APPLICATION AS NOTIFIED

D Murphy & S Greening

(RM240855)

File Number RM240855

QUEENSTOWN LAKES DISTRICT COUNCIL

SERVICE OF NOTICE / LIMITED NOTIFICATION

Service of Notice for Limited Notification of a Resource Consent application under Section 95B of the Resource Management Act 1991.

The Queenstown Lakes District Council has received an application for a resource consent from:

D Murphy & S Greening (RM240855)

What is proposed:

Application for consent to establish two residential units in breach of height standards, with associated earthwork and transport non compliances.

The location in respect of which this application relates is situated at:

359 Frankton Road, Queenstown

A full copy of this Limited Notified package is available for you to download on the following link:

https://www.qldc.govt.nz/services/resource-consents/notified-resource-consents#limited-not-rc or via our edocs website using RM240855 as the reference https://edocs.qldc.govt.nz/Account/Login

This file can also be viewed at our public computers at these Council offices:

- **Gorge Road, Queenstown;**
- **and 47 Ardmore Street, Wanaka during normal office hours (8.30am to 5.00pm).**

The Council planner processing this application on behalf of the Council is Ian Bayliss, who may be contacted by phone at 03 4500539 or e-mail at ian.bayliss@qldc.govt.nz

Any person who is notified of this application, but a person who is a trade competitor of the applicant may do so only if that person is directly affected by an effect of the activity to which the application relates that –

a) adversely affects the environment; and
b) does not relate to trade competition or the effects of trade competition.

If you wish to make a submission on this application, you may do so by sending a written submission to the consent authority no later than:

Friday 22nd August 2025

The submission must be dated, signed by you and must include the following information:

a) Your name and postal address and phone number/fax number.
b) Details of the application in respect of which you are making the submission including location.
c) Whether you support or oppose the application.
d) Your submission, with reasons.
e) The decision you wish the consent authority to make.
f) Whether you wish to be heard in support of your submission.

You may make a submission by sending a written or electronic submission to Council (details below). The submission should be in the format of Form 13. Copies of this form are available Council website:

https://www.qldc.govt.nz/services/resource-consents/notified-consents/current-notified-resource-consents/

You must serve a copy of your submission to the applicant (D Murphy & S Greening, c/- Kim Seaton, Novo Group Ltd) as soon as reasonably practicable after serving your submission to Council:

C/- Kim Seaton
Novo Group Ltd
kim@novogroup.co.nz

QUEENSTOWN LAKES DISTRICT COUNCIL

(signed by DR Lee Beattie pursuant to a delegation given under Section 34A of the Resource Management Act 1991)

Date of Notification: 25th July 2025

Address for Service for Consent Authority:

Queenstown Lakes District Council	**Phone**	**03 441 0499**
Private Bag 50072, Queenstown 9348	**Email**	**rcsubmission@qldc.govt.nz**
Gorge Road, Queenstown 9300	**Website**	**www.qldc.govt.nz**

TechnologyOne ECM Document Summary

Printed On 16-Jul-2025

Class	Description	Doc Set Id / Note Id	Version	Date
PUB_ACC	Form 9	8334314	1	15-Oct-2024
PUB_ACC	AEE	8334317	1	15-Oct-2024
PUB_ACC	Appendix 1 Record of Title 904999	8334319	1	15-Oct-2024
PUB_ACC	Appendix 1 CONO 11892132.17	8334318	1	15-Oct-2024
PUB_ACC	Appendix 3 Earthworks Plan	8334320	1	15-Oct-2024
PUB_ACC	Appendix 4 Compliance Assessment	8334321	1	15-Oct-2024
PUB_ACC	Appendix 5 Park and Reserves Correspondence	8334322	1	15-Oct-2024
PUB_ACC	Appendix 6 Acoustic Memo	8334324	1	15-Oct-2024
PUB_ACC	Appendix 7 Environmental Management Plan	8334313	1	15-Oct-2024
PUB_ACC	Appendix 8 Geotechnical Report	8334316	1	15-Oct-2024
PUB_ACC	Plans (Updated)	8531247	1	25-Mar-2025
PUB_ACC	Traffic Management Plan	8401033	1	04-Dec-2024
PUB_ACC	Urban Design Comment	8400977	1	04-Dec-2024
PUB_ACC	Tracking Curves	8401025	1	04-Dec-2024

PUB_ACC	Excavation Construction Methodology	8401055	1	04-Dec-2024
PUB_ACC	7+10m Height Planes	8345596	1	23-Oct-2024
PUB_ACC	APA 361 Frankton Road	8892416	1	16-Jul-2025
FORM	APA 357 Frankton Road	8891706	1	15-Jul-2025

Application as Notified 3

APPLICATION FOR RESOURCE CONSENT OR
FAST TRACK RESOURCE CONSENT

FORM 9: GENERAL APPLICATION

QUEENSTOWN LAKES DISTRICT COUNCIL

Under Section 87AAC, 88 & 145 of the Resource Management Act 1991 (Form 9)

PLEASE COMPLETE ALL MANDATORY FIELDS* OF THIS FORM.

This form provides contact information and details of your application. If your form does not provide the required information it will be returned to you to complete. Until we receive a completed form and payment of the initial fee, your application may not be accepted for processing.

APPLICANT //

- Must be a person or legal entity (limited liability company or trust).
- Full names of all trustees required.
- The applicant name(s) will be the consent holder(s) responsible for the consent and any associated costs.

*Applicant's Full Name / Company / Trust: (Name Decision is to be issued in) Dan Murphy & Stephen Greening

All trustee names (if applicable):

*Contact name for company or trust:

*Postal Address: 50 Baroda Street, Wellington

*Post code: 6035

*Contact details supplied must be for the applicant and not for an agent acting on their behalf and must include a valid postal address

*Email Address: ciaronmurphy@gmail.com

*Phone Numbers: Day

Mobile: 027 254 2251

*The Applicant is:

- [x] Owner
- [ ] Prospective Purchaser (of the site to which the application relates)
- [ ] Occupier
- [ ] Lessee
- Other - Please Specify:

[x] Our preferred methods of corresponding with you are by email and phone.
The decision will be sent to the Correspondence Details by email unless requested otherwise.

CORRESPONDENCE DETAILS // If you are acting on behalf of the applicant e.g. agent, consultant or architect please fill in your details in this section.

*Name & Company: Kim Seaton, Novo Group Ltd

*Phone Numbers: Day

Mobile: 021 662 315

*Email Address: kim@novogroup.co.nz

*Postal Address: PO Box 365, Christchurch

*Postcode: 8140

INVOICING DETAILS //

Invoices will be made out to the applicant but can be sent to another party if paying on the applicant's behalf.
For more information regarding payment please refer to the Fees Information section of this form.

*Please select a preference for who should receive any invoices and how they would like to receive them.

- Applicant: [x]
- Agent: [ ]
- Other - Please specify:
- Email: [ ]
- Post: [ ]

*Attention:

*Postal Address:

*Post code:

*Please provide an email AND full postal address.

*Email:

OWNER DETAILS // Please supply owner details for the subject site/property if not already indicated above

Owner Name:

Owner Address:

Owner Email:

If the property has recently changed ownership please indicate on what date (approximately) AND the names of the previous owners:

Date:

Names:

DEVELOPMENT CONTRIBUTIONS INVOICING DETAILS //

If it is assessed that your consent requires development contributions any invoices and correspondence relating to these will be sent via email. Invoices will be sent to the email address provided above unless an alternative address is provided below. Invoices will be made out to the applicant/owner but can be sent to another party if paying on the applicant's behalf.

*Please select a preference for who should receive any invoices.

Details are the same as for invoicing ☑

Applicant: ☐ Landowner: ☐ Other, please specify:

*Attention:

*Email:

Click here for further information and our estimate request form

DETAILS OF SITE // Legal description field must list legal descriptions for all sites pertaining to the application. Any fields stating 'refer AEE' will result in return of the form to be fully completed.

*Address / Location to which this application relates:

359 Frankton Road, Queenstown

*Legal Description: Can be found on the Computer Freehold Register or Rates Notice – e.g Lot x DPxxx (or valuation number)

LOt 4 DP 540220

District Plan Zone(s): High Density Residential Zone

SITE VISIT REQUIREMENTS // Should a Council officer need to undertake a site visit please answer the questions below

Is there a gate or security system restricting access by council?	YES ☐	NO ☑
Is there a dog on the property?	YES ☐	NO ☑
Are there any other hazards or entry restrictions that council staff need to be aware of? If 'yes' please provide information below	YES ☑	NO ☐

Steep site, wear appropriate footwear if you want to walk down the slope.

PRE-APPLICATION MEETING OR URBAN DESIGN PANEL

Have you had a pre-application meeting with QLDC or attended the urban design panel regarding this proposal?

☑ Yes ☐ No ☐ Copy of minutes attached

If 'yes', provide the reference number and/or name of staff member involved: PA 240009

CONSENT(S) APPLIED FOR // * Identify all consents sought // ALSO FILL IN OTHER CONSENTS SECTION BELOW

☑ Land use consent
☐ Subdivision consent
☐ Change/cancellation of consent or consent notice conditions
☐ Certificate of compliance
☐ Extension of lapse period of consent (time extension) s125
☐ Existing use certificate
☐ Land use consent includes Earthworks

QUALIFIED FAST-TRACK APPLICATION UNDER SECTION 87AAC

☐ Controlled Activity
☐ Deemed Permitted Boundary Activity

If your consent qualifies as a fast-track application under section 87AAC, tick here to opt out of the fast track process ☐

BRIEF DESCRIPTION OF THE PROPOSAL //

*Please complete this section, any form stating 'refer AEE' will be returned to be completed with a description of the proposal

*Consent is sought to:

Establish two residential units with associated earthworks

APPLICATION NOTIFICATION

Are you requesting public notification for the application?

☐ Yes ☑ No

Please note there is an additional fee payable for notification. Please refer to Fees schedule

OTHER CONSENTS

Is consent required under a National Environmental Standard (NES)?

■ NES for Assessing and Managing Contaminants in Soil to Protect Human Health 2012

An applicant is required to address the NES in regard to past use of the land which could contaminate soil to a level that poses a risk to human health. Information regarding the NES is available on the website https://environment.govt.nz/publications/national-environmental-standard-for-assessing-and-managing-contaminants-in-soil-to-protect-human-health-information-for-landowners-and-developers/

You can address the NES in your application AEE OR by selecting ONE of the following:

☐ This application does not involve subdivision (excluding production land), change of use or removal of (part of) a fuel storage system. Any earthworks will meet section 8(3) of the NES (including volume not exceeding 25m^3 per 500m^2). Therefore the NES does not apply.

☑ I have undertaken a comprehensive review of District and Regional Council records and I have found no record suggesting an activity on the HAIL has taken place on the piece of land which is subject to this application.
NOTE: depending on the scale and nature of your proposal you may be required to provide details of the records reviewed and the details found.

OTHER CONSENTS // CONTINUED

☐ I have included a Preliminary Site Investigation undertaken by a suitably qualified person.

☐ An activity listed on the HAIL has more likely than not taken place on the piece of land which is subject to this application. I have addressed the NES requirements in the Assessment of Environmental Effects.

■ Any other National Environmental Standard

☐ Yes ☑ N/A

Do you need any consent(s) from Otago Regional Council?

☐ Yes ☑ N/A

If Yes have you applied for it?

☐ Yes ☐ No

If Yes supply ORC Consent Reference(s)

If ORC Earthworks Consent is required would you like a joint site visit ?

☐ Yes ☐ No

INFORMATION REQUIRED TO BE SUBMITTED //

Attach to this form any information required (see below & appendices 1-2).

To be accepted for processing, your application should include the following:

☑ Record of Title for the property (no more than 3 months old) and copies of any consent notices and covenants
(Can be obtained from Land Information NZ at https://www.linz.govt.nz/).

☑ A plan or map showing the locality of the site, topographical features, buildings etc.

☑ A site plan at a convenient scale.

☐ Written approval of every person who may be adversely affected by the granting of consent (s95E).

☑ An Assessment of Effects (AEE).
An AEE is a written document outlining how the potential effects of the activity have been considered along with any other relevant matters, for example if a consent notice is proposed to be changed. Address the relevant provisions of the District Plan and affected parties including who has or has not provided written approval. See Appendix 1 for more detail.

☑ We prefer to receive applications electronically – please see Appendix 5 – Naming of Documents Guide for how documents should be named. Please ensure documents are scanned at a minimum resolution of 300 dpi. Each document should be no greater than 10mb

PRIVACY INFORMATION

The information you have provided on this form is required so that your application can be processed under the Resource Management Act 1991 and may also be used in statistics collected and provided to the Ministry for the Environment and Queenstown Lakes District Council. The information will be stored on a public register and may be made available to the public on request or on the company's or the Council's websites.

FEES INFORMATION

Section 36 of the Resource Management Act 1991 deals with administrative charges and allows a local authority to levy charges that relate to, but are not limited to, carrying out its functions in relation to receiving, processing and granting of resource consents (including certificates of compliance and existing use certificates).

Invoiced sums are payable by the 20th of the month after the work was undertaken. If unpaid, the processing of an application, provision of a service, or performance of a function will be suspended until the sum is paid. You may also be required to make an additional payment, or bring the account up to date, prior to milestones such as notification, setting a hearing date or releasing the decision. In particular, all charges related to processing of a resource consent application are payable prior to issuing of the decision. Payment is due on the 20th of the month or prior to the issue date – whichever is earlier.

FEES INFORMATION // CONTINUED

If your application is notified or requires a hearing you will be requested to pay a notification deposit and/or a hearing deposit. An applicant may not offset any invoiced processing charges against such payments.

Section 357B of the Resource Management Act provides a right of objection in respect of additional charges. An objection must be in writing and must be lodged within 15 working days of notification of the decision.

LIABILITY FOR PAYMENT – Please note that by signing and lodging this application form you are acknowledging that the details in the invoicing section are responsible for payment of invoices and in addition will be liable to pay all costs and expenses of debt recovery and/or legal costs incurred by QLDC related to the enforcement of any debt.

MONITORING FEES – Please also note that the fee paid at lodgement includes an initial monitoring fee of $287 for land use resource consent applications and designation related applications, as once Resource Consent is approved you will be required to meet the costs of monitoring any conditions applying to the consent, pursuant to Section 35 of the Resource Management Act 1991.

DEVELOPMENT CONTRIBUTIONS – Your development, if granted, may also incur development contributions under the Local Government Act 2002. You will be liable for payment of any such contributions.

A list of Consent Charges is available on the on the Resource Consent Application Forms section of the QLDC website. If you are unsure of the amount to pay, please call 03 441 0499 and ask to speak to our duty planner.

Please ensure to reference any banking payments correctly. Incorrectly referenced payments may cause delays to the processing of your application whilst payment is identified.

If the initial fee charged is insufficient to cover the actual and reasonable costs of work undertaken on the application you will be required to pay any additional amounts and will be invoiced monthly as work on the application continues. Please note that if the Applicant has outstanding fees owing to Council in respect of other applications, Council may choose to apply the initial fee to any outstanding balances in which case the initial fee for processing this application may be deemed not to have been paid.

PAYMENT// An initial fee must be paid prior to or at the time of the application and proof of payment submitted. Unless you have requested an invoice.

Please reference your payments as follows:

Applications yet to be submitted: RM followed by first 5 letters of applicant name e.g RMJONES

Applications already submitted: Please use the RM# reference that has been assigned to your application, this will have been emailed to yourself or your agent and included on the invoice.

Please note processing will not begin until payment is received (or identified if incorrectly referenced).

I confirm payment by:

- ☐ Bank transfer to account 02 0948 0002000 00 (If paying from overseas swiftcode is – BKNZNZ22)
- ☑ Invoice for initial fee requested and payment to follow
- ☐ Manual Payment (can only be accepted once application has been lodged and acknowledgement email received with your unique RM reference number)

Reference

Amount Paid: Land Use and Subdivision Resource Consent fees - please select from drop down list below

Please select

(For required initial fees refer to website for Resource Consent Charges or speak to the Duty Planner by phoning 03 441 0499)

Date of Payment

APPLICATION & DECLARATION

The Council relies on the information contained in this application being complete and accurate. The Applicant must take all reasonable steps to ensure that it is complete and accurate and accepts responsibility for information in this application being so.

○ If lodging this application as the Applicant:

I/we hereby represent and warrant that I am/we are aware of all of my/our obligations arising under this application including, in particular but without limitation, my/our obligation to pay all fees and administrative charges (including debt recovery and legal expenses) payable under this application as referred to within the Fees Information section.

OR:

◉ If lodging this application as agent of the Applicant:

I/we hereby represent and warrant that I am/we are authorised to act as agent of the Applicant in respect of the completion and lodging of this application and that the Applicant / Agent whose details are in the invoicing section is aware of all of his/her/its obligations arising under this application including, in particular but without limitation, his/her/its obligation to pay all fees and administrative charges (including debt recovery and legal expenses) payable under this application as referred to within the Fees Information section.

☑ I hereby apply for the resource consent(s) for the Proposal described above and I certify that, to the best of my knowledge and belief, the information given in this application is complete and accurate.

PLEASE TICK

Signed (by or as authorised agent of the Applicant) **

Full name of person lodging this form Kim Seaton

Firm/Company Novo Group Ltd

Dated 14 October 2024

**If this form is being completed on-line you will not be able, or required, to sign this form and the on-line lodgement will be treated as confirmation of your acknowledgement and acceptance of the above responsibilities and liabilities and that you have made the above representations, warranties and certification.

Section 2 of the District Plan provides additional information on the information that should be submitted with a land use or subdivision consent.

The RMA (Fourth Schedule to the Act) requires the following:

1 INFORMATION MUST BE SPECIFIED IN SUFFICIENT DETAIL

- Any information required by this schedule, including an assessment under clause 2(1)(f) or (g), must be specified in sufficient detail to satisfy the purpose for which it is required.

2 INFORMATION REQUIRED IN ALL APPLICATIONS

- (1) An application for a resource consent for an activity (the activity) must include the following:
    - (a) a description of the activity:
    - (b) a description of the site at which the activity is to occur:
    - (c) the full name and address of each owner or occupier of the site:
    - (d) a description of any other activities that are part of the proposal to which the application relates:
    - (e) a description of any other resource consents required for the proposal to which the application relates:

Information provided within the Form above

    - (f) an assessment of the activity against the matters set out in Part 2:
    - (g) an assessment of the activity against any relevant provisions of a document referred to in section 104(1)(b).

(2) The assessment under subclause (1)(g) must include an assessment of the activity against—

    - (a) any relevant objectives, policies, or rules in a document; and
    - (b) any relevant requirements, conditions, or permissions in any rules in a document; and
    - (c) any other relevant requirements in a document (for example, in a national environmental standard or other regulations).

(3) An application must also include an assessment of the activity's effects on the environment that—

    - (a) includes the information required by clause 6; and
    - (b) addresses the matters specified in clause 7; and
    - (c) includes such detail as corresponds with the scale and significance of the effects that the activity may have on the environment.

Include in an attached Assessment of Effects (see Clauses 6 & 7 below)

ADDITIONAL INFORMATION REQUIRED IN SOME APPLICATIONS

- An application must also include any of the following that apply:
    - (a) if any permitted activity is part of the proposal to which the application relates, a description of the permitted activity that demonstrates that it complies with the requirements, conditions, and permissions for the permitted activity (so that a resource consent is not required for that activity under section 87A(1)):
    - (b) if the application is affected by section 124 or 165ZH(1)(c) (which relate to existing resource consents), an assessment of the value of the investment of the existing consent holder (for the purposes of section 104(2A)):

Clause 6: Information required in assessment of environmental effects

- (1) An assessment of the activity's effects on the environment must include the following information:
    - (a) if it is likely that the activity will result in any significant adverse effect on the environment, a description of any possible alternative locations or methods for undertaking the activity:
    - (b) an assessment of the actual or potential effect on the environment of the activity:
    - (c) if the activity includes the use of hazardous substances and installations, an assessment of any risks to the environment that are likely to arise from such use:
    - (d) if the activity includes the discharge of any contaminant, a description of—
        - (i) the nature of the discharge and the sensitivity of the receiving environment to adverse effects; and
        - (ii) any possible alternative methods of discharge, including discharge into any other receiving environment:
    - (e) a description of the mitigation measures (including safeguards and contingency plans where relevant) to be undertaken to help prevent or reduce the actual or potential effect:
    - (f) identification of the persons affected by the activity, any consultation undertaken, and any response to the views of any person consulted:
    - (g) if the scale and significance of the activity's effects are such that monitoring is required, a description of how and by whom the effects will be monitored if the activity is approved:
    - (h) if the activity will, or is likely to, have adverse effects that are more than minor on the exercise of a protected customary right, a description of possible alternative locations or methods for the exercise of the activity (unless written approval for the activity is given by the protected customary rights group).

(2) A requirement to include information in the assessment of environmental effects is subject to the provisions of any policy statement or plan.

(3) To avoid doubt, subclause (1)(f) obliges an applicant to report as to the persons identified as being affected by the proposal, but does not—

- (a) oblige the applicant to consult any person; or
- (b) create any ground for expecting that the applicant will consult any person.

CLAUSE 7: MATTERS THAT MUST BE ADDRESSED BY ASSESSMENT OF ENVIRONMENTAL EFFECTS

- (1) An assessment of the activity's effects on the environment must address the following matters:
    - (a) any effect on those in the neighbourhood and, where relevant, the wider community, including any social, economic, or cultural effects:
    - (b) any physical effect on the locality, including any landscape and visual effects:
    - (c) any effect on ecosystems, including effects on plants or animals and any physical disturbance of habitats in the vicinity:
    - (d) any effect on natural and physical resources having aesthetic, recreational, scientific, historical, spiritual, or cultural value, or other special value, for present or future generations:
    - (e) any discharge of contaminants into the environment, including any unreasonable emission of noise, and options for the treatment and disposal of contaminants:
    - (f) any risk to the neighbourhood, the wider community, or the environment through natural hazards or the use of hazardous substances or hazardous installations.

(2) The requirement to address a matter in the assessment of environmental effects is subject to the provisions of any policy statement or plan.

A2 APPENDIX 2 // Information requirements for subdivision

UNDER THE FOURTH SCHEDULE TO THE ACT:

- An application for a subdivision consent must also include information that adequately defines the following:
    - (a) the position of all new boundaries:
    - (b) the areas of all new allotments, unless the subdivision involves a cross lease, company lease, or unit plan:
    - (c) the locations and areas of new reserves to be created, including any esplanade reserves and esplanade strips:
    - (d) the locations and areas of any existing esplanade reserves, esplanade strips, and access strips:
    - (e) the locations and areas of any part of the bed of a river or lake to be vested in a territorial authority under section 237A:
    - (f) the locations and areas of any land within the coastal marine area (which is to become part of the common marine and coastal area under section 237A):
    - (g) the locations and areas of land to be set aside as new roads.

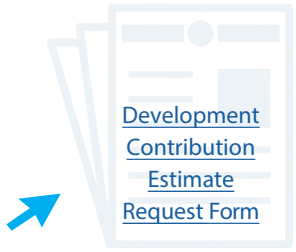
A3 APPENDIX 3 // Development Contributions

Will your resource consent result in a Development Contribution and what is it?

- A Development Contribution can be triggered by the granting of a resource consent and is a financial charge levied on new developments. It is assessed and collected under the Local Government Act 2002. It is intended to ensure that any party, who creates additional demand on Council infrastructure, contributes to the extra cost that they impose on the community. These contributions are related to the provision of the following council services:
    - Water supply
    - Wastewater supply
    - Stormwater supply
    - Reserves, Reserve Improvements and Community Facilities
    - Transportation (also known as Roading)

Click here for more information on development contributions and their charges

OR Submit an Estimate request *please note administration charges will apply



A4 APPENDIX 4 // Fast - Track Application

Please note that some land use consents can be dealt with as fast track land use consent. This term applies to resource consents where they require a controlled activity and no other activity. A 10 day processing time applies to a fast track consent.

If the consent authority determines that the activity is a deemed permitted boundary activity under section 87BA of the Act, written approval cannot be withdrawn if this process is followed instead.

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

A5 APPENDIX 5 // Naming of documents guide

While it is not essential that your documents are named the following, it would be helpful if you could title your documents for us. You may have documents that do not fit these names; therefore below is a guide of some of the documents we receive for resource consents. Please use a generic name indicating the type of document.

- Application Form 9
- Assessment of Environmental Effects (AEE)
- Record of Title
- Covenants & Consent Notice
- Affected Party Approval/s
- Landscape Report
- Ecological Report
- Engineering Report
- Geotechnical Report
- Wastewater Assessment
- Traffic Report
- Waste Event Form
- Urban Design Report

Land Use Consent Application

prepared for

DAN MURPHY & STEPHEN GREENING

359 Frankton Road, Queenstown

10 October 2024

Land Use Consent Application

prepared for:

DAN MURPHY & STEPHEN GREENING

359 Frankton Road, Queenstown

Novo Group Ltd
kim@novogroup.co.nz
PO Box 365, Christchurch 8140
P: (03) 365 5570
E: info@novogroup.co.nz
W: www.novogroup.co.nz

Document Date:	10 October 2024
Document Version/Status:	FINAL
Project Reference:	1319002
Project Manager:	Kim Seaton, Principal Planner
Prepared by:	Kim Seaton, Principal Planner
Reviewed by:	Tim Walsh, Senior Planner

Form 9: Application for Resource Consent
Under Section 88 of the Resource Management Act 1991

TO:	**The Queenstown Lakes District Council**
We:	Dan Murphy & Stephen Greening **('the applicant'), apply for the Land Use Consent Application described below.**

The activity to which the application relates (the proposed activity) is as follows:

- Establish two residential units with associated earthworks.

The proposed activities for which consent is sought will be undertaken in accordance with the details, information and plans that accompany and form part of the application, including the Assessment of Effects on the Environment attached.

The site at which the proposed activity is to occur is as follows:

- 359 Frankton Road, Queenstown, which is legally described as Lot 4 DP 540220. Refer to the Certificate of Title in **Appendix 1.**

The natural and physical characteristics of the site and any adjacent uses that may be relevant to the consideration of the application is set out in further detail within the details, information and plans that accompany and form part of the application, including the attached Assessment of Effects on the Environment ('AEE').

The full name and address of each owner or occupier (other than the applicant) of the site to which the application relates are as follows:

- Owners: Ciaron (Dan) Murphy, Mary Murphy and Aedeen Boadita-Comican, Stephen Greening, Leigh Greening and K & A Trustees Limited.
- Occupiers: The site is vacant.

There are no other activities that are part of the proposal to which this application relates.

No additional consents are required at this time in relation to this proposal.

I attach an assessment of the proposed activity's effect on the environment that—

(1) includes the information required by clause 6 of Schedule 4 of the Resource Management Act 1991; and

(2) addresses the matters specified in clause 7 of Schedule 4 of the Resource Management Act 1991; and

(3) includes such detail as corresponds with the scale and significance of the effects that the activity may have on the environment.

I attach an assessment of the proposed activity against the matters set out in Part 2 of the Resource Management Act 1991.

I attach an assessment of the proposed activity against any relevant provisions of a document referred to in section 104(1)(b) of the Resource Management Act 1991, including the information required by clause 2(2) of Schedule 4 of that Act.

I attach an assessment of the proposed activity against the resource management matters set out in the relevant planning documents.

I attach all necessary further information required to be included in this application by the district plan, the regional plan, the Resource Management Act 1991, or any regulations made under that Act.

Kim Seaton, Principal Planner **DATED:** 10 October 2024

Address for service:

Novo Group Ltd
PO Box 365
Christchurch 8140

Attention: Kim Seaton

021 662 315
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Address for Council fees:

Dan Murphy & Stephen Greening
50 Baroda Street, Wellington 6035

Attention: Dan Murphy

027 254 2251
ciaronmurphy@gmail.com

Assessment of Effects on the Environment (AEE)

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Appendices

Introduction

1. Land use consent is sought to establish two dwellings, with associated earthworks on the subject site.

2. Section 88 of the Resource Management Act 1991 ('the Act') sets out the particular requirements for persons making an application to a local authority for a resource consent. Section 88(2)(b) states that:

> "an application must be made in the prescribed form and manner; and include, in accordance with Schedule 4 of the Act, an assessment of environmental effects in such detail as corresponds with the scale and significance of the effects that the activity may have on the environment".

3. The following assessment is made in accordance with these requirements.

Site and Surrounding Environment

Site Particulars

Site Name	Parcel	Title(s)
359 Frankton Road, Queenstown	Lot 4 DP 540220 Area: 634m²	904999

Site and Surrounding Environment Description

4. As shown in the figure below, the subject site is situated on the south side of Frankton Road (SH6A), adjacent the Queenstown-Frankton cycle track ('Frankton Track') and Lake Wakatipu.

5. The property is steeply sloping towards the lake, with vehicular access by way of a sealed and formed Right of Way ('RoW') at the top of the site. The site is currently vacant and grassed. The site is subject to a Consent Notice, that is attached in **Appendix 1**.

6. The immediately surrounding environment is mixed in character, with existing residential dwellings to the north and undeveloped residential sites to the immediate north and east. The site to the west/southwest is a hotel (Oaks Queenstown Shores Resort). To the south, as noted above, is the Frankton Track, and the shores of Lake Wakatipu.

7. The RoW is accessed from Frankton Road, via the shared access with the Rees Hotel to the northeast.

8. There are no other notable features in the surrounding environment.

Figure 1: Aerial image of locality. Source: Toitū Te Whenua (LINZ)

The Proposal

9. This application seeks land use resource consent to undertake a development on the subject land, providing for two townhouse residential units in a duplex format, to be utilised for residential activities.

10. Both units are split over four levels, with four bedrooms and a double garage each. Access will be from the RoW at the top of the site.

11. Private outdoor living space and bin storage spaces are provided for each unit, with the outdoor living spaces directly accessible from the ground floor.

12. Application plans illustrating the proposal are included in **Appendix 2**, including proposed landscaping on site.

13. Details of the earthworks are provided in **Appendix 3**.

Statutory Context

National Environmental Standards

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

14. The Listed Land Use Register held by Otago Regional Council, and hazard records held by Queenstown Lakes District Council ('QLDC'), do not identify any history of actual or potential HAIL activities on the site. As such, the NES does not apply to this site.

Operative District Plan

15. All relevant rules in the Proposed District Plan are effectively operative. The provisions of the Operative District Plan are therefore not relevant to the proposal.

Proposed District Plan

16. The site is zoned High Density Residential Zone in the Proposed District Plan.

17. An assessment of the proposal's compliance with the applicable rules in the District Plan is set out in **Appendix 4**. Based on that assessment, resource consent is required in respect of the following matters:

25.4 Earthworks Rules – Activities		
Table 25.1 Earthworks Activities		
25.4.2 Earthworks that do not comply with the standards for the maximum total volume of earthworks in Table 25.2, except for earthworks covered by Rules 25.4.1A and 25.4.1B.	**RD**	Earthworks in excess of permitted volumes are proposed.
25.5 Earthworks Rules – Standards		
Table 25.3 Standards		
Nuisance effects, erosion, sediment generation and run-off		
Activity does not comply with rule 25.5.15	**RD**	The earthworks will not comply with Rule 25.5.15 The maximum depth of any cut shall not exceed 2.4 metres.
Activity does not comply with rule 25.5.16	**RD**	The earthworks will not comply with Rule 25.5.16 The maximum height of any fill shall not exceed 2 metres.
Setbacks from boundaries		
Activity does not comply with rule 25.5.18	**RD**	Earthworks will not comply with Rule 25.5.18.2 Earthworks supported by retaining walls.

Cleanfill		
Activity does not comply with rule 25.5.21	**RD**	More than 300m^3 of cleanfill will be transported from the site.
9.5 High Density Residential Zone Rules – Standards		
9.5.3.4 Maximum building height of 10m.	**D**	The units will exceed 10m in height.

Plan Variations

18. The QLDC publicly notified the Urban Intensification Variation on 24 August 2023. That variation proposes to retain the site as High Density Residential Zone, subject to Rule 9.5.3 (which the proposal complies with). The maximum height limit is proposed to extend to 16.5m (not withstanding Rule 9.5.3). Submissions have been lodged both opposing and supporting the proposed height limit. Hearings for the variation have not yet been held and the proposed height rules have no legal effect at this time.

