

Application for resource consent or fast-track resource consent

(Or Associated Consent Pursuant to the Resource Management Act 1991 (RMA)) (If applying for a Resource Consent pursuant to Section 87AAC or 88 of the RMA, this form can be used to satisfy the requirements of [Form 9](#)). Prior to, and during, completion of this application form, please refer to [Resource Consent Guidance Notes](#) and [Schedule of Fees and Charges](#) — both available on the Council's web page.

1. Pre-Lodgement Meeting

Have you met with a council Resource Consent representative to discuss this application prior to lodgement?

☐ Yes ☐ No

2. Type of consent being applied for

(more than one circle can be ticked):

- | | |
|---|---|
| <input type="radio"/> Land Use | <input type="radio"/> Discharge |
| <input type="radio"/> Fast Track Land Use* | <input type="radio"/> Change of Consent Notice (s.221(3)) |
| <input type="radio"/> Subdivision | <input type="radio"/> Extension of time (s.125) |
| <input type="radio"/> Consent under National Environmental Standard
(e.g. Assessing and Managing Contaminants in Soil) | |
| <input type="radio"/> Other (please specify) _____ | |

**The fast track is for simple land use consents and is restricted to consents with a controlled activity status.*

3. Would you like to opt out of the fast track process?

☐ Yes ☐ No

4. Consultation

Have you consulted with Iwi/Hapū? ☐ Yes ☐ No

If yes, which groups have you consulted with?

Who else have you consulted with?

For any questions or information regarding iwi/hapū consultation, please contact Te Hono at Far North District Council, tehonosupport@fndc.govt.nz

5. Applicant details

Name/s:

Chris and Debbie Bartlett

Email:

Phone number:

Postal address:

(or alternative method of service under section 352 of the act)

Postcode 230

Have you been the subject of abatement notices, enforcement orders, infringement notices and/or convictions under the Resource Management Act 1991? ☐ Yes ☒ No

If yes, please provide details.

6. Address for correspondence

Name and address for service and correspondence (if using an Agent write their details here)

Name/s:

Chris and Debbie Bartlett

Email:

Phone number:

Work

Home

Postal address:

(or alternative method of service under section 352 of the act)

Postcode 230

All correspondence will be sent by email in the first instance. Please advise us if you would prefer an alternative means of communication.

--

7. Details of property owner/s and occupier/s

Name and Address of the owner/occupiers of the land to which this application relates (where there are multiple owners or occupiers please list on a separate sheet if required)

Name/s:

Chris and Debbie Bartlett, as Trustees Bartlett Family Trust and Bartlett Trustees Ltd

Property address/
location:

Postcode 230

8. Application site details

Location and/or property street address of the proposed activity:

Name/s:

Chris and Debbie Bartlett, Bartlett Family Trust

Site address/
location:

Postcode 230

Legal description:

Val Number:

Certificate of title:

Please remember to attach a copy of your Certificate of Title to the application, along with relevant consent notices and/or easements and encumbrances (search copy must be less than 6 months old)

Site visit requirements:

Is there a locked gate or security system restricting access by Council staff? ☐ Yes ☒ No

Is there a dog on the property? ☒ Yes ☐ No

Please provide details of any other entry restrictions that Council staff should be aware of, e.g. health and safety, caretaker's details. This is important to avoid a wasted trip and having to re-arrange a second visit.

Dog is very friendly and will not interfere with council staff.

9. Description of the proposal

Please enter a brief description of the proposal here. Please refer to Chapter 4 of the *District Plan, and Guidance Notes*, for further details of information requirements.

Construction of a swimming pool, fencing and deck with roof.

If this is an application for a Change or Cancellation of Consent Notice conditions (s.221(3)), please quote relevant existing Resource Consents and Consent Notice identifiers and provide details of the change(s), with reasons for requesting them.

10. Would you like to request public notification?

☐ Yes ☒ No

11. Other consent required/being applied for under different legislation

(more than one circle can be ticked):

☐ Building Consent

☐ Regional Council Consent (ref # if known)

☐ National Environmental Standard Consent

☐ Other (please specify)

12. National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health:

The site and proposal may be subject to the above NES. In order to determine whether regard needs to be had to the NES please answer the following:

Is the piece of land currently being used or has it historically ever been used for an activity or industry on the Hazardous Industries and Activities List (HAIL)? ☐ Yes ☒ No ☐ Don't know

Is the proposed activity an activity covered by the NES? Please tick if any of the following apply to your proposal, as the NESCS may apply as a result? ☐ Yes ☒ No ☐ Don't know

☐ Subdividing land

☐ Disturbing, removing or sampling soil

☐ Changing the use of a piece of land

☐ Removing or replacing a fuel storage system

13. Assessment of environmental effects:

Every application for resource consent must be accompanied by an Assessment of Environmental Effects (AEE). This is a requirement of Schedule 4 of the Resource Management Act 1991 and an application can be rejected if an adequate AEE is not provided. The information in an AEE must be specified in sufficient detail to satisfy the purpose for which it is required. Your AEE may include additional information such as written approvals from adjoining property owners, or affected parties.

Your AEE is attached to this application ☒ Yes

14. Draft conditions:

Do you wish to see the draft conditions prior to the release of the resource consent decision? ☐ Yes ☒ No

If yes, please be advised that the timeframe will be suspended for 5 working days as per s107G of the RMA to enable consideration for the draft conditions.

15. Billing Details:

This identifies the person or entity that will be responsible for paying any invoices or receiving any refunds associated with processing this resource consent. Please also refer to Council's Fees and Charges Schedule.

Name/s: (please write in full)

Chris Bartlett

Email:

Phone number:

Postal address:

(or alternative method of service under section 352 of the act)

Fees Information

An instalment fee for processing this application is payable at the time of lodgement and must accompany your application in order for it to be lodged. Please note that if the instalment fee is insufficient to cover the actual and reasonable costs of work undertaken to process the application you will be required to pay any additional costs. Invoiced amounts are payable by the 20th of the month following invoice date. You may also be required to make additional payments if your application requires notification.

15. Billing details continued...

Declaration concerning Payment of Fees

I/we understand that the Council may charge me/us for all costs actually and reasonably incurred in processing this application. Subject to my/our rights under Sections 357B and 358 of the RMA, to object to any costs, I/we undertake to pay all and future processing costs incurred by the Council. Without limiting the Far North District Council's legal rights if any steps (including the use of debt collection agencies) are necessary to recover unpaid processing costs I/we agree to pay all costs of recovering those processing costs. If this application is made on behalf of a trust (private or family), a society (incorporated or unincorporated) or a company in signing this application I/we are binding the trust, society or company to pay all the above costs and guaranteeing to pay all the above costs in my/our personal capacity.

Name: (please write in full)

Chris Bartlett

Signature:

(signature of bill payer)

Date 01-Dec-2025

MANDATORY

16. Important Information:

Note to applicant

You must include all information required by this form. The information must be specified in sufficient detail to satisfy the purpose for which it is required.

You may apply for 2 or more resource consents that are needed for the same activity on the same form.

You must pay the charge payable to the consent authority for the resource consent application under the Resource Management Act 1991.

Fast-track application

Under the fast-track resource consent process, notice of the decision must be given within 10 working days after the date the application was first lodged with the authority, unless the applicant opts out of that process at the time of lodgement.

A fast-track application may cease to be a fast-track application under section 87AAC(2) of the RMA.

Privacy Information:

Once this application is lodged with the Council it becomes public information. Please advise Council if there is sensitive information in the proposal. The information you have provided on this form is required so that your application for consent pursuant to the Resource Management Act 1991 can be processed under that Act. The information will be stored on a public register and held by the Far North District Council. The details of your application may also be made available to the public on the Council's website, www.fndc.govt.nz. These details are collected to inform the general public and community groups about all consents which have been issued through the Far North District Council.

17. Declaration

The information I have supplied with this application is true and complete to the best of my knowledge.

Name (please write in full)

Chris Bartlett

Signature

Date 01-Dec-2025

A signature is not required if the application is made by electronic means

See overleaf for a checklist of your information...

Checklist

Please tick if information is provided

- ☐ Payment (cheques payable to Far North District Council)
- ☐ A current Certificate of Title (Search Copy not more than 6 months old)
- ☐ Details of your consultation with Iwi and hapū
- ☐ Copies of any listed encumbrances, easements and/or consent notices relevant to the application
- ☐ Applicant / Agent / Property Owner / Bill Payer details provided
- ☐ Location of property and description of proposal
- ☐ Assessment of Environmental Effects
- ☐ Written Approvals / correspondence from consulted parties
- ☐ Reports from technical experts (if required)
- ☐ Copies of other relevant consents associated with this application
- ☐ Location and Site plans (land use) AND/OR
- ☐ Location and Scheme Plan (subdivision)
- ☐ Elevations / Floor plans
- ☐ Topographical / contour plans

Please refer to Chapter 4 of the District Plan for details of the information that must be provided with an application. Please also refer to the RC Checklist available on the Council's website. This contains more helpful hints as to what information needs to be shown on plans.



C & D BARTLETT

**RESOURCE CONSENT APPLICATION
1C JAMES KEMP PLACE, KERIKERI**

DATE: 2 December 2025
CONSENT
AUTHORITY: Far North District Council

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1.Introduction

This report has been prepared by Chris and Debbie Bartlett (the applicants) in support of a Resource Consent Application. The proposal seeks to construct a pool and deck with roof extension.

The application has been prepared in accordance with Section 88 and the Fourth Schedule of the Resource Management Act, 1991 (RMA). Section 88 of the RMA requires that resource consent applications be accompanied by an Assessment of Environmental Effects (AEE) outlining any actual or potential effects the proposed activity may have on the environment in accordance with the Fourth Schedule.

1.1. Proposal Summary

The applicant seeks to construct a pool and deck with roof within 30 metres of the Kerikeri Inlet, on their property at 1c James Kemp Place. The property is legally described as Lot 3 DP 594558, comprised all in RT 1146020. The site has an area of 3777m².

1.2. Property Details

ApplicantChris & Debbie Bartlett,
.....as Trustees of Bartlett Family Trust, Bartlett Trustees Ltd.
Street/Road Address:1C James Kemp Place, Kerikeri
Legal Description:Lot 3 DP 594558
CT ID1146020
Area:3777m²
Zoning:.....Rural Living

1.3. Title Interests

Consent Notice 12985116.2 is registered on the Record of Title. This instrument has no effect on the proposed construction.

Please find copy attached, Appendix 5.

1.4. Other Approvals Required

No other approvals are required under either the Far North District Plan or under any other planning document to give effect to the proposal.

2. The Site and Surrounding Environment

2.1. The Site

Access to the site is provided by a concrete driveway stretching east from James Kemp Place. Shaped irregularly, the property is mostly large, flat, or gently sloping, and contains an existing house, shed, and gravel areas.

Directly southeast of the property, the terrain becomes steep—declining about 15 meters—to reach the Kerikeri Inlet below. Plans for deck and swimming pool extensions are positioned southeast of the current house.

Most of the property and the proposed construction site sit along the southeastern edge of a predominantly flat to gently sloping volcanic plateau, which drops sharply (about 35°) toward the Kerikeri Inlet. The steep slopes at the southern boundary fall within the reserve and esplanade strip.

A track originating on the southern side of the dwelling cuts across the steep southeast-facing slopes, leading down to the Kerikeri Inlet and giving access to a small jetty and pontoon.

2.2. The Surrounding Environment

The property lies south of James Kemp Place, with its southern boundary adjoining the upper reaches of the Kerikeri Inlet. Established residential properties border it on both the west and east sides, most of which are much smaller, ranging from about 1,200m² to 2,500m².

Directly north of the property is a large residential parcel that was recently subdivided.

3. District Plan Rule Assessment

3.1. Operative District Plan Zoning

The site is zoned Rural Living under the Operative District Plan.

3.2. Operative District Plan Rule Assessment

The proposal requires consent under the following District Plan rule:

Chapter 12.7 – Lakes, Rivers, Wetlands and the Coastline

12.7.6.1.1 SETBACK FROM LAKES, RIVERS AND THE COASTAL MARINE AREA

Any building and any impermeable surface must be set back from the boundary of any river (where the average width of the riverbed is 3m or more) or the boundary of the coastal marine area.

The setback shall be:

(a) a minimum of 30m in the Rural Production, Waimate North, Rural Living, Minerals, Recreational Activities, Conservation, General Coastal, South Kerikeri Inlet and Coastal Living Zones;

4. Assessment of Environmental Effects

The actual and potential effects of this proposal relate to:

- The location of the pool and deck within 30 metres of the Kerikeri Inlet
- The location of the proposed new roof over the deck being within 30 metres of the Kerikeri Inlet

4.1. Details of the proposal

The proposal is to construct a pool of 36.4m², 26 metres from the M.H.W.M. of the Kerikeri Inlet and deck 24 metres from the M.H.W.M. of the Kerikeri Inlet which is within the 30metre permitted. And extension to the roof over the new proposed deck so it breaches the 30metre permitted by 6 metres.

Attached is a plan showing the proposed location of the pool and deck and new roof line. (Appendix 1).

Also attached is a engineers report to construct the pool on that site (Appendix 2).

New Roof over Deck

The details of this construction will be in the building consent application yet to be completed.

Pool fencing

The pool barrier will be as per figure (b) and the gate will be as per figure (d) as per Acceptable Solutions F9/AS1 and F9/AS2 (Appendix 3).

Even though the property is not within the heritage zone limit (200m) the colour will be selected from the Resene Heritage Colour range.

Pool surround design

There is proposed to be a timber retaining wall maximum height 0.5 metre (below the requirement for engineering) as shown on Appendix 1.

There will be native planting on the bank which will further screen the site from the Kerikeri Inlet.

The proposed new deck will be no higher than 1 metre from ground level.

The pool will have only permeable services around the pool. These are proposed to be timber decking which is permeable.

Below the timber decking surrounding the pool will be a trench to capture any overflow. This will mitigate the requirement for the pool to be greater than 30 metres from the Kerikeri River.

The design ensures that there is no effect on the existing consented storm water design which was completed when the property was subdivided and in accordance with the Haigh Workman report 12 December 2022.

4.2. Surrounds

The pool will be 29.2 metres from the neighbouring property (5 James Kemp Place). The neighbour property has a pool on the boundary nearest to the proposed location to the pool so is in keeping with the location.

The property sits approximately 25.35meters higher than the M.H.W.M. of the Kerikeri Inlet hence will not be seen from the water so will have no effect on river users.

The pool cannot be seen from the road so will have no effect from the street.

The new roof will extend 3.2 metre out from the existing roof line.

4.3. Consultation

There has been no consultation with any neighbours as the proposal is a permitted activity and no parties are seen to be adversely affected by this proposal.

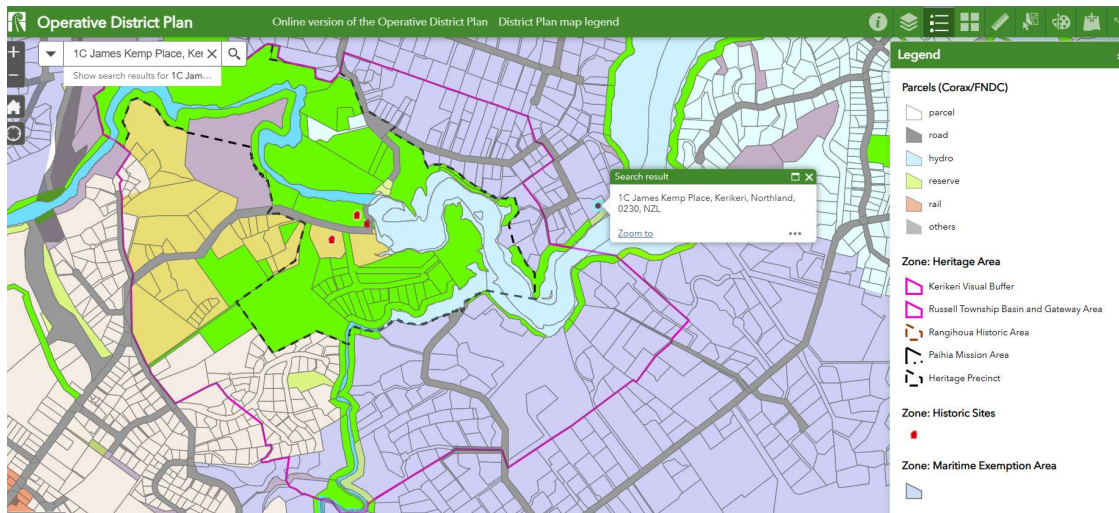
We have not visited iwi as the effects of this proposal has no effect of a visual or access nature.

