for significant visual impact and cost from any engineered solutions to address wider area instability and risks • Reinstatement may set a precedent and create a community expectation that the Council will meet the cost for reinstatements after future landslides

5.2 Option 2

Council does not fund the repair and reinstatement of the track between West End and Ōtarawairere Point and instead requests proposals from the community for repair and reinstatement.

The Council would not allocate any further funding for track repair and reinstatement on the section of track from West End to the Ōtarawairere Point Lookout however, would request proposals from the community for consideration.

This option involves issuing a Request for Proposals (RFP) seeking proposals from individuals or groups wishing to fully fund the reinstatement and ongoing maintenance of the Ngā Tapuwae o Toi Walkway between West End and Ōtarawairere Bay.

Council would determine if a proposal is suitably resourced and meets Council quality, health and safety, maintenance and funding requirements, before a long-term agreement could be entered into.

Proposals received through the RFP process would likely need to:

a) Demonstrate how the track between West End and Ōtarawairere Bay will be reinstated and maintained to a level of service that ensures the Annual Individual Fatality Risk from future landslide is in the "Low" category of the Bay of Plenty Regional Policy Statement and in the "Reduce to as low as reasonably practicable" risk level of the DOC/GNS NHRA guidance;

b) Include a Health and Safety Plan detailing how health and safety outcomes acceptable to the Council will be achieved during any track construction and ongoing track maintenance;

c) Be fully costed, including: the cost of construction works and ongoing maintenance; preparing and implementing a Health and Safety Plan; providing an independent risk to life and property assessment of the proposed reinstatement works; and any peer review of the proposal and supporting technical reports, required by the Council;

d) Demonstrate to the Council's satisfaction that the group has funding confirmed to complete construction of the track and has a plan for funding future maintenance;

e) Demonstrate to the Council's satisfaction that the group has a legal structure and the capability needed for taking on the role of kaitiaki/guardian of the Ngā Tapuwae o Toi Walkway between West End and Ōtarawairere Bay; and

f) Detail how they will work with Ngāti Awa and hapū.

Given that liability for health and safety, under the Health and Safety At Work Act 2015, cannot be delegated to any group appointed by Council to reinstate and maintain the track, and that the Chief Executive and General Manager Community Experience will continue to be liable for health and safety relating to the Ngā Tapuwae o Toi Walkway between West End and Ōtarawairere Bay, a high level of scrutiny will need to be applied to assessing proposals.

Advantages	Disadvantages
• Supports/enables the development of community-led initiatives to repair and maintain local facilities • Allows Council to consider a range of options • No reinstatement or ongoing maintenance cost for Council, aligning with a constrained fiscal environment • If successful, the community will have a functioning and reliant walkway to Ōtarawairere Bay	• Delays final decisions about the future of the track and lack of certainty • CE can't delegate health and safety responsibilities, so will need to maintain oversight of the community group to ensure it is meeting its obligations • Council being asked to underwrite funding shortfalls

5.3 Option 3

Council does not fund repair and reinstatement of the existing track and permanently closes the track between West End and Ōtarawairere Point

Given the risks to life and property, uncertainty about the frequency of future landslide events, and the likely future costs associated with them, Council would not allocate any further funding for track repair and reinstatement on the section of track from West End to the Ōtarawairere Point Lookout. Without this funding the track would be permanently closed.

Permanent fences and information signs will need to be installed to keep people out and inform people of the risks if they bypass the safety fences.

This option may have an impact on the local visitor economy, but it is expected this would be marginal over the long term. Visitors and the community could access Ōtarawairere Bay from the existing track off Ōtarawairere Road.

This is the lowest risk and lowest cost option to Council.

WSP in its December 2025 high-level review of previously commissioned technical reports also advised that permanent closure was its recommended option. WSP stated that if a piecemeal approach was taken to the repair and remediation of the track, and if the two current landslide sites were remediated in isolation of a wider risk mitigation and maintenance strategy being in place for the track as a whole, there remained a risk that other landslides will occur and damage the track at other locations around the walking track.

The qualitative measure of the likelihood of landslides happening in the future was "Likely – the event will probably occur under adverse conditions over the design life". Permanent closure of the walking track, whilst likely to be unpopular with some of the community, would provide the best return on investment for the Council.

Advantages	Disadvantages
• Future landslide events on this section of the escarpment do not impact the track so all risks to users and property are eliminated • No ongoing reinstatement costs for Council to budget for	• No direct connection between West End and Ōtarawairere Bay for the community, with users required to access Ōtarawairere Bay from Ōtarawairere Village • There is no opportunity of Ngā Tapuwae o Toi Walkway being developed into a DOC short walk • Dissatisfaction from some members of the community and an impact on Council reputation

5.4 Option 4 - Council does not fund repair and reinstatement of the existing track and requests that staff investigate alternative route options and costings for Council to consider (Recommended)

Given the risks and the likely future costs described in Options 1 and 2, Council would not allocate any further funding for track repair and reinstatement on the section of track from West End to the Ōtarawairere Point Lookout but, would instead direct staff to investigate alternative routes.

This option involves Council exploring alternative routes such as starting the track from Ōhope Road leading onto Ōtarawairere Road or other options that reconnect the full loop of Ngā Tapuwae o Toi Walkway.

Staff would bring back to Council viable options for alternative tracks with costings and assessments of risks to life and property for consideration.

Advantages	Disadvantages
• Allows Council to consider a range of options that would be a lower risk to future landslide damage, property damage and lower cost to Council before making a final investment decision	• There would be a delay in decision making related to opening a track for use • There will be significant investigation, establishment and construction costs

• If successful, the community will have a functioning and reliable walkway to Ōtarawairere Bay • There will be an opportunity for Ngā Tapuwae o Toi Walkway to be developed into a DOC Short walks and Day Hikes Track	

6 Significance and Engagement Assessment - Aromatawai Pāhekoheko

6.1 Assessment of Significance

The decisions and matters of this report are assessed to be of low significance, in accordance with the Council's Significance and Engagement Policy.

6.2 Engagement and Community Views

Engagement on this matter is not being undertaken in accordance with Section 4.2 of the Council's Significance and Engagement Policy. This states that the Council will not consult when there is already a sound understanding of the views and preferences of the persons likely to be affected or interested in the matter.

Engagement will be progressed at a project level as required, following internal protocols.

6.2.1 Engagement to Date

A community group has presented to Council a concept for a community led restoration of the walkway.

The Route 2 approached skirts the Pā site and could provide opportunities to promote cultural awareness and the significance of this site. Contact was made with the representative of Ngāti Hokopū, mana whenua of this area who was supportive of the proposal however would require formal hapū consultation to confirm.

Contact was made with Te Rūnanga o Ngāti Awa in August 2024 about Route 2 around the Pā site and provide an update of the project to date. The proposal was positively received.

A site visit was undertaken in October 2024 with two archaeologists from Insitu, the Ngāti Hokopū hapū representative, Walkway Solutions and WDC staff to walk the proposed route.

A report on the proposed realignment of the walkway was provided to the Ngāti Hokopū representative who presented it to a hapū meeting on 30 October 2024. Confirmation was received that there was "agreement in principle" by the hapū for the realignment however they were reluctant on proposed signage identifying the Pā site due to possible damage by the public. They could also see the benefit of the proposal providing the hapū better access to reconnect with the Pā.

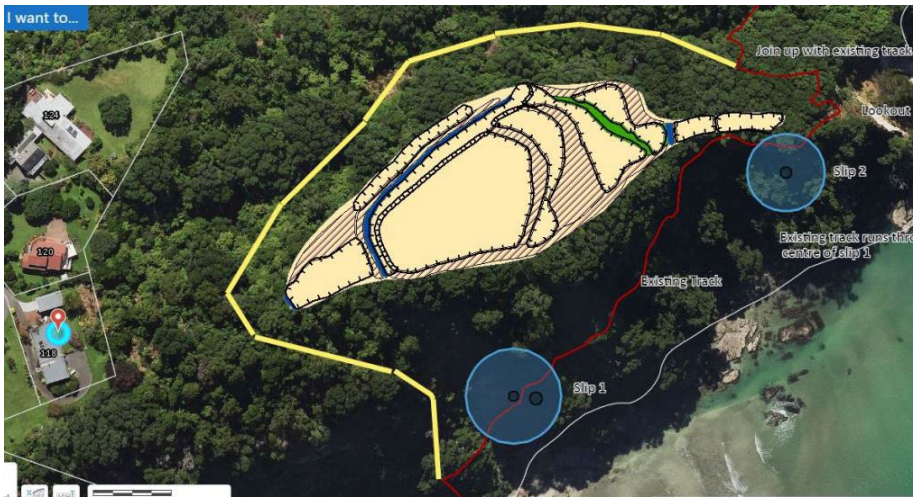

Figure 12: Location of Pā site with proposed Route 2 in yellow

7 Considerations - *Whai Whakaaro*

7.1 Strategic Alignment

No inconsistencies with any of the Council's policies or plans have been identified in relation to this report.

7.2 Financial/Budget Considerations

As discussed in the report, Council approved a budget of up to $200,000 in December 2022 and received additional funding of $451,000 in August 2023 through the TIF for reinstatement of landslide 1.

Whilst $200,000 was originally approved by Council, only $100,000 was allocated to the project budget which has been utilised for track reinstatement investigations, of which the expenditure to date is $111,700, (-$11,700 over the allocated budget).

The TIF has now closed, however MBIE have confirmed that the $451,000 excl. GST, funding received in 2024 is still available beyond August 2025 and they are now seeking a timeline for completion of any reinstatement project. MBIE's funding would be released once pre-contract conditions were met, including evidence of consultation with the community and evidence that all necessary consents and approvals for the project have been received.

The cost for reinstatement of Route 1 and Route 2 are presently unknown as we have not progressed to the final design stage however, it is anticipated that these will be high. (Initial estimates following design to install a cantilevered boardwalk across landslide 1 only, in 2023, were in excess of $600,000, however rough order costs for Route 1 and Route 2 are now likely to be significantly higher than $1m for each route).

Given the likelihood of future landslides, repeated reinstatement costs are likely.

Community funding may also be available to support reinstatement. Council staff have been approached by several community members who are concerned that the project may not go ahead to construction phase if Council must raise all the remaining funding required, particularly given

current community pressure to reduce spending. These community members have proposed to contribute donations and canvas others to do the same, through the Eastern Bay Community Foundation.

Investigation of alternative track routes that bypass the Ōhope escarpment and reconnect the full loop will require funding and staff would firstly look to use the existing budget.

7.3 Climate Change Assessment

Based on the climate change assessment, the decisions and matters of this specific report are assessed to have low climate change implications and considerations, in accordance with the Council's Climate Change Principles.

7.4 Risks

Details on the risks to life and risks to property for each of the options have been discussed in section 4 of this report.

7.4.1 Risk Reduction Options

This section discusses conceptual, high-level options for reducing landslide risks on both Route 1 alternative routes as identified in the QLRA. It's important to note that the stability of existing structures has not been reviewed, and the information does not include additional geotechnical engineering work that may be needed for new designs.

It should also be noted that there is minimal overall loss-of-life risk reduction identified by using the Route 2 or other alternative track options if geotechnical stabilisation were to be implemented as part of design minimising risk in this area.

7.4.1.1 Route 1 (Existing Track)

Three sections of the existing track—Sections 1, 2, and 6—are identified as particularly hazardous due to their location on the Ōhope escarpment/steep coastal hills.

7.4.1.2 Engineered Solutions:

Extensive anchorages and rock mesh on the cliffs could reduce the risk of loss of life and improve track resilience. However, these solutions would be costly and have a significant visual and cultural impact on the landscape. Catch fences are considered impractical due to the size of the area.

7.4.1.3 Management Solutions:

Use of management solutions could reduce the risk of loss of life but would not improve the track's resilience.

Risk reduction options include:

- Passive management by reducing public access during and after heavy rainfall through signage which would have minimum effect.
- Active management by closing the track or providing public warning during heavy rainfall, but it is likely impossible to completely close the track from would be users.
- Reducing Council worker exposure and time spent in high-risk areas during and after heavy rainfall.

7.4.2 Permanently closing the Existing Track with no alternative route

The existing track between West End and Ōtarawairere Point Lookout could be abandoned entirely and no alternative route established. This would be the lowest risk option, whereby people access

Ōtarawairere Bay from the existing track off Ōtarawairere Road. Although not assessed, this track appears to have much lower risk profile.

A challenge with this option is that some members of the public may make their own 'ad hoc' tracks using the existing route from West End leading to uncontrolled exposure to potential falling hazards.

7.4.3 Other alternative track routes

No work has been undertaken to assess risks for alternative track routes that fully bypass the Ōhope escarpment. These assessments will be needed as part of any exploration of alternative routes.

7.5 *Funding Risk*

MBIE have granted two extensions to date for the $451k funding received through Round 7 of the now defunct Tourism Infrastructure Fund, however this may be at risk of being revoked should the timeframe for the project commencement extend beyond October 2025.

Confirming use of the funding to progress the recommended option or for any other purposes will require confirmation from MBIE.

Attached to this Report:

- Appendix A - CMW Geoscience Ngā Tapuwae o Toi Walkway, Ōhope Beach, Geotechnical Investigation Report, 11 December 2023.
- Appendix B - Avalon Geotechnical Services West End Walkway Slip Inspection report, 20 April 2024.
- Appendix C - reNature Limited West End Walkway, Geotechnical Report Review, 20 September 2024.
- Appendix D - reNature Limited Nga Tapuwae o Toi Trail Ōhope to Ōtarawairere Beach Realignment Report, 25 October 2024 including HD Geo Assessment Report.
- Appendix E - Tonkin + Taylor Ōhope Beach West End Walkway Quantitative Landslide Risk Assessment Report, June 2025.
- Appendix F - WSP high-level review of existing geotechnical reports, 9 December 2025.

6.4.1 Appendix A - CMW Geoscience Nga Tapuwae o Toi Walkway, Ohope Beach Geotechnical Investigation Report 11 December 2023

6.4.1 Appendix A - CMW Geoscience Nga Tapuwae o Toi Walkway, Ohope Beach Geotechnical Investigation Report 11 December 2023(Cont.)

CMW Geosciences
Great People | Practical Solutions

11 December 2023

NGA TAPU WAE O TOI WALKWAY

OHOPE BEACH

GEOTECHNICAL INVESTIGATION REPORT

Whakatane District Council

TGA2023-0194AB Rev 0

6.4.1 Appendix A - CMW Geoscience Nga Tapuwae o Toi Walkway, Ohope Beach Geotechnical Investigation Report 11 December 2023(Cont.)

TGA2023-0194AB		
Date	**Revision**	**Comments**
30 November 2023	A	Initial draft for internal review
11/12/2023	0	Final issue to client

	Name	Signature	Position
Prepared by	Brandon Hill		Geotechnical Engineer
Reviewed by	Miles Thompson		Associate Geotechnical Engineer CMEngNZ, CPEng
Authorised by	Chris Ritchie		Principal Engineering Geologist CMEngNZ, PEngGeol

6.4.1 Appendix A - CMW Geoscience Nga Tapuwae o Toi Walkway, Ohope Beach Geotechnical Investigation Report 11 December 2023(Cont.)

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APPENDICES

1 INTRODUCTION

1.1 Project Brief

CMW Geosciences (CMW) was engaged by Whakatane District Council to carry out a geotechnical assessment and investigation of two slips which have destroyed two sections of the Nga Tapu Wae O Toi walkway at the west end of Ohope Beach. The areas of walkway affected by the slips are being planned for reconstruction.

The scope of work and associated terms and conditions of our engagement were detailed in our services proposal letter referenced TGA2023-0194AA Rev 0 dated 12 October 2023.

2 SITE DESCRIPTION

2.1 Site Location

The Nga Tapu Wae O Toi walkway is located north of Ohope Beach nestled along the cliffsides of the Whakatane and Ohope escarpments. Investigations were conducted in the vicinity of two slips which have destroyed access to portions of the walkway. The approximate location of these slips are shown on Figure 1.

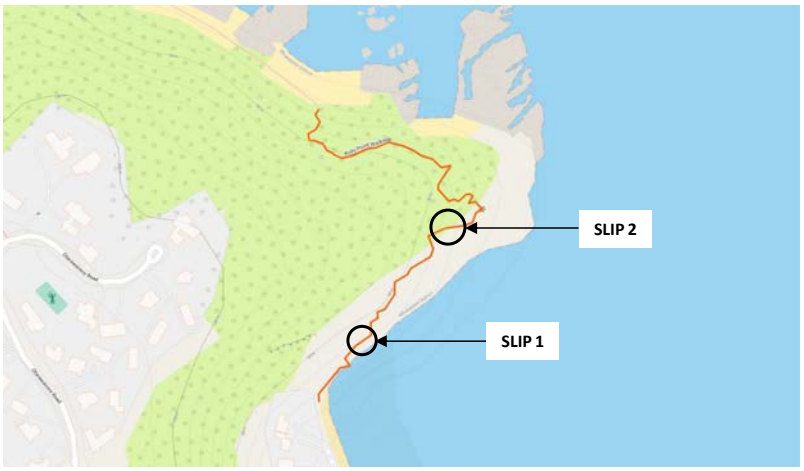

Figure 1: Site Location Plan (openstreetmaps.org)

2.2 Landform

The current general landform, together with associated features located within and adjacent to the site is presented on the attached Site Plan as ***Drawing 01.***

The elevation of the walkway varies along its course; however, it generally runs across steeply graded slopes comprising the Ohope Escarpment. The elevation of the walkway where Slip 1 occurs is approximately RL10m (Moturiki), and the elevation of the walkway where Slip 2 occurs is approximately RL40m.

3 PROPOSED DEVELOPMENT

The current development proposal, as shown on the draft scheme plans provided by ReNature Ltd and provided in ***Appendix B***, is to construct suspended boardwalks across both slips to tie in with the existing walkways. The walkways are to be supported with a rock anchoring system.

At the time of undertaking this investigation and of writing this report, it was anticipated that the geotechnical investigation would provide details of foundation recommendations.

4 INVESTIGATION SCOPE

4.1 Desktop Study

A desktop study of existing information including both recent and historical aerial photographs, published geological maps, and previous geotechnical reporting for the site was undertaken.

A Tonkin and Taylor Quantitative Landslide Risk Assessment report[1] notes a history of slips at the Ohope Escarpment, dating back to 1946. In the last 20 years, two occurrences of large scale landsliding have happened: during and following an intense rainstorm in July 2004, and during an 18 month period between May 2010 and October 2011. The report concluded that the steep slopes mantled by weak deposits are highly susceptible to landslide generation during high intensity rainfall events.

4.2 Field Investigation

A field investigation was carried out on 24 October 2023. All fieldwork was carried out under the direction of CMW Geosciences in general accordance with the NZGS specifications[2] and logged in accordance with NZGS guidance[3]. The scope of fieldwork completed was as follows:

- Undertook a walkover survey of the site to assess the general landform, site conditions and adjacent structures.
- Geomorphology face mapping of the area surrounding the two slips by a Senior Geotechnical Engineer
- Two hand auger boreholes, denoted HA01 to HA02, were drilled using a 50mm diameter auger to depths of up to 3.2m below existing ground levels to visually observe the near surface soil profile and to facilitate in-situ vane shear strength and/or Dynamic Cone (Scala) Penetrometer (DCP) testing. Both hand augers terminated early due to equipment refusal. Engineering logs of the hand auger boreholes, together with peak and remoulded vane shear strengths and/or DCP results are presented in ***Appendix A***;

The approximate locations of the respective investigation sites referred to above are shown on the Site Plan as ***Drawing 01***. Test locations were measured using handheld GPS. Elevations were inferred from the Whakatane District Council GIS Map.

[1] Tonkin & Taylor Ltd, Quantitative Landslide Risk Assessment – Whakatane and Ohope Escarpments, ref. 28273 Rev 3, dated June 2013
[2] NZ Geotechnical Society (2017) NZ Ground Investigation Specification, Volume 1 – Master Specification
[3] NZ Geotechnical Society (2005), Field Description of Soil and Rock, Guideline for the field classification and description of soil and rock for engineering purposes.

5 GROUND MODEL

5.1 Published Geology

Published geological maps[4] for the area depict the regional geology as comprising two primary geological units. Towards the boundaries of the Ohope Escarpment, the regional geology is comprised of early to mid-Cretaceous Whakatane Mélange described as "*deformed sandstone and mudstone; locally broken formation or mélange,* (Kew). Towards the top of the escarpment, the Whakatane Mélange is often overlain by early Pleistocene-aged sedimentary rocks described as "*Sandstone, mudstone, silicic tephra*" (eQu). This is illustrated in Figure 2.

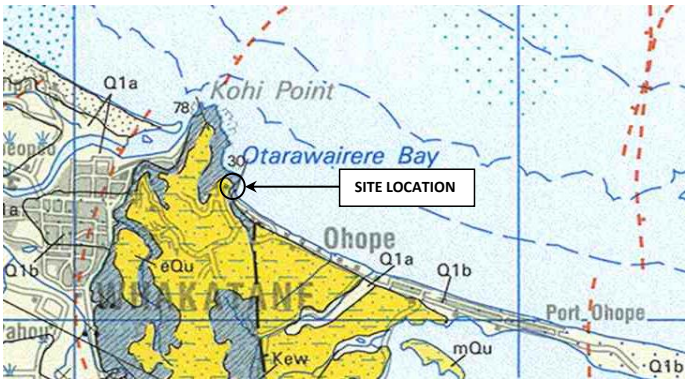

Figure 2: Regional Geology (GNS Map 05)

5.2 Rock Face Mapping

The cliff faces located above and below the slips were mapped during a site walkover and is presented in ***Appendix D***.

5.2.1 Slip 1

The cliff face around Slip 1 shows the interface between the Whakatane Greywacke and the Ohope Sandstone Beds above the slip locations. The rock mass was typically highly fractured and weathered. The slip surface graded at approximately 60 degrees. Surrounding slopes were steeper and densely planted. Approximately 300mm of colluvium sits atop the rock mass. Outcrops of the Whakatane Greywacke were present at the base of the escarpment at the edge of the beach.

5.2.2 Slip 2

The cliff face around Slip 2 was located within the Ohope Sandstone Beds. The rock mass was typically massive with horizontal layering and weathered. The slip surface was graded at approximately 60 degrees, with a near vertical sandstone face dotted in vegetation above the crest of the slip. The sandstone rock mass was mantled by approximately to 300mm of topsoil and colluvium, and surrounding slopes were densely vegetated.

[4] Leonard, G.S., Bregg, J.G., Wilson, C.J.N. 2010. Institute of Geological and Nuclear Sciences, Geological Map 05: Geology of the Rotorua Area, 1: 250,000.

5.3 Stratigraphic Units

The ground conditions encountered and inferred from the investigation were considered to be generally consistent with the published geology for the area and can be generalised according to the following subsurface sequences.

5.3.1 Slip 1

5.3.1.1 Colluvium / Topsoil

Colluvium was encountered within HA01 to a depth of 0.3m, and comprised brown, firm to stiff, silt. The colluvium mantled the outcrops of the Whakatane Greywacke.

5.3.1.2 Whakatane Greywacke (Whakatane Mélange)

The Whakatane Greywacke was encountered at 0.3m depth, mantled by colluvium. Across the area accessible to the west of Slip 1 the Greywacke was generally encountered at 0.2-0.4m depth.

5.3.2 Slip 2

5.3.2.1 Uncontrolled Fill

Uncontrolled fill used to construct the walkway path was encountered within HA01 to a depth of 300mm, and comprised whitish grey mottled orange silt.

5.3.2.2 Topsoil / Colluvium

A 0.1m thick layer of topsoil was present beneath the Fill used to construct the walkway, and sat atop 0.2m of white brown clayey silt.

5.3.2.3 Ohope Sandstone Beds (Undifferentiated Early Pleistocene Sedimentary Rocks)

The Ohope Sandstone Beds were encountered at 0.6m below ground level at the second slip. This consisted of dense sand up to 1.4m depth, and very dense silty sand up until refusal.

5.4 Groundwater

During the investigation, which was completed in Spring conditions (October 2023), groundwater was not encountered during our investigation. However, given the presence of a variable soil profile, it is possible that perched groundwater may occur in the residual soil above the rock layers during and following periods of rainfall.

6 FAILURE MECHANISMS

6.1 Slip 1

The walkover and testing at Slip 1 indicates that the mechanism of the slip is a shallow landslide of primarily soil from atop the steep rock faces. The crest of this slip sits above the previous walkway and runs to the base of the escarpment. Testing indicates 0.3m depth of colluvium sits atop the Whakatane Greywacke, which is weakened and mobilised by increased amounts of rainfall. This soil is held together by the root systems of vegetation on the cliff sides. Small bushes and vegetation have since regrown in the deposited colluvium.

6.2 Slip 2

The walkover and testing at Slip 2 indicates that the mechanism of the underslip is a shallow landslide of primarily soil from atop the steep rock faces. The crest of this underslip sits at the elevation of the previous walkway. Testing indicates 0.6m of colluvium and topsoil sits atop the Ohope Sandstone Beds. The topsoil, colluvium and weathered sandstone is weakened and mobilised by increased amounts of rainfall. Similarly to Slip 1, the colluvium is held together by the root systems of vegetation on the cliff sides. A sandstone boulder has also fallen from the vertical face above the walkway, due to weathering of the sandstone rock mass.

7 RECOMMENDATIONS

7.1 Ground Anchors

Ground anchors will be required to provide permanent support for the suspended walkway system. The bond strength of anchors will be a function of the installation methods adopted as well as the rock characteristics, which should be discussed with specialist installation contractors. For the design of ground anchors, the following bond stresses may be adopted for support in the highly weathered mudstone and weathered sandstone.

Table 1: Allowable Bond Stress for Ground Anchors	
Geotechnical Units	Allowable Bond Stress (kPa)
Highly Weathered Mudstone (Whakatane Greywacke)	150
Highly Weathered Sandstone (Ohope Sandstone Beds)	150
Notes: Allowable Bond Stresses determined from experience with similar geology	

Anchors should be proof loaded and tested during construction to ensure that design loads are being achieved. Consideration should be given to corrosion protection of anchors.

Proof tests should be undertaken during construction of the walkway to confirm the varying depths of soil above competent rock at each slip location.

Anchors must be designed in shear and bending to resist lateral earth pressures equivalent to the force applied by a potential slip in the weak colluvium. The slip force can be taken as equal to the passive earth pressure, using a Kp of 4, over the width of 3 anchor diameters.

8 CLOSURE

Additional important information regarding the use of your CMW report is provided in the '*Using your CMW Report*' document attached to this report.

6.4.1 Appendix A - CMW Geoscience Nga Tapuwae o Toi Walkway, Ohope Beach Geotechnical Investigation Report 11 December 2023(Cont.)

This report has been prepared for use by Whakatane District Council in relation to the Nga Tapu Wae O Toi Walkway Ohope Beach project in accordance with the scope, proposed uses and limitations described in the report. Should you have further questions relating to the use of your report please do not hesitate to contact us.

Where a party other than Whakatane District Council seeks to rely upon or otherwise use this report, the consent of CMW should be sought prior to any such use. CMW can then advise whether the report and its contents are suitable for the intended use by the other party.

6.4.1 Appendix A - CMW Geoscience Nga Tapuwae o Toi Walkway, Ohope Beach Geotechnical Investigation Report 11 December 2023(Cont.)

CMW Geosciences
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USING YOUR CMW GEOTECHNICAL REPORT

Geotechnical reporting relies on interpretation of facts and collected information using experience, professional judgement, and opinion. As such it generally has a level of uncertainty attached to it, which is often far less exact than other engineering design disciplines. The notes below provide general advice on what can be reasonably expected from your report and the inherent limitations of a geotechnical report.

Preparation of your report

Your geotechnical report has been written for your use on your project. The contents of your report may not meet the needs of others who may have different objectives or requirements. The report has been prepared using generally accepted Geotechnical Engineering and Engineering Geology practices and procedures. The opinions and conclusions reached in your report are made in accordance with these accepted principles. Specific items of geotechnical or geological importance are highlighted in the report.

In producing your report, we have relied on the information which is referenced or summarised in the report. If further information becomes available or the nature of your project changes, then the findings in this report may no longer be appropriate. In such cases the report must be reviewed, and any necessary changes must be made by us.

Your geotechnical report is based on your project's requirements

Your geotechnical report has been developed based on your specific project requirements and only applies to the site in this report. Project requirements could include the type of works being undertaken; project locality, size and configuration; the location of any structures on or around the site; the presence of underground utilities; proposed design methodology; the duration or design life of the works; and construction method and/or sequencing.

The information or advice in your geotechnical report should not be applied to any other project given the intrinsic differences between different projects and site locations. Similarly geotechnical information, data and conclusions from other sites and projects may not be relevant or appropriate for your project.

Interpretation of geotechnical data

Site investigations identify subsurface conditions at discrete locations. Additional geotechnical information (e.g. literature and external data source review, laboratory testing etc) are interpreted by Geologists or Engineers to provide an opinion about a site specific ground models, their likely impact on the proposed development and recommended actions. Actual conditions may differ from those inferred to exist due to the variability of geological environments. The actual interface between materials may be far more gradual or abrupt than assumed based on the facts obtained. Nothing can be done to change the actual site conditions which exist, but steps can be taken to reduce the impact of unexpected conditions. Interpretation of factual data can be influenced by design and/or construction methods. Where these methods change review of the interpretation in the report may be required.

Subsurface conditions can change

Subsurface conditions are created by natural processes and then can be altered anthropically or over time. For example, groundwater levels can vary with time or activities adjacent to your site, fill may be placed on a site, or the consistency of near surface conditions might be susceptible to seasonal changes. The report is based on conditions which existed at the time of investigation. It is important to confirm whether conditions may have changed, particularly when large periods of time have elapsed since the investigations were performed.

Interpretation and use by other design professionals

Costly problems can occur when other design professionals develop their plans based on misinterpretations of a geotechnical report. To help avoid misinterpretations, it is important to retain the assistance of CMW to work with other project design professionals who are affected by the contents of your report. CMW staff can explain the report implications to design professionals and then review design plans and specifications to see that they have correctly incorporated the findings of this report.

Your report's recommendations require confirmation during construction

Your report is based on site conditions as revealed through selective point sampling. Engineering judgement is then applied to assess how indicative of actual conditions throughout an area the point sampling might be. Any assumptions made cannot be substantiated until construction is complete. For this reason, you should retain geotechnical services throughout the construction stage, to identify variances from previous assumption, conduct additional tests if required and recommend solutions to problems encountered on site.

A Geotechnical Engineer, who is fully familiar with the site and the background information, can assess whether the report's recommendations remain valid and whether changes should be considered as the project develops. An unfamiliar party using this report increases the risk that the report will be misinterpreted.

Environmental Matters Are Not Covered

Unless specifically discussed in your report environmental matters are not covered by a CMW Geotechnical Report. Environmental matters might include the level of contaminants present of the site covered by this report, potential uses or treatment of contaminated materials or the disposal of contaminated materials. These matters can be complex and are often governed by specific legislation.

The personnel, equipment, and techniques used to perform an environmental study can differ significantly from those used in this report. For that reason, our report does not provide environmental recommendations. Unanticipated subsurface environmental problems can have large consequences for your site. If you have not obtained your own environmental information about the project site, ask your CMW contact about how to find environmental risk-management guidance.

APPENDIX A: DRAWINGS

Title	Reference No.	Date	Revision
Site Investigation Plan	01	20/11/2023	0

LEGEND

- HA01 HAND AUGER BOREHOLE LOCATION
- SLIP 1 APPROXIMATE LOCATION
- SLIP 2 APPROXIMATE LOCATION
- NGA TAPU WAI O TOI WALKWAY LOCATION

1:1000 0 10 20 30 40 50 m

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CLIENT: WHAKATANE DISTRICT COUNCIL	DRAWN: BH	PROJECT: TGA2023-0194	
PROJECT: NGA TAPU WAI O TOI WALKWAY LANDSLIP	CHECKED: MT	DRAWING: 01	
	REVISION: 0	SCALE: 1:1000	
TITLE: SITE INVESTIGATION PLAN	DATE: 14/11/23	SHEET: A3L	

APPENDIX B: RENATURE BOARDWALK DESIGN DRAWINGS

Redacted due to Commercial Sensitivity

APPENDIX C: HAND AUGER BOREHOLE LOGS

6.4.1 Appendix A - CMW Geoscience Nga Tapuwae o Toi Walkway, Ohope Beach Geotechnical Investigation Report 11 December 2023(Cont.)

HAND AUGER BOREHOLE LOG - HA01

Client:
Project: Nga Tapu Wae O Toi Walkway, Ohope Beach
Site Location:
Project No.: TGA2023-0194
Date: 24/10/2023
Borehole Location: Refer to Site Plan Logged by: BH Checked by: MT Scale: 1:25 Sheet 1 of 1

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Position: Projection: BOP2000
Datum: Moturiki Survey Source:

Groundwater	Samples & Insitu Tests: Depth	Samples & Insitu Tests: Type & Results	RL (m)	Depth (m)	Graphic Log	Material Description	Moisture Condition	Consistency/ Relative Density	Dynamic Cone Penetrometer (Blows/100mm)
	0.0	Peak = 75kPa Residual = 35kPa		0		ML: SILT with minor sand: brown. Non-plastic; sand, fine to medium. (Colluvium)	M	F to St	1, 5, 12
	0.3	Peak = 29kPa Residual = 14kPa				ML: Gravelly SILT with minor sand: brown. Non-plastic; sand, fine to medium; gravel, fine. (Mudstone)		D to VD	20
						Borehole terminated at 0.4 m			

Termination Reason: Equipment refusal
Shear Vane No: 3082 DCP No: 12
Remarks: Groundwater not encountered

This report is based on the attached field description for soil and rock, CMW Geosciences - Field Logging Guide, Revision 4 - April 2023.

6.4.1 Appendix A - CMW Geoscience Nga Tapuwae o Toi Walkway, Ohope Beach Geotechnical Investigation Report 11 December 2023(Cont.)

HAND AUGER BOREHOLE LOG - HA02

Client:
Project: Nga Tapu Wae O Toi Walkway, Ohope Beach
Site Location:
Project No.: TGA2023-0194
Date: 24/10/2023
Borehole Location: Refer to Site Plan

PRELIMINARY

CMW Geosciences
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Logged by: BH Checked by: Scale: 1:25 Sheet 1 of 1

Position: Projection: BOP2000
Datum: Moturiki Survey Source:

Groundwater	Samples & Insitu Tests: Depth	Samples & Insitu Tests: Type & Results	RL (m)	Depth (m)	Graphic Log	Material Description	Moisture Condition	Consistency/ Relative Density	Dynamic Cone Penetrometer (Blows/100mm)
						ML: SILT with trace sand: white grey mottled orange brown. Non-plastic; sand, fine to medium. (Fill)			5, 2
	0.4	Peak = >201kPa Residual = 81kPa				OL: Organic SILT: black. Low plasticity. (Topsoil)		VSt to H	7, 7
						ML: Clayey SILT: white brown. Low plasticity. (Alluvium)			5, 6
				1		SP: Fine SAND with trace silt: white. Poorly graded. (Weathered Sandstone)	D to M	D to VD	11, 12, 9, 12, 12, 9, 7, 12
						SM: Silty fine SAND: golden brown. (Sandstone)			16, 20
						Borehole terminated at 1.6 m			
				2					
				3					
				4					
				5					

Termination Reason: Equipment refusal
Shear Vane No: 3082 DCP No: 12
Remarks: Groundwater not encountered

This report is based on the attached field description for soil and rock, CMW Geosciences - Field Logging Guide, Revision 4 - April 2023.