Activity Status

19. Overall, land use consent is required for the proposal as a **discretionary activity** under the District Plan.

Resource Management Act 1991 - s95-s95E and s104-104D

20. In terms of notification considerations in sections 95A-95E of the Act the following matters are noted:

    (1) public notification is not requested by the applicant; and

    (2) there are no special circumstances necessitating public notification.

21. As a discretionary activity, the provisions in sections 104 and 104B direct the substantive determination of applications and the following sections of this AEE have regard to the relevant provisions referred to therein, including Part 2 of the Act.

Assessment of Actual and Potential Effects on the Environment

Permitted Baseline

22. Two-three residential units in a duplex or apartment format is a credible permitted baseline to assess the effects of the proposal. This residential density is permitted by the District Plan subject to compliance with:

    - A 7m maximum height limit, with height not exceeding the centreline of the nearest point of the road carriageway for SH6A;

- 70% building coverage with 20% permeable surfaces;
- Building setback of 2m from all boundaries (as the site does not have a road boundary);
- Sound insulation to meet the requirements of Rule 9.5.12.

23. This is relevant in assessing building dominance and shading effects in particular, and is considered further below.

Scope of Assessment

24. Notwithstanding the fully discretionary activity status, accounting for the rules requiring consent, the relevant effects warranting assessment are considered to relate to:

- Visual and amenity effects;
- Acoustic design; and
- Earthworks and geotechnical effects.

25. These matters are addressed in turn below.

Actual or Potential Effects

Visual and Amenity Effects

26. The activity status of this application derives from the height of the proposed units, which exceeds 10m. Considering first the overall design of the units, they will be of a high quality, and architecturally designed to provide visual interest and varied materiality. All façades have windows for visual interest and to avoid large blank façades, with the exception of the north elevation of the top level, which contains the garaging/garage door and entrance doors only. The lake-facing façade, in particular, has large amounts of glazing. That glazing will have the further benefit of providing for natural surveillance over the adjoining Frankton Track, albeit both existing vegetation (on public land by the track) and proposed landscaping (within the site) is intended to partially screen views of the units. The façades are well articulated, in particular the lake-facing façade and the rooflines. The colour palette is recessive, comprising dark colours. The steeply sloping nature of the site necessitates multi-level homes, whilst allowing adequate space for both hard and permeable landscaping, as indicated on the landscape plan in **Appendix 2**.

27. The following design elements are provided that are consistent with those specified in the QLDC Residential Design Guide (2021):

- large blank walls are avoided, except the north elevation of the top floor which will not be visible from the street;
- the quality of design is very high, with an interesting gabled roofline at a higher height than permitted. This is achieved without adversely affecting neighbouring properties or views;

- site coverage is low, comparative to the permitted coverage;
- accessible outdoor living space is provided at ground floor level;
- waste storage areas enclosed to screen from neighbouring properties.

28. The top level of the building when viewed from the RoW is, of necessity, dominated by the garaging. The necessity arises simply because of the steep topography of the site, which realistically does not allow for parking elsewhere on the site. A direct connection to Frankton Track is not proposed from the site, noting that the intervening land between the site and the track itself is steeply sloping and would require steps to be built in the public land to make a connection safe. It is beyond the scope of this application to make provision for such a connection. It is noted however that there is a public walkway connecting the application site's RoW to the Frankton Track, approximately 60m to the northeast of the site. The majority of glazing is on the south elevation of the units (as opposed to the north), reflecting their orientation towards the Lake. The site does not contain any existing trees or shrubs, and the landscaping proposed will therefore enhance the diversity and quality of planting on the site.

29. Turning then to the height exceedance and associated adverse effects, the infringement is best illustrated by Sheets A.09 (Height Plane Pre-fill) and A.10 (Height Plane Current), contained in **Appendix 2**. Sheet A.09 is the ground level from which the District Plan requires assessment, being the ground level that existed prior to earthworks occurring on the site under RM170567/RM181070. Those earthworks occurred under a separate and earlier land use consent from the subsequent subdivision (RM181542), and under the Proposed District Plan's definition of height, height must therefore be measured from original ground level. This in part contributes to the large protrusion through the 7m height plane, and further intrusion through the 10m height plane. When compared to an assessment against the current contours of the site, the building still protrudes through the height planes, but to a much lesser extent.

30. In regard building dominance and sunlight access, the steeply sloping nature of the site means that the excess height of the building is not experienced from the RoW or adjoining properties to the north/northwest. Section A.07 of **Appendix 2** indicates that while the roofline of the units protrudes through the 7m height plane when viewed from the RoW, the gable remains below the 10m height plane. The steep pitch of the gable roofs assists with providing visual interest at this location, mitigating against potential adverse effects of excess building height beyond 7m. **Appendix 2** also contains sun studies that contrast shade from the proposed building, with a "compliant" building. Those sun studies show less shading on the properties to the north under the proposed development than a compliant one, albeit the shading remains minimal to the north in either case.

31. By contrast, a greater level of intrusion through the height planes can be viewed from the west side of the property, and the adjoining Oaks Queenstown Shores Resort. When viewed from the west, the majority of the third floor of the westernmost unit protrudes through the 7m height plane, with a lesser extent also protruding through the 10m height plane. Two windows are located on the upper floors of the western façade, ensuring the façade does not present a large blank wall. However, the windows are not a dominant feature, which in turn ensures that potential adverse privacy effects, either to or from the proposed dwelling, are avoided.

32. In regards potential adverse shading/sunlight access, there are two notable features of the Resort building that serve to reduce sensitivity of the building. The first is that the area of land

between the Resort building and the shared property boundary contains only a pedestrian pathway and landscaped areas, i.e. not areas intended for lingering. This is illustrated in the photograph in Figure 2 below.

Figure 2: Oaks Queenstown Shores Resort Eastern Boundary Treatment

33. The second notable feature is that many of the windows on this façade appear to be shuttered, servicing either bedrooms or bathroom-type rooms, i.e. rooms where privacy is of greater concern to occupants than sunlight admission. For those units fronting the Lake, views and unscreened windows are oriented towards the Lake and away from the applicant's site. This is best viewed in Figure 3 below. The Resort unit rooms most likely to be sensitive to shading are those that can be seen centrally in Figure 2, which are not shuttered and contain "living" areas, as well as the rooftop deck areas visible in Figure 3. Potential impacts on those areas are considered now.

Figure 3: Oaks Queenstown Shores Resort Eastern Façade

34. The sun studies contained in **Appendix 2** illustrate:

- On 21 December, no additional shading reaches the Resort façade from the proposed building when compared to a compliant development;

- On 21 June, at 9:00am, the proposed building has marginally more shading of the top lake-fronting unit when compared to a compliant development. By midday, the proposed building has lesser shading effects than a compliant building. Any adverse effects experienced at 9:00am are therefore considered to be minimal and temporary only;

- In March/September, at 9:00am, the proposed development shades one additional "living" area on the eastern façade as compared to a compliant development. Given those "living" area rooms are occupied only on a temporary basis by transient visitors, the shading in early part of the day is not considered to be consequential to the enjoyment of those spaces. By midday, the proposed building has lesser shading effects than a compliant building. As with the June studies, any adverse effects experienced in the early part of the day are considered to be minimal and temporary only.

- At no point does the proposed development cause shading of the rooftop deck areas of the Resort, with the possible exception of one corner of the top lake-fronting roof deck at 9:00am on 21 June.

35. In summary, the potential shading or loss of sunlight effects of the proposed development when compared to a compliant built form are considered to be negligible.

36. From the eastern elevation, Sheet A.09 illustrates a lesser height plane intrusion than the western elevation. As with the western elevation, no adverse privacy effects are anticipated, noting there are no windows located within the roofline that protrudes through both the 7m and 10m height planes. The articulated architectural form and strong gable line of the roof provide an interesting and high quality building form, to assist with mitigating against potential adverse visual amenity or dominance effects from the proposed building. In regard shading, the sun studies indicate no additional shading of the property to the east will occur as a result of the proposed building when compared to a compliant building.

37. From Frankton Track, it is predominantly the rooflines that protrude through the 10m height plane, with the mezzanine/third floor protruding through the 7m height plane. In developing this proposal, the design and location of the proposed units were discussed with the QLDC Park and Reserves section. Those discussions resulted in the building design being altered to lower the building height and be setback further from the shared boundary with the Track. The gross floor area of the units was reduced at the same time. The most recent correspondence from Parks and Reserves (see **Appendix 5**), stated that '*the amended design through the reduction in the height, the materiality changes and the additional setback from the track are all positive in terms of reducing the bulk, dominance and overshadowing effects upon public users of the track. We do not have any further comments on this*.' The Oaks Queenstown Shores Resort building itself is a large, dominant building in this location, stepping up the slope from near the Frankton Track. The scale of the Resort building is illustrated in the renders contained in **Appendix 2**, notably sheets A.16 and, for comparison with the applicant's buildings, sheets A.13 and A.11. Sheet A.05 also provides a south elevation of the comparative building size. These plans assist with illustrating that the applicant's building is not notably large or dominant when viewed in the context of the Resort. With regard to shading, the sun studies illustrate no additional shading of the Track will occur when compared to a compliant building.

38. Overall, while the proposed residential units protrude through the height planes, potential building scale and dominance effects are considered to be adequately mitigated by the setback of the buildings from the lake-side property boundary, the interesting and varied architectural form, and by the context of the adjoining Resort buildings. There is sufficient variation in built form and space between the applicant's property and the Resort, to ensure the potential for adverse cumulative visual effects are avoided. In regard shading and loss of sunlight, potential adverse effects of the proposed units are considered to be minimal, such that potential adverse effects on adjoining persons and properties will be **less than minor** and **acceptable**.

Acoustic Design

39. In regard compliance with Rule 9.5.12 of the Proposed District Plan, an acoustic assessment has been undertaken by Acoustic Engineering Services Ltd (AES) **Appendix 6**, which confirms the proposed buildings are able to achieve the requirements of that rule. Specifically, the assessment confirms:

> From our analysis, maximum noise levels of 57 dB LAeq(24h) are expected incident on the most exposed facades of the proposed town[houses]. Provided that other buildings pursued on the project site are at the same height, or lower than the building proposal current to the date of this report, we therefore expect compliance with Queenstown Lakes Proposed District Plan, policy [rule] 9.5.12 Sound Insulation and Mechanical Ventilation will be fully achieved in all habitable spaces of the dwelling, with no further mitigation.

40. Based on that assessment, **no adverse acoustic effects** are expected to arise on the proposed residential units, nor reverse sensitivity effects on SH6A.

Earthworks and Geotechnical Effects

41. Given the steeply sloping topography of the site, a large volume of earthworks to a notable depth are required to establish the proposed units. The proposed earthworks are set out on the Earthwork Plan in **Appendix 3**. That Plan indicates deep cuts up to approximately 6.5m in depth centrally on the site, with a lesser amount of fill at the northwestern extent. Retaining is proposed in close proximity to property boundaries.

42. Two documents have been prepared to support the assessment of the earthworks proposal. The first is a draft Environmental Management Plan (EMP), prepared by Hewland Projects Limited, attached as **Appendix 7**. The EMP sets out the measures that will be undertaken to effectively control environmental effects during construction, including sediment and erosion control. With the implementation of the EMP, potential adverse environmental effects during construction will be appropriately managed and mitigated, including potential effects on the Lake.

43. The second document is a Geotechnical Report, prepared by Geosolve Ltd, attached as **Appendix 8**. That document concludes that the site is considered suitable for the proposed development from a geotechnical perspective. Further investigation and an updated geotechnical report is recommended at the time of detailed design/building consent (Section 5.8)[1]. A condition of consent can be imposed on the resource consent to reflect that recommendation. With the implementation of that recommendation, retaining walls and slope stability can be appropriately ensured, so that any geotechnical effects associated with the proposal can be mitigated, such that they will be **less than minor** and **acceptable**.

44. In regard the trucking of soil to and from the site, those works will be primarily restricted to the early stages of construction, and any effects associated with the heavy vehicle movements will be short term and temporary only.

45. In regard the effects of earthworks on landscape and visual amenity, the earthworks are only those required to establish the proposed residential units. No landscape or visual amenity effects are considered to arise from the earthworks, beyond what has been assessed above in respect of the buildings. Given the level of built development existing on adjoining sites to the west and north, and the density of development anticipated in the Residential High Density Zone, the landscape is considered well able to absorb the proposed landform changes.

46. The site is not known to have any notable cultural, heritage or archaeological values, noting the site has been subject to earthworks previously.

[1] Consent Notice 11892132.17 applying to the site, also requires specific geotechnical investigation.

47. In regard positive effects, the earthworks will enable residential building platforms to be established on the steeply sloping site.

48. Overall, the potential earthworks and geotechnical effects associated with the proposal are considered to be **less than minor** and **acceptable**.

Effects Conclusion

49. In summary, the potential adverse effects of the proposal are considered to be l**ess than minor** and **acceptable**, with effects able to be avoided or appropriately mitigated.

Notification Tests

50. Sections 95A and 95B set out the steps that must be followed to determine whether public notification or limited notification of an application is required. These steps are considered in the Tables below.

Table 1: Public notification tests

Public notification tests (section 95A)	
Step 1: Mandatory notification – section 95A(3)	
Has the applicant requested that the application be publicly notified?	No
Is public notification required under s95C (following a request for further information or commissioning of report)?	No
Is the application made jointly with an application to exchange reserve land?	No
Step 2: If not required by Step 1, notification is precluded if any of these apply – section 95A(5)	
Does a rule or NES preclude public notification for all aspects of the application?	No
Is the application a controlled activity?	No
Is the application a boundary activity?	No
Step 3: Notification required in certain circumstances if not precluded by Step 2 – section 95A(8)	
Does a rule or NES require public notification?	No
Will the activity have, or is it likely to have, adverse effects on the environment that are more than minor (refer to the preceding assessment of effects)?	No
Step 4: Relevant to all applications that don't already require notification – section 95A(9)	

Do special circumstances exist that warrant the application being publicly notified?	No

Table 2: Limited notification tests

Limited notification tests (section 95B)	
Step 1: Certain affected groups/persons must be notified – sections 95B(2) and (3)	
Are there any affected protected customary rights groups or customary marine title groups?	No
If the activity will be on, adjacent to, or might affect land subject to a statutory acknowledgement – is there an affected person in this regard?	No
Step 2: If not required by Step 1, notification is precluded if any of the following apply – section 95B(6)	
Does a rule or NES preclude limited notification for all aspects of the application?	No
Is this a land use consent application for a controlled activity?	No
Step 3: Notification of other persons if not precluded by Step 2 – sections 95B(7) and (8)	
Are there any affected persons under s95E, i.e. persons on whom the effects are minor or more than minor, and who have not given written approval (refer to the preceding assessment of effects)?	No
Step 4: Relevant to all applications – section 95B(10)	
Do special circumstances exist that warrant notification to any other persons not identified above?	No

51. Accounting for the conclusions in the tables above and in accordance with the provisions of section 95A and 95B, the application must not be publicly notified and must not be limited notified.

Relevant Provisions of Planning Instruments

The District Plan

52. The relevant objectives and policies of the PDP are found in Chapters 9 High Density Residential and 25 Earthworks.

53. With reference to Chapter 9, Objective 9.2.1 (and supporting policies) seeks '*high density housing development occurs in urban areas close to town centres, to provide greater housing*

diversity and respond to expected population growth'. The proposal is supportive of this objective and policies, providing for two residential units in the High Density Residential Zone.

54. Objective 9.2.2 seeks *'high density residential development provides a positive contribution to the environment through quality urban design'.* The proposal is consistent with that objective in that the proposed units are a high quality design. The units will achieve:

- a high level of visual interest with articulated façades;
- will overlook the Frank Track (public open space) but not be unduly visually dominant;
- achieve varied and modulated building mass, including the roof forms; and
- be well landscaped, towards the Lake frontage in particular, consistent with Policy 9.2.2.1.

55. The excess building height can be supported under Policy 9.2.2.2, through the quality of its design. The Residential Zone Design Guide 2021 has been considered, consistent with Policy 9.2.2.4.

56. Objective 9.2.3 seeks *'High density residential development maintains a minimum level of existing amenity values for neighbouring sites as part of positively contributing to the urban amenity values sought within the zone."* This, and the outcomes sought in supporting policies 9.2.3.1-9.2.3.3 are demonstrably achieved through adherence to yard setback and site coverage compliance, and ensuring that neighbouring properties are not unduly affected by shading or building dominance from the excess building height. Glazing is primarily focused towards the Lake view, away from neighbouring properties, assisting with minimising potential adverse privacy effects on neighbouring properties.

57. Regarding Objective 9.2.6 and supporting policies that seek to utilise existing infrastructure and minimising impacts on roading networks, the site is well located in proximity to an existing pedestrian connection to the Frankton Track. Frankton Road accommodates bus routes to the town centre, Frankton and the Airport. The site will be accessed via an existing RoW. The proposal is not inconsistent with these provisions.

58. Objective 9.2.7 seeks to '*Manage the development of land within noise affected environments to ensure mitigation of noise and reverse sensitivity effects."* Supporting Policy 9.2.7.1 requires new buildings '*for Activities Sensitive to Road Noise located close to any State Highway to be designed to provide protection from sleep disturbance and to otherwise maintain reasonable amenity values for occupants*.' The proposal will achieve the required sound insulation requirements, consistent with these provisions.

59. Regarding Chapter 25 Earthworks, Objective 25.2.1 seeks '*Earthworks are undertaken in a manner that minimises adverse effects on the environment, including through mitigation or remediation, and protects people and communities.*' Supporting policies include ensuring erosion, land instability and sediment generation is minimised (Policy 25.2.1.1), adverse effects of earthworks are managed to avoid inappropriate adverse effects (Policy 25.2.1.2), designing earthworks to recognise the constraints and opportunities of the site and environment (Policy 25.2.1.5), and ensuring infrastructure, buildings and the stability of adjoining sites is not adversely affected (Policy 25.2.1.6). For the reasons set out in the assessment of effects above, including the provision of a draft EMP and implementation of the recommendations of

the Geotechnical Report, the proposal is considered to be broadly consistent with these provisions. Policy 25.2.1.7 encourages '*limiting the area and volume of earthworks being undertaken on a site at any one time to minimise adverse effects on water bodies and nuisance effects of adverse construction noise, vibration, odour, dust and traffic effects*.' While a large volume of earthworks is proposed, those works are to provide for the foundations of the proposed units and cannot practically be staged. In regard to traffic movements generated by the earthworks, it is anticipated that the movements generated will not be of such a scale as to adversely affect the road or access safety, and amenity effects associated with the earthworks will be temporary only and not of a significant scale (Policy 25.2.1.7).

60. Overall, the proposal is considered to be consistent with the objectives and policies of the Proposed District Plan.

Other Statutory Planning Documents

Otago Regional Policy Statement

61. The Proposed District Plan gives effect to the Otago Regional Policy Statement ('ORPS') and based on the assessment provided above, it is concluded that the proposal is consistent with the ORPS to the limited extent that it is relevant. For completeness, it is noted that the proposal does not entail any matters of regional significance or issues that are specifically addressed in the ORPS.

Relevant Other Matters

Consultation

62. As noted above, consultation has been undertaken with the QLDC Parks and Reserves section during the development of this proposal. That consultation has resulted in changes to the proposal to address the concerns raised. A pre-application meeting was held on 29 February 2024 (PA240009), which has informed the development of this proposal. No other consultation is considered necessary.

Mitigation Measures

63. Mitigation measures are outlined above, including implementation of the Geotechnical Report's recommendations for further investigation and design at detailed design/building consent stage, and implementation of the draft EMP in final form, with the final EMP expected to be required as a condition of consent.

Consideration of Alternatives

64. The preceding assessment of effects shows that the proposal will not have any significant adverse effects on the environment. Therefore, an assessment of alternatives is not required.

Part 2 Matters

65. The Proposed District Plan is considered a valid, complete and certain planning document, with appeals on that document well progressed, to the point that all provisions relevant to this

proposal are effectively operative. It has already given substance to the principles in Part 2 of the Act as the plan was prepared in a manner that reflects Part 2, therefore no further assessment against Part 2 matters are required for this application (*R J Davidson Family Trust v Marlborough District Council* [2018] NZCA 316). While the Urban Intensification Variation is progressing, it does not undermine the certainty of the existing District Plan, insofar as any provisions the variation may introduce, will only relax the existing height restrictions on the site, not further constrain them.

66. Regardless, the proposed development is considered to recognise and provide for the relevant matters of Sections 6, 7 and 8 and to represent a sustainable management of the land resource and achieve the purpose of the Act.

Conclusion

67. In conclusion, the proposal is consistent with the purpose and principles of the Act in that it enables people to provide for their economic and social well-being, whilst maintaining and enhancing the quality and amenity of the local environment and avoiding adverse effects.

68. In terms of section 104, the proposal will be not contrary to the relevant provisions of the District Plan, and will have actual or potential effects on the environment which are no more than minor and consistent with the environmental outcomes envisaged by the relevant statutory planning framework.

69. Accordingly, it is concluded that consent should be granted to the activity on a non-notified basis in accordance with sections 104, 104B and Part 2 of the Act, subject to appropriate conditions in accordance with section 108.

Appendix 1: Record of Title

RECORD OF TITLE
UNDER LAND TRANSFER ACT 2017
FREEHOLD

Search Copy

R.W. Muir
Registrar-General
of Land

Identifier **904999**

Land Registration District **Otago**

Date Issued 19 April 2021

Prior References
OT400/55

Estate Fee Simple

Area 632 square metres more or less

Legal Description Lot 4 Deposited Plan 540220

Registered Owners

Ciaron Daniel Murphy, Mary Millier Murphy and Aedeen Boadita-Cormican as to a 1/2 share

Stephen James Greening, Leigh Suzanne Greening and K & A Trustees Limited as to a 1/2 share

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Interests

Appurtenant hereto is a right of way created by Easement Instrument 10390776.6 - 28.6.2016 at 4:07 pm

Appurtenant hereto is a right of way created by Easement Instrument 10374132.1 - 10.10.2016 at 11:56 am

Subject to a right (in gross) to convey water over part marked P on DP 540220 in favour of Queenstown Lakes District Council created by Easement Instrument 11892132.8 - 19.4.2021 at 6:25 pm

The easements created by Easement Instrument 11892132.8 are subject to Section 243 (a) Resource Management Act 1991

Subject to a right (in gross) to convey electricity over part marked P on DP 540220 in favour of Aurora Energy Limited created by Easement Instrument 11892132.9 - 19.4.2021 at 6:25 pm

The easements created by Easement Instrument 11892132.9 are subject to Section 243 (a) Resource Management Act 1991

Subject to a gas easement (in gross) over part marked P on DP 540220 in favour of Rockgas Limited created by Easement Instrument 11892132.10 - 19.4.2021 at 6:25 pm

Subject to a right (in gross) to convey telecommunications over part marked P on DP 540220 in favour of Chorus New Zealand Limited created by Easement Instrument 11892132.11 - 19.4.2021 at 6:25 pm

The easements created by Easement Instrument 11892132.11 are subject to Section 243 (a) Resource Management Act 1991

Subject to a right of way and a right to drain water over part marked A and P on DP 540220 created by Easement Instrument 11892132.12 - 19.4.2021 at 6:25 pm

Appurtenant hereto is a right of way created by Easement Instrument 11892132.12 - 19.4.2021 at 6:25 pm

The easements created by Easement Instrument 11892132.12 are subject to Section 243 (a) Resource Management Act 1991

Subject to a right to drain water and sewage over part marked P on DP 540220 created by Easement Instrument 11892132.13 - 19.4.2021 at 6:25 pm

Land Covenant in Covenant Instrument 11892132.14 affecting part marked A and P on DP 540220 - 19.4.2021 at 6:25 pm

Land Covenant in Covenant Instrument 11892132.15 - 19.4.2021 at 6:25 pm

11892132.16 Encumbrance to Lakeshore Management Limited - 19.4.2021 at 6:25 pm

11892132.17 Consent Notice pursuant to Section 221 Resource Management Act 1991 - 19.4.2021 at 6:25 pm

View Instrument Details

Instrument No	11892132.17
Status	Registered
Date & Time Lodged	19 April 2021 18:25
Lodged By	Cunninghame, Haydon Boyce
Instrument Type	Consent Notice under s221(4)(a) Resource Management Act 1991

Affected Records of Title	Land District
904996	Otago
904997	Otago
904998	Otago
904999	Otago
905000	Otago

Annexure Schedule Contains 3 Pages.

Signature

Signed by Haydon Boyce Cunninghame as Territorial Authority Representative on 19/04/2021 06:22 PM

*** End of Report ***

IN THE MATTER of Lots 1 - 6 being a Subdivision of Lots 1 & 2 DP 10647, Sections 3, 5 & 6 SO 401190, Lot 4 DP 8984 & Lot 2 DP 381301

AND

IN THE MATTER of Resource Consent RM181542 Queenstown Lakes District Council

---

CONSENT NOTICE PURSUANT TO SECTION 221 OF THE RESOURCE MANAGEMENT ACT 1991

BACKGROUND

A. The Robertson Family Trust has applied to the Queenstown Lakes District Council (*Council)* pursuant to provisions of the Resource Management Act 1991 for its consent to subdivide land comprised and described in Records of Title OT400/55, OT2D/985, OT3A/312, 325737, 463146, 463147, 463148 (Otago Registry).

B. Council has granted subdivision consent (RM181542) to the proposed subdivision subject to certain conditions which are required to be complied with on a continuing basis by the owner of the land from time to time being those conditions set out in this Consent Notice.

OPERATIVE PART

The following conditions pertaining to this Consent Notice are to be registered against the titles of the following allotments:

Lot 1 DP 540220 comprised in Record of Title 904996
Lot 2 DP 540220 comprised in Record of Title 904997
Lot 3 DP 540220 comprised in Record of Title 904998
Lot 4 DP 540220 comprised in Record of Title 904999
Lot 5 DP 540220 comprised in Record of Title 905000

Conditions

The following condition shall apply to the Lots specified in Schedule 1:

(a) Prior to any construction work (other than work associated with geotechnical investigation), the owner for the time being shall submit to Council for certification specific engineering design and geotechnical assessment for foundations to comply with the requirements set out in Schedule 1 together with the Schedule 2A Certificate and Geotechnical Completion Report prepared by RDA Consulting dated 31 August 2020, Reference: 50860. All such measures shall be implemented prior to occupation of any building.

DATED this 24th day of September 2020

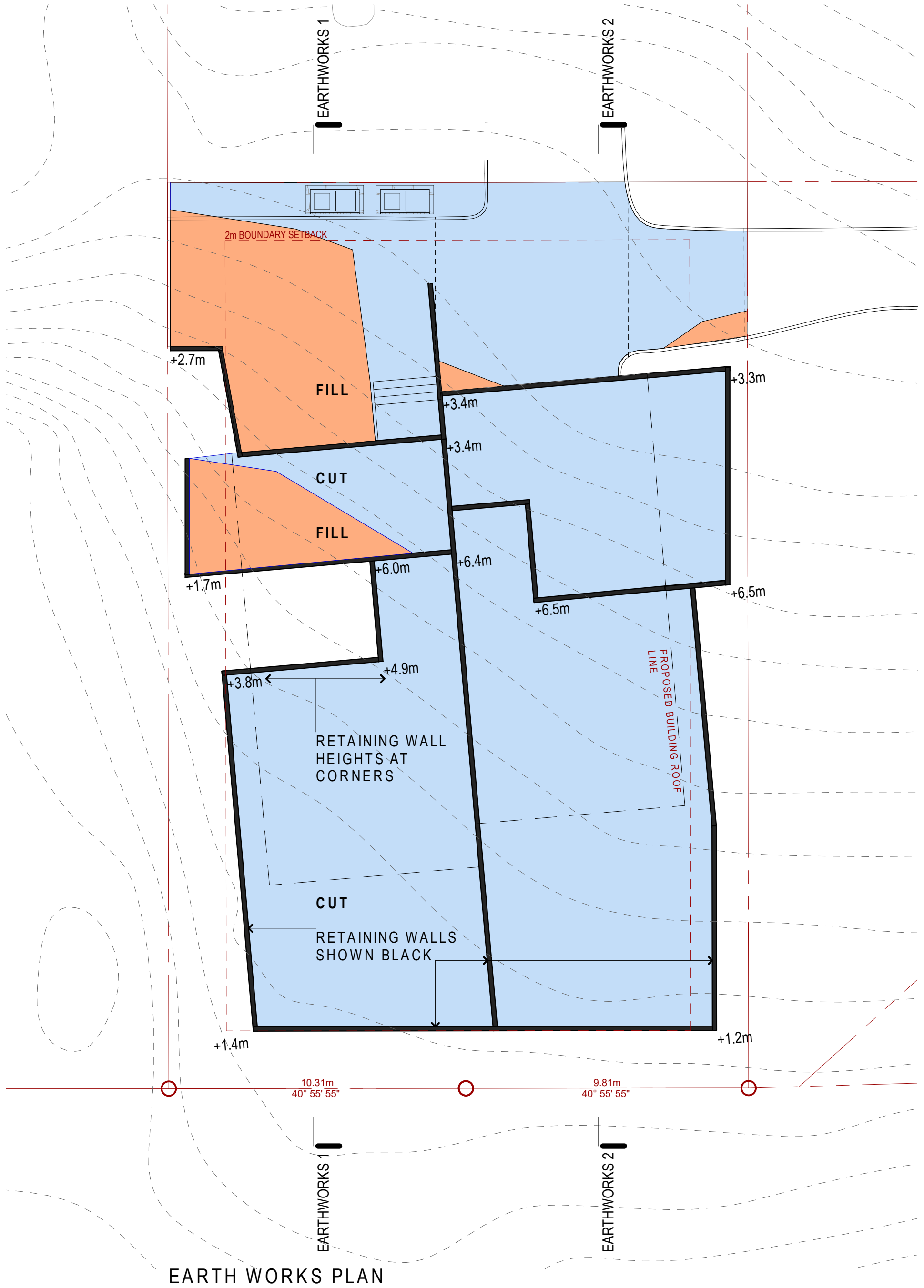
SIGNED for and on behalf of
QUEENSTOWN LAKES DISTRICT COUNCIL under delegated authority by its Team Leader – Subdivision, Development Contributions, & Property

Alex John Dunn

Schedule 1

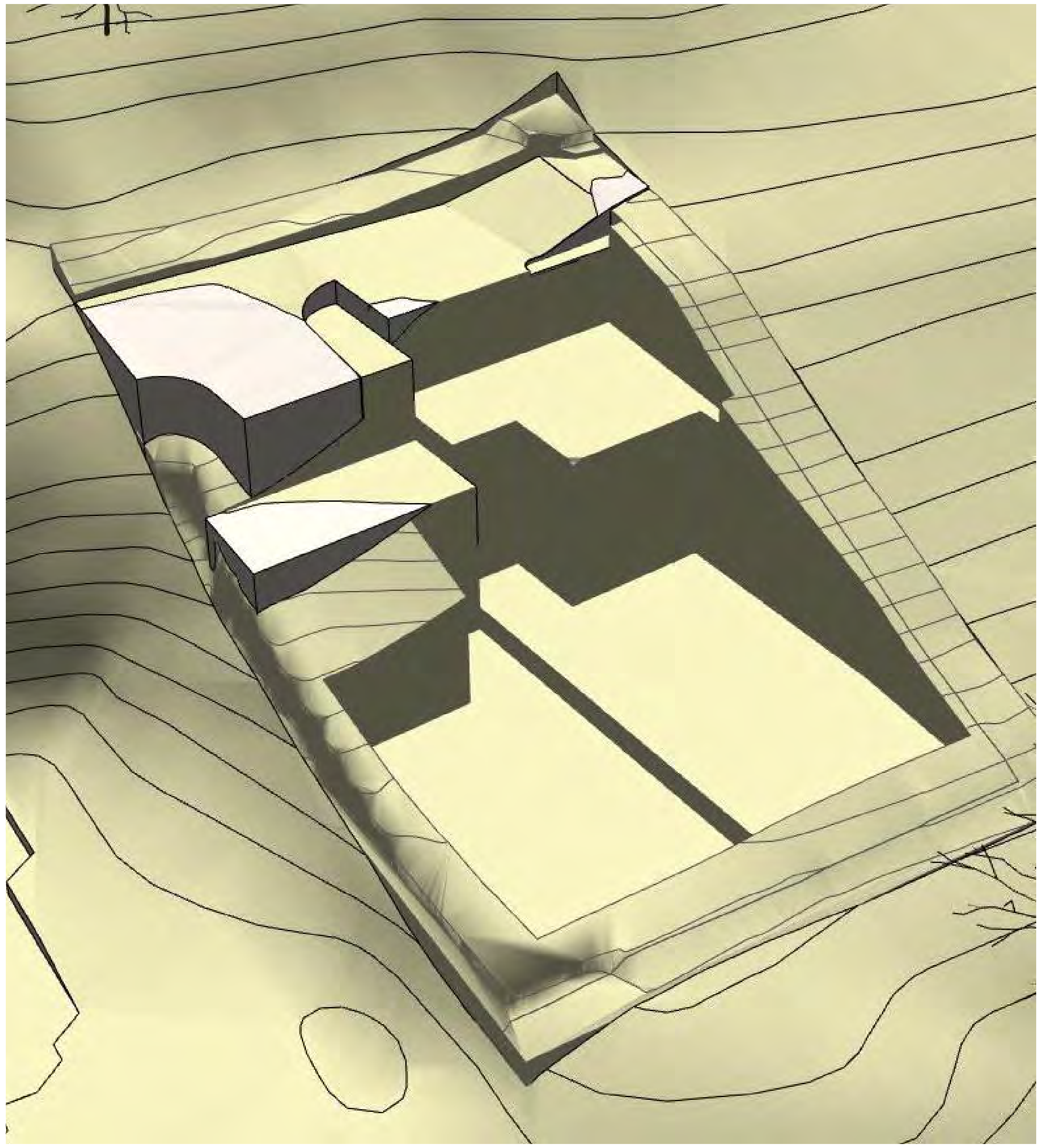
Lot	Schedule 2A Conditions for Future Development
Lot 1	A gabion faced, Terramesh reinforced earth wall is constructed on Lot 1. Any excavation in the vicinity of this wall and particularly within the wall reinforcing zone described in the Geotechnical Completion Report prepared by RDA Consulting dated 31 August 2020 (RDA Consulting Reference 50860) shall be designed and overseen by a qualified and experienced geotechnical engineer who shall take the soil parameters and the wall design described in the Geotechnical Completion Report into account.
Lots 2 & 3	Specific geotechnical engineering and design assessment of foundation and retaining elements shall be made by a qualified and experienced geotechnical engineer where it is noted in the Geotechnical Completion Report prepared by RDA Consulting dated 31 August 2020 (RDA Consulting Reference 50860) that soil bearing capacity is low, or uncontrolled fill has been placed, or where excavations over 2m high are proposed.
Lot 4	Specific geotechnical engineering and design assessment of foundation and retaining elements shall be made by a qualified and experienced geotechnical engineer where it is noted in the Geotechnical Completion Report prepared by RDA Consulting dated 31 August 2020 (RDA Consulting Reference 50860) that soil bearing capacity is low, or uncontrolled fill has been placed, or where excavations over 2m high are proposed or where there is potential for differential settlement. Design of any elements closer than 5m from the retaining walls along the west (Oaks-Shores) or south (lake) boundaries, which have not been designed for any surcharge, shall reflect the Terramesh reinforced wall design described in the Geotechnical Completion Report.
Lot 5	Specific geotechnical engineering and design assessment of foundation and retaining elements shall be made by a qualified and experienced geotechnical engineer where it is noted in the Geotechnical Completion Report prepared by RDA Consulting dated 31 August 2020 (RDA Consulting Reference 50860) that soil bearing is low or where excavations over 2m high are proposed.