4.4. Application Status

National Environmental Standards

Our investigations have found no evidence of any historical land use that would give rise to any concerns.

The application site is not recorded as a contaminated site and there are no records of it ever having any use under the HAIL list therefore the NES Soil 2011 does not apply.



5. Conclusion

The proposal has less than minor adverse effects.

The location and design does not detract from the visual amenity of the wider area and is in keeping with the surrounds.

[illegible]

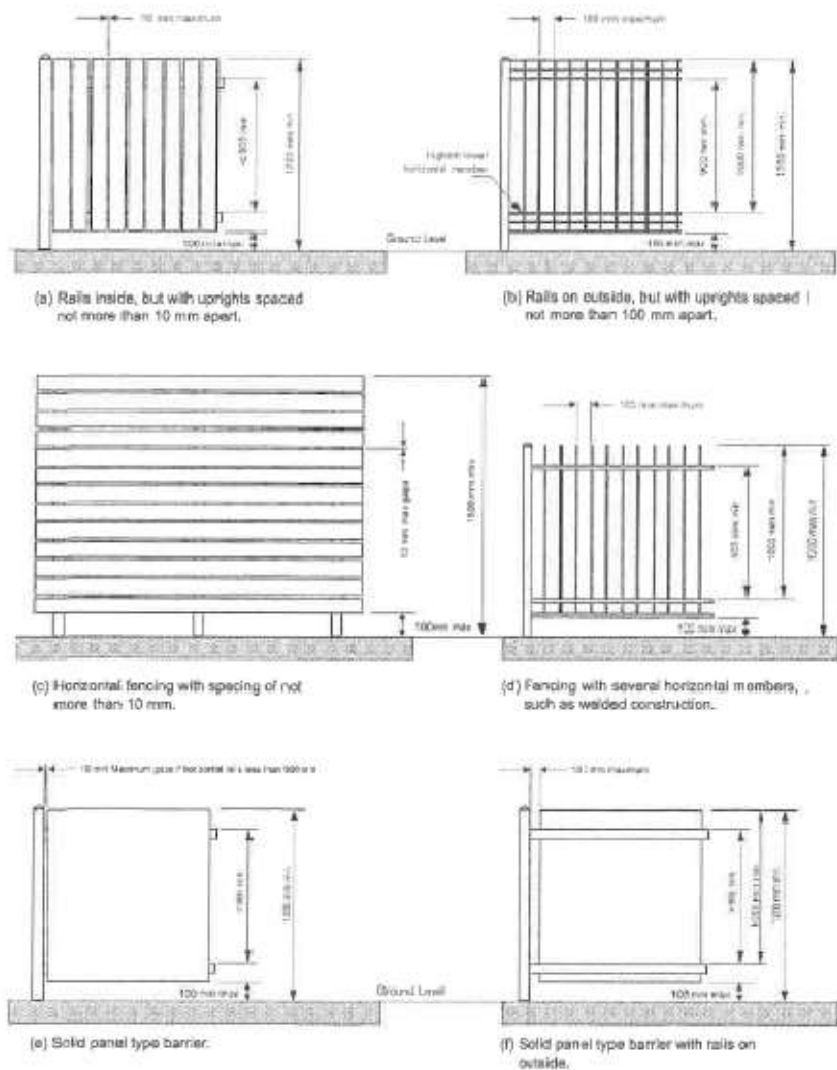
APPENDIX 2 – Geotechnical Investigation Report

Attached separately to the email.

APPENDIX 3 – Pool Barriers

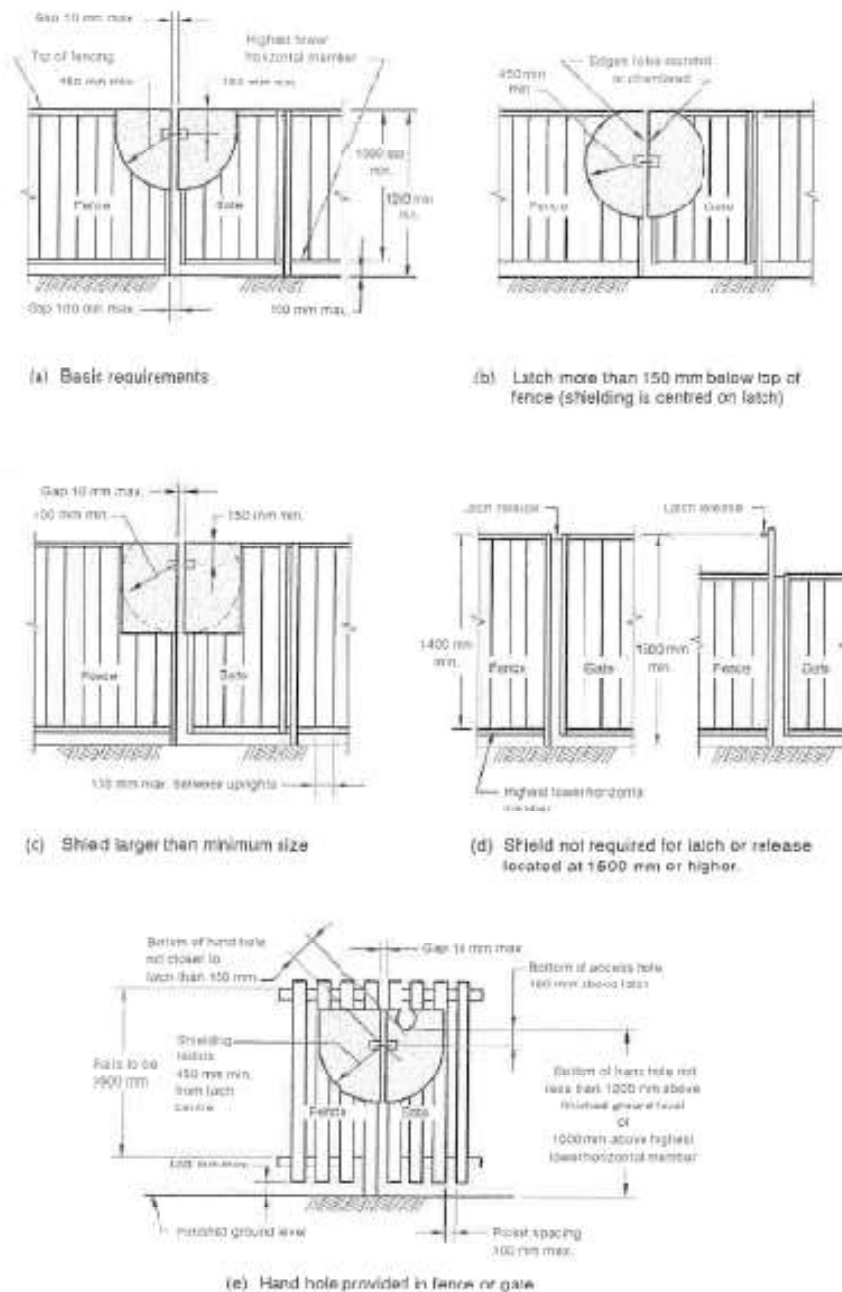
F9/AS1 RESIDENTIAL
POOL BARRIERS

Figure 1: Acceptable pool barriers
Paragraphs 3.1.4, 3.1.5



Copyright in NZS 8500:2006 Safety barriers and fences around swimming pools, spas and hot tubs is owned by the Crown in right of New Zealand and administered by the New Zealand Standards Executive. Reproduced with permission from Standards New Zealand on behalf of the New Zealand Standards Executive under copyright licence UNP-01225.

Figure 3: Acceptable means of protecting a latch as viewed from the pool side
Paragraph 3.1.2



Copyright © NZS 8500:2005 Safety barriers and fences around swimming pools, spas and hot tubs is owned by the Crown in right of New Zealand and administered by the New Zealand Standards Executive. Reproduced with permission from Standards New Zealand on behalf of the New Zealand Standards Executive under copyright license L14601225.

APPENDIX 4 – Record of Title



**RECORD OF TITLE
UNDER LAND TRANSFER ACT 2017
FREEHOLD
Search Copy**



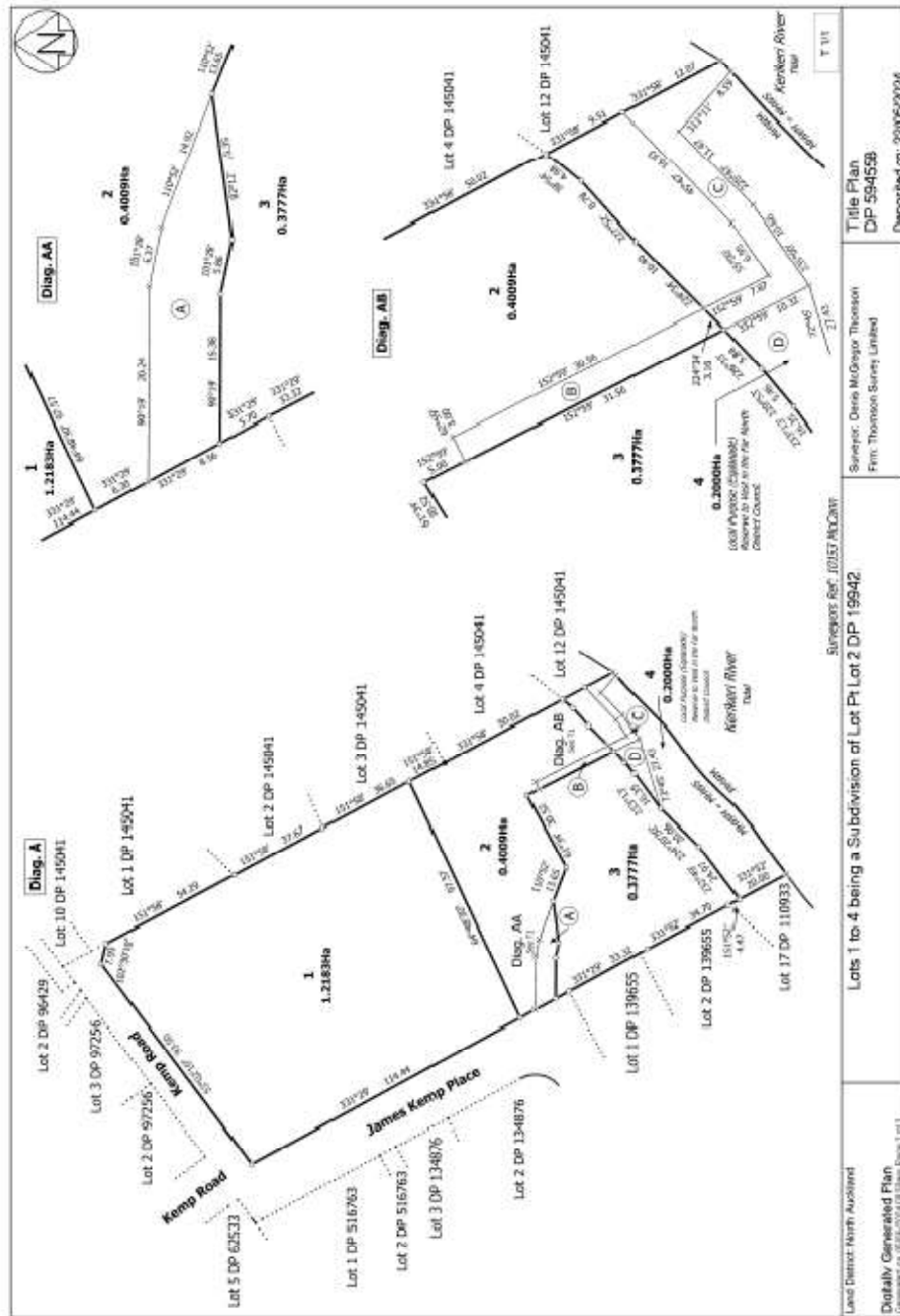

R. W. Muir
Registrar-General
of Land

Identifier 1146020
Land Registration District North Auckland
Date Issued 22 May 2024
Prior References
NA108D/310

Estate Fee Simple
Area 3777 square metres more or less
Legal Description Lot 3 Deposited Plan 594558
Registered Owners
Bartlett Trustees Limited

Interests

12985116.2 Consent Notice pursuant to Section 221 Resource Management Act 1991 - 22.5.2024 at 3:32 pm
Appurtenant hereto is a right to drain water created by Easement Instrument 12985116.3 - 22.5.2024 at 3:32 pm
The easements created by Easement Instrument 12985116.3 are subject to Section 243 (a) Resource Management Act 1991
Appurtenant hereto is a right of way, a right to convey electricity, telecommunications and water and a right to drain water created by Easement Instrument 12985116.4 - 22.5.2024 at 3:32 pm
The easements created by Easement Instrument 12985116.4 are subject to Section 243 (a) Resource Management Act 1991




APPENDIX 5 – Consent Notices



View Instrument Details

Instrument No	129851162
Status	Registered
Date & Time Lodged	22 May 2024 15:32
Lodged By	Kemps, Michael Peter
Instrument Type	Consent Notice under s221(4)(a) Resource Management Act 1991



Affected Records of Title	Land District
1146018	North Auckland
1146019	North Auckland
1146020	North Auckland
1181883	North Auckland

Annexure Schedule Contains 3 Pages.

Signature

Signed by Michael Peter Kempas as Territorial Authority Representative on 22/05/2024 03:31 PM

*** End of Report ***



Phone 09 935 1234 1234 5678 9101
Email info@hara.govt.nz
0800 123 456
hara.govt.nz

THE RESOURCE MANAGEMENT ACT 1991

SECTION 221: CONSENT NOTICE

REGARDING RC-2220780-RMASUB
Being the Subdivision of Pt Lot 2 DP 19942
North Auckland Registry

PURSUANT to Section 221 and for the purpose of Section 224 (c) (ii) of the Resource Management Act 1991, this Consent Notice is issued by the **FAR NORTH DISTRICT COUNCIL** to the effect that conditions described in the schedule below are to be complied with on a continuing basis by the subdividing owner and the subsequent owners after the deposit of the survey plan, and these are to be registered on the titles of the allotments specified below.

SCHEDULE

Lot 1 DP 594558

- (i). Provide, at the time of lodging a building consent application for the Lot, a site-specific Stormwater Report to address stormwater controls to attenuate impermeable surfaces for rainfall events up to 10% AEP (including allowance for climate change) prepared by a suitably qualified Chartered Professional Engineer. The reports will detail the proposed attenuation method (e.g soak trenches and/or detention-attenuation tank) and any drains. These are to include Engineering Plans, to be submitted for approval.

Lots 1 and 2 DP 594558

- (ii). In conjunction with the construction of any dwelling, firefighting water supplies shall be provided in accordance with the FNDC Engineering Standards and the NZ Firefighting Water Supplies Code of Practice NZS PAS 4509:2008 and shall be approved by Fire and Emergency NZ prior to works commencing.
- (iii). The lot owner shall ensure that the wastewater treatment and disposal system is constructed generally in accordance with the recommendations contained within the Stormwater and Wastewater Suitability Report prepared by Haigh Workman dated December 2022, referenced 22043, revision C. As a minimum, all wastewater shall receive secondary treatment prior to being disposed of via pressure compensating driplines.