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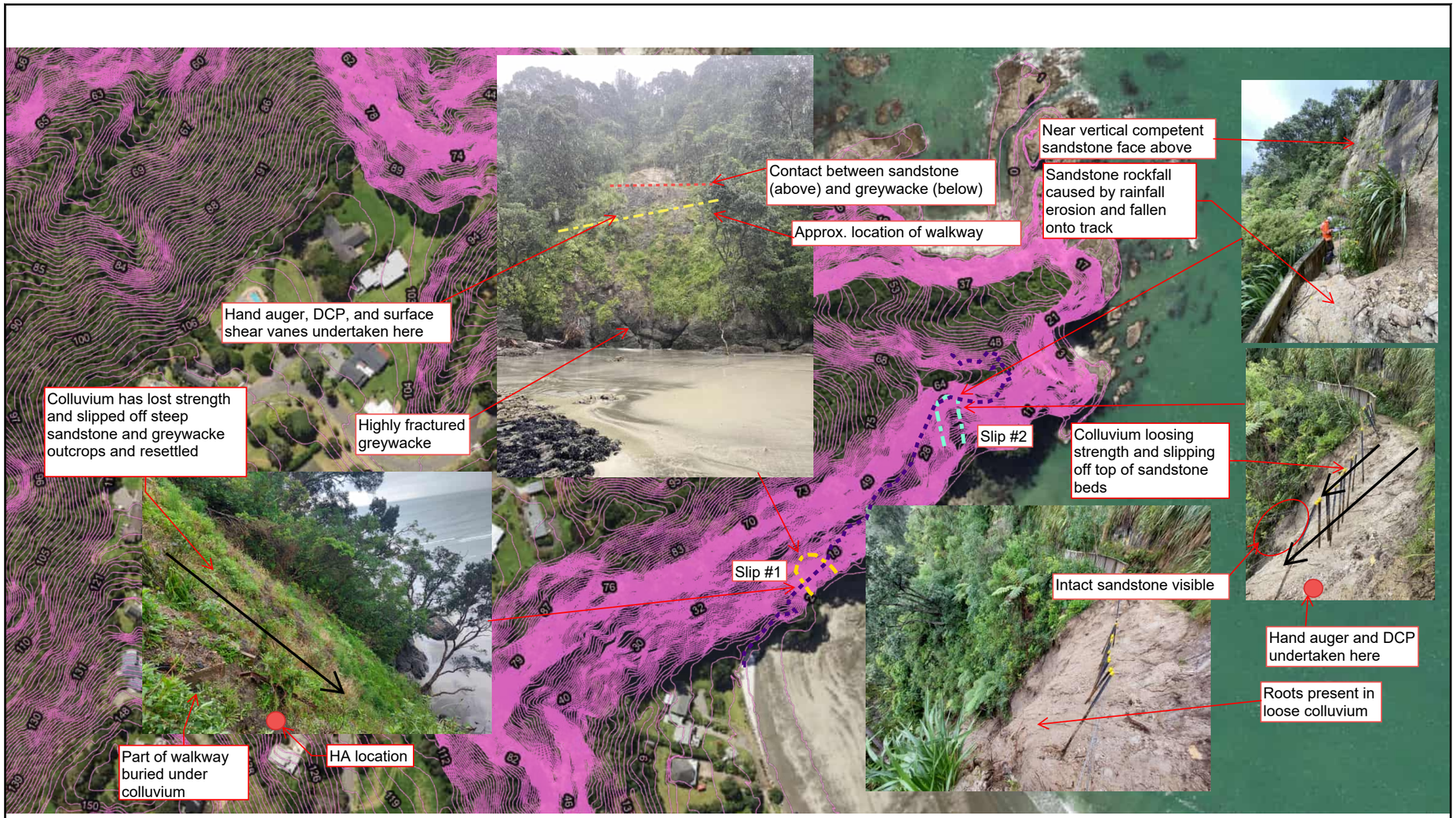
APPENDIX D: ROCK FACE MAPPING

6.4.1 Appendix A - CMW Geoscience Nga Tapuwae o Toi Walkway, Ohope Beach Geotechnical Investigation Report 11 December 2023(Cont.)



6.4.2 Appendix B - Avalon Geotechnical Services West End Walkway Slip Inspection report 20 April 2024

6.4.2 Appendix B - Avalon Geotechnical Services West End Walkway Slip Inspection report 20 April 2024(Cont.)

AVALON // GEOTECHNICAL SERVICES EXPERIENCE // INNOVATION // PERFORMANCE

20/04/23

RE: **Westend Walkway Slip Inspection**

REF: 24196

Summary

As requested, Avalon carried out an inspection of the Westend Walkway between Ohope & Whakatane known as Kohi Point Wakway. Specifically, 2 slips were investigated following reporting by CMW on 11 December 2023 (ref TGA2023-0194AB Rev 0). The purpose of the inspection was to ground truth assumptions regarding the slips and to assess the wider area for additional similar risks to decide if more investigation is required over a wider area before the repair and rebuild of the walkway damaged from the slips.

The geology has been widely reported previously in the area and is well understood, this report is limited to ground observation of the slip faces and areas that may affect the walkway during construction and into the future. Avalon rope access technicians accessed the site using Rope Access techniques looking for defects, high-risk material or other items above the walkway. A photo record was taken of the area and is included as a link separate from the report.

Findings

No specific faults were identified that warranted immediate concern most defects found were as expected for the local area comprising of varying joints in the sandstone, foliage root jacking and thin overlying soils. The two slips each had a head scarp of approx. 1.5 to 2m with minor overhangs, slip debris and small rocks were scattered on the slope. These were typically up to approximately 200mm square and similar debris is found on the track surface below. One large obvious boulder was noted on the track which appears to have slid down during a slip event rather than travelled at speed from higher up and is resting on the track barrier.

Outside of the 2 identified slip sites where possible other nearby areas were investigated to ascertain if there was any residual risk from the slips extending further. While some slumping was noted between the 2 sites this appears to be old in nature. Due to the foliage, no representative photos were able to be taken to show this.

Recommendations

We would recommend some light trimming of the crests of the 2 slips and minor foliage removal in a few areas. Alongside this, some loose rock can be removed and scaled before construction to improve site safety and reduce risk to the structure. We would recommend this being done during the construction phase to minimise the costs of mobilisation and attend to areas relevant to the construction.

Attached separately via email is the link to the site photos.

Regards

Kip Mandeno

General Manager

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Addendum to report 22/05/24

Overview of site – With possible alternative route in blue.

This route would reduce risk to the walkway and users by using a direct ascent up onto the ridge avoiding the traverse and gradual ascent to the lookout along under the bluffs. The section from the existing track up to the ridge would require the building of timber stairs and track sections. Along the ridge, the terrain is mostly flat to undulating and would be suitable for a typical DOC-style gravel track with some box stairs

This option would require detailed investigation, costing & engineering assessment to ascertain its viability. This option may present the best long-term option by moving the walkway back from the bluffs and coastal erosion risks.

If possible to use this route the cost will likely be significantly more expensive to reopen the walkway than the current proposal.

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6.4.2 Appendix B - Avalon Geotechnical Services West End Walkway Slip Inspection report 20 April 2024(Cont.)

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Left of face above track at slip 2 typical conditions large overhanging Pohutukawa root

Right of face above Slip 2 track typical conditions – overhanging foliage, roots and sandstone blocks

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6.4.2 Appendix B - Avalon Geotechnical Services West End Walkway Slip Inspection report 20 April 2024(Cont.)

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Right of the face above Slip Area 2 typical conditions – overhanging foliage, roots and sandstone blocks, note vertical joint exposed by the previous landslide.

Underslip at Slip Area 2 – note most surface material has slid off exposing the sandstone underneath. Future failures are more likely to occur within the sandstone along the joints and other defects as part of more larger landslide event. Further failures are more likely to occur on either side of the existing failure due to similar shallow soils overlying the sandstone below.

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6.4.2 Appendix B - Avalon Geotechnical Services West End Walkway Slip Inspection report 20 April 2024(Cont.)

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Underslip at Slip Area 2 – Continuation of the exposed underlying sandstone

Overview of the upper section of slip 1 – The remaining track is visible by the yellow pipe on the right The light coloured area at the top is the location of the recent slip with the older weathered face in grey below. Some residual soil and rock remain on the left where the Toitoi is growing, this is more likely remnant slip debris from an older event evident from the margins on the left and right of this slip.

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6.4.3 Appendix C - reNature Limited West End Walkway Geotechnical Report Review 20 September 2024

6.4.3 Appendix C - reNature Limited West End Walkway Geotechnical Report Review 20 September 2024(Cont.)

West End Walkway – Geotechnical Report Review

Issued By	reNature Limited	**Date**	20/09/2024
In Respect Of	Whakatāne West End Road Walkway Staircase Geotechnical Assessment Report by HD Geo		
Location	Ngā Tapuwae o Toi Walkway, Ohope		
Prepared By	Andrew Mackenzie		

This memorandum serves to review the Whakatāne West End Walkway Staircase Geotechnical Assessment Report provided by HD Geo dated 3 September 2024.

The following information summary from the HD Geo report is listed below:

Our assessment is

• the escarpment above Ohope beach has a history of landslides and instability triggered by rainfall.
• the proposed staircase alignment up 'slip 1' is unstable and there is a high risk of further movement within the next 5 to 10 years.
• the proposed staircase should not be considered unless the slope is stabilised using soil nails and mesh or similar systems
• the surrounding slopes are also unstable, and we expect additional landslides to occur in the next 5 to 10 years.
• Preliminary grouted anchor bond strengths range from 15 to 35 kN per anchor for 6 to 8 m long anchors

The Geotechnical Assessment information presented in the HD Geo report appear in line with our understanding and expected findings from the site. It is understood that there is risk of future slope failure due to two methods which would potentially impact the proposed staircase structure on Slip 1. These are:

1. Further movement of debris accumulated from the slips;
2. Shallow failure of the slip headscarp with potential for vegetation to be incorporated with the slip debris

The option to mitigate these risks presented by HD Geo is to install "soil nails and mesh to stabilise the unstable areas and hold them in place".

Based on the geotechnical report and our experience with this type of work we believe that the following solutions should also be explored further with all relevant parties.

Risk 1 (loose debris on slope moving down the face) could be mitigated the following way:

- Diverting water off the slip face by installing the track across the top of the slip with a side drain that diverts water north-west past the slip site before discharging it away from the staircase structure
- Removing the loose material where possible to reduce risk of future movement
- Install deflectors to direct water and slip material away from the structure foundations
- Maintaining low vegetation around the staircase structure to prevent vegetation becoming tied up in slip material and causing additional damage to the structure
- All structure foundations are to have soil nails to hold the piles in place. These could have mesh added to the foundation location area to provide localised stabilisation and protection.

6.4.3 Appendix C - reNature Limited West End Walkway Geotechnical Report Review 20 September 2024(Cont.)

Photo 1: Deflector to protect structure foundations over slip

Photo 2: Staircase with mesh around foundation location

Risk 2 (headscarp failure) could be mitigated in the following way:

- Removal of large vegetation
- Soil nail and mesh is also recommended in this location.
- It is noted that the slip site is directly below the defensive ditch at the top of the hill adjacent to the pa site. There is a high chance that the slip will continue to migrate up the hill and threaten these significant archaeological sites. Therefore, it is further recommended to proceed with the soil nail and mesh solution in this location.

By installing the soil nail and mesh solution at specific locations (around structure foundations and over the slip headscarp) the recommendations from HD Geo's report can be followed and costs kept to a minimum. It is noted that this approach should be combined with the other recommendations including ongoing maintenance, inspections and vegetation clearance to ensure that longevity and safety of the proposed structure.

Signed By

Andrew Mackenzie
BE(Hons)Civil, CPEng, MEngNZ, IntPE
Senior Structural Engineer

On Behalf of reNature Limited

6.4.4 Appendix D - reNature Limited Nga Tapuwae o Toi Trail Ohope to Otarawairere Beach Realignment Report 25 October 2024

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Nga Tapuwae o Toi Trail

Ohope to Otawairere Beach Realignment

Prepared For:
Whakatane District Council
By reNature Limited
Job #22189

Document Control

Document Properties

Job#	Title	Publish Date
22189	Nga Tapuwae o Toi Trail – Ohope to Otawairere Beach Realignment	25/10/2024

Revision	Document Author	Reviewed by	Date
0	Andrew Mackenzie	Richie Mundy-Castle	25/10/2024

Document Distribution

Name	Title	Organisation
Allan Berntsen	Managing Director	Walkway Solutions
Kevin Sullivan	Project Support Officer	Whakatane District Council
reNature Shared Drive (P)	Records Copy	reNature Limited

1.0 Background

The walkway from Ohope Beach to the Otarawaiere Point Lookout was closed following two large landslides that occurred during Cyclone Gabirelle 2023. Whakatāne District Council propose to reopen the walkway from Ohope to Otarawaiere Beach by constructing a staircase up the escarpment of the western-most landslide ('Slip 1'), forming a new track over the hill to rejoin the original track on the northern side of the lookout thus avoiding the southern face of the hill which is susceptible to future slipping.

2.0 Alignment

The recommended alignment for the proposed walkway is as below and as illustrated in Figure 1:

a) Starting from Ohope Beach – follow up the existing staircases and track to the slip alignment (yellow line).
b) Form max 10m wide structure up the slip face. Structure to comprise of landings at max 4m vertical height off sets and max 6m lengths to limit foundations and maximise timber use (green line).
c) From the top of the staircase form boxed steps up to the crest of the hill and then down into the northern valley (purple line). Track alignment to avoid pa site (purple hatch).
d) Construct a boardwalk adjacent to the northern valley (aqua line).
e) Form an aggregate track to connect to the existing track (orange line).
f) Decommission the existing track along the southern side of the headland (red line).

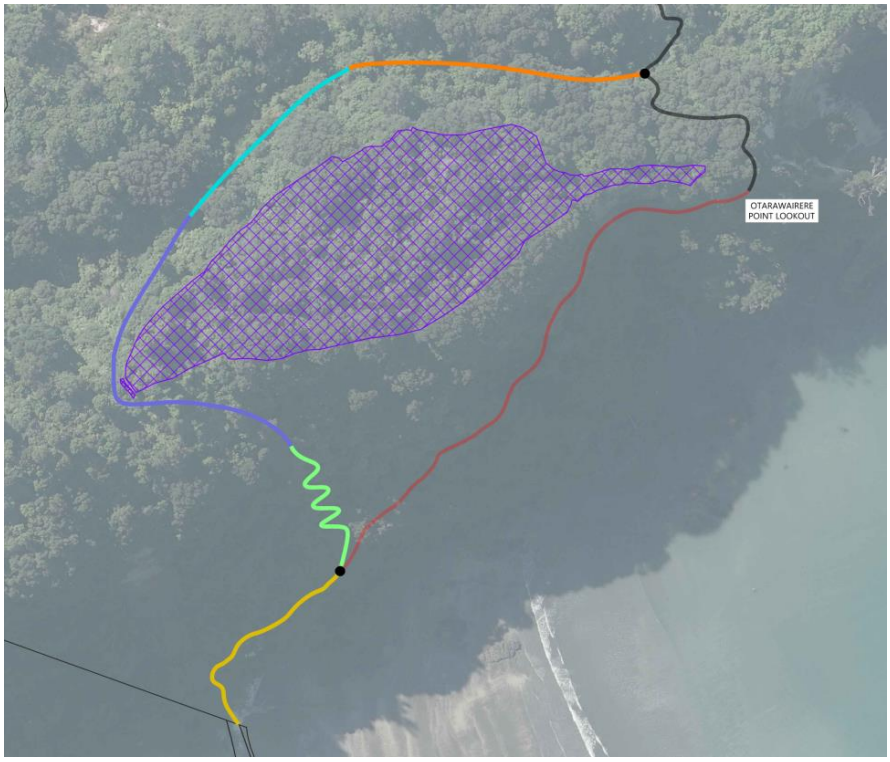


Figure 1: Location Plan

3.0 Investigation

A site visit was undertaken to investigate a potential alignment up the slip face and over the hill into the northern valley. A geotechnical investigation was undertaken by HD Geo who scaled the slip face undertaking testing and measuring of the site to determine the feasibility of a structure up the slip face. It was determined in the report by HD Geo (provided in Appendix B) that this option is the most feasible in this location to provide longevity and resilience for the track and to protect the wider area.

4.0 Recommendations

4.1 Slip 1 escarpment

A staircase structure is recommended to traverse the slip face. The foundations are to be rock anchored into the cliff (Figure 3 below) which will provide stabilisation of the cliff in conjunction with supporting the structure. The structure foundations can have mesh installed above them to prevent loss of material. In addition to this, deflectors can be installed above the foundations to prevent small material moving down the slope from impacting the structure's foundations. The head scarp of the slip should also be mesh and rock anchored to prevent future extension of the slip face.

Figure 2: Similar staircase up steep rock face on Omanawa Falls Track

6.4.4 Appendix D - reNature Limited Nga Tapuwae o Toi Trail Ohope to Otarawairere Beach Realignment Report 25 October 2024(Cont.)

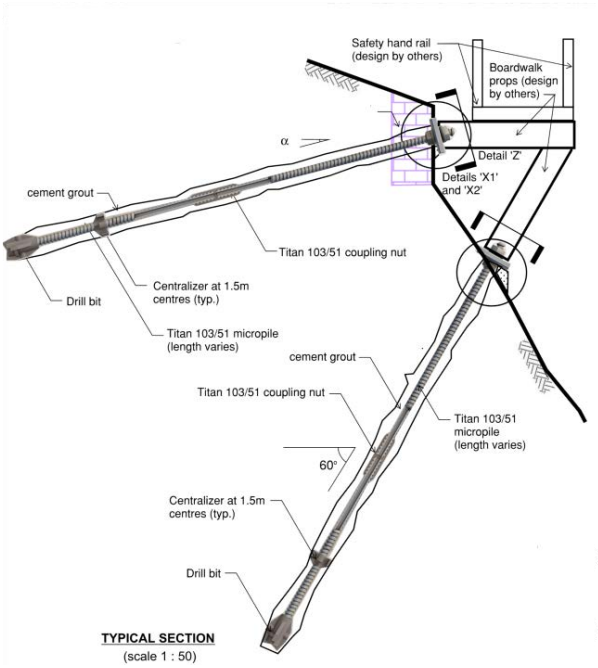


Figure 3: Typical rock fixed boardwalk / staircase structure detail

Figure 4: Boardwalk across slip face with deflectors at foundation locations

6.4.4 Appendix D - reNature Limited Nga Tapuwae o Toi Trail Ohope to Otarawairere Beach Realignment Report 25 October 2024(Cont.)

Figure 5: Localised rock mesh above foundations to protect structure.

Figure 6: Rock anchor and mesh at top of slope to prevent future ground movement

4.2 Upper hillside

Boxed steps will be formed up the hill, across the crest of the hill (outside of the Pā site extent of place) and down the hill to the northern valley. This will provide access over the top of the hill and the raised edge of the boxed step stringers on the uphill side will direct water away from the slip face past the proposed structure to where any ground movement won't have an impact on the proposed walkway.

Boxed steps are to be formed with regular landings (flat sections of track) which can be extended by traversing across the less steep upper reaches of the hill side to provide a more user-friendly experience while also avoiding the culturally and archaeologically significant Pā site.


Figure 7 & 8: Typical boxed steps up hill and across the fall line to direct water flows.

4.3 Northern Valley

The walkway along the northern valley will be situated between the Pā site and the valley wetland. Due to the amount of water in this area it is recommended to construct a boardwalk structure along this section of the walkway. The boardwalk structure has a very low impact on the ground and environment allowing the water to follow its natural flow maintaining the existing natural hydrology of the site.

Figure 9 & 10: Boardwalk across wet areas where natural hydrology is to be maintained

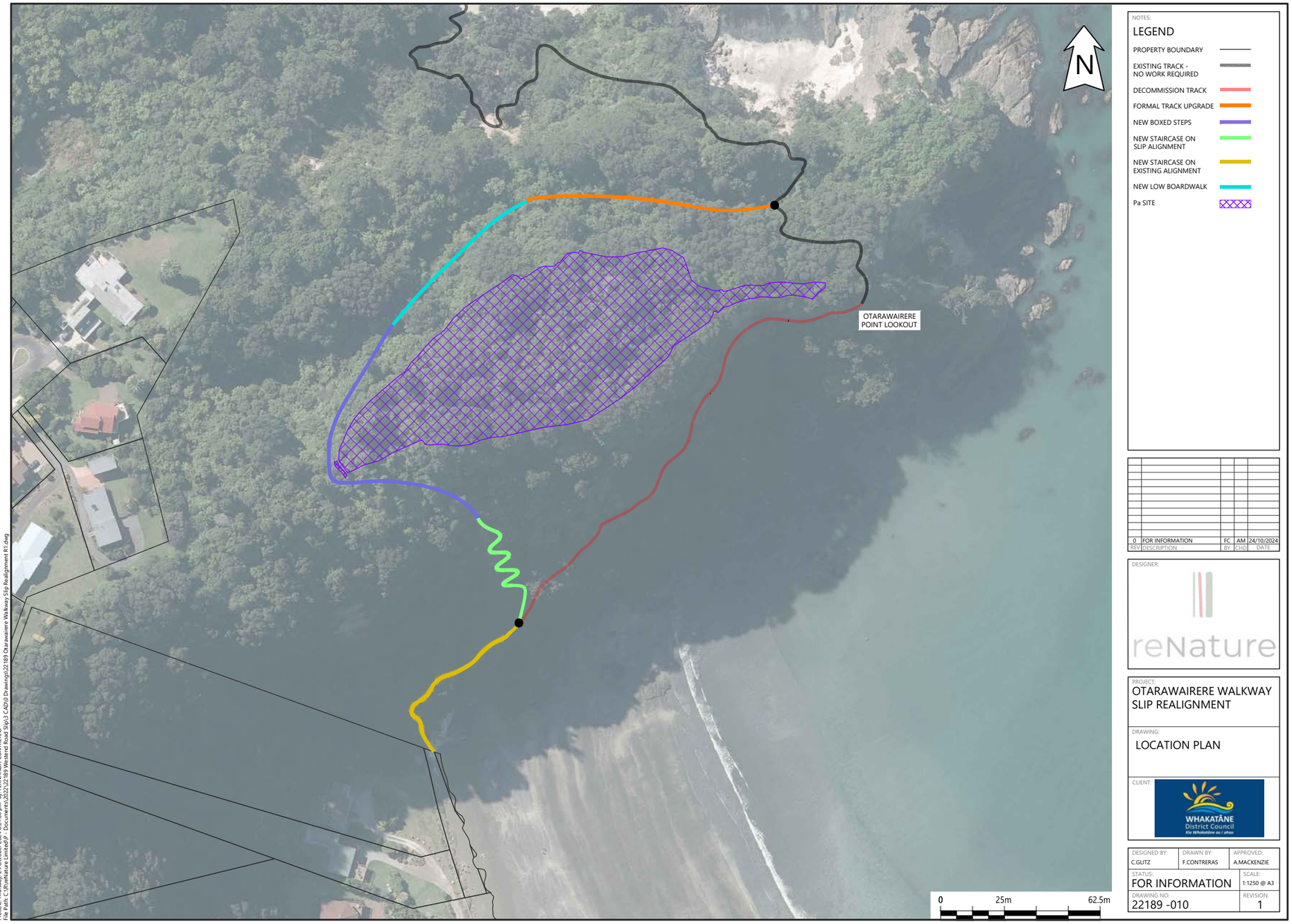
4.4 Track Connection

The final link from the bottom of the northern valley back to the original track is recommended to be predominately aggregate track with the occasional flights of boxed steps. This ties in with the rest of the track network and is a cost-effective solution for this section of works.

Figure 11 & 12: Typical aggregate track in bush setting with occasional small flights of boxed steps

6.4.4 Appendix D - reNature Limited Nga Tapuwae o Toi Trail Ohope to Otarawairere Beach Realignment Report 25 October 2024(Cont.)

Appendix A: Location Plan


N
OTARAWAIRERE
POINT LOOKOUT
0
25m
62.5m
NOTES:
LEGEND
PROPERTY BOUNDARY
EXISTING TRACK -
NO WORK REQUIRED
DECOMMISSION TRACK
FORMAL TRACK UPGRADE
NEW BOXED STEPS
NEW STAIRCASE ON
SLIP ALIGNMENT
NEW STAIRCASE ON
EXISTING ALIGNMENT
NEW LOW BOARDWALK
Pa SITE
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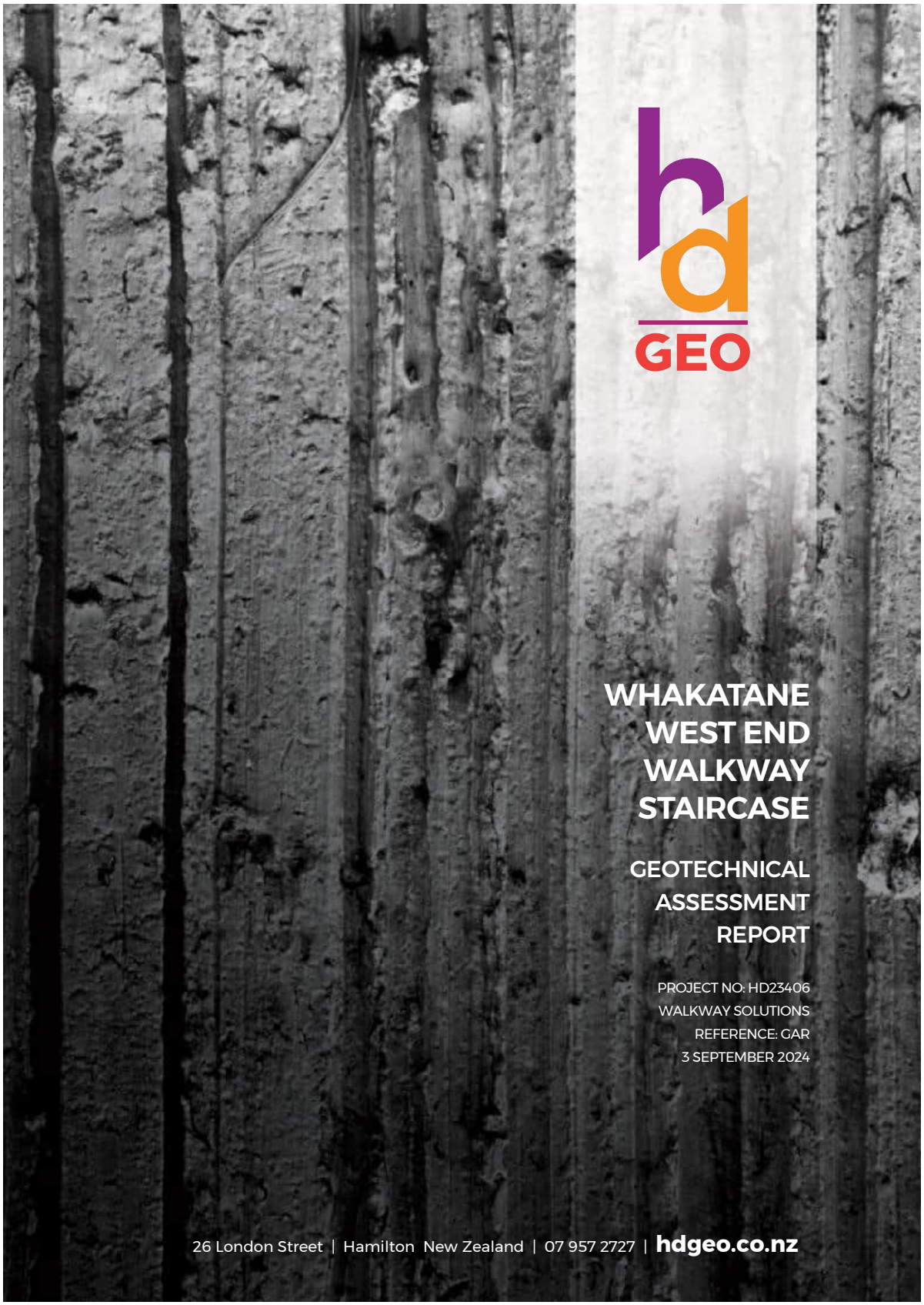
24/10/2024
DESIGNER:
reNature
PROJECT:
OTARAWAIRERE WALKWAY
SLIP REALIGNMENT
DRAWING:
LOCATION PLAN
CLIENT:
WHAKATĀNE
District Council
DESIGNED BY:
C.GLITZ
DRAWN BY:
F.CONTRERAS
APPROVED:
A.MACKENZIE
STATUS:
FOR INFORMATION
SCALE:
1:1250 @ A3
DRAWING NO:
22189 -010
REVISION:
1
Plotted: Thursday, 24 October 2024 21:06 pm By: FERNANDA CONTRERAS
File Path: C:\ReNature Limited\P - Documents\2022\22189 Western Road Slip\3 CAD\0 Drawings\22189 Otarawairere Walkway Slip Realignment R1.dwg

reNature

Appendix B: Geotechnical Report

6.4.4 Appendix D - reNature Limited Nga Tapuwae o Toi Trail Ohope to Otarawairere Beach Realignment Report 25 October 2024(Cont.)



6.4.4 Appendix D - reNature Limited Nga Tapuwae o Toi Trail Ohope to Otarawairere Beach Realignment Report 25 October 2024(Cont.)

Executive summary

The walkway from Ohope beach up to the Otarawaiere Point Lookout was closed following two large landslides that occurred during Cyclone Gabirelle 2023. Whakatāne District Council propose to repair the walkway from Ohope to Otarawaiere Point Lookout by constructing a staircase up the escarpment of the southernmost landslide ('Slip 1') and then along to the lookout.

We have been engaged by Walkway Solutions on behalf of Whakatāne District Council to complete a geotechnical feasibility assessment for the proposed staircase. The purpose of our assessment and this report is to allow Whakatāne District Council and Walkway Solutions to plan next steps for repairing and opening the track.

The track from Ohope Beach to the Otarawaiere Point Lookout is currently closed with two separate fences constructed to stop people from accessing the area.

Our scope included

- a desktop study to review historical images, geological maps and existing reports.
- a site visit by a Senior Engineering Geologist to ropes access the alignment and complete geological mapping
- a feasibility assessment for the proposed staircase
- a summary our assessment and findings in a summary report

Our assessment is

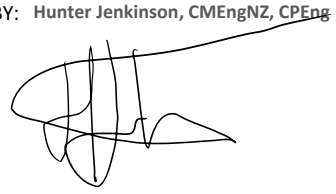
- the escarpment above Ohope beach has a history of landslides and instability triggered by rainfall.
- the proposed staircase alignment up 'slip 1' is unstable and there is a high risk of further movement within the next 5 to 10 years.
- the proposed staircase should not be considered unless the slope is stabilised using soil nails and mesh or similar systems
- the surrounding slopes are also unstable, and we expect additional landslides to occur in the next 5 to 10 years.
- Preliminary grouted anchor bond strengths range from 15 to 35 kN per anchor for 6 to 8 m long anchors

Our recommendations are

- Walkway Solutions and Whakatāne District Council review the options included in this report before engaging HD Geo for a meeting to discuss these further.
- once an option is chosen, we recommend Rough Order Costings (ROCs) are completed for further assessment, detailed design and construction.
- we recommend the track from Ohope Beach to the Otarawaiere Point Lookout remains closed until a permanent solution is implemented.
- ongoing visual assessments from Ohope beach should be completed by Whakatāne District Council to note down any further movement along the escarpment. This should include the following information: Photos, brief description of what happened, date and weather conditions at the time of movement.

Contents

PREPARED BY: **Hunter Jenkinson, CMEngNZ, CPEng**



SENIOR ENGINEERING GEOLOGIST

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Tel 027 355 3353

REVIEWED BY **James Stringer, CMEngNZ (PEngGeol)**

PRINCIPAL ENGINEERING GEOLOGIST

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6.4.4 Appendix D - reNature Limited Nga Tapuwae o Toi Trail Ohope to Otarawairere Beach Realignment Report 25 October 2024(Cont.)

Introduction

A part of the Ngā Tapuwae o Toi Walkway from Ohope beach up to the Otarawaiere Point Lookout (Figure 1) was closed following two large landslides that occurred during Cyclone Gabirelle 2023. Whakatāne District Council propose to repair the walkway from Ohope to Otarawaiere Point Lookout by constructing a staircase up the escarpment of the southernmost landslide ('Slip 1') and then along to the lookout.

We have been engaged by Walkway Solutions on behalf of Whakatāne District Council to complete a geotechnical feasibility assessment for the proposed staircase. The purpose of our assessment and this report is to allow Whakatāne District Council and Walkway Solutions to plan next steps for repairing and opening the track.

The track from Ohope Beach to the Otarawaiere Point Lookout is currently closed with two separate fences constructed to stop people from accessing the area. On site observations highlighted there has been some foot traffic going across the landslide.

Figure 1: Ngā Tapuwae o Toi Walkway. Image sourced from www.alltrails.com. Red portion of track is currently closed.

Scope

The scope of our assessment is outlined in our proposal dated 11/07/2024 (ref 6835) and included:

- a desktop study to review historical images, geological maps and existing reports.
- a site visit by a Senior Engineering Geologist to ropes access the alignment and complete geological mapping
- complete a feasibility assessment for the proposed staircase
- summarise our assessment and findings in a summary report (this report)

Site description

The Ngā Tapuwae o Toi Walkway is located around the coast of the Kohi Point Scenic Reserve between Whakatane and Ohope beach. The area comprises steep coastal cliffs and slopes covered in

thick native vegetation including large Pohutukawa trees. The landscape is a result of faulting and uplift along the Whakatane Fault which runs along the western side of the reserve.

The site of interest is located at the western end of Ohope beach where the track once climbed up to the Otarawaiere Point Lookout. The track traverses very steep (>60 degree) slopes that are generally well vegetated. Areas of sparse or no vegetation have been created due to previous landslides. The track was destroyed at two locations between Ohope Beach and the lookout during Cyclone Gabirelle 2023. Our site is the first landslide that occurred and has been defined as 'Slip 1' by CMW Geosciences Ltd[1]. The second landslide, 'Slip 2' is outside the scope of our work and will not be discussed any further.

'Slip 1', as shown in Figure 2, is about 30 m wide with the most resent head scarp located 41 m (vertically) above the foreshore. The scarp slope ranges from 60 to 80 degrees. Older heads scarp are visible further up the slope however these are now being grown over by grasses and low vegetation. Water seepage is common and surface water erosion is observed in the landslide debris that is hung up on the slope.

The base of the landslide exposes hard, thinly bedded layers of sandstone and mudstone which is assessed to the be greywacke basement rock. The geological contact to the younger marine sand and mudstone layers is located about 24 m above the foreshore (just above the old walkway alignment).

The original walkway alignment traversed the slope at about 24 m RL with the track fully destroyed in the landslide. An unofficial track has been reformed over the landslide but it does not appear to be used frequently.

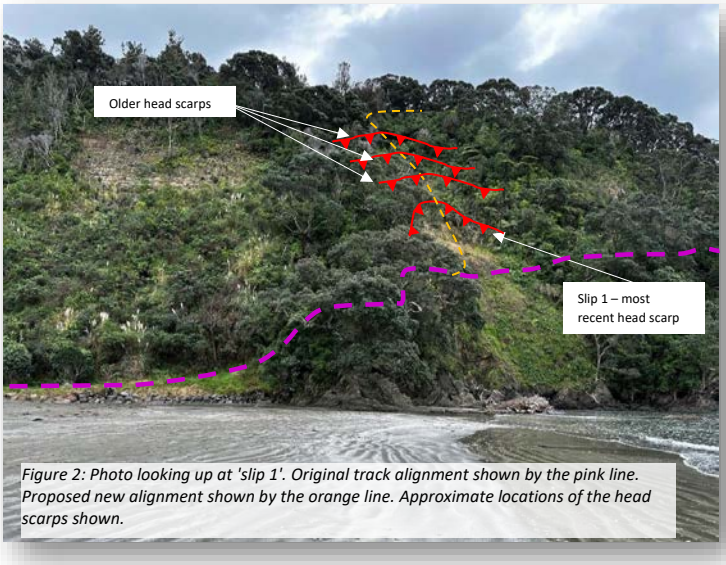


Figure 2: Photo looking up at 'slip 1'. Original track alignment shown by the pink line. Proposed new alignment shown by the orange line. Approximate locations of the head scarps shown.

[1] Geotechnical Investigation Report – Nga Tapu Wae O Toi Walkway, Ohope Beach. Completed by CMW Geosciences for Whakatane District Council. Dated 11 December 2023. Reference TGA2023-0194AB Rev 0

Proposed staircase

We have been supplied preliminary construction details by ReNature Ltd for the proposed staircase. It is to be constructed from timber framing and supported on the slope using ground anchors grouted into the slope. The staircase will climb from an RL of about 17 m up to 89 m as shown on our geomorphic site plan attached in Appendix A. A preliminary detail for the anchor connection is shown on drawing HD3306-200b-R0 in Appendix B.

Desktop study

Previous reports

We were supplied an existing report[2] completed by CMW Geosciences for the site. The main findings from their report are summarised below:

- Two landslides were identified and called "slip 1" and slip 2".
- A cantilevered boardwalk was proposed to reinstate the track across both slips.
- A report by Tonkin and Taylor was summarised as stating *"a history of slips at the Ohope Escarpment, dating back to 1946. In the last 20 years, two occurrences of large-scale landsliding have happened: during and following an intense rainstorm in July 2004, and during an 18 month period between May 2010 and October 2011. The report concluded that the steep slopes mantled by weak deposits are highly susceptible to landslide generation during high intensity rainfall events".*
- Two hand augers (HA01 and 02) were complete, one at each slip. The hand augers refused at 0.3 and 0.4 m below ground level respectively. They assessed the upper soils as colluvium mantling the Whakatane Greywacke at slip 1 (HA01) and uncontrolled fill, topsoil and colluvium were found in in HA02 to overlie the "Ohope Sandstone Beds" in HA02 at slip 2.
- Ground water was not identified in their October site investigation, but localised perched systems could occur during and following rainfall.
- The failure mechanism for slip 1 is assessed as *"shallow landslide of primarily soil from atop the steep rock faces. The crest of this slip sits above the previous walkway and runs to the base of the escarpment. Testing indicates 0.3m depth of colluvium sits atop the Whakatane Greywacke, which is weakened and mobilised by increased amounts of rainfall. This soil is held together by the root systems of vegetation on the cliff sides. Small bushes and vegetation have since regrown in the deposited colluvium".*
- They recommend an allowable anchor bond stress of 150 kPa for both the geological formations.

Geology

We have interpreted and assessed the geology of the site from investigation information, onsite observations in rock outcrops and reviewing relevant geological maps[3]. The site is mapped as the Tauranga Group (Pleistocene marine and airfall deposits) overlying the Whakatane Mélange (Late Jurassic aged sand and mudstone "greywacke").