Appendix 3: Earthworks Plan

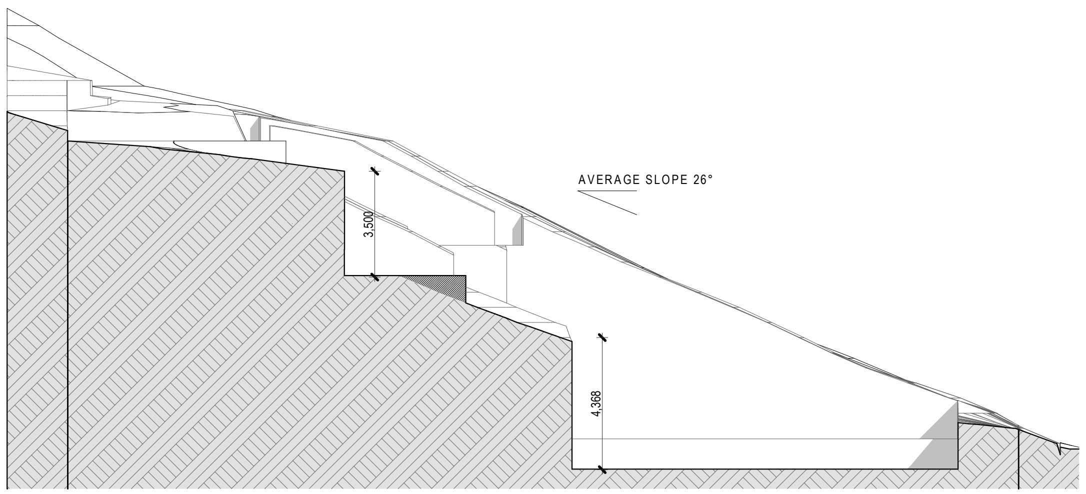


EARTH WORKS PLAN

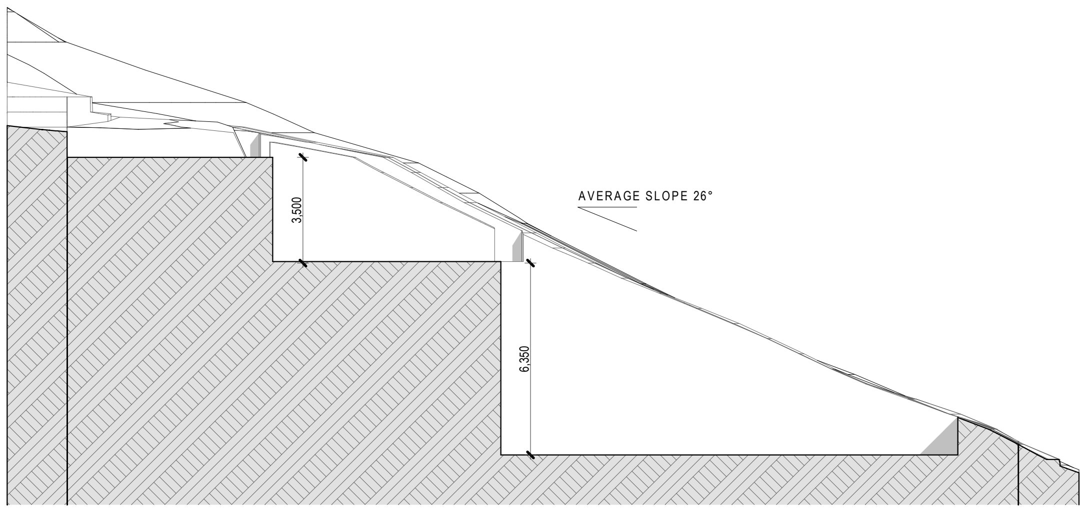
CUT VOLUME = 1,195m³
FILL VOLUME = 83m³



EARTH WORK SITE 3D



EARTH WORKS 1 SECTION



EARTH WORKS 2 SECTION

PN-391

awarchitects

LEVEL 1, 190 ST ASAPH ST, CHRISTCHURCH NZ
+64 3 390 0488 WWW.AWARCHITECTS.CO.NZ

TOWNHOUSES
FRANKTON ROAD

07.12.23 PRELIMINARY ISSUE
21.06.24 RESOURCE CONSENT ISSUE

RESOURCE CONSENT ISSUE
NOT TO BE USED UNTIL ENDORSED FOR BUILDING CONSENT BY QLDC. DO NOT SCALE DRAWING. CONTRACTOR TO VERIFY ALL DIMENSIONS PRIOR TO COMMENCING WORK

SHEET : EARTHWORKS
SHEET # : A.08
SCALE : 1:181.82, 1:250 @ A3
DATE : 16/08/24

Appendix 4: Compliance Assessment

Planning Considerations

1. High Density Residential Zone
2. Urban Growth Boundary
3. Subject to Rules 9.5.1.3 and 9.5.3.3
4. Threatened Environments Classification 2012 - Criteria 10-20% left

Rules Assessment – Proposed Queenstown Lakes District Plan

High Density Residential

High Density Residential Zone		
9.4.3 Residential Unit comprising three or less per site	The proposal will have two units.	Permitted
9.5.3 Building Height - sloping sites Queenstown and Wanaka 9.5.3.1 A height of 7m, except as specified in Rules 9.5.3.2, 9.5.3.3 and 9.5.3.4.	The units will exceed 7m in height, see 9.5.3.4.	Refer 9.5.3.4
9.5.3.2 Immediately west of the Kawarau Falls Bridge the maximum building height shall be 10m provided that in addition no building shall protrude above a horizontal line orientated due north commencing 7m above any given point along the required boundary setbacks at the southern zone boundary.	n'/a	n/a
9.5.3.3 Within the area specified on the **District Plan web mapping application** on the south side of Frankton Road (SH6A), the highest point of any building shall not exceed the height above sea level of the nearest point of the road carriageway centreline	The units will be below this level at their highest point.	Complies
9.5.3.4 Maximum building height of 10m.	The units will exceed 10m in height.	**Discretionary**
9.5.5 Building coverage 9.5.5.1 A maximum of 70% site coverage	Coverage will be approximately 35%	Complies
9.5.6 Recession plane	Does not apply.	n/a

9.5.6.2 No recession plane for sloping sites.		
9.5.7 Landscaped permeable surface coverage At least 20% of site area shall comprise landscaped (permeable) surface.	The proposal will comply with this standard (permeable surfaces will be a minimum of 150m^3/23% of GSA, 28% NSA	Complies
9.5.8 Building Length The length of any building facade above the ground floor level shall not exceed 30m.	The buildings will be 15m in length.	Complies
9.5.9 Minimum boundary setbacks 9.5.9.1 All boundaries 2 metres except for State Highway road boundaries where the minimum setback shall be 4.5m.	The buildings will meet these setbacks.	Complies
9.5.9.2 Garages shall be at least 4.5m back from a road boundary.	The garages access a right of way, not a road.	Complies
9.5.10 Waste and Recycling Storage Space 9.5.10.1 Residential activities of three units or less shall provide, a minimum of 2m² waste and recycling storage per residential unit or flat.	Two bin enclosures will be provided, 2m^2 each in area.	Complies
9.5.10.2 Waste and recycling bins shall be: a. Located where it is easy to manoeuvre for kerbside collections and avoid impeding vehicle movements within and through the site; and b. Not directly visible from adjacent sites, roads and public spaces; or c. Screened with materials that are in keeping with the design of the building.	The bin enclosures will be screened with materials in keeping with the design of buildings. The enclosures will ensure that the bins themselves are not directly visible from adjacent sites, roads or public spaces. The bins are in a location that will not impede vehicle movements (sitting outside the existing formed accessway kerb), and in a position with ready access to the right of way.	Complies
9.5.11 Lighting and Glare 9.5.11.1 All exterior lighting shall be directed downward and away from adjacent sites and roads. 9.5.11.2 No activity on any site shall result in greater than a 3.0 lux spill (horizontal or vertical) of lights onto any other site measured at any point inside the boundary of the other site.	Any exterior lighting shall be designed and positioned to meet this standard.	Complies
9.5.12 Sound and mechanical ventilation For buildings located within 80m of a State Highway.	Demonstration of compliance, by a suitably qualified person, is attached in **Appendix 6**	Complies

Any residential buildings, or buildings containing an Activity Sensitive to Road Noise, and located within 80m of a State Highway shall be designed to achieve an Indoor Design Sound Level of 40dB LAeq24h. Compliance with this rule can be demonstrated by submitting a certificate to Council from a person suitably qualified in acoustics stating that the proposed construction will achieve the internal design sound level.		
9.5.13 Building restriction area No building shall be located within a building restriction area as identified on the **District Plan web mapping application**.	n/a the site is not within a building restriction area.	n/a
9.5.14 Flood risk The construction or relocation of buildings with a gross floor area greater than $20m^2$ and having a ground floor level less than: 9.5.14.1 LR 312.0 masl at Queenstown and Frankton.	The buildings are located above this level (at approximately 327masl according to the 'Contours Wakatipu 1m 2021' mapping resource)	Complies

25. Earthworks

25.4 Rules – Activities		
Table 25.1 Earthworks Activities		
25.4.2 Earthworks that do not comply with the standards for the maximum total volume of earthworks in Table 25.2, except for earthworks covered by Rules 25.4.1A and 25.4.1B.	**RD**	Earthworks in excess of permitted volumes are proposed.
25.5 Rules – Standards		
Table 25.2 Maximum Volume		
25.5.1 Arrowtown Residential Historic Management Zone, Arrowtown Town Centre Zone, Open Space and Recreation Zones $100m^3$	**N/A**	
25.5.2 Heritage Landscape Overlay Area, Heritage Precinct, Outstanding Natural Feature	**N/A**	

Except for the following parcel of land within the Clutha/Mata Au: i. Lot 6 DP 325795 held in Record of Title 104103. The maximum earthworks volume for Lot 6 DP 325795is 1000m^3. 10m^3		
25.5.3 Lower Density Suburban Residential Zone, Medium Density Residential Zone, High Density Residential Zone, Waterfall Park Zone, Settlement Zone 300m^3	**Infringes**	A cut volume of 1,195m^3 and a fill volume of 83m^3 is proposed. Refer **Appendix 3**
Table 25.3 Standards		
Nuisance effects, erosion, sediment generation and run-off		
25.5.11 Earthworks over a contiguous area of land shall not exceed the following area: 25.5.11.1 2,500m^2 where the slope is 10° or greater. 25.5.11.2 10,000m^2 where the slope is less than 10°. 25.5.11.3 2,500m^2 at any one time for the construction of a trail.	**Complies**	The site is less than 2,500m^2.
25.5.12 Erosion and sediment control measures must be implemented and maintained during earthworks to minimise the amount of sediment exiting the site, entering water bodies, and stormwater networks.	**Complies**	ESCP measures will be undertaken, per the Environmental Management Plan attached in **Appendix 7**.
25.5.13 Dust from earthworks shall be managed through appropriate dust control measures so that dust it does not cause nuisance effects beyond the boundary of the site	**Complies**	ESCP measures will be undertaken, per the Environmental Management Plan attached in **Appendix 7**.
25.5.14 Earthworks that discovers any of the following: 25.5.14.1 kōiwi tangata (human skeletal remains), wāhi taoka (resources of importance), wāhi tapu (places or features of special significance) or other Māori artefact material, or 25.5.14.2 any feature or archaeological material that predates 1900, or 25.5.14.3 evidence of contaminated land (such as discolouration, vapours, landfill material, significant odours), that is not provided for by the	**Complies**	Accidental discovery protocols will be followed.

Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations 2011, any resource consent or other statutory authority, shall comply with the standards and procedures in Schedule 25.10 'Accidental Discovery Protocol'.		
25.5.15 The maximum depth of any cut shall not exceed 2.4 metres. 25.5.15.1 This rule shall not apply to roads. 25.5.15.2 The maximum depth of any cut for trails shall not exceed 1.5 metres.	**Infringes**	The maximum depth of cut will exceed 2.4m (approx. 6.5m) refer **Appendix 3**
Activity does not comply with rule 25.5.15	**RD**	The earthworks will not comply with Rule 25.5.15 The maximum depth of any cut shall not exceed 2.4 metres.
25.5.16 The maximum height of any fill shall not exceed 2 metres. 25.5.16.1 This rule shall not apply to roads and to the backfilling of excavations. 25.5.16.2 The maximum height of any fill for trails shall not exceed 1.5 metres.	**Infringes**	The maximum depth of fill will exceed 2m (approx. 2.7m), refer **Appendix 3.**
Activity does not comply with rule 25.5.16	**RD**	The earthworks will not comply with Rule 25.5.16 The maximum height of any fill shall not exceed 2 metres.

25.5.17 Earthworks for farm tracks and access ways in the following Zones and Activity Areas shall comply with standards 25.5.17.1 to 25.5.17.3:
• Rural Zone
• Wakatipu Basin Rural Amenity Zone
• Gibbston Character Zone
• Jacks Point Zone Activity Areas:
  • Open Space Landscape
  • Open Space Golf
  • Open Space Amenity
  • Homesite
  • Education
  • Lodge
25.5.17.1 No farm track or access way shall have an upslope cut or
	N/A	

batter greater than 1 metre in height, except on land below 750m asl: a. This may be exceeded for 10% or less of the total track length to a maximum height of 2 metres: and b. Any cut or batter exceeding 1 metre in height shall not have a continuous length of more than 70 metres, and shall be limited to two exceedances of 70 metres per kilometre. 25.5.17.2 All cuts and batters shall not be greater than 65 degrees. 25.5.17.3 The maximum height of any fill shall not exceed 2 metres.		
Setbacks from boundaries		
25.5.18 Earthworks greater than 0.5 metres in height or depth shall be set back from the site boundary the following minimum distances:		
25.5.18.2 Earthworks supported by retaining walls: a. Cut or fill supported by a retaining wall must be setback a distance at least equal to the height of the retaining wall; b. Cut and fill equal to or less than 0.5m in height is exempt from this rule. Refer to Interpretive Diagrams 25.6 and 25.7 located within Schedule 25.9.	**Infringes**	Retaining walls will not achieve these setback requirements. Refer **Appendix 3**.
Activity does not comply with rule 25.5.18	**RD**	Earthworks will not comply with Rule 25.5.18.2 Earthworks supported by retaining walls.
Water bodies		
25.5.19 25.5.19.1 Earthworks within 10m of the bed of any water body, or any drain or water race that flows to a lake or river, shall not exceed 5m3 in total volume, within any consecutive 12-month period. 25.5.19.2 Within 10m of the bed of any water body, or any drain or water race that flows to a lake or river, earthworks for maintenance or reinstatement of existing water take structures, undertaken on up to two occasions within any consecutive 12-month period, on each occasion shall not exceed 10m3 in total volume.	**Complies**	No earthworks will occur within 10m of a waterbody.

These rules shall not apply to: a. Any artificial water body (watercourse, lake, pond or wetland) that does not flow to a lake or river, including Lake Tewa within the Jacks Point Zone; or b. Maintenance and repairing of existing hazard protection structures in and around a water body; or c. Earthworks to clear debris affecting existing structures including water intakes; or d. Earthworks for the removal and deposition of material deposited by a natural hazard event.		
25.5.20 Earthworks shall not be undertaken below the water table of any aquifer, or cause artificial drainage of any aquifer.	**Complies**	No earthworks will occur below water table.
Cleanfill		
25.5.21 No more than 300m³ of Cleanfill shall be transported by road to or from an area subject to Earthworks. Discretion is restricted to the matters in 25.7.1.3, 25.7.1.7, and 25.7.1.9.	**Infringes**	In excess of 300m^3 cleanfill will require removal from the site.
Activity does not comply with rule 25.5.21	**RD**	More than 300m^3 of cleanfill will be transported from the site.

29. Transport

29.4 Rules – Activities	
Table 29.1 Transport related activities outside a road	
29.4.1 Activities that are listed in this Table as permitted (P) and comply with all relevant standards in Table 29.3 in this Chapter.	**P**
29.4.3 Parking for activities listed in Table 29.4 and Table 29.5.5, other than where listed elsewhere in this table	**P**

29.5 Rules - Standards for activities outside roads

Table 29.3 - Standards for activities outside roads

PARKING AND LOADING

29.5.1 Location and Availability of Parking Spaces

a. Any parking space required by Table 29.4 or loading space shall be available for staff and visitors during the hours of operation and any staff parking required by this rule shall be marked as such. b. No parking space required by Table 29.4 shall be located on any access or outdoor living space required by the District Plan, such that each parking space required by Table 29.5 shall have unobstructed vehicular access to a road or service lane, except where tandem parking is specifically provided for by Rule 29.5.8. c. Parking spaces and loading spaces may be served by a common manoeuvring area (which may include the installation of vehicle turntables), which shall remain unobstructed. d. Some or all coach parking required by Table 29.4 in relation to visitor accommodation activity may be provided off-site	**N/A**	No parking spaces required by Table 29.4.

29.5.2 Size of Required Parking Spaces and layout

a. All provided parking spaces and associated manoeuvring areas are to be designed and laid out in accordance with the Car Parking Layout requirements of Table 29.7 and Diagram 3 (car space layouts) of Schedule 29.2. This standard does not apply to parking, loading and associated access areas for Ski Area Activities in the Ski Area Subzone.	**N/A**	As parking is provided within garages, Rule 29.5.7 is assumed to be the relevant standard for parking layout.

29.5.7 Residential Parking Space Design

a. The minimum width of the entrance to a single garage shall be no less than 2.4 m. b. The minimum length of a garage shall be 5.5m. c. Where a car space is proposed between a garage door and the road boundary, the minimum length of this car space shall be 5.5m. d. Where onsite manoeuvring is required, the minimum manoeuvring area between the road boundary and the garage entrance	**Complies**	The proposed garages will be approximately 6.6m in depth (excluding dedicated storage areas), and 5.5m in width. The garage door will not adjoin a road boundary.

	shall be designed to accommodate a B85 design vehicle.	
e.	Where two parking spaces are provided for on a site containing only a single visitor accommodation unit or a single residential unit, which may also include a single residential flat, the parking spaces may be provided in tandem.	

Appendix 5: Park and Reserves Correspondence

From: Ciaron
To: Kim Seaton
Subject: Fwd: Request for feedback.
Date: Monday, 27 May 2024 12:14:26 pm

Sent from my iPhone

Begin forwarded message:

From: Parks Planning <parksplanning@qldc.govt.nz>
Date: 27 May 2024 at 12:11:04 PM NZST
To: Ciaron <ciaronmurphy@gmail.com>, Parks Planning <parksplanning@qldc.govt.nz>
Cc: Stephen Geotechnical <steve@1geotechnical.co.nz>
Subject: RE: Request for feedback.

Kia ora Dan and Steve

Thanks for taking the time to have a look at your design and keep us updated. The amended design through the reduction in the height, the materiality changes and the additional setback from the track are all positive in terms of reducing the bulk, dominance and overshadowing effects upon public users of the track. We do not have any further comments on this. When you lodge your resource consent application, it will be referred to Parks & Reserves for comment and this feeds into the Consent teams assessment of the proposal.

Removal of trees and vegetation within the Council reserve land is generally not supported. However, if this is proposed for a specific reason you will need to complete a Tree Works Application: www.qldc.govt.nz/services/environment-and-sustainability/trees

Please let us know if you have any further queries.

Regards
Amanda Leith

From: Ciaron <ciaronmurphy@gmail.com>
Sent: Friday, May 24, 2024 3:33 PM
To: Parks Planning <parksplanning@qldc.govt.nz>
Cc: Stephen Geotechnical <steve@1geotechnical.co.nz>
Subject: Request for feedback.

Dear Sophie,

Please find enclosed our response to your previous email where you asked us to address the following 4 points.

1.The shadowing plans do not make the compliant and proposed scenarios very clear to us. Please can a simple side by side comparison version of the plans be provided?
2. The renders of the house design are difficult to assess from our perspective as they exclude important context including the actual trees present at the site, the neighbouring hotel (including the retaining wall visible from the track) and surrounding buildings. Please can an updated version be provided?
3. Were alternative designs considered?
4. We acknowledging this is a pre-app, however, have cumulative effects on the track been considered?

Please find attached ***240522_Frankton_For QLDC Parks_RevD***. This differs from the previous proposal (***240415_Frankton_For QLDC Parks_RevC.pdf)*** with the following revisions in response to Sophie's comments

1. Shadow Plans

Refer sheets ***A.13 - A.21_SOLAR STUDIES*** showing by side comparisons. The drawings now clearly define effects of proposed and compliant shading scenarios.

2. Renders

Refer sheets ***A.07_3D VIEW TRACK WEST, A.08 - A.11_3D VIEW TRACK EAST*** which more accurately define and now show, design, trees present including foliage fronting site, positioning of hotel and associated tracks. These render have been documented as " actual" and not "estimated" rendering taken from video footage of the site, google maps, and photos attained.

An additional sheet ***A.12_3D VIEW TRACK OAKS*** has been included to show the visual impact of the Oaks on the Track, where there is not bank to mitigate the continuous bulk.

3. Alternative Designs Considered

We only had in-depth designs for the plan originally proposed.

We have subsequently held extensive meetings with our Architect, engineer, planner, quantity surveyor and landscape designer to provide this reworked iteration of the design which we hope you will consider favorably.

The design brief has been changed to "**no visual pollution**" and in all aspects now minimizes the designs alternatives and maximizes the setbacks that can be achieved with this design from the walking track.

In summary, the design constraints from the top of the site that are compliant require the vehicle access to have a maximum grade whether a gradient up or down into the garage i.e. how steep the driveway is able to be designed at. This has been the starting point of the design alternative.

Garages are required due to no parking allowed on the access road. The Architect has maximised the entrances and brought them as close to the access way and at the maximum angle to allow entry to the garages

4. Effects on Track - Design Changes

This functional change of the building has now allowed the northwest dwelling referred to as Unit 1 "The Queenstown Dwelling" to be lowered by **2m** and pushed back into the property **1.4m**. The North eastern dwelling, Unit 2 referred to as “The Airport Dwelling" has also been lowered by **0.5m** and has been pushed back into the boundary **1m.**

This has led to the access to the dwellings being right on the maximum allowable gradient limits from a planning and design persoective.

The compromise in location and height have kept the structure at its core form and function but have reduced the GFA size by **56m2**.

The design brief now adopted has in effect reduced the height intrusion dramatically with the worst position now being at **1.73 m** through the 10m height restriction. We add that as the shadowing in drawings ***A.13 - A.21_SOLAR STUDIES*** as attached shows only a small percentage of the dwelling on the southwestern side intrudes with a vast majority of the dwelling being under the 10m height restriction.

Please note:

1. The interpretive design constraints for height have been taken from the original ground heights pre subdivision and note actual heights as per levels on site as at today. This has in fact created a **1.15m** height issue regarding contours that also worsen the effects . The attached plan ***A.05_HEIGHT PLANE CURRENT*** shows the dwelling intrusions if this contouring detail were adopted by way of original ground verses actual.

2. With respect to another alternative design, several bulk and location alternatives have been undertaken however all require the garaging at the top to be as it is with a long angled roof and terrace intrusions that are more present and noticeable from the track area, and don't serve the site as effectively as the current design brief.

3. Other actions undertaken to minimize the effect of the building include the use of green glass and muted color pallet that will allow the building to blend in with the surroundings with reflected views and subtle privacy balconies being the mainstay of the design.

4. In regards to the cumulative impact of our housing plan proposal on the walking track in Queenstown: We hope that the additional costs associated with the redesign and significant additional excavation required in this revised proposal demonstrates our desire to create an equitable outcome for all concerned.

5.The dwellings are now considerably further back from the track when compared to the adjoining Oaks Hotel complex.

Should you require any further information please do not hesitate to reach out.

Dan & Steve

Appendix 6: Acoustic Memo

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Wellington +64 4 890 0122
Christchurch +64 3 377 8952

File Ref: AC24216 – 02 – R1

2 August 2024

Dan Murphy
50 Baroda Street
Khandallah
WELLINGTON

Email: ciaronmurphy@gmail.com

Dear Dan,

Re: Proposed residential townhouses, 359 Frankton Road, Queenstown
Traffic noise review

Acoustic Engineering Services (AES) has been engaged to provide an acoustic assessment for the proposed residential townhouses to be located at 359 Frankton Road, in Queenstown. At the date of this report, the proposal includes two, four storey units, each with three bedrooms, a studio, and a lounge / living / kitchen with a mezzanine above, open to this space. We understand that more than one building design may be pursued on the project site, depending on Resource Consent outcomes.

Our assessment is with regard to the sound insulation requirements outlined in Queenstown Lakes Proposed District Plan, policy 9.5.12 *Sound Insulation and Mechanical Ventilation* as the proposed will be located within 80 metres of Frankton Road which is classified as a State Highway.

We have based our analysis on correspondence to date, along with the following document:

- Architectural drawings titled *Townhouses, Frankton Road, 359 Frankton Road, Queenstown 9300*, as prepared by AW Architects, and dated the 21st of June 2024.

Please find our analysis below.

1.0 ACOUSTIC CRITERIA

The project site is located at 359 Frankton Road in Queenstown, as shown in figure 1.1 below.

Figure 1.1 – Project site (image source: LINZ Aerial Imagery)

Due to the proximity of the project site to Frankton Road (State Highway 6A), Queenstown Lakes Proposed District Plan, policy 9.5.12 *Sound Insulation and Mechanical Ventilation* applies:

> *Any residential buildings, or buildings containing an Activity Sensitive to Road Noise, and located within 80m of a State Highway shall be designed to achieve an Indoor Design Sound Level of 40dB LAeq24h.*

We understand that appeals of the relevant sections of the PDP are now beyond challenge and thus the noise rules under the PDP are deemed to be operative.

We note that it is typical to assume that standard NZ residential constructions will provide a minimum outdoor-to-indoor noise level reduction of 17 dBA, which includes allowance for noise ingress via windows that are cracked open for ventilation. Therefore, provided external noise levels incident on the facade of a proposed dwelling are 57 dB L_{Aeq24h} or less, we expect that the internal noise level requirement in policy 9.5.12 will be achieved.

2.0 EXPECTED EXTERNAL TRAFFIC NOISE LEVELS

The expected noise levels from vehicles travelling past the site have been calculated using the Calculation of Road Traffic Noise (CoRTN) algorithm applied with SoundPLAN (v8.2) 3D noise modelling software.

The modelling was based on data inputs for Average Annual Daily Traffic (AADT), designated speed limit, percentage of heavy vehicles using the road and the road surface type.

The most recently available (2022) traffic flow volume data on the relevant section of Frankton Road was adjusted using a 3% increase per year over a 20-year period. The adjusted traffic flow volume used in the modelling was 46,879 AADT with a heavy vehicle flow composition of 4.0%. The posted speed limit on this section of Frankton Road is 70 km/h.

Based on information provided on the Mobile Road database[1] the road surface on the relevant section of Frankton Road was modelled as DGA Ashphaltic Mix (Grade AC-10).

Modelling also considers existing buildings and structures on the site and adjacent sites, and the terrain of the surrounding area.

Based on our analysis, we expect the maximum noise level from traffic on Frankton Road, at the proposed dwelling will be 57 dB $L_{Aeq(24h)}$, incident on the most exposed element of the building (the roof). All other facades of the building are expected to receive levels lower than this. Therefore, as discussed above, assuming an overall 17 dB facade noise reduction (with windows cracked open for ventilation), we expect that the internal noise level requirement in policy 9.5.12 will be achieved in all habitable spaces of the proposed units, with no upgrades required.

With respect to an altered site layout and/or building design that may be considered for the site (depending on the outcome of the Resource Consent process), provided that any subsequent design pursued has a roof apex height at or below that of the townhouses currently proposed at the date of this report, we also expect that the internal noise level requirement in policy 9.5.12 will be achieved in all habitable spaces of the respective units / dwellings, with no upgrades required.

3.0 CONCLUSION

We have undertaken a traffic noise assessment for the proposed townhouses at 359 Frankton Road, Queenstown.

From our analysis, maximum noise levels of 57 dB $L_{Aeq(24h)}$ are expected incident on the most exposed facades of the proposed town. Provided that other buildings pursued on the project site are at the same height, or lower than the building proposal current to the date of this report, we therefore expect compliance with Queenstown Lakes Proposed District Plan, policy 9.5.12 *Sound Insulation and Mechanical Ventilation* will be fully achieved in all habitable spaces of the dwelling, with no further mitigation.

Please do not hesitate to contact us if you have any queries.

Kind Regards,

Martin Johnson
BE Hons (Mech)
Acoustic Engineer
Acoustic Engineering Services

[1] https://mobileroad.org/desktop.html, viewed the 25th of July 2024.