- (iv). In conjunction with a building consent, provide for the approval of the Council's duly delegated officer a landscape plan prepared by a suitably qualified and experienced person incorporating plantings that are in keeping with the amenity and character of the surrounding environment. The purpose of the landscaping is to provide screening of future development on the site when viewed from Kemp Road, James Kemp Place and neighbouring properties.

The landscaping, once implemented, must be maintained by the Consent holder in perpetuity unless approval is provided by Council otherwise. Where the plants die, or are required to be removed due to damage, the Consent Holder shall replant replacement vegetation of the same species within the next planting season.

It is strongly encouraged that the opportunity is provided for Ngāti Rēhia to supply native plants from their native nursery for landscaping as this is the express request of Ngāti Rēhia.

All Lots DP 594558

- (v). This lot is within an area where the current archaeological inventory is considered under representative. Archaeological discovery is considered possible on site and landowners and contractors should be cautious when conducting earthworks on site. Archaeological sites are protected pursuant to the Heritage New Zealand Pouhere Taonga Act 2014. It is an offence, pursuant to the Act, to modify, damage or destroy an archaeological site without an archaeological authority issued pursuant to that Act. Should any site be inadvertently uncovered, the procedure is that work should cease, with Heritage New Zealand Pouhere Taonga, FNDC and tangata whenua consulted immediately. The New Zealand Police should also be consulted if the discovery includes kōiwi (human remains). A copy of Heritage New Zealand's Archaeological Discovery Protocol (ADP) is attached for your information. This must be made available to all person(s) working on site.

Lot 3 DP 594558

- (vi). Lot 4 is not to be subject to any form of wastewater discharge from this lot. Wastewater discharge is to wholly be contained on this lot.

Lot 4 DP 594558

- (vii). This lot contains NZAA archaeological site P05/452. Any future development on the lot will require an archaeological report to assess effects. Consultation with local iwi is also strongly recommended.



ME ABA TĀMATA
CREATING GREAT PLACES
Supporting our people

Phone 09 438 4444, 09 438 4444
Email: info@fndc.govt.nz
Website: www.fndc.govt.nz

SIGNED:

A handwritten signature in black ink, appearing to read 'Trish Routley'.

Ms Patricia (Trish) Routley - Authorised Officer
By the FAR NORTH DISTRICT COUNCIL
Under delegated authority:
MANAGER – RESOURCE CONSENTS

DATED at KERIKERI this 21st day of March 2024.

Geotechnical Investigation Report
Proposed Swimming Pool & Deck
1C James Kemp Place, Kerikeri
Lot 3, Deposited Plan 594558
For Chris Bartlett

Haigh Workman reference 24 203

April 2025



Revision History

Revision Nº	Issued By	Description	Date
A	John Power	First Issue	April 2025


Prepared By



John Power

Geologist
Member NZGS

Reviewed By



Wayne Thorburn

Senior Geotechnical Engineer
CPEng, CMEngNZ

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Executive Summary

Haigh Workman Limited (Haigh Workman) were engaged by Chris Bartlett (the Client) to undertake a geotechnical investigation for a proposed swimming pool and deck at 1C James Kemp Place, Kerikeri (Lot 3, DP 594558). We understand that the client intends to develop the site with the addition of a swimming pool and decking located to the southwest of the existing residential dwelling.

The soils directly underlying the site comprise Kerikeri Volcanic Group. The soils comprised very stiff silt soils with variable clay content and trace to minor fine to medium gravel that were typically dry to moist and of having low to medium plasticity. Vane shear strength test results were generally unsuccessful with soils being too difficult to penetrate, recorded as 'unable to penetrate' (UTP) and are inferred to represent soils with vane shear strengths more than 100kPa, i.e., very stiff. Scala penetrometer testing was undertaken from the base of all five boreholes, with Scala penetrometer testing meeting refusal at depths of between 0.45mbgl to 1.9mbgl.

Slope stability was assessed based on the ground investigation data and a geological cross section developed from a tape and clinometer survey in conjunction with topographical survey data and Lidar data.

Results indicate the site has adequate stability for the proposed swimming pool and decking provided a suitable setback distance from the steep south to southeast facing slopes is established. Foundations can be designed in accordance with NZS3604:2011, adopting the following:

- Ultimate bearing capacity of 300kPa.
- Geotechnical strength reduction factor – 0.5.
- Seismic class – Site Class C (Shallow soil site).
- Decking piles shall be founded a minimum of 0.6m below finished ground level.

At the time of writing, no earthworks plans were available for the proposed development. We understand that the proposed swimming pool will be founded below the existing ground surface, i.e., the pool will be partially buried. We envisage that the proposed decking will be located over the existing topography with no significant earthworks other than excavations for deck foundations being undertaken.

1 Introduction

1.1 Project Brief and Scope

Haigh Workman Limited (Haigh Workman) were engaged by Chris Bartlett (the Client) to undertake a geotechnical investigation for a partial in-ground swimming pool and associated decking at 1C James Kemp Place, Kerikeri. This report presents the information gathered during the site investigation, interpretation of data obtained and site-specific geotechnical recommendations relevant to the site.

The scope of this report encompasses the geotechnical suitability in the context of the proposed development as defined in the Short Form Agreement Variation dated 11 November 2024. This appraisal has been designed to assess the subsoil conditions for foundation design and identify geotechnical constraints for the proposed development.

This report provides the following:

- A summary of the published geology with reference to the geotechnical investigations undertaken.
- Analysis of the data obtained from site investigations, providing a geotechnical ground model.
- Provide comment on ground stability.
- Identification of any additional geotechnical risks and/or hazards.

1.2 Proposed Development

Concept drawings by Total Design Limited have been provided by the client, refer Appendix D. The concept drawings indicate that the proposed pool and deck additions will extend south from the existing dwelling with the pool located to the southwest of the existing dwelling. The proposed pool comprises a fibreglass swimming pool that will be partially embedded in the ground. No significant earthworks are anticipated for the proposed development other than excavations for the pool with minor foundation excavations required for the proposed decking.

The purpose of this report is to identify a suitable and stable location for the proposed swimming pool and associated decking with respect to the steep, south to southeast facing slopes immediately to the south of the proposed pool and deck location. To mitigate the potential slope instability risk of the site, we understand the client wishes to establish a slope setback distance from the steep south to southeast facing slopes as a preferred option to undertaking slope stabilisation measures. This geotechnical investigation and report consider the geotechnical aspects of the proposed development, with particular reference to the proposed development location. Refer Drawing G02 appended.

Should the proposed development vary from the proposal described above and/or be relocated outside of the investigated area, further investigation and/or amendments to the recommendations made in this report may be required.

1.3 Site Description

The site is legally described as Lot 3, Deposited Plan 594558 with a total land area of 3,777m². The property is irregular in plan shape and is located to the south of James Kemp Place with the upper reaches of the Kerikeri Inlet and esplanade bordering the property to the south. The property is bordered to the west and east by established residential properties. A large, undeveloped block of residential land is located immediately to the north of the property.

The site is accessed via a concrete driveway that extends eastwards from James Kemp Place. The property comprises a generally large, flat to gently sloping site with an existing house, shed and hardstand areas. Immediately to the southeast of the property, the ground contour becomes steep to very steep, descending some 15m (approx.) to the Kerikeri Inlet below. The proposed deck and swimming pool extensions are located to the southeast of the existing dwelling and the steep slopes to the southeast. An existing track extends from the southern side of the dwelling, cutting across the steep southeast facing slopes down to the Kerikeri Inlet, providing access to a small jetty and pontoon.

The majority of the site and the proposed build site is located on the southeastern edge of a generally flat to gently sloping volcanic plateau, which descends steeply (approximately 35°) towards the Kerikeri Inlet. The steep side slopes are located within a reserve and esplanade strip at the southern boundary of the property.

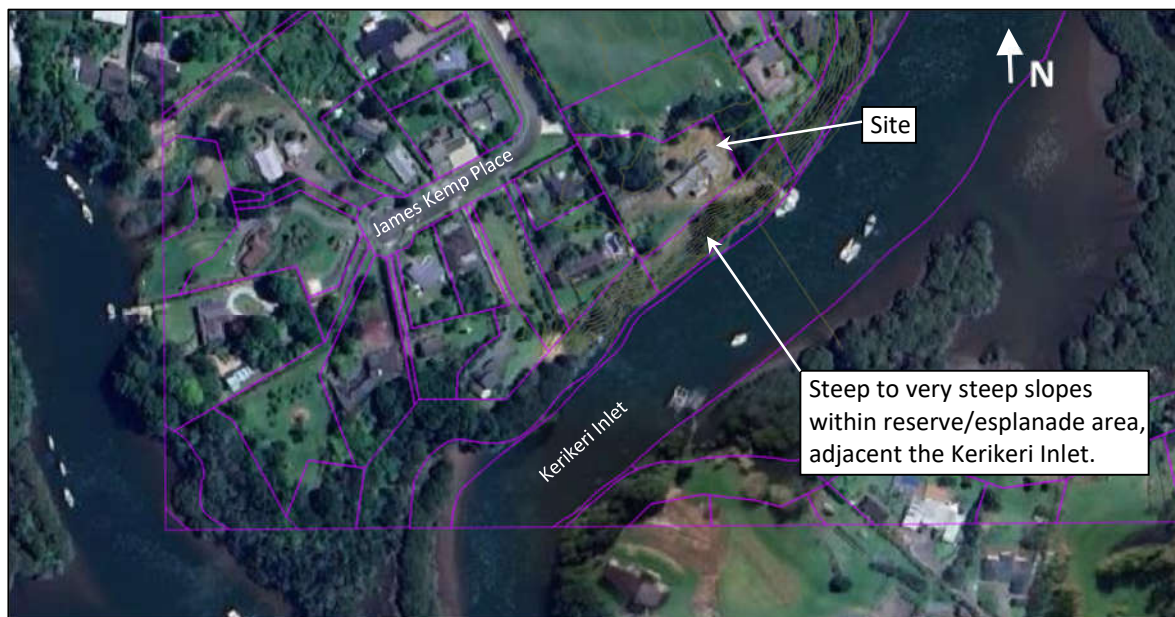


Figure 1: Site Location

2 Desktop Study

2.1 Published Geology

Sources of Information:

- Institute of Geological & Nuclear Sciences 1:250,000 Geological Map 2, 2009: “Whangarei”.
- NZMS 290 Sheet P 04/05, 1: 100,000 scale, 1982: “Whangaroa - Kaikohe” Rock Types.
- NZMS 290 Sheet P 04/05, 1: 100,000 scale, 1980: “Whangaroa - Kaikohe” Soils.

The site is within the bounds of the GNS Geological Map 2 “Geology of the Whangarei area”, 1:250,000 scale*. The published geology shows the site to be underlain by the Kerikeri Volcanic Group (Pvb) that is of Late Miocene to Pliocene age. The Kerikeri Volcanic Group is underlain at depth by the Waipapa Group, comprising massive to thin bedded, lithic volcanoclastic sandstone and argillite rock of Permian to Jurassic age.

An extract of the geological map is shown in Figure 2, with geological units presented in Table 1.

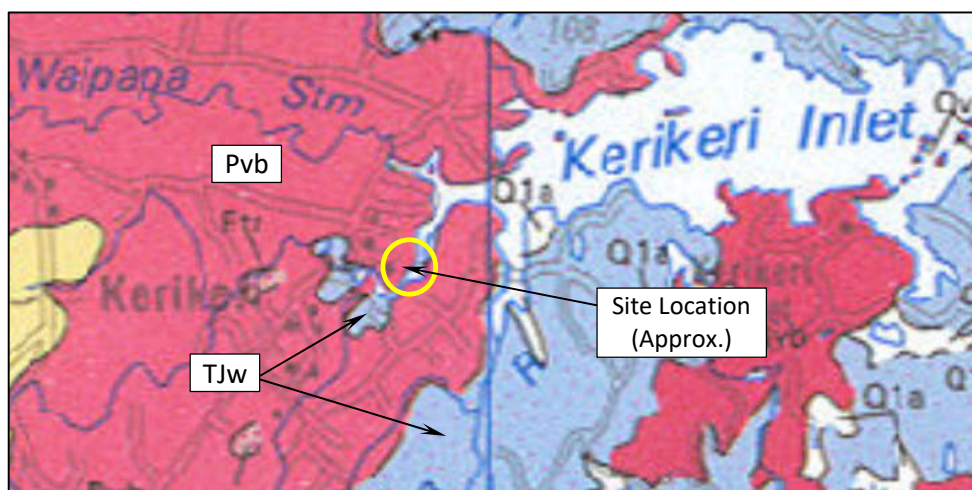


Figure 2: Geological Map (Whangarei area, 1:250,000)

Table 1 - Geological Legend

Symbol	Unit Name	Description
Pvb	Kerikeri Volcanic Group (Basalt flows)	Older flows and flow remnants. Late Miocene to Pliocene age.
TJw	Waipapa Group	Massive to thin bedded, lithic volcanoclastic sandstone and argillite.

* Edbrooke, S.W; Brook, F.J. (compilers) 2009. Geology of the Whangarei area. Institute of Geological and Nuclear Sciences 1:250 000 geological Map 2. 1 sheet + 68 p. Lower Hutt, New Zealand: Institute of GNS Science.

Further reference to the published New Zealand land inventory maps (Whangaroa - Kaikohe), indicates the site is predominantly underlain by *'soils of the rolling and hill land; well to moderately well drained, Kerikeri friable clay (KE)'*. The New Zealand land inventory map (Whangaroa - Kaikohe (rock)) describes the underlying material as *basalt; weathered to a soft brown clay to depths of 20m with many rounded corestones*.

2.2 Geomorphology

The subject site and proposed development areas are typically flat to gently sloping. To the south and southeast of the property, the reserve/esplanade strip between the subject site and the Kerikeri Inlet comprises steep to very steep slopes of up to 35°. Spalling of the steep slope and exposed rock face has resulted in some accumulation of cobbles and boulders at the toe of the slope, indicative of ongoing erosion effects. The near-vertical rock face at the high-tide water level stands on average 1.5m (approx.) high, refer Figure 3 below.

Based on our site walkover and observations, no recent signs of deep-seated instability were observed across the site. However, some trees located across the steep slopes were observed to have some down slope tilt, indicative of shallow soil creep / instability. Based on a review of historic google earth imagery, the vegetation across the western half of the slopes below the site has been cleared between 2003 and 2009.



Figure 3: Toe Slope Features

A review of the wider setting was undertaken using LIDAR DEM (2018 – 2020) survey interpolated using QGIS software. Some slope regression can be observed from the LIDAR DEM model and has been plotted on the image in Figure 4 below. The slope regression is more evident directly southeast of the existing dwelling and on the neighbouring site to the west of the subject property. Based on a review of the interpolated LIDAR data, slope angles across the relic features are generally in the order of 24° to 28°.