[2] Geotechnical Investigation Report – Nga Tapu Wae O Toi Walkway, Ohope Beach. Completed by CMW Geosciences for Whakatane District Council. Dated 11 December 2023. Reference TGA2023-0194AB Rev 0
[3] *1:250 000 Geological Map 5 (Rotorua) (QMAP). Geological & Nuclear Sciences Limited, physical map*

Tauranga Group

The Qmap for the area describes this unit as *"Marine mudstone and sandstone primary volcanic fall deposits and alluvium; east of Opotiki comprises weathered alluvial greywacke conglomerate, clayey paleosols, tephra, organic paleosols and loess".*

Whakatane Mélange

The underlying basement rock is described as *"deformed sandstone and mudstone, in places alternating (Kew); locally broken formation or mélange with blocks of chert, basalt, limestone, diamictite and marble; matrix commonly consists of scaly mudstone".*

Aerial images

We have reviewed aerial images dating back to 1962. The images indicate the site has a history of instability with several landslides and slope instability features highlighted in the images which we have attached in Appendix C.

Our main findings were:

- At least 15 landslides have been identified since 1962. It is likely several more have occurred between photos but have been covered by vegetation or are at a scale that they are not easily seen.
- The landslides from 1962 to 2020 are of moderate size (estimated to range from 25 to 125 m^3) and appear relatively shallow.
- The landslides observed in the 2023 image are larger (estimated to range from 125 to 175 m^3) then the previous landslides. These landslides have also fluidised into debris flows at the toe of the escarpment and reaching the residential properties below the slope.
- Vegetation covers the scarp features within 1 to 2 years.

Site visit

A senior engineering geologist from HD Geo completed a site visit on the 12th and 13th of August 2024. We were provided ropes access from the top of the escarpment above the landslide by Avalon Industrial Ltd.

We abseiled down the slope to identify key geomorphic and geological features that can be used to assess the stability of the slope. The major findings are listed below:

- The slope is grading at between 50 to 60 degrees from RL of 90 m before increasing to 70 to 80 degrees below RL 20 m.
- At the top of the escarpment, directly above the landslide, is a 'trench' like feature. It is 3 to 4 m deep and about 4 to 5 m wide and daylights out to the slope at either end. The owner of 118 Otarawaiere Road discussed that it is an ancient Māori war trench.
- We located four different head scarps, with the top one located about 15 m below the top of the escarpment and the bottom (the most recent) about 50 m below the top of the escarpment.
- The top head scarp was open by about 100 mm with water seepage flowing into the failure plane.
- Multiple points of ground water seepage were identified coming of the slope and scarp faces
- The older scarps further up the slope have revegetated in grasses and low shrubs.
- The head scarps generally exposed saturated silty sand and some areas of clay.
- A conglomerate layer was located directly above the most recent head scarp

- The contact between the Tauranga Group and Whakatane Mélange is located at about an RL of 24 m.
- A yellow subsoil pipe was located above the original track alignment and is likely related to removing surface water and ground water seepage from above the track surface
- An older track alignment and stairs was located on the norther side of the slip. The stairs appear to be getting squeezed as the colluvium is moving down the slope.

We have attached some photos from our site visit in Appendix D.

Ground investigation

We abseiled the landside a second time to complete 3x shallow hand augers to gain a better understanding of the near level soil conditions. The result of our testing is summarised in Table 1 below with the test logs presented in Appendix A. The testing locations are shown on the geomorphic plan in Appendix A.

Table 1: Ground investigation summary.

HA ID	Termination depth (m bgl)	Location	Summary of ground conditions
HA01	1.2	At the top of the ropes access point (RL 78)	Peaty wet topsoil was located from ground level to 0.5 m bgl. Below was alternating layers of wet sandy CLAY and clayey SAND to 1.2 m bgl. In-situ share vanes were completed in the clay and achieved 62 and 85 kPa.
HA02	1.0	Below the first head scarp (RL 72 m)	Peaty wet topsoil was located from ground level to 0.5 m bgl. Below was saturated fine sand to 0.7 m bgl. Clay was encountered to 1.0 m and achieved 185 kPa on the shear vane.
HA03	0.1	Above the 4th and most recent head scarp (RL 48 m)	Medium rounded gravel was encountered (conglomerate bed)

Generally, the near surface soils were saturated. Density appeared to increase as you move further down the slope and encounter the older layers of the Tauranga Group that have had more time to consolidate.

Geological ground model

We have developed a geotechnical ground model to portray key site features and conditions. The ground model is the basis for our assessment and design, detailed further in this report. The model has been formed from our site investigation, observations, and assessment. The model of the current situation through Section A-A is shown in Figure 3 below and in Appendix B.

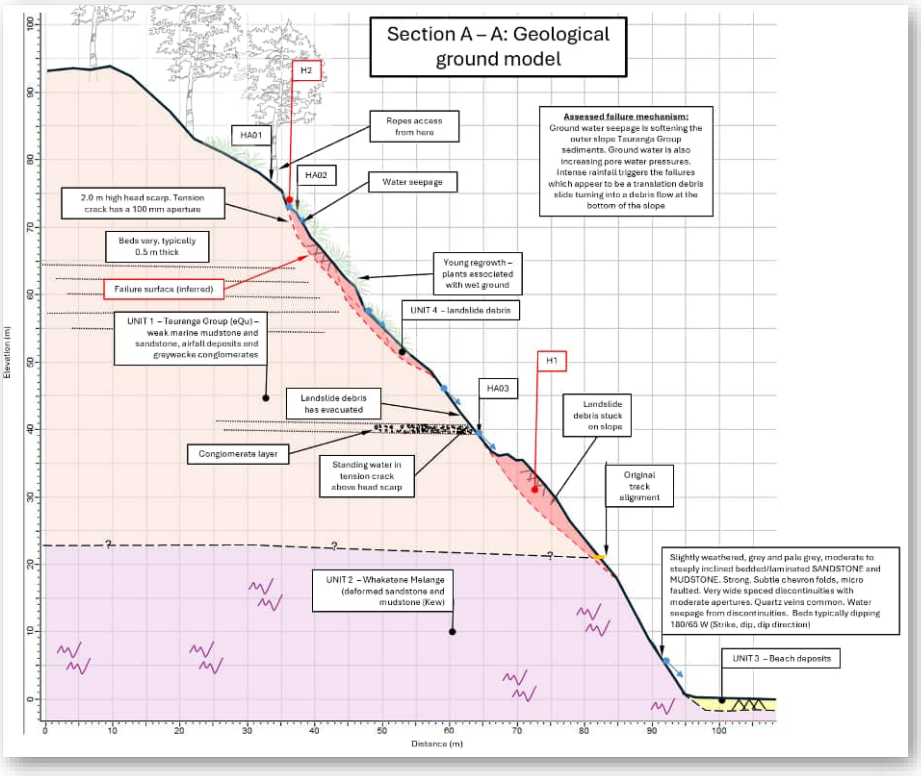


Figure 3: Geological ground model down 'slip 1' based on our onsite observations and the relevant geological maps.

Geotechnical assessment

Qualitative slope stability

Slip 1

Based on geological conditions and our onsite observations, 'Slip 1' is unstable with areas that are at risk of reactivation and failing at similar scale to what has occurred in the past. Based on the evidence of previous failures along the escarpment, we expect 'Slip 1' to re-activate within the next 5 to 10 years. Failure of the debris from the 2023 slip and minor erosion or smaller scale failure may occur sooner, 1 to 5 years. Re-activation is most likely to occur during or following prolonged or intense rainstorm events or a large earthquake.

Escarpment from Ohope Beach to Otarawaiere Point Lookout

Like 'Slip 1', we expect additional areas along the track from Ohope Beach to the Otarawaiere Point Lookout to fail in a similar manor. New landslide features could occur within the next 5-10 years based on the history of the site. Any new features are most likely to occur during or following prolonged or intense rainstorm events or a large earthquake.

Qualitative risk assessment – Slip 1

We have completed a semi-quantitative slope stability risk assessment for "slip 1" to understand the current risk from landslides. This assessment assumes the current onsite conditions with no additional stability works and the track is reopened across the landslide.

The methodology used is based on the AGS2007c[4] semi-quantitative risk assessment however, we have modified it to be applicable to this situation.

We have assessed there to be two key hazards on site: [H1] reactivation of the failed 2023 debris that is stuck on the slope and [H2] reactivation of the heads scarp further up the slope. Hazards present on the site are discussed in Table 2 below.

Table 2 - Site hazard register

Hazard ID	Description	Failure Mechanism	Trigger	Area (m²)	Largest block size diameter (m)	Length of track at risk from hazard(m)
H1	Reactivation of the failed debris	Composite, non-circular part rotational/prat translational slide grading to a earthflow at the toe	Increased pore water pressure	80	n/a	30
H2	Reactivation of the head scarps at the top of the slope	Translational debris slide grading to a earthflow at the toe	Increased pore water pressure, root jacking	400	n/a	30

Trigger and failure mechanism

Based on the information collected during our site inspection, we have assessed the trigger for the recent landslide as increase pore water pressure during intense or prolonged rainfall events and root jacking. Root jacking disturbs the subgrade and allow water to infiltrate further. The failure mechanism for the 2023 event is assessed as a Translational failure grading to an earthflow at the toe[5]. Reactivation of the head scarps further up the slope are assessed to be a composite, non-circular part rotational/part translational slide grading to an earthflow at the toe.

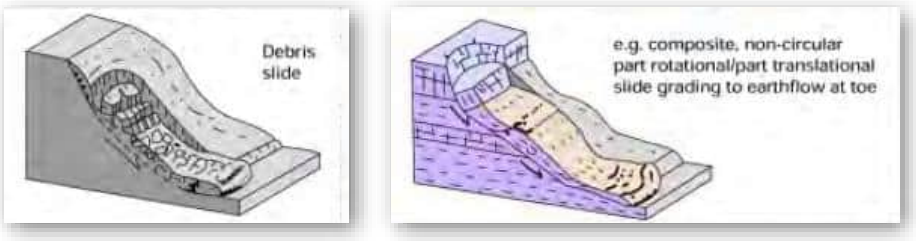


Figure 4 - Landslide classification for the mechanism present on site. Reproduced from Figure 2.1, NZGS Slope Stability and Guidance Series – Unit 1 – December 2023.

[4] Practice Note Guidelines for Landslide Risk Management 2007" Ref: AGS (2007c) - Australian Geomechanics Vol 42 No 1 March 2007
[5] Figure 2.1 - NZGS Slope Stability and Guidance Series – Unit 1 – December 2023

Semi-quantitative risk assessment

We have completed a semi-quantitative risk assessment for the geo hazards identified on site with the details and results presented in Table 3 below. Hazard locations and extents are shown on the geomorphic plan attached in Appendix B. Definitions of the likelihood and consequences are included in Appendix E.

It should be noted that the following assumptions are made for this semi-quantitative assessment which may lead to conservative results.

- If a failure occurs, someone will also be in the travel path
- likelihood and consequence are based on onsite information, historical activity at the site and our professional judgement
- the method does not account for peak and off-peak times of trail use
- the method does not account for seasonal weather conditions

Table 3 - Hazard risk assessment

Hazard ID	Likelihood	Risk to life/track user	
		Consequence	Qualitative risk
H1	Possible	Major	**H**
H2	Possible	Catastrophic	**H**

Risk assessment summary

Our semi-quantitative risk assessment presented above was completed for the existing conditions on site assuming the track is reinstated across the landslide surface.

H1 – Reactivation of the failed debris: We have assessed the likelihood of reactivation of the debris that is hung up on the slope as “possible (1 or more years)” as the debris has remained on the slope for at least 12 months since the event occurred however it is considered unstable and ongoing erosion is occurring. It is likely that this material will reactivate and fail during a future large rainstorm event. The consequence to track user has been assessed as “major”, serious injury or death would result if they were caught in the failing material however there is a chance that someone could get off the slope before it completely fails. The consequence to the asset has been assessed as “medium” as we expect major damage to the track which may not allow for a simple realignment to occur.

H2 - Reactivation of the head scarps at the top of the slope: We have assessed the likelihood of reactivation of the other head scarps further up the slope as “possible (within 10 years)” as our onsite observation indicate these are progressive failures and generally this scale of failure in the area is triggered 1 in every 10 years. The consequence to track user if present has been assessed as “catastrophic”, death would occur as we consider this type of failure would be rapid and evasive action is unlikely. The consequence to the asset has been assessed as “medium” as we expect major damage to the track which may not allow for a simple realignment to occur.

Proposed Options

Option 1: Proposed suspended staircase

The proposed staircase will have an elevation gain of approximately 70 m and will travel up ‘Slip 1’ to the top of the escarpment. The staircase will be suspended off the ground and supported on footings which are tied into the slope using grouted soil nails.

When "Slip 1' re-activates, lateral loads will be applied to the foundations. If the foundations are not designed to resist these, structural failure could occur. Furthermore, the failing debris will impact the structure as it falls down slope, causing damage and possibly a catastrophic collapse. If a track user was present at that time, death would likely occur as they would be thrown from the staircase down the slope or buried within the landslide debris.

Stabilise the slope

The risk of structural failure could be mitigated by installing soil nails and mesh to stabilise the unstable areas and hold them in place. Additional geotechnical investigation and assessment will be required to confirm if this is technically feasible. Based on the low strength soil conditions and shallow ground water table, we expect the soil nails will require long bonded lengths to achieve the required capacity. We have provided some preliminary grouted anchor bond strengths in the following section.

We understand that soil nails and mesh are not desired by the client and local Iwi due to aesthetics and cost.

Preliminary grouted anchor/soil nail capacity

We have completed preliminary calculations to give an indication on anchor grout to ground bond strength within the Tauranga Group soils. The bond strength for a range of anchor lengths is provided in Table 4 below.

We have assumed the following parameters for the preliminary calculations:

- fully saturated soils, buoyant unit weight = 6kN/m^3
- Friction angle = 32 deg
- Cohesion = 4 kN/m^2
- Strength Reduction Factor (SRF) = 0.5
- Drilled hole diameter (mm) = 100 mm

The bond strengths given can be used for Rough Order Costing (ROC) purposes only. Further detailed assessment and design will be required to confirm the capacity.

On site investigation anchors will need to be installed and load tested to ensure the design bond strength can be achieved prior to construction occurring. Load testing will be completed in accordance with the NZGS anchor design guidance[6].

Table 4: Preliminary ground anchor bond strength. Detailed design and onsite investigation anchor load testing is required to confirm actual capacity achieved.

Anchor inclination (deg)	Bond length (m)	Factored bond strength per anchor (kN)
25	6.0	20
25	8.0	35
75	6.0	15
75	8.0	25

[6] *NZGS Ground anchors: Design and Construction Guidelines – March 2023*

Option 2: Original alignment - suspended board walks

The previous option was to construct a suspended board walk across 'slip 1' and 'slip 2' as presented in the CMW report dated 11 December 2023. The CMW report did not address slope stability above or between these areas or the risk to the user or asset from slope instability. This option can still be considered however, the risk from landslides to the user and structure needs to be understood.

A quantitative landslide risk assessment using the Department of Conservation (DOC) Natural Hazards Risk Assessment Part 3[7] framework (or similar quantitative methods) needs to be completed to quantify the risk. This will allow the key stakeholders to make an informed decision on this option.

HD Geo are experienced with this framework and have completed several of these assessments for DOC in the past. It will cost between $25,000 to $30,000 excluding GST for us to complete one of these assessments. We would need to return to site to complete additional field mapping and assessments along the section of track from Ohope Beach to the Otarawaiere Point Lookout. For costing purposes, we expect that ropes access would be required to assess the conditions further along the slope including 'Slip 2'.

Option 3: Permanent closure

If Option 1 or 2 are not feasible due to cost or risk, the section of track from Ohope Beach to the Otarawaiere Point Lookout needs to be closed. Permanent fences and information signs would need to be installed to keep people out and inform people of the risks if they bypass the safety fences.

This option would have an impact on the local community and economy.

Recommendations

- We recommend that Walkway Solutions and Whakatāne District Council review the options included in this report before engaging HD Geo for a meeting to discuss these further.
- Once an option is chosen, we recommend Rough Order Costings (ROCs) are completed for further assessment, detailed design and construction.
- We recommend the track from Ohope Beach to the Otarawaiere Point Lookout remains closed until a permanent solution is implemented.
- Ongoing visual assessments from Ohope beach should be completed by Whakatāne District Council to note down any further movement along the escarpment. This should include the following information: Photos, brief description of what happened, date and weather conditions at the time of movement.

Summary

The escarpment above Ohope beach has a long history of landslides and instability with rainfall being the main trigger. Our semi-quantitative risk assessment indicates the risk from 'slip 1' if the track was reinstated as per the original configuration is medium to high.

We believe that the proposed staircase is not feasible due to the risk from future instability unless the slope is stabilised with soil nails and mesh.

The original proposal to traverse 'slip 1' and 'slip 2' could be reconsidered however a quantitative risk assessment needs to be completed to inform this decision.

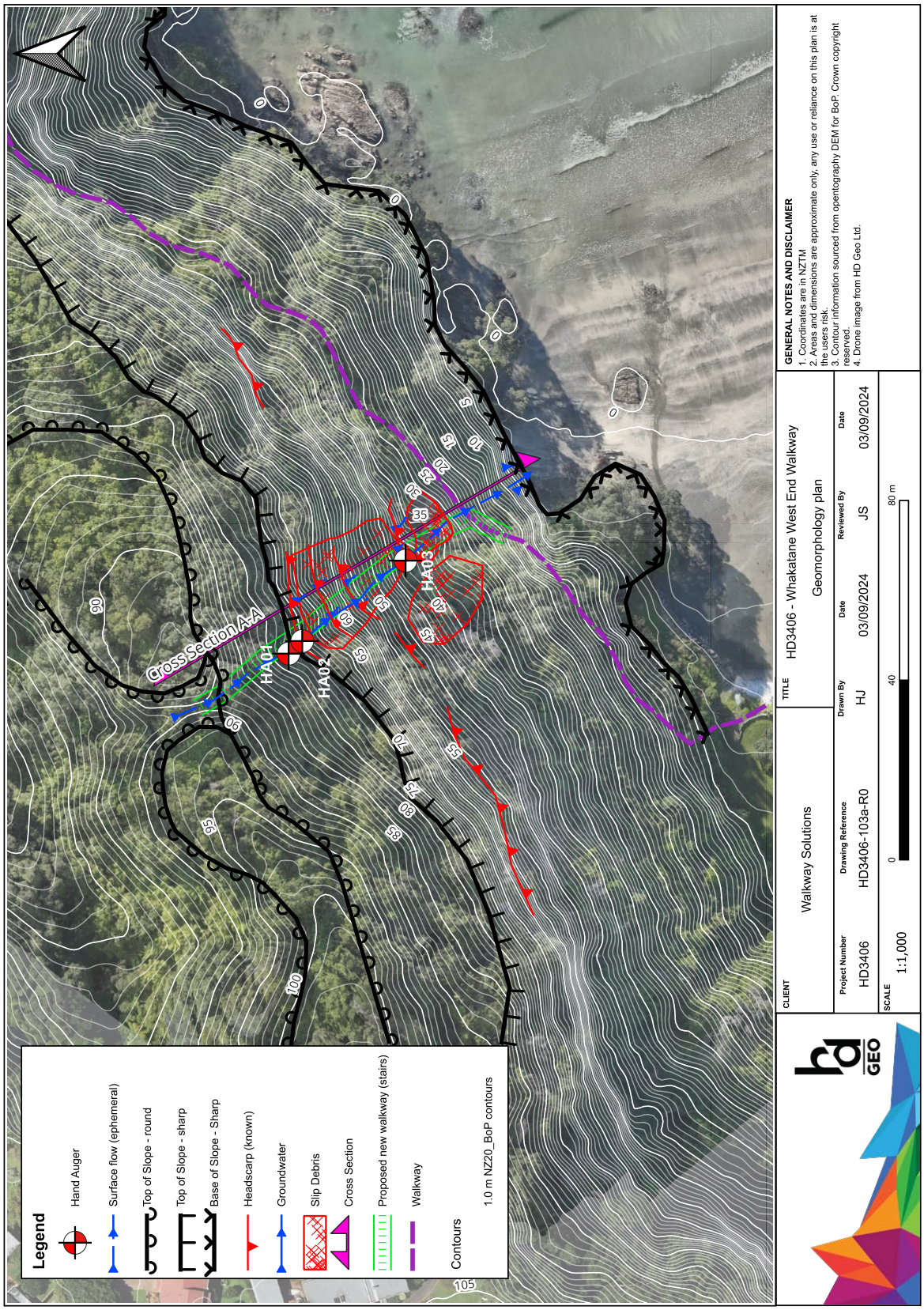
[7] Guidelines for Natural Hazard Risk Analysis (NHRA) on Public Conservation Lands and Water – part 3: Preliminary hazard and exposure analysis for landslides. June 2020 – Revised May 2022.

Limitation

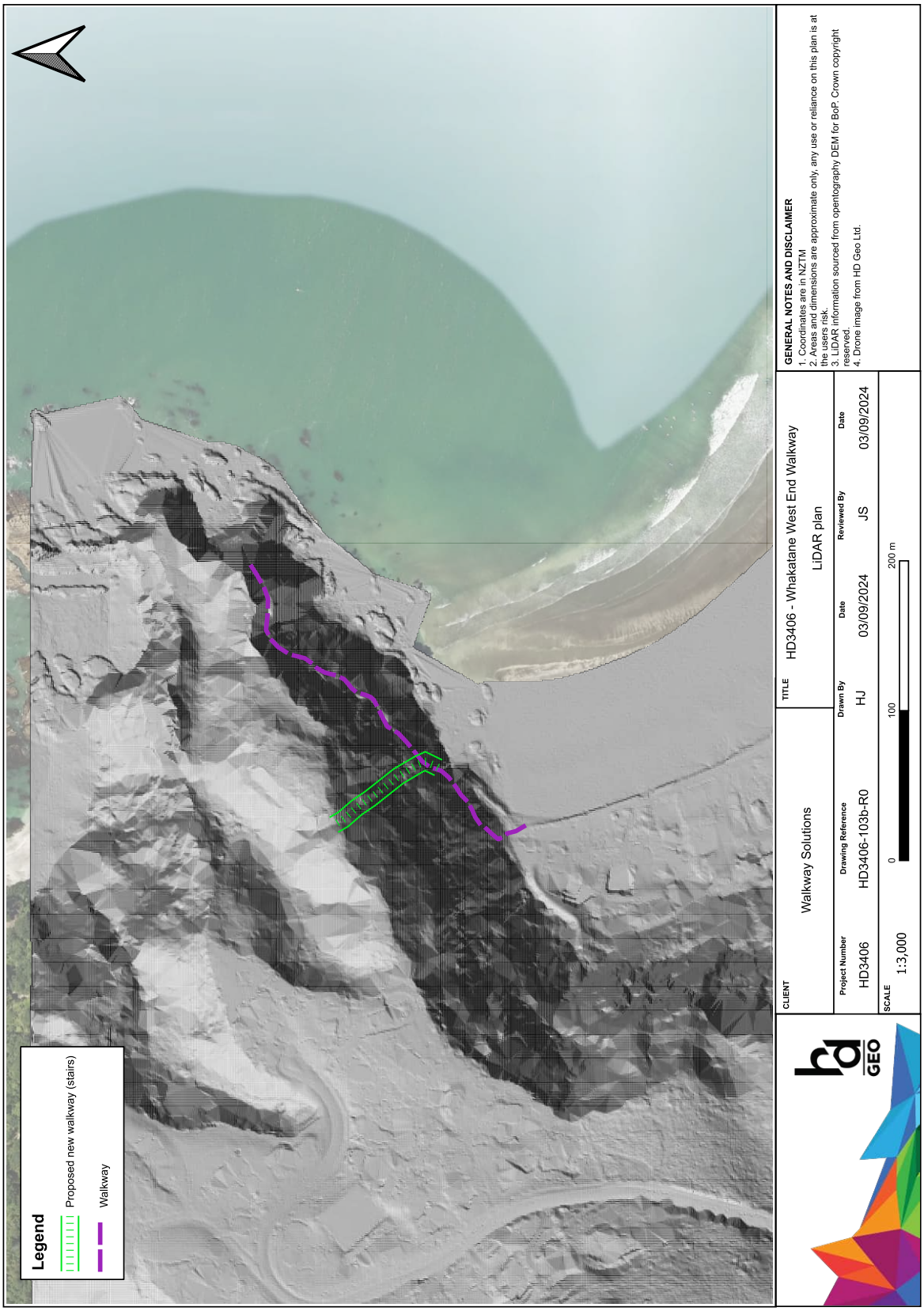
This report has been prepared for our client, Walkway Solutions on behalf of Whakatāne District Council, for the purpose detailed above and may not be relied on by any other party or for any other purpose. This report contains an assessment based on a site walkover and review of previous reports and assessments. Inferences about the conditions at the site have been made based on our onsite observations and our understanding of the geological environment in which the site lies. The nature of the soil deposition in this area is such that ground conditions can vary significantly across small distances.

APPENDIX A –SITE PLANS AND TESTING

6.4.4 Appendix D - reNature Limited Nga Tapuwae o Toi Trail Ohope to Otarawairere Beach Realignment Report 25 October 2024(Cont.)



6.4.4 Appendix D - reNature Limited Nga Tapuwae o Toi Trail Ohope to Otarawairere Beach Realignment Report 25 October 2024(Cont.)



6.4.4 Appendix D - reNature Limited Nga Tapuwae o Toi Trail Ohope to Otarawairere Beach Realignment Report 25 October 2024(Cont.)

INVESTIGATION LOG

Job No.: HD3406

Client: Walkway Solutions
Project: Whakatāne West End Walkway Staircase
No.: HA01

Location: at ropes, top
Co-ordinates: 1953483mE, 5791598mN
Elevation: 78m
Date: 12.08.24
Logged By: HJ
Checked By: HJ

Geology	Geological Interpretation (refer to separate Geotechnical and Geological Information sheet for further information)	Depth (m)
Topsoil	TOPSOIL; dark brown. Moist.	0.2
Tauranga Group	CLAY, with some sand; greyish brown. Wet; low plasticity.	0.4
		0.6
	Sandy CLAY; greyish brown. Wet; low plasticity.	0.8
	CLAY, with some sand; greyish brown. Wet; low plasticity.	1.0
	SAND, with some clay; greyish brown. Wet; low plasticity. 1.1 m - 1.2 m: Becomes pale grey, wet.	1.2
	EOH: 1.20 m	1.4
		1.6
		1.8
		2.0
		2.2
		2.4
		2.6
		2.8
		3.0

Legend

Scala Penetrometer (Blows / 100 mm): 2 4 6 8 10 12 14 16 18

Vane Shear Strength (kPa) Vane: 2108: 50 100 150 200 250

62
12
85
15

Water: Groundwater Not Encountered

Photo

Remarks

Hand auger completed to target depth of 1.2m.
Soil and rock descriptions logged in accordance with NZGS guidelines. Backfilled with arisings on completion.

Shear Vanes
- Peak
- Remoulded

Water
- Standing Water Level
- Out flow
- In flow

Investigation Type
- [x] Hand Auger
- [ ] Investigation Pit
- [ ] Machine Borehole

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Page 1 of 1

6.4.4 Appendix D - reNature Limited Nga Tapuwae o Toi Trail Ohope to Otarawairere Beach Realignment Report 25 October 2024(Cont.)

INVESTIGATION LOG

Job No.: HD3406

Client: Walkway Solutions
Project: Whakatāne West End Walkway Staircase
No.: HA02

Location: 1st scarp
Co-ordinates: 1953486mE, 5791595mN
Elevation: 72m
Date: 12.08.24
Logged By: HJ
Checked By: HJ

Geology	Geological Interpretation (refer to separate Geotechnical and Geological Information sheet for further information)	Depth (m)
Topsoil	TOPSOIL. Saturated.	0.2, 0.4
Tauranga Group	SAND; grey. Dense; saturated; sand, fine.	0.6
	SILT; grey. Saturated.	
	CLAY; light brown. Saturated; low to moderate plasticity.	0.8
	EOH: 1.00 m	1.0
		1.2, 1.4, 1.6, 1.8, 2.0, 2.2, 2.4, 2.6, 2.8, 3.0

Legend

Scala Penetrometer (Blows / 100 mm)
2 4 6 8 10 12 14 16 18

Vane Shear Strength (kPa) Vane: 2108
50 100 150 200 250
185
15

Water
0.5 m

Photo

Remarks

Hand auger completed to target depth of 1m.
Soil and rock descriptions logged in accordance with NZGS guidelines. Backfilled with arisings on completion.

Shear Vanes
Peak
Remoulded

Water
Standing Water Level
Out flow
In flow

Investigation Type
☑ Hand Auger
☐ Investigation Pit
☐ Machine Borehole

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Page 1 of 1

6.4.4 Appendix D - reNature Limited Nga Tapuwae o Toi Trail Ohope to Otarawairere Beach Realignment Report 25 October 2024(Cont.)

INVESTIGATION LOG

Job No.: HD3406

Client: Walkway Solutions
Project: Whakatāne West End Walkway Staircase
No.: HA03

Location: Above 4th scarp onto the most recent failure
Co-ordinates: 1953503mE, 5791572mN
Elevation: 43m
Date: 12.08.24
Logged By: HJ
Checked By: HJ

Geology	Geological Interpretation (refer to separate Geotechnical and Geological Information sheet for further information)	Depth (m)	Legend	Scala Penetrometer (Blows / 100 mm) 2 4 6 8 10 12 14 16 18	Vane Shear Strength (kPa) Vane: 50 100 150 200 250	Water
ang a Gro	GRAVEL. Gravel, medium, rounded, Conglomerate greywacke.	0.0				r Not
	EOH: 0.10 m	0.2				
		0.4				
		0.6				
		0.8				
		1.0				
		1.2				
		1.4				
		1.6				
		1.8				
		2.0				
		2.2				
		2.4				
		2.6				
		2.8				
		3.0				

Photo

Remarks

Hand auger terminated due to practical refusal at 0.1m.
Ground water was not encountered.
Soil and rock descriptions logged in accordance with NZGS guidelines. Backfilled with arisings on completion.

Shear Vanes
- Peak
- Remoulded

Water
- Standing Water Level
- Out flow
- In flow

Investigation Type
- [x] Hand Auger
- [ ] Investigation Pit
- [ ] Machine Borehole

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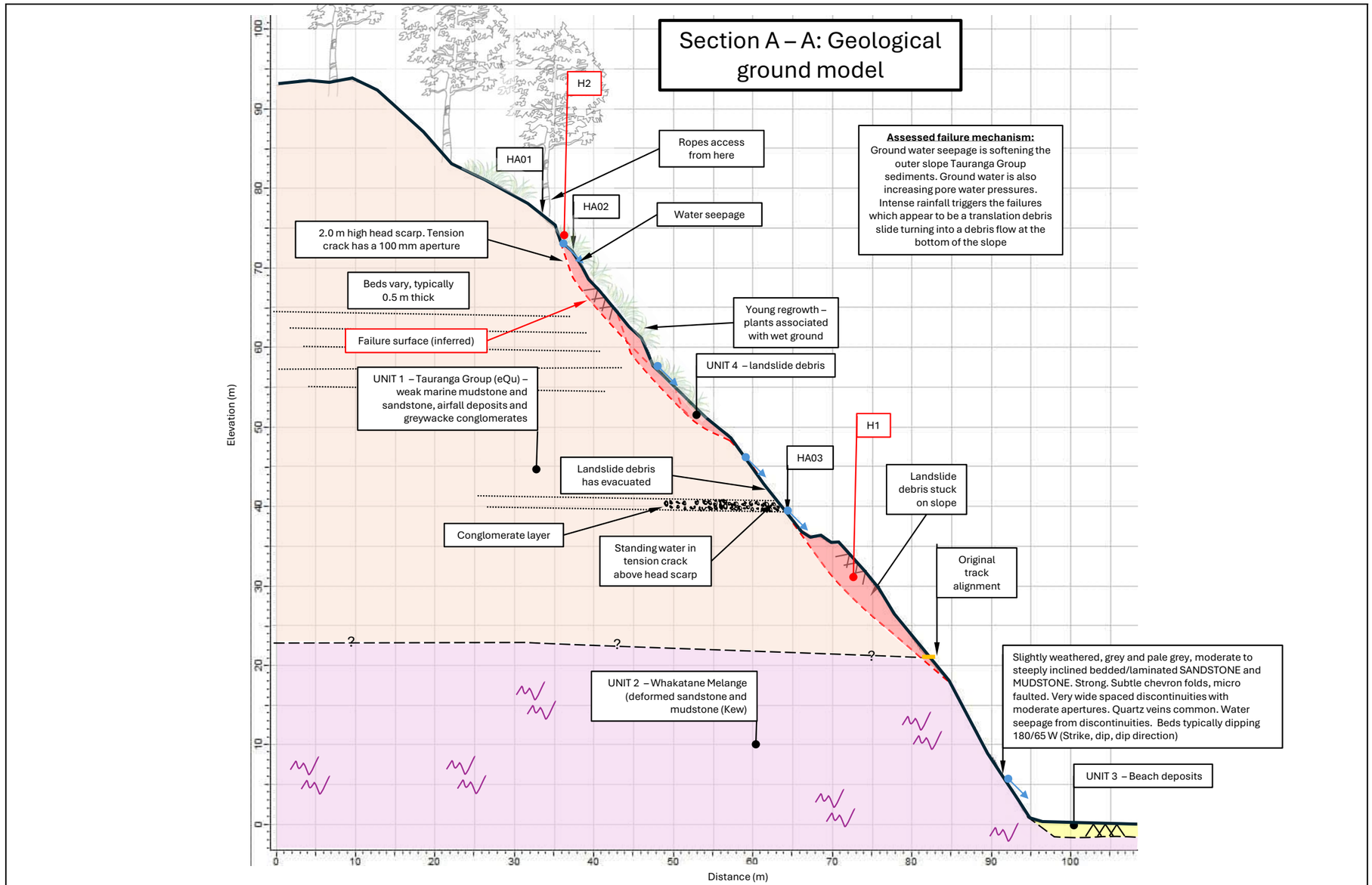
Page 1 of 1

APPENDIX B – SCHEMATIC GROUND MODEL

6.4.4 Appendix D - reNature Limited Nga Tapuwae o Toi Trail Ohope to Otarawairere Beach Realignment Report 25 October 2024(Cont.)

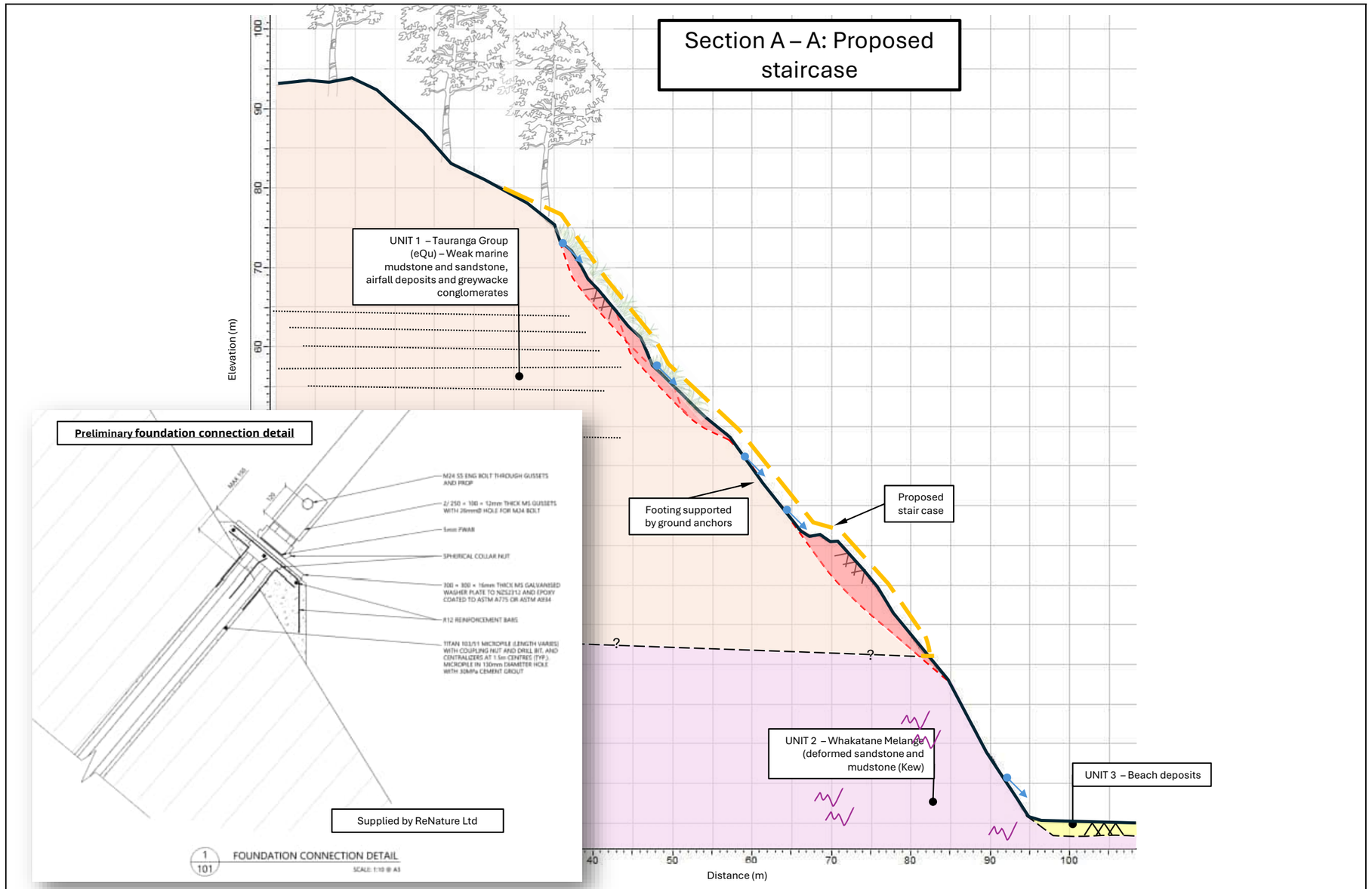


CLIENT	Walkway Solutions Ltd		**TITLE**	Whakatāne West End Walkway Staircase – Geological ground model	
Project Number	**Drawing Reference**	**Drawn By**	**Date**	**Reviewed By**	**Date**
HD3306	HD3306-200a-R0	HJ	17/08/2024	JS	29/08/2024
SCALE	0 50 m				

GENERAL NOTES AND DISCLAIMER

1. Current ground surface from Bay of Plenty, New Zealand 2019-2022 DEM
2. Schematic only. Measurements approx. do not scale.
3. Geology inferred from site observations, published geological information, and intrusive site investigation

6.4.4 Appendix D - reNature Limited Nga Tapuwae o Toi Trail Ohope to Otarawairere Beach Realignment Report 25 October 2024(Cont.)