Appendix 7: Environmental Management Plan

ENVIRONMENTAL MANAGEMENT PLAN

359 FRANKTON ROAD
QUEENSTOWN

AUGUST 2024

HEWLAND PROJECTS LTD
60 AMPHION WAY
GLENORCHY
STEVE@HEWLAND.CO.NZ
021 942 099

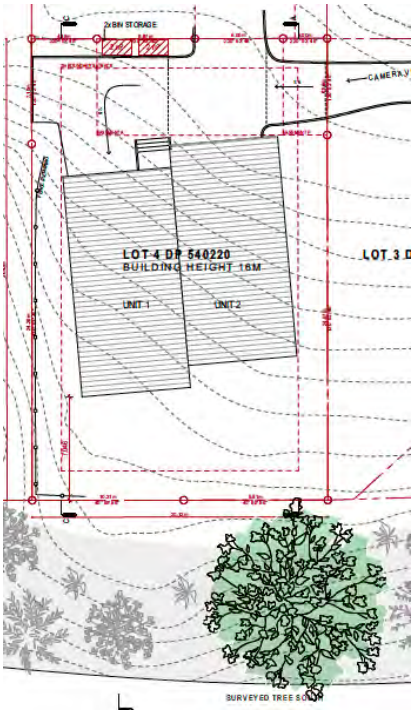
Table of Contents

DOCUMENT CONTROL

DATE	REV DESCRIPTION	AUTHOR
7/9/24	Original Rev A	Steve Hewland

GENERAL SITE AND PROJECT DESCRIPTION

This Environmental Management Plan (EMP) covers works at 359 Frankton Road. The proposed project consists of the construction of two multi level residential units.



The site is located above the Frankton Trail and Lake Whakatipu and is accessed via a private right of way, with other apartment style buildings and the Rees Hotel development surrounding the site. The site is steeply sloping with a southerly aspect.

View looking south west from the top of the site

SQEP

This plan has been prepared by Steve Hewland, a SQEP as defined by QLDC's Guidelines for the Preparation of Environmental Management Plans June 2019.

Environmental Management Best Practice

Erosion and Sediment Controls for this project are designed, installed, maintained and decommissioned in accordance with the following principles:

a) Erosion and sediment controls in accordance with GD05 "Erosion and Sediment Control Guide for Land Disturbing Activities in the Auckland Region 2016" are integrated with construction planning
b) Effective and flexible erosion and sediment control plans are developed based on soil, site slope, weather, construction conditions and the receiving environment
c) The extent and duration of soil exposure is minimised
d) Water movement through the site is controlled – in particular clean water is diverted around the site and 'dirty' and 'clean' water is kept separated as far as practicably possible
e) Soil erosion is minimised as far as reasonable and practical (to the satisfaction of QLDC)
f) Disturbed areas are promptly stabilised
g) Sediment retention on site is maximised (i.e. must meet the discharge criteria for suspended sediment in the Water Quality section below))
h) Controls are maintained in proper working order, at all times
i) The site is monitored and erosion and sediment practices adjusted to maintain the required
j) performance standard, and
k) Avoidance of discharges, especially sediment off site.

EMP Updates

This EMP will be reviewed when;
1.The construction program moves from one Stage to another; or
2. Any significant changes have been made to the construction methodology since the original plan was accepted for that Stage; or
3. There has been an Environmental Incident and investigations have found that the management measures are inadequate; or
4. Directed by QLDC's Monitoring and Enforcement team
Where undertaken, updates to the EMP will be submitted to QLDC for acceptance at RCMonitoring@qldc.govt.nz

Environmental roles and responsibilities

- Project Manager – Name and Contacts details TBC
    - Overall responsibility for the environmental management and implementation of this plan
    - Ensuring the EMP is updated as required
    - Ensuring appropriate training is given to all staff on environmental management and the implementation of this plan
    - Providing the resources necessary to implement this plan
    - Attend to Environmental Incidents and Complaints
- Environmental Representative – Name and Contacts details TBC

  This role should actively support the project leadership (Project Manager and/or Supervisor) with the day-today implementation of environmental controls and administrative activities. In particular, the role involves:
    - Implementation of environmental management
    - Undertake EMP inductions
    - Ensure installation of environmental controls as per the ESCP and EMP
    - Undertake environmental site inspections of the project, as detailed below
    - Oversee the maintenance and improvement of defective environmental controls
    - Undertake Environmental Incident reporting

- Keep project leadership informed of environmental performance of the project
- Inform staff of procedures and constraints applicable to managing specific environmental issues
- Responsible for providing environmental inductions to all staff and sub-contractors
- Assist the project leadership in attending to Environmental Incidents and Complaints

- Environmental Advisor/Manager ('SQEP') Steve Hewland 021 942 099 steve@hewland.co.nz
  - Provide technical and onsite advice regarding this plan and implementation of the ESCP controls as required.

Site inspections

The Environmental Representative will undertake and document Weekly and Post-Rain Event site inspections using the checklist in Appendix 5 for the purpose of the following:

- This EMP is being followed.
- Review that the Erosion and sediment controls as described in the ESCP **Appendix 1** or subsequent revision are installed and working appropriately and identifying any necessary maintenance.
- Identifying any environmental incidents.
- Verifying preparedness for adverse weather conditions where significant rain and/or wind is forecast.

The Environmental Representative will also undertake daily pre-start inspections to ensure that no new environmental issues have arisen, or mitigation measures have been compromised from the previous days work.

The Site Inspection records shall be made available to QLDC within 48 hours of a request being made.

Notification and management of environmental incidents

An environmental incident is anything where the EMP has failed leading to any adverse environmental effects offsite (including sediment and nuisance effects associated with dust as well as spills of fuels, chemicals and concrete to ground or a water body).

Concrete contamination is a serious issue, so it is important the site manages concrete products and activities correctly and avoid a discharge to a waterbody or stormwater. Ensure concrete wash down does not enter any sediment device, stormwater network, or a waterbody. Cement wash water and cement-based products harm the environment because:

- They are strongly alkaline, due to their high lime content. This alkalinity can kill or burn aquatic life in much the same way an acid would.
- High sediment loads can smother and kill aquatic life living in the bed of a waterbody. It also scrapes and clogs fish gills.
- Sediment reduces sunlight penetration and makes it difficult for plants to get the energy they need to live and for aquatic life to find food.

If an incident occurs undertake immediate remedial actions to mitigate adverse environmental effects. Immediate response actions should not be delayed. Once the immediate risk from the Environmental Incident is alleviated, the Environmental Representative shall investigate the cause of the breach and/or adverse environmental effects, then identify and implement corrective actions as soon as practicable.

Call the ORC Compliance team and the pollution hotline immediately on 0800 800 033 for any incidents that cannot be brought under control, or for discharges of sediment, oil or chemicals to a waterbody, race or drain.

Take a lot of photos of the incident and immediate surrounds. Complete the form in **Appendix 3** (or the ORCs Environmental Incident Report form available on their website) and notify QLDC within 12 hours of becoming aware of the incident, also send the form to the Compliance team at Otago Regional Council at pollution@orc.govt.nz

Records and registers

Environmental records are collated onsite and can be made available to QLDC upon request. Records and registers to be managed onsite shall include the following:

- Environmental Induction attendance register (**Appendix 2**).
- Environmental Incident reports and associated corrective actions undertaken (**Appendix 3).**
- Complaints register and associated corrective actions undertaken (**Appendix 4)**.
- Daily diary entries (including pre-start and post rain inspection observations).
- Weekly Inspections **(Appendix 5).**

Site induction

A site induction will be undertaken for all project staff. A copy of this is included in **Appendix 2**.

Cultural Heritage

This site is not a known cultural heritage site. Nevertheless, earthworks will be undertaken in accordance with the obligations of the *Heritage New Zealand Pouhere Tāonga Act*, 2014 (HNZPTA). In the event of accidental discovery, the Accidental Discovery Protocol found in **Appendix 6** of this document will be followed.

Chemical and fuel management

The Contractor will ensure spill response equipment is available on the site for use in an emergency. Material Data Safety Sheets (MSDS) should be kept on site for all chemicals used and stored on site. Only appropriately trained personnel should use these chemicals. Spill response equipment will be commensurate with the site location, topographical features, type and quantity of chemicals and fuels being stored on site. As a minimum it should be able to isolate and contain oil from a hydraulic hose bursting. Such as;

All machinery associated with the earthworks activity must be operated in a way, which ensures that spillages of hazardous substances such as fuel, oil, grout, concrete products and any other contaminants are prevented.

Refuelling of machinery will conform to the following requirements:
a) Occur at least 30m from a waterway
b) Fuelling activity to be supervised at all times
c) Hoses to be fitted with a stop valve at the nozzle end, ideally at an appropriately bunded or at designated laydown and hardstand area.

Chemicals and fuels exceeding 250 litres on site at any one time are nil.

Dust Management

Although the area exposed is not significant there is potential for dust to be generated by excavation, truck un/loading, and compaction activities and this should not leave the boundaries of the site. The site is exposed to

winds from the south and the west. The contractor will be vigilant with the regard to the risk of dust generation and the following mitigation measured are proposed:

- Only exposing the minimal areas require to complete the tasks.
- Use water to dampen surfaces that could generate dust in windy conditions.
- When visible amounts of dust are leaving the site, works are to cease and dust mitigation via surface spraying is to take place immediately.
- Stabilise exposed soil surfaces progressively by covering them (with impermeable material(s) and pinning covers down, using a mulch, and/or revegetation.

If any complaints are received record in the Complaints Register in Appendix 4 and follow the incident response process Appendix 3.

Waste management

Construction waste will be managed within the works area in a typical fashion with skip bins, covered as necessary. To minimise waste recycling is expected to occur and the contractor will supply a wheelie bin or similar for this purpose.

Vibration Management

Managing vibration effects includes avoiding nuisance to public, residents or people utilising the area in the vicinity of the site and managing vibration to avoid structural damage to buildings and structures within and beyond the site. The potential generators of vibration will be compaction equipment, heavy vehicles moving, and possibly rock breaking. If it is required a vibration management plan will be prepared by others.

Noise Management

Managing noise effects includes avoiding nuisance to public, residents or people utilising the area in the vicinity of the site. The potential generators of noise will be compaction equipment, heavy vehicles moving, power tools, and rock breaking. If the noise levels specified in NZS6803:199 are going to be exceeded a noise management plan will be prepared by others.

If there is a non-compliance mitigation and management measures are to be implemented and recorded in the Complaints Register (Appendix 4).
Hours of work will be constrained in accordance with the resource consent conditions to be confirmed.

General Measures
Complaints can arise even if the noise and vibration levels comply with the Project limits. To minimise complaints, the following common mitigation measures are recommended:

- No shouting.
- No unnecessary use of horns.
- No rough handling of material and equipment.
- No banging or shaking excavator buckets, operation must be smooth to avoid impact noise.
- No unnecessary steel on steel contact (e.g. during the loading of scaffolding on trucks), fit hammers with
- nylon heads to minimise impact noise.
- Use rubber tracked equipment rather than steel tracked equipment where practicable.
- Maintain equipment well to minimise rattles, squeaks, minimise unwanted noise due to normal ageing and wear and tear.
- Fit engines with exhaust silencers and engine covers where practicable, engine bays may be lined with noise absorbent materials.
- Avoid tonal reversing or warning alarms (beepers). Regulate man-machine interface with effective traffic
- management plan, safe walkways.
- Scheduling activities to be undertaken when nearby sensitive receiver buildings are unoccupied.

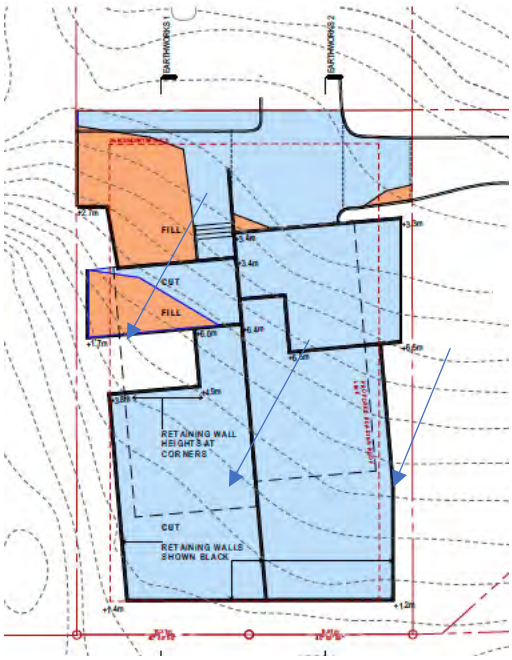
Communications Plan with Neighbours

The site is surrounded by residential neighbours that are subject to nuisance effects from the works. Prior to commencing on site the contractor will make contact with the residential neighbours and share contact details so that there is a direct line of communication throughout the works. The complaints register in Appendix 4 is to be used to record all complaints.

Erosion and Sediment Control Plan

Relevant site features

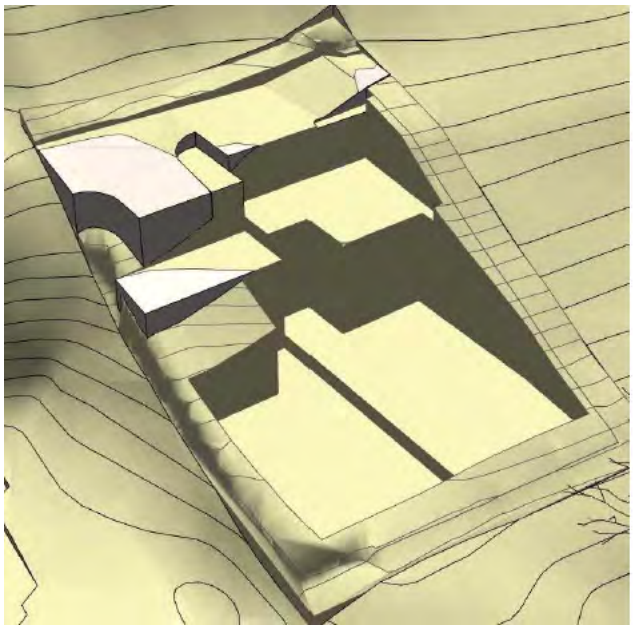
The site is steeply sloping with a southerly aspect. A sealed private right of way with a stormwater swale cuts off any flows from uplslope. Directly below the site is the Frankton Trail, and below that Lake Whakatipu. There are no concentrated flow paths and sheet flow directions are indicated below.



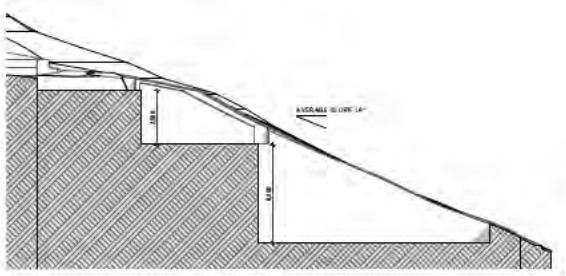
A significant portion of the site in the south and west has been filled with earth at the time of the underlying subdivision. Geotechnical investigations undertaken on adjacent sites indicate the underlying soils are Glacial outwash gravels underlain by sub glacial lake sediment deposits. No soakage rate details are available however this material is expected to provide some soakage, although in this case soakage is not relied upon to prevent sediment leaving the site.

Earthworks Summary

Earthworks are required to create a stepped building pad. There will be three areas of retained fill. A total area of approximately 225m^2 of soil will be exposed. Details are included in Appendix 7 and shown below.



Cut/fill 3D Plan



Cross Section

Draft EMP Construction Methodology / Control installation sequence

Construction methodology as it relates to erosion and sediment control for the initial stages. It is noted that the stormwater reticulation in the access will need to be moved to allow for the proposed access arrangements. This methodology is to be confirmed once a contractor has been engaged;

1. Install a super silt fence along the lower boundary. Ensure the ends are returned up slope so that any stormwater is impounded allowing sediment to settle and remain on site. Additional tie backs should be incorporated in each corner.
2. Install cesspit protection on the right of way daily. Following road sweeping as necessary to remove sediment remove the cesspit protection at the end of the day or when rain is forecast, this will ensure the stormwater system is working and will prevent stormwater running onto the site.
3. Undertake excavation of levelled areas, commencing at the lower end and working up hill. The lower level will be excavated below ground level which will impound surface water that reaches it. Whilst this will provide some soakage, any over topping of this will be impounded by the super silt fence.
4. Construct foundations, stabilising each level as concrete foundations are poured.
5. Minimise exposed unstabilised areas with hard landscaping, aggregate, or secured temporary cover as soon as possible.
6. Connect the stormwater from impermeable surfaces to their permanent reticulation as soon as possible.
7. Decommission sediment controls once 80% vegetative or hard landscaping cover on exposed areas has been achieved.

Type and Location of Erosion and Sedimentation Controls

Erosion and sediment control will be generally undertaken in accordance with the *Guidance Document 2016/005: Erosion and Sediment Control Guide for Land Disturbing Activities in the Auckland Region (GD05)*. The ESCP will be updated as and when required as the project progresses.

Refer to Appendix 1 for a copy of the ESCP

Super Silt Fence

Due to the slope length of approximately 25m and the steep slope, and the close proximity of Lake Whakatipu a super silt fence is proposed as the primary sediment control.

Key construction criteria for super silt fences:

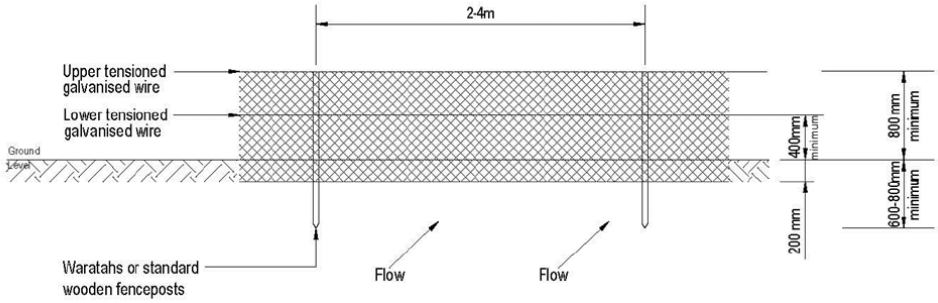
- Ensure super silt fence height is 800 mm above ground level
- Maximum slope lengths, spacing of returns and maximum silt fence lengths are shown in Table below
- Always install super silt fences along the contour (at a break in slope). Where this is not possible, or where there are long sections of super silt fence, install short silt fence returns projecting up-slope from the silt fence to minimise the concentration of flows. Silt fence returns should be a minimum 2 m in length and can incorporate a tie-back. They are generally constructed by continuing the silt fence around the return and doubling back, eliminating joins
- Join lengths of silt fence by doubling over fabric ends around a waratah or by stapling the fabric ends to a batten and butting the two battens together
- Install silt fence returns at either end of the silt fence, projecting up-slope to a sufficient height to prevent outflanking

Slope steepness %	Slope length (m) (maximum)	Spacing of returns (m)	Super silt fence length (m) (maximum)
0 – 10%	Unlimited	60	Unlimited
10 – 20%	60	50	450
20 – 33%	30	40	300
33 – 50%	30	30	150
> 50%	15	20	75

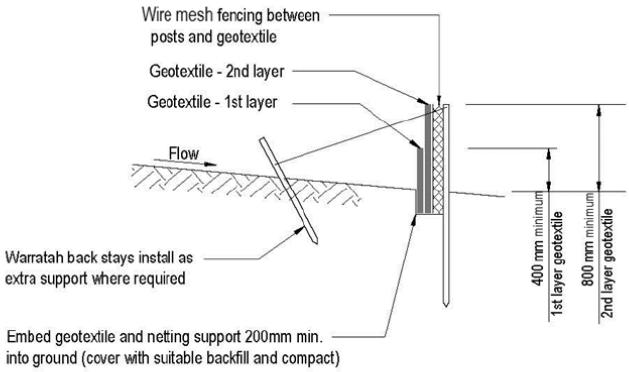
To ensure the ongoing performance of the super silt fence collected sediment must be removed once 20% capacity has been reached

Super Silt Fence Standard Details

Also refer to GD05 Section F1.4.2 Page 123 for construction and maintenance details



Elevation



Cross-section

Cesspit / Mud Tank Protection

Protection (such as a "witches hat or "filter bags" or other commercially available proprietary systems) will be installed during active works but will be removed at the end of the day once the works have been completed and the driveway swept of any sediment, to ensure the stormwater network can operated as per design.

Emergency Response Procedure

When a significant rain event (one that can generate overland flow) is forecast the following emergency responses will be undertaken by the Environmental Representative;

1. Stop works in time to inspect and repair or modify the controls.
2. Ensure the surface of the silt fence is not clogged and there is no sediment built up against the fence, muck out if necessary.
3. Stabilise and/or cover all exposed surfaces as much as possible.
4. Cover any stockpile with an impermeable material.
5. Remove the mudtank protection following sweeping of the sealed access.
6. If the southern silt fence has impounded water and more rain is forecast – skim off the top using a floating submersible pump, discharge through a turkeys nest, dewatering bag, pipe sock, or lamella clarifier.
7. Observe weather and check all ESCP controls throughout the event.

Water Quality Monitoring

Considering the lack of any stormwater run-on potential and the below ground level excavation methodology the water quality risks are low. However, stormwater that leaves the site will enter a swale on the Frankton Trail and through a culvert into Lake Whakatipu.

The Contractor will at all times undertake reasonable and practicable management measures to avoid adverse environmental effects within the site or adjacent land into which the site discharges. The Erosion and Sediment Control Plan Appendix 1 demonstrates the method for preventing the migration of sediment beyond the site boundaries. Any stormwater that leaves the site will go into Lake Whakatipu without any further treatment.

Visual monitoring will occur daily and during/following rain events to check behind the silt fence that no sediment is leaving the area. All water leaving the site must meet the relevant resource consent conditions and the following criteria as defined in the QLDC Guidelines for the Preparation of EMPs, with the exception of pH which has a lower limit of 5.5 as per GD05;

WATER QUALITY PARAMETER	DISCHARGE CRITERIA
Turbidity (measured with nephelometer)	<100 NTU
TSS Total Suspended Solids (lab test sample)	<50 mg/L
pH (measured with pH strips or handheld device)	Stable reading between 5.5-8.5
Hydrocarbons or tannins	No visible trace
Waste	No waste or litter is visible

Observations and any preventative measures taken are to be recorded in a daily job diary. If there are any visual signs of sediment crossing property boundaries call the Environmental Consultant Steve Hewland of Hewland Projects immediately and stop work that could be causing it. Review controls and look for opportunities to reduce the risk of sediment load in locations that have been shown to pass sediment through the fence. If possible, a turbidity measurement will be taken at the sediment location using a calibrated handheld nephelometer (or sent to a lab for TSS analysis). If 100NTU is exceed, and/or obviously sediment laden water has crossed the boundary this constitutes an environmental incident so refer also to the “Notification and management of environmental incidents” section above.

Appendix 1 – EROSION AND SEDIMENT CONTROL PLAN (ESCP)

Appendix 2 - SITE ENVIRONMENTAL INDUCTION

The purpose of this site environmental induction is to ensure that all staff and subcontractors onsite are aware of their environmental responsibilities. This is induction is given to every contractor working on site during the earthworks phase by the Environmental Representative. Each recipient of this induction will sign the induction register.

Address	
ORC Consent Number (if applicable):	**RM**
District or City Council Consent Number (if applicable):	**RM**
Resource consent holder/representative: Name	Phone No.
Contractor: Name	Phone No.
Environmental Representative: Name	Phone No.
SQEP: Name	Phone No.

Roles and Responsibilities

- TBC is the Environmental Representative for this project. The environmental reps role is;

Implementation of environmental management
> Ensure installation of environmental controls as per this EMP
> Undertake environmental site inspections of the project
> Oversee the maintenance and improvement of defective environmental controls
> Undertake Environmental Incident reporting

Communication
> Keep project leadership informed of environmental performance of the project
> Inform staff of procedures and constraints applicable to managing specific environmental issues
> Responsible for providing environmental inductions to all staff and sub-contractors

Complaints and Incidents
> Attending to Environmental Incidents and Complaints

a) Specific locations within the site of environmental significance or risks, including Exclusion Zones and Sensitive Environmental Receptors, Fuelling areas, Stockpile areas.

Any sediment which leaves the site goes into Lake Whakatipu so its very important for its water quality that you follow best practice at all times.

b) Scope and conditions of resource consents applicable to the works.

Resource consent has not yet been issued. When it is the following is to be included in this induction;

- Who has copies

- On-site copies available (and where)
- Any specific conditions for this site/activity
- Chemical Treatment Management Plan (CTMP) explained if relevant to the site, and understood
- Contaminated land procedures explained if relevant to the site, and understood

c) The limit of clearing and earthworks

A key item to minimise erosion risks and sediment leaving the site in all projects is minimising the extent of exposed surfaces at any one time.

d) Environmental management measures stipulated in the EMP

A super Silt fence is located along the lower boundary and up each side. The purpose of this is to impound any surface water, allowing sediment to drop out/settle while the impounded water filters through it and also soaks away.

e) Procedures of notifying of potential Environmental Incidents

An environmental incident is anything where the EMP has failed leading to any adverse environmental effects offsite (including sediment and nuisance effects associated with dust as well as spills of fuels and chemicals to ground or a water body).

If an incident occurs undertake immediate remedial actions to mitigate adverse environmental effects. Immediate response actions should not be delayed. Once the immediate risk from the Environmental Incident is alleviated, the Environmental Representative shall investigate the cause of the breach and/or adverse environmental effects, then identify and implement corrective actions as soon as practicable. If a chemical or fuel spill occurs immediately use the spill kit on site to contain the spill. Collect any contaminated soil or water in containers (or on a truck depending on volume) onsite and dispose of to the Vitoria Flats contaminated soils landfill facility.

Call the ORC Compliance team and the pollution hotline immediately on 0800 800 033 for any incidents that cannot be brought under control, or for discharges of sediment, oil or chemicals to a waterbody, race or drain.

Take a lot of photos of the incident and immediate surrounds. Complete the form in Appendix 3 (or the ORCs Environmental Incident Report form available on their website) and notify QLDC within 12 hours of becoming aware of the incident, also send the form to the Compliance team at Otago Regional Council at pollution@orc.govt.nz

f) Procedures for managing storm events (wind and rain)

The site should always be suitably stabilised to limit erosion and sedimentation, any potential spills, discharges and deposition of waste from site. In the event of a heavy rain forecast follow the Emergency Response procedure set out on Page 11 of the EMPO.

Environmental Induction Attendance Register Pro forma

Name	Date	Signature	Name	Date	Signature

APPENDIX 3: ENVIRONMENTAL INCIDENT REPORT FORM

Project Address:	QLDC Consent Number (if applicable): RM BC
Brief Project Description:	

Instructions

Complete this form for all environmental incident that cause contaminants (including sediment) or environmental nuisance to leave the site. Please be succinct, stick to known facts and do not make assumptions.

Once completed submit to the Regulatory team at Queenstown Lakes District Council at RCMonitoring@qldc.govt.nz Call the Regulatory team immediately on 03 441 0499 for any serious or ongoing incidents that cannot be brought under control.

Incident details

Date and Time	Date: / / Time: : am ☐ pm ☐
Description Provide a brief and factual description of what happened during the incident, include relevant details such as: > The estimated distance to the nearest waterway (include storm water and dry courses) > The estimated distance to the nearest sensitive receiver > The activity being undertaken when the incident occurred Sketches/diagrams/photos may be reference and appended to this report to aid in the description of the incident	
EXACT location of the incident Include address, landmarks, features, nearest cross street, etc Maps and plans can be attached to the incident report if appropriate	
Quantity or volume of material escaped or causing incident (provide and estimate if quantity unknown)	
Who identified the incident?	☐ Contractor ☐ Council ☐ Community ☐ Other

What immediate actions/control measures were taken to rectify or contain the incident?

What initial corrective action will be taken to prevent similar incidents recurring in the near future?

Has the Otago Regional Council been notified? ☐ Yes ☐ No

Approvals:

Environmental Representative/Person making report

Name..... Signature.....

Organisation..... Date.....

Mobile phone number.....

Site Supervisor

Name..... Signature.....

Organisation..... Date.....

Mobile phone number.....

Appendix 4 - Complaints Register

Name & Address of Complainant Contact Details	
Nature of the Complaint	
Location, Date and Time of the Alleged Event	
Weather Conditions at the time of Event Include wind direction and speed if noise/dust related	
Recommendations for Rectification	
Actions to be Taken	
Confirmation that the Complainant has been Informed of Rectification	
Confirmation the Matter has been Closed Out	Date: Name: Signature:

Appendix 5 – Weekly and Post Rain inspection

DATE;

ENVIRONEMTNAL REPRESENTATIVE;

WEATHER OBSERVATIONS;

ITEM	OBSERVATIONS	CORRECTIVE ACTIONS NEEDED?	ACTION TAKEN AND WHEN
Super Silt fence		Check for damage including rips, tears, bulges in the fabric, broken support wires, loose waratahs, overtopping, outflanking, undercutting, and leaking joins in the fabric. Make any necessary repairs as soon as identified. As the geotextile material becomes clogged with sediments, this will result in increased duration of ponding. Cleaning of the silt fence geotextile with a light broom or brush may be appropriate. Remove sediment deposits as necessary (prior to 20% of fabric height) to continue to allow for adequate sediment storage and reduce pressure on the silt fence.	
General Soil Exposure		Has soil exposure been minimised by: • Only clearing landscaping to an extent where earthworks will commence in that part of the site. • Stage the works to minimise the area of soil exposed at any one time and provide progressive stabilisation of disturbed surfaces.	

Appendix 6 – Accidental Discovery Protocol

HERITAGE NEW ZEALAND
POUHERE TAONGA

Heritage New Zealand Pouhere Taonga Archaeological Discovery Protocol

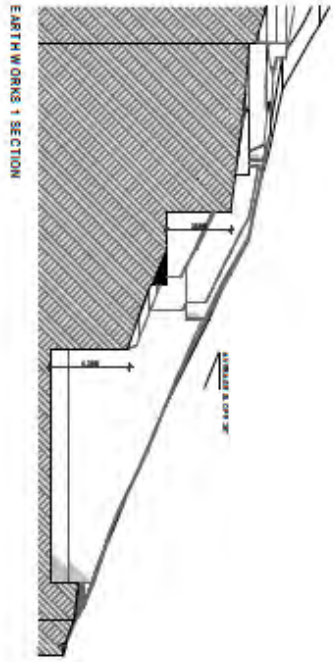
Under the Heritage New Zealand Pouhere Taonga Act (2014) an archaeological site is defined as any place in New Zealand that was associated with human activity that occurred before 1900 and provides or may provide, through investigation by archaeological methods, evidence relating to the history of New Zealand. For pre-contact Maori sites this evidence may be in the form of bones, shells, charcoal, stones etc. In later sites of European/Chinese origin, artefacts such as bottle glass, crockery etc. may be found, or evidence of old foundations, wells, drains or similar structures. Burials/koiwi tangata may be found from any historic period.

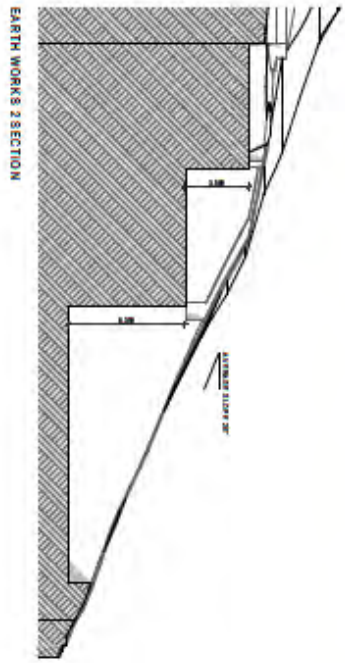
In the event that an unidentified archaeological site is located during works, the following applies;

1. Work shall cease immediately at that place and within 20m around the site.
2. The contractor must shut down all machinery, secure the area, and advise the Site Manager.
3. The Site Manager shall secure the site and notify the Heritage New Zealand Regional Archaeologist. Further assessment by an archaeologist may be required.
4. If the site is of Maori origin, the Site Manager shall notify the Heritage New Zealand Regional Archaeologist and the appropriate iwi groups or kaitiaki representative of the discovery and ensure site access to enable appropriate cultural procedures and tikanga to be undertaken, as long as all statutory requirements under legislation are met (*Heritage New Zealand Pouhere Taonga Act*, *Protected Objects Act*).
5. If human remains (koiwi tangata) are uncovered the Site Manager shall advise the Heritage New Zealand Regional Archaeologist, NZ Police and the appropriate iwi groups or kaitiaki representative and the above process under 4 shall apply. Remains are not to be moved until such time as iwi and Heritage New Zealand have responded.
6. Works affecting the archaeological site and any human remains (koiwi tangata) shall not resume until Heritage New Zealand gives written approval for work to continue. Further assessment by an archaeologist may be required.
7. Where iwi so request, any information recorded as the result of the find such as a description of location and content, is to be provided for their records.
8. Heritage New Zealand will determine if an archaeological authority under the *Heritage New Zealand Pouhere Taonga Act* 2014 is required for works to continue.