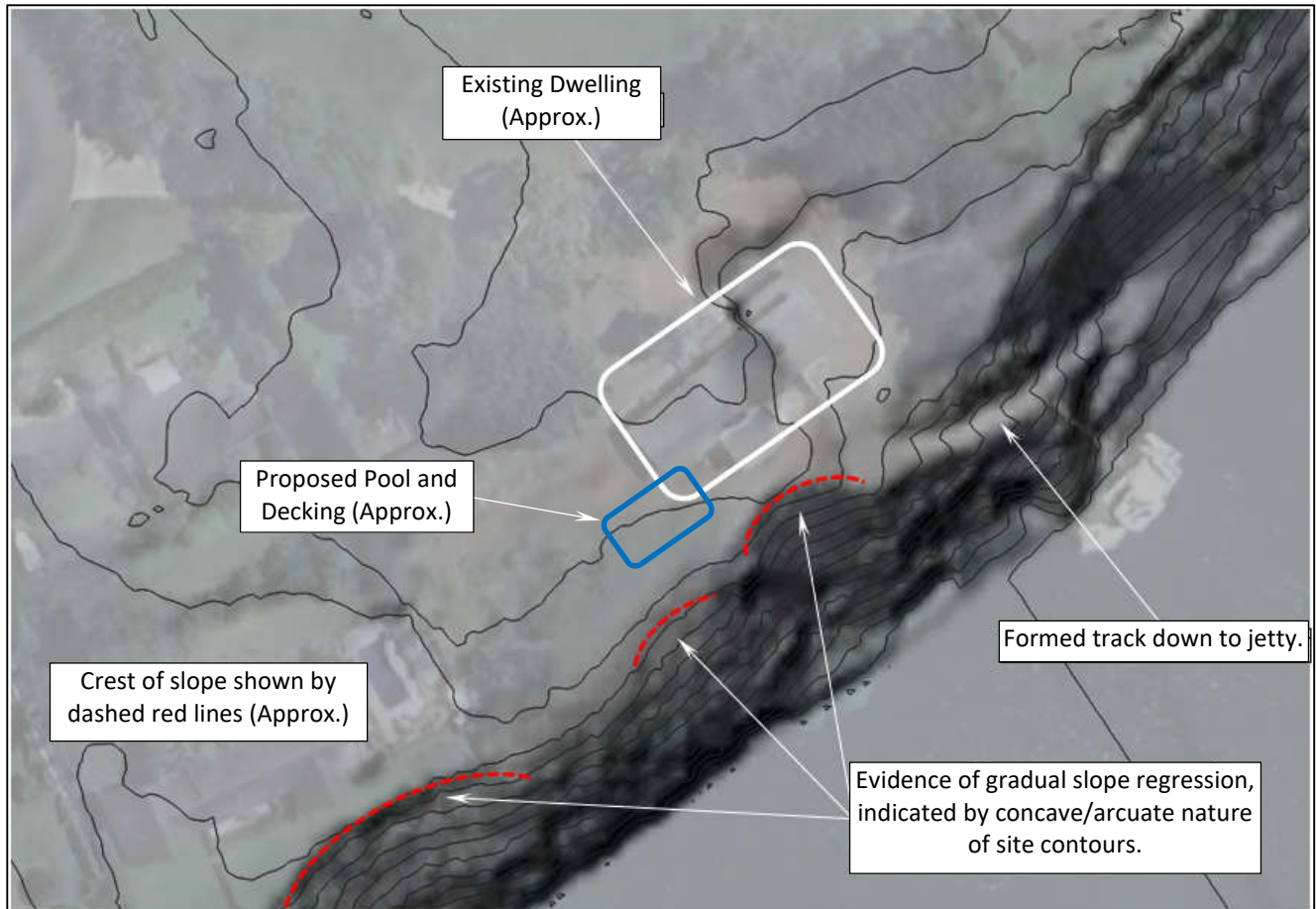


Figure 4 - Geomorphological Features

Some evidence of historic instability can be seen on the steep southeast facing slopes with concave/arcuate shaped slope regression identified from the LiDAR DEM models. During our site observations, no evidence of recent slope instability was observed. At the toe of the steep slopes along the Kerikeri Inlet shore platform, evidence of some rock spalling was apparent with some accumulation of cobbles and boulders at the toe of the slope, indicative of ongoing erosion effects along the Inlet edges. The near vertical rock face at the inlet edge was in places 1.5m high. Although considered to be minor, the impact of wave action and tidal erosion on the exposed rock face will continue to erode the shore edge over time. Planting and vegetating the steep southeast facing slopes will help reduce erosion of the slopes.

3 Subsurface Geotechnical Investigation

Haigh Workman undertook geotechnical investigations on 25 November 2024. The investigations comprised the drilling of four hand auger boreholes (BH01 to BH04) located across the proposed development area with one hand auger (BH05) located on the steep south facing slope below the proposed development area. In addition to the hand auger boreholes, Scala penetrometer testing was completed from the base of each hand auger borehole and are shown on the appended borehole logs. Hand auger boreholes were undertaken to a maximum depth of 1.1 metres below ground level (mbgl). Vane shear tests were undertaken within cohesive soils at regular intervals during the advancement of the hand auger boreholes.

A handheld shear vane with 19mm blade was used to measure the Vane Shear Strengths of the cohesive, insitu material. All shear strengths shown on the appended logs are Vane Shear Strengths in accordance with NZGS; "Guideline for Handheld Shear Vane Test", 2001. Unsuccessful tests where soils were too difficult to penetrate with the shear vane were recorded as 'unable to penetrate' (UTP) and are inferred to represent soils with vane shear strengths more than 100kPa.

Investigations were logged in accordance with The New Zealand Geotechnical Society, "Guidelines for the Field Classification and Description of Soil and Rock for Engineering Purposes" (2005). Investigation locations are shown on drawing 24 203/G02 with investigation hand auger logs included within Appendix B.

3.1 Ground Conditions

Based on the results of the geotechnical investigation conducted by Haigh Workman and review of published geological maps, it is considered that the natural soils directly underlying the site comprise soils of the Kerikeri Volcanic Group (Pvb). The natural soils were encountered below a thin veneer of topsoil and or non-certified fill material. For the purposes of this report, subsoil conditions on the site have been interpolated between the boreholes and some variation between borehole positions are likely.

Table 2 summarises the materials encountered, with depth to base of each unit provided.

Table 2 - Summary of Subsurface Investigations

Borehole Number	Topsoil (mbgl)	Non-certified Fill Material (mbgl)	Kerikeri Volcanic Group Soils (mbgl)	Scala Penetrometer Test (mbgl)	Groundwater & moisture Observations
BH01	NE	0.0 to 0.3	NE	0.35 to 0.45 (Refusal)	Groundwater not Encountered.
BH02	NE	0.0 to 0.3	0.3 to >1.1	1.1 to 1.6 (Refusal)	Groundwater not Encountered.
BH03	0.0 to 0.2	NE	0.2 to >0.6	0.6 to 0.9 (Refusal)	Groundwater not Encountered.
BH04	0.0 to 0.2	NE	0.2 to >0.6	0.6 to 1.9 (Refusal)	Groundwater not Encountered.
BH05	0.0 to 0.2	NE	0.2 to >0.7	0.7 to 1.8 (Refusal)	Groundwater not Encountered.

Note: Depths measured from existing ground level.
NE Not Encountered.

3.1.1 **Topsoil**

A thin veneer of topsoil was encountered within borehole BH03, BH04 and BH05 to a depth of 0.2mbgl. The topsoil comprised a very stiff, brown to dark brown silt with trace fine gravel content that was dry and having no plasticity. Below the topsoil, natural soils of the Kerikeri Volcanic Group were encountered.

3.1.2 **Fill**

Fill material was encountered within boreholes BH01 and BH02 to a maximum encountered depth of 0.35mbgl (BH01). The fill material encountered typically comprised brown to dark brown and brownish orange, streaked orange and red, silt and clayey silt with trace fine to medium gravel content that was very stiff, dry and of no plasticity. The fill material encountered is considered to comprise material originating from site as part of the development and construction of the existing dwelling and landscaping of the property. Due to the variable nature of the fill material encountered, the fill has been categorised as 'non-certified' and will not be suitable to support foundations.

3.1.3 **Kerikeri Volcanic Group**

Kerikeri Volcanic Group soils were encountered within all five hand auger boreholes. The Kerikeri Volcanic Group soils encountered were typically consistent, with soils comprising very stiff silt with variable clay content and trace to minor fine to medium gravel content throughout. The soils were generally described as brown, brownish orange and orangish brown, mottled orange, light orange and grey, that were dry to moist and of having low to medium plasticity. Vane shear strength test results within the Kerikeri Volcanic Group soils were generally unsuccessful with soils being too difficult to penetrate. Where unsuccessful, shear vane strengths were recorded as 'unable to penetrate' (UTP) and are inferred to represent soils with vane shear strengths more than 100kPa, i.e., very stiff. Recorded vane shear strengths are shown on the appended borehole logs within Appendix B.

Scala penetrometer testing was undertaken from the base of all five boreholes, with Scala penetrometer testing meeting refusal at depths of between 0.45mbgl to 1.9mbgl. Refusal of the Scala penetrometer is deemed to have been reached when five consecutive results of more than 10 blows per 100mm of penetration have been reached or when the Scala weight is considered to be 'bouncing'. Refusal of the Scala penetrometer tests at variable depths suggests weathered basalt boulders (corestones) can be expected across the development area.

The ground surface across the proposed development area and nearby slopes was determined by a tape and clinometer survey in conjunction with LINZ Lidar data and topographical survey data provided by the Client. The geological cross section shows the ground conditions across the investigation area to be relatively consistent, i.e., natural soils of the Kerikeri Volcanic Group, below a thin veneer of topsoil or non-certified fill material. The geological cross section is included within Appendix A.

3.1.4 **Groundwater**

Groundwater was not encountered during the drilling of the hand auger boreholes. No evidence of groundwater seepage or static groundwater level was observed during the drilling of the hand auger boreholes. Soil moisture observations were recorded with soils noted as being generally dry to moist. At the time of drilling, surface conditions were dry. Groundwater levels can and do fluctuate and higher groundwater levels may be encountered following periods of prolonged or heavy rainfall.

4 Geotechnical Assessment

4.1 Geotechnical Design Parameters

Geotechnical design parameters recommended in this report are based on in-situ test results, back analysis using slope stability models and local knowledge of the underlying geology. Refer to Table 3 below for soil parameters adopted within this report.

Table 3 - Geotechnical Design Parameters

Soil Unit	Bulk Unit Weight γ (kN/m ³)	Peak Undrained Shear Strength S_u (kPa)	Effective Cohesion c' (kPa)	Effective Friction Angle ϕ' (degrees)
Kerikeri Volcanic Group (Very stiff soils, above Groundwater)	18	100	7	34
Kerikeri Volcanic Group (Hard soils, below Groundwater)	18	>200	15	36
Waipapa Group (slightly weathered rock)	20	100	12	37

We understand that the proposed development will comprise new decking and a partially buried swimming pool located between the existing dwelling and the southern property boundary and steep southeast facing slopes beyond. For modelling purposes, we have assumed the swimming pool will be partially buried to a depth of 1.0m below existing ground level (assuming the pool is 1.8m deep (max.)). We have adopted a surcharge of 20kN/m² for the proposed swimming pool.

4.2 Slope Stability Assessment

4.2.1 General

Site contours across the proposed development area are typically flat to gently sloping (<10°) to the south. At the southern extent of the property, slope contours become steep to very steep beyond the southern property boundary, with slopes of up to 35° recorded across the reserve/esplanade that descends to the Kerikeri Inlet below.

4.2.2 Geological Ground Model

A geological ground model has been developed based on the investigation data. The ground surface has been determined by a tape and clinometer survey in conjunction with topographical survey data and Lidar data. The purpose of developing the geological ground model was to assess the overall global stability of the south to southeast facing slopes and the proposed development area for normal and elevated groundwater, and seismic conditions. Stability outputs for all scenarios are included within Appendix C. Geological cross section A-A' was developed for site assessment purposes. Refer Drawing 24 203/G03 appended.

4.2.3 **Seismic Hazard**

Anticipated peak ground accelerations have been estimated assuming Site Class C, as per NZS 1170.5. The seismic coefficients for geotechnical design are based on the NZTA Bridge Manual SP/M/022 (NZBM) and NZS1170. Assuming a design working life of 50 years with an importance level 2, the return period of an earthquake would be 1 in 500 years. Accordingly, the ULS peak ground acceleration (PGA) for seismic analysis is 0.13g. In accordance with MBIE (Module 1, Table A1), the mean hazard value for Northland of 0.13g has been adopted. However, we have checked the responses with the lower bound value (0.19g) to check the uncertainty of the hazard in the region.

4.2.4 **Stability Analysis**

Slope stability analyses were undertaken using computer software by Rocscience, Slide2 (Version 9.028). Geotechnical design parameters are presented in Table 3 above. A back analysis was undertaken to determine the effective stress parameters, assuming the steep southeast facing slopes have a factor of near unity based on site observations. Selected outputs are presented in Appendix C.

4.2.5 **Modelling Philosophy**

The model was developed based on the proposed development and available concept drawings. Groundwater has been modelled using an assumed groundwater surface, and a pore pressure coefficient (R_u) above the groundwater surface for the elevated groundwater condition, adopting $R_u = 0.2$ for normal conditions, and 0.35 for elevated conditions.

Table 4 - Design Factors of Safety (FOS) – FNDC Engineering Standards

Load Case	Design Factor of Safety (Building footprint)	Design Factor of Safety (Amenity area – 8.0m beyond building footprint) [†]
Static – proposed development	≥ 1.5	≥ 1.2
Static, elevated groundwater	≥ 1.2	≥ 1.1
Seismic (adopting NZGS/MBIE recommendations) – 0.13 g	≥ 1.0	n/a

4.2.6 **Stability Analysis Results**

Geological cross section A-A' (drawing 24 203/G03 appended) was analysed to assess the global stability of the site with reference to the southeast facing slopes below the proposed pool location.

[†] The Auckland Code of Practice for Land Development and Subdivision. Chapter 2: Earthworks and Geotechnical, May 2023. Version 2.0. Amenity area is an area of land extending 8.0m from the building footprint, or to the lot boundary (whichever is closest).

The stability analysis indicates the site has adequate stability for the proposed swimming pool development provided a suitable setback distance from the steep south to southeast facing slopes is established. The slope stability analysis carried out for all scenarios are outlined in Table 5 below.

Table 5 - Stability Results

Section I.D.	Scenario	Required	Result	Notes
01	Existing Site (Back Analysis)	1.5	1.21 (1.50)*	Ru = 0.2 (Normal groundwater conditions). Failure surfaces with a FOS <1.5 extend 3.0m inside southern property boundary.
02	Proposed Pool & Deck, 20kPa & 2.5kPa surcharge. Ru = 0.2 (Normal groundwater conditions).	1.5	1.2 (1.5)*	Failure surfaces with a FOS <1.5 extend 6.0m inside southern property boundary. 6.0m setback distance recommended.
03	Proposed Pool & Deck, 20kPa & 2.5kPa surcharge. Ru = 0.35 (Elevated groundwater conditions).	1.2	1.0 (1.2)*	Failure surfaces with a FOS of <1.2 extend 5.0m inside southern property boundary. A pool setback of 6.0m (min) from the property boundary is required to achieve FOS of >1.2.
04	Proposed Pool & Deck, Seismic, 0.13g.	1.0	0.9 (1.1)*	Failure surfaces with a FOS <1.0 extend 4.3m inside southern property boundary. 6.0m setback distance recommended.
05	Proposed Pool & Deck, Seismic, 0.19g. (Step Change)	1.0	1.0	

* () Values in parenthesis are stability result with recommended pool setback distance in place.

The stability results show acceptable factors of safety can be achieved provided the proposed pool has a minimum setback of 6.0m from the southern property boundary, with decking having a minimum setback of 4.5m from the southern property boundary. Should the proposed swimming pool be located less than 6.0m from the southern property boundary, then further engineering assessment and ground stabilisation may be required. The stability results are based on the swimming pool having a minimum embedment of 1.0m below the existing ground level, i.e., partially buried, inground pool. Slope stability outputs are included within Appendix E.

Based on the results of our stability analysis, it is considered that at present, a suitable building platform and 8m amenity area can be achieved. Adequate long term safety factors can be achieved for the pool area provided a setback distance of 6.0m (minimum) from the southern property boundary is in place.

Provided the recommendations above are implemented on site, future slope instability of the steep southeast facing slopes beyond the southern property boundary (Section A-A') are not expected to impact the proposed swimming pool and deck locations.

5 Foundation Recommendations

5.1 General

We understand that the proposed swimming pool comprises a fibreglass pool that will be partially embedded in the ground with the pool having a minimum embedment of 1.0m into the natural soils of the Kerikeri Volcanic Group. We also understand that the associated pool decking will be founded on concrete encased timber posts. We envisage that no significant earthworks are anticipated for the proposed pool and deck development other than minor contouring works and those required for foundation excavations.

Based on our findings, we consider the natural ground conditions are expected to be consistent across the proposed development area and are considered suitable for supporting the swimming pool and deck foundations subject to ground verification during construction and following the pool and deck setback recommendations.