CLIENT			TITLE		
Walkway Solutions Ltd			Whakatāne West End Walkway Staircase – Proposed		
Project Number	**Drawing Reference**	**Drawn By**	**Date**	**Reviewed By**	**Date**
HD3306	HD3306-200b-R0	HJ	17/08/2024	JS	29/08/2024
SCALE	0		50 m		

GENERAL NOTES AND DISCLAIMER
1. Current ground surface from Bay of Plenty, New Zealand 2019-2022 DEM
2. Schematic only. Measurements approx. do not scale.
3. Geology inferred from site observations, published geological information, and intrusive site investigation

APPENDIX C – HISTORICAL IMAGES

6.4.4 Appendix D - reNature Limited Nga Tapuwae o Toi Trail Ohope to Otarawairere Beach Realignment Report 25 October 2024(Cont.)

Figure 1. Historical Imagery from 1962. Approximate site location marked by red square.

Figure 2. Recent image from 2011. Approximate site location marked by red square.

6.4.4 Appendix D - reNature Limited Nga Tapuwae o Toi Trail Ohope to Otarawairere Beach Realignment Report 25 October 2024(Cont.)

Figure 3. Recent image from 2018. Approximate site location marked by red square

Figure 4. Recent image from 2019. Approximate site location marked by red square.

6.4.4 Appendix D - reNature Limited Nga Tapuwae o Toi Trail Ohope to Otarawairere Beach Realignment Report 25 October 2024(Cont.)

Figure 3. Recent image from 2020. Approximate site location marked by red square

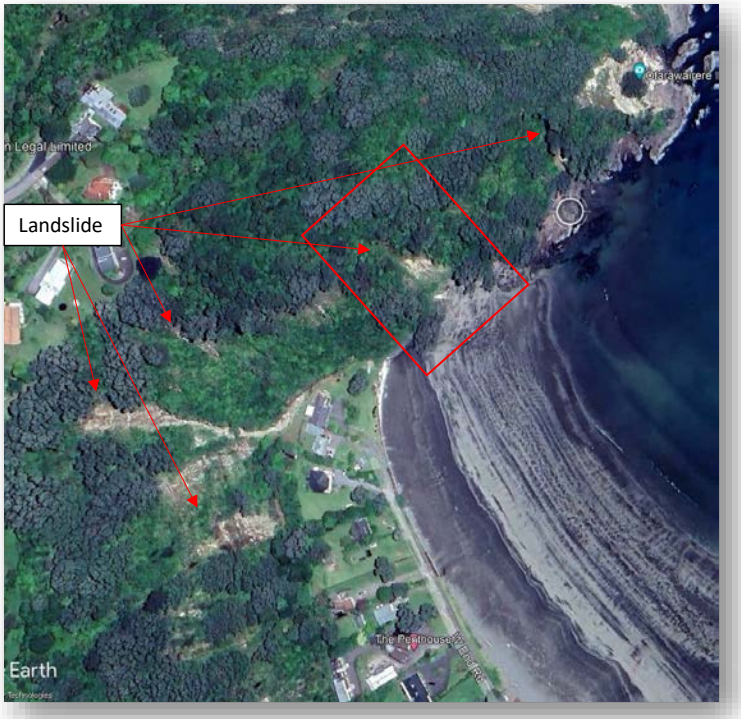


Figure 4. Recent image from 2023. Approximate site location marked by red square.

APPENDIX D – SITE PHOTOS

6.4.4 Appendix D - reNature Limited Nga Tapuwae o Toi Trail Ohope to Otarawairere Beach Realignment Report 25 October 2024(Cont.)

Photo 1: Looking up at 'slip 1'. Approx original track alignment shown by pink line.

Photo 2: Looking south at the escarpment above the dwellings. Old scarps can be seen.

6.4.4 Appendix D - reNature Limited Nga Tapuwae o Toi Trail Ohope to Otarawairere Beach Realignment Report 25 October 2024(Cont.)

Photo 3: Stairs up from the beach.

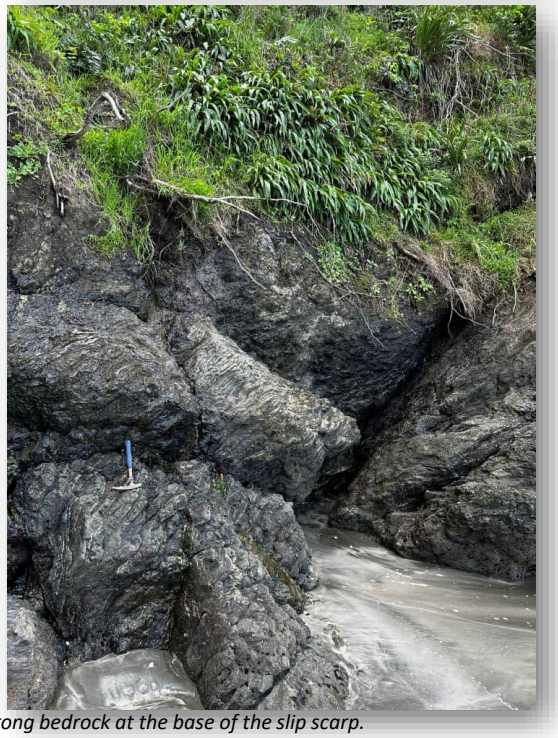


Photo 4: Strong bedrock at the base of the slip scarp.

6.4.4 Appendix D - reNature Limited Nga Tapuwae o Toi Trail Ohope to Otarawairere Beach Realignment Report 25 October 2024(Cont.)

Photo 5: Suspected historical war trench located above slip 1.

Photo 6: Head scarp 1. Hand auger is 1.2 m high for scale.

6.4.4 Appendix D - reNature Limited Nga Tapuwae o Toi Trail Ohope to Otarawairere Beach Realignment Report 25 October 2024(Cont.)

Photo 7: Head scarp 1. Looking south.

Photo 8: Between head scarp 1 and 2. Ground water seepage and algae.

6.4.4 Appendix D - reNature Limited Nga Tapuwae o Toi Trail Ohope to Otarawairere Beach Realignment Report 25 October 2024(Cont.)

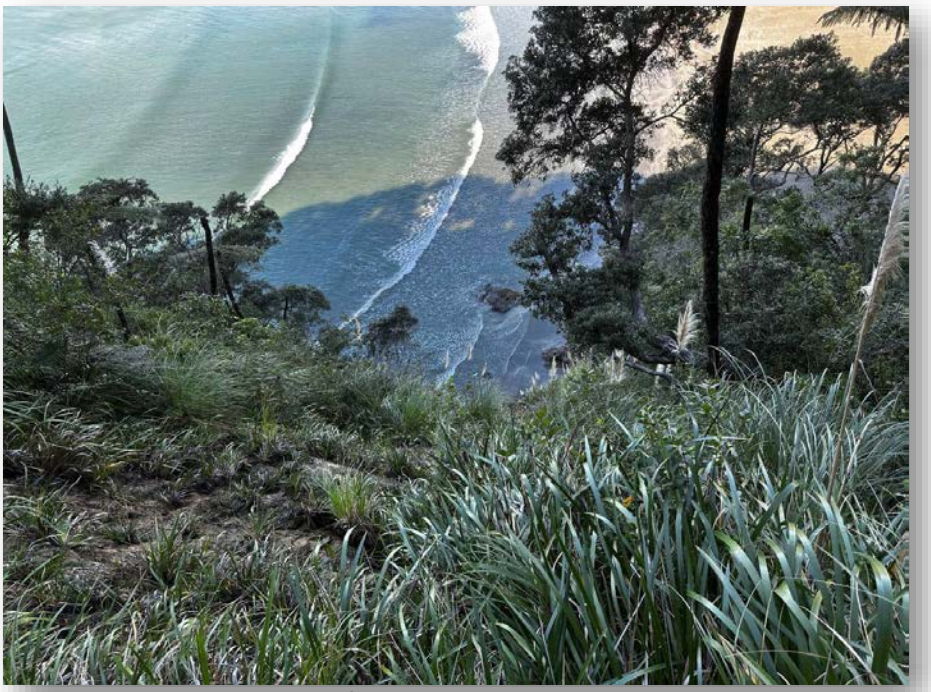


Photo 9: Looking down the landslide from slip scarp 3.

Photo 10: Looking at slip scarp 3. Ground water seepage. Geology hammer for scale and scratching exposing fine sand.

6.4.4 Appendix D - reNature Limited Nga Tapuwae o Toi Trail Ohope to Otarawairere Beach Realignment Report 25 October 2024(Cont.)

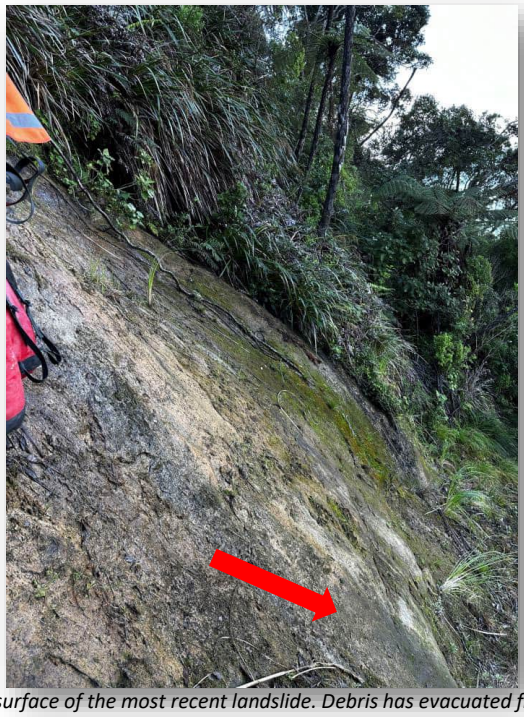


Photo 11: Slip surface of the most recent landslide. Debris has evacuated from this portion.

Photo 12: Transition from slip surface to debris that is hung up on slope.

6.4.4 Appendix D - reNature Limited Nga Tapuwae o Toi Trail Ohope to Otarawairere Beach Realignment Report 25 October 2024(Cont.)

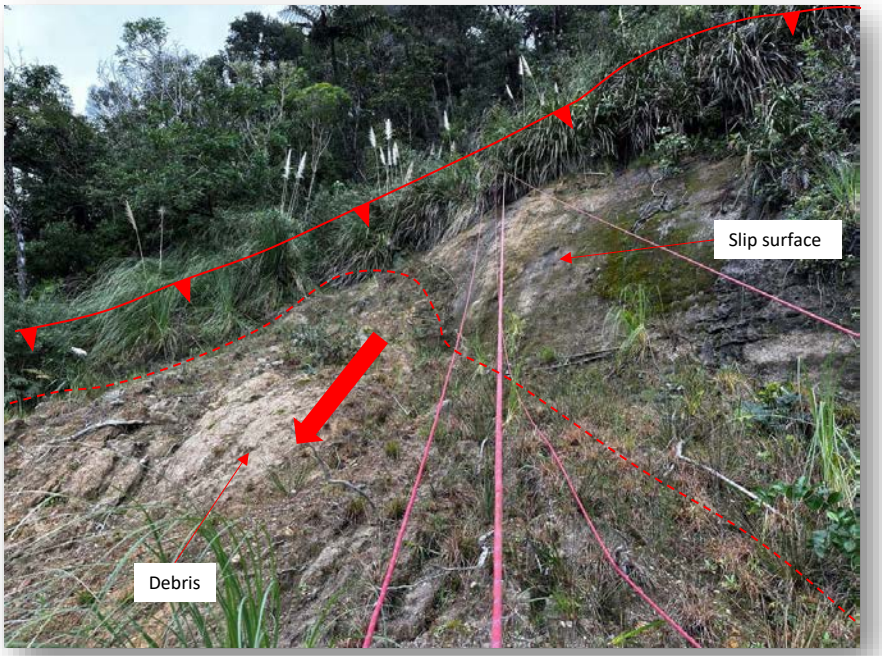


Photo 13: Looking up to the most recent head scarp.

Photo 14: Conglomerate above most recent slip scarp.

6.4.4 Appendix D - reNature Limited Nga Tapuwae o Toi Trail Ohope to Otarawairere Beach Realignment Report 25 October 2024(Cont.)

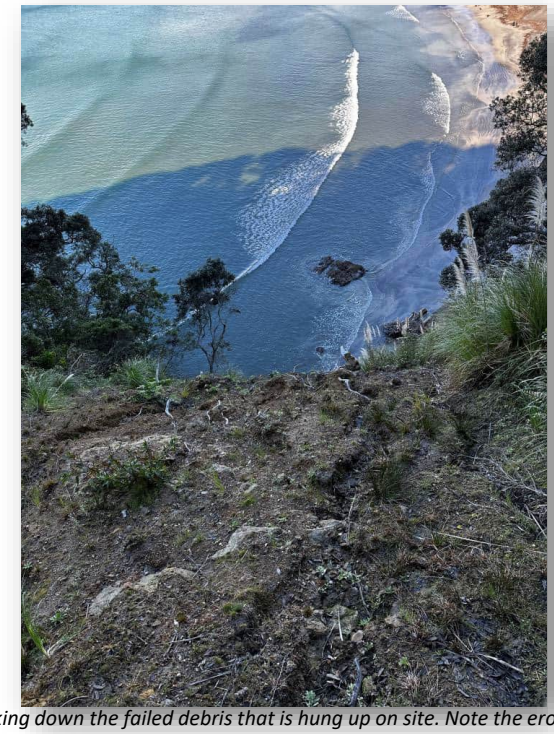


Photo 15: Looking down the failed debris that is hung up on site. Note the erosion from surface water.

Photo 16: exposed bedrock on the upslope side of the original track alignment across the slip. The rock here is moderately strong to weak, oxidized and generally easy to pick at with a hammer when compared to the outcrop on the foreshore.

6.4.4 Appendix D - reNature Limited Nga Tapuwae o Toi Trail Ohope to Otarawairere Beach Realignment Report 25 October 2024(Cont.)

Photo 17: Old subsoil pipe above the original track alignment.

Photo 18: Old track above the current alignment to the north of slip 1. The hand rails are being 'squeezed' by the colluvium that is moving down the slope.

APPENDIX E – RISK ASSESSMENT TABLES

LIKELIHOOD – The possibility of the hazard occurring.						
	Definition	**Definition**	**Annual probability (modified for walking/tramping tracks)**	**Example timeframes**	**Slope observations**	**Triggering event**
1	**Currently occurring**	The hazard is currently occurring	26	Weeks	Noticeable movement is occurring within hours. Large tension cracks or joint defect apertures, heavy ground water seepage.	Normal conditions, minor rainfall or small earthquake/aftershock.
2	**Almost Certain**	The hazard will occur in the near future	12	Months	There are obvious signs of an active mechanism with signs of active movement and failure. Movement is not noticeable over a couple of weeks.	Elevated ground water conditions, minor rain storm events and earthquakes
3	**Likely**	The hazard could easily occur	1	< 1 year - 1	The mechanism is noticeable but doesn't show immediate signs of reactivation or failure. Tension crack and joint defects are tights.	Common event - 1 year ARI rainfall event or minor earthquake
4	**Possible**	The hazard is known to happen	0.1	10 years - 0.1	Mechanism has occurred in the past. Mechanism could reactivate	10 year ARI
5	**Unlikely**	The hazard hasn't occurred in the past but it is feasible to occur in the future.	0.01	100 years - 0.01	Subtle features that suggest a mechanism is present (geological features). Movement is possible.	large scale uncommon event - 100 year ARI

Table 5 - Likelihood definitions

CONSEQUENCES- The <u>most likely</u> consequence should the hazard occur.			
	Definition	**Definition - risk to life (user)**	
5	**Catastrophic**	Death	
4	**Major**	Fatality is possible. Serious harm likely.	
3	**Medium**	Hospitalisation and either short or long-term disability	
2	**Minor**	Medical treatment or first aid or both	
1	**Insignificant**	Negligible - minor scrapes and bruising	

Table 6 - Consequences definitions

Likelihood				Consequence to property/asset/user				
		Approximate annual probability	Example timeframes	**1: Catastrophic**	**2: Major**	**3: Medium**	**4: Minor**	**5: Insignificant**
1	**Currently occurring**	2.6E+01	Weeks	VH	VH	VH	H	M
2	**Almost certain**	1.2E+01	Months	VH	VH	H	M	L
3	**Likely**	1.0E+00	< 1 year - 1	VH	H	H	M	L
4	**Possible**	1.0E-01	10 years - 0.1	H	H	M	L	VL
5	**Unlikely**	1.0E-02	100 years - 0.01	M	M	L	VL	VL
Note (1)	The risk assessment must clearly state whether it is for existing conditions or with risk control measures which may not be implemented at the current time.							

Table 7 - Risk matrix

RISK LEVEL IMPLICATIONS		
Risk level		Example Implications (7)
VH	Very High Risk	Unacceptable without treatment. Extensive detailed investigation and research, planning and implementation of treatment options essential to reduce risk to low; maybe to expensive and not practical. Work likely to cost more than value of the asset.
H	High Risk	Unacceptable without treatment. Detailed investigation, planning and implementation of treatment options required to reduce risk to low. Work would cost substantial sum in relation to the value of the asset.
M	Moderate Risk	May be tolerate in certain circumstances (subject to regulators approval) but requires investigation, planning and implementation of treatment options to reduce the risk to low. Treatment options to reduce to Low risk should be implemented as soon as practicable.
L	Low Risk	Usually acceptable to regulators. Where treatment has been required to reduce the risk to this level, ongoing maintenance is required.
VL	Very Low Risk	Acceptable. Manage by normal slope maintenance procedures.
Note: (7) The implications for a particular situation are to be determined by all parties to the risk assessment and may depend on the nature of the asset at risk; these are only given as a general guide.		

Table 8 - Risk level implication matrix

6.4.5 Appendix E - Tonkin & Taylor Ohope Beach West End Walkway Quantitative Landslide Risk Assessment Report June 2025

6.4.5 Appendix E - Tonkin & Taylor Ohope Beach West End Walkway Quantitative Landslide Risk Assessment Report June 2025(Cont.)

REPORT

Tonkin+Taylor

Ōhope Beach West End Walkway Quantitative Landslide Risk Assessment

Prepared for
Whakatāne District Council
Prepared by
Tonkin & Taylor Ltd
Date
June 2025
Job Number
1097509.0000 v3

Together we create and sustain a better world
www.tonkintaylor.co.nz

Document control

Title: Ōhope Beach West End Walkway Quantitative Landslide Risk Assessment –					
Date	**Version**	**Description**	**Prepared by:**	**Reviewed by:**	**Authorised by:**
7/03/2025	1	Draft	H McEwan D McCleary	D Milner	D Milner
13/05/2025	2	Draft. Updated with client comments and new sections on property risk/resilience.	H McEwan	D Milner	D Milner
25/06/2025	3	Final. Updated with client comments.	H McEwan D McCleary	D Milner	D Milner

Distribution:

Whakatāne District Council	1 electronic copy
Tonkin & Taylor Ltd (FILE)	1 electronic copy

6.4.5 Appendix E - Tonkin & Taylor Ohope Beach West End Walkway Quantitative Landslide Risk Assessment Report June 2025(Cont.)

Table of contents

6.4.5 Appendix E - Tonkin & Taylor Ohope Beach West End Walkway Quantitative Landslide Risk Assessment Report June 2025(Cont.)

1 Introduction

Tonkin & Taylor Ltd has been engaged[1] by Whakatāne District Council (WDC) to undertake a Quantitative Landslide Risk Assessment (QLRA) at Ōhope Beach West End Walkway.

Two landslides have occurred along the existing track from Ōhope Beach to Otarawairere Bay and have resulted in significant damage and ultimately track closure, see Figure 1.1. Options to remediate/realign the track have been undertaken by WDC and prompted the need to understand the potential landslide risk to users of the proposed track and to WDC staff.

The objective of the QLRA is to inform WDC of both the potential loss-of-life risk to users and property risk from landslide hazard. The QLRA considers both the existing track route (Route 1), and the proposed realignment (Route 2).

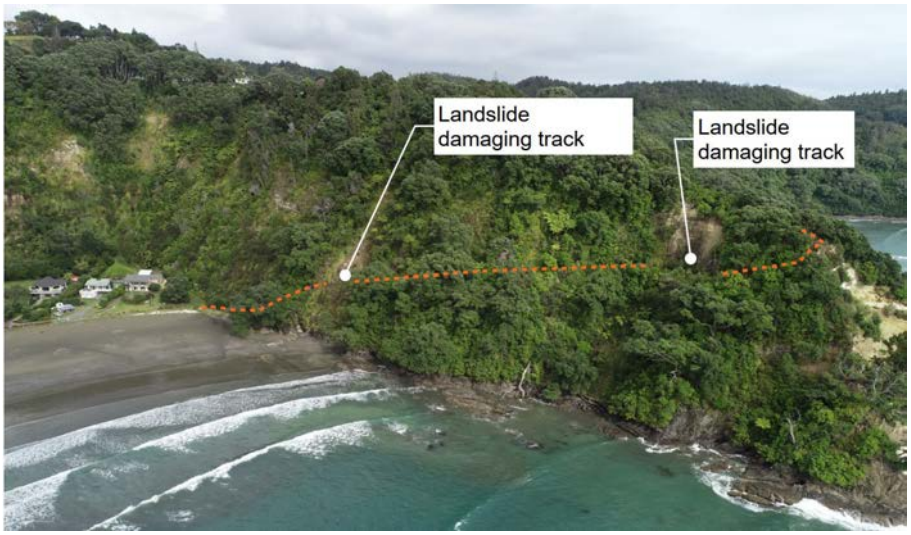


Figure 1.1: Two recent landslides damaging the existing track.

[1] Tonkin + Taylor Ltd. (December 2024). *Letter of Engagement, Ōhope Beach West End Walkway Quantitative Landslide Risk Assessment, Volume 1 & 2.* Ref: 1097509.0000.

2 Methodology

The QLRA follows guidance outlined in AGS[2] 2007 and uses other relevant published guidance where applicable, including Department of Conservation (DOC)/GNS Science's (GNS) Guidelines for Natural Hazard Risk Analysis[3] (parts 1 to 4) (termed NHRA for this assessment) and Ministry of Business, Innovation and Employment (MBIE) and GNS's Landslide Planning Guidance[4] (termed LPG for this assessment).

We have also utilised relevant aspects of our previous QLRA's undertaken for the Ōhope Escarpment, see Section 5.1 for detail.

The loss-of-life component of the QLRA broadly aligns with a 'Basic Quantitative Risk Analysis' as described in the NHRA/LPG.

[2] Australian Geomechanics (March 2007) *Practice Note Guidelines for Landslide Risk Management 2007*, Journal and News of the Australian Geotechnical Society, Volume 42, No 1.
[3] de Vilder SJ, Massey CI, Power WL, Burbidge DR, Deligne NI, Leonard GS. 2024. Guidelines for natural hazard risk analysis on public conservation lands and waters – Part 1: risk analysis framework. Lower Hutt (NZ): GNS Science. 22 p. Consultancy Report 2024/35. https://www.doc.govt.nz/about-us/our-role/managing-conservation/recreation-management/visitor-risk-management/assessing-risk-from-natural-hazards-at-visitor-sites/
[4] De Vilder SJ, Kelly SD, Buxton, RB, Allan, S, Glassey PJ. 2024. *Landslide planning guidance: reducing landslide risk through land-use planning.* GNS Science/ MBIE.

3 Site description

The West End Walkway from Ōhope Beach to Otarawairere Bay is shown on Figure 3.1 and termed 'the track' for this report. The existing and proposed alignments are shown.

The existing track traverses the lower portions of the Ōhope Escarpment/Coastal Cliffs towards a prominent headland via a series of on grade tracks, stair structures and boardwalks.

Very steep coastal cliffs are present on the Otarawairere Bay side of the area leading down to the Bay itself.

A series of ridgelines and gently sloping gullies are present above the coast cliffs. This area has been modified in places and a Pā site (NZAA site number W15/26) is present in this area.

Multiple landslides have been mapped by T+T and others in this area, and these are further discussed in Section 6.

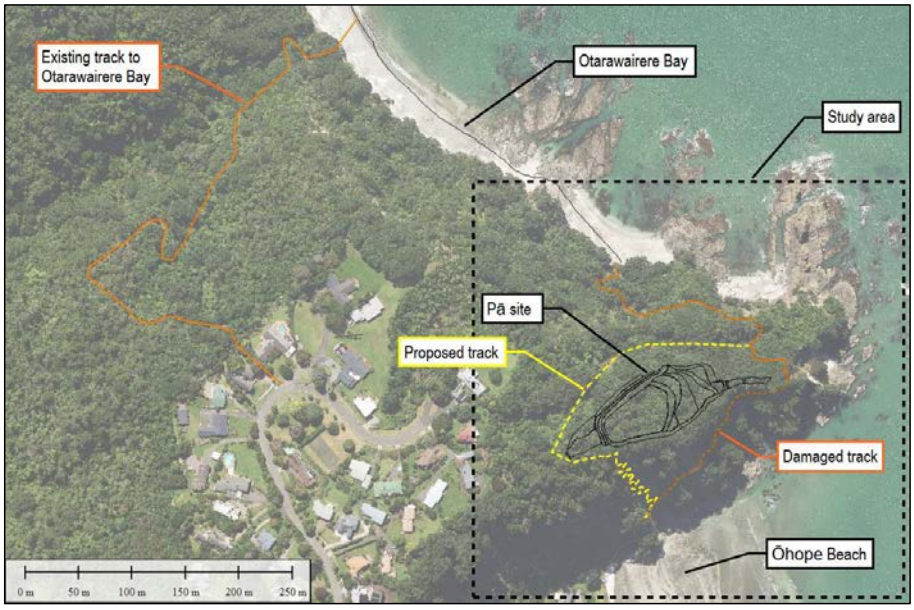


Figure 3.1: Ōhope Beach West End Walkway. Aerial imagery sourced from LINZ.

4 Project background

An optioneering process to remediate/realign the track has been undertaken by WDC. We understand the current preferred option is to realign the track northward up the face of the southwestern landslide, and around a Pa, before dropping back down into Otarawairere Bay using sections of existing track, see Figure 3.1. In this option, a significant section of existing track on the Ōhope side will be decommissioned. For the purpose of this assessment two route options have been considered; Route 1 (Existing track option), and Route 2 (alternative track option), see Figure 4.1.

Key reports we have been provided regarding the optioneering process are listed below:

1 HD Geo. (September 2024). *Whakatāne Walkway Staircase, Geotechnical Assessment Report.* Ref. HD23406. Prepared for Walkway Solutions.

2 CMW Geosciences. (December 2023). *Nga Tapu Wae o Toi Walkway, Ōhope Beach, Geotechnical Investigation Report.* Ref: TGA2023-0194AB Rev 0. Prepared for Whakatāne District Council.

3 reNature Limited. (October 2024). *Nga Tapuwae o Toi Trail – Ōhope to Otarawairere Beach Realignment.* Ref: 22189. Prepared for Whakatāne District Council.

4 reNature Limited. (September 2024). *West End Walkway – Geotechnical Report Review.*

To form the proposed realignment (Route 2), a staircase structure is proposed by reNature. In their report[5], the staircase is outlined to comprise landings at 4 m vertical height and maximum 6 m length in a zigzag pattern up the slope. No alignment or concept arrangement of this structure are provided. Given that the escarpment height at this location is approximately 70 m high, this would require approximately 18 individual staircases, presumably in a switchback arrangement up the slope. We have not checked the geometry of such a structure against the site topography and whether this is feasible.

[5] reNature Limited. (October 2024). *Nga Tapuwae o Toi Trail – Ohope to Otarawairere Beach Realignment*. Ref: 22189. Prepared for Whakatāne District Council.

6.4.5 Appendix E - Tonkin & Taylor Ohope Beach West End Walkway Quantitative Landslide Risk Assessment Report June 2025(Cont.)

5

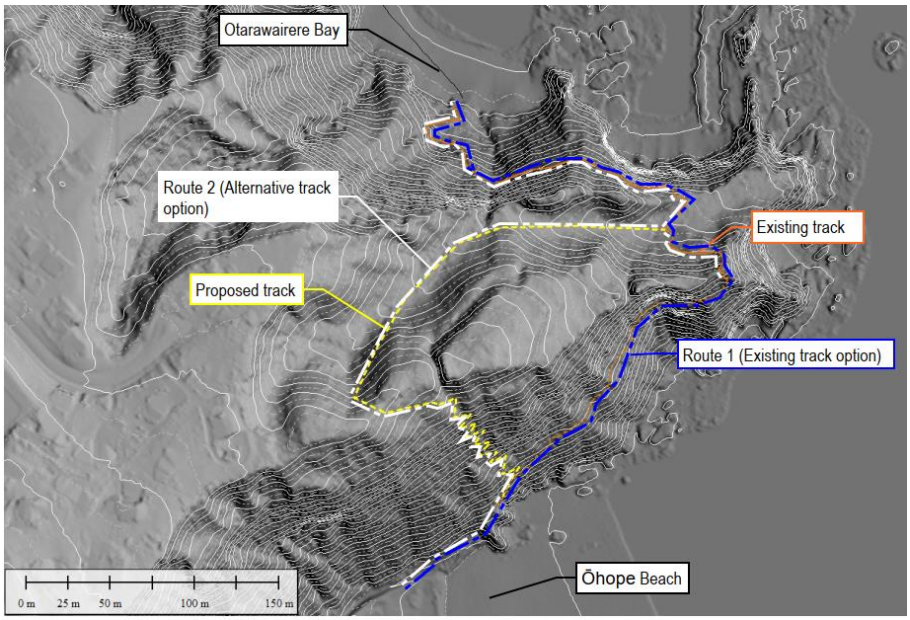


Figure 4.1: Plan showing the two route options considered in this report. Existing Route Option 1. Alternative Proposed Route Option 2.

5 Setting

5.1 Previous risk assessments

WDC has previously engaged[6] T+T to undertake QLRA of the Ōhope, Matatā and Whakatāne areas for the purpose of assessing the landslide hazards to provide input into the policy development for the District Plan. This assessment reported on the landslide risk with respect to home occupants, covering loss-of-life risk and property loss risks. The long-term loss-of-life risk was categorised as a very high risk (4.4×10^{-2}) for the Ōhope Escarpment and talus slope below, noting that this was with respect to home occupants and calculation assumptions differ to this report which considers loss-of-life risk to track users and track maintenance workers. This earlier work also mapped landslides on the portion of the Ōhope Escarpment that the existing track traverses.

A subsequent report was undertaken in 2023 considering changes to landslide risk as a result of climate change. Similar to the 2013 work, the Ōhope Escarpment was categorised as very high risk.

Previous reports completed by T+T relevant to our current assessment are listed below:

1 Tonkin + Taylor Ltd. (November 2013). *Quantitative Landslide Risk Assessment, Whakatāne and Ōhope Escarpments*. Ref: 28273. Prepared for Whakatāne District Council.

2 Tonkin + Taylor Ltd. (September 2023). *Whakatāne, Ōhope and Matatā QLRA, Test case re-assessment for climate change.* Ref: 29115.4000 v5. Prepared for Whakatāne District Council.

3 Tonkin + Taylor Ltd. (2005). *West End Escarpment Geotechnical Overview Report.* Ref 22184. Prepared for Whakatāne District Council, Department of Conservation and Earthquake Commission.

5.2 Topography

A generalised hillshade of the area is provided in Figure 4.1 to help understand the general topographic contour of the site. Slope angle variability is shown on Figure 5.1.

[6] Tonkin + Taylor Ltd. (November 2013). Quantitative Landslide Risk Assessment, Whakatāne and Ōhope Escarpments. Ref: 28273. Prepared for Whakatāne District Council.

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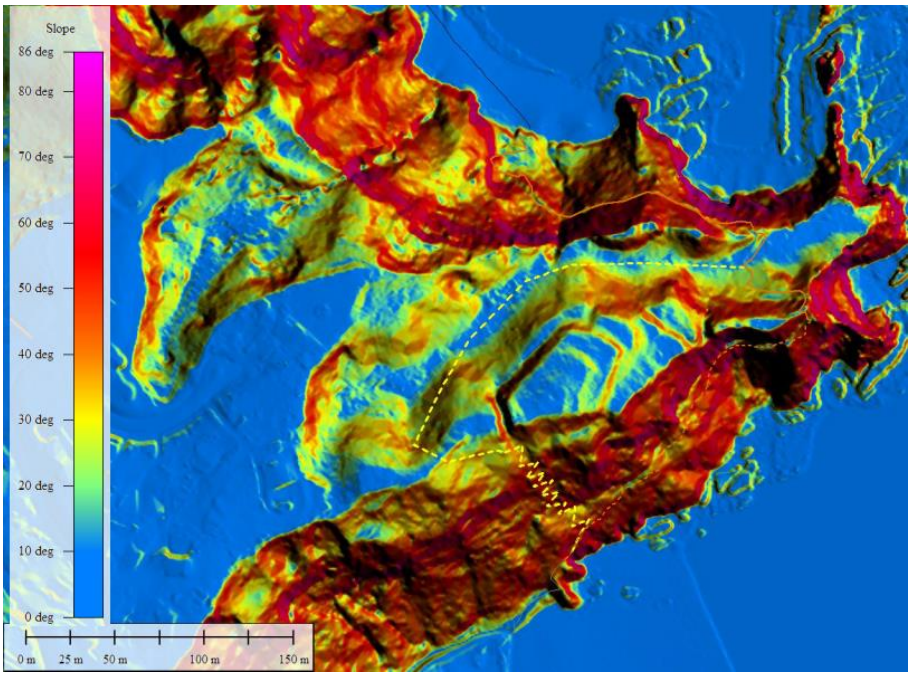


Figure 5.1: Slope angle map of the study area.

5.3 Geology

Published geological information[7] maps the area as Whakatāne Mélange (Kew), consisting of deformed sandstone and mudstone, overlain by Tauranga Group deposits (eQu), see Figure 5.2. Our T+T 2013 report[6] discussed the Ōhope to Whakatāne geology in detail and this is summarised below:

- Younger Volcanic Ash: bedded tephra and pumice breccias likely sourced from the Okataina and Taupo Volcanic centres.
- Ōhope Beds (Tauranga Group deposits): shallow marine mudstone and sandstone, primary volcanic airfall deposits and alluvium. This unit is broken into two units: the Lower Ōhope Beds, which are predominately marine sandstones, overlain by the Upper Ōhope Beds, dominated by terrestrial deposits consisting of sands and gravels. A discontinuous gravel/conglomerate layer marks the contact between the Upper and Lower Ōhope Beds.
- Greywacke Basement (Whakatāne Mélange): Jurassic-aged, strongly bedded greywacke and argillite with blocks of basalt, chert, limestone, diamictite and marble embedded within a highly deformed matrix.

Along the existing track the greywacke extends from the base of the Ōhope Escarpment/Coastal Cliffs to approximately 25 mRL. The Ōhope Beds unconformably overlie the greywacke, Volcanic Ash and colluvium cap and mantle the ridges and gullies above the escarpment and coastal cliffs.

[7] Leonard, G.S.; Begg, J.G.; Wilson, C.J.N. (compilers) 2010: *Geology of the Rotorua area*. Institute of Geological & Nuclear Sciences 1:250,000 geological map 5. 1 sheet + 102 p. Lower Hutt, New Zealand. GNS Science.

6.4.5 Appendix E - Tonkin & Taylor Ohope Beach West End Walkway Quantitative Landslide Risk Assessment Report June 2025(Cont.)

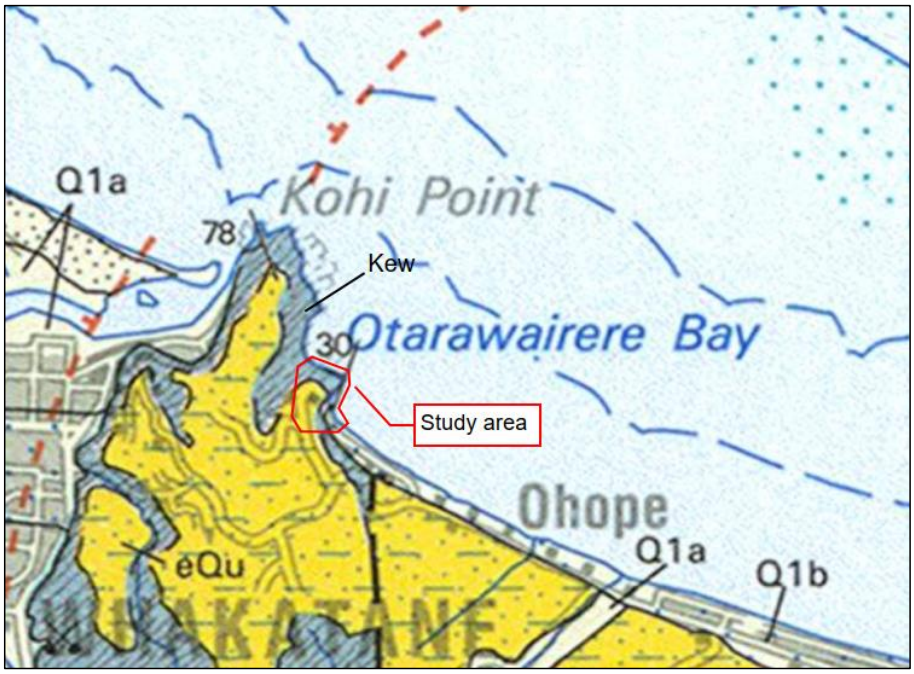


Figure 5.2: Study area in the context of the regional geology. Source: Leonard et al. (2010).