It is an offence under S87 of the *Heritage New Zealand Pouhere Taonga Act 2014* to modify or destroy an archaeological site without an authority from Heritage New Zealand irrespective of

Appendix 7 - Earthworks Plans





Appendix 8: Geotechnical Report

Geotechnical Report for Resource Consent

359 Frankton Road,

Queenstown

Report prepared for:

35 Kennaway Ltd

Report prepared by:

GeoSolve Ltd

Distribution:

35 Kennaway Ltd

Novo Group

GeoSolve Limited (File)

September 2024

GeoSolve Ref: 240622

Revision	Issue Date	Purpose	Author	Reviewed
1	27.09.2024	Resource consent issue	WF	FAW

Table of Contents

1 Introduction

1.1 General

This report presents the results of a geotechnical assessment carried out by GeoSolve Ltd in order to determine subsoil conditions and provide geotechnical inputs for two proposed townhouse units at 359 Frankton Road, Queenstown, legally described as Lot 4 DP 540220.

This report has been completed for resource consent application purposes. The comments and recommendations provided should be confirmed by further site-specific investigations and engineering assessment during the detailed design/building consent stage of the development.

Photo 1: Site photo (looking southwest).

The investigations were carried out for 35 Kennaway Ltd in accordance with GeoSolve Ltd's proposal dated 16th August 2024, which outlines the scope of work and conditions of engagement.

1.2 Proposed Development

We understand the proposed development is for construction of two townhouse units on the subject Lot 4 DP 540220. Architectural drawings provided by AW Architects for resource consent, dated 23 June 2024 show that four floors are proposed for each unit, with cut heights of up to 6.5 m.

2 Site Description

2.1 General

The site is located in an established developed commercial and residential area on Frankton Road, adjacent to Lake Wakatipu (Figure 1), approximately 2 km east of Central Queenstown.

Figure 1: Site location (red square) [Source: qldc.maps.arcgis.com 30/08/2024]

The site comprises an empty lot with a timber pole retaining wall at the top of the site forming part of the access to the lot from Frankton Road above. A timber pole retaining wall (retaining 2.5 m in height) is present along the southwest boundary with no. 343 Frankton Road, returning along the southeast boundary. An as built plan of the retaining wall is attached in Appendix B. The site is bound by lots to the southwest, northwest and northeast and Queenstown – Frankton walking and cycling track along Lake Wakatipu to the southeast.

2.2 Topography and Surface drainage

Architectural drawings provided by AW Architects, show that the site topography slopes, on average 25-26° to the south to southeast towards Lake Wakatipu, which is approximately 15-20 m below the level of the site. The site levels have been raised by as much as 3.5 m with site won engineered fill. The engineered fill report is attached in Appendix C.

The site is naturally free draining, and no surface streams or seepages were evident within the site boundary.

3 Geotechnical Investigations

The opinions and conclusions presented in this report are based on the following sources of information:

- A walkover inspection and surface mapping of the site by an engineering geologist.
- A review of four deep bore holes from the GeoSolve database, within the immediate vicinity of the site on neighbouring lots, to establish the general geological model and soil relative density.
- A review of historic test pit information currently held on the GeoSolve database.
- A review of the RDA Consulting fill certification report for the lot.
- A review of the Queenstown Lakes District Council and Otago Regional Council Hazard Register Maps.
- A review of the published geological map, 'Institute of Geological & Nuclear Sciences Ltd, Geology of the Wakatipu, 1:25,0000 Geological Map 18'.

4 Subsurface Conditions

4.1 Geological Setting

The site is in the Wakatipu basin, a feature formed predominantly by glacial advances. Published references indicate the last glacial event occurred in the region between 10,000 and 20,000 years ago. Glaciations have left deposits of glacial till and glacial outwash over ice–scoured bedrock. Post glacial times have been dominated by the erosion of the bedrock and glacial sediment, with deposition of alluvial gravel by local watercourses and lacustrine sediment during periods of high lake levels.

Active fault traces were not observed at the site or in the immediate vicinity, and the closest major active fault is the Nevis-Cardrona Fault system located approximately 20 km east of the proposed development. However, significant seismic risk exists in this region from potentially strong ground shaking, associated with a rupture of the Alpine Fault, located approximately 80 km northwest from Queenstown along the West Coast of the South Island. Recent research[1] suggests there is a 75% probability of an Alpine Fault earthquake occurring within the next 50 years and an 82% probability that the next earthquake on the Alpine Fault will be of magnitude 8 or greater.

4.2 Historical Borehole Records

The following historical boreholes are held within the GeoSolve database and have been used to infer the ground model.

[1] *Howarth, JD, et al. (2021). Spatiotemporal clustering of great earthquakes on a transform fault controlled by geometry. Nature Geoscience; doi: 10.1038/s41561-021-00721-4*

Table 1: Historical borehole records

Location	Borehole		Depth (m bgl)	Stratigraphy (m bgl)			Groundwater
				Alluvial Fan Outwash Deposits	Deltaic Gravels	Sub-Glacial Lake Deposits	
339 & 343 Frankton Road	10 m (SW)	BH5	13.1	2.0	-	13.1	-9.35 m
	35 m (SW)	BH6	15.0	4.0	-	15.0	-
347 Frankton Road	40 m (NW)	DH1	25.5	1.5	-	25.5	-
387 Frankton Road	70 m (NE)	BH1	15.3	-	3.0	15.3	-

4.3 Stratigraphy

The inferred site stratigraphy comprises:

- 0.0 - 0.3 m + approximate thickness of localised topsoil, overlying;
- 0 - 3.5 m of site won engineered fill, overlying;
- 1.5 - 4 m of deltaic/outwash/fan gravel, overlying;
- 10 m + of sub-glacial lake deposits.

Localised **topsoil** and **uncontrolled fill** are likely to be present from earthworks activities associated with underground service trenches and retaining wall construction. The topsoil and uncontrolled fill are likely to comprise organic SILT and a mixed composition of silt, sand, gravel and cobbles.

Up to 3.5 m of **Site Won Engineered Fill** is present across the site as detailed in the RDA Consulting Fill Certification report attached in Appendix C. The site won material predominantly comprises sandy GRAVEL with minor silt.

Deltaic/Outwash/Fan Gravels were identified to the northeast of the site and in boreholes to the northwest and southwest of the site and generally comprise medium dense sandy GRAVEL, with some silt.

Sub-glacial Lake Deposits were observed to underlie the alluvial fan deposits and deltaic gravels to a maximum proven depth of 15 m below the current site level. The sub-glacial lake sediments typically comprise very stiff SILT, with traces of sand and gravel and dense to very dense SAND, with silt.

4.4 Groundwater

The groundwater level was measured at 9.35 m below ground level within BH5 at 343 Frankton Road, 10 m to the west of the site. The exact RL of the borehole is unknown, but the water level is inferred to be approximately coincident with Lake Wakatipu level.

The groundwater table will be subject to seasonal variations in response to lake levels, heavy rainfall and snow melt.

As part of detailed design, it is recommended that a piezometer is installed to confirm the groundwater level in comparison to the proposed cut levels. It is also recommended to undertake deep test pits to confirm whether any lower volume seepage layers are observed.

4.5 Natural Hazards

4.5.1 Seismic

Known seismic hazards affecting the development are detailed in Section 4.1 and appropriate allowance should be made for seismic loading during detailed design of the proposed building, foundations and retaining walls.

4.5.2 Liquefaction

The site is classed as LIC 1 (P) on the QLDC Hazard Maps with respect to liquefaction. This indicates that the site probably has a low risk of liquefaction but requires specific investigations for a definitive assessment.

The soils underlying the site generally comprise medium dense, deltaic/outwash sand and gravel and very stiff/dense subglacial lake deposits present to at least 10-15 m depth below the site cut foundation level. The groundwater table is approximately 9-10 m below the proposed finished floor level at the level of Lake Wakatipu.

We have assessed that the liquefaction hazard for the site is consistent with a QLDC LIC 1 classification, which is a nil to low liquefaction hazard, and no further assessment is considered necessary.

4.5.3 Slope Stability

No deep seated, recent or active slope instability was observed during the site inspection, and no known mapped slope stability risks are present on the QLDC GIS hazard maps system.

A slope stability review has been undertaken for the proposed building location. It is recommended that a detailed slope analysis is undertaken at detailed design stage.

The proposed building is to be located on a platform cut into the existing moderately steep slope. The slope below (southeast of) the proposed building platform is approximately 15 m high with a current angle ranging between approximately 20-40° down to Lake Wakatipu below, with localised steeper and shallower areas. The building is setback approximately 7-8 m from the edge of the proposed cut building platform, which then transitions back into sloping ground southeast of the site boundary.

A 3:1 (H:V) line drawn from the building footprint edge does not daylight out of the slope below. It is noted that earthworks have been undertaken to modify the slope below (southeast) of the proposed building footprint to construct Frankton track and install the QLDC sewer main.

The requirement for specific engineering design of the foundations to consider the downslope ground profile should be assessed at detailed design. If required, numerous options are available to address slope stability.

It is recommended that the slope stability assessment is reviewed during detailed design following confirmation of the foundation depths and surcharge from the building.

4.5.4 Alluvial Fan

No known mapped alluvial fan risks are present on the Queenstown Lakes District Council (QLDC) GIS system.

4.5.5 Other Natural Hazards

No other natural hazard features or mapped slope instability features affecting the site are listed on the GeoSolve or QLDC hazards databases.

5 Preliminary Engineering Considerations

5.1 General

The recommendations and opinions contained in this report are based upon ground investigation data obtained at discrete locations and historical information held on the GeoSolve database. The nature and continuity of subsoil conditions away from the investigation locations is inferred and cannot be guaranteed.

Additional site-specific intrusive investigations should be completed to confirm any recommendations provided at the detailed design/building consent phase.

5.2 Excavations

Architectural plans provided by AW Architects indicate that cuts up to 6.5 m will be required to form level building platforms, primarily within alluvial fan/deltaic gravels and sub-glacial lake deposits. The proposed cut earthworks are represented in the plans, model and sections in Figure 2 below.

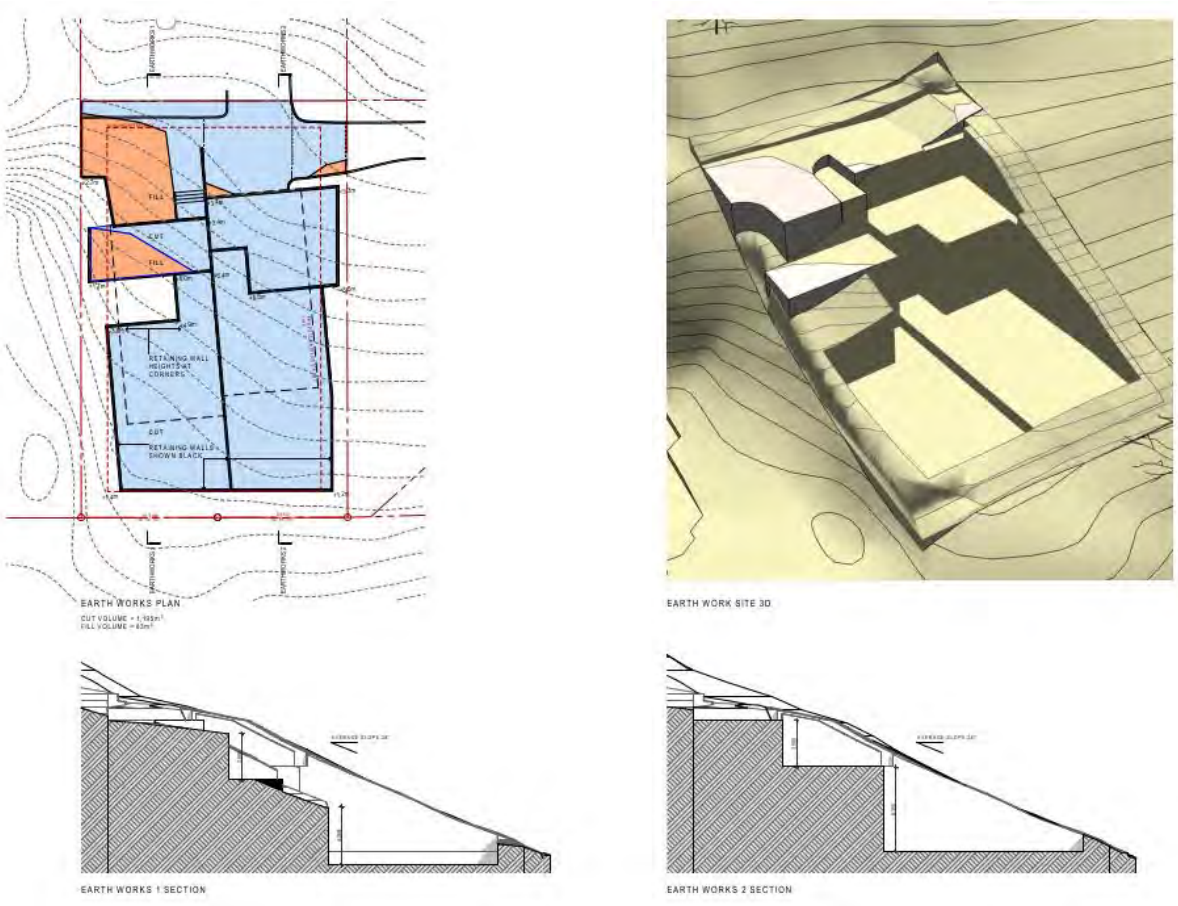


Figure 2: Earthworks model.

Excavations are achievable in the soil types listed above, using digger excavation. No rock breaking is required. Specific requirements for excavation can be determined by a test pit investigation at the detailed design phase of the project.

Preliminary temporary batter slopes of 1.0H:1.0V are likely to be acceptable for the deltaic/outwash gravels and sub-glacial lake deposits. As shown on Figure 2, cuts of up to 6.5 m are proposed in close proximity to the boundary and temporary batter cut slopes won't be able to be achieved with the boundary. Where temporary batters cannot be achieved within the site boundaries specific retaining design or temporary retaining will be required. It is recommended that detailed geological cross sections are drafted at detailed design when the building sections are available. The retaining methodology should be confirmed with the geotechnical and structural engineer at detailed design stage to ensure earthworks are supported sufficiently during construction.

5.3 Foundations

Following the proposed site excavations down to foundation level the topsoil, uncontrolled fill, site won engineered fill and deltaic gravels are likely to be predominantly removed from the foundation footprint. Following completion of excavations, it is expected that sub-glacial lake deposits will be exposed across most of the building footprint. Sub-glacial lake deposits will provide NZS 3604 "good ground" bearing (100 kPa allowable bearing capacity, 300 kPa geotechnical ultimate bearing capacity).

If any zones of old engineered fill remain it is recommended to remove these as part of the foundation preparation work.

It is preferred that foundation loads be transferred to the sub-glacial lake deposits or newly constructed engineered fill overlying the same in all cases to limit the potential for differential settlement.

Foundation bearing should be confirmed during the site investigations at detailed design.

5.4 Ground Retention

Ground retention will be required to construct the first and second floor levels. Retaining will also be required on the southwest and northeast boundaries. Safe cut slope batter angles of 1.0H:1.0V will not be achievable within the proximity to the neighbouring lot boundaries to 343 and 361 Frankton Rd. A construction method that integrates retaining into the structure may be required. Alternatively, temporary retaining can be used as discussed in the previous earthworks section.

Detailed retaining parameters can be supplied to the structural engineer at detailed design.

All retaining walls should be designed by a Chartered Professional Engineer. Due allowance should be made during the detailed design of all retaining walls for forces such as surcharge due to the sloping ground surface behind the retaining walls, groundwater, seismic loads and traffic loads.

All temporary slopes for retaining wall construction should be battered in accordance with the recommendations presented in Section 5.2 of this report.

To ensure potential groundwater seeps and flows are properly controlled behind the retaining walls, the following recommendations are provided:

- A minimum 0.3 m width of durable free draining granular material should be placed behind all retaining structures.

- A heavy duty non-woven geotextile cloth, such as Bidim A19, should be installed between the natural ground surface and the free draining granular material to prevent siltation and blockage of the drainage media; and
- A heavy-duty (TNZ F/2 Class 500) perforated pipe should be installed within the drainage material at the base of all retaining structures to minimise the risk of excessive groundwater pressures developing. This drainage pipe should be connected to the permanent piped storm water system.
- Comprehensive waterproofing measures should be provided to the back of the face of all basement retaining walls to stop groundwater seepage into the finished buildings.
- Horizontal drains should be installed to collect and control groundwater flows if excessive groundwater seepages are encountered during construction. The location and design of all horizontal drains should be confirmed on site by a geotechnical engineer or engineering geologist. The outlet of all sub-soil or horizontal drains should be connected to the permanent piped storm water system.

5.4.1 Existing Retaining Walls

It is unlikely that the existing timber pole wall along the southwest boundary has been designed for additional building load surcharge. It is recommended that this is reviewed at detailed design and if required the foundation loads are extended below the level of the retaining wall.

5.5 Groundwater Issues

The groundwater table underlies the site at 9 m + below the proposed cut level for the site, approximately at the level of Lake Wakatipu. It is unlikely that the regional groundwater table will be intercepted during the earthworks stage. Lower flow groundwater seepage is still possible and should be confirmed during the detailed site investigation.

5.6 Stormwater Soakage

Low permeability is anticipated due to the density of the sub-glacial lake deposits. Stormwater design will need to consider storage with a throttled outflow. Stormwater and sewer lateral outlets to the QLDC stormwater and sewer mains are preferred for this reason if consenting allows.

5.7 Site Subsoil Category

For detailed design purposes it is recommended the magnitude of seismic acceleration be estimated in accordance with the recommendations provided in NZS 1170.5:2004.

The site is Class C (shallow soil) in accordance with NZS 1170.5:2004 seismic provisions.

5.8 Future Geotechnical Input

It is recommended the following geotechnical scope is completed at detailed design/building consent for the proposed development:

- A detailed building specific site investigation comprising boreholes and deep test pits.
- Drafting the geological model onto developed cross sections for the building showing the boundary proximity to the proposed excavation profile.
- Review slope stability when detailed cross sections are available.
- Detailed geotechnical parameters for retaining wall and foundation design to assist the structural engineering design.
- An updated geotechnical report for detailed design/building consent based on the results of the above investigation.

6 Conclusion

The site is considered suitable for the proposed development from a geotechnical perspective.

Future geotechnical inputs area recommended at the detailed design stage as per Section 5.8 above.

7 Applicability

This report has been prepared for the benefit of 35 Kennaway Ltd with respect to the particular brief given to us and it may not be relied upon in other contexts or for any other purpose without our prior review and agreement.

Report prepared by:	Reviewed for GeoSolve Ltd by:
	
.....	.....
Will Flay	Fraser Wilson
Engineering Geologist	Senior Engineering Geologist

Appendices:

Appendix A – Site Plan & Cross-sections - Figures 1, 2A and 2B
Appendix B – Earthworks and As Built Plans for the Timber Pole Retaining Walls
Appendix C – Engineered fill report

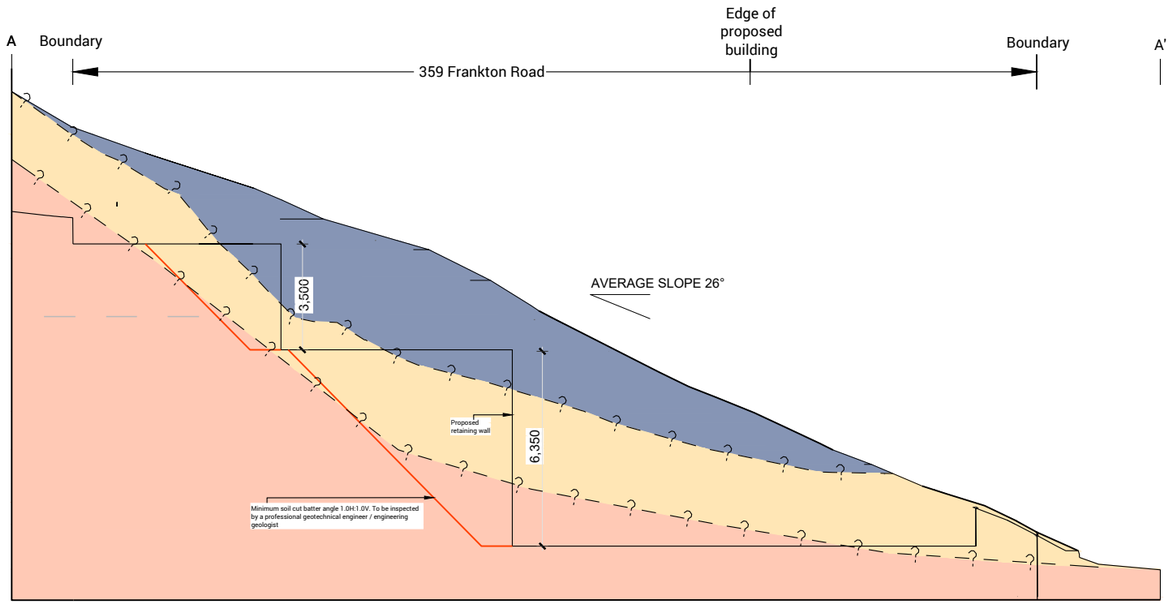
Notes:
1. These drawings have been prepared for the benefit of 35 Kennaway Ltd with respect to the particular brief given to us and it may not be relied upon in other contexts or for any other purpose without our prior review and agreement.

Legend:
- Historical Borehole Location
- Cross Section
- Historical Test Pit Location

GEOSOLVE
Level 1, 70 MacAndrew Road, South Dunedin
www.geosolve.co.nz

DRAWN	WF	Sep.24
DRAFTING CHECKED	FW	Sep.24
APPROVED	FW	Sep.24
CADFILE: 240622.dwg		
SCALES (AT A3 SIZE): 1:400		
PROJECT No: 240622		
FIG No: 01		
REV. 01		

35 Kennaway Ltd
359 Frankton Road
Geotechnical Assessment
Site Plan



Notes:
1. These drawings have been prepared for the benefit of 35 Kennaway Ltd with respect to the particular brief given to us and it may not be relied upon in other contexts or for any other purpose without our prior review and agreement.

Legend:
- Engineered Fill
- Deltaic / Outwash Gravel
- Sub-glacial Lake Depsoits
- Soil Cut Batter Angles
- Proposed Earthworks Pad

SCALE 1:200
0 2 4 6 8 10 (m)

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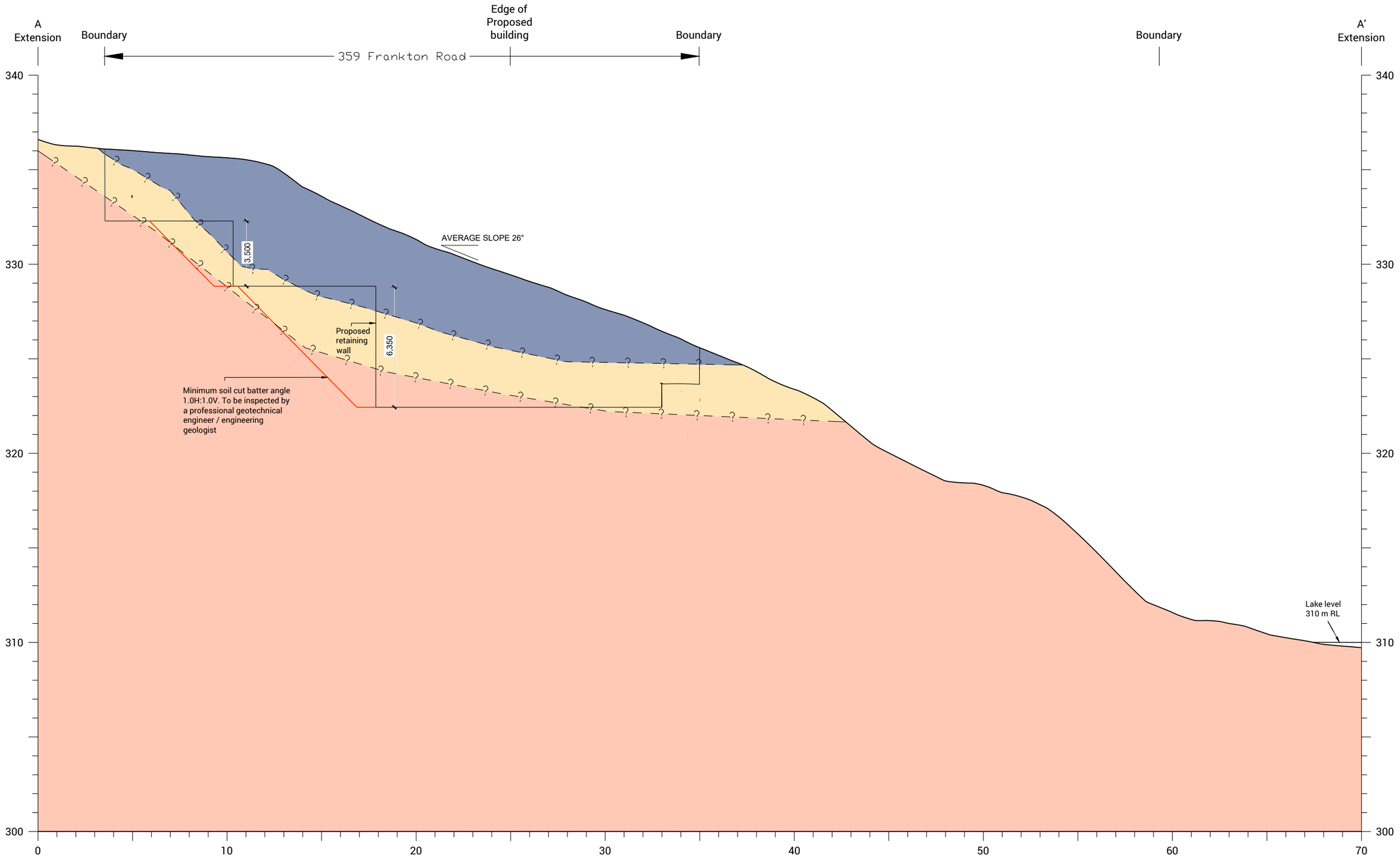
CADFILE: 240622.dwg
SCALES (AT A3 SIZE): 1:200
PROJECT No: 240622
FIG No: 2A
REV. 01

35 Kennaway Ltd
359 Frankton Road, Queenstown
Geotechnical Assessment
Inferred Ground Model - Cross Section A



Notes:
1. These drawings have been prepared for the benefit of 35 Kennaway Ltd with respect to the particular brief given to us and it may not be relied upon in other contexts or for any other purpose without our prior review and agreement.

Legend:
- Engineered Fill
- Deltaic / Outwash Gravel
- Sub-glacial Lake Depsoits
- Soil Cut Batter Angles
- Proposed Earthworks Pad

SCALE 1:200
0 2 4 6 8 10 (m)

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DRAWN	WF	Sep.24
DRAFTING CHECKED	FW	Sep.24
APPROVED	FW	Sep.24
CADFILE: 240622.dwg		
SCALES (AT A3 SIZE): 1:200		
PROJECT No: 240622	FIG No: 2B	REV. 01

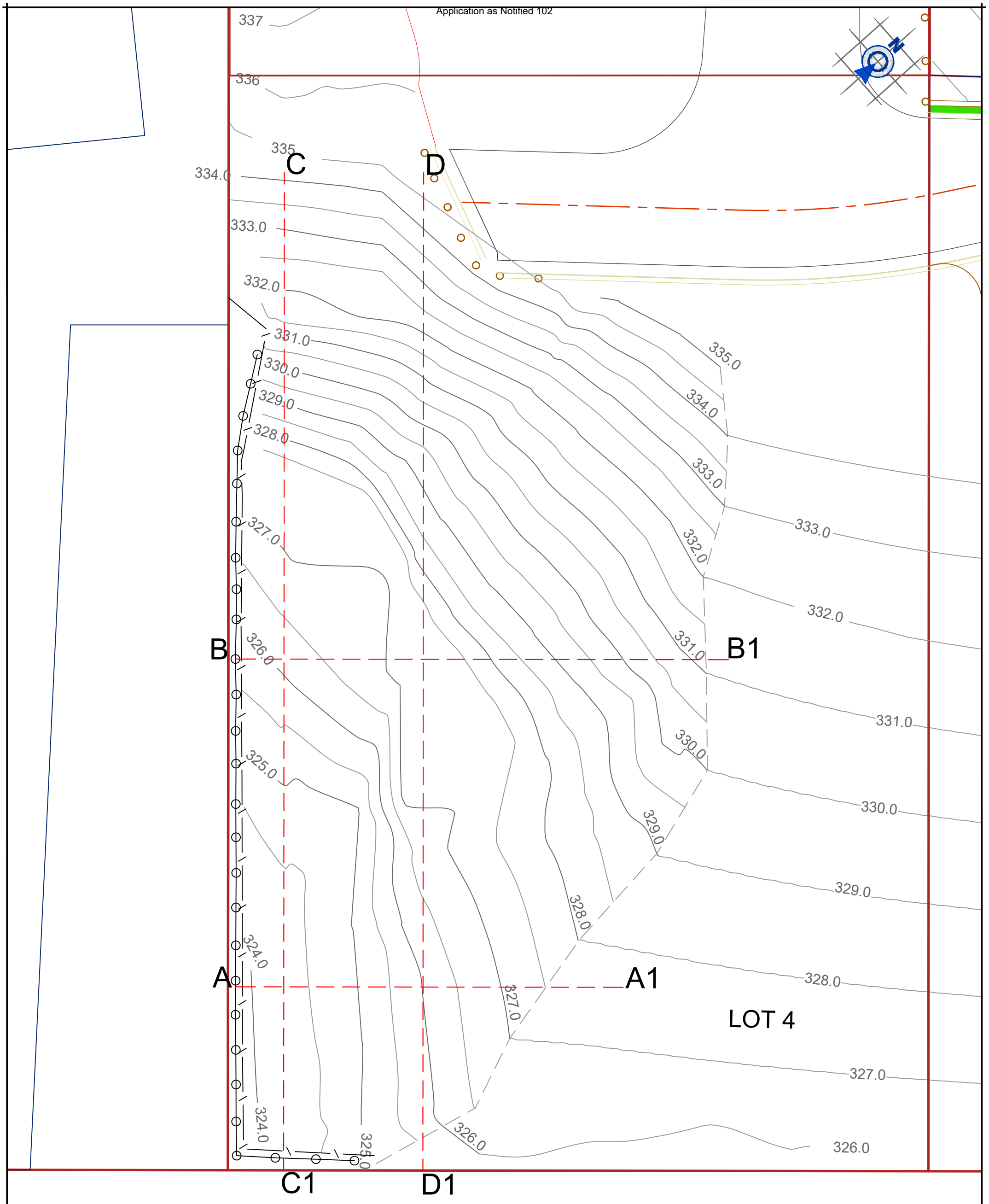
35 Kennaway Ltd

359 Frankton Road, Queenstown

Geotechnical Assessment

Inferred Ground Model - Cross Section A Slope Extension

Application as Notified 102



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Client/Location:
Ian Robertson
355, 359 Frankton Road
Lots 1 & 2 DP 10647
CFR OT2D/985, OT3A/312

Purpose/Drawing Title:
Excavation of western retaining wall
- contours & profiles -

Surveyed by:		Original Size: A3	Scale: 1:100
Designed by:			DO NOT SCALE
Drawn by:	AJH 2020		
Checked by:	AW 2020		
Approved by:			
Job Ref: Q6268 - 28		Sheet No: 01	Revision No: A
			Date Created: 25/06/2020

PLOT DATE: 25 June, 2020 - 2:21 PM BY: Andrew Hughson

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Application as Notified 103

Max fill 3m

0.5m Depth Range				
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-3.0	to	-2.5	m	
-2.5	to	-2.0	m	
-2.0	to	-1.5	m	
-1.5	to	-1.0	m	
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0.25	to	0.5	m	
0.5	to	1.0	m	
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1.5	to	2.0	m	
2.0	to	2.5	m	
2.5	to	3.0	m	
3.0	to	3.5	m	