5.2 Shrink/swell Behaviour

The Kerikeri Volcanic Group soils are considered susceptible to swelling and shrinking under seasonal variations of water content, specifically shrinkage during prolonged dry periods. The pool will be founded a minimum of 1.0m below the existing ground surface, therefore below the influence of seasonal shrink/swell effects of the surrounding soils. The proposed decking will comprise pile foundations that may be subject to shallow surface volume changes that may result in gapping around the pile shaft. For the purposes of design, we have classified the site as moderately reactive (Class M) in accordance with B1/AS1 based on testing of other Kerikeri Volcanic Group soil sites. We recommend the upper 600mm acting on the pile shaft is ignored in design, i.e., will not provide any passive support on the pile.

5.3 Seismic Site Subsoil Category

The site conditions have been assessed to be consistent with seismic subsoil Class C (shallow soil site) in accordance with NZS1170.5.

5.4 Pool and Deck Setback Distances

Based on the slope stability modelling, a 'setback distance' is required to provide a safe and stable location for the proposed swimming pool and associated decking. We recommend a minimum pool setback of 6.0m from the southern property boundary with decking having a minimum setback distance of 4.5m as indicated on Drawing 24 203/G02 appended.

The setback distances shall apply to all structures subject to building consent, e.g., the swimming pool, decking and associated structures. The final pool location should be established onsite once proposed development plans have been finalised, and approval of the engineer, with the position surveyed to confirm setback distances.

Should the proposed swimming pool be located less than 6.0m from the southern property boundary, then further engineering assessment and design will be required. The stability results are based on the swimming pool having a minimum embedment of 1.0m below the existing ground level, i.e., partially buried pool.

5.5 Pool Location

Ground investigations across the proposed development area identified that the natural soils of the Kerikeri Volcanic Group are suitable for supporting the proposed swimming pool, provided the pool is founded a minimum of 1.0m below the existing ground surface, i.e., partially buried.

Should part of the pool structure be above ground, the unsupported fibreglass walls may be subject to deformation and bowing under the load of water once the pool is filled. We recommend that the above ground pool walls are supported using material removed during the pool excavation. The excavated material can be placed around the perimeter of the swimming pool, with material placed in such a manner as to provide support to the pool walls, therefore reducing the potential for deformation once the pool is filled. The placed material should be compacted in such a way as to provide adequate support to the pool walls without applying too much pressure as to deform the pool inwards when empty.

Groundwater was not encountered during our site investigations. However, higher groundwater levels may be encountered following periods of prolonged or heavy rainfall with the potential for high groundwater levels to be higher than the base of the pool. An elevated groundwater above the base of the swimming pool could lead to the pool becoming buoyant should the pool be empty. We recommend that drainage material is placed beneath and surrounding the pool with a low point sump and subsoil drain allowing the pool to be positively drained, preventing ponding of water within the pool excavation. Drainage beneath and surrounding the swimming pool will also allow drainage of the pool excavation should the pool structure or pool plumbing crack or leak. We also recommend that the pool incorporates a hydrostatic relief valve that will prevent the pool from becoming buoyant should elevated groundwater conditions occur when the pool is empty.

5.6 Decking Foundations

Ground investigations across the proposed development area identified that the subsoils are suitable for supporting deck foundations subject to ground verification and the recommendations provided within this report.

The deck foundations can be designed in accordance with NZS3604:2011, provided a minimum embedment depth of 600mm and adopting the following:

- Ultimate bearing capacity of 300kPa.
- Geotechnical strength reduction factor – 0.5.
- Seismic class – Site Class C (Shallow soil site).
- Decking piles shall be founded a minimum of 0.6m below finished ground level. to account for the expansive nature of the site soils.

We recommend the deck is to be constructed independently from existing or proposed structures.

We recommend that foundations comprise concrete encased timber post foundations that are taken to found into the very stiff natural soils, below any topsoil and non-certified fill material. Concrete encased timber post foundations may be designed in accordance with NZS3604:2011, provided foundations are not located on slopes greater than 10°, and that foundations are founded a minimum of 0.6m below finished ground level.

6 Construction

6.1 Earthworks

At the time of writing, no earthworks plans were available for the proposed development. We envisage that the proposed decking will be located over the existing topography with no significant earthworks other than excavations for deck foundations being undertaken.

We understand that the proposed swimming pool will be founded below the existing ground surface, i.e., the pool will be partially buried. We recommend that any excavations required for pool foundations shall not have any cut faces greater than 1.0m high and that excavations shall be temporary only and left open for the shortest possible time, therefore eliminating the requirement for retaining structures, i.e., the proposed pool shall be installed in the excavation as soon as practical after excavations are completed.

Design of retaining walls is not within the scope of this report. However, we recommend that no earthworks are undertaken except for foundation excavations without further engineering advice being sought. We recommend that any intended earthworks, including foundation excavations be undertaken during drier periods when groundwater levels are expected to be low.

6.2 Filling

We recommend that filling be avoided as to not negatively affect the stability of the site. Filling should be avoided unless additional slope stability analysis is undertaken to demonstrate it is safe to do so. No filling around the proposed deck foundations should be undertaken as this could result in negative skin friction/down drag on the foundation posts. Further advice should be sought if filling is required.

6.3 Retaining Walls

It is our understanding that no retaining walls are to be constructed as part of this development. Should retaining walls be proposed, then all retaining walls should be designed by a Chartered Professional Engineer who is familiar with the contents of this report and will require further geotechnical investigations.

6.4 Services

At the time of writing, no known underground services cross beneath the proposed development area. We recommend that any new services are accurately located on site and the depth to invert be determined prior to the commencement of foundation excavations.

6.5 Planned Vegetation

The foundation designer and architect shall consider the proximity of trees when preparing designs as trees can exacerbate the normal seasonal variation of soil moisture levels and associated with that, the vertical and horizontal movement of the founding soils. We recommend that the steep slopes to the south of the proposed swimming pool are planted and vegetated, as stripping / clearing of the vegetation may result in slope instability.

6.6 Stormwater Disposal

Stormwater runoff and pool overflows should be collected and disposed of in a controlled and dispersive manner, preferably at the toe of the steep southeast facing slopes with runoff discharging into the Kerikeri Inlet to the south of the proposed development area. Under no circumstances is stormwater to be discharged on to the slopes to the southeast of the proposed swimming pool and deck areas. We recommend that all stormwater shall be piped well away from any proposed building platform to avoid over saturation of the subsoils.

6.7 Construction Observations

We consider the following specific items will need to be addressed prior to and at the time of construction to ensure the foundation soils are consistent with the assumptions made in this geotechnical report:

1. Confirmation of pool and decking setback distances (can be verified by surveyor).
2. Observe foundation excavations for pool and decking and other consented structures prior to foundations being poured.

Provision should be allowed for modifying the foundation solution at this time should unforeseen ground conditions be encountered.

7 *Limitations*

This report has been prepared for the use of Chris Bartlett with respect to the particular brief outlined to us. This report is to be used by our Client and their Consultants and may be relied upon when considering geotechnical advice. Furthermore, this report may be utilised in the preparation of building and/or resource consent applications with local authorities. The information and opinions contained within this report shall not be used in other context for any other purpose without prior review and agreement by Haigh Workman Ltd.

The recommendations given in this report are based on site data from discrete locations. Inferences about the subsoil conditions away from the test locations have been made but cannot be guaranteed. We have inferred an appropriate geotechnical model that can be applied for our analyses. However, variations in ground conditions from those described in this report could exist across the site. Should conditions encountered differ to those outlined in this report we ask that we be given the opportunity to review the continued applicability of our recommendations. Furthermore, should any changes be made, we must be allowed to review the new development proposal to ensure that the recommendations of this report remain valid.

Appendix A – Drawings

Drawing No.	Title
24 203/G01	Site Location Plan
24 203/G02	Site Features & Investigation Plan
24 203/G03	Geological Cross Section A-A'

NOTES:
1. LOT BOUNDARIES AND AERIAL PHOTO INFORMATION
TAKEN FROM LAND INFORMATION NEW ZEALAND (LINZ).



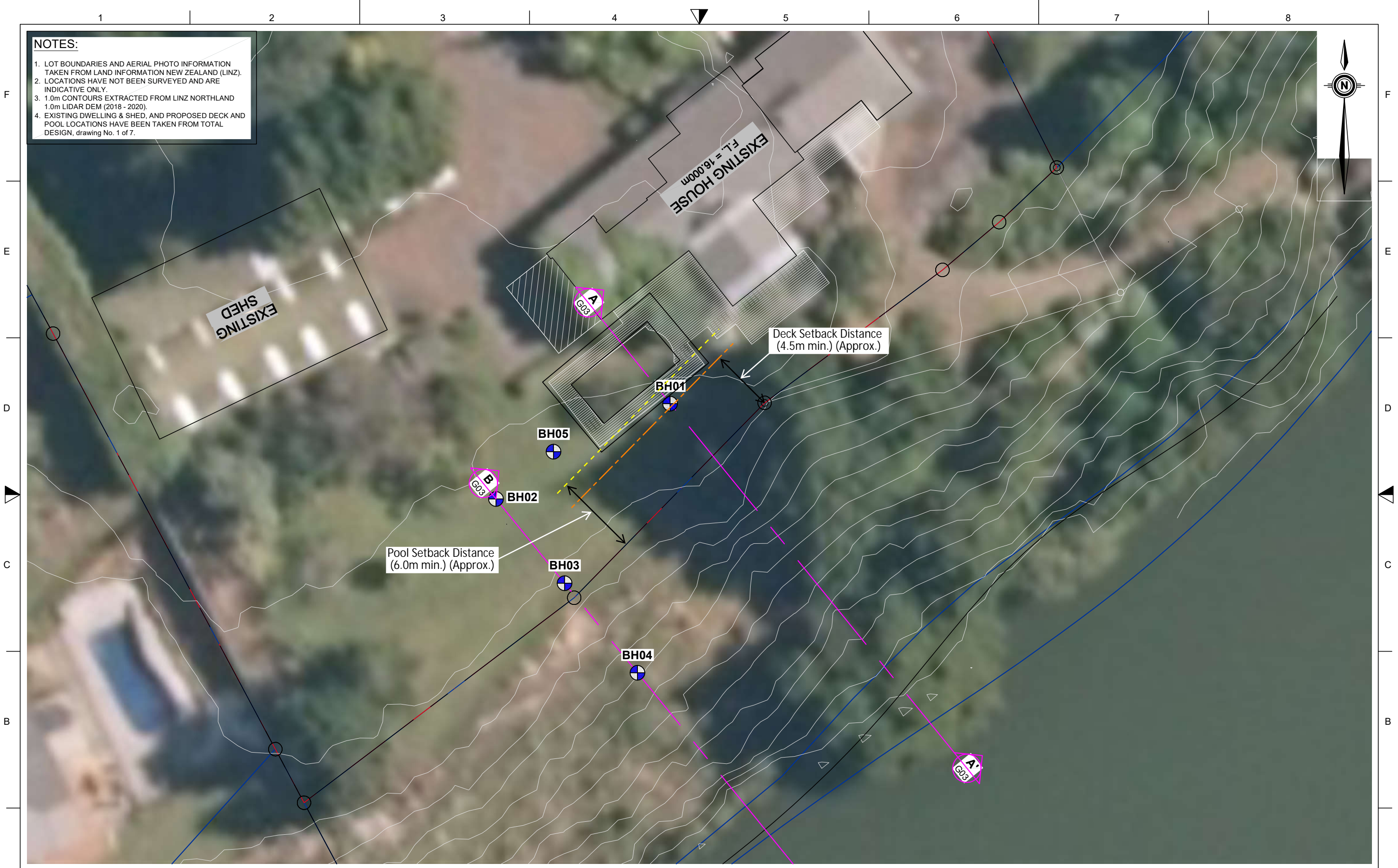
Issue	Date	Revision
A	29/01/2025	FIRST ISSUE

DWG			
SITE LOCATION PLAN			
Scale 1:1000 @A3		Date January 2025	
Drawn CN		Checked WT	Approved WT
File T:\CLIENTS\CHRIS BARTLETT\JOBS\24 203 - 1A JAMES KEMP PLACE, KERIKERI\ENGINEERING\GEOTECH\DRAWINGS\24 203 DWG8 - COPY.DWG			

6 Fairway Drive Kerikeri, BOI	T: 09 407 8327 E: info@haighworkman.co.nz
DIMENSIONS MUST NOT BE SCALE MEASURED FROM THESE DRAWINGS. THE CONTRACTOR SHALL CHECK & VERIFY ALL DIMENSIONS INCLUDING, SITE LEVELS, HEIGHTS AND ANGLES ON SITE PRIOR TO COMMENCING ANY WORK. THE COPYRIGHT TO THESE DRAWINGS AND ALL PARTS THERE OF REMAIN THE PROPERTY OF HAIGH WORKMAN LTD. ©2020	

Project GEOTECHNICAL INVESTIGATION	
1C James Kemp Place, Kerikeri	
Client Chris Bartlett	
Project No. 24 203	RC no. N/A

DWG No.	G01
Sheet No.	1 of 3



- NOTES:**
1. LOT BOUNDARIES AND AERIAL PHOTO INFORMATION TAKEN FROM LAND INFORMATION NEW ZEALAND (LINZ).
 2. LOCATIONS HAVE NOT BEEN SURVEYED AND ARE INDICATIVE ONLY.
 3. 1.0m CONTOURS EXTRACTED FROM LINZ NORTHLAND 1.0m LIDAR DEM (2018 - 2020).
 4. EXISTING DWELLING & SHED, AND PROPOSED DECK AND POOL LOCATIONS HAVE BEEN TAKEN FROM TOTAL DESIGN, drawing No. 1 of 7.

Issue		Date		Revision		DWG				Project				DWG No.	
A		29/01/2025		FIRST ISSUE		SITE INVESTIGATION PLAN				GEOTECHNICAL INVESTIGATION				G02	
										1C James Kemp Place, Kerikeri					
										Client					
										Chris Bartlett					
										Project No.					
										24 203				RC no. N/A	
														Sheet No.	
														2 of 3	
						</									

Appendix B – Hand Auger Logs

Phone 09 407 8327
Fax 09 407 8378
www.haighworkman.co.nz
info@haighworkman.co.nz

JOB No. 24 203

NOTE: Scala penetrometer refusal at 0.45m (Bouncing).

T:\Clients\Chris Bartlett\Jobs\24 203 - 1a James Kemp Place, Kerikeri\Engineering\Geotech\Field Investigations\BH01-05

Phone 09 407 8327
Fax 09 407 8378
www.haighworkman.co.nz
info@haighworkman.co.nz

JOB No. 24 203

CLIENT:	Chris Bartlett	SITE:	1A James Kemp Place, Kerikeri (Lot 1, Deposited Plan 139655)	
Date Started:	25/11/2024	DRILLING METHOD:	Hand Auger	LOGGED BY: JP
Date Completed:	25/11/2024	HOLE DIAMETER (mm)	50mm	CHECKED BY: WT

Soil Description Based on NZGS Logging Guidelines 2005		Depth (m)	Geology	Graphic Log	Water Level	Sensitivity	Vane Shear and Remoulded Vane Shear Strengths (kPa)	Scala Penetrometer (blows/100mm)	
SILT , trace fine gravel; brown to dark brown, streaked orange. Very stiff, dry, no plasticity. [Fill/Topsoil]		0.0	FILL		Groundwater Not Encountered		UTP		
SILT , some clay, trace fine gravel; brown to orangish brown, mottled light brown and yellow, streaked black. Very stiff, dry to moist, low plasticity. From 0.5m: Becomes light brownish orange, mottled yellow & light orange.		0.5							
SILT , some clay, trace fine gravel; light brownish orange to orange, streaked and mottled light yellow, speckled black. Very stiff, moist, low plasticity. [Kerikeri Volcanic Group]			K.V.G.						UTP
End of Hole at 1.1m (Unable to Penetrate)		1.0							
<div>0.0m</div> <div>1.0m</div> <div>1.1m</div>									
		1.5							
		2.0							
		2.5							
		3.0							
		3.5							
		4.0							
		4.5							

LEGEND



TOPSOIL



CLAY



SILT



SAND



GRAVEL



EII I

Corrected shear vane reading
Remoulded shear vane reading
Scala Penetrometer

Note: UTP = Unable to penetrate. K.V.G. = Kerkeri Volcanic Group.