Figure 5.3: Local geology in outcrop. Boundaries between geological units are inferred.

6 Site mapping

6.1 General

Site mapping and aerial photograph reviews were undertaken to understand the types and extents of recent and historical landslides, and how they are distributed within the landscape. Landslides were mapped and categorised into a landslide inventory. Landforms were categorised into landscape units.

Site mapping was undertaken on 4 and 5 February 2025 by T+T Engineering Geologists. Site mapping was limited to the accessible portions of the existing track and areas of land safe to access without ropes. The site mapping was aided by aerial photography taken by an unmanned aerial vehicle flown during the site inspection.

6.2 Aerial photograph review

Aerial photography was reviewed as part of the landslide mapping. Historical aerials were sourced from Retrolens[8] and dated from 1937, 1944, 1962, 1965, 1971, 1982, 1983 to 1987. Recent aerial imagery was sourced from Google Earth[9] from 1985 – 2023.

Where landslides were identified in the aerial imagery these were mapped and added to the inventory including the date of the aerial image. The inventory is discussed further in Section 0.

6.3 Landslide types

The various landslide types and processes on the Ōhope Escarpment are discussed in detail in the T+T 2013 report[6]. In summary there are a range of landslide types which occur on the escarpment controlled by the geology and topography. These include:

1 Shallow landslides within the talus slope (near the base of the Ōhope Escarpment).
2 Rockfalls from sub-vertical sandstone faces.
3 Shallow talus landslides from intermediate slope benches.
4 Shallow landsliding of primarily soil and vegetation from steep rock faces.
5 Shallow landslides within Upper Ōhope Beds or at the top of the escarpment.
6 Deep landslides within the Upper Ōhope Beds.

There is a cyclical nature of landsliding on the Ōhope Escarpment which has been documented previously (T+T, 2005[10] and 2013[6]) whereby repeat landsliding can occur at a similar location over time due to weathering, vegetation growth, soil accumulation and slope processes. This landslide cycle could be in the order of 200 years but potentially as short as 50 to 70 years[6]. Our recent site observations also noted that smaller rockfalls (<1 m^3) from near vertical cliffs and headscarps on the escarpment likely occur at much shorter timeframes (i.e., once to multiple times a year).

For the purposes of this risk assessment, all mapped slope instability features have been classified as 'landslides'.

[8] Retrolens. (2020). Accessed via: http://retrolens.nz/
[9] Google Earth. (2020). Accessed via: https://www.google.com/earth/
[10] Tonkin + Taylor Ltd. (2005). *West End Escarpment Geotechnical Overview Report.* Ref 22184. Prepared for Whakatāne District Council, Department of Conservation and Earthquake Commission.

7 Landslide inventory

In order to undertake a QLRA it is necessary to compile a landslide inventory. The landslide inventory used here has been updated from our 2013 work and generally followed guidance from the NHRA. It includes events identified from field mapping, historical aerial photograph interpretation, and past EQC events identified during our previous QLRA[6].

The mapped landslides are shown on figures in Appendix A. The landslide inventory is presented in Appendix B.

For the purposes of this assessment, we have limited our inventory and mapping to the area of escarpment between approximately 65 West End Road and Otarawairere Bay. The existing landslide inventory on the escarpment above West End Road is consistent with the coastal cliff sections and is well established through previous reporting. We have chosen to incorporate this data to increase the inventory, improving our analysis.

8 Landscape units

The site has been classified into landscape units to support dividing the track into separate sections in terms of risk. The landscape units have considered geomorphology, geology and landslide distribution, and are summarised in Table 8.1 and shown on Figure B2 in Appendix A, and on Figure 8.1 and Figure 8.2.

Table 8.1: Landscape unit summary

Landscape unit	Description
Ōhope Escarpment and Coastal Cliffs	This unit includes the Ōhope Escarpment and Coastal Cliffs above Ōhope beach and above Otarawairere Bay and the slopes in between. This unit also includes the very steep (1V:1.7H) slopes directly above the near vertical cliffs. To simplify this assessment the 'Ōhope Escarpment and Coastal Cliffs' have not been further subdivided. However, we note that there may be different track design requirements for traversing/climbing the near vertical cliff face when compared with the very steep slopes above.
Coastal hills and valleys	Coastal Hills and valleys are present above the coastal cliffs. The proposed realigned track (Route 2) would run through this area. There is a valley within this area with side slopes that are flatter (1V:1.5H) than those observed on the escarpment/cliff's unit. This unit also includes the Pā area.

Other landscape units are present in the wider area but are not material to the risk assessment and are therefore not mapped in this report. Such units include the talus slopes at the base of the Ōhope Escarpment, and the beach which do not affect either proposed track option.

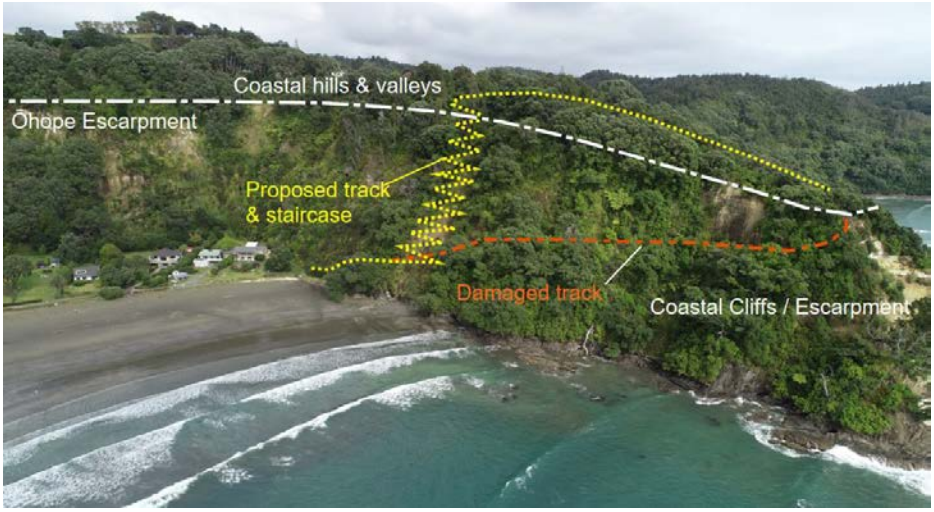


Figure 8.1: View of the Ōhope Escarpment and landscape units.

6.4.5 Appendix E - Tonkin & Taylor Ohope Beach West End Walkway Quantitative Landslide Risk Assessment Report June 2025(Cont.)

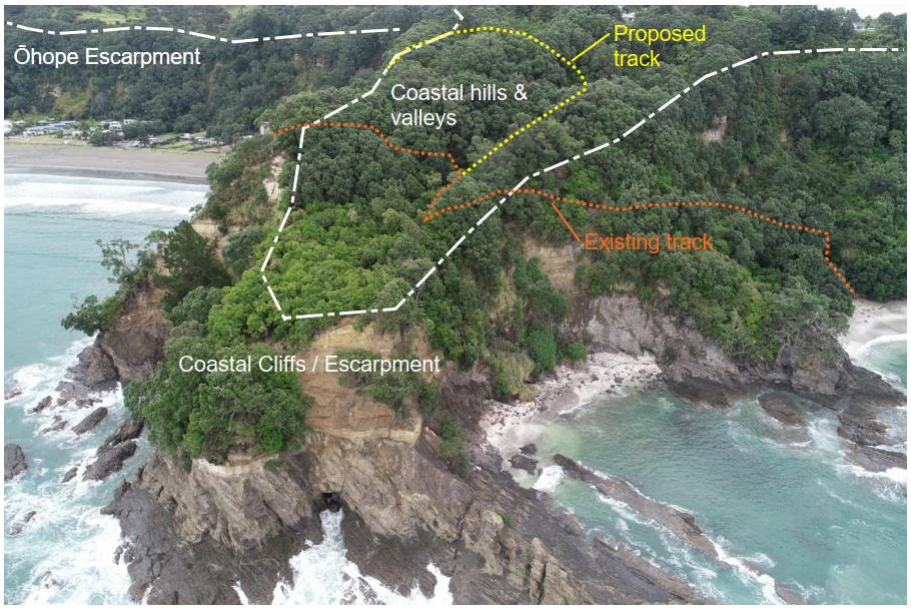


Figure 8.2: View of Otarawairere Bay and landscape units.

9 Landslide inventory analysis

9.1 Landslide size

Landslide volume and area have been considered as part of the assessment using all landslide data from the inventory. Volume was estimated during field mapping using a handheld range finder, where accessible. Area was estimated from aerial photographs.

Landslide event size estimates are based on mapped areas because nearly all features have area data attributed in the inventory. Very few of the landslide features have an estimated volume mapped (from measurements made on site) making comparisons between area and volume difficult. This does not impede the risk calculation.

Landslide areas have been estimated in plan view considering the extent of the landslides visible, i.e., including areas of evacuation and runout together. They do not consider vertical heights or slope lengths.

As per the NHRA guidance two size classes have been assessed for the instability observed. These are 'maximum credible' and 'most likely size' landslide events which are summarised in Table 9.1 and Figure 9.1.

The 'maximum credible' and 'most likely size' divisions are based on qualitative judgement and broadly align with a 90 % threshold for landslide area, for the Escarpment/Coastal Cliffs (i.e., 90 % of the landslides mapped on the Escarpment/Coastal Cliff zone will fall within the 'most likely size' class, based on area. The remaining very large events are categorised within the 'maximum credible' class). Given that there are only 3 landslide events in the Coastal Hills and Valleys the divisions are based primarily on judgement.

Table 9.1: Landslide size classes adopted for this assessment

Landscape unit	Most likely size	Maximum Credible size
Coastal Cliffs and Escarpment	< 1500 m^2	1500 – 5000 m^2
Coastal Hills and Valleys	< 500 m^2	500 - 2000 m^2

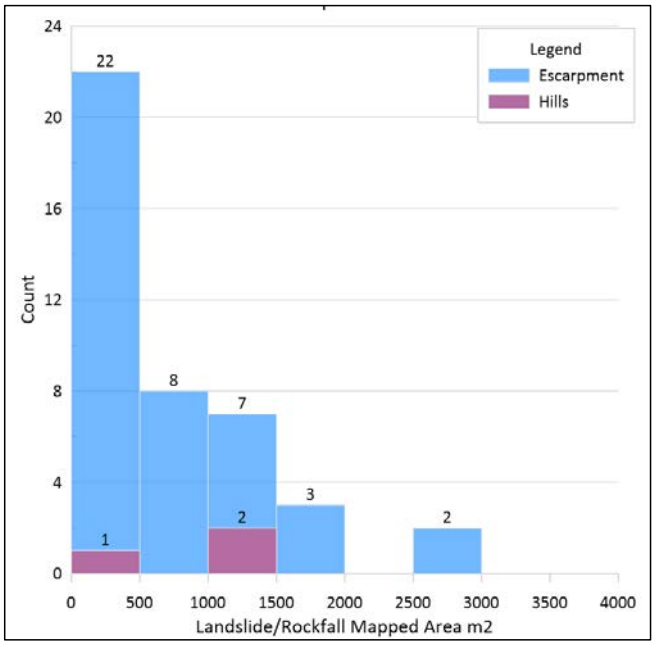


Figure 9.1: Histogram of estimated landslide area (mapped) (m^2)

9.2 Landslide frequency and triggering

Physical process and landslide triggering for the Ōhope area is discussed in detail in T+T 2013[6]. In summary, all but one landslide has been attributed to elevated porewater pressure as a result of prolonged or intense rainfall. The exception occurred during the 1987 Edgecumbe earthquake which resulted in the collapse of a steep section of cliff on the Otarawairere track[10].

T+T previously concluded it was not appropriate to adopt a design rainfall trigger event for Ōhope Escarpment instability and instead utilised the historical landslide inventory and associated inventory time period for determining landslide hazard[6]. This was because many of the landslides in the inventory could not be dated to a specific day or rainfall event and, of the landslides that did have accurate dates, the available data did not support a robust design event. This is further discussed in T+T 2023[11].

A brief summary of findings from our 2013[6] and 2023[11] reports regarding rainfall and landslide triggers is as follows:

1 Landsliding is always associated with rainfall in excess of 120 mm per day.

2 Landsliding becomes increasingly common once daily rainfall exceeds approximately 100 mm per day.

3 The number of landslides induced by such rainfall ranges from 5 to 7 on the Ōhope escarpment and 0 to 3 for the Whakatāne escarpment (as at the time of the 2013 reporting).

[11] Tonkin + Taylor Ltd. (September 2023). *Whakatāne, Ōhope and Matatā QLRA, Test case re-assessment for climate change*. Ref: 29115.4000 v5. Prepared for Whakatāne District Council

4 Landslides can occur when daily rainfall is less than 100 mm, although they are much more likely not to occur, and a single landslide is more likely than multiple landslides.

5 Antecedent rainfall and rainfall intensity are factors that can influence the occurrence of landslides in otherwise less extreme rainfall events.

6 While landslides often occur on days with very high daily rainfall, many landslide events also occur during events with lower daily rainfall and hence, using daily rainfall as a trigger index for landslides has limitations (see Figure 9.2). Short intense rainfall events in the order of hours, may have a significant impact on landslide triggering however rainfall intensity data was not available for the previous QLRA assessments.

7 The number of individual landslides and daily rainfall are compared in Figure 9.3 for days where landslides occurred. Although there is significant scatter, the figure highlights that there is an approximately linear trend whereby the number of landslides increases as daily rainfall increases.

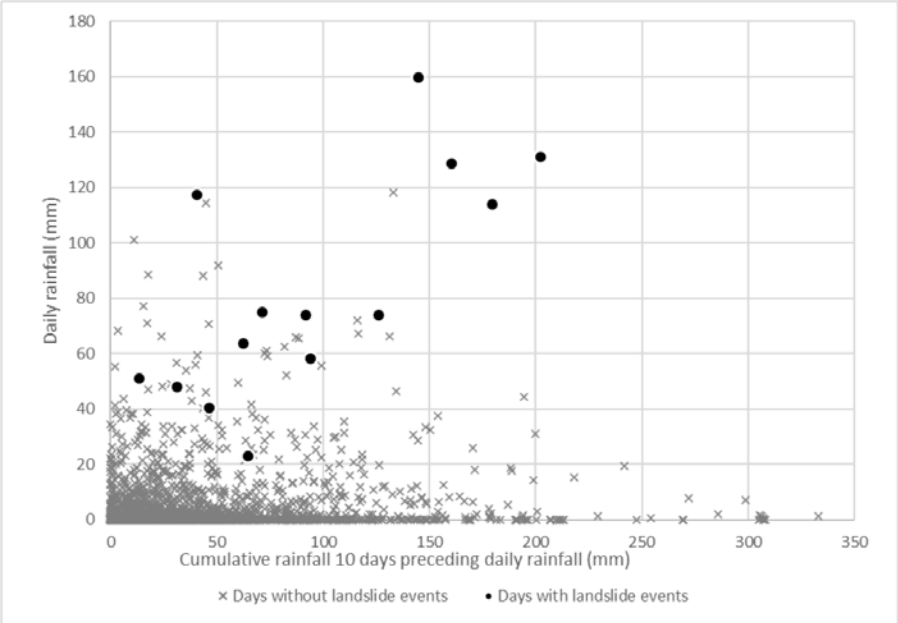


Figure 9.2: Daily rainfall (mm) vs cumulative rainfall for the preceding 10 days. Days where landslide events are highlighted and based on the existing historical landslide inventory of Ōhope and Whakatāne where landside events have been accurately dated (Time period 2004-2011).

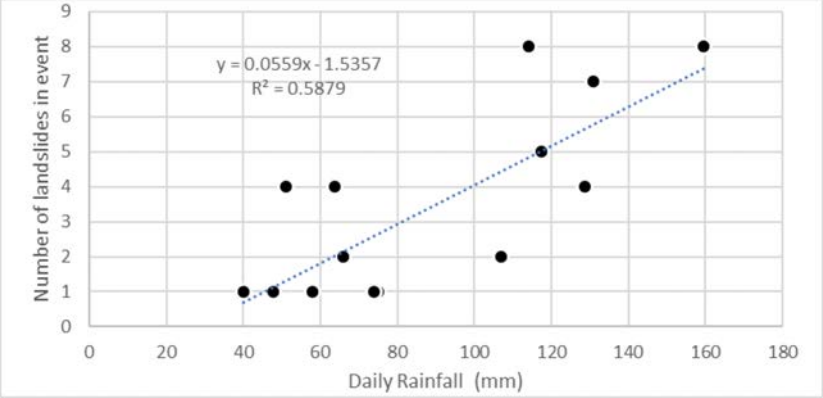


Figure 9.3: Number of landslides and daily rainfall is compared for days where landslides occur. Based on the existing historical landslide inventory of Ōhope and Whakatāne where landslide events have been accurately dated (Time period 2004-2011).

Landslide frequency is estimated for each landscape unit and summarised in Table 9.2. The estimate excludes events mapped on the earliest aerial photograph (1937), i.e., only events occurring after 1937 are included. The estimate considers that a single event could travel across the site and affect multiple landscape units (i.e. some landslide features cross both landscape units).

We have limited our inventory and mapping to the area of escarpment between approximately 65 West End Road and Otarawairere Bay.

Table 9.2: Landslide frequency by landscape unit

Landscape Unit	Size class	Count	Time Period (years)	Mean recurrence interval (years) (Time period / count)	Landscape unit area (km^2)
Ōhope Escarpment and Coastal Cliffs	Most Likely	29	87	3	7.50
	Maximum Credible	5	87	17	7.50
Coastal Hills and Valleys	Most Likely	1	87	87	2.70
	Maximum Credible	1 Note 1	87	87	2.70
T+T 2013 estimate[6]:					
Ōhope – West End Road	All landslides	49	70	2.6	-

Note 1: Landslide ID 206 has been removed from this count for Coastal hills and Valleys. The headscarp was mapped within the Coastal Hills and Valleys landscape unit, however most of the landslide feature and runout area was mapped within the Escarpment and Coastal Cliffs landscape unit.

10 Risk assessment

10.1 General

To inform WDC's decision making, risk assessments have been undertaken following guidance from the NHRA and AGS2007c to provide an understanding of the risk exposure to users and property risk/resilience of either track route option. The following risk metric has been assessed:

1 **Annual individual fatality risk (AIFR)**. This has been calculated in terms of the fatality risk experienced by an individual over one year. This has been calculated for a single visit over one year (e.g., **Visitor Risk**). This has also been calculated for the most at risk WDC worker who visits the site multiple times in a year.

2 **Property Risk**. This has been calculated using a semi-quantitative methodology based on AGS2007c. The main aim is to estimate the risk of landslide related track damage.

The following sections detail the risk assessment methodology and results.

10.2 General landslide risk analysis calculation

The landslide risk analysis calculation for annual probability that a person may lose their life follows NHRA Part 3 Equation 2.1, which is:

$$P_{(LOL)} = P_{(L)} \times P_{(T:L)} \times P_{(S:T)} \times V_{(D:T)}$$

Where:

$P_{(LOL)}$ is the annual probability at the person will be killed.

$P_{(L)}$ is the annual probability of the landslide occurring.

$P_{(T:L)}$ is the probability of the landslide reaching the element at risk (e.g., the debris from a landslide reaching the track)

$P_{(S:T)}$ is the spatio-temporal probability of the person at risk (the proportion of a year that the person is in the path of the landslide when it reaches or passes the element at risk).

$V_{(D:T)}$ is the vulnerability of the person to the landslide event (the probability that the person will be killed if impacted by the landslide).

This equation has been undertaken for the track sections considering each landslide event size class. The AIFR for each relevant track section is then summed to determine the overall AIFR for the two route options.

To aid the reader a comparison chart of likelihood/probability terms used in this report is presented in Table 10.1.

Table 10.1: Likelihood terms

10 to the minus X per year	Decimal or percentage chance per year	Annual likelihood 1 in __
10^{-3} or E-03	0.001 or 0.1 %	1 in 1000 years
10^{-4} or E-04	0.0001 or 0.01 %	1 in 10,000 years
10^{-5} or E-05	0.00001 or 0.001 %	1 in 100,000 years
10^{-6} or E-06	0.000001 or 0.0001 %	1 in 1,000,000 years
10^{-7} or E-07	0.0000001 or 0.00001 %	1 in 10,000,000 years

10.3 Inputs to risk assessment

10.3.1 Probability of the event occurring $P_{(L)}$

Track sections are shown on Figure 10.1 and on the figures in Appendix A. The probability of landslide events occurring over a year for each track section and size class are outlined in Table 10.2. The mean recurrence interval from Table 9.2 has been utilised with the following equation:

- Annual Exceedance Probability (AEP), Probability that one or more landslides will occur annually = $1 - e^{(-t/m)}$

  Where t = 1 year and m = mean recurrence interval.

As some track sections are relatively short with limited landslide inventory data nearby, we have considered the AEP from each landscape unit and then scaled this for each track section based on the area contributing to the landslide hazard (for that specific track section). This allows a larger landslide inventory dataset to be utilised and to provide a $P_{(L)}$ for each track section rather than considering a site wide value. Equation below:

$$\frac{AEP\ of\ each\ Landscape\ Unit}{Area\ of\ Landscape\ Unit}\ x\ Area\ contributing\ to\ landslide\ hazard\ for\ track\ section$$

The workings for these calculations are shown in Appendix C. $P_{(L)}$ is the same for both property risk and loss-of-life risk calculations.

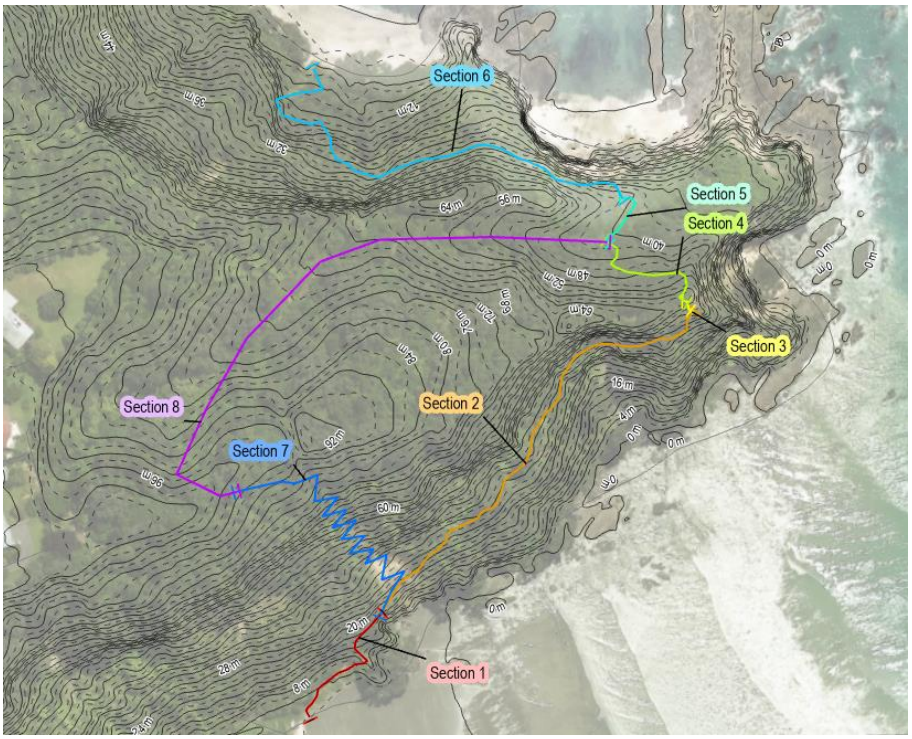


Figure 10.1: Site plan showing position of each track section used in the risk assessment.

Table 10.2: Probability of landslide occurring for each landscape unit

Track Section (Refer Figure 10.1 for track location)	Case	Probability that one or more landslides will occur in time 't = 1 year' ($1 - e^{-t/m}$)
Section 1	Most Likely	1.8E-02
	Maximum Credible	3.5E-03
Section 2	Most Likely	2.8E-02
	Maximum Credible	5.4E-03
Section 3	Most Likely	4.7E-04
	Maximum Credible	9.2E-05
Section 4	Most Likely	4.4E-04
	Maximum Credible	4.4E-04
Section 5	Most Likely	4.4E-04
	Maximum Credible	4.4E-04
Section 6	Most Likely	2.8E-02
	Maximum Credible	5.5E-03

Track Section (Refer Figure 10.1 for track location)	Case	Probability that one or more landslides will occur in time 't = 1 year' ($1 - e^{-t/m}$)
Section 7	Most Likely	8.7E-03
	Maximum Credible	1.7E-03
Section 8	Most Likely	7.2E-03
	Maximum Credible	7.2E-03

10.3.2 Probability of the landslide reaching the walkway or point locations at risk $P_{(T:L)}$

Landslides and rockfalls could impact the track and users through inundation (e.g., travelling debris hitting a person) and loss of supporting land (e.g., undermining the track and creating a fall hazard). Landslides and rockfalls affect different sections of the track depending on the landscape unit. We have utilised the following equation to determine $P_{(T:L)}$ as outlined in NHRA Part 3, as the proportion of the walkway affected for each event:

- $P_{(T:L)} = (D + d) / L$

  Where:

  D is diameter of the event (m) (width of falling debris). Estimated for each landscape unit based on the mapped landslide width.

  d is diameter of a person (m). Assumed to be 0.8 m.

  L is the length (m) of track that could be affected by the landslide hazard. We have assumed a landslide could occur along the entire track length.

For each section of the track and point location $P_{(T:L)}$ has been estimated in Table 10.3. Where the landside event width is larger than the individual section track length, $P_{(T:L)}$ has been capped at 1.

Table 10.3: Proportion of the walkway affected for each event.

Track Section (Refer Figure 10.1 for track location)	Size Class	Landscape Unit	Total length of track section (m)	Landslide Width (m)	$P_{(T:L)}$
Section 1	Most likely		65	10	1.65E-01
	Max credible	Escarpment and Coastal Cliffs	65	25	3.94E-01
Section 2	Most likely		206	10	5.25E-02
	Max credible	Escarpment and Coastal Cliffs	206	25	1.25E-01
Section 3	Most likely		7	10	1.00E+00
	Max credible	Escarpment and Coastal Cliffs	7	25	1.00E+00
Section 4	Most likely		59	10	1.82E-01
	Max credible	Coastal Hills and Valleys	59	20	3.50E-01

Track Section (Refer Figure 10.1 for track location)	Size Class	Landscape Unit	Total length of track section (m)	Landslide Width (m)	P (T:L)
Section 5	Most likely		28	10	3.85E-01
	Max credible	Coastal Hills and Valleys	28	20	7.42E-01
Section 6	Most likely		209	10	5.16E-02
	Max credible	Escarpment and Coastal Cliffs	209	25	1.23E-01
Section 7	Most likely		202	10	5.34E-02
	Max credible	Escarpment and Coastal Cliffs	202	25	1.28E-01
Section 8	Most likely		265	10	4.08E-02
	Max credible	Coastal Hills and Valleys	265	20	7.85E-02

10.3.3 Spatio-temporal probability $P_{(S:T)}$

The spatio-temporal probability is the exposure of a person/location to the hazard in a given year. For a person using the track, this is expressed in the equation below and summarised in Table 10.4 for each of the walking trips considered.

- $P_{(S:T)}$ = Passes x Travel time/seconds per year.

We have assumed the following:

1 A travel time of 0.5 m per second.

2 A five-minute stoppage time at Section 3 which features the lookout point.

3 Section 7 takes an additional 10 minutes because it will ascend a large flight of stairs and may require some breaks in walking.

4 The WDC worker visits the site four times per year based on WDC guidance[12].

For Property Risk, the track is stationary and always exposed to the hazard. Therefore $P_{(S:T)}$ = 1.

[12] Email dated 04/03/2025. *Re: Otarawairere QLRA: Risk thresholds*. From Kevin Sullivan (WDC). To Hamish McEwan (T+T).

Table 10.4: Spatio-temporal probability summary

Track Section (Refer Figure 10.1 for track location)	Track length	Seconds on track (assuming walking 0.5 m/s)	$P_{(S:T)}$ proportion of time on track per year		
			Two ways/return	One way	Track worker walking track 4 times per year, return
Section 1	65	131	8.3E-06	4.1E-06	3.3E-05
Section 2	206	411	2.6E-05	1.3E-05	1.0E-04
Section 3	7	313 (includes five-minute break at lookout)	2.0E-05	9.9E-06	7.9E-05
Section 4	59	119	7.5E-06	3.8E-06	3.0E-05
Section 5	28	56	3.6E-06	1.8E-06	1.4E-05
Section 6	209	418	2.7E-05	1.3E-05	1.1E-04
Section 7	202	1005 (includes 10-minute break/ascending stairs)	6.4E-05	3.2E-05	2.5E-04
Section 8	265	530	3.4E-05	1.7E-05	1.3E-04

10.3.4 Vulnerability

10.3.4.1 Vulnerability of the person to the landslide/rockfall event

The vulnerability (V) is the probability of a person being killed, if present and in the path of a landslide. We have adopted vulnerability values outlined in Table 10.5 following Table 7.1 in NRHA Part 4. A value of 1 assumes a fatality will occur if a person is present and in the path of a landslide.

A key factor for our judgement is the potential of the landslide at the site to either bury a person or impact them with a relatively high velocity due to the high coastal cliffs.

Table 10.5: Adopted vulnerability values

Landscape Unit	Size Class	Vulnerability of a person outside	Judgement assumptions
Escarpment and Coastal Cliffs	Most Likely	1	Likely to be buried and event may have high velocity.
	Maximum Credible	1	Likely to be buried and event may have high velocity.
Coastal Hills and Valleys	Most Likely	0.8	Some chance of being buried but event may be smaller and lower velocity than other categories.
	Maximum Credible	0.9	Some chance of being buried but event may be smaller and lower velocity than other categories.

10.4 Risk thresholds for Annual Individual Fatality Risk

Two risk levels are presented below based on the Bay of Plenty Regional Policy Statement (RPS) Appendix L (see Table 10.6) and DOC/GNS NHRA guidance (See Table 10.7). These thresholds are presented visually on Figure 10.2.

Table 10.6: Risk categories outlined in BOP RPS Appendix L

Risk level	Annual Individual Fatality Risk (BOP RPS)
Low	Less than 1 x 10^{-5}
Medium	Between 1 x 10^{-5} and 1 x 10^{-4}
High	Greater than 1 x 10^{-4}

Table 10.7: Risk categories outlined GNS/DOC's NHRA guidance (lower risk tolerance site)

Risk level	Annual Individual Fatality Risk (BOP RPS)
No risk reduction	Less than 1 x 10^{-7}
Reduce to as low as reasonably practical	Between 1 x 10^{-7} and 1 x 10^{-6}
Continue only after high level review	Between 1 x 10^{-6} and 1 x 10^{-5}
Close the site	Greater than 1 x 10^{-5}

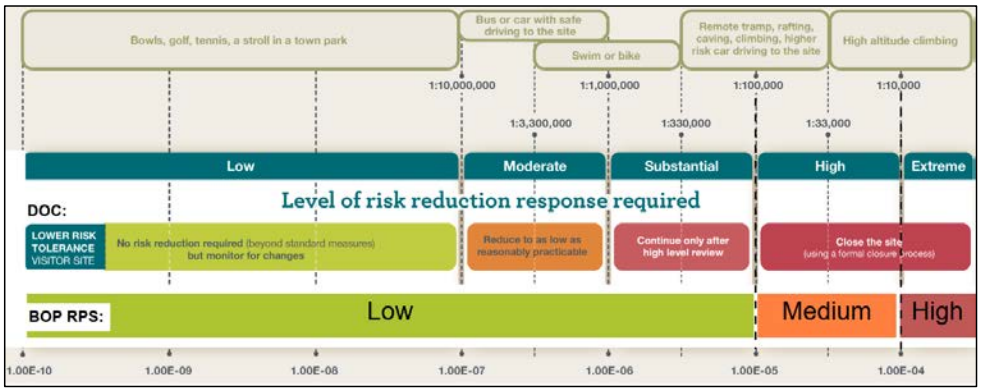


Figure 10.2: DOC and BOP risk thresholds (Figure modified from GNS/DOC 2024).

10.5 Annual Individual Fatality Risk results

The Annual Individual Fatality Risk (AIFR) has been calculated for an individual member of public visiting the site once in a year and for a typical WDC worker using the calculation outlined in Section 10.2

The AIFR has been calculated for each track section. This then allows AIFR to be considered for walking trips between Route 1 Existing track and Route 2 Proposed alternative option separately.

The AIFR calculation for each track section is presented in Appendix D.

The AIFR is summarised for each route option for individual members of public in Table 10.8 and *Figure 10.3*, and for WDC workers in Table 10.9.

The AIFR assumes that the existing track is reinstated to its previous condition.

Geotechnical stabilisation may be required for Track Section 7 (the proposed new staircase) which may minimise the landslide risk in this area as a simple comparison, Route 2 alternative option AIFR is also provided without the AIFR for Track Section 7 in Table 10.8, i.e. considering that there is minimal landslide risk due to geotechnical stabilisation.

Table 10.8: Summary of Annual Individual Fatality Risk for an individual member of public visiting the site once in a year

	Route 1: Existing track return	Route 2: Proposed alternative route return
Total Annual Individual Fatality Risk	1.6E-07	1.7E-07 (Excluding Track Section 7: 1.3E-07)
Track sections: (Refer Figure 10.1 for track location)	**Comprises the sum of the following sections below:**	
Section 1	3.5E-08	3.5E-08
Section 2	5.6E-08	-
Section 3	1.1E-08	1.1E-08
Section 4	1.5E-09	1.5E-09
Section 5	1.5E-09	1.5E-09
Section 6	5.6E-08	5.6E-08
Section 7	-	4.4E-08
Section 8	-	2.5E-08

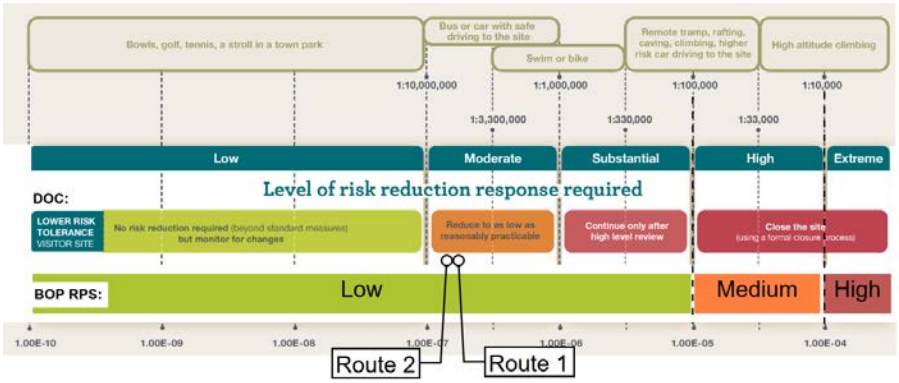


Figure 10.3: Route 1 and Route 2 total AIFR presented against the adopted risk thresholds.

Table 10.9: Summary of Annual Individual Fatality Risk for an WDC worker visiting the site 4 times per year

	Route 1: Existing track return	Route 2: Proposed alternative route return
Total Annual Individual Fatality Risk	6.4E-07	7.0E-07
(Refer Figure 10.1 for track location)	**Comprises the sum of the following sections below:**	
Section 1	1.4E-07	1.4E-07
Section 2	2.2E-07	-
Section 3	4.5E-08	4.5E-08
Section 4	6.1E-09	6.1E-09
Section 5	6.1E-09	6.1E-09
Section 6	2.2E-07	2.2E-07
Section 7	-	1.7E-07
Section 8	-	1.0E-07

10.6 Annual Individual Fatality Risk discussion

A comparison of the AIFR and the BOP RPS risk levels show that both routes are within the low category. Comparing both routes with the DOC risk thresholds, the site falls within 'Reduce (risk) to as low as reasonably possible'.

The alternative route provides a minor reduction to landslide risk, from 1.6E-7 to approximately 1.3E-7 (assuming track section 7 is stabilised), however this may not be considered a significant reduction in terms of the overall landslide risk.

The similarity in risk between the two routes is because they both traverse terrains of similar hazard and have track sections in common (i.e., track sections 1 and 6). Both routes are broadly similar in terms of length, and the time a person is exposed to the hazard. The spatial-temporal component of the AIFR estimate is low relative to the other equation components and minor changes to track length have little effect on the overall estimate.

Track Section 1, Section 2 and Section 6 are most hazardous of all track sections (assuming Section 7 will be stabilised).