LOT 4

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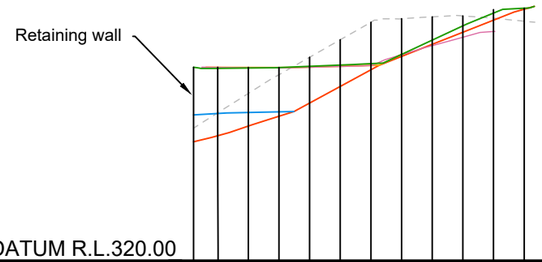
Client/Location:
Ian Robertson
355, 359 Frankton Road
Lots 1 & 2 DP 10647
CFR OT2D/985, OT3A/312

Purpose/Drawing Title:
Depth Range
Excavation level vs final backfill level

Surveyed by:		Original Size:	Scale:
Designed by:		A3	1:100
Drawn by:	AJH 2020		DO NOT SCALE
Checked by:	AW 2020		
Approved by:			
Job Ref: Q6268 - 28		Sheet No: 02	Revision No: A
			Date Created: 25/06/2020

PLOT DATE: 25 June, 2020 - 2:21 PM BY: Andrew Hughson

J:\JOBS\Q_6268__ROBERTSON, IAN FRANKTON RD (SYNERGY)\CAD\01 ENGINEERING DESIGN\200222 ASBUILT WESTERN WALL\Q6268-28-(1A-4A)_ASBUILT WESTERN RETAINING WALL 200225.DWG



DATUM R.L.320.00

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Backfill 200220		324.81	324.84	324.86										
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Chainage	0.22	1.00	2.00	3.00	4.00	5.00	6.00	7.00	8.00	9.00	10.00	11.00		

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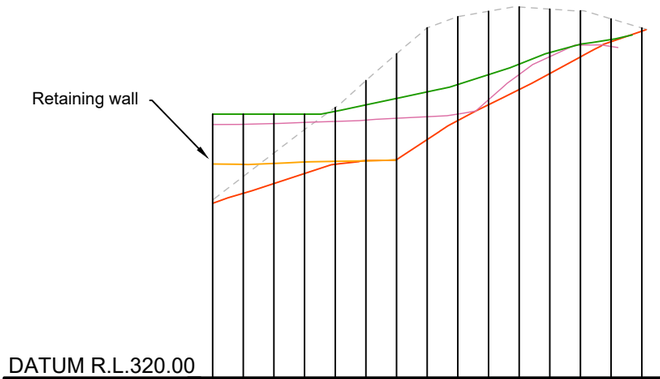
Profile A - A1



DATUM R.L.320.00

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Chainage	0.00	1.00	2.00	3.00	4.00	5.00	6.00	7.00	8.00	9.00	10.00	11.00	12.00	13.00	14.00	

SCALE 1:200 horizontal
1:200 vertical

Profile B - B1

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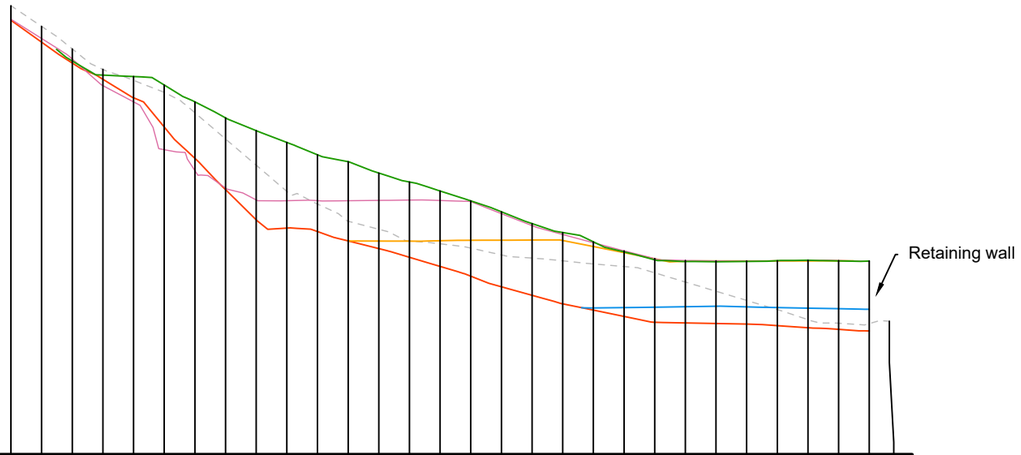
Client/Location:
Ian Robertson
355, 359 Frankton Road
Lots 1 & 2 DP 10647
CFR OT2D/985, OT3A/312

Purpose/Drawing Title:
Excavation vs backfill profiles

Surveyed by:		Original Size: A3	Scale: 1:200
Designed by:			DO NOT SCALE
Drawn by:	AH 2020		
Checked by:	AW 2020		
Approved by:			
Job Ref: Q6268 - 28		Sheet No: 03	Revision No: A
			Date Created: 25/06/2020

PLOT DATE: 25 June, 2020 - 2:21 PM BY: Andrew Hughson

J:\JOBS\Q_6268__ROBERTSON, IAN FRANKTON RD (SYNERGY)\CAD\01 ENGINEERING DESIGN\200222 ASBUILT WESTERN WALL\Q6268-28-(1A-4A)_ASBUILT WESTERN RETAINING WALL 200225.DWG



DATUM R.L.320.00

Backfill 200523			332.83	332.37	332.32	332.05	331.50	330.97	330.56	330.17	329.77	329.55	329.18	328.88	328.59
Backfill 200504	334.19	333.56	332.89	332.03	331.50	329.94	329.26	328.69	328.30	328.27	328.27	328.27	328.28	328.30	328.28
Backfill 200316												326.96	326.96	326.95	326.97
Backfill 200220															
Base Excavation	334.16	333.44	332.76	332.23	331.63	330.68	329.65	328.64	327.65	327.38	327.27	326.96	326.71	326.43	326.13
Existing Gr Level	334.63	333.96	333.22	332.56	332.20	331.81	331.14	330.29	329.43	328.58	328.16	327.60	327.34	326.96	326.87
Chainage	0.00	1.00	2.00	3.00	4.00	5.00	6.00	7.00	8.00	9.00	10.00	11.00	12.00	13.00	14.00

Backfill 200523	328.27	327.91	327.53	327.24	326.93	326.61	326.35	326.29	326.28	326.29	326.32	326.33	326.31	326.31	
Backfill 200504	328.25	327.85	327.46	327.17	326.90	326.64	326.39	326.33	326.31	326.31	326.32	326.33	326.32	326.29	
Backfill 200316	326.98	326.99	326.99	326.98	326.78	326.58	326.38	326.30	326.31	326.31	326.31	326.31	326.31		
Backfill 200220					324.78	324.79	324.80	324.82	324.83	324.81	324.79	324.77	324.75	324.73	
Base Excavation	325.81	325.47	325.19	324.91	324.71	324.50	324.31	324.29	324.27	324.25	324.20	324.13	324.08	324.03	
Existing Gr Level	326.73	326.51	326.40	326.31	326.21	326.13	325.92	325.62	325.32	325.02	324.72	324.39	324.28	324.27	324.35
Chainage	15.00	16.00	17.00	18.00	19.00	20.00	21.00	22.00	23.00	24.00	25.00	26.00	27.00	28.00	28.65

SCALE 1:200 horizontal
1:200 vertical

Profile C - C1

DATUM R.L.320.00

Backfill 200523				333.57	332.48	332.41	332.28	331.82	331.36	330.96	330.56	330.07	329.69	329.38	328.98
Backfill 200504		334.39	334.02	333.31	332.42	331.67	331.31	330.99	330.38	329.67	328.97	328.37	328.39	328.41	328.44
Backfill 200316										328.95	328.43	328.12	327.92	327.39	327.09
Backfill 200220															
Base Excavation		334.39	333.75	333.10	332.48	331.68	330.92	330.19	329.39	329.03	328.67	328.26	327.68	327.24	327.09
Existing Gr Level	335.18	334.78	334.36	333.85	333.51	333.18	332.81	332.37	331.78	331.18	330.93	330.74	330.49	330.23	330.04
Chainage	0.00	1.00	2.00	3.00	4.00	5.00	6.00	7.00	8.00	9.00	10.00	11.00	12.00	13.00	14.00

Backfill 200523	328.62	328.29	327.96	327.48	327.08	326.79	326.53	326.41	326.40	326.43	326.44	326.39	326.33	326.25	
Backfill 200504	328.45	328.45	328.12	327.67	327.38	327.02	326.64	326.39	326.36	326.36	326.36	326.35	326.34	326.26	
Backfill 200316	327.11	327.13	327.12	327.15	326.88	326.70	326.53	326.37	326.37	326.35	326.34	326.32	326.27		
Backfill 200220															
Base Excavation	327.09	327.10	327.11	327.05	326.84	326.66	326.47	326.32	326.03	325.99	325.92	325.86	325.85	325.52	
Existing Gr Level	329.79	329.52	329.27	329.16	329.06	328.73	328.37	328.03	327.68	327.35	327.07	326.75	326.36	326.04	325.81
Chainage	15.00	16.00	17.00	18.00	19.00	20.00	21.00	22.00	23.00	24.00	25.00	26.00	27.00	28.00	28.65

SCALE 1:200 horizontal
1:200 vertical

Profile D - D1

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Client/Location:
Ian Robertson
355, 359 Frankton Road
Lots 1 & 2 DP 10647
CFR OT2D/985, OT3A/312

Purpose/Drawing Title:
Excavation vs backfill profiles

Surveyed by:		Original Size: A3	Scale: 1:200
Designed by:			
Drawn by:	AH 2020		
Checked by:	AW 2020		
Approved by:			DO NOT SCALE
Job Ref: Q6268 - 28		Sheet No: 04	Revision No: A Date Created: 25/06/2020

PLOT DATE: 25 June, 2020 - 2:21 PM BY: Andrew Hughson

J:\JOBS\Q_6268__ROBERTSON, IAN FRANKTON RD (SYNERGY)\CAD\01 ENGINEERING DESIGN\200222 ASBUILT WESTERN

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EARTHFILL CERTIFICATION REPORT – TIMBER RETAINING WALL FILL

JOB TITLE	ROBERTSON FT GEOTECH
ADDRESS	355 FRANKTON ROAD QUEENSTOWN
JOB NUMBER	50860
	29 July 2020

Client: Robertson Family Trust
32 Panorama Terrace
Queenstown
9300

TABLE OF CONTENTS

Prepared by

Hilde Jordet
MSc (Geol)
Engineering Geologist

Reviewed by

David Rider
BSc (Geol) MEngNZ
Principal Geoprofessional/Senior Engineering Geologist

1. INTRODUCTION

1.1. SCOPE

This Earthfill Certification Report has been prepared for the above site for submission to the Queenstown Lakes District Council. This report relates to the Engineered Structural Fill placed behind the timber retaining wall located along the south-western boundary and also for the fill placed behind the timber retaining wall located along the edge of the access way.

RDA Consulting were engaged by Robertson Family Trust in a Short Form Agreement titled Robertson FT Geotech and dated 11th December 2018.

This certification only covers the earthfill component of the wall construction the Structural and PS4 certification for the wall is covered by Bartlett Consulting the design engineers.

1.2. DESCRIPTION

The development at 355 Frankton Road consist of constructing new residential units along the upper (northern) portion of the site and development of buildable land for future residential development across the lower (southern) portion of the site.

This report relates to the Engineered Structural Fill placed behind the timber retaining wall located along the south-western boundary and in addition, the fill placed behind the timber retaining wall constructed along the edge of the access way.

Up to 3.0 m of fill was placed behind the timber retaining wall along the boundary and up to 1.6 m of fill for the retaining wall along the access road to bring the site up to finished ground level. 19 site visits where undertaken before, during and after fill placement. The site reports for these visits are included in Appendix B. An as built drawing with the depth of fill placed is also included in Appendix A.

1.3. RELATED DOCUMENTS

In this report, reference is made to the following documents:

- NZS 3604: 2011 Timber Framed Buildings
- NZS 4431:1989 and amendments. Code of Practice for Earthfill for Residential Development.
- GeoSolve Ltd Geotechnical report titled “Geotechnical Report for Resource Consent 355 and 359 Frankton Road” dated January 2016, Ref: 160843.
- Bartlett Consulting Retaining Wall Design titled “Miragrid GX100 Boundary Retaining Walls lots 4 DP 8984”, dated 14th October 2018.
- RDA Consulting Retaining Wall Stability Analysis, titled “3.0 m Boundary Timber Pole and Miragrid Retaining Wall Global Stability Analysis for 355 Frankton Road, Queenstown” dated 17th January 2020.
- RDA Consulting Earthfill Certification, 327 Frankton Road titled “Earthfill Certification Brosnan Shores Geotech” dated 30th January 2020.

2. GEOTECHNICAL INVESTIGATIONS

2.1. PREVIOUS GEOTECHNICAL REPORTING

A site specific Geotech Investigation Report prepared by GeoSolve Ltd was conducted for the upper northern portion of the site and is titled “Geotechnical Report for Resource Consent 355 and 359 Frankton Road” dated January 2016, Ref: 160843.

A copy of the geotechnical report is already held on council files.

RDA consulting conducted previous site investigations and testing for the neighbouring Shores apartment site to provide the subgrade requirements prior to this walls construction.

2.2. SUBGRADE

An initial Investigation of the subgrade materials was conducted prior to fill placement to determine the bearing capacity and suitability of the subgrade material.

For the lower, southern portion of the retaining wall, the base of the wall is founded on engineered fill placed as part of the reinstatement of the lower station retaining wall for 327 Frankton Road. 2.1 m of engineered fill was placed and certified by RDA Consulting. The Earthfill Certification Report was prepared for Brosnan Construction Canterbury Ltd and is available on request and held on council files

For the sloping section along the boundary, the subgrade material consisted of gravelly sand material and an Ultimate Bearing Capacity of 300 kPa was generally encountered within the upper 250 mm.

The results and recommendations of this are contained within Site Report 23, 40, 43, 45 and 47 (Appendix B).

3. EARTHWORKS OPERATIONS

3.1. SCOPE OF EARTHWORKS OPERATIONS

The earthworks conducted for this scope of retaining involved placement of up to approximately 3.0 m of compacted fill along the south-western boundary and 1.6 m of fill behind the retaining wall located along the access way, to bring it up to finished level. The as built plans in Appendix A shows the locations and depths of fill along the retaining walls.

3.2. CONTRACTOR

The earthwork contractor responsible for the site excavations was Master Bates Construction Ltd T/A Structor NZ. A 14.5 tonne hydraulic excavator was used to excavate the site and for fill placement. A 400 kg plate compactor was used for compaction of the fill materials.

A producer statement construction from Master Bates Construction Ltd T/A Structor NZ is attached in Appendix C.

3.3. CONSTRUCTION METHODOLOGY

The organic material and non-certified fill material were stripped and removed from site. Prior to fill being placed the platform was cut to the required levels with competent natural ground exposed in the base as detailed in the site reports. Fill was spread by the digger in thin 150 mm loose layers and then compacted appropriately with the plate compactor. This continued successively to the finished levels.

Site won material was used as fill material. Towards the end of the works, cement was added to the fill material to absorb some of the moisture in the fill material and to increase the stiffness due to excess moisture resulting in the fill material heaving. Cement was added to a 700 mm fill layer, before the original fill material was again used, once it had appropriate moisture conditioning with no cement added. Details for the cement fill mixing ratio is detailed in Site Report 52.

3.4. CONSTRUCTION INSPECTIONS AND COMPACTION TESTING

The inspecting Engineer has utilised section 7.4.1.1 part (a) and (e) of NZS4431 to satisfy the requirements of the compaction to be achieved. Scala Penetrometer testing was the primary method of earthfill compaction testing with NDM testing a selected intervals for calibration. Scala testing during and after fill placement confirmed the fill materials met the compaction requirements to the satisfaction of the inspecting Geoprofessional with a Scala Penetration Resistance (SPR) of 14 blows over 150 mm within the upper 300 mm for each test level the target.

Results of this testing are contained in the site reports attached in Appendix B.

Nuclear Densometer Testing (NDM) was conducted to supplement the Scala penetrometer testing. An independent entity, Central Testing Services, are an IANZ accredited Laboratory and conducted the NDM testing. The results for the NDM testing are tabulated in Appendix B.

Central Testing Services prepared a NZ Standard Compaction test for the material to ensure it had a greater than 95% relative compaction for a standard curve and 92% for a vibrating hammer test. Central Testing Services conducted 6 NDM tests throughout the placement and compaction of earthfill. All tests achieved greater than 95 % relative compaction.

The bulk fill material was sandy GRAVEL with minor silt that was sourced locally from stockpiles on site. Following a heavy rain event, the moisture content of the fill become over optimum, resulting in the fill material heaving and lower compacting results. At which point the fill left to dry out over a 48-hour period. The retest of the fill compaction indicated that the required compaction had been met, however the fill has still slightly heaving, at which point Cement was mixed into the fill to absorb the slight excess in moisture and create stiffness in the layer for additional fill placement above.

Results of this testing are contained in Site Report 49-52 attached in Appendix B.

3.5. UNDERFILL DRAINAGE

Subsoil drainage was installed along the eastern edge of the fill, along the boundary between engineered fill and natural subgrade as indicated on the As-Built Plan. Details of the subsoil drainage are appended in Site Report 38.

Following a heavy and prolonged rainfall, water seepage was observed along the subgrade located upslope of the compacted fill material resulting in increased water content of the fill. A drain coil was installed horizontally at the base of the cut slope

wrapped in bedding sand to capture the water seepage. The drain coil was connected to the existing drain running in the north-south direction along the eastern edge of the fill.

The drainage for the retaining wall was specified in the Retaining Wall design report prepared by Bartlett Construction (Bartlett, 2018). The facing boards for the retaining wall is spaced 5 mm apart with a Bidim geotextile placed behind the wall which will allow water to pass through the face of the wall.

4. GEOTECHNICAL ENGINEERING CONSIDERATIONS

4.1. ALLOWABLE BEARING CAPACITY STRESSES AND SETTLEMENT

Scala penetrometer testing of the finished surface confirmed a Geotechnical Ultimate Bearing Capacity of greater than 300 kPa in accordance with NZS3604:2011.

The fill placement methodology, in accordance with NZS:4431, is accepted by the Building Code to mitigate differential settlement issues.

No settlement of the fill is expected to occur outside of the limits set by NZS3604.

4.2. CERTIFIED FILL AREAS

The areas shown on the As Built plan provided by Patterson Pitts Group in Appendix A show the extents of the fill along the retaining wall located along the south-western boundary and behind the retaining wall along the access road. For the fill along the south-western retaining wall, the certified fill only extends to the end of the Miragrid, 4.0 m north-east from the retaining wall.

4.3. FOUNDATION CONSIDERATION

As part of the construction of the retaining wall, Miragrid GX100 has been installed in 1.0 m intervals within the fill material, extending 4.0 m from the retaining wall face. The retaining wall including geogrid is not designed to support the additional load of a building founded on the reinforced fill, nor the wedge of soil immediately behind the wall. On no account shall building foundations or services come into contact or intercept the installed Miragrid reinforcing in the ground. Specific foundation design recommendations and restrictions are to be provided by Bartlett consulting and are proposed to be further reported in the sites Geotechnical Completion Report currently under preperation.

5. APPLICABILITY

This report is only to be used by the parties named above for the purpose that it was prepared and shall not be relied upon or used for any other purpose without the express written consent of the principal and RDA Consulting.

This certification report does not remove the necessity for the normal inspection and design of foundations as would be made in natural ground.

Our professional services are performed using a degree of care and skill normally exercised, under similar circumstances, by reputable consultants practicing in this field at this time. No other warranty, expressed or implied, is made as to the professional advice presented in this report.

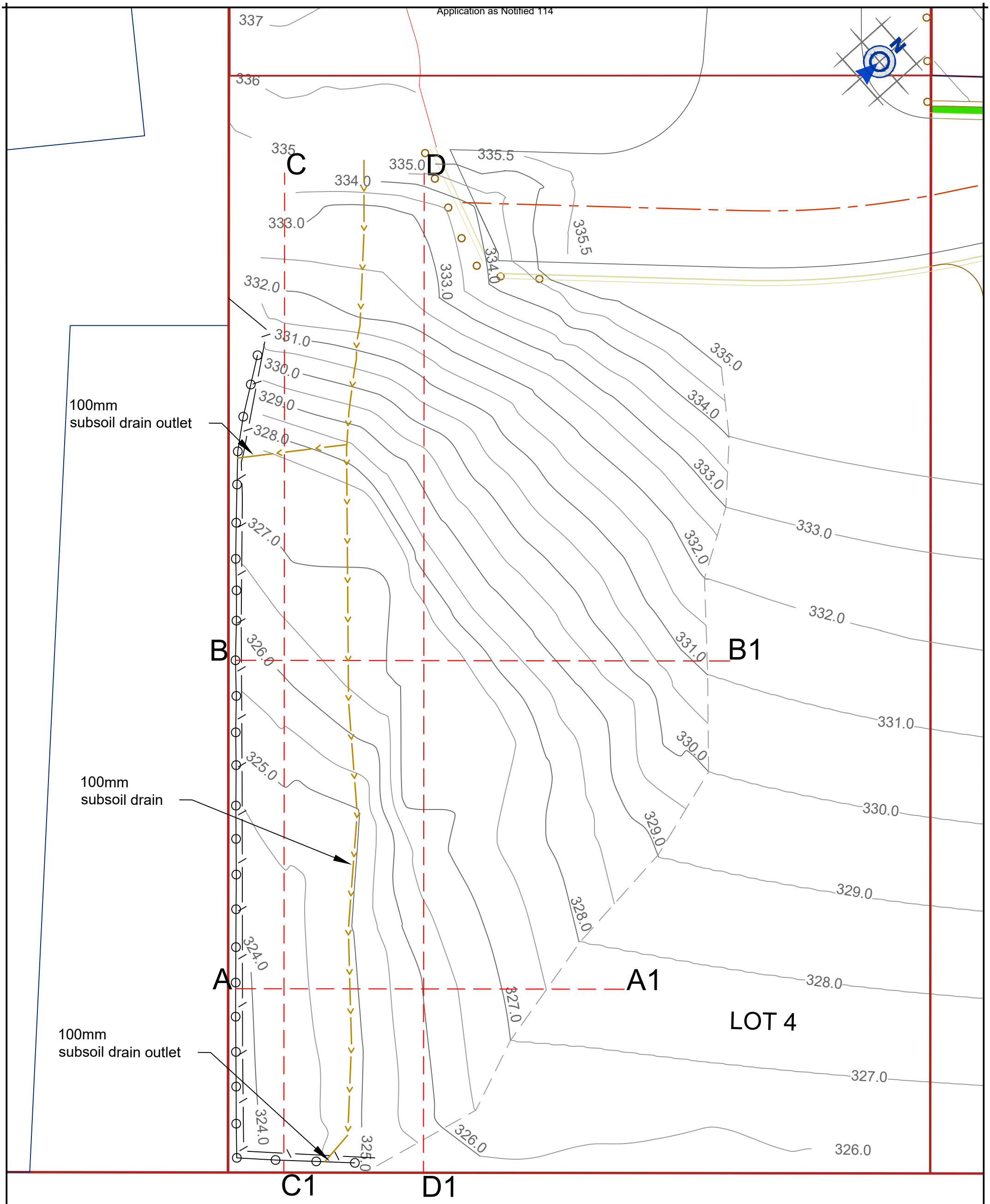
6. PHOTOS

Photo 1: Looking south-east across the fill placed behind the timber retaining wall.

Photo 2: Looking west across the fill placed behind the timber retaining wall located along the access way.

APPENDIX A. AS-BUILT DRAWINGS

1. Excavation of western retaining wall – contours & profiles - Patterson Pitts Group
2. Depth Range Excavation level vs final backfill level - Patterson Pitts Group



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Client/Location:
Ian Robertson
355, 359 Frankton Road
Lots 1 & 2 DP 10647
CFR OT2D/985, OT3A/312

Purpose/Drawing Title:
Excavation of western retaining wall
- contours & profiles -

Surveyed by:		Original Size: A3	Scale: 1:100
Designed by:			DO NOT SCALE
Drawn by:	AJH 2020		
Checked by:	AW 2020		
Approved by:			
Job Ref: Q6268 - 28		Sheet No: 01	Revision No: A
			Date Created: 27/07/2020

PLOT DATE: 27 July, 2020 - 3:24 PM BY: Andrew Hughson

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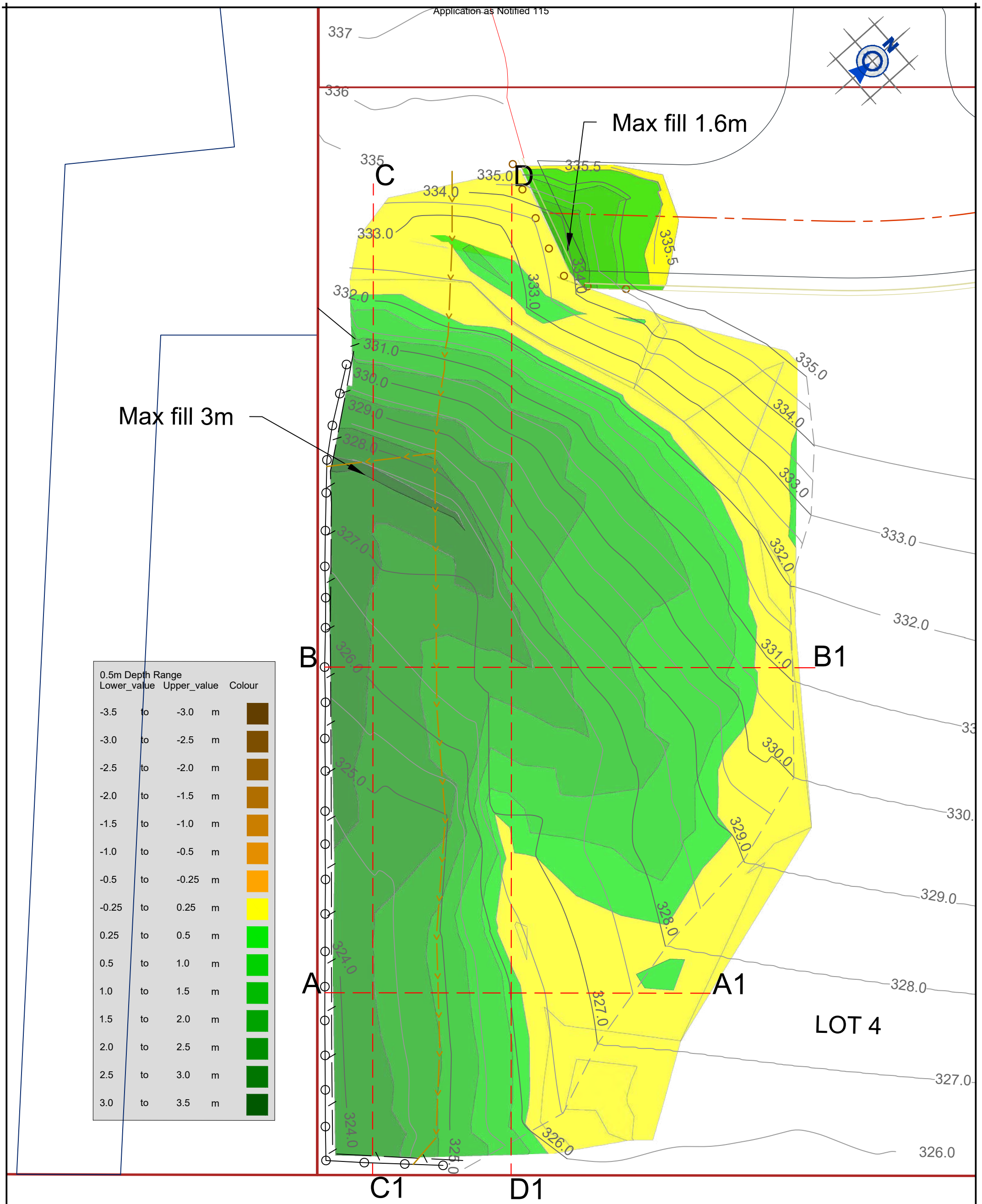
Application as Notified 115



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Client/Location:
Ian Robertson
355, 359 Frankton Road
Lots 1 & 2 DP 10647
CFR OT2D/985, OT3A/312

Purpose/Drawing Title:
Depth Range
Excavation level vs final backfill level

Surveyed by:		Original Size: A3	Scale: 1:100
Designed by:			DO NOT SCALE
Drawn by:	AJH 2020		
Checked by:	AW 2020		
Approved by:			
Job Ref: Q6268 - 28		Sheet No: 02	Revision No: A
			Date Created: 27/07/2020

PLOT DATE: 27 July, 2020 - 3:24 PM BY: Andrew Hughson

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APPENDIX B. SITE REPORTS

1. Site Reports (SR23, SR38, SR40-54)
2. NDM testing results

RDA Consulting
GEOTECHNICAL • CIVIL • ENVIRONMENTAL

SITE REPORT	23
Job Title	Robertson FT Geotech
Physical Address	355 Frankton Road
	Queenstown
Job No.	50860
Date	21/05/19

To	Name	Company	Email
☑	Ian Robertson	Robertson Family Trust	ianjrobertsonqtn@gmail.com
☑	Stephen Bates	Structor	info@structor.nz
☑	Trevor Jones	Jones contracting	earthworks@queenstown.co.nz
☑	Andrew Hughson	Patterson Pitts	andrew.hughson@ppgroup.co.nz

Work Reviewed:

Fill compaction testing for Gabion Wall, RL 345 m, re-test fill along access road and subgrade testing for subgrade within Unit 6.

Observations and Comments:

RDA Consulting were requested to conduct fill compaction testing for the earthfill placed behind the gabion wall. The southern end of the gabion wall (Section A) is completed with a design slope height of 4.5 m, however Section B and C the finished slope heights are 5.5 m and 7.5 m respectively. The fill level for Section B and C was at the same level with a RL of 345 m.

The block wall foundation for Unit 6, the southern most building, had been initiated and will require ~0.8 m of fill to be placed within the perimeter of the block wall. Half of the building footprint is founded on the gabion wall earthfill whereas the remaining half is founded on natural ground (see Photo 1). ~100 mm of fill was placed along the mid portion of the building footprint. Two Scala penetrometer tests were conducted across the subgrade material, SP1 and SP2. The results indicate that 300 kPa was encountered with the upper 0.15 m.

It was observed that fill for the southern end of the gabion wall had been eroded following some heavy rainfall events (Photo 2). It was indicated by Steve that this section would be undercut by the plumber and backfilled.

Three Scala penetrometers (SPR1-SPR3) were conducted across the fill material for the gabion wall as indicated on the Test Location Plan. The results indicated the required compaction had been achieved as an SPR of 14 was encountered within 300 mm of the surface.

It was requested that the fill placed along the access road between chainage 60 and 65 was retested (initially tested 30/04/19, SR21). During the initial inspection the fill was saturated and has since received further compaction and reduced in moisture content. Two Scala tests were conducted (SPR4 and SPR5) and the results indicated the required compaction had been achieved as an SPR of 14 was encountered within 200 mm of the surface.

Recommendations:

- NDM testing is required following 500 mm of material placed behind the gabion wall;
- Contact RDA for fill testing for Unit 6 following 500 mm of fill placement;
- Contact RDA to conduct earthfill testing following a further 1.0 m of fill placement for gabion wall.

Report Prepared by:

Hilde Jordet
MSc (Geol)
Engineering Geologist

50860 Roberton FT Geotech SR23

☑ Issued, date sent 30/05/2019
☑ Reviewed by: OMB

Attached: Photos, Test Location Plan, Scala Logs SPR1-SPR5, SP1-SP2

Photos:

Photo 1: Looking across the building footprint of Unit 6. The western portion of the building footprint is founded on natural ground.

Photo 2: Looking at the southern corner of Unit 6 and the end of the gabion wall. The fill along the end had started eroding due to rainfall.

Photo 3: Looking north along Section B and C of the gabion wall.