Hand Held Shear Vane S/N: DR2220

Scala penetrometer testing undertaken from 1.1m to 1.6mbgl. Groundwater not encountered.

PO Box 89, 0245
6 Fairway Drive
Kerikeri, 0230
New Zealand




Phone 09 407 8327
Fax 09 407 8378
www.haighworkman.co.nz
info@haighworkman.co.nz

Borehole Log - BH03

Hole Location: Refer to Site Plan

JOB No. 24 203

CLIENT: Chris Bartlett
Date Started: 25/11/2024
Date Completed: 25/11/2024
SITE: 1A James Kemp Place, Kerikeri (Lot 1, Deposited Plan 139655)
DRILLING METHOD: Hand Auger
HOLE DIAMETER (mm): 50mm
LOGGED BY: JP
CHECKED BY: WT

Soil Description Based on NZGS Logging Guidelines 2005		Depth (m)	Geology	Graphic Log	Water Level	Sensitivity	Vane Shear and Remoulded Vane Shear Strengths (kPa)	Scala Penetrometer (blows/100mm)
SILT , trace fine gravel; brown to dark brown, mottled orange. Very stiff, dry, no plasticity. [Topsoil]		0.0	TS		Groundwater Not Encountered		UTP	0 5 10 15 20
SILT , some clay, trace fine to medium gravel; brown, mottled orange and whitish grey. Very stiff, dry to moist, low plasticity. [Kerikeri Volcanic Group]			K.V.G.					
End of Hole at 0.6m (Unable to Penetrate)		0.5						
		1.0						
		1.5						
		2.0						
		2.5						
		3.0						
		3.5						
		4.0						
		4.5						

LEGEND

 **TOPSOIL**  **CLAY**  **SILT**  **SAND**  **GRAVEL**  **FILL**

Note: UTP = Unable to penetrate. TS = Topsoil. K.V.G. = Kerikeri Volcanic Group.

Hand Held Shear Vane S/N: DR2220

Scala penetrometer testing undertaken from 0.6m to 0.9mbgl. Groundwater not encountered.


Corrected shear vane reading
Remoulded shear vane reading
Scala Penetrometer

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Fax 09 407 8378
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info@haighworkman.co.nz

JOB No. 24 203

T:\Clients\Chris Bartlett\Jobs\24 203 - 1a James Kemp Place, Kerikeri\Engineering\Geotech\Field Investigations\BH01-05

PO Box 89, 0245
6 Fairway Drive
Kerikeri, 0230
New Zealand



HAIGH WORKMAN
Civil & Structural Engineers

Phone 09 407 8327
Fax 09 407 8378
www.haighworkman.co.nz
info@haighworkman.co.nz

Borehole Log - BH05


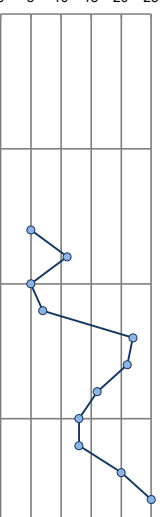


Hole Location: Refer to Site Plan

JOB No. 24 203


CLIENT: Chris Bartlett
Date Started: 25/11/2024
Date Completed: 25/11/2024


SITE: 1A James Kemp Place, Kerikeri (Lot 1, Deposited Plan 139655)
DRILLING METHOD: Hand Auger
HOLE DIAMETER (mm): 50mm


LOGGED BY: JP
CHECKED BY: WT


Soil Description Based on NZGS Logging Guidelines 2005	Depth (m)	Geology	Graphic Log	Water Level	Sensitivity	Vane Shear and Remoulded Vane Shear Strengths (kPa)	Scala Penetrometer (blows/100mm)
SILT , trace fine gravel; brown to dark brown, mottled orange. Very stiff, dry, no plasticity. [Topsoil]	0.0	TS		Groundwater Not Encountered		UTP	
SILT , some clay, trace fine gravel; brownish orange, mottled brown, speckled yellow and black. Very stiff, dry to moist, low plasticity. [Kerikeri Volcanic Group]		K.V.G.					
Clayey SILT , trace fine gravel; light brownish orange, mottled orange. Very stiff, moist, low to medium plasticity.	0.5						
End of Hole at 0.7m (Unable to Penetrate)							
	1.0						
	1.5						
	2.0						
	2.5						
	3.0						
	3.5						
	4.0						
	4.5						


LEGEND


 TOPSOIL

 CLAY

 SILT

 SAND

 GRAVEL

 FILL

Note: UTP = Unable to penetrate. TS = Topsoil. K.V.G. = Kerikeri Volcanic Group.
Hand Held Shear Vane S/N: DR2220
Scala penetrometer testing undertaken from 0.7m to 1.8mbgl. Groundwater not encountered.

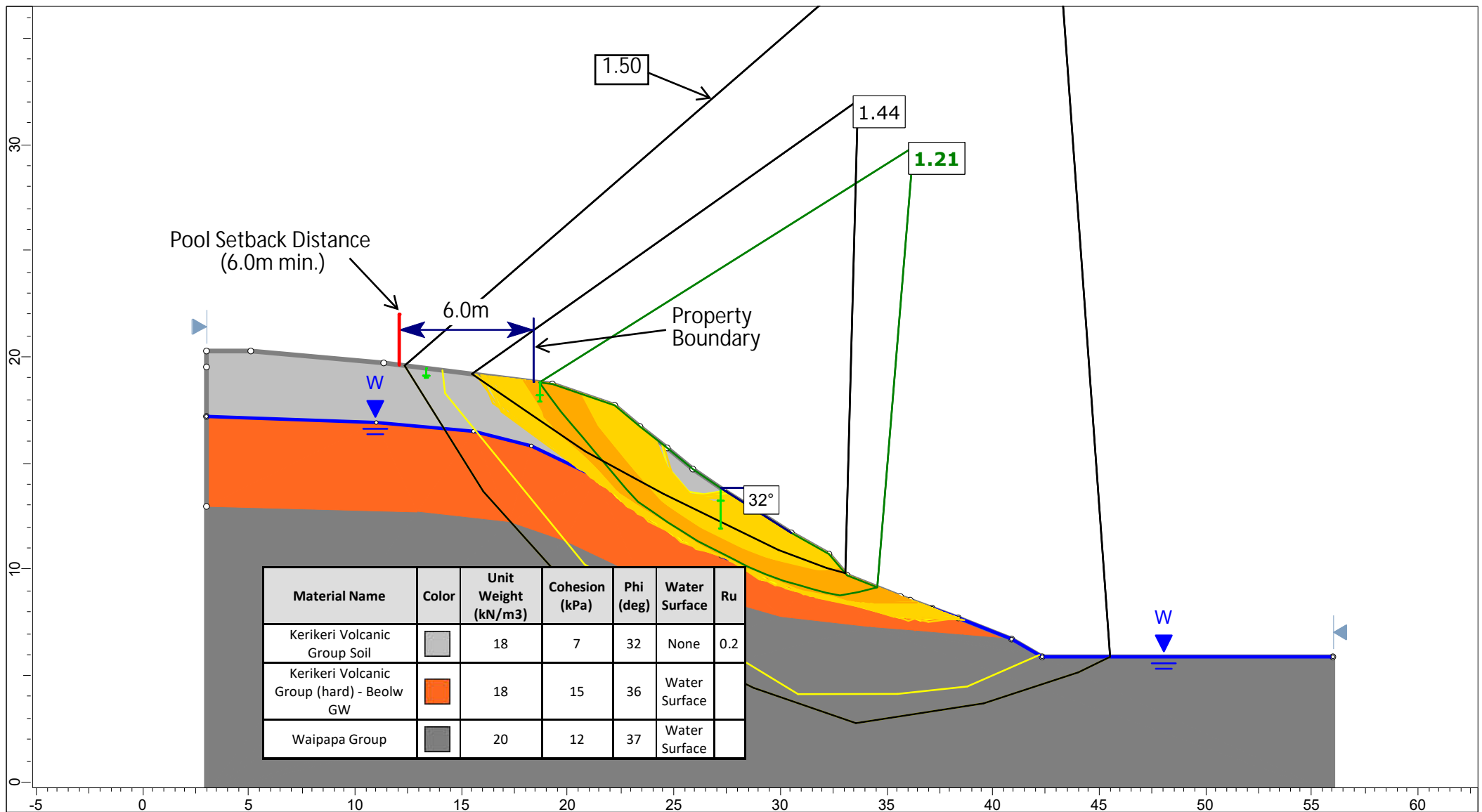
Corrected shear vane reading

Remoulded shear vane reading

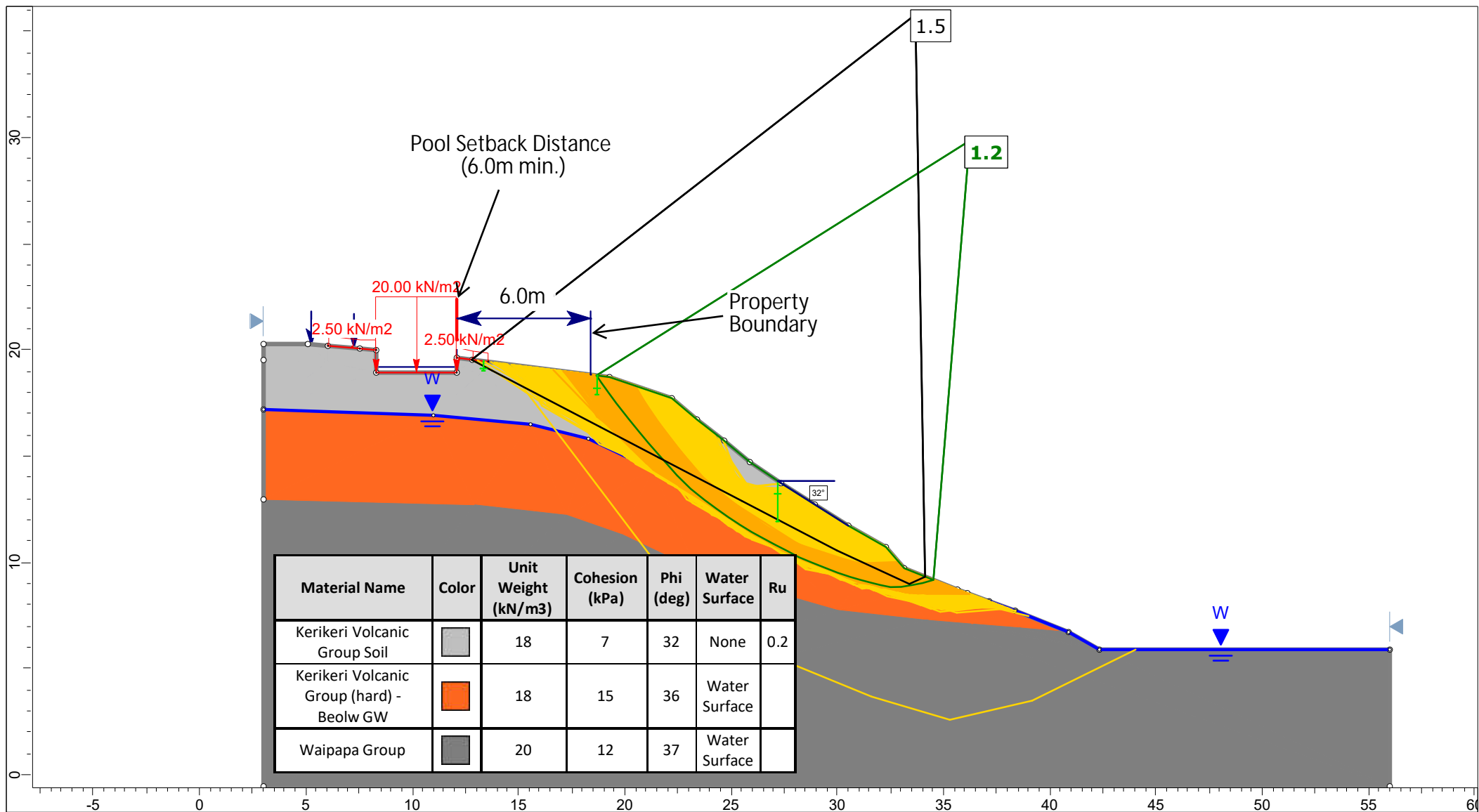
Scala Penetrometer

T:\Clients\Chris Bartlett\Jobs\24 203 - 1a James Kemp Place, Kerikeri\Engineering\Geotech\Field Investigations\BH01-05