The risk estimates have been undertaken at a site-wide scale, considering individual track sections and relevant hazard metrics where possible. The estimates do not consider that multiple sections of the existing track are currently damaged (i.e., we have assumed the existing track is reinstated to prior condition for the risk assessment). These damaged track sections are currently more hazardous than the risk estimates presented due to being inundated and partly undermined. In their current state these areas should remain closed unless reinstated.

WDC will need to consider the estimated risk metrics and determine a mitigation approach in line with their strategy, including the cost and risk they are willing to accept. Mitigation options are discussed in Section 12.

The risk metrics estimated here do not consider that the track is possibly used less during large rainfall events which are more likely to trigger landslides.

11 Property risk and resilience

11.1 General

The purpose of the property risk assessment is to estimate the risk of landslide-related track damage that is sufficient to render the track impassable and requiring repair/reinstatement, i.e., damage resulting in a similar situation to the current state of the track.

To estimate property risk, a semi-quantitative methodology has been adopted based on AGS2007c[2]. Rough order costs of potential reinstatement requirements have also been discussed to help understand the relative differences between the track sections.

Key steps in the property risk estimation include the following:

1 Estimate probability of landslide occurring (Section 11.3).

2 Estimate the vulnerability and consequences of the potential track damage (Section 11.4).

3 Calculate the property risk using the tables set out in AGS2007c[2] Appendix C. Likelihood, consequence and risk tables are set out in Section 11.2. Results are summarised in Section 11.6.

11.2 Qualitative Terminology for use in assessing risk to property (source AGS2007c[2])

Table 11.1: Qualitative measures of likelihood (Source: AGS2007c[2])

Approximate Annual Probability		Implied Indicative Landslide Recurrence Interval		Description	Descriptor	Level
Indicative Value	Notional Boundary					
10^{-1}	$5x10^{-2}$	10 years	20 years	The event is expected to occur over the design life.	ALMOST CERTAIN	A
10^{-2}	$5x10^{-3}$	100 years	200 years	The event will probably occur under adverse conditions over the design life.	LIKELY	B
10^{-3}	$5x10^{-4}$	1000 years	2000 years	The event could occur under adverse conditions over the design life.	POSSIBLE	C
10^{-4}	$5x10^{-5}$	10,000 years	20,000 years	The event might occur under very adverse circumstances over the design life.	UNLIKELY	D
10^{-5}	$5x10^{-6}$	100,000 years	200,000 years	The event is conceivable but only under exceptional circumstances over the design life.	RARE	E
10^{-6}		1,000,000 years		The event is inconceivable or fanciful over the design life.	BARELY CREDIBLE	F

Note: (1) The table should be used from left to right; use Approximate Annual Probability or Description to assign Descriptor, not *vice versa*.

Table 11.2: Qualitative measures of consequences to property (Source: AGS2007c[2])

Approximate Cost of Damage		Description	Descriptor	Level
Indicative Value	Notional Boundary			
200%	100%	Structure(s) completely destroyed and/or large scale damage requiring major engineering works for stabilisation. Could cause at least one adjacent property major consequence damage.	CATASTROPHIC	1
60%	40%	Extensive damage to most of structure, and/or extending beyond site boundaries requiring significant stabilisation works. Could cause at least one adjacent property medium consequence damage.	MAJOR	2
20%	10%	Moderate damage to some of structure, and/or significant part of site requiring large stabilisation works. Could cause at least one adjacent property minor consequence damage.	MEDIUM	3
5%	1%	Limited damage to part of structure, and/or part of site requiring some reinstatement stabilisation works.	MINOR	4
0.5%		Little damage. (Note for high probability event (Almost Certain), this category may be subdivided at a notional boundary of 0.1%. See Risk Matrix.)	INSIGNIFICANT	5

Notes:
(2) The Approximate Cost of Damage is expressed as a percentage of market value, being the cost of the improved value of the unaffected property which includes the land plus the unaffected structures.
(3) The Approximate Cost is to be an estimate of the direct cost of the damage, such as the cost of reinstatement of the damaged portion of the property (land plus structures), stabilisation works required to render the site to tolerable risk level for the landslide which has occurred and professional design fees, and consequential costs such as legal fees, temporary accommodation. It does not include additional stabilisation works to address other landslides which may affect the property.
(4) The table should be used from left to right; use Approximate Cost of Damage or Description to assign Descriptor, not vice versa

Table 11.3: Qualitative risk analysis matrix – level of risk to property (Source: AGS2007c[2])

QUALITATIVE RISK ANALYSIS MATRIX – LEVEL OF RISK TO PROPERTY

LIKELIHOOD	Indicative Value of Approximate Annual Probability	CONSEQUENCES TO PROPERTY (With Indicative Approximate Cost of Damage)				
		1: CATASTROPHIC 200%	2: MAJOR 60%	3: MEDIUM 20%	4: MINOR 5%	5: INSIGNIFICANT 0.5%
A – ALMOST CERTAIN	10^{-1}	VH	VH	VH	H	M or L (5)
B - LIKELY	10^{-2}	VH	VH	H	M	L
C - POSSIBLE	10^{-3}	VH	H	M	M	VL
D - UNLIKELY	10^{-4}	H	M	L	L	VL
E - RARE	10^{-5}	M	L	L	VL	VL
F - BARELY CREDIBLE	10^{-6}	L	VL	VL	VL	VL

Notes: (5) For Cell A5, may be subdivided such that a consequence of less than 0.1% is Low Risk.
(6) When considering a risk assessment it must be clearly stated whether it is for existing conditions or with risk control measures which may not be implemented at the current time.

RISK LEVEL IMPLICATIONS

Risk Level		Example Implications (7)
VH	VERY HIGH RISK	Unacceptable without treatment. Extensive detailed investigation and research, planning and implementation of treatment options essential to reduce risk to Low; may be too expensive and not practical. Work likely to cost more than value of the property.
H	HIGH RISK	Unacceptable without treatment. Detailed investigation, planning and implementation of treatment options required to reduce risk to Low. Work would cost a substantial sum in relation to the value of the property.
M	MODERATE RISK	May be tolerated in certain circumstances (subject to regulator's approval) but requires investigation, planning and implementation of treatment options to reduce the risk to Low. Treatment options to reduce to Low risk should be implemented as soon as practicable.
L	LOW RISK	Usually acceptable to regulators. Where treatment has been required to reduce the risk to this level, ongoing maintenance is required.
VL	VERY LOW RISK	Acceptable. Manage by normal slope maintenance procedures.

Note: (7) The implications for a particular situation are to be determined by all parties to the risk assessment and may depend on the nature of the property at risk; these are only given as a general guide.

11.3 Property risk - likelihood

The probability of a landslide occurring for each track section has been estimated as part of the loss-of-life assessment in Section 10.3.1. For this property risk estimate, both the 'most likely' and 'maximum credible' landslide scenarios have been summed on the assumption that either scenario would significantly damage the track. The likelihood estimate is summarised in Table 11.4 for each track section.

For this assessment it is assumed that significant track damage will occur as a result of a landslide. While this is a simplification (in reality there is potential for minimal track damage too), a significant and possibly unrealistic reduction in likelihood would be required to change the likelihood category and the final property risk level category because of the broad range categories (see tables in Section 11.2).

For Section 2, we have assumed the track has been reinstated to the original condition with no stabilisation measures implemented.

For Section 7, we have assumed the following:

- Adequate stabilisation measures are installed as part of the stair construction works, thereby reducing the likelihood of further landslides occurring.
- The stabilisation would include the entire slope within the footprint of the staircase structure and where there is potential for landslide debris to impact it.
- There is potential for a rare landslide event outside of these parameters to occur, e.g., a landslide outside of the stabilisation area travels into the structure, hence a 'rare' likelihood has been adopted in Table 11.4.

These assumptions and the property risk estimate should be reviewed during design if this option is progressed further.

11.4 Property risk – consequence

11.4.1 General

In general terms, landslide damage could lead to the track and structures being inundated with debris and/or undermined. The consequence of the damage relevant to this assessment is where the track becomes impassable without reinstatement works and subsequent cost to WDC.

The potential consequences of landslide damage to the track varies across the site and is further discussed below with regards to the landform/landscape unit.

11.4.2 Escarpment and coastal cliffs

For track sections formed on the escarpment and coastal hills, a landslide has the potential to inundate and/or undermine the track.

Where a track is undermined, it may become impassable and because of the steep coastal cliffs there are limited options for realignment or establishment of new at grade sections, see Figure 11.1. Engineered structures such as boardwalks and bridges may be required to span the damaged track sections. The reinstatement cost of new bridges or boardwalks has potential to be higher than the value of the original damaged track. For this reason, a Level 1 consequence was adopted for most track sections, see Table 11.4 (and Table 11.2 for descriptors). Track Section 6 has been divided into two sections because the lower half of this track near Otarawairere Bay has a gentler grade and is

likely to be easier to repair than the upper section. A less severe consequence level was applied to the lower section to reflect this.

Track inundation (rather than undermining damage) could potentially be cleared or stabilised in place and the track formed over the debris. This may not be practical for all situations depending on the debris volume and stability. While inundation reinstatement may require engineered works, it could be less costly than bridges and boardwalks required for undermined sections.

Figure 11.1: Example of the steep cliff and track leading down to Otarawairere Bay.

11.4.3 Coastal Hills and Valleys

The existing and proposed track sections within the coastal hills and valleys are generally at grade or proposed on low boardwalks.

Inundation is more likely than undermining due to the topography and position for the track in these areas. The potential consequences are less severe as the inundated track could likely be realigned around or over the debris, or possibly the debris locally cleared. The proposed boardwalks and at grade tracks are also relatively low cost (compared with bridge and stair structures). For these areas a level 4 consequence has been applied, see Table 11.4.

11.5 Rough order costs

For comparison purposes, approximate rough order costs of reinstatement following track damage have also been provided. These are based on our previous experience with similar projects and are for comparison purposes only. No design, measure or cost estimation work has been undertaken to develop these values and the rough order costs provided in Table 11.4 should not be used out of the context of this comparison.

Lower costs represent occurrences where minimal reinstatement is required, such as minor clearance of debris. Higher costs represent failures where new structures, such as stairs or bridges

are needed, and/or where geotechnical stabilisation is required. These rough order costs should not be taken as upper bound values.

Note that if cost estimation of potential reinstatement work is required by WDC to support their decision making, we recommend that they seek further advice to develop actual cost estimates. Please discuss with us further if this is needed.

11.6 Property risk assessment results

The semi-quantitative property risk assessment is summarised in Table 11.4 and visually in Figure 11.2.

Table 11.4: Property risk estimation

Track Section	Corresponding landscape unit	Temporal probability of the event (PL)	Qualitative likelihood level (see Qualitative Terminology for use in assessing risk to property (source AGS2007c2) Table 11.1)	Qualitative consequence level (See Table 11.2)	Level of risk to property (See Table 11.3)	Rough order reinstatement costs of further track damage (See Section 11.5)	Comments
Section 1	Escarpment and Coastal Cliffs	2.1E-02	B - Likely	1 - Catastrophic	Very High Risk	$10,000 to $500,000+	• Reinstatement may require bridges, stairs or large structures.
Section 2	Escarpment and Coastal Cliffs	3.3E-02	B - Likely	1 - Catastrophic	Very High Risk	$10,000 to $500,000+	• Reinstatement may require bridges, stairs or large structures. • Likelihood assumes track is in original condition.
Section 3	Escarpment and Coastal Cliffs	5.6E-04	D - Unlikely	1 - Catastrophic	High Risk	$10,000 to $500,000+	• Reinstatement may require new staircase structure.
Section 4	Coastal Hills and Valleys	8.8E-04	C - Possible	4 - Minor	Moderate Risk	$10,000 to $50,000	• Reinstatement may require new at grade track or minor repairs.
Section 5	Coastal Hills and Valleys	8.8E-04	C - Possible	4 - Minor	Moderate Risk	$10,000 to $50,000	• Reinstatement may require new at grade track or minor repairs.
Section 6a	Escarpment and Coastal Cliffs	3.3E-02	B - Likely	1 - Catastrophic	Very High Risk	$10,000 to $500,000+	• Reinstatement may require bridges, stairs or large structures.
Section 6b	Escarpment and Coastal Cliffs	3.3E-02	B - Likely	2 - Major	High Risk	$10,000 to $500,000+	• Reinstatement may require new at grade track or stair structures.
Section 7	Escarpment and Coastal Cliffs	1.0E-02 (Probability of existing landslide hazard not stabilised)	E Rare (assuming hazard area adequately stabilised as part of works)	1 - Catastrophic	Moderate Risk	$10,000 to $1,000,000+	• Reinstatement may require repair or replacement of the proposed large staircase structure.

Track Section	Corresponding landscape unit	Temporal probability of the event (PL)	Qualitative likelihood level (see Qualitative Terminology for use in assessing risk to property (source AGS2007c2) Table 11.1)	Qualitative consequence level (See Table 11.2)	Level of risk to property (See Table 11.3)	Rough order reinstatement costs of further track damage (See Section 11.5)	Comments
							• Likelihood assumes adequate stabilisation works undertaken.
Section 08	Coastal Hills and Valleys	1.4E-02	B - Likely	4 - Minor	Moderate Risk	$10,000 to $50,000	• Reinstatement may require new at grade track or minor repairs.

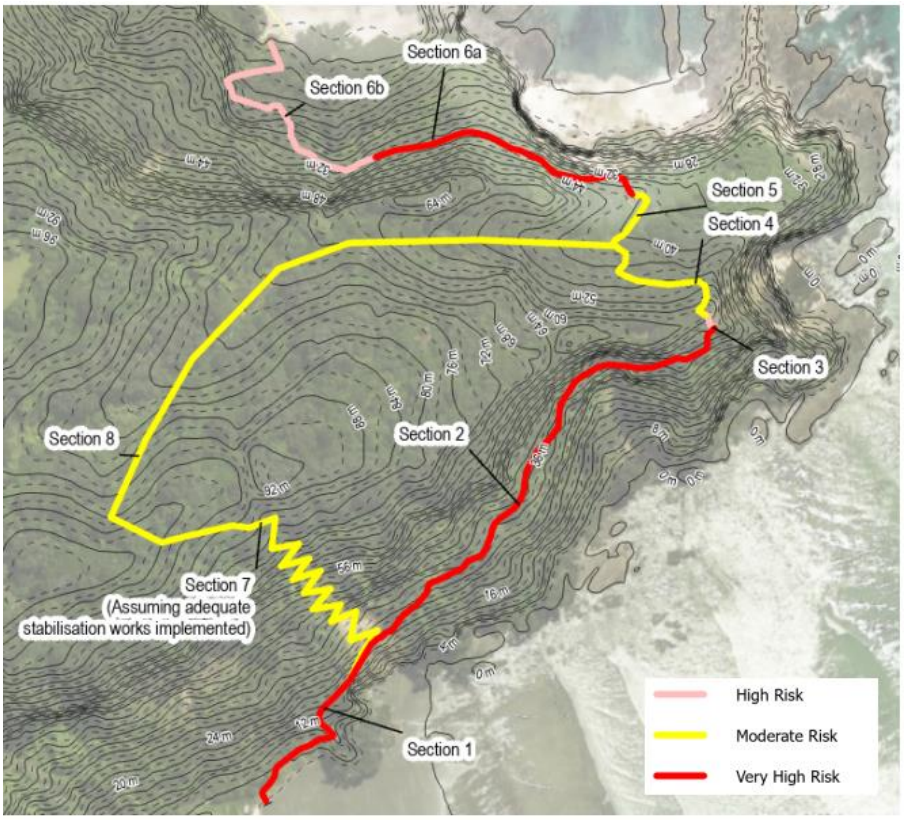


Figure 11.2: Site plan showing qualitative property risk of the track sections. Refer to Table 11.3 for descriptions of the risk categories.

11.7 Property risk assessment and resilience discussion

The property risk assessment shows multiple track sections have a 'very high' property risk level (Section 1, Section 2 and Section 6a). Several other track sections have a 'high' property risk level (Section 3, Section 6b).

Example risk level implications are provided in Table 11.3 from AGS2007c. The authors of AGS2007c recommend that the regulator (in this case WDC) considers these as a guide only and further refinements for specific situations are developed, if required.

The proposed alternative route (Route 2) via Section 7 and Section 8 avoids Section 2 which is very high risk and improves the overall track resilience to landslide damage compared with the existing route.

It is important to note that other track sections (namely Section 1 and Section 6a) are included in the alternative route and landslide damage may significantly affect these track sections requiring costly reinstatement e.g., bridges, new structures and geotechnical works (no stabilisation measures are

currently being considered in these areas). The proposed investment and works to establish Section 7 and Section 8 would not improve the resilience of Section 1 or Section 6 of the track.

The escarpment and coastal cliffs have a well-documented history of repeated landslides. Further landsliding is likely to affect the escarpment and coastal cliffs in the future. We recommend that WDC considers the potential risk for future damage, and subsequent reinstatement costs of the entire track for any route option they proceed with.

12 Risk reduction options

12.1 General

This section discusses landslide risk reduction options for both routes. The information provided is high level and concept only. It is provided for discussion purposes and does not include additional geotechnical engineering works that may be required to suitably design any proposed new structures.

We have not reviewed the stability or design of existing structures on site and have assumed they are fit for purpose.

It should also be noted that there is minimal overall loss-of-life risk reduction identified by using Route 2 alternative track option, even when completely removing the AIFR estimate for the staircase structure (i.e., if geotechnical stabilisation were to be implemented as part of design minimising risk in this area). This is further discussed in Section 10.6.

12.2 Route 1 Existing track

Three sections of Route 1 stand out as particularly hazardous based on the risk assessment and our site observations. These include Track Section 1, Track Section 2 and Track Section 6, both of which traverse the Escarpment/Steep Coastal Hills.

Potential mitigation options are discussed in sections 12.2.1, 12.2.2 and 12.2.3.

12.2.1 Engineered Solutions

Engineering solutions to reduce landslide hazards at these locations could reduce the loss-of-life risk and improve track resilience (property risk). However, solutions would likely require extensive anchorages/mesh on the escarpment/cliffs above track sections 1, 2 and possibly 6. These treatments would have a significant visual impact to the landscape and significant cost (see Figure 12.1 for example).

Similarly, engineered structures such as a catch fence would be impractical given the extent of the area to be treated and costly.

12.2.2 Management Solutions

Management solutions may reduce loss-of-life risks but will not improve the property risk/resilience.

Reducing visitor access during and directly after heavy rainfall could be considered. This could be implemented through signage but passive management such as this may have limited effect.

Active management by WDC by closing the track or providing public warning during heavy rainfall could be considered. It should be noted however that it is likely impossible to completely close the track off from would be users, and there may be practicality/management issues for WDC to implement this. An appropriate process for WDC workers would need to be determined to manage closure.

Practical mitigation measures to reduce risk to WDC workers could include reducing their exposure during and after rainfall events, and reducing time spent in high-risk areas (i.e., track sections 1, 2, and 6). An appropriate process for WDC workers would need to be determined to manage their access to site but this would likely be easier to manage than with the general public as the workers are under direct control of WDC.

12.2.3 Re-establish existing route to original condition

Re-establishing Section 2 of the existing route to the original condition with no additional bridge or geotechnical stabilisation could be considered, however it is unclear from the reporting provided whether this is feasible, or whether new structures are needed to span the existing landslides. We understand from WDC that this option may have been considered at the initial stages following the landslides. Further feasibility assessment may be required to understand design viability of this option.

This option does not improve the loss-of-life risk or resilience of the track; however it may be a lower cost option compared with the engineered solutions or the proposed alternative route.

Track resilience would be in keeping with the current state.

12.3 Route 2 alternative track

Route 2 comprises sections of new track and utilises sections 1, 4, 5 and 6 of the existing track, but bypasses sections 2 and 3. The risk reduction options for the proposed new sections (7 and 8) are discussed for each key section below.

12.3.1 Staircase structure – anchorages and rockfall mesh

Similar to HD Geo's recommendations, we agree that slope stabilisation will be required for the land behind and above the staircase structure. Stabilisation work would reduce the loss-of-life and property risk. A combination of suitability designed anchorages and rock mesh are a practical and robust solution. T+T has undertaken similar designs for slopes at Omanawa Falls where they were used to protect a viewing platform (see Figure 12.1).

Our initial consideration (based on a visual appraisal only) is that both anchorages and rock mesh (such as Macmat-R) will be needed in combination to meet likely design requirements and for risk reduction. This treatment would be required for the entire escarpment within and around the footprint of the staircase structure up to the slope crest directly above. The Escarpment is far too high to install an engineered wall or catch fence, and landslides could occur from any height on the 70 m high face.

This treatment would need to be confirmed and refined during a formal design process. We note that there would likely be substantial cost for the anchorages/mesh treatment (as there also would be the staircase structure). Extensive vegetation clearance would also be required. This would have a visual impact and potentially a cultural impact, given a Pā is directly above the area.

Figure 12.1: Photograph of anchorages and Mac-Mat-R mesh at Omanawa Falls during construction. (Source: T+T).

12.3.2 Staircase structure – no treatment

It is unlikely that the staircase structure could be suitably designed without some engineered solution for geotechnical stabilisation and management the landslide risk.

If the landslide risk is not managed, there is potential for a landslide originating from the escarpment within the staircase structure footprint or nearby, to impact it, likely causing significant damage. There may be a reputation risk for WDC if investment is made to construct the staircase structure, only for it to be destroyed.

12.3.3 Staircase structure – other treatments

Mesh without installation of anchorages is unlikely to be suitable for reducing landslide hazard. This option was highlighted in Figure 5 of reNature's report[5]. Without suitably designed anchorages to stabilise the soil/rock, mesh placed or 'pinned' to the slope face will be incorporated into landslide debris rather than prevent instability.

Deflectors at foundation locations are shown on Figure 4 of reNature's report[5]. At this stage we are not certain on the practicality of these. Each deflector would need suitably designed supporting piles and sufficient space on the slope face. Given the number of individual staircase structures and landings (possibly around 18), this could result in a large number of deflectors needing to be installed.

12.3.4 Boardwalks

Track Section 8 includes a portion of near level to gently sloping land on the valley floor with hill slopes above. ReNature has proposed[5] boardwalks along parts of this track. The boardwalk could be raised to a practical level above ground (say around 0.5 m to 1 m) and this could reduce the

potential of landslides burying people and thereby reduce the vulnerability of track users. This would need to be assessed if Route 2 is progressed.

12.4 Abandon/decommission Track

The existing track could be abandoned entirely and no alternative route established. This would be the lowest risk option, whereby people access Otarawairere Bay from the existing track off Otarawairere Road. Although not part of this assessment, this track appears likely to have much lower risk profile. This would need to be confirmed via further assessment. A challenge with this option is that public may make their own 'ad hoc' tracks using the existing route from Ōhope leading to uncontrolled exposure to potential falling hazards. WDC may also need to consider ongoing enforcement and potential liability issues with the decommissioning option.

13 Summary and recommendations

Tonkin & Taylor Ltd has been engaged by Whakatāne District Council to undertake a Quantitative Landslide Risk Assessment (QLRA) at Ōhope Beach West End Walkway.

The objective of the QLRA is to inform WDC of the potential loss-of-life risk to users from landslide hazard (Annual Individual Fatality Risk or AIFR) and of property risk/resilience. The QLRA considers both the existing track route (Route 1), and the proposed realignment (Route 2).

Key summary of the QLRA is outlined below.

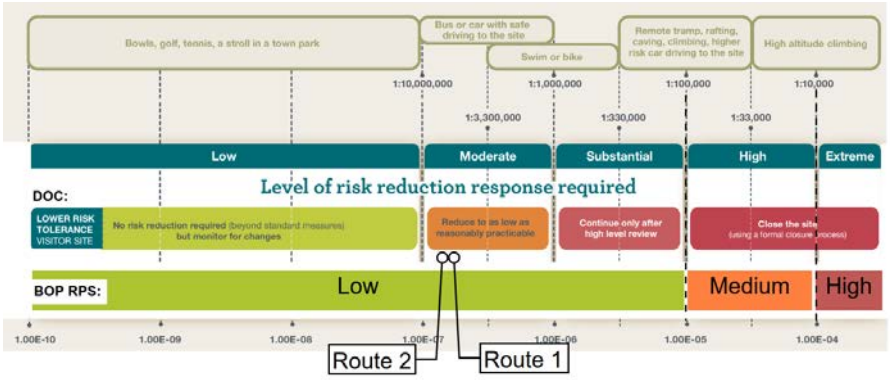
Loss-of-Life Risk

1 The alternative proposed route (Route 2) provides a minor reduction to AIFR, from 1.6E-7 or 1 in 6,250,000 (Route 1 AIFR) to approximately 1.3E-7 or 1 in 7,690,000 (assuming Track Section 7, the proposed staircase, is stabilised).

2 The reduction identified in Item 1 may not be considered significant in terms of the overall loss-of-life risk. The similarity in risk between the two routes is because they both traverse terrains of similar hazard and have track sections in common where risks are not being further mitigated (i.e., track sections 1 and 6).

3 A comparison of the AIFR and the BOP RPS risk levels show that both routes are within the low-risk category.

4 Comparing both routes with the DOC risk thresholds, the site falls within 'Reduce (risk) to as low as reasonably possible'.



Copy of *Figure 10.3*: Route 1 and Route 2 total AIFR presented against the adopted risk thresholds.

Property Risk

5 The property risk assessment shows multiple track sections have very high property risk levels (Section 1, Section 2 and Section 6a). Two other track sections have high risk property risk levels (Section 3, Section 6b).

6 The proposed alternative route (Route 2) via Section 7 and Section 8 avoids Section 2 which is very high risk and improves the overall track resilience to landslide damage compared with the existing route.

7 It is important to note that there are track sections common to both routes and landslide damage may significantly affect these common sections, in particular Section 1 and Section 6a. Costly reinstatement may be required if bridges, new structures and geotechnical stabilisation are needed (no stabilisation measures are currently being considered for Section

1 or Section 6). The investment and works proposed to establish Section 7 and Section 8 do not improve the resilience of the other track sections needed to reach Otarawairere Bay.

Risk Reduction

8 Risk reduction options are discussed in detail in Section 12.

9 There is minimal overall loss-of-life risk reduction identified by implementing Route 2, even when completely removing the AIFR estimate for the staircase structure (i.e., if geotechnical stabilisation were to be implemented as part of design, thereby minimising risk in this area).

10 Engineered solutions for both Route 1 and Route 2 would likely be extensive and have significant visual impacts and costs. Suitability designed anchorages and rock mesh would be the most likely engineered solution option for geotechnical stabilisation.

11 Reducing visitor access during and directly after heavy rainfall could be considered. This could be implemented through signage but passive management such as this may have limited effect in changing visitor behaviour.

12 Active management by WDC by closing the track or providing public warning during heavy rainfall could be considered. It should be noted however that it is likely impossible to completely close the track off from would be users, and there may be practicality/management issues for WDC to implement this. An appropriate process for WDC workers would need to be determined to manage closure.

13 The existing track could be abandoned entirely and no alternative route established. This would be the lowest risk option. To access Otarawairere Bay people would need to use the existing track off Otarawairere Road. Although it is not part of this assessment, the existing track off Otarawairere Road appears likely to have much lower risk profile. This would need to be confirmed via further assessment. A challenge with this option is that public may make their own 'ad hoc' tracks using the existing route from Ōhope leading to uncontrolled exposure to potential fall hazards.

14 Re-establishing Section 2 of the existing route to the original condition with no additional bridge or geotechnical stabilisation could be considered, however it is unclear from the reporting provided whether this is feasible, or whether new structures are needed to span the existing landslides. We understand from WDC that this option may have been considered at the initial stages following the landslides. Reinstating to the original track condition does not improve the loss-of-life risk or resilience of the track, however it may be a lower cost option compared with the engineered solutions or the proposed alternative route. Further feasibility assessment may be required to understand design viability.

Recommendations

15 We recommend that we meet with WDC to discuss this assessment and the mitigation options. (undertaken on 10 April 2025 and 10 June 2025)

16 The escarpment and coastal cliffs have a well-documented history of repeated landslides. Further landsliding is likely to occur in the future. WDC should consider the potential risk for future damage, and subsequent reinstatement costs of the entire track irrespective of the route option selected.

17 We recommend WDC consider the estimated risk metrics and determine a mitigation approach in line with their strategy, including the cost and risk the Council is willing to accept.

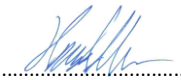
18 Multiple sections of the existing track are currently damaged. These damaged track sections are currently more hazardous than the risk estimates presented due to being inundated and partly undermined. In their current state these areas should remain closed unless reinstated.

14 Applicability

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

Tonkin & Taylor Ltd
Environmental and Engineering Consultants

Report prepared by:



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Hamish McEwan
Senior Engineering Geologist

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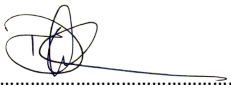

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David Milner
Project Director

HAMC
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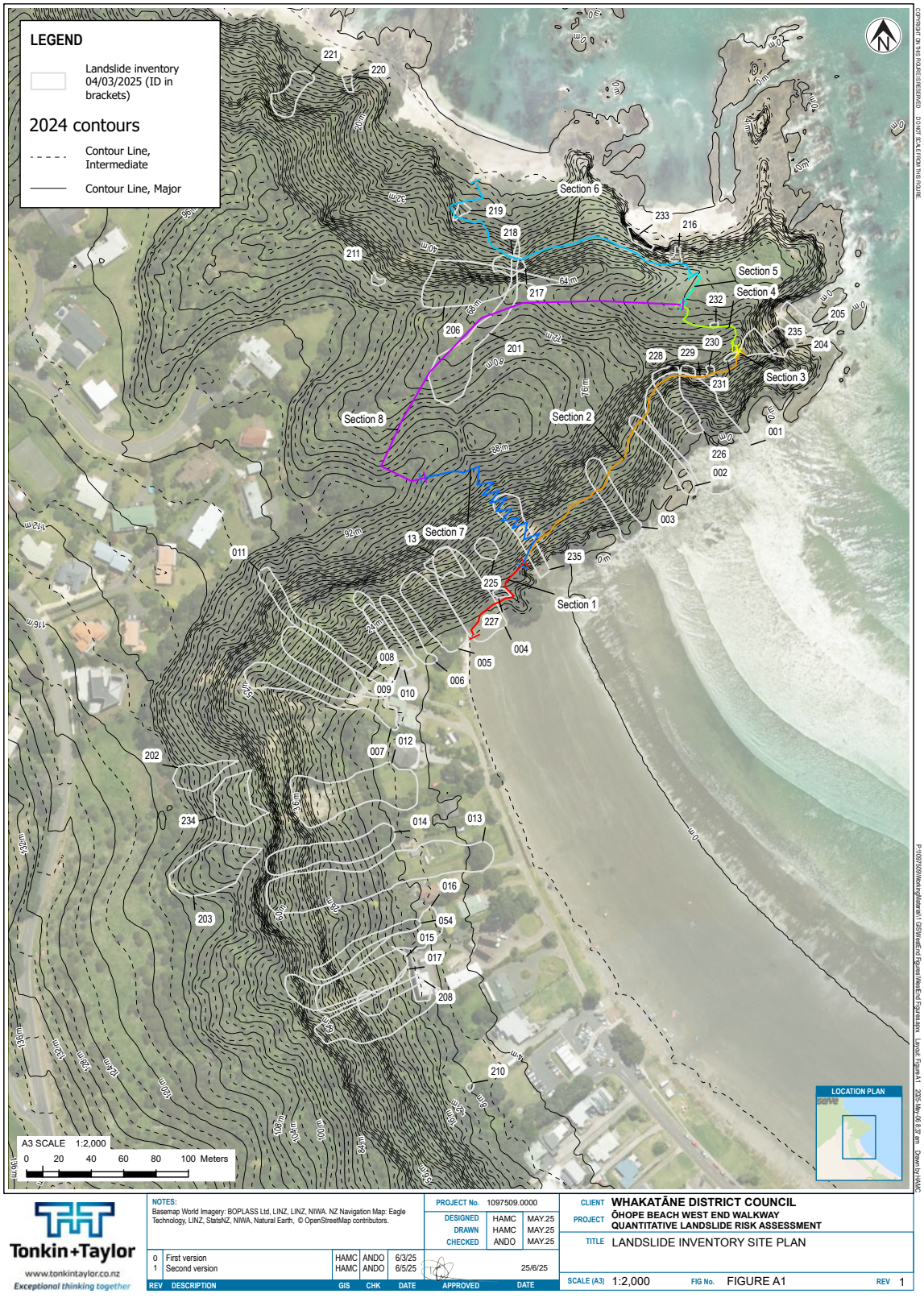
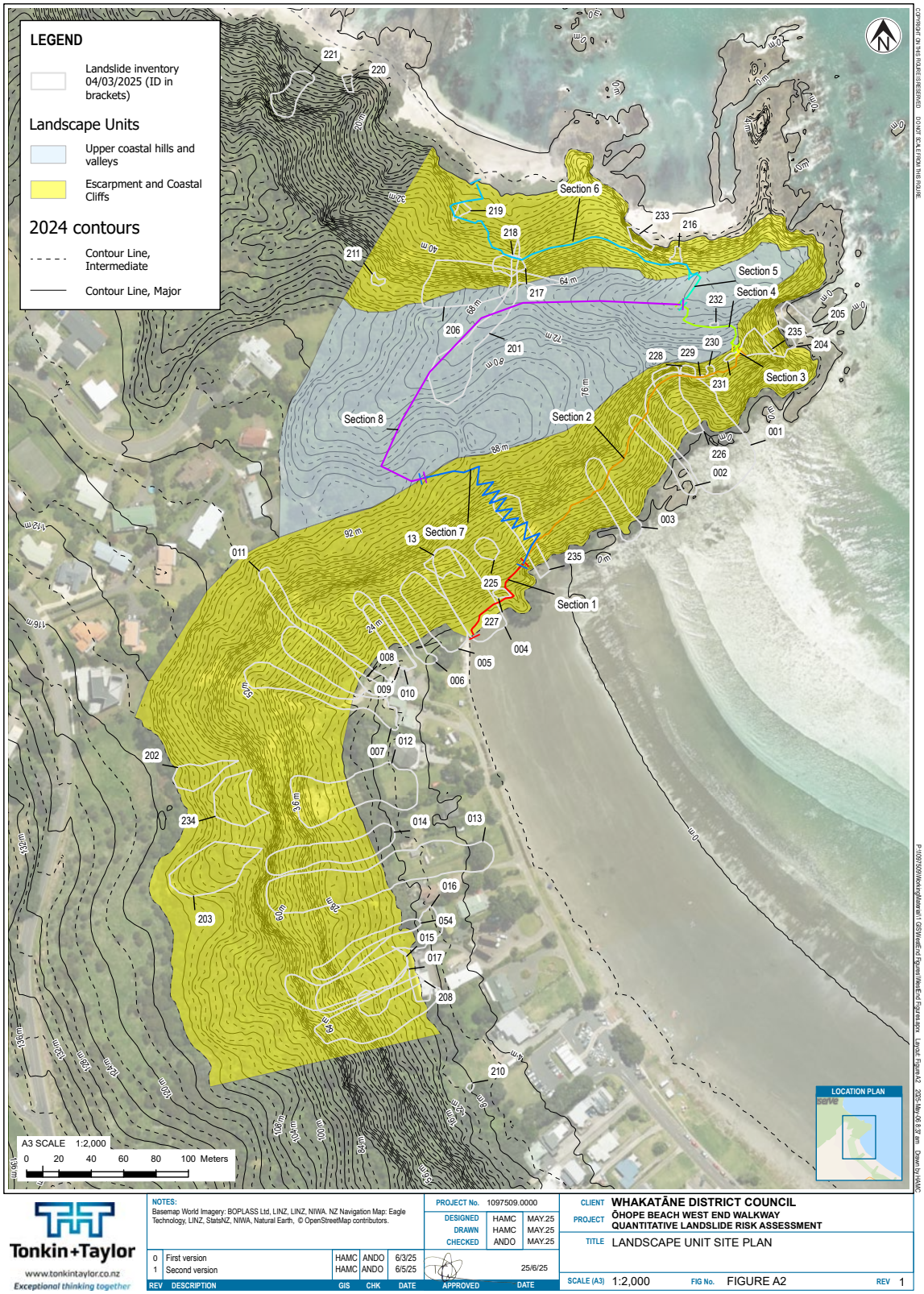
Appendix A Figures

6.4.5 Appendix E - Tonkin & Taylor Ohope Beach West End Walkway Quantitative Landslide Risk Assessment Report June 2025(Cont.)



6.4.5 Appendix E - Tonkin & Taylor Ohope Beach West End Walkway Quantitative Landslide Risk Assessment Report June 2025(Cont.)



6.4.5 Appendix E - Tonkin & Taylor Ohope Beach West End Walkway Quantitative Landslide Risk Assessment Report June 2025(Cont.)

Appendix B Landslide inventory

6.4.5 Appendix E - Tonkin & Taylor Ohope Beach West End Walkway Quantitative Landslide Risk Assessment Report June 2025(Cont.)