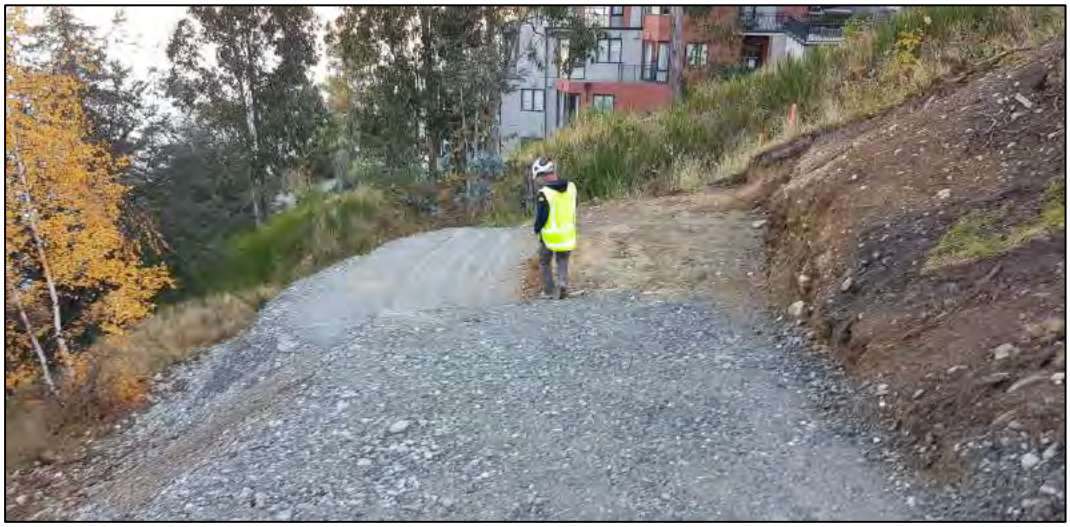
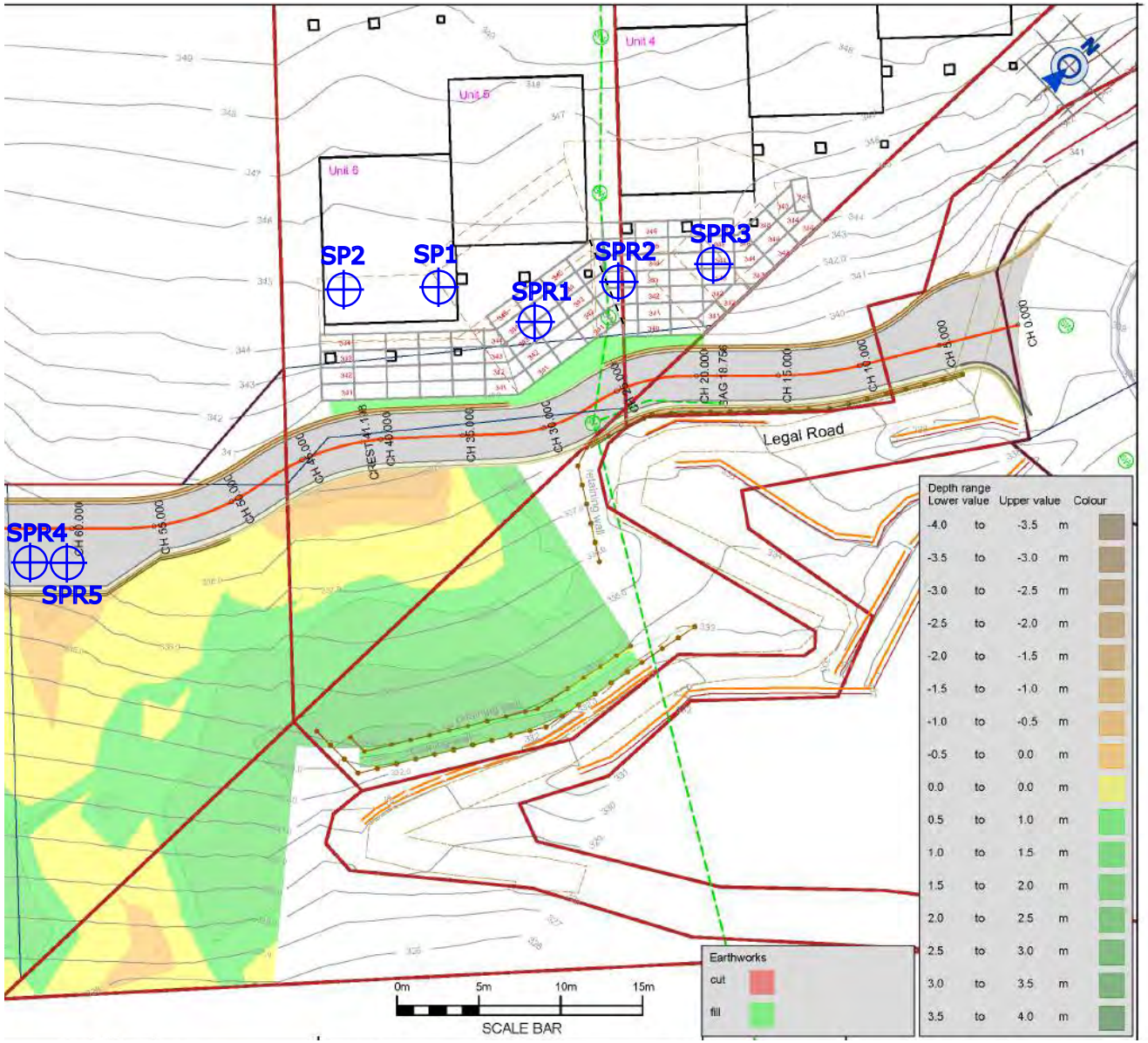


Photo 4: Looking south across the lower portion of the access road between chainage 60 and 65.

Legend:

⊕ Location of Scala test



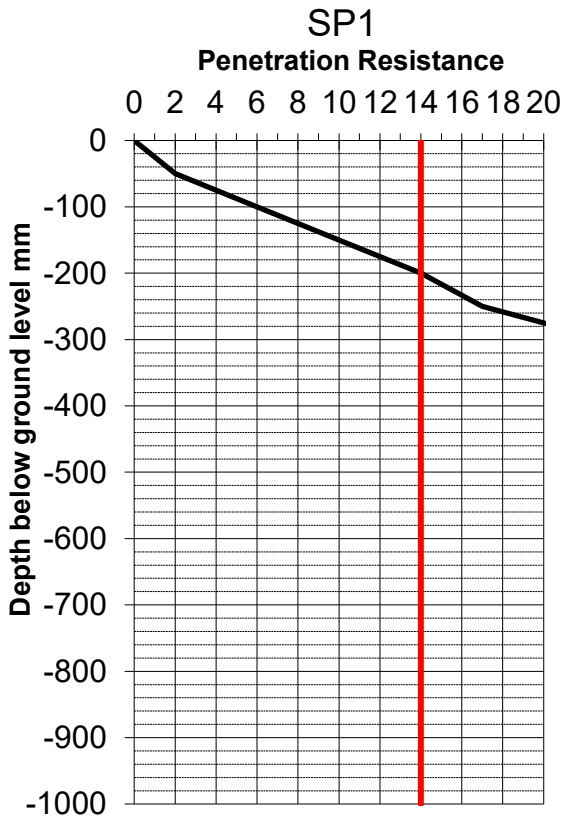
Engineering firm: www.rda.co.nz RDA Consulting GEOTECHNICAL • CIVIL • ENVIRONMENTAL	Project: Robertson FT Geotech 355 Frankton Road Queenstown	Client: Robertson Family Trust 32 Panorama Terrace Queenstown 9300	Drawing Title: Test Location Plan RL 345 m Job Number: 50860	NTS Date: 22/05/2019 Drawing No. 1

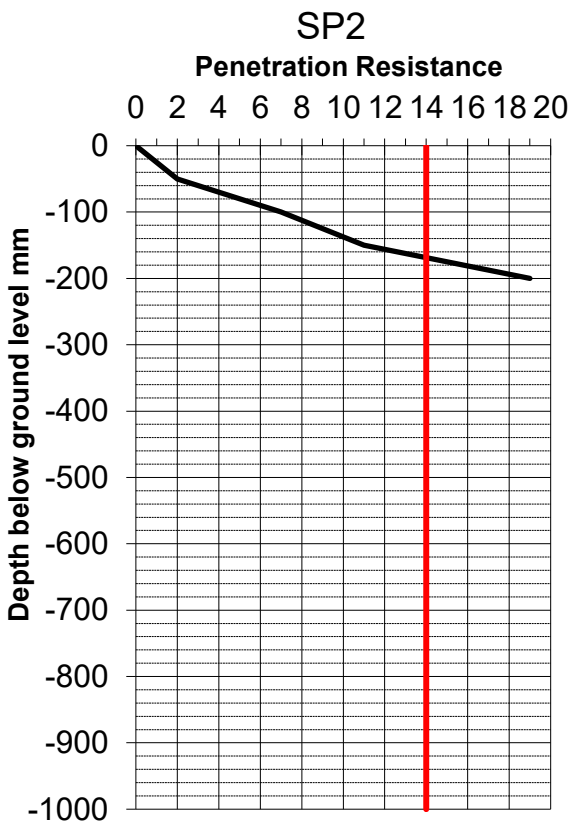
PENETRATION RESISTANCE TESTING

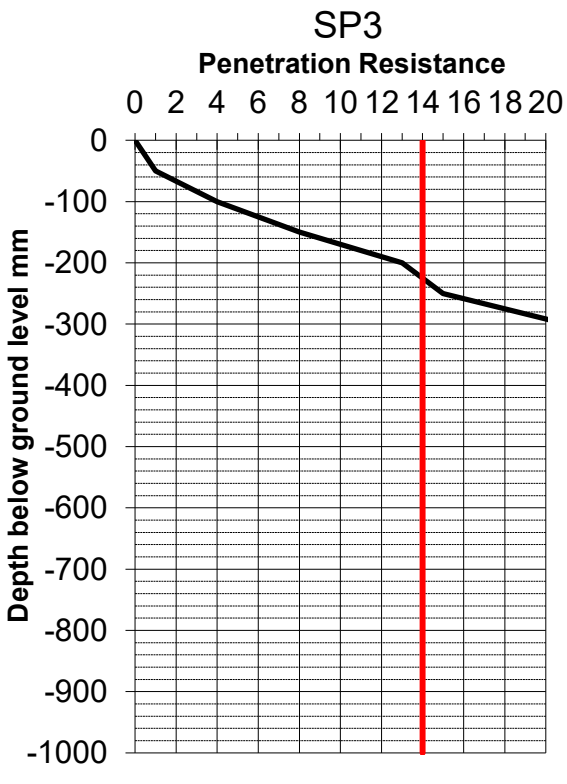
RDA Consulting
GEOTECHNICAL • CIVIL • ENVIRONMENTAL

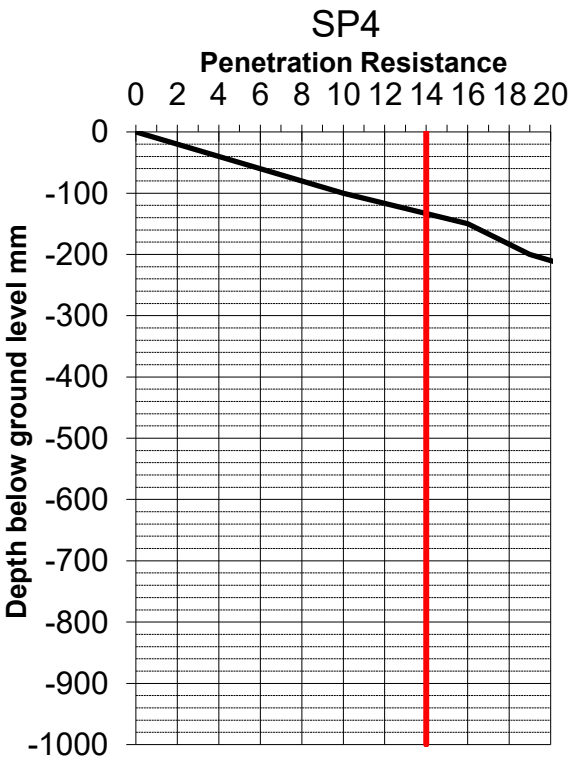
JOB NUMBER:	50860	PROJECT:	Robertson FT Geotech	
		LOCATION:	355 Frankton Road	Weather:
CO-ORDINATES:	mE	DATE:	21-May-19	Comments:
Refer site plan attached	mN	OPERATOR:	HDJ	

Testing Location: Behind gabion wall and access Material: AP65 Park Burn Level: 345 m







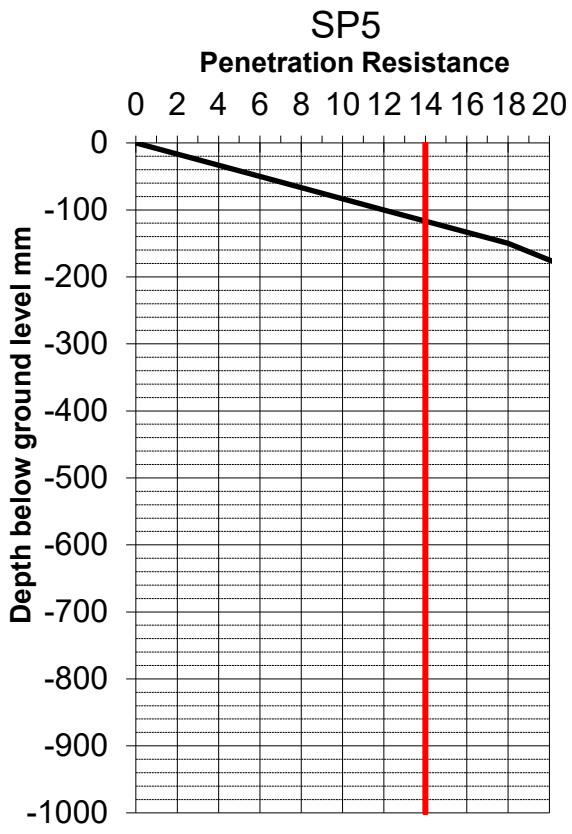


PENETRATION RESISTANCE TESTING

RDA Consulting
GEOTECHNICAL • CIVIL • ENVIRONMENTAL

JOB NUMBER:	50860	PROJECT: Robertson FT Geotech	
		LOCATION: 355 Frankton Road	Weather:
CO-ORDINATES:	mE	DATE: 21-May-19	Comments:
Refer site plan attached	mN	OPERATOR: HDJ	

Testing Location: Behind gabion wall and access Material: AP65 Park Burn Level: 345 m



SCALA PENETROMETER RESULTS

JOB NUMBER:	50860	PROJECT:	Robertson FT Geotech
		LOCATION:	355 Frankton Road
CO-ORDINATES:	mE	DATE:	21-May-19
See attached plan	mN	OPERATOR:	HDJ

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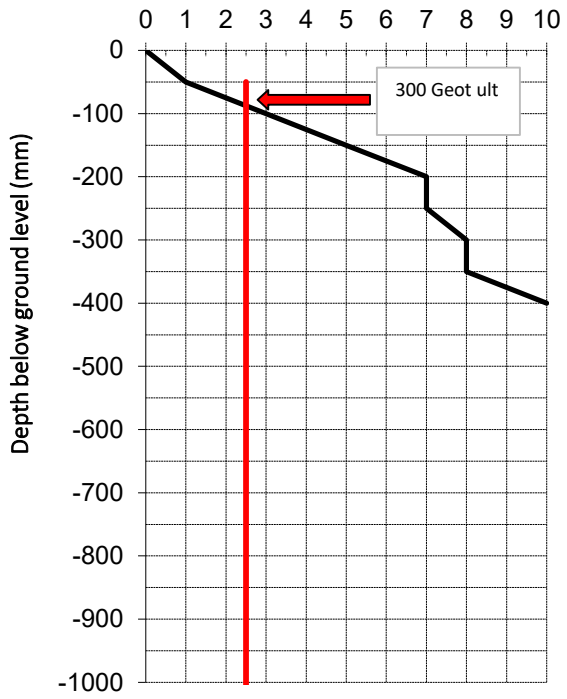
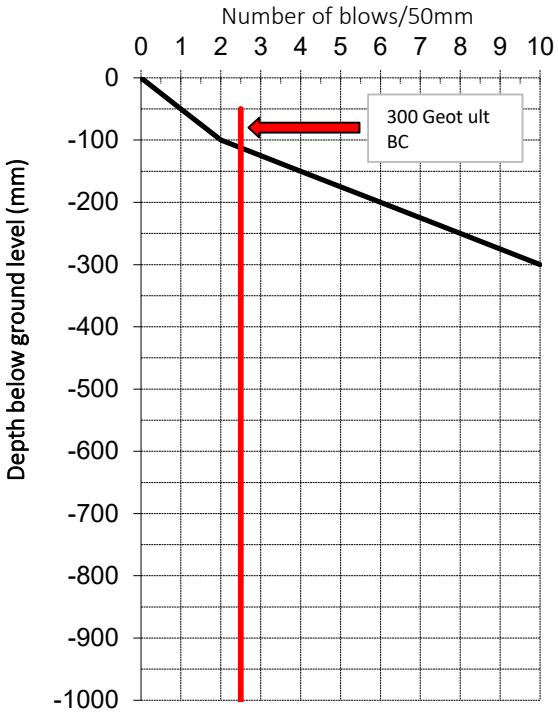
Note: No Friction correction has been applied to the field results. 5 Blows per 100mm is considered compliance with NZS3604 3.3.7

SP1



SP2



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RDA Consulting
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SITE REPORT	38
Job Title	Robertson FT Geotech
Physical Address	355 Frankton Road
	Queenstown
Job No.	50860
Date	25/11/19

To	Name	Company	Email
☑	Ian Robertson	Robertson Family Trust	ianjrobertsonqtn@gmail.com
☑	Stephen Bates	Structor	info@structor.nz
☑	Trevor Jones	Jones contracting	earthworks@queenstown.co.nz

Work Reviewed:

Subgrade drainage details

Observations and Comments:

RDA Consulting met with Brent from Jones Contracting on site discussing the progress and future earthworks for the proposed road and units along the southern portion of the site. As mentioned in Site Report 37, a gully has been undercut to remove uncertified fill and organic material from the location of the proposed road (between chainage 75 and 80) down towards the southern boundary and Frankton Track. A wastewater and stormwater pipe will be located along this gully and connected to the council pipe located along Frankton Track.

Due to the steep slopes present and the proposed fill to be placed a subsoil drain will be required along the gully depression.

The upper portion of the gully will be backfilled to create a levelled platform for the road and the units. Prior to the fill placement, a subsoil drain shall be installed in the centre line in the base of the gully and be connected to the stormwater manhole at the low point of the site. The subsoil drainage shall be 0.5 m wide and 0.5 m high, wrapped around with a A19 Bidim filter cloth with a 100 mm draincoil along the base. See detailed cross section attached. The upslope end of this drain can terminate were a nominal depth of fill over it; 0.6m can be obtained. The end is to be fully wrapped by the Geotextile cloth to prevent soil infiltrating the drainage aggregate.

Recommendations:

- As per section above.

Report Prepared by:

Hilde Jordet
MSc (Geol)
Engineering Geologist
50860 Roberton FT Geotech SR38

☑ Issued, date sent 27/11/2019
☑ Reviewed by: DWR

Attached: Photos, Test Location Plan, Subsoil Drainage Cross Section

Photos:

Photo 1: Looking north-west across the undercut gully located along the access road. Subsoil drainage to be places along the base of the gully.

Engineering firm: www.rda.co.nz

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Project:
Robertson FT Geotech
355 Frankton Road
Queenstown

Client:
Robertson Family Trust
32 Panorama Terrace
Queenstown
9300

Drawing Title:
Subsoil drain location

Job Number: 50860

Scale: NTS

Date: 25/11/2019

Drawing No.1

Job Title Robertson FT Geotech

Subsoil Drainage Cross Section

Job No. 50860 Sheet No. 1 Revision

Calcs By HDJ Date 25/11/19

RDA Consulting
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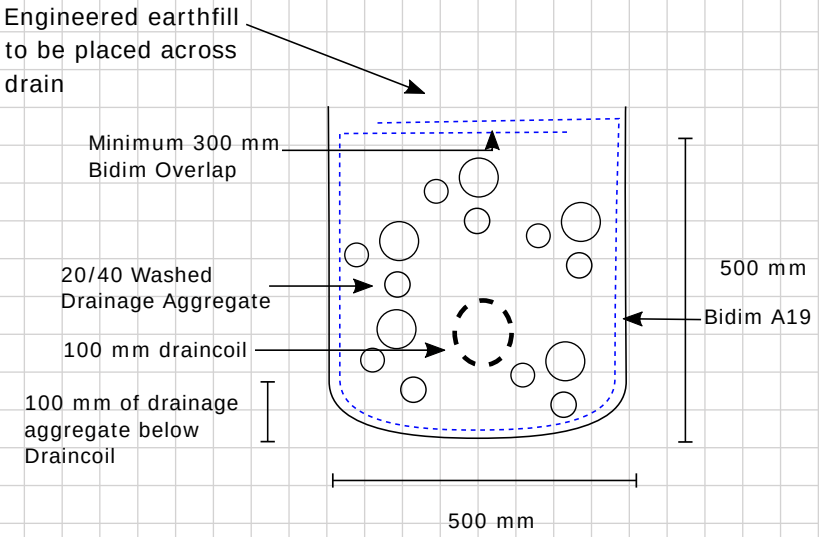
SUBSOIL DRAINAGE DETAILS CROSS SECTION



RDA Consulting
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SITE REPORT	40
Job Title	Robertson FT Geotech
Physical Address	355 Frankton Road
	Queenstown
Job No.	50860
Date	18/02/2020

To	Name	Company	Email
☑	Ian Robertson	Robertson Family Trust	ianjrobertsonqtn@gmail.com
☑	Stephen Bates	Structor	info@structor.nz
☑	Trevor Jones	Jones contracting	earthworks@queenstown.co.nz

Work Reviewed:

- Fill compaction testing, access road (upper pad)
- Fill compaction testing, behind Boundary retaining wall (lower pad)

Observations and Comments:

RDA Consulting were requested to conduct a fill compaction test for the southern end of the access road and also the fill placed behind the boundary retaining wall located in the south-western corner of the site, in this report referred to as the upper and lower pad, respectively.

Upper Pad:

A timber retaining wall is constructed along the south-western boundary where the access road will terminate and a total of 1.4 m of fill will be placed within the retaining wall to bring it up to finished level (Photo 1). At the time of inspection 600 mm of fill had been placed and compacted with a 400 kg plate compactor. The fill material was site-won material sourced from undercut along the proposed access road and was a gravelly, sandy material.

Two Scala penetrometer tests were conducted (SPR1 and SPR2) which indicated that the required compaction was not achieved. Whilst on site, additional compaction was conducted, bringing the number of passes up to 12. Following the additional compaction, the fill was re-tested (SPR3 and SPR4). The Scala results indicated that the required SPR value of 14 blows per 150 mm was achieved.

Two Scala tests were also conducted on the outside of the retaining wall into the subgrade material (SP1 and SP2). The results indicated that an Ultimate Bearing Capacity of 300 kPa was encountered within the upper 250 mm. Previous testing of the subgrade material (Site Report 37) indicated that 300 kPa was achieved within the upper 100 mm and the loose upper material is likely due to the construction of the retaining wall.

Lower Pad:

A retaining wall is constructed along the boundary between south-western boundary between the two sites and earthfill is being placed on the northern side of the wall to bring the site up to finished level. The site-won material is being used as fill material, however from a different source than the upper pad as indicated on the Test Location Plan. The fill material for the lower pad is sourced from the stockpile located north-east of the retaining wall.

At the time of inspection 500 mm of fill had been placed. Three Scala tests were conducted (SPR5-7), indicating that a SPR value of 14 was achieved. Steve indicated that a NDM test would be conducted by Central Testing to confirm if the required compaction has been met.

Some tree roots and organic material was observed across the soil batter north-west of the fill area (Photo 3), however Steve indicated that this soil batter will be further undercut as the fill level increases.

Recommendations:

- Upper pad: Contact RDA following placement of 600 mm of fill for a fill compaction tests
- Lower Pad: Forward NDM results to RDA to confirm that the required compaction has been met. Contact RDA following placement of 500 mm of fill for a fill compaction tests.

Report Prepared by:

Hilde Jordet
MSc (Geol)
Engineering Geologist
50860 Roberton FT Geotech SR40

☑ Issued, date sent 25/02/2020
☑ Reviewed by: DWR

Attached: Photos, Test Location Plan, Scala Logs SP1-SP2, SPR1-SPR7

Photos:

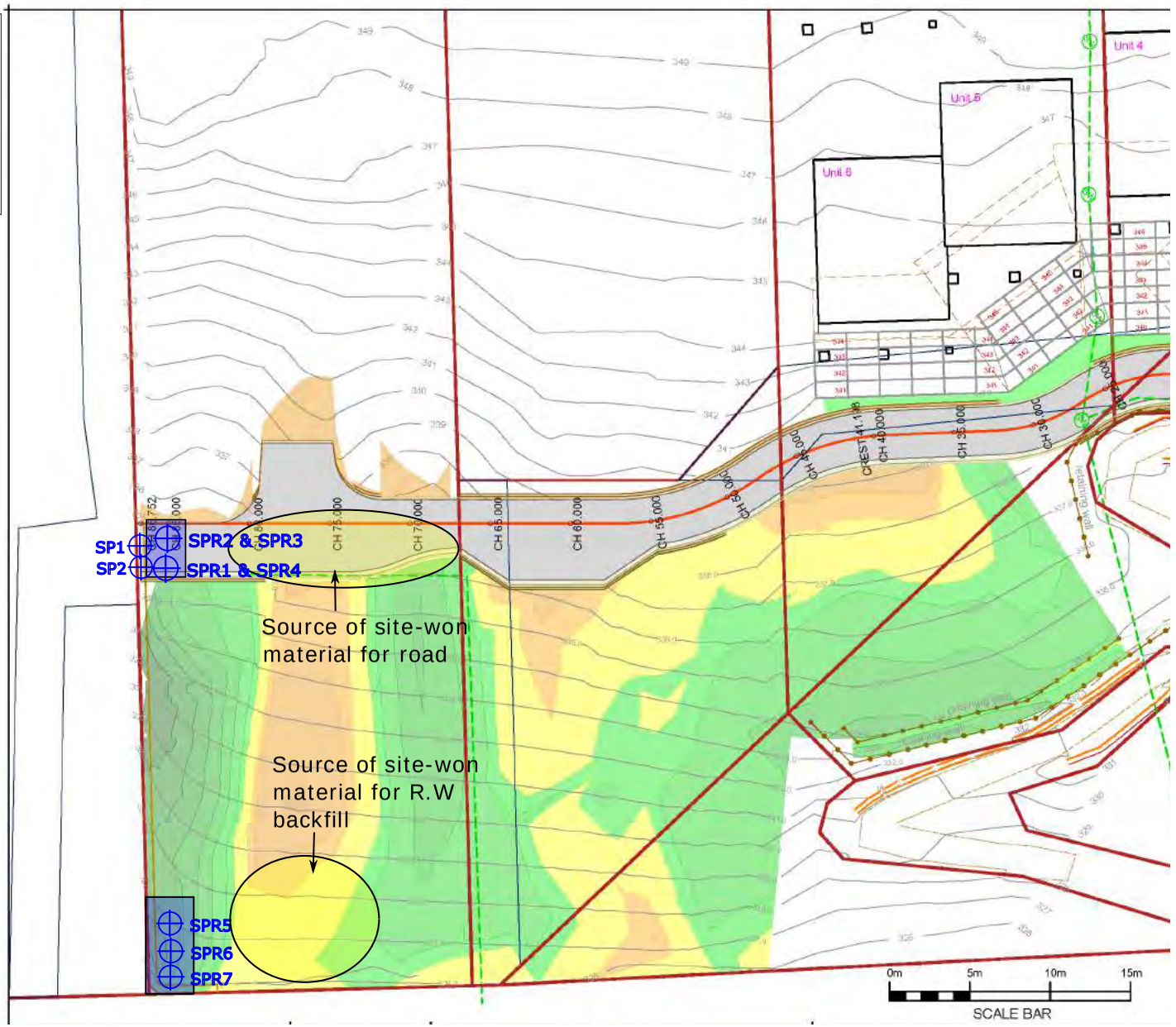
Photo 1: Looking north across the fill placed along the timber retaining wall for the access road.

Photo 2: Looking south across the fill area located behind the retaining wall.

Photo 3: Tree roots were observed within the soil batter next to the lower pad.