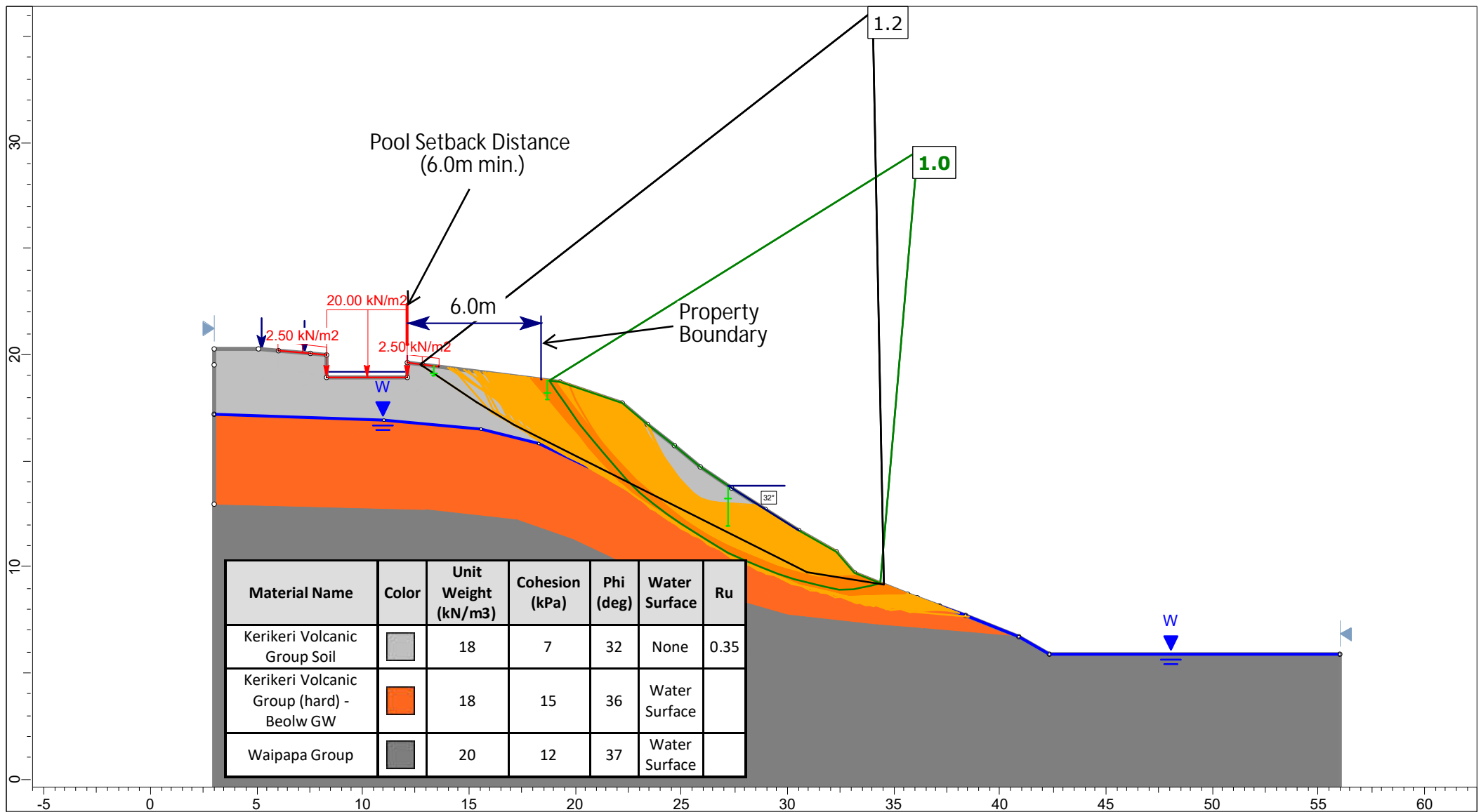
Appendix C – Slope Stability Outputs



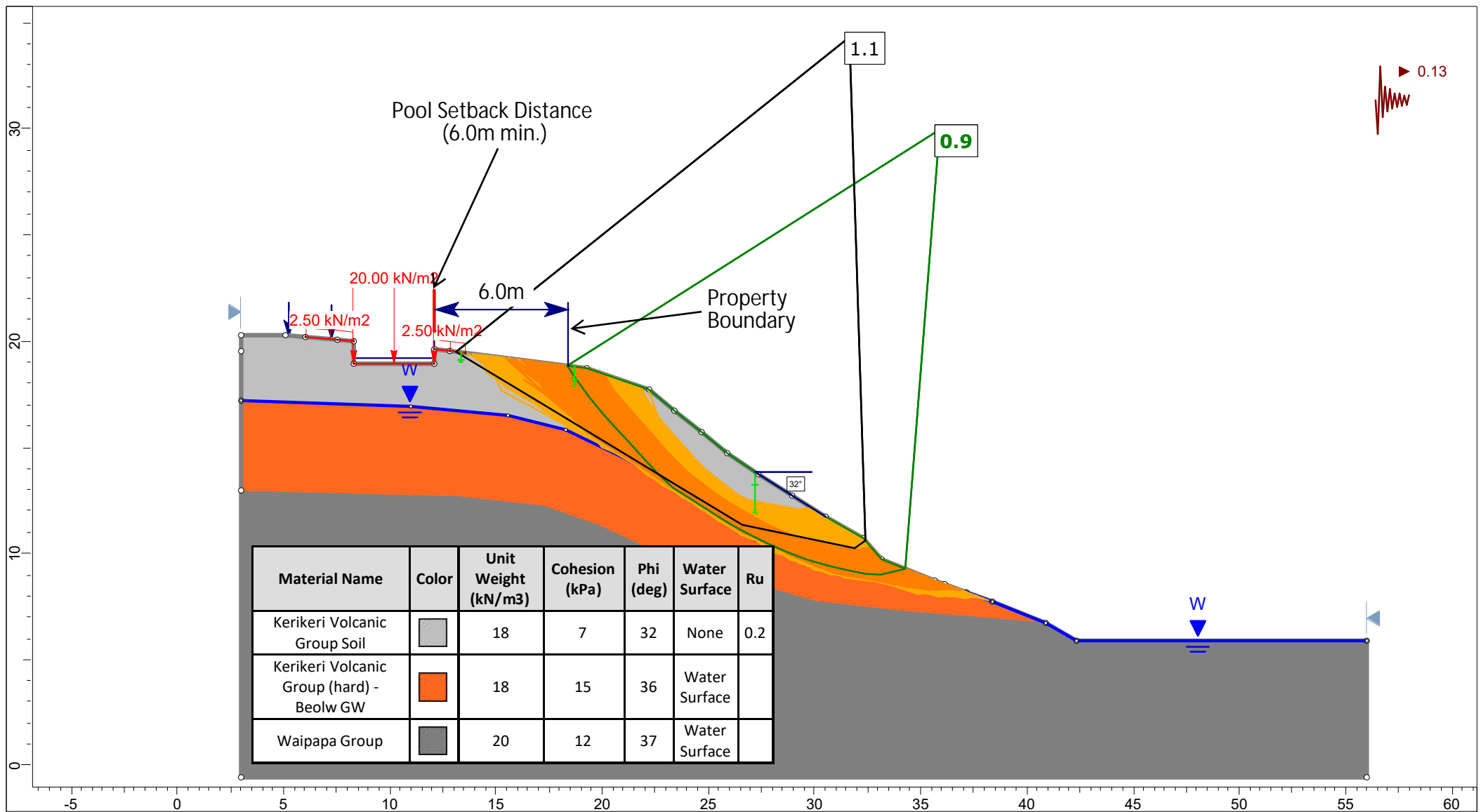
Project		James Kemp Place	
Group	Group 1	Scenario	Master Scenario
Drawn By	J. Power	Company	Haigh Workman Limited
Date	4/03/2025, 12:53:58 pm	File Name	01 - Noncirc - Existing.slmd



Project		James Kemp Place	
Group	Group 1	Scenario	Master Scenario
Drawn By	J. Power	Company	Haigh Workman Limited
Date	4/03/2025, 12:53:58 pm	File Name	02 - Noncirc - Proposed.slmd



Project		James Kemp Place	
Group	Group 1	Scenario	Master Scenario
Drawn By	J. Power	Company	Haigh Workman Limited
Date	4/03/2025, 12:53:58 pm	File Name	03 - Noncirc - Proposed Elevated A.slm



Project

James Kemp Place

Group

Group 1

Scenario

Master Scenario

Drawn By

J. Power

Company

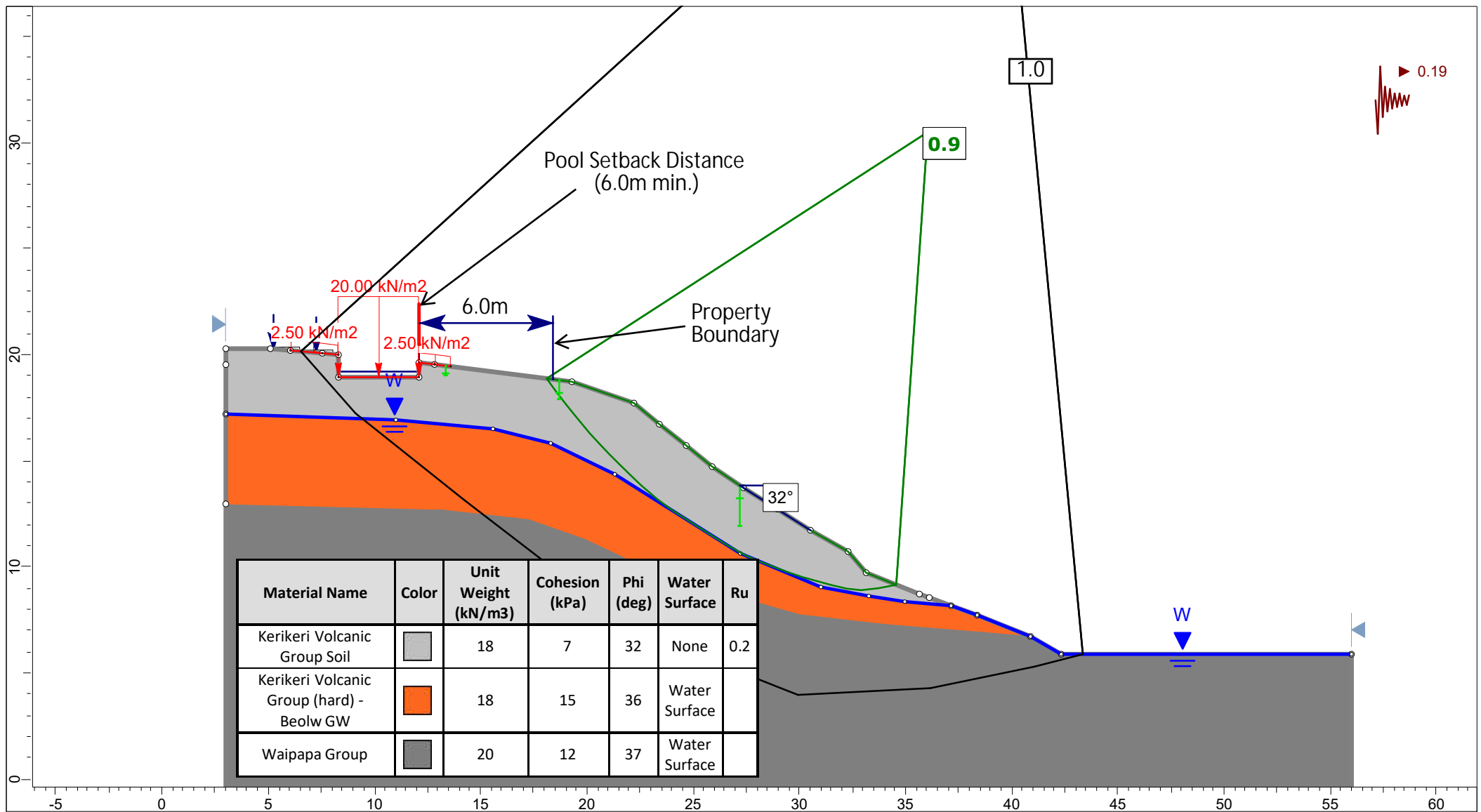
Haigh Workman Limited

Date

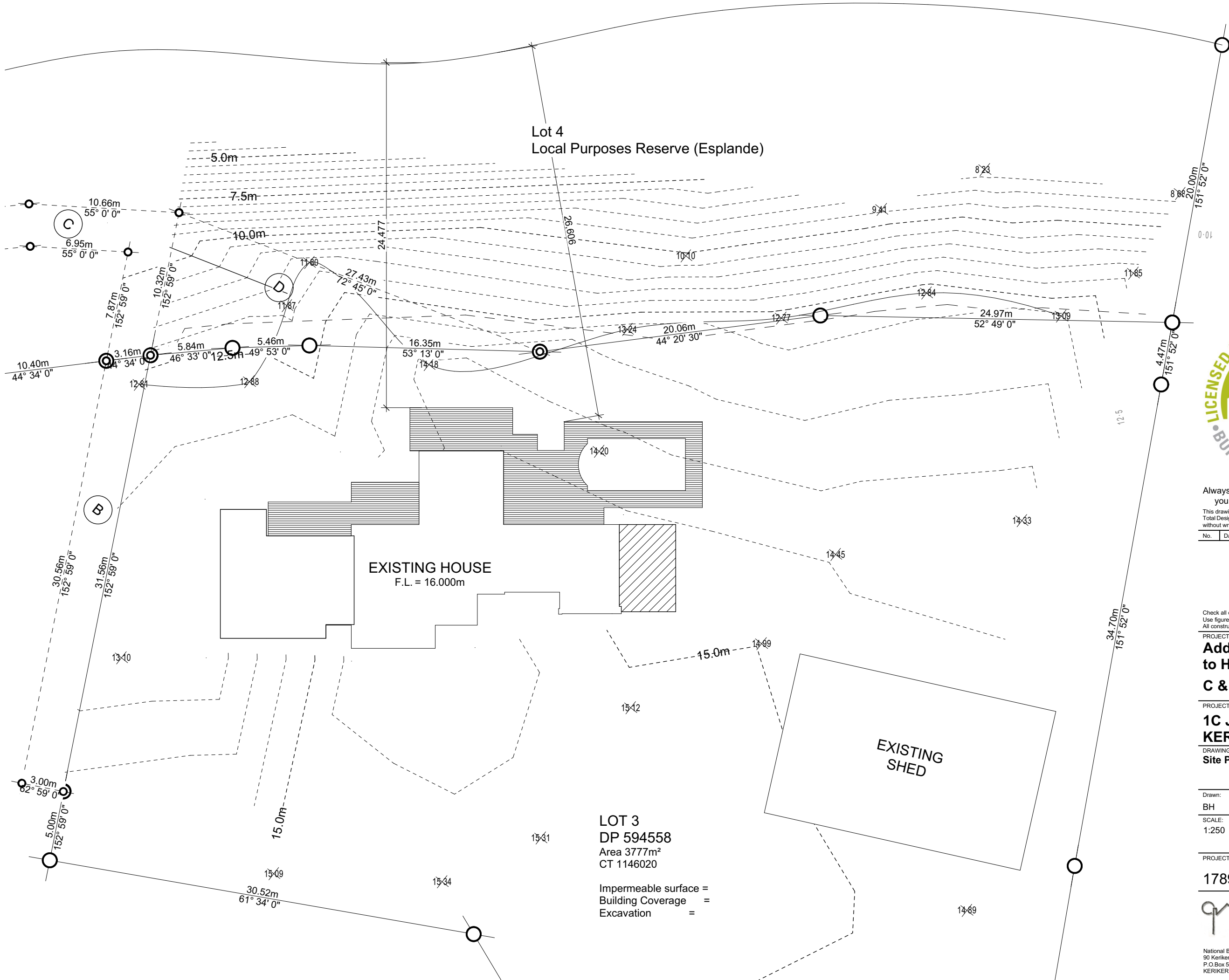
4/03/2025, 12:53:58 pm

File Name

04 - Noncirc - Seismic.slmd



Appendix D – Concept Drawings



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No.	Date	Revision	Detail
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Check all dimensions on site before construction, Use figured dimensions in preference to scaling, All construction to comply with NZS 3604: 2011 and/or NZBC

PROJECT:

Additions & Alteration to House

C & D Bartlett

PROJECT ADDRESS:

1C James Kemp Place KERIKERI

DRAWING:

Site Plan

Drawn: BH	Date: 11/10/2024
SCALE: 1:250	DRAWING No: 1 of 7
PROJECT No: 1789	



National Bank Building
90 Kerikeri road,
P.O.Box 575
KERIKERI 0245
Tel. (09) 407 7049
Mobile. (021) 241 9879
E-mail. brian@totaldesign.co.nz

Appendix E – Producer Statement Advisory Note

IMPORTANT ADVISORY NOTE

PRODUCER STATEMENT – CONSTRUCTION REVIEW (PS4)

The Building Consent Authority (BCA) frequently requires Producer Statements–Construction Review (PS4) to be submitted to the BCA in order for a Code of Compliance Certificate (CCC) to be issued. A PS4 is usually required for each specialist area. The requirement for a consultant to issue a PS4 related to their area of work will appear as a condition in the Building Consent documents.