Landslide ID	TYPE	Area m²	Source	Date Observed / aerial image date	Event Date	Geology	Landslide Impacts Landscape Unit (1 = Yes)		Observation
							Escarpment	Hills	
1	Landslide	2994	T+T 2013	2013	1987		1	0	
2	Landslide	473	T+T 2013	2013	May-11		1	0	
3	Landslide	626	T+T 2013	2013	May-11		1	0	
4	Landslide	1375	T+T 2013	2013	Apr-11		1	0	
5	Landslide	971	T+T 2013	2013	Jun-10		1	0	
6	Landslide	417	T+T 2013	2013	May-11		1	0	
7	Landslide	921	T+T 2013	2013	Apr-11		1	0	
8	Landslide	1045	T+T 2013	2013	Apr-11		1	0	
9	Landslide	467	T+T 2013	2013	Apr-11		1	0	Reactivation of 010
10	Landslide	389	T+T 2013	2013	Feb-11		1	0	
11	Landslide	836	T+T 2013	2005	2004		1	0	
12	Landslide	1777	T+T 2013	2013	Feb-11		1	0	
13	Landslide	280	Google Earth	Feb-11			1	0	
13	Landslide	2782	T+T 2013	2013	May-10		1	0	Observed from helicopter
14	Landslide	1070	T+T 2013	2013	Unknown		1	0	
15	Landslide	1235	T+T 2013	2013	18 June 1010		1	0	
16	Landslide	1587	T+T 2013	2013	4-Jun-10		1	0	
17	Landslide	1518	T+T 2013	2013	29-Jan-10		1	0	
54	Landslide	523	T+T 2013	2013	Unknown		1	0	Historic scar
201	Landslide	1181	Retrolens	1937			1	1	
202	Landslide	395	Retrolens	1937			1	0	
203	Landslide	1149	Retrolens	1937			1	0	
204	Landslide	244	Retrolens	1937			1	0	
205	Landslide	201	Retrolens	1937			1	0	
206	Landslide	1463	Retrolens	1944			1	1	
208	Landslide	372	Retrolens	1937			1	0	
210	Landslide	17	Google Earth	Mar-11			0	0	Blocks observed in back yard
211	Landslide	39	Google Earth	Feb-11			1	0	
212	Landslide	518	Google Earth	Feb-11			0	0	
216	Scarp	44	Site observation 2025	4-Feb-25		Ash	1	0	Scarp below lookout
217	Rockslide	190	Site observation 2025	4-Feb-25		Sandstone	1	0	Potentially two separate slips
218	Rockfall	4	Site observation 2025	4-Feb-25		Sandstone	1	0	Rockfall on track, below LS10
219	Debris slide/rockfall	60	Site observation 2025	4-Feb-25		Greywacke	1	0	Greywacke blocks on track, approx. 1m3. Unknown source, 4m high cliff above track with talus fan.
220	Debris slide	52	Site observation 2025	4-Feb-25		Greywacke	0	0	Debris likely to be washed out in storm surge, greywacke gravels
221	Rockslide	365	Site observation 2025	4-Feb-25		Greywacke	0	0	Above beach
223	Debris slump	24	Site observation 2025	4-Feb-25		Residual soil	0	0	Slump in track cutslope
224	Debris slump	47	Site observation 2025	4-Feb-25		Residual soil	0	0	Slump in track cutslope
225	Historical scarp, debris flow	147	Site observation 2025	4-Feb		Greywacke	1	0	Historical scarp, potentially reactivated (HDGeo)
226	Translation, rockslide	544	Site observation 2025 / CMW	4-Feb-25		Sandstone	1	0	Evidence of tabular rockfall from HS and future risk from similar. Debris along track
227	Historical debris slide	45	Site observation 2025	4-Feb-25		Greywacke	1	0	Evidence of shallow scarp above track

6.4.5 Appendix E - Tonkin & Taylor Ohope Beach West End Walkway Quantitative Landslide Risk Assessment Report June 2025(Cont.)

228	Translation, rockslide	51	Site observation 2025	4-Feb-25		Sandstone	1	0	Debris inundated track
229	Rockfall	3	Site observation 2025			Sandstone	1	0	Rockfall on track
230	Rockfall	26	Site observation 2025	4-Feb-25		Sandstone	1	0	Small rockfall
231	Debris slide	26	Site observation 2025	4-Feb-25		Sandstone	1	0	Evidence of headscarp
232	Landslide	13	Site observation 2025	4-Feb-25		Sandstone	0	1	Headscarp
233	Landslide	93	Retrolens	1937			1	0	
234	Landslide	665	Retrolens	1937			1	0	
235	Landslide	213	Retrolens and google earth	1987 onwards			1	0	
235	Landslide	551	Site observation 2025 / HD Geo	2025 / 2023			1	0	

Appendix C Temporal Probability $P_{(L)}$

Table Appendix C.1: Determination of Annual Exceedance Probability per km^2 for each landscape unit

Landscape unit	Size class	Count	Time Period (years)	Mean recurrence interval (Time period/count)	Probability (%) of one or more landslides occurring based on long-term data	Landscape unit area mapped (km2)	Probability (%) of one or more landslides occurring based on long-term data per km2 (scaled by landscape unit area)
Escarpment and Coastal Cliffs	Most Likely	29	87	3	2.8E-01	0.08	3.8E+00
	Maximum Credible	5	87	17	5.6E-02	0.08	7.4E-01
Coastal Hills and Valleys	Most Likely	1	87	87	1.1E-02	0.03	4.2E-01
	Maximum Credible	1	87	87	1.1E-02	0.03	4.2E-01

Table Appendix C.2: Probability (%) of one or more landslides occurring based on long term data – scaled to area contributing to the hazard at each track section

Track	Landscape unit	Case	Probability (%) of one or more landslides occurring based on long-term data per km2 (scaled by landscape unit area)	Track hazard area km2, i.e., the area surrounding the track which contributes to landslide hazard	PL Probability (%) of one or more landslides occurring based on long-term data - scaled to track hazard area
Section 1	Escarpment and Coastal Cliffs	Most Likely	3.8E+00	0.0046	1.8E-02
		Maximum Credible	7.4E-01	0.0046	3.5E-03
Section 2	Escarpment and Coastal Cliffs	Most Likely	3.8E+00	0.0073	2.8E-02
		Maximum Credible	7.4E-01	0.0073	5.4E-03
Section 3	Escarpment and Coastal Cliffs	Most Likely	3.8E+00	0.0001	4.7E-04
		Maximum Credible	7.4E-01	0.0001	9.2E-05
Section 4	Coastal Hills and Valleys	Most Likely	4.2E-01	0.0010	4.4E-04
		Maximum Credible	4.2E-01	0.0010	4.4E-04
Section 5	Coastal Hills and Valleys	Most Likely	4.2E-01	0.0010	4.4E-04
		Maximum Credible	4.2E-01	0.0010	4.4E-04
Section 6	Escarpment and Coastal Cliffs	Most Likely	3.8E+00	0.0074	2.8E-02
		Maximum Credible	7.4E-01	0.0074	5.5E-03
Section 7	Escarpment and Coastal Cliffs	Most Likely	3.8E+00	0.0023	8.7E-03
		Maximum Credible	7.4E-01	0.0023	1.7E-03

6.4.5 Appendix E - Tonkin & Taylor Ohope Beach West End Walkway Quantitative Landslide Risk Assessment Report June 2025(Cont.)

Track	Landscape unit	Case	Probability (%) of one or more landslides occurring based on long-term data per km2 (scaled by landscape unit area)	Track hazard area km2, i.e., the area surrounding the track which contributes to landslide hazard	PL Probability (%) of one or more landslides occurring based on long-term data - scaled to track hazard area
Section 8	Coastal Hills and Valleys	Most Likely	4.2E-01	0.0169	7.2E-03
		Maximum Credible	4.2E-01	0.0169	7.2E-03

Appendix D Annual Individual Fatality Risk

6.4.5 Appendix E - Tonkin & Taylor Ohope Beach West End Walkway Quantitative Landslide Risk Assessment Report June 2025(Cont.)

Table Appendix D.1: Annual Individual Fatality Risk calculation

							Individual			WDC Worker		
Track Section	**Corresponding landscape unit**	**Event**	**Temporal probability of the event (P_L)**	**Probability of the landslide/rockfall reaching the track ($P_{T:L}$)**	**Spatio-temporal probability of the person at risk ($P_{S:T}$) return trip**	**Vulnerability of the person ($P_{D:T}$)**	**Annual Individual Fatality Risk (AIFR)**	**Total AIFR for each track section**		**Spatio-temporal probability of WDC worker at risk ($P_{S:T}$) return trip**	**Annual Individual Fatality Risk (AIFR)**	**Total AIFR for each track section**
Section 1	Escarpment and Coastal Cliffs	Most likely	1.8E-02	1.7E-01	8.3E-06	1.0	2.4E-08			3.3E-05	9.6E-08	
		Max credible	3.5E-03	3.9E-01	8.3E-06	1.0	1.1E-08	3.5E-08		3.3E-05	4.5E-08	1.4E-07
Section 2	Escarpment and Coastal Cliffs	Most likely	2.8E-02	5.2E-02	2.6E-05	1.0	3.8E-08			1.0E-04	1.5E-07	
		Max credible	5.4E-03	1.3E-01	2.6E-05	1.0	1.8E-08	5.6E-08		1.0E-04	7.1E-08	2.2E-07
Section 3	Escarpment and Coastal Cliffs	Most likely	4.7E-04	1.0E+00	2.0E-05	1.0	9.3E-09			7.9E-05	3.7E-08	
		Max credible	9.2E-05	1.0E+00	2.0E-05	1.0	1.8E-09	1.1E-08		7.9E-05	7.3E-09	4.5E-08
Section 4	Coastal Hills and Valleys	Most likely	4.4E-04	1.8E-01	7.5E-06	0.8	4.8E-10			3.0E-05	1.9E-09	
		Max credible	4.4E-04	3.5E-01	7.5E-06	0.9	1.0E-09	1.5E-09		3.0E-05	4.2E-09	6.1E-09
Section 5	Coastal Hills and Valleys	Most likely	4.4E-04	3.9E-01	3.6E-06	0.8	4.8E-10			1.4E-05	1.9E-09	
		Max credible	4.4E-04	7.4E-01	3.6E-06	0.9	1.0E-09	1.5E-09		1.4E-05	4.2E-09	6.1E-09
Section 6	Escarpment and Coastal Cliffs	Most likely	2.8E-02	5.2E-02	2.7E-05	1.0	3.8E-08			1.1E-04	1.5E-07	
		Max credible	5.5E-03	1.2E-01	2.7E-05	1.0	1.8E-08	5.6E-08		1.1E-04	7.2E-08	2.2E-07
Section 7	Escarpment and Coastal Cliffs	Most likely	8.7E-03	5.3E-02	6.4E-05	1.0	3.0E-08			2.5E-04	1.2E-07	
		Max credible	1.7E-03	1.3E-01	6.4E-05	1.0	1.4E-08	4.4E-08		2.5E-04	5.6E-08	1.7E-07
Section 08	Coastal Hills and Valleys	Most likely	7.2E-03	4.1E-02	3.4E-05	0.8	7.9E-09			1.3E-04	3.1E-08	
		Max credible	7.2E-03	7.9E-02	3.4E-05	0.9	1.7E-08	2.5E-08		1.3E-04	6.8E-08	1.0E-07

6.4.6 Appendix F - WSP high-level review of existing geotechnical reports 9 December 2025

6.4.6 Appendix F - WSP high-level review of existing geotechnical reports 9 December 2025(Cont.)

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9th December 2025

Alexandra Pickles
General Manager Community Experience
Whakatāne District Council
14 Commerce Street
Whakatāne

Otarawairere Walkway

2-34685.00

Dear Alexandra,

The Otarawairere walkway is an iconic walkway in the Eastern Bay of Plenty, linking Ōhope Beach with Otarawairere Bay. However, since October 2022 this walkway has been close, when an initial landslide occurred following a period of heavy rainfall. A second subsequent landslide has since occurred. Following the closure Whakātane District Council (WDC) initiated several studies and investigations to determine the cause of the failures, to identify the potential mitigation measures and to better understand the on-going risk of the future of the walkway. The studies have been made available to WSP, and include:

- CMW Geosciences (December 2023) – Nga Tapu Wae o Toi Walkway, Ōhope Beach, Geotechnical Investigation Report. Ref:TGA2023-194AB Rev0. Prepared for Whakatāne District Council.
- HD Geo (September) - Whakatāne Walkway Staircase, Geotechnical Assessment Report. Ref. HD23406. Prepared for Walkway Solutions.
- reNature Limited (September 2024) – West End Walkway – Geotechnical Report Review.
- reNature Limited (October 2024) - Nga Tapu Wae o Toi Trail – Ōhope to Otarawairere Beach Realignment. Ref 22189. Prepared for Whakatāne District Council.
- Tonkin & Taylor Limited (June 2025) – Ōhope Beach West End Walkway Quantitative Landslide Risk Assessment. Ref 1097509.000v3. Prepared for Whakatāne District Council.

Whakatāne District Council have engaged WSP New Zealand Limited (WSP) to undertake a high-level review of these existing geotechnical reports and provide a high-level summary of the findings. It is not the intent of this high-level summary to re-visit the content of these reports, which for the benefit of the summary below, WSP assume to be factually and technical correct. It is also important to note that the documents outlined above, refer to other reports, completed historically around this West End escarpment and the Otarawairere Walkway, and that these reports have not been made available to WSP. Furthermore, the summary presented below does not constitute a peer review of the documents made available to WSP, nor those referenced.

Background

The Otarawairere Walkway was closed in October 2022 following a storm event that caused an initial landslide to damage a section of the walkway. A second slip has subsequently occurred follow the closure of the track. Both of the slips are understood to be shallow landslides, with the overlying soil and vegetation slipping along the interface with the steep, underling rock. The walkway is yet to re-open.

The T&T 2025 report suggests that the escarpment and coastal cliffs have a well-documented history of repeated landslide, and that further landsliding is likely to continue. They have indicated that over 85 slips have occurred

over the last 87 years, at differing locations around West End and Otarawairere Bay, according to their landslide inventory.

Further, the 2025 T&T report, along with their corresponding 2013 report for this escarpment (not made available to WSP), reports rainfall and landslide triggers as follows:

- Landsliding is always associated with rainfall more than 120mm per day.
- Landsliding becomes increasingly common, once daily rainfall exceeds approximately 100mm per day.
- The number of landslides induced by such rainfall ranges from 5 to 7 on the Ohope escarpment and 0 to 3 for the Whakatāne escarpment.
- Landslides can occur when daily rainfall is less than 100mm, although they are much more likely not to occur and a single landslide is more likely than multiple landslides.

Based on the previous works completed to date, particularly by T&T, it is demonstrated that the escarpment and coastal cliffs have a well-documented history of repeated landslides, and it is also suggested that further landsliding should be expected, particularly where rainfall exceeds the quantities outlined above. Consequently, several approaches to stabilising the Otarawairere walkway have been presented within the five reports made available to WSP, that include:

Route 1 – Repair existing track

- Engineered solutions to improve track resilience through the installation of rock anchors and mesh.
- Management solutions through reducing visitor access following heavy rainfall or seismic events, or permanent closure of the track.
- Re-establishment of existing route to the original condition, through the construction of suspended boardwalk or bridging structures at the locations of the slips, and without wider slope stabilisation measures being employed along or above the alignment of the track.

Route 2 – Proposed alternative route

Based on the reports provided, WSP understands that this proposed alternative route will utilise many sections of the original walking track, but that for the most part, two of the original very high-risk sections are by-passed by the construction of a proposed staircase, which traverses near vertically up the escarpment face. The sections of original track that are by-passed, are where the current landslides are located and the new stairs will provide access up and over the escarpment. The T&T report summaries this alternaitve route as comprising one of the following options:

- Construction of a new staircase, with no slope stabilisation behind or above the structure.
- Construction of new staircase structure, with slope stabilisation required behind and above the structure, in the form of rock mesh only.
- Construction of new staircase structure, with slope stabilisation required behind and above the structure, in the form of anchorage and rock mesh.

It is important to note that the approaches detailed above would appear to be high level and conceptual at this stage. Whilst limited geotechnical investigations have been undertaken, detailed geotechnical investigations, designs or reporting have not been completed for these strategies. As a result, there remains a degree of risk associated with the viability of some or all of the options presented.

Assessment of Future Risk

In order to assess the risk to life and to property, associated with future landslide events around the escarpment, T&T have completed a robust Quantitative Landslide Risk Assessment. This risk analysis has been undertaken using the well-known Department of Conservation (DOC)/GNS Science's (GNS) Guidelines for Natural Hazard Risk Analysis(NHRA) and the Australian Geotechnical Society (March 2007) Practice Note Guidelines for Landslide Risk Management 2007 (AGS2007). Using these documents, the following risk metrics were assessed:

- Annual Individual Fatality Risk – this has been calculated for a member of the public over the course of the year and also for the most at risk WDC worker who visits the site several times a year
- Property risk – to determine an estimate of risk of landslide related track damage, sufficient enough to render the track impassable and requiring repair/reinstatement.

Annual Individual Fatality Risk

Based on the methodology provided within the 2025 T&T report, the Annual Individual Fatality Risk is summarised below:

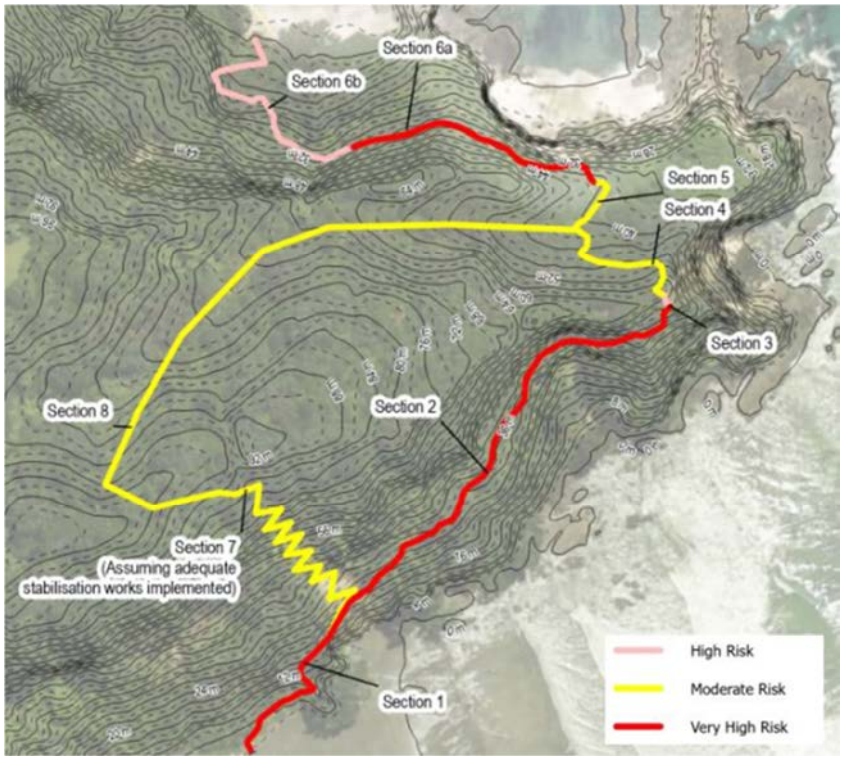
	Annual Individual Fatality Risk	
	Route 1	Route 2
Member of Public	1 in 16,000,000 to 1 in 1,500,000,000	1 in 13,000,000 to 1 in 1,500,000,000
WDC Worker	1 in 64,000,000 to 1 in 6,100,000,000	1 in 70,000,000 to 1 in 6,100,000,000

The 2025 T&T Report details that the risk level for the Annual Individual Fatality Risk for either Route 1 or Route 2, to be within the "Low" category of the Bay of Plenty Regional Policy Statement and in the "Reduce to as low as reasonably practicable" risk level of the DOC/GNS NHRA guidance.

Risk to Property

According to the 2025 T&T report, there is a very high-risk level assigned to both Routes for risk to property, as shown in the Figure overpage. Whilst much of Route 2 is depicted as being "Moderate Risk" and consequently will have an improved overall resilience, it is reliant on Section 1 and Section 6a, which therefore increases the overall risk of this option.

6.4.6 Appendix F - WSP high-level review of existing geotechnical reports 9 December 2025(Cont.)



T&T have stated that WDC will need to consider the estimated risk metrics presented in their 2025 report and determine a mitigation approach to the future of the Otarawairere Walkway, in-line with their strategy, whilst being cognisant of costs and risks that WDC are willing to take.

Rough order costs

Within the 2025 T&T report, approximate rough order costs of reinstatement following track damage have been provided. It is stated that the costs are based on previous experience with similar projects and for comparison purposes only. Furthermore, no design has been undertaken and that the rough order costs should not be used out of context. WSP also agrees with the T&T Report, insofar that if WDC do require cost estimations to support their decision making, then it is recommended that further advice is sought by WDC. The rough order cost provided by T&T in their 2025 report, to reinstate the damaged track is outlined below.

Track Section – From plan above	Rough order cost of Reinstatement	Possible reinstatement methodology
1	$10,000 - $500,000+	Bridges; stairs; or large structures
2	$10,000 - $500,000+	Bridges; stairs; or large structures
3	$10,000 - $500,000+	New staircase
4	$10,000 - $50,000	New at grade track or minor repair

6.4.6 Appendix F - WSP high-level review of existing geotechnical reports 9 December 2025(Cont.)

5	$10,000 - $50,000	New at grade track or minor repair
6a	$10,000 - $500,000+	Bridges; stairs; or large structure
6b	$10,000 - $500,000+	New at grade track or stair structure
7	$10,000 - $1,000,000	Repair or replacement of proposed large staircase structure
8	$10,000 - $50,000	New at grade track or minor repair

Other Risk mitigation Strategies

Whilst not covered by the reports received by WSP as a part of this review, there may well be other risk mitigation strategies that are available to WDC, as outlined in the table below. It is important to note, that these are only very high-level thoughts at this stage, based on previous mitigation strategies that WSP have successfully utilised for other slip sites at locations around The Bay or Plenty and wider North Island. A robust programme of geotechnical investigations and design, in collaboration with Ngāti Awa and other key stakeholders, will need to be undertaken to determine their future viability.

Mitigation Strategy	Overall walkway Resilience	Constructability	Other considerations
Cut or bench track in to more competent material around escarpment	Good – Providing walkway can be founded within competent rock	Difficult – Limited access for plant and machinery will require the use of rope access and hand tools	Improved track resilience will be dependent on the wider stabilisation or removal of loose debris and overhanging areas, or the potential need for stabilisation of other historical slip sites along the walkway
Create a new walkway around high tide mark	Good – providing structure is designed to withstand storm surges	Difficult – Limited access to base of escarpment particularly at high tide	Complex resource consenting and stakeholder engagement process On-going landslide from escarpment above may cover walkway
Construct a tunnel from Otarawairere Bay to Ohope Beach	Excellent – Likely to require minimal on-going maintenance	Very difficult – tunnelling through the Lower Ohope Beds or the Greywacke is likely to be challenging and very expensive	Tunnel is likely to take away the impact from one of New Zealand's greatest walks, however, could create a "go-to" location.
Install remote sensing to monitor the escarpment for movement	No improvement – Slips will still occur and potentially close the walkway	Difficult – installing monitoring devices and gauges, and then maintaining them is likely to require rope access	Mode of slip failure is understood to be quick and not necessarily at the same time as a rain event

Summary

As detailed by T&T in their 2025 report, the West End escarpment and the Otarawairere Walkway has a well-documented history of on-going and repeated landslides. It is likely that further landsliding will occur in the future. Several risk mitigation strategies have been proposed within the documented reports and whilst they repair or stabilise the two current landslides, or provide an alternative access route, they do not fundamentally mitigate the on-going risk of further failures occurring around the escarpment. Therefore, consideration should be given to combining several risk mitigation solutions, to provide a more long-term resilient strategy to re-opening the track and better long-term value for money to WDC.

Without significant investment, or significant physical alteration of the escarpment, or a fundamental shift in approach to providing safe and unhindered access to the escarpment by the general public (such as a new walkway around the high tide mark, or even a tunnel), there remains a risk to life (low risk) and a risk to property (moderate to very high), as detailed by the 2025 T&T report.

Based on the reports completed to date and provided to WSP for review, and subject to the completion of additional geotechnical investigations and detailed design work, our recommended risk mitigation strategies would be (listed in order of preference):

1. Close the walking track – It is WSP's view that if a piecemeal approach is taken to the repair and remediation of the walking track and if the two current slip sites are remediated in isolation of a wider risk mitigation and maintenance strategy being in place for the track as a whole, then there remains a risk that other slips will occur at other locations around the walking track. The qualitative measure of likelihood of slips happening in the future, based on AGS2007c, and as reported by T&T is "Likely – The event will probably occur under adverse conditions over the design life". Permanent closure of the walking track, whilst likely to be unpopular with the community, could provide the best return on investment for WDC.
2. Route 1 – Repair existing track – Should WDC wish to re-open the walking track, WSP recommend that an overarching risk mitigation and maintenance strategy be in place for the track as a whole, prior to the physical repair of the track at the two slip sites. As outlined above, it is "Likely" that further events will occur at locations along the walking track and whilst construction of suspended boardwalks or bridging structures, on the face of it, seems a viable option, providing wider stabilisation measures along the entire length of the walkway is recommended to provide a long term and more resilient amenity. This could include extensive anchorages and steel mesh.
3. Route 2 – Proposed alternative route – WSP consider this repair solution to be the highest cost and highest risk option, which when complete, still utilises sections of track that are at a "very high risk" of property damage in the future. Therefore, if this more expensive solution is preferred, then as per the above, wider stabilisation measures such as anchorage and steel mesh, along the entire length of the walkway are recommended to provide a long term and more resilient walkway.

Recommendations

WSP understands that WDC has roughly $450,000 assigned for the potential remediation of the Otarawairere walkway and based on the rough order costs presented within the T&T 2025 report, the funding is highly unlikely to mitigate all risks identified within the current reports. This is compounded by the on-going risks profile of the walkway, which is unlikely to improve, if a piecemeal approach is taken to remediating individual sections of the track at a time.

WSP also recognises that WDC have spent much time and costs to date, compiling these reports and there is pressure from the community to get the walkway open after several years of closure. Therefore, and being cognisant of the work completed and presented in the reports made available to WSP, along with the recommendations provided by the 2025 T&T Report, WSP recommend the following:

- Undertake a process of refinement of current rough order costs, through the completion of preliminary design of the various risk mitigation solutions. This will allow more certainty to be placed on future spend and better highlight areas of future risk within the mitigation solution.
- Develop an area-wide remediation and maintenance strategy for the entire walkway, which will allow WDC to take a risk-based approach and prioritise future spend on those key risk areas of the walkway, based on the preliminary designs completed.
- Develop multi-criteria Assessment of the risk mitigation strategies, optimising the preliminary designs and refined rough order costs.

I trust the above helps to provide some clarity to this very interesting, but challenging situation. If you have any further questions or thoughts, then we would be pleased to discuss this with you further.

Yours sincerely,

Gareth Francis
Principal Geotechnical Engineer

Grant Cox
Major Projects Director

6.5 Approval of Whakatāne District Council submissions to Central Government

To:	**Projects and Services Committee**
Date:	**Thursday, 19 February, 2026**
Author:	**W Vullings / Senior Advisor Strategy and Growth**
Authoriser:	**S Stewart / Manager Strategy and Performance**

1. Reason for the report - *Te Take mō tēnei rīpoata*

The purpose of this report is to seek approval from the Committee for a number of draft submissions to Central Government consultations. Central Government continues to work through an ambitious programme of reforms. Submissions have been invited on a number of proposals that stand to have a significant impact on the local government sector and communities we serve. Submissions covered by this paper include:

- Simplifying Local Government proposal – submissions due 20 February 2026
- Changes to the Development Levies System – submissions due 20 February 2026
- Infrastructure Funding and Financing Bill – submissions due 20 February 2026
- Rates Capping proposal (retrospective) – submissions closed 4 February 2026

2. Recommendations - *Tohutohu akiaki*

1. THAT the Committee **receives** the 'Approval of Submissions to Central Government' report; and
2. THAT the Committee **approves** the attached submission to the 'Simplifying Local Government Proposal'; and
3. THAT the Committee **approves** the attached submission to the 'Development Levies System'; and
4. THAT the Committee **approves** the attached submission to the 'Infrastructure Funding and Financing Bill'; and
5. THAT the Committee **receives** the attached final submission to the 'Rates Capping Proposal'

3. Background - *He tirohanga whakamuri*

The Central Government proposals covered in this report (alongside proposed replacement legislation for the RMA) have the potential to significantly influence local democracy, and the planning, funding, and delivery of local government services, with direct implications for communities we serve.

Making submissions on key legislation and national policy proposals is one way in which Whakatāne District Council advocates for the interests of our communities. Council has a long track record of contributing consistently and constructively to national reform programmes, ensuring local needs, priorities, and practical, on-the-ground considerations are reflected in central government decision-making.

Although timing of consultations has been less than ideal over the Christmas period, staff and elected members have worked through a series of workshops to unpack and discuss reform topics. The attached submissions have been drafted to reflect Whakatāne District Council views and concerns.

4. Discussion – Kōrero

4.1. Simplifying Local Government proposal

The Simplifying Local Government proposal seeks to improve the functioning of the local government system by reducing duplication, clarifying the respective roles and responsibilities of local government, and streamlining regulatory processes to enhance efficiency, financial sustainability, and the delivery of essential services. Of particular note, the proposal would abolish regional councils, remove regional elected members, and transfer all existing regional council functions – including environmental management, regional transport planning, and civil defence – to new Combined Territories Boards (CTBs) comprised of mayors from across each region. Once established, CTBs would have two years to develop Regional Reorganisation Plans that review all functions and services of local government and set out future governance arrangements. The Reorganisation Plans would be subject to ministerial approval, and together these reforms carry significant implications for local governance, accountability, autonomy, and the long-term sustainability of council operations.

The WDC draft submission welcomes the conversation on shaping the future of the local government sector noting that all levels of government need to be responsive to ensure we can best support and serve communities to be vibrant and thriving. At the same time the submission raises some issues and concerns with what is being proposed and suggests further considerations that WDC believes will allow a more thorough and effective reorganisation of local government.

The submission must be sent to the Department of Internal Affairs by Friday 20 February 2026.

4.2. Changes to the Development Levies System

The Government has released the consultation document 'Supporting Growth Through a Development Levies System' alongside an exposure draft of the 'Local Government (Infrastructure Funding) Amendment Bill'. Together these propose replacing development contributions with a new development levies framework. If enacted, the proposed changes will have a material impact on Council's financial framework. The proposed development levies system is expected to increase cost recovery over time due to its broader scope and improved ability to recover the costs of growth-related infrastructure.

The WDC draft submission supports the policy intent of the Bill and the transition to a development levies system. Whilst the introduction of development levies is supported, the WDC submission notes that this is only a step in the right direction with further funding and financing mechanisms needed to fully encourage development.

The submission must be sent to The Department of Internal Affairs by Friday 20 February 2026.

4.3. Infrastructure Funding and Financing (IFF) Bill

The Infrastructure Funding and Financing Amendment Bill intends to expand and refine the existing Infrastructure Funding and Financing Act, allowing councils and other entities to access alternative financing arrangements for essential infrastructure through a levy-based system. It aims to accelerate infrastructure delivery, reduce pressure on council balance sheets, and support growth in high-demand areas. While this is largely a mechanism of benefit to high/growth and larger councils the changes would make the funding tool more accessible to other entities including developers.

The current update of the IFF has been limited to two transactions which is partly due to the cost, complexity and time to undertake a transaction. The WDC draft submission is supportive and largely reflects that the changes are technical/practical improvements to the Infrastructure Funding and Financing mechanism. It focuses on ensuring the legislation remains workable, protects ratepayer interests, and genuinely supports councils to address infrastructure deficits and unlock growth. This said, it is noted that both the Development Levy System and the proposed changes to the IFF do not provide significant change to assist councils in funding and financing infrastructure.

The submission must be sent to Parliament's Finance and Expenditure Select Committee by Friday 20 February 2026.

4.4. Rates Capping Proposal (retrospective)

The Rates Capping Proposal intends to progress a rates cap to reduce pressure on household budgets and improve affordability. The New Zealand Government has proposed limiting annual local council rate increases to between 2% and 4% per capita, aiming for full implementation by 2029 with a transitional period starting in January 2027. This policy aims to mitigate higher rates increases and would require councils to seek central government approval for increases above the cap allowable only within very specific circumstances.

The WDC submission is supportive of the intention to keep rates increases to a minimum. At the same time, it highlights financial risks, and service continuity risks and extreme limitations to local democracy of imposing highly restrictive rates capping. For many years the local government sector has been requesting a broader range of funding and financing tools to reduce the heavy reliance on rates and WDC sees this as a more appropriate way forward.

The WDC submission has already been made in accordance with the Wednesday 4 February 2026 deadline. Under tight timeframes, the submission was required to be approved under delegation to the Mayor and Chief Executive with the final copy being shared through this report for elected member and public reference.

5. Options Analysis - *Ngā Kōwhiringa*

It is recommended that the Committee approves the three attached submissions per the recommendations (e.g. excluding the Rates Capping submission which has already been approved and submitted). If minor adjustments are required to any of these three submissions, the Committee can decide to approve the submissions 'subject to any final changes required by the Committee'.

It remains an option for the Committee not to approve these three submissions. This option is not recommended as Whakatāne District Council would miss an opportunity to provide feedback to Central Government on proposals that stand to have a significant impact on the Whakatāne District and communities.

The submission to the Rates Capping proposal is shared for the reference and has already been approved under delegation to the Mayor and Chief Executive. There are no alternative options for this particular submission.

6. Significance and Engagement Assessment - Aromatawai Pāhekoheko

6.1. Assessment of Significance

The decision to approve submissions to Central Government is assessed to be of low significance, in accordance with the Council's Significance and Engagement Policy.

6.2. Engagement and Community Views

Engagement on this matter is not being undertaken in accordance with Section 6.1 (a), (d) and (g) of the Council's Significance and Engagement Policy. Specifically, the decision is of low significance, costs of engagement would outweigh the benefits, and engagement is impractical within tight submission timeframes. It is noted that the public are also able to make submissions to Central Government. This said, multiple matters of this report – in particular, the 'Simplifying Local Government' and 'Rates Capping' proposals – are likely to be of public interest and may be picked up by local media.

7. Considerations - *Whai Whakaaro*

7.1. Strategic Alignment

No inconsistencies with any of the Council's policies or plans have been identified in relation to the recommendations of this report.

7.2. Legal

No specific legal implications have been identified in relation to the recommendations of this report.

7.3. Financial/Budget Considerations

There is no budget considerations associated with the recommendations of this report.

7.4. Climate Change Assessment

There are no significant or notable climate change considerations associated with the recommendations of this report.

7.5. Risks

There are no significant or notable risks associated with the recommendations of this report.

8. Next Steps – E whai ake nei

Subject to Committee approval, the next steps will involve provision of submissions to central government within the required deadlines. Staff will continue to track these proposals and bills and bring information back to Council on their progress and outcomes as they develop. As these proposals evolve staff will also need to consider and plan for the implementation implications.

Attached to this Report:

- Attachment 1 - Simplifying Local Government proposal – submissions due 20 February 2026
- Attachment 2 - Changes to the Development Levies System – submissions due 20 February 2026
- Attachment 3 - Infrastructure Funding and Financing Bill – submissions due 20 February 2026
- Attachment 4 - Rates Capping proposal (retrospective) – submissions closed 4 February 2026

6.5.1 Attachment 1 - Simplifying Local Government proposal – submissions due 20 February 2026

19 Feb 2026

Department of Internal Affairs
PO Box 805
WELLINGTON 6140
Submitted via email: simplifyinglocalgovernment@dia.govt.nz
And submission portal: https://consultations.digital.govt.nz/simplifying-local-government/proposal/consultation/

Tēnā koe,

Consultation on Simplifying Local Government – Submission of Whakatāne District Council

Thank you for the opportunity to provide feedback to the Simplifying Local Government Proposal.

Whakatāne District Council (WDC) recognises that communities are facing increasing challenges and opportunities. All levels of government need to be responsive to ensure we can best support and serve communities to be vibrant and thriving. We therefore welcome the conversation on shaping the future of the local government sector as a critical part of this broader intention. The attached submission raises some issues and concerns and proposes further considerations that WDC believes will allow a more thorough and considered reorganisation of local government.

We look forward to continued involvement in shaping the future of the local government sector and expect further engagement opportunities as this process progresses.

For enquiries related to the submission please contact Wouter Vullings, Senior Advisor Strategy and Growth at Whakatāne District Council – ph.07 306 0238, email. wouter.vullings@whakatane.govt.nz

Nā mātou noa nā,

Nándor Tánczos – Mayor, Koromatua

Steven Perdia – Chief Executive, Toihautū

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Simplifying Local Government
Submission of Whakatāne District Council
19 February 2026

We welcome this conversation

1. Whakatāne District Council (WDC) recognises that communities are facing increasing challenges and opportunities. All levels of government need to be responsive to ensure we can best support and serve communities to be vibrant and thriving. We welcome the conversation on shaping the future of the local government sector as a critical part of this broader intention.
2. The following submission raises some concerns with the 'Simplifying Local Government' proposal and proposes further considerations that WDC believes will allow a more thorough and considered reorganisation of local government.

Strategic approach to the proposal:

3. WDC suggests that a stronger strategic framework needs to be in place to guide the proposal. Much context for change exists, and has been previously documented, but this is not referred to or well articulated in the proposal.
4. The proposal doesn't define key challenges and opportunities facing communities nor does it identify key barriers and limitations for the local government system in responding to these. In responding to this context, the proposal doesn't articulate a clear set of principles and objectives to guide the scope, strategy, and criteria for reorganisation.
5. WDC suggests the Future For Local Government (FFLG) review provides a well researched evidence based foundation on which to move forward. This is research is recent and could provide much of the needed context for the proposal.
6. WDC would suggest a bipartisan approach be sought by central government to carry reform through what will ultimately need to span multiple parliamentary terms. Continuity should be sought by building from previous work (such as but not limited to the FFLG). Such an approach would support greater efficiency and support public confidence.
7. WDC requests that an integrated approach be taken that coordinates and brings coherency to concurrent local government reforms.
8. WDC considers that the overall timeframes for the reforms are highly aspirational, particularly when acknowledging the significance of this once in a generational change. The current information in the proposal paper provides a high-level overview and requires much more detail, engagement and consideration before moving to the drafting of legislation.

Constitution of the Combined Territories Boards:

9. WDC supports the establishment of CTBs, but with some caveats and proposed variations to what is set out in the proposal document.

10. CTBs should be established to develop Regional Reorganisation Plans (RRPs) but with broader membership than set out in proposal. Broader CTB membership should comprise some form of Regional (councillor) representation and Māori representation alongside Mayors to help guide development of the RRPs.
11. WDC does not support Crown Commissioners as default decision-makers. We believe that matters of local government should be determined by those elected. However, Commissioners do provide an array of unique, specialist perspectives that could be able to support the CTB within the decision-making process. WDC considers it may be useful to include crown representation within the constitution of the CTB where they can offer required and complementary skills and knowledge to the CTB.
12. WDC requests that Bay of Plenty Regional Councillors (including Māori wards) should be retained through the transition period to deliver regional roles and functions until such time as RRPs are delivered. Removing this expertise prematurely risks service disruption and loss of institutional knowledge.
13. To ensure democratic mandate is preserved, any discontinuation of Regional Councillors should be aligned with a local election cycle.
14. We require clarity on the CTB chair role. For example, it would be useful to understand who/ how the selection process works and what powers and responsibilities they might carry that is different from other CTB members.
15. The capacity of Mayors picking up additional responsibilities is highlighted as a potential concern.

Voting models for the Combined Territories Boards

16. WDC acknowledge that both 'pure population', and 'one-mayor-one-vote model' carry bias – neither are ideal.
17. The proposal for a 'population based vote adjusted (by LGC) for effective representation' would appear to seek some middle ground but is not further defined. WDC therefore cannot support this option and will have to reserve judgement until further information is available.
18. The main concern for WDC is the potential risk of decision bias towards the population mass in the west of the region. This recognises that the districts including Tauranga City and Western Bay of Plenty together encompass 63% of the Bay of Plenty Region's population. By comparison Eastern Bay of Plenty (including the districts of Whakatāne, Ōpōtiki and Kawerau) encompass 16% of the Region's population but 61% of landmass.
19. Given the available information WDC can only favour the 'one-Mayor-one-vote' model as this will help to mitigate the above risk of Western Bay of Plenty centric decisions.
20. WDC supports the specialist voting approach for key resource management decisions (requiring both the proportional and voter majority to pass).

21. WDC notes that the voting model would have to be reconsidered if CTB constitution is adjusted given that earlier in this submission we advocate for the addition of Regional Council and Māori representation.

Process for Regional Reorganisation Plans:

22. WDC considers that independent regional design may risk highly divergent structural models as an outcome. For example, some regions may favour becoming a unitary authority, some may split into multiple unitary authorities, other regions may favour retention of local and regional level institutions, in some cases with or without local council amalgamations. Some services may remain local, some are required already to be at regional scale while others may yet become regionalised, or reorganised into CCOs with further variation in scale and structure again.
23. This divergence would result in an inconsistent interface with local government and local services and confuse local representation and accountability. As well as implications and confusion for the general public, there will be implications for local governments relationship with central government, government services (such as emergency and social sector), partnerships with iwi and Maori, and with major network and service providers.
24. WDC suggests a collaborative co-design process for RRPs (multi-partnership CG, LG: TLA and Regional, Iwi/Māori) with element of greater national consistency embedded in the framework while making sure to embed local democracy and placemaking as core principles.

Time and resource will be needed to enable reform:

25. Responding to reform is another unfunded mandate, is over and above BAU, and potentially comes alongside a rates capping environment.
26. Our experience of working through the three waters reform would demonstrate that substantial time, resource, and support (both specialist and capacity) is needed to review activities. We note that the waters reforms focused on three services while this proposal would require CTBs to work through the review of perhaps a further 30-40+ activities and services.
27. WDC expects that the resource requirements for the review will not be able to be met within BAU capacity and resource support will need to be provided by central government to ensure reform can be progressed. WDC also suggests that the timeframes for development of RRPs within a 2-year deadline of the CTB establishment is likely aspirational and should be extended.

Criteria for Regional Reorganisation Plans are a good start but need strengthening:

28. WDC considers that the reorganisation criteria should be anchored in an overarching strategic framework (principles and objectives) to guide RRP development. The Simplifying Local Government proposal currently lacks a strategic framework so it is difficult to consider if the criteria will lead RRPs in the intended direction (that direction not having been articulated).

29. The criteria (and examples provided) appear weighted towards efficiency and consolidation. These are commendable objectives but we suggest these be balanced with other important objectives. In particular, the proposal overall should have stronger linkage to outcomes for communities – such as ensuring key challenges can be addressed, equipping organisations to have impact, upholding local democracy, and enabling placemaking.

Protecting local assets:

30. Local Government within the Bay of Plenty region is responsible for managing a significant portfolio of local government assets on behalf of communities we serve. Some are operational in nature while others (such as but not limited to the Port of Tauranga and Quayside holdings) are highly strategic and provide substantial benefit back to the region.
31. WDC would seek assurance that locally and regionally held assets will remain under the control of local government and can therefore continue to deliver benefit to the region.

Scope of proposal should be broadened:

32. The scope of local government reorganisation should be broadened. The proposal misses critical opportunities that should be considered if this is to be a once-in-a-generation reform. In particular, WDC considers the reform is an opportunity to progress the following…
    - Enabling better funding and financing tools to reduce reliance on rates. As an extension of this point - consider how reorganisation might avoid further geographies of disadvantage (e.g. areas with a lower socio-economic rating base being unable to fund improvement and uplift).
    - Building stronger enduring partnerships with Iwi-Māori (e.g. beyond 'giving effect to treaty settlements')
    - Providing a more structured and support relationship between LG and CG.
    - Consideration of broader functions that could be devolved to local government and/or that local government might be best placed to deliver.

Next steps:

33. WDC welcomes the opportunity to submit on this early-stage proposal.
34. We look forward to continued involvement in shaping the future of the local government sector and expect further engagement opportunities before the drafting of any legislation and through the parliamentary select committee process.

6.5.2 Attachment 2 - Changes to the Development Levies System – submissions due 20 February 2026

19 Feb 2026

Department of Internal Affairs
PO Box 805
WELLINGTON 6140
Submitted via email: development.levies@dia.govt.nz

Tēnā koe,

Consultation on the Development Levies System – Submission of Whakatāne District Council

Thank you for the opportunity to provide feedback to this proposal.

Whakatāne District Council (WDC) provides the attached submission in response to the proposal to replace development contributions with development levies from 2030. Whilst WDC is not a high growth Council, overall we support the changes proposed by the introduction of development levies while emphasising a number of matters for further consideration in finalising the proposal. The WDC submission also notes that further funding and financing mechanisms are needed to enable greater investment in growth and encourages further consideration of opportunities.

For enquiries related to the submission please contact Paul Davidson, Chief Financial Officer at Whakatāne District Council – ph.07 306 0500, or email. paul.davidson@whakatane.govt.nz

Nā mātou noa nā,

Nándor Tánczos – Mayor, Koromatua

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Proposal for Development Levies System
Submission of Whakatāne District Council
19 February 2026

Whakatāne District Council (WDC) provides this submission in response to the proposal to replace development contributions with development levies from 2030. Whilst WDC is not a high growth Council, overall it supports the changes proposed by the introduction of development levies emphasising the following points.

1. ***WDC supports the increased flexibility in development levies that allows greater opportunities for growth costs to be funded through non ratepayer funding sources.***

The current development contributions regime is structured that it is difficult to fully recover the appropriate costs of development through development contributions. At present the remaining funding source to pay for gaps in the development contribution system is funded through the ratepayer. The changes proposed are therefor seen as essential to support the proposed rate cap environment and providing greater ability for the costs of growth to be funded through development levies.

2. ***Supports the creation of aggregating charges across a wider development area and not specifically linked to projects to encourage flexibility in delivery of infrastructure capacity and charging.***

This proposed change again supports greater planning flexibility and allows for more funding and financing efficiency. It recognises the forward forecasting approach to the setting of charges and levies and these changes are supported to allow increased ability to recover growth costs through non ratepayer funding sources.

3. ***Draft bill does not give effect to targeted rates to support development.***

Previous announcements have signalled changes to the ability to assess targeted rates to assist smaller councils with developments in subdivision stage. This is not clear in the draft Bill. WDC would like to see this further developed as a smaller Council that may use these powers if amended in the future.

This is seen as a viable alternative for smaller councils and submits that this also needs to be considered in light of any rates capping that is introduced. If there is no further allowance for growth in any rates cap, then any targeted rates that support development should be considered additional to the cap amount.

4. ***That the Crown exemptions from Development Levies be removed or recognised in some other way.***

The exemption of the Crown as a major land holder from the existing Development Contributions regime and future Development Levies does not recognise the cost of the provision of infrastructure by local government. It is acknowledged that Crown entities are not liable for most tax however given the necessity for the provision of infrastructure should in some form, be required to contribute to the costs of infrastructure that is required due to their development needs.

5. ***That the provisions relating to reserves and community infrastructure be aligned to the Reserves Act 1977.***

As currently drafted definitions are more restrictive and risk excluding community infrastructure normally funded by councils. WDC submit that this should be consistent with the Reserves Act.

6. ***Would support expanding funding and financing tools to further align incentives for growth.***

Whilst the introduction of development levies is supported the changes fall short of ensuring alignment of funding and financing to fully encourage development. Growth continues to place pressure on council balance sheets.

The stepped nature of infrastructure delivery for growth places considerable pressure on councils operating budgets due to the high upfront costs of infrastructure relative to the long-term growth in rating base.

WDC submits that in order to fully maximise growth potential and encouraging greater housing and economic growth, etc that further development be made to alternative funding and financing models such as value capture, GST sharing to incentivise development and other such models. This would allow greater investment in growth by clearly aligning the financial incentives of growth to ensure that costs are born more by equitable funding and financing options that do not place additional burden on existing ratepayers.

6.5.3 Attachment 3 - Infrastructure Funding and Financing Bill – submissions due 20 February 2026

6.5.3 Attachment 3 - Infrastructure Funding and Financing Bill – submissions due 20 February 2026(Cont.)

19 Feb 2026

Committee Secretariat
Finance and Expenditure Committee
Parliament Buildings
Wellington
Submitted via parliament submission portal

Tēnā koe,

Consultation on the Infrastructure Funding and Financing (IFF) Bill – Submission of Whakatāne District Council

Thank you for the opportunity to provide feedback to this proposal. Whakatāne District Council provides the attached submission in response to the proposed changes to the IFF Act.

Whakatāne District Council supports and encourages the government to consider new ways to fund and finance infrastructure for local communities such as the IFF Act. The proposed changes to the Act are largely supported, however WDC also encourages further development of funding and financing mechanisms to enable greater investment in infrastructure and growth.

For enquiries related to the submission please contact Paul Davidson, Chief Financial Officer at Whakatāne District Council – ph.07 306 0500, or email. paul.davidson@whakatane.govt.nz

Nā mātou noa nā,

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Infrastructure Funding and Financing (IFF) Bill
Submission of Whakatāne District Council
19 February 2026

Whakatāne District Council (WDC) provides this submission in response to the proposed changes to the Infrastructure Funding and Financing (IFF) Act.

1. ***Supports changes to the Infrastructure Funding and Financing (IFF) Act.***

WDC supports and encourages the government to consider new ways to fund and finance infrastructure for local communities such as the IFF Act. WDC acknowledges the complexity and expense under the existing provisions of the IFF Act and therefore supports any changes that provide for reduced cost, complexity and time to undertake a transaction under the IFF Act.

Furthermore, WDC supports changes to the Act that allow other parties to utilise the IFF levy provisions for the delivery of infrastructure noting the next point in this submission.

2. ***Notes the provisions of the IFF Act that improve certainty for developer led proposals by limited councils' ability to withhold necessary endorsements if statutory requirements are met.***

Whilst WDC supports the ability of others to utilise this Act it raises concerns over the ability for levies to progress with limited input by local authorities and in particular, without noting the rating impact that may occur through a levy which only covers the capital costs of any transaction. WDC submits that in a rates cap environment consideration to any rates that are imposed via an external driven proposal be accounted for in any rates cap and through input of councils.

For the avoidance of doubt this refers to the operating costs flowing through to rates from a levy which covers the capital costs of a development.

3. ***Submits that further work be undertaken to reduce the costs of IFF transactions and to look for other funding and financing tools.***

Whilst WDC supports the proposed changes to reduce cost through time and complexity of transactions it acknowledges that the costs of using private capital through an IFF transaction outweigh the alternative funding costs available to Local Government through the Local Government Funding Agency. Further opportunities should be undertaken to reduce these cost discrepancies to further encourage the use of IFF as a viable and alternative funding and financing tool.

6.5.4 Attachment 4 - Rates Capping proposal (retrospective) – submissions closed 4 February 2026

6.5.4 Attachment 4 - Rates Capping proposal (retrospective) – submissions closed 4 February 2026(Cont.)

04 February 2026

Department of Internal Affairs
PO Box 805
WELLINGTON 6140
Via Email: ratescapping@dia.govt.nz
Cc: Dana Kirkpatrick dana.kirkpatrickMP@parliament.govt.nz:
Hon Simon Watts S.Watts@ministers.govt.nz

Tēnā koe,

Consultation on a rates target model – Submission of Whakatāne District Council

Thank you for the opportunity to submit to the rates target model proposal.

Whakatāne District Council (WDC) supports the need to look for ways to ensure rates remain affordable. The attached submission raises some issues and concerns and proposes alternatives that WDC believes will allow continued community input into budgets and rate setting processes whilst balancing affordability both in the short and longer term. WDC welcomes the opportunity to continue to work with government to improve infrastructure outcomes which are affordable for our communities.

For enquiries related to the submission please contact Paul Davidson, Chief Financial Officer at Whakatāne District Council - p.07 306 0500 or email: paul.davidson@whakatane.govt.nz

Nā mātou noa, nā,

Nándor Tánczos
Mayor, Koromatua

Steven Perdia
Chief Executive, Toihautū

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Consultation on a rates target model
Submission of Whakatāne District Council

Whakatāne District Council (WDC) provides this submission in response to the proposal to introduce rates capping transitioning from 1 January 2027. The submission is broken into two sections. The first being in direct response to the consultation questions raised and the second section focusing on the proposal's wider impacts to the district's communities and the economy.

Section 1. Response to specific questions raised

1. ***Do you agree with the proposed economic indicators to be included in a formula for setting rates targets?***

Agree with including a range for the rates targets as opposed to a single limit as used in overseas jurisdictions. However, it should be noted that using CPI as the minimum is not a true reflection of the cost structures of local government. Local government costs have traditionally increased at a higher rate of inflation than CPI due to the different basket of goods and services local government procure. Often the pricing for products used for core infrastructure by local government such as structural steel, bitumen, etc are driven by global factors. The Local Government Cost Index is a more accurate reflection of the cost structure of councils than using CPI as a measure.

Support the recognition of a maximum to consider GDP growth however this has little correlation to the costs of local government. Councils often have a role to play in investing to encourage economic growth. This however does not always align in terms of timing. In fact, in recessionary environments councils can play a role in stimulating the economy and whilst GDP growth may be minimal or negative this will prevent councils from being able to continue to invest in infrastructure to encourage growth. For example, this was evident in the period post the Global Financial Crisis (GFC).

A maximum measure should be more reflective of the true costs of councils, including the need to maintain and invest in core infrastructure and not be tied to GDP measurement which is highly variable on factors beyond the control of councils (for example during the Covid pandemic). Even if based on long term averages this measure does not reflect the investment requirements of councils.

Furthermore, if economic indicators are not updated on a more regular basis significant undesirable economic outcomes may result.

In addition, the construction of the formula is cumbersome and difficult to understand. Our focus has been more on the output of the proposed formula as indicated at 2% to 4% given the unclear application of this formula. The formula does suggest that the range may be set at an individual council level e.g. through measurement of quality of infrastructure, however no other information provided supports this approach. Furthermore, it is difficult to understand how such factors would be measured.

Allowing councils to continue to set rates based on community consultation and decision- making allows the consideration of local factors and most importantly allows local input ensuring what is delivered is in accordance with the needs of the community. Increased scrutiny over the limits set in Financial Strategies, which are consulted on with communities, allows local decision making to continue and

continues to support local democracy. Having a maximum cap driven by a formula will limit the democratic approach of local government to ensure the best outcomes are delivered to the community.

Recommendation
That the minimum measure be based on the Local Government Cost Index as opposed to Consumer Price Index. This should be updated when significant change occurs to reflect the economic conditions of the planning cycle and not restricted to a three-yearly review.

That the maximum measure reflects the true costs of local government including the need to invest in infrastructure to allow for economic and housing growth. This is reflected in councils' long term plans. Rather than the use of maximum levels, the role of the proposed regulator could consider oversight of long term plans, specifically financial strategies, to enhance the audit process to ensure economic growth and other objectives are delivered.

It is recommended that local democracy be maintained and allowed to continue to engage and consulate with communities to ensure appropriate levels of investment are maintained taking into account community input and the consideration of affordability.

The recognition of the quality of infrastructure in the formula is positive; however, it is unclear how this is applied at a local, regional or national level if at all. The final question in this submission provides more commentary on options to ensure that the differences between councils are recognised.

The use of alternative funding tools such as Infrastructure Funding and Financing Levies (IFF) would also ensure a focus on the effects of economic and housing growth on core infrastructure.

2. ***If not, what economic indicators do you suggest be included and why?***

This is answered in question one - by providing a minimum based on the Local Government Cost Index and a maximum based on a greater focus on the Financial Strategies consulted and set through the Long Term Planning process. Creating longer term certainty will not only provide greater clarity for ratepayers but allow for increased efficiencies in local government, particularly through the delivery of infrastructure.

Recommendation
It is recommended that maximum levels be set based upon the current Annual and Long Term Planning process to allow local input into decision-making as to what is needed for communities. Greater oversight could occur over Long Term Plan Financial Strategies to ensure alignment and consistency with desired outcomes including ensuring the maximum levels of rates are consulted on and understood by communities.

   a. ***Does setting the minimum of the target in line with inflation ensure that councils can maintain service standards? If not why not?***

No. Minimal standards will not be able to be maintained with a target set in line with inflation if this is to be measured by the Consumer Price Index. For the reasons mentioned above the CPI does not align to the cost structure of local government. Ongoing cost pressures on infrastructure exceed CPI hence a minimum target set as such would see erosion of the existing assets of local government over time. Whilst depreciation should fund the replacement of assets the costs of assets increase as reflected in

regular revaluations. This often exceeds CPI increases hence will not allow for the full renewal of assets which over time, will see the degradation of existing asset bases.

It also should be noted that service level requirements can increase as a result of government decisions. For example, additional health and safety requirements have increased costs well above CPI. Any such changes need to be accounted for in any cap.

Recommendation

That the Local Government Cost Index be used as a minimum target which is regularly reviewed. Furthermore, adjustments should be made to reflect additional standards for which local government is mandated to adopt.

3. Does the maximum of the target account for spending on core services?

Providing an additional allowance to increase the maximum target will certainly assist in the provision of core services. However, as mentioned above there is little correlation between using GDP as the basis for a higher maximum and the true costs of the provision of infrastructure investment for local government.

Recommendation

That a maximum cap be based upon councils' financial strategy, as set out in their Long Term Plans, which have been consulted on with communties. To ensure that spending remains focused on the delivery of economic growth, oversight by the new regulator, in addition to existing audit practices, should ensure a greater focus is placed on the delivery of financial strategies and constrain maximum rates increases in line with plans that deliver the appropriate investment to communities.

4. What council spending will not be able to take place under this target range? Why?

As mentioned in earlier responses local government costs exceed inflation. They also are not directly linked to GDP. The result of such caps will be the limitation of expenditure that provides for investment in core infrastructure to deliver economic and other growth e.g. housing growth. This will in turn lead to a lowering of the overall taxation base by lower GDP and a lessening tax take.

Whilst the removal of waters from the rates targets will assist, it is anticipated that the investment in the community and economy would need to reduce by 25% on a regular basis given the flow-on costs of capital expenditure into rates.

Whilst it is acknowledged, and supported, that savings programmes and levels of service reviews may assist in lowering rates, as the rates targets are based on a percentage basis, these initiatives will not be sustainable as they will reset the base costs in a particular year.

Whilst local government needs to continue to focus on efficiency increases in both its operational and capital expenditure, percentage based caps may not encourage efficiency in operating expenditure but encourage reduction in investment in core capital expenditure as the former provides one-off percentage savings only.

Furthermore, in the event that investment is constrained on investment in infrastructure that impacts on future resilience and the impacts of future weather events this will not only place communities at greater risk but lead to higher cost recovery costs.

Recommendation
Rates targets should not be based on percentage increase from year to year as this does not recognise savings initiatives that do not provide for ongoing reductions. Rather a focus should be on long term consistency of plans in line with agreed strategies together with efficiency programmes that work across the infrastructure sector, all levels of government and the private sector, to improve the delivery of infrastructure investment to the community.

As mentioned in the next section consideration of the needs for infrastructure investment to support future resilience, for communities and infrastructure, needs to be allowed for in any rates cap setting to provide greater assurance to communities and overall lower longer term costs.

5. ***Are changes to the target needed to account for variations between regions and councils? What changes do you propose and why?***

Yes. Targets should allow for variations between regions and councils. The acknowledgement of the ability for variation for growth councils is supported but growth rates are one of many variations that occur between councils that impact on cost and revenue structures. For example, some councils have higher historic investment levels than others impacting on their cost structures.

Furthermore, the starting point for councils is wildly different with some councils having significant underinvestment profiles. This is compounded by such events as natural disasters or different resilience profiles that require different investment levels to deal with such matters moving forward.

Recommendation

That variations between councils and regions be recognised. Without creating separate council targets we suggest a greater level of grouping of councils that recognise more factors than growth. For example, these could include current infrastructure deficit, resilience profile, level of reserve and investment funding, size of boundary vs population base, industry make up e.g. tourism.

Limiting these factors to a small number would allow the recognition of variations without creating an overly complex system. However, a system which only recognises growth as the potential for bespoke limits is far too restrictive and does not consider the differences between regions. An approach that recognises these variations in the cap setting process will be more efficient than a process requiring applications to the regulator for variations to the cap.

Section 2. Additional submission points focused on achieving the best outcomes for communities and the economy.

1. **Intergenerational approach to funding and financing for equity and fairness**

Currently many councils operate risk reserves and other similar mechanisms to ensure an intergenerational approach to managing risk. This ensures that current ratepayers pay a share of risk management for future events as opposed to placing this burden fully on future generations. With the increased volume of significant events this issue is likely to worsen in the future. Rates caps will place pressure on these reserves continuing and lead to the potential for an increase in future funding requirements as opposed to an equitable option that currently exists for managing risk.

It is noted that the non-funding of these reserves may result in one off impacts, however the concern is that these reserves are reduced over time in order to manage rates caps.

2. **Impact on balanced budgets and credit ratings**

In order to deliver essential core infrastructure some councils have not been able to balance their budgets in order to maintain affordability. A rates cap is likely to lead to further balanced budget deficits in order to maintain core infrastructure investment. S&P Global Ratings has already signalled that such practice may lead to credit rating downgrades and higher costs to the community.

3. **The long term cost of infrastructure may increase**

In the event that rates caps limit the investment in critical core infrastructure the infrastructure deficit will increase over time. Whilst provisions exist via an application to the regulator to address such situations this will result in a more expensive solution to delivering infrastructure. One of the greatest opportunities to reduce the cost of infrastructure is to increase the certainty of infrastructure both in terms of scale and the length of pipeline. In the absence of such certainty through long term planning and the potential for lumpy catch-up expenditure the costs of the delivery of infrastructure will increase not decrease.

4. **The impact on the overall tax system and the wider funding and financing options.**

In the event that critical core infrastructure is reduced through rates capping the flow-on effects to investment into the economy, housing supply, etc is likely to result in a reduction in taxation in the form of GST, corporate tax and PAYE. An approach that seeks to grow economies will provide a greater overall outcome to the taxation system, not one that limits the ability for local government to spend on core infrastructure.

An infrastructure funding and financing model that focusses on the delivery of infrastructure across all levels of government and does not solely focus on capping local government expenditure has a much greater impact on ensuring the Government's objectives for housing supply and economic growth are met.

Whakatāne District Council supports other funding and financing mechanisms such as refinements to the Infrastructure Funding and Financing Act and Development Levies but continues to support a more equitable funding and financing allocation such as incentives for increased housing supply through GST sharing. Through common objectives such as increasing housing supply, local and central government can achieve enhanced outcomes and ultimately grow the economy through more collaborative funding

and financing mechanisms, which not only allows for the greater delivery of infrastructure but ultimately grows the overall revenue base.

5. **Compliance with existing Local Government Act provisions.**

S101 of the Local Government Act requires

A local authority must manage its revenue, expenses, assets, liabilities, investments and general financial dealings prudently and in a manner that promotes the current and future interests of the community

A local authority must make adequate and effective provision in its long-term plan and in its annual plan (where applicable) to meet the expenditure needs of the local authority identified in that long-term plan and annual plan.

It is unclear as to how this will be approached in the event that Council is unable to comply with S.101 due to rates caps being applied noting that this may be accommodated by way of an application to the regulator.

6. **Other proposed changes impacting on rates caps.**

One such change is amendments to the Infrastructure Funding and Financing Act (IFF). WDC supports, in the majority, the proposed amendment to allow for the ability to utilise this Act more effectively and efficiently through making it simpler and less time consuming to implement. This includes amendments that allow other parties to utilise this legislation more effectively. However, the provision that allows for a developer to submit proposals under the IFF Act with limited ability for councils to reject these proposals if statutory requirements are met, raises concerns particularly where these proposals may apply significant rates increases to councils as IFF may only reflect the capital costs of infrastructure not ongoing operational costs. This may therefore take part of the rating cap amount and should be allowed for separately.

7. **Ratepayer Assistance Scheme (RAS)**

WDC supports all attempts to improve ratepayer affordability. However, a rates cap approach is likely to see negative longer-term implications and potentially higher future costs. The RAS, which has been developed by local authorities in conjunction with Cameron Partners and the Local Government Funding Agency, has the potential to provide immediate financial relief to many ratepayers facing affordability issues. This would have a greater immediate impact than rates capping. WDC therefore submits that this should be progressed as quickly as possible to support choice and affordability for communities.

8. **Council contribution to local and regional economy**

In a rates-capping environment, councils may be forced to under-invest in essential services and limit the goods and services they are able to purchase from local and regional suppliers. This constraint reduces councils' capacity to engage contractors, support local businesses, and maintain infrastructure to the standard communities expect. The flow-on effect is a dampening of economic activity across the local

and regional economy, with fewer employment opportunities, reduced business confidence, and slower overall growth in areas that often rely on council spending as a stable economic driver.

6.6 Better off Funding Update Report

To:	**Project and Services Committee**
Date:	**Thursday, 19 February 2026**
Author:	**S Thompson-Klima / Programme Manager**
Authoriser:	**L Woolsey / GM Strategy and Growth**
Reference:	**A3060536**

1. Reason for the report - *Te Take mō tēnei rīpoata*

The purpose of this paper is to provide Elected Members with an update on the progress of Council's Better Off Funding (BOF) projects.

2. Recommendation - *Tohutohu akiaki*

THAT the Project and Services Committee **receives** the Better Off Funding Programme Update report.

3. Background - He tirohanga whakamuri

The Better Off Funding (BOF) Programme has been active since the funding agreement with the Department of Internal Affairs (DIA) was signed in January 2023. The programme comprises of seven projects, all of which are to be completed by June 2027.

The individual project managers have completed project-level reports, which have been reviewed and approved by the respective project sponsors. Details of these projects are now summarised in this report.

The table below provides an overview of the key information for each project within the Better Off Funding (BOF) Programme:

Project Name	**Status**	**Total Funding**	**Funding Remaining (21 Dec 25)**	**Completion Date**
Edgecumbe to Thornton Cycleways	At Risk	$814,800	$281,745	TBD
Natural Hazard Resilience	On Track	$1,521,200	$440,238	31 August 2026
Southern District Towns Regeneration - Murupara and Minginui	On Track	$700,000	$493,874	30 June 2027
Collective Iwi Policy Hub	Completed	$1,000,000	$0	31 December 2025

Project Name	Status	Total Funding	Funding Remaining (21 Dec 25)	Completion Date
Hono Hapori – Community Outreach for Council Services	Completed	$500,000	$0	31 December 2024
CCTV Upgrade	Completed	$1,000,000	$0	31 December 2025
Accelerating EBOP Spatial Plan Project	Completed	$200,000	$0	30 September 2023
Total		**$5,660,00**	**$1,215,857**	**30 June 2027**

4. Discussion – Kōrerorero

This section provides a summary of the BOF projects progress as well as additional programme level commentary to provide Elected Members with a sense of the overall status of the programme.

4.1. Programme Manager Summary

The overall programme of works is progressing steadily, with meaningful progress achieved across multiple projects. During this reporting period, two projects were completed (Collective Iwi and CCTV), bringing the total number of completed projects to four. The remaining three projects — Southern Districts, Edgecumbe to Thornton Cycleways, and Natural Hazard Resilience — are nearing completion; however, Edgecumbe to Thornton Cycleways is currently at risk.

Key advancements since the last update to this committee include the successful completion of the Iwi Policy Hub, which demonstrated the value of coordinated, iwi-centred engagement and delivered improved alignment on key outputs such as the Eastern Bay of Plenty Spatial Plan and Local Growth Strategy. The CCTV project has also been completed and is now fully operational, with ongoing costs transitioned to business-as-usual budgets. Other notable progress includes continued delivery of the Emergency Resource Deployment project under Natural Hazard Resilience, and approval of the draft Murupara Master Plan (subject to minor amendments).

As of December 2025, total expenditure across the Better Off Funding programme has reached $4.4 million, leaving $1.2 million in remaining funds. It is anticipated that the majority of the remaining budget will be allocated during 2025/26 to support the final delivery phases of the overall BoF programme.

The overall programme remains on track, with a continued focus on delivery, managing cost pressures, and ensuring effective use of the remaining Better Off funding.

4.2. Project Level Summary

The table below provides a high-level dashboard outlining each project's status, as per project reporting received in January 2026.

Project Dashboard Notes

Risk category ratings

The highest of all risk category ratings from the project report is used as the project's overall risk status. A project may have three risk categories rated Green, and one at Amber – the overall status will be Amber.

- A DARK GREEN rating means the project is COMPLETED and there is no current risk
- A LIGHT GREEN rating means there is no current risk to delivering the project within the parameters agreed in the project plan
- An AMBER rating means there is some risk, or potential risk, to the delivery of the project in line with the parameters agreed in its project plan. There is a viable plan to manage the risk.
- A RED rating means there is significant risk to the delivery of the project in line with the parameters agreed in the project plan, and escalation is required.

Project phasing timeline

Project phases for this programme are as follows:

- **Concept:** Seeking approval in principle or securing a funding stream for an idea
- **Initiation:** Project planning, assembling project team and setting the foundations for successful delivery
- **Development:** Developing the proposed way forward and ensuring relevant stakeholders are on board
- **Delivery:** Executing the proposed way forward
- **Closure:** Handing over to BAU, closing out all financial obligations, documenting lessons learnt and successes achieved.

Key:

Green: Complete

Pattern: Underway

White: Not Started

Project & Risk Rating	Project Details	Funding Details	High Level Commentary
Edgecumbe to Thornton Cycleways - Awa trail	**Sponsor** Leny Woolsey **Project Manager** Tim Allerby **Completion date** TBD	**Original Funding** $900,000 **Updated Funding (Aug 25)** $814,800 **Spend (31 Dec 25)** $533,055 **Budget Remaining (31 Dec 25)** $281,745	The focus for 2025/26 has been the development of Section 3 of the Edgecumbe–Thornton cycle trail. The wider Rangitaiki Plains Destination Cycleways programme will undergo a strategic review in response to ongoing challenges, including land access constraints, escalating project costs, and the need for strengthened hapū support. As a result, progress on this section has been paused, and a programme-level review will be brought back to Council for a separate decision.
			
Natural Hazard Resilience	**Sponsor** Leny Woolsey **Project Manager** Paul Check John Eruera **Completion date** 31 August 2026	**Original Funding** $1,360,000 **Updated Funding (Aug 2025)** $1,521,200 **Spend (31 Dec 25)** $1,080,962 **Budget Remaining (31 Dec 25)** $440,238	Progress continues on the **Emergency Resource Deployment** project, with training underway and a training provider engaged. Training will be delivered to CERT teams by the end of February 2026. Remaining activities include the relocation of emergency containers to their final positions, completion of electrical installations, and the installation of additional emergency equipment, such as water purification units. The next steps involve obtaining quotes for electrical works and other equipment. The completion date remains 30 June 2026. Construction of the **Waiewe Street Alternate EOC** has been temporarily halted following an unexpected discovery in accordance with archaeological protocols. Site works will resume pending iwi approval, with an update expected towards the end of February 2026. The revised completion date is contingent on iwi approval, with a new estimated completion of 31 August 2026.

Project & Risk Rating	Project Details	Funding Details	High Level Commentary
	Concept → Initiation → Development → Delivery → Closure		
Southern District Towns Regeneration	**Sponsor** Leny Woolsey **Project Manager** Nicholas Woodley **Completion date** 30 June 2027	**Funding** $700,000 **Spend (31 Dec 25)** $206,126 **Budget Remaining (31 Dec 25)** $493,874	The draft Murupara Master Plan has been approved by Ngati Manawa subject to some minor amendments. The Minginui Master Plan is being revised following feedback from Ngati Whare, with potential facilities being costed and/or revised to inform the final draft. Available funding for activation projects remains. The Murupara Activation is still planned for the recreation components of the proposed water treatment plant and associated infrastructure upgrade. The next steps are to confirm the finalisation of the Murupara Master Plan and implement the activation projects, and to work with Ngati Whare and the consultants to progress a final draft of the Minginui Master Plan.
	Concept → Initiation → Development → Delivery → Closure		
Collective Iwi Policy Hub	**Sponsor** Hone Patrick **Project Manager** Donna Cowdery **Completion date** 31 December 2025	**Funding** $1,000,000 **Spend (31 Dec 25)** $1,000,000 **Budget Remaining (31 Dec 25)** $0	The pilot Collective Iwi Policy Hub has been completed and demonstrated the value of a coordinated, iwi-centred approach to supporting timely, consistent, and meaningful iwi and hapū input into council work programmes. The pilot confirmed that effective engagement relies on early, tailored processes that integrate iwi feedback into decision-making, rather than engagement activity alone. Notable successes included the Eastern Bay of Plenty Spatial Plan and the Local Growth Strategy, where early engagement, iwi-specific review, and sustained drafting support improved alignment between

Project & Risk Rating	Project Details	Funding Details	High Level Commentary
			iwi feedback and final outputs. The pilot also identified structural and capacity constraints within some council programmes, as well as varying iwi capacity to participate, which limited outcomes in some projects. Future service delivery has shifted toward a subscription-based model, enabling iwi to tailor service packages directly with TAoTAP. This approach strengthens iwi access to targeted support while building institutional capability within the hub. Conditional support for the Raurakau subscription model has been indicated to TAoTAP from Ngāti Whare, Ngāti Manawa, and Ngāti Rangitihi, subject to confirmation through the final business case and delivery plan.
CCTV Upgrade	**Sponsor** Hone Patrick **Project Manager** Paul Check **Completion date** 31 December 2025	**Funding** $1,000,000 **Spend (31 Dec 25)** $1,000,000 **Budget Remaining (31 Dec 25)** $0	The CCTV project has been completed and is now fully operational. Ongoing operational costs, including maintenance, renewals, and central monitoring with Armitage, have been transitioned to the appropriate business-as-usual budgets.

5. Options Analysis - *Ngā Kōwhiringa*

No options have been identified relating to the matters of this report.

6. Significance and Engagement Assessment - Aromatawai Pāhekoheko

6.1. Assessment of Significance

Due to the localised impacts and external source of funds, the decisions and matters of this report are assessed to be of low significance, in accordance with the Council's Significance and Engagement Policy.

6.2. Engagement and Community Views

While engagement has and continues to take place for some of the individual projects within the portfolio, engagement on this update report as a whole is not being undertaken in accordance with Section 6.0 of the Council's Significance and Engagement Policy. This states that the Council will not consult when the matter is not of a nature or significance that requires public engagement (low significance).

7. Considerations - *Whai Whakaaro*

7.1. Strategic Alignment

No inconsistencies with any of the Council's policies or plans have been identified in relation to this report.

7.2. Financial/Budget Considerations

There is no budget considerations associated with the recommendations of this report.

7.3. Climate Change Assessment

There are no significant or notable impacts associated with the matters of this report.

7.4. Risks

There are no significant or notable risks associated with the matters of this report.

8. Next Steps – E whai ake nei

There are no appendices attached to this report.