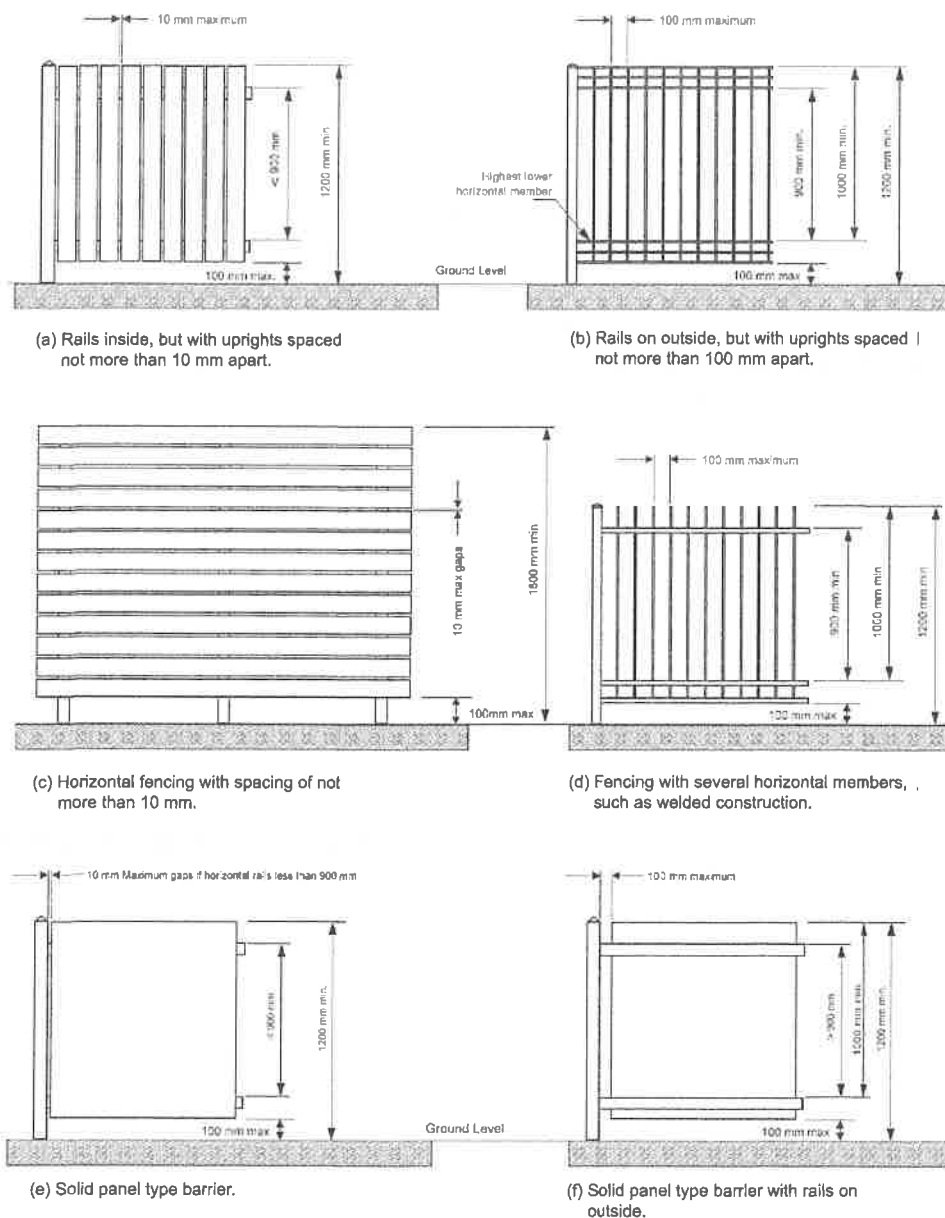
It is the consent holder's responsibility to notify Haigh Workman Limited for geotechnical construction monitoring and testing required for subsequent issue of a PS4. An initial inspection of stripped or excavated ground must take place before any fill or blinding concrete is placed. Retrospective site monitoring of completed or partially completed geotechnical work is not possible and a PS4 will not be issued without all the required observations.

In order to secure our construction monitoring services and avoid delays on site, Haigh Workman Limited require at least 24 hours' notice prior to the time the site visit is required. Construction monitoring is limited to items that have been recommended, designed and detailed by Haigh Workman Limited. We are unable to inspect non-consented or unauthorised work. Haigh Workman Limited do not carry out construction monitoring or issue PS4's for work that has been recommended, designed or detailed by other consultants without prior approval from Haigh Workman Limited. Haigh Workman Limited will not issue a PS4 where construction monitoring and/or testing have been carried out by any other consultant. The PS4 must be sought from the consultant who carried out those inspections.

The full Building Consent, with stamped plans with consent numbers (or a legible copy of the same) including all amendments, shall be made available to us during inspections. We will not commence construction monitoring until the documentation is available or provided to us prior to our site visit.

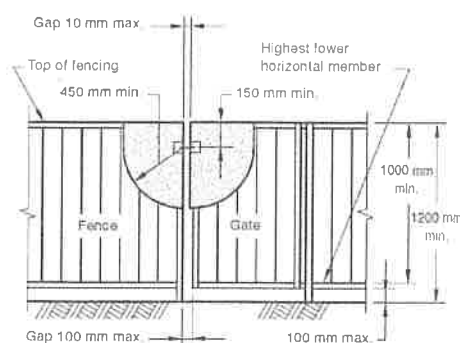
Unless stated otherwise in our terms of engagement, the fees associated with construction monitoring and the issue of PS4's are separate from any work carried out prior to commencement of construction. We are able to provide a fee estimate for this work if required. We cannot provide a fixed quote because the quantum of work required frequently depends on the construction program and the performance of others. These things are not known to us in advance of construction. Our normal terms of trade require payment of fees monthly during the inspection period and full settlement prior to release of any PS4.

Figure 1: Acceptable pool barriers
Paragraphs 2.1.4, 2.1.5

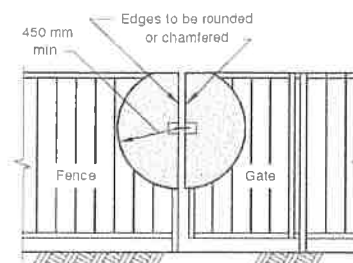


Copyright in NZS 8500:2006 *Safety barriers and fences around swimming pools, spas and hot tubs* is owned by the Crown in right of New Zealand and administered by the New Zealand Standards Executive. Reproduced with permission from Standards New Zealand on behalf of the New Zealand Standard Executive under copyright licence LN001225.

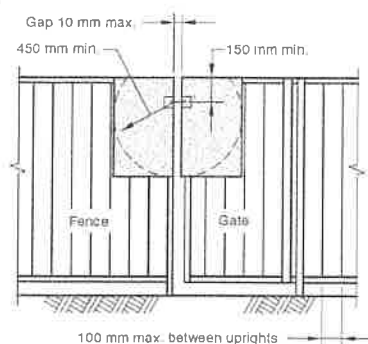
Figure 3: Acceptable means of protecting a latch as viewed from the pool side
Paragraph 3.1.2



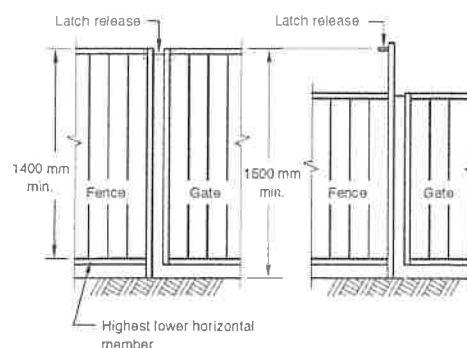
(a) Basic requirements



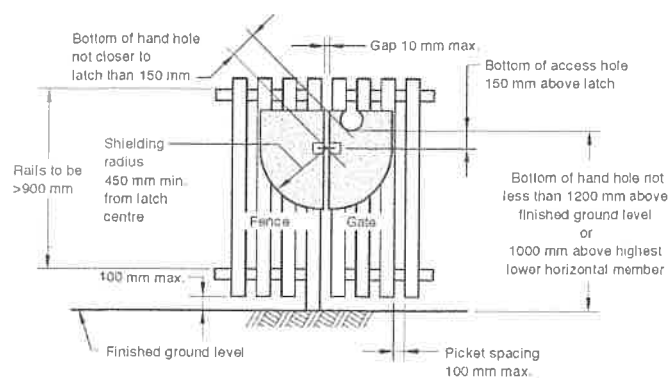
(b) Latch more than 150 mm below top of fence (shielding is centred on latch)



(c) Shield larger than minimum size



(d) Shield not required for latch or release located at 1500 mm or higher.



(e) Hand hole provided in fence or gate

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RECORD OF TITLE
UNDER LAND TRANSFER ACT 2017
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R.W. Muir
Registrar-General
of Land

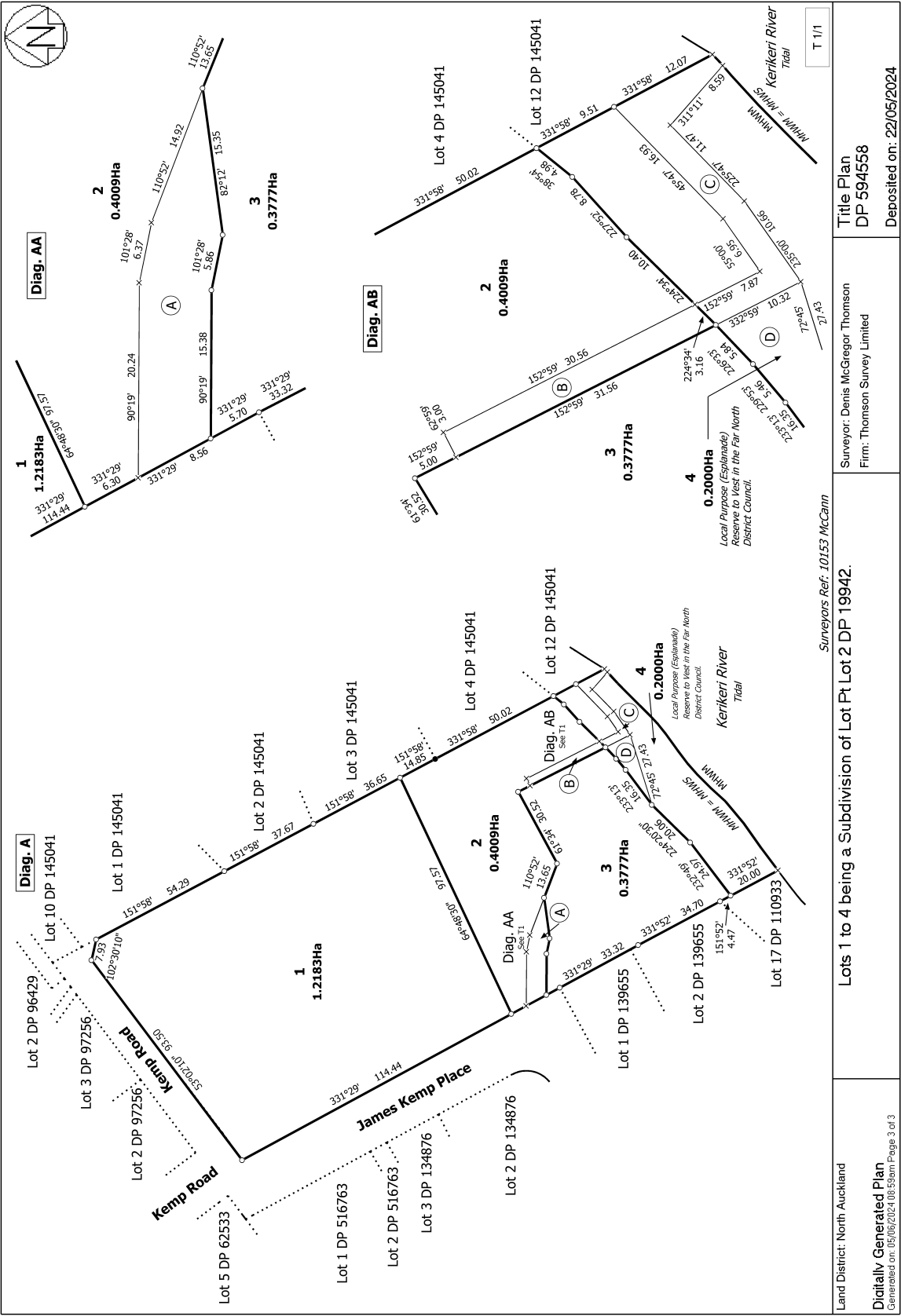
Identifier **1146020**
Land Registration District **North Auckland**
Date Issued 22 May 2024

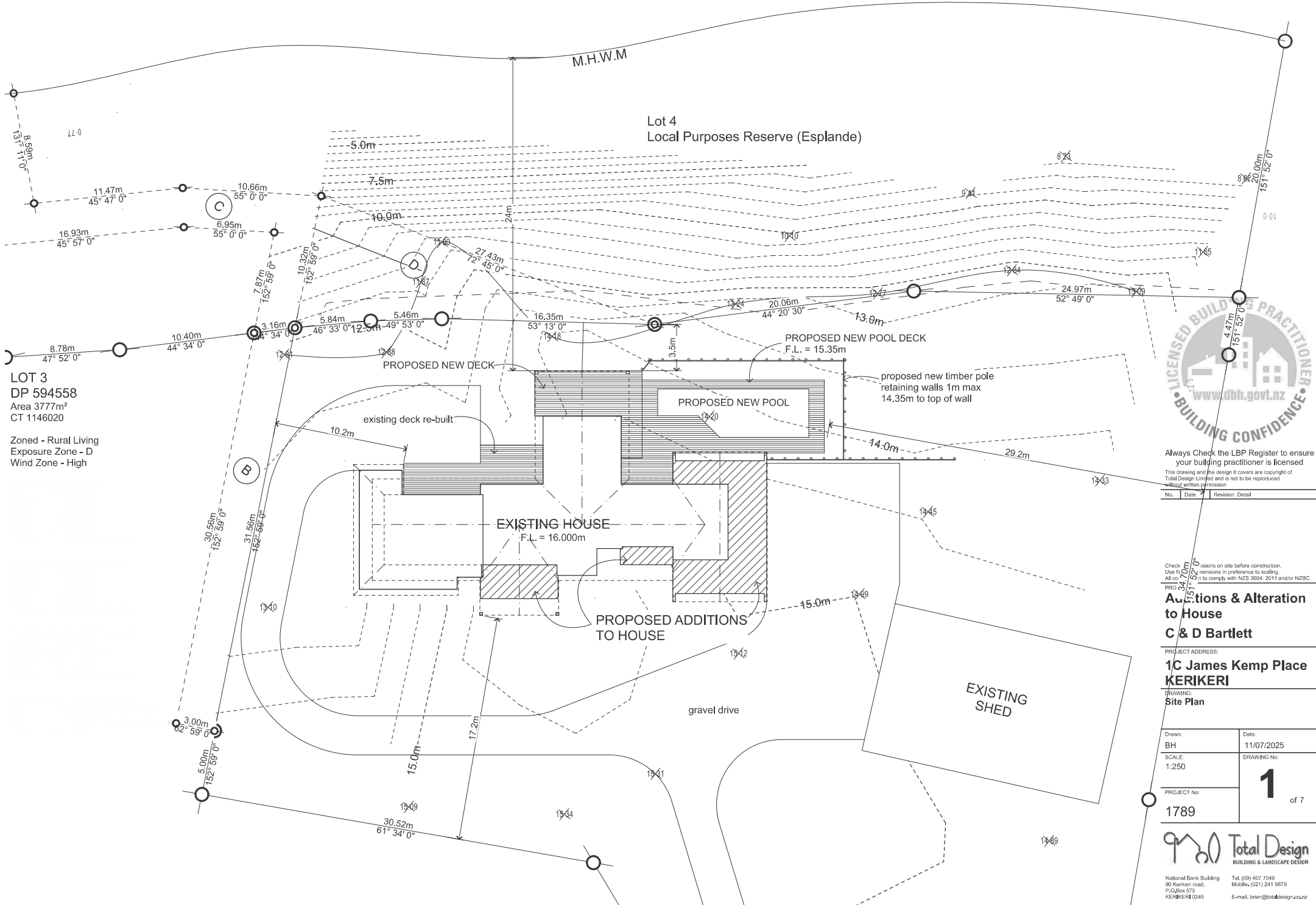
Prior References
NA108D/310

Estate Fee Simple
Area 3777 square metres more or less
Legal Description Lot 3 Deposited Plan 594558
Registered Owners
Bartlett Trustees Limited

Interests

12985116.2 Consent Notice pursuant to Section 221 Resource Management Act 1991 - 22.5.2024 at 3:32 pm
Appurtenant hereto is a right to drain water created by Easement Instrument 12985116.3 - 22.5.2024 at 3:32 pm
The easements created by Easement Instrument 12985116.3 are subject to Section 243 (a) Resource Management Act 1991
Appurtenant hereto is a right of way, a right to convey electricity, telecommunications and water and a right to drain water created by Easement Instrument 12985116.4 - 22.5.2024 at 3:32 pm
The easements created by Easement Instrument 12985116.4 are subject to Section 243 (a) Resource Management Act 1991





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No.	Date	Revision	Detail
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Check dimensions on site before construction.
Use finished dimensions in preference to scaling.
All work to comply with NZS 3604:2011 and/or NZBC

Proposed Additions & Alteration to House

C & D Bartlett

PROJECT ADDRESS:
1C James Kemp Place KERIKERI

DRAWING:
Site Plan

Drawn: BH	Date: 11/07/2025
SCALE: 1:250	DRAWING No: 1 of 7
PROJECT No: 1789	