Legend:

- Location of Scala test
- Approximate extent of fill



Application as Notified 132

Engineering firm: www.rda.co.nz

RDA Consulting
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Project:
Robertson FT Geotech
355 Frankton Road
Queenstown

Client:
Robertson Family Trust
32 Panorama Terrace
Queenstown
9300

Drawing Title:
Test location Plan
Access Road and Backfill Retaining Wall

Job Number: 50860

Scale: NTS

Date: 19/02/2020

Drawing No.1

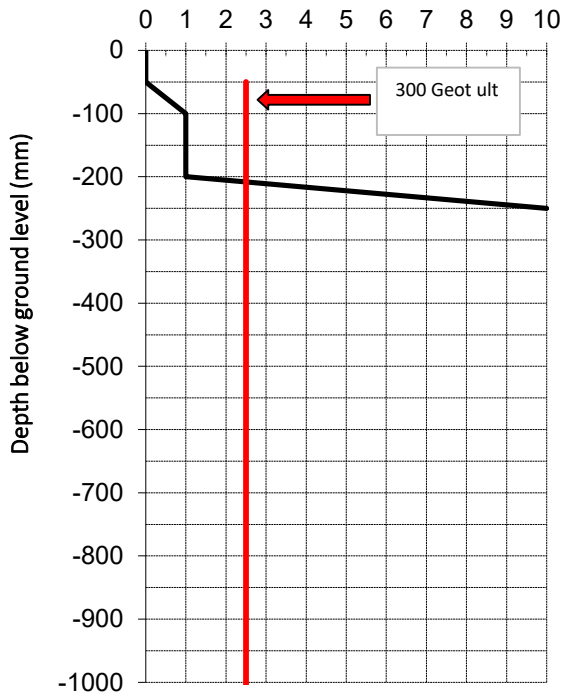
SCALA PENETROMETER RESULTS

JOB NUMBER:	50860	PROJECT:	Robertson FT Geotech
		LOCATION:	355 Frankton Road
CO-ORDINATES:	mE	DATE:	18-Feb-20
See attached plan	mN	OPERATOR:	HDJ

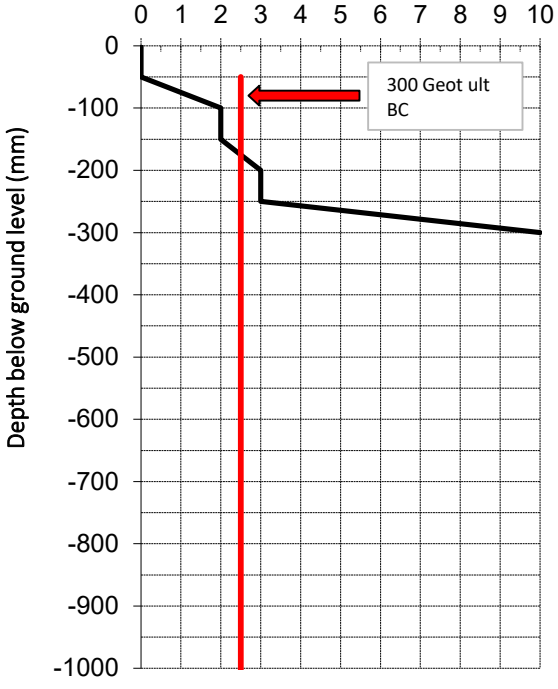
RDA Consulting
GEOTECHNICAL • CIVIL • ENVIRONMENTAL

Note: No Friction correction has been applied to the field results. 5 Blows per 100mm is considered compliance with NZS3604 3.3.7

SP1



SP2



PENETRATION RESISTANCE TESTING

RDA Consulting
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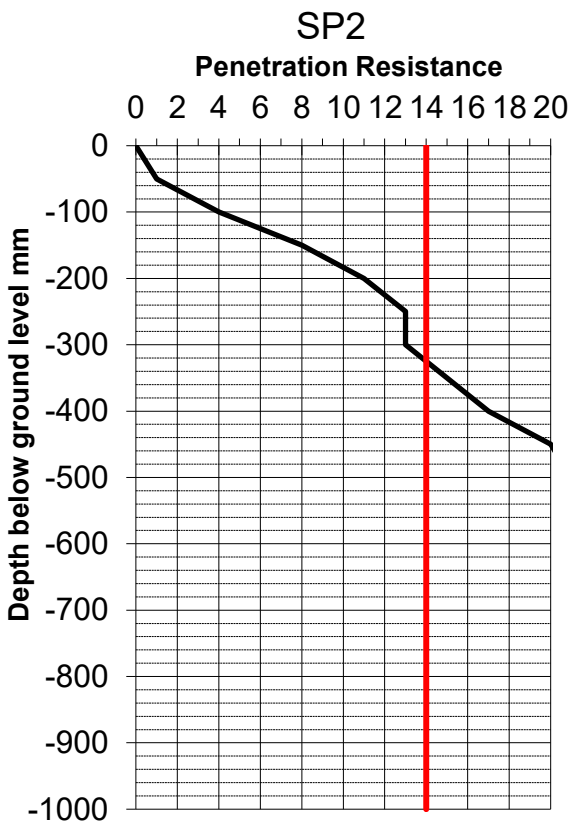
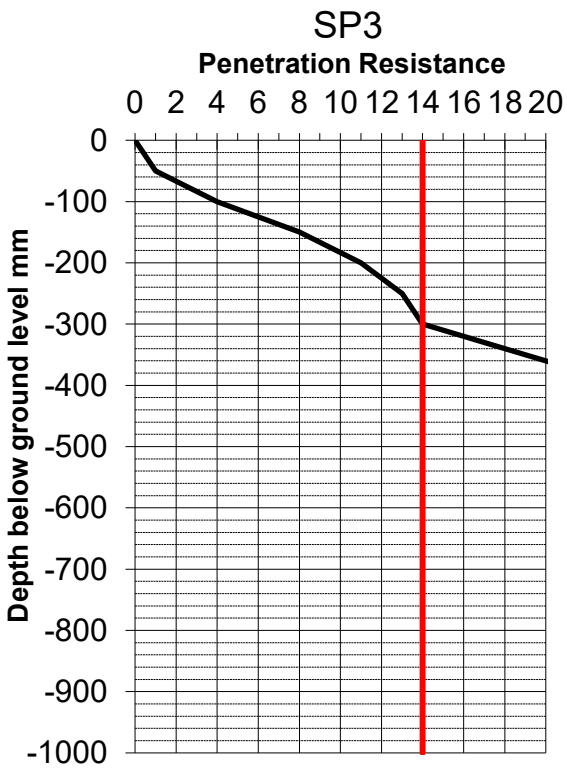
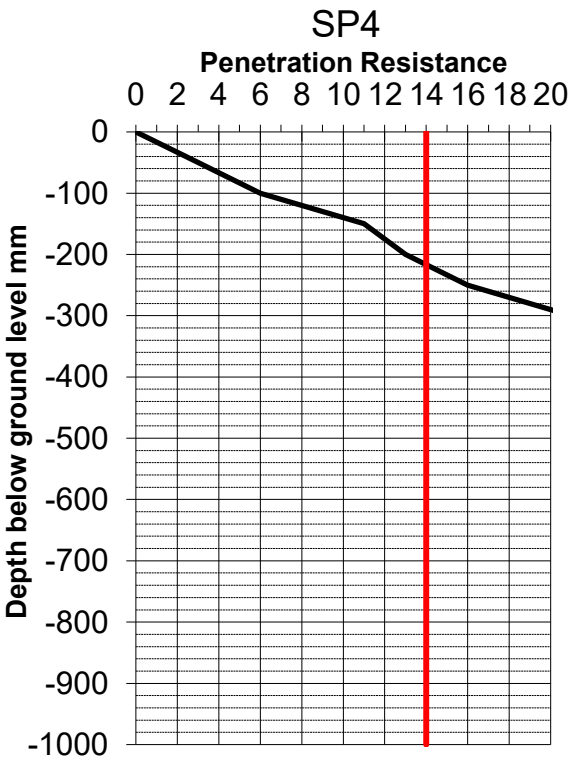
JOB NUMBER: 50860	PROJECT: Robertson FT Geotech		
	LOCATION: 355 Frankton Road		Weather:
CO-ORDINATES:	mE	DATE: 18-Feb-20	Comments:
Refer site plan attached	mN	OPERATOR: HDJ	

Testing Location: Access road and RW Material: Site-won Level: 600 mm and 500mm





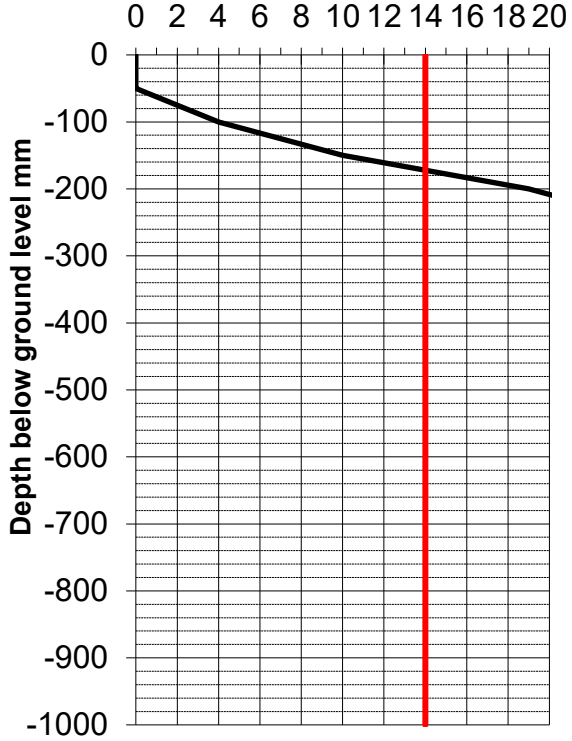


PENETRATION RESISTANCE TESTING

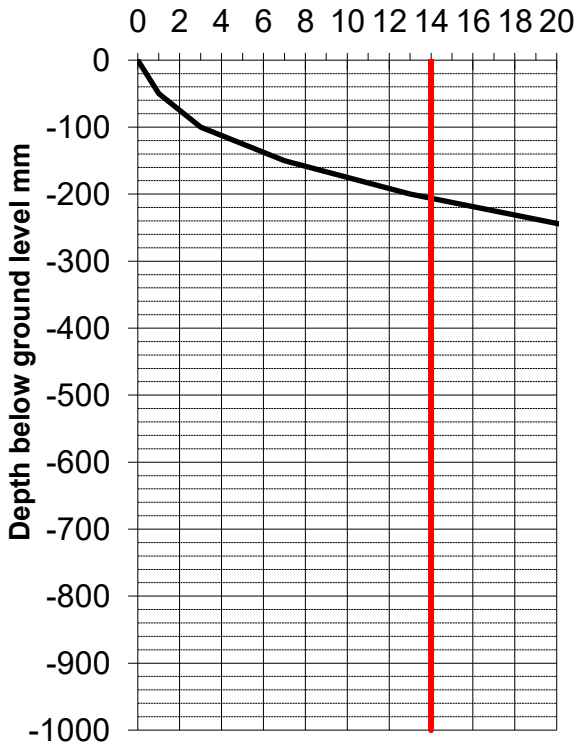
RDA Consulting
GEOTECHNICAL • CIVIL • ENVIRONMENTAL

JOB NUMBER: 50860	PROJECT: Robertson FT Geotech		
	LOCATION: 355 Frankton Road	Weather:	
CO-ORDINATES: mE	DATE: 18-Feb-20	Comments:	
Refer site plan attached mN	OPERATOR: HDJ		
Testing Location: Access road and RW	Material: Site-won	Level: 600 mm and 500mm	

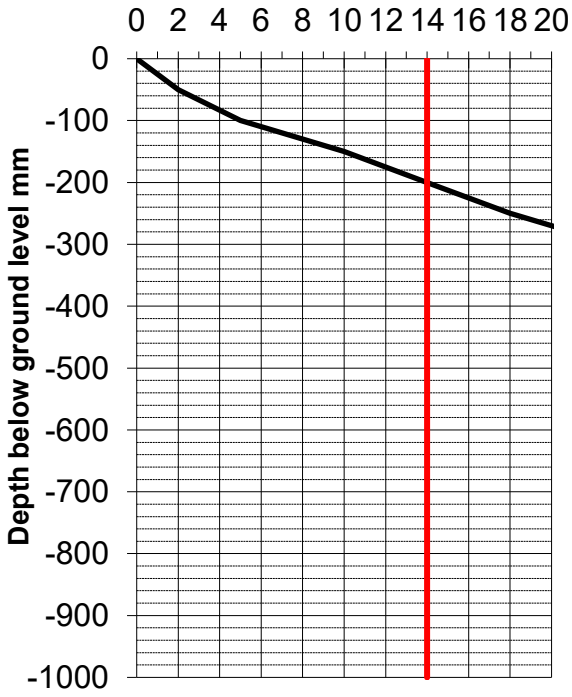
SP5



SP6



SP7



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SITE REPORT	41
Job Title	Robertson FT Geotech
Physical Address	355 Frankton Road
	Queenstown
Job No.	50860
Date	20/02/2020

To	Name	Company	Email
☑	Ian Robertson	Robertson Family Trust	ianjrobertsonqtn@gmail.com
☑	Stephen Bates	Structor	info@structor.nz
☑	Trevor Jones	Jones contracting	earthworks@queenstown.co.nz

Work Reviewed:

- Fill compaction testing 900 mm, behind retaining wall (lower pad)

Observations and Comments:

RDA Consulting were requested to conduct a fill compaction test for the fill placed behind the retaining wall located in the south-western corner of the site following placement of 900 mm of fill.

The fill material for the lower pad is sourced from the stockpile located north-east of the retaining wall.

Three Scala tests were conducted as indicated on the Test Location Plan. The Scala results indicated that a SPR value of 14 blows over 150 mm within the upper 300 mm was achieved.

The southern end of the soil batter upslope from of the fill had been trimmed down to expose natural ground. Along the northern end of the batter, the boundary between natural ground and fill had been marked out (Photo 2).

Recommendations:

- Contact RDA for a fill compaction test following 1500 mm fill placement.

Report Prepared by:

Hilde Jordet
MSc (Geol)
Engineering Geologist

50860 Roberton FT Geotech SR41
☑ Issued, date sent 25/02/2020
☑ Reviewed by: DWR

Attached: Photos, Test Location Plan, Scala Logs SP1-SP3

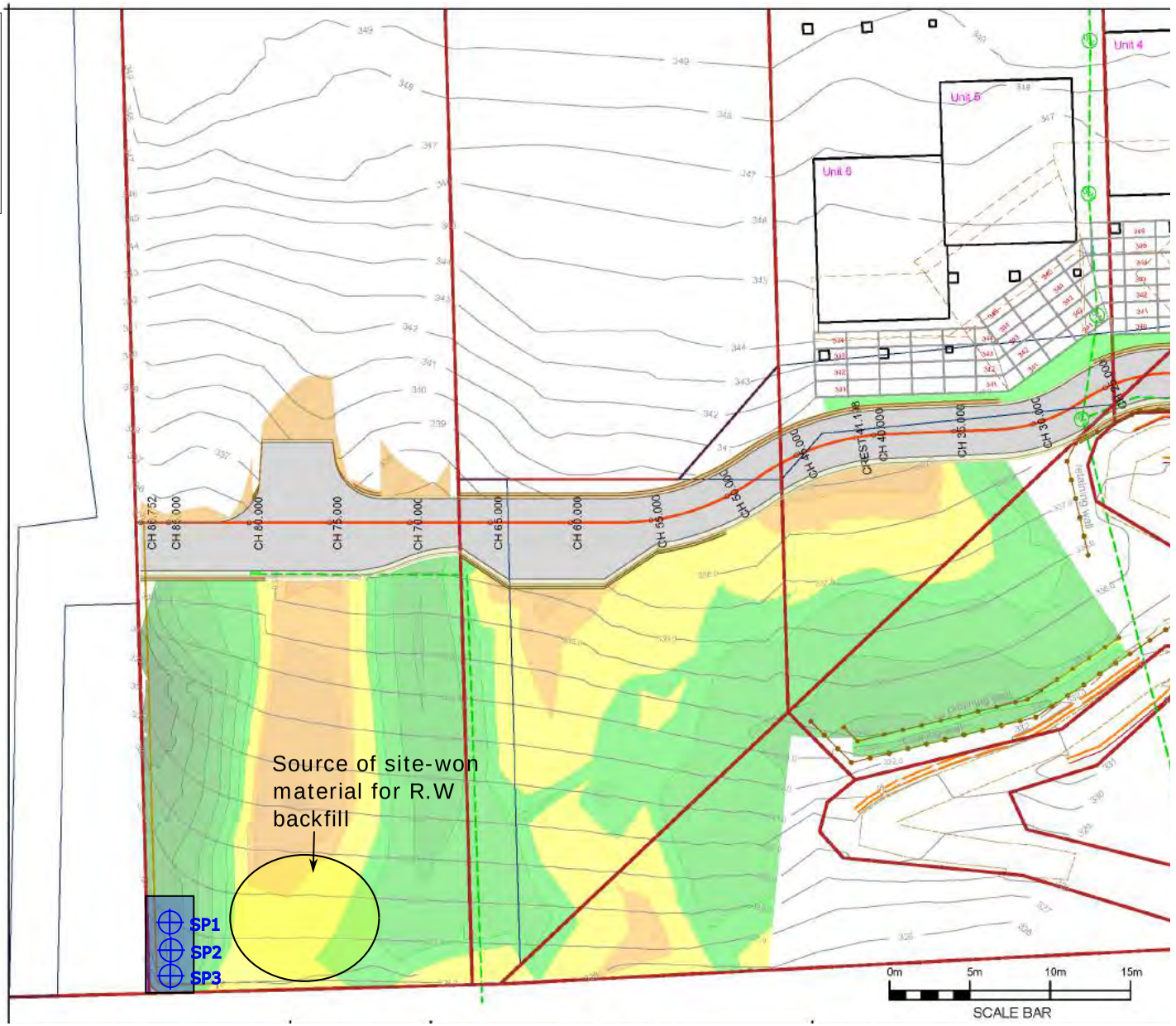
Photos:

Photo 1: Looking south across the fill placed behind the retaining wall.

Photo 2: The boundary between natural ground and fill had been marked out for the soil batter located upslope from the engineered fill.

Legend:

- Location of Scala test
- Approximate extent of fill



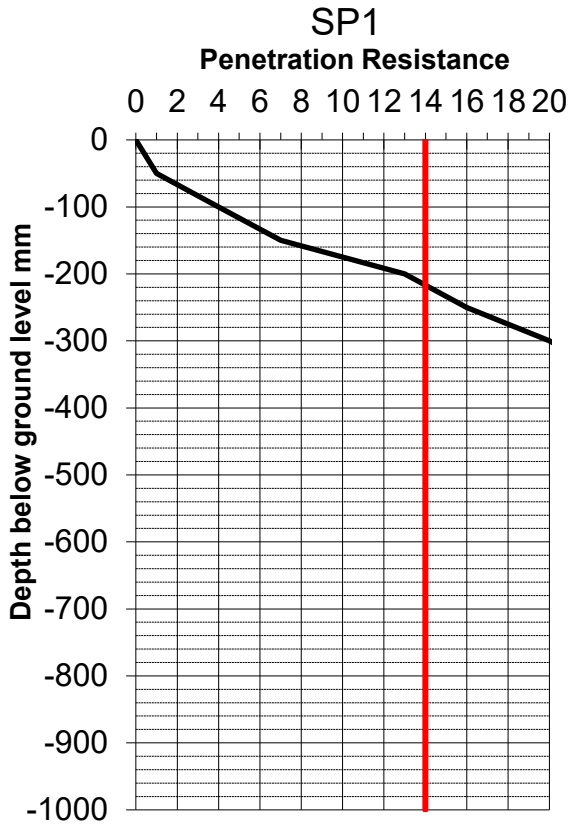
Application as Notified 138

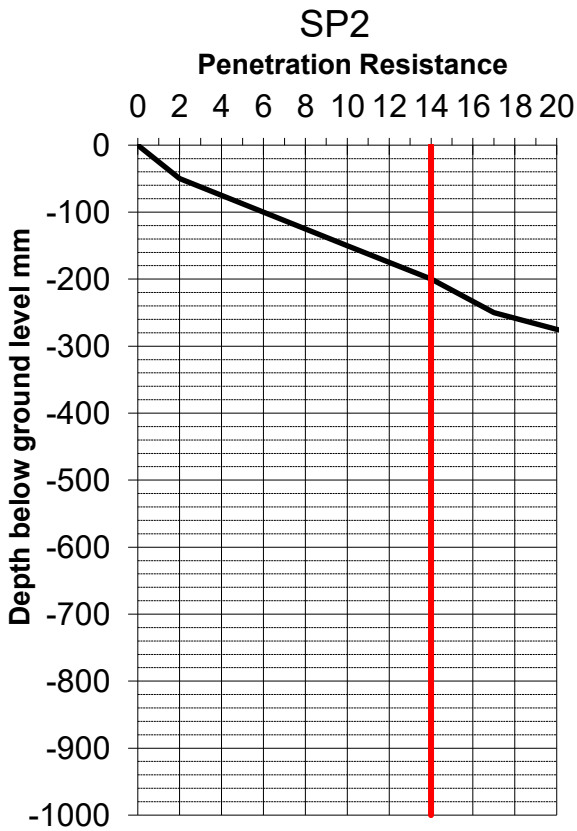
Engineering firm: www.rda.co.nz	Project:	Client:	Drawing Title:	Scale: NTS
RDA Consulting GEOTECHNICAL • CIVIL • ENVIRONMENTAL	Robertson FT Geotech 355 Frankton Road Queenstown	Robertson Family Trust 32 Panorama Terrace Queenstown 9300	Test location Plan Backfill Retaining Wall, 900 mm Job Number: 50860	Date: 20/02/2020 Drawing No.1

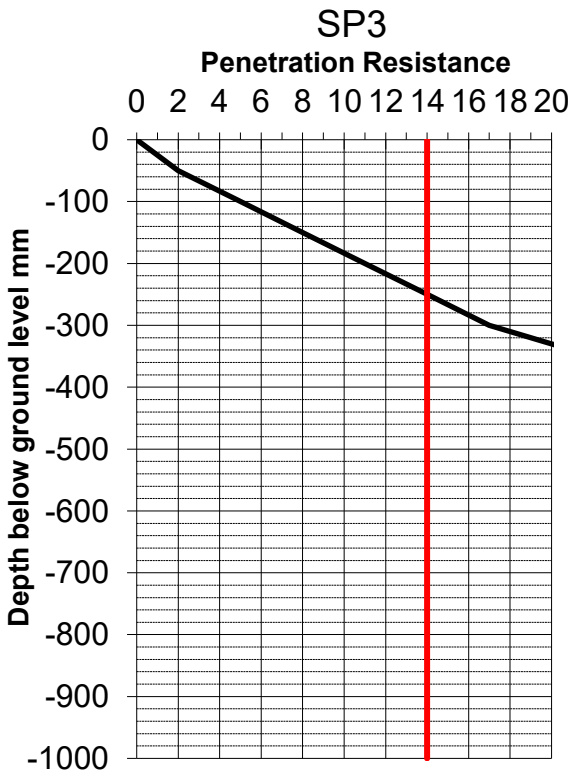
PENETRATION RESISTANCE TESTING

RDA Consulting
GEOTECHNICAL • CIVIL • ENVIRONMENTAL

JOB NUMBER: 50860	PROJECT: Robertson FT Geotech		
	LOCATION: 355 Frankton Road	Weather:	
CO-ORDINATES: mE	DATE: 20-Feb-20	Comments:	
Refer site plan attached mN	OPERATOR: HDJ		
Testing Location: Backfill behind RW	Material: Site-won	Level: 900 mm	







RDA Consulting
GEOTECHNICAL • CIVIL • ENVIRONMENTAL

SITE REPORT	42
Job Title	Robertson FT Geotech
Physical Address	355 Frankton Road
	Queenstown
Job No.	50860
Date	25/02/2020

To	Name	Company	Email
☑	Ian Robertson	Robertson Family Trust	ianjrobertsonqtn@gmail.com
☑	Stephen Bates	Structor	info@structor.nz
☑	Trevor Jones	Jones contracting	earthworks@queenstown.co.nz

Work Reviewed:

- Fill compaction testing 1500 mm, behind retaining wall (lower pad)

Observations and Comments:

RDA Consulting were requested to conduct a fill compaction test for the fill placed behind the retaining wall located in the south-western corner of the site following placement of 1500 mm of fill.

The fill material for the lower pad is sourced from the stockpile located north-east of the retaining wall.

Three Scala tests were conducted as indicated on the Test Location Plan. The Scala results indicated that a SPR value of 14 blows over 150 mm within the upper 300 mm was achieved.

The southern end of the soil batter upslope from of the fill had been trimmed down to expose natural ground (Photo 2).

Recommendations:

- Contact RDA for a fill compaction test following 2000 mm fill placement.

Report Prepared by:

Hilde Jordet
MSc (Geol)
Engineering Geologist

50860 Roberton FT Geotech SR42
☑ Issued, date sent 25/02/2020
☑ Reviewed by: DWR

Attached: Photos, Test Location Plan, Scala Logs SP1-SP3

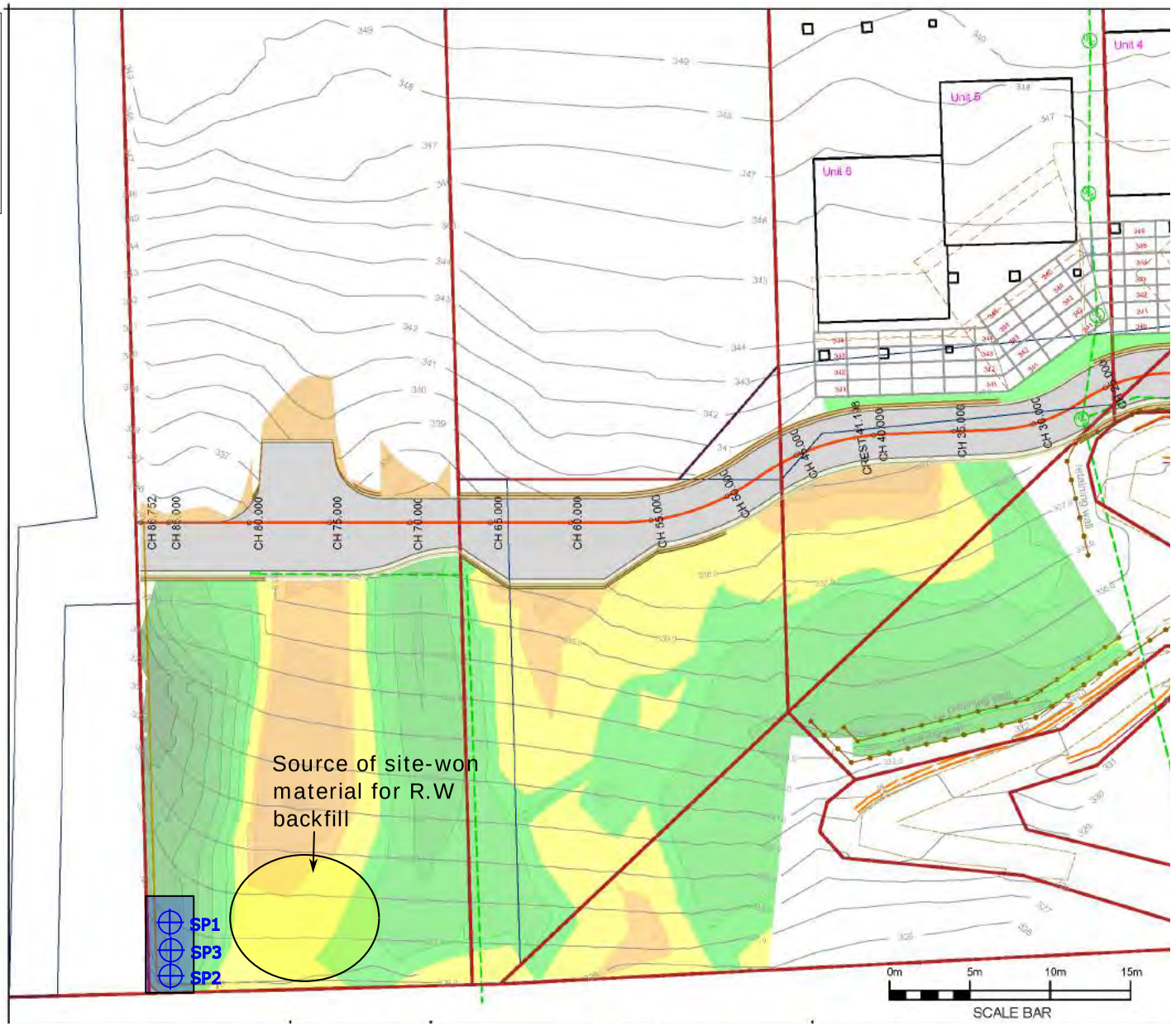
Photos:

Photo 1: Looking south across the fill placed behind the retaining wall, 1500 mm.

Photo 2: Soil batter trimmed down to expose natural ground.

Legend:

- Location of Scala test
- Approximate extent of fill



Application as Notified 142

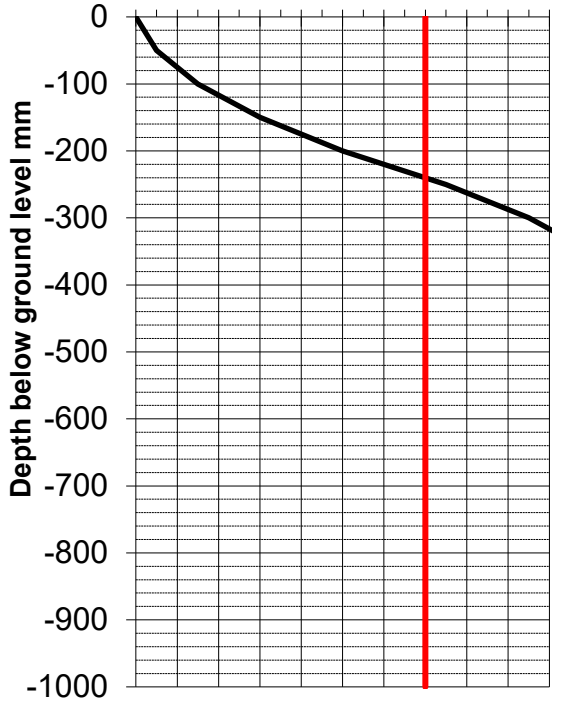
Engineering firm: www.rda.co.nz RDA Consulting GEOTECHNICAL • CIVIL • ENVIRONMENTAL	Project: Robertson FT Geotech 355 Frankton Road Queenstown	Client: Robertson Family Trust 32 Panorama Terrace Queenstown 9300	Drawing Title: Test location Plan Backfill Retaining Wall, 1500 mm Job Number: 50860	Scale: NTS Date: 25/02/2020 Drawing No.1

PENETRATION RESISTANCE TESTING

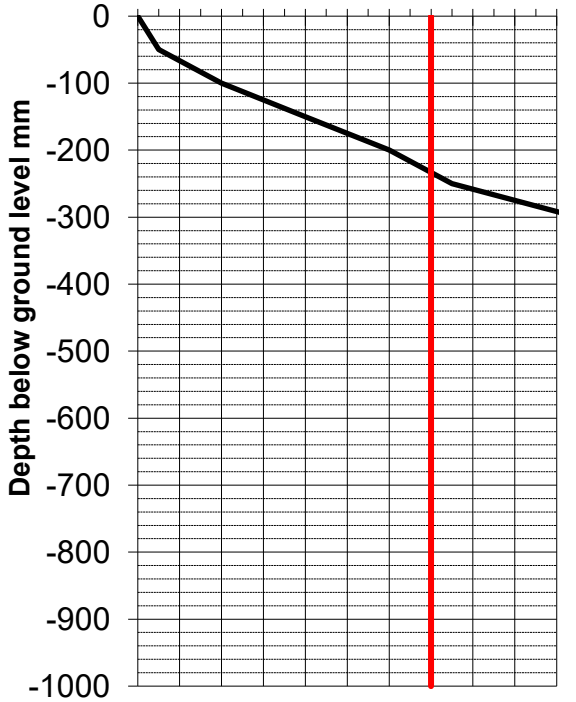
RDA Consulting
GEOTECHNICAL • CIVIL • ENVIRONMENTAL

JOB NUMBER: 50860	PROJECT: Robertson FT Geotech		
	LOCATION: 355 Frankton Road	Weather:	
CO-ORDINATES: mE	DATE: 25-Feb-20	Comments:	
Refer site plan attached mN	OPERATOR: HDJ		
Testing Location: Backfill behind RW	Material: Site-won	Level: 1500 mm	

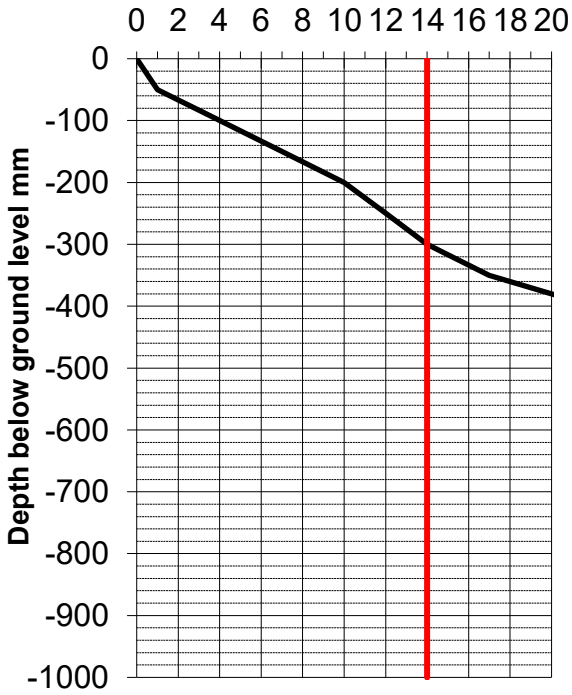
SP1



SP2



SP3



RDA Consulting
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SITE REPORT	43
Job Title	Robertson FT Geotech
Physical Address	355 Frankton Road
	Queenstown
Job No.	50860
Date	26/02/2020

To	Name	Company	Email
☑	Ian Robertson	Robertson Family Trust	ianjrobertsonqtn@gmail.com
☑	Stephen Bates	Structor	info@structor.nz
☑	Trevor Jones	Jones contracting	earthworks@queenstown.co.nz

Work Reviewed:

- Fill compaction testing, access road 1.2 m (upper pad)
- Fill compaction testing, behind Boundary retaining wall 1.9 m (lower pad)
- Subgrade testing north of lower pad

Observations and Comments:

RDA Consulting were requested to conduct a fill compaction test for the southern end of the access road and also the fill placed behind the boundary retaining wall located in the south-western corner of the site, in this report referred to as the upper and lower pad, respectively. In addition, a subgrade test was conducted for the undercut area located north of the fill for the retaining wall.

Lower Pad:

At the time of inspection 1.9 m of fill had been placed. Three Scala tests were conducted (SPR1-3), indicating that a SPR value of 14 was achieved. Steve indicated that the fill material for the upper 400 mm was a mix of the previous fill material (stockpile) and cut subgrade north of the fill area (Photo 1).

Upper Pad:

At the time of inspection the fill had been placed and compacted to finished level, 1.2 m. Two Scala penetrometer tests were conducted (SPR4 and SPR5) which indicated that the required SPR value of 14 blows per 150 mm was achieved.

One Scala tests was also conducted for the subgrade material located north of the lower pad (SP1). The subgrade material consisted of a gravelly SAND. The results indicated that an Ultimate Bearing Capacity of 300 kPa was encountered from ground level.

Recommendations:

- Lower Pad: Contact RDA following placement of 2.5 m of fill for a fill compaction tests.

Report Prepared by:

Hilde Jordet
MSc (Geol)
Engineering Geologist

50860 Roberton FT Geotech SR43

☑ Issued, date sent 5/03/2020

☑ Reviewed by: DWR

Attached: Photos, Test Location Plan, Scala Logs SP1, SPR1-SPR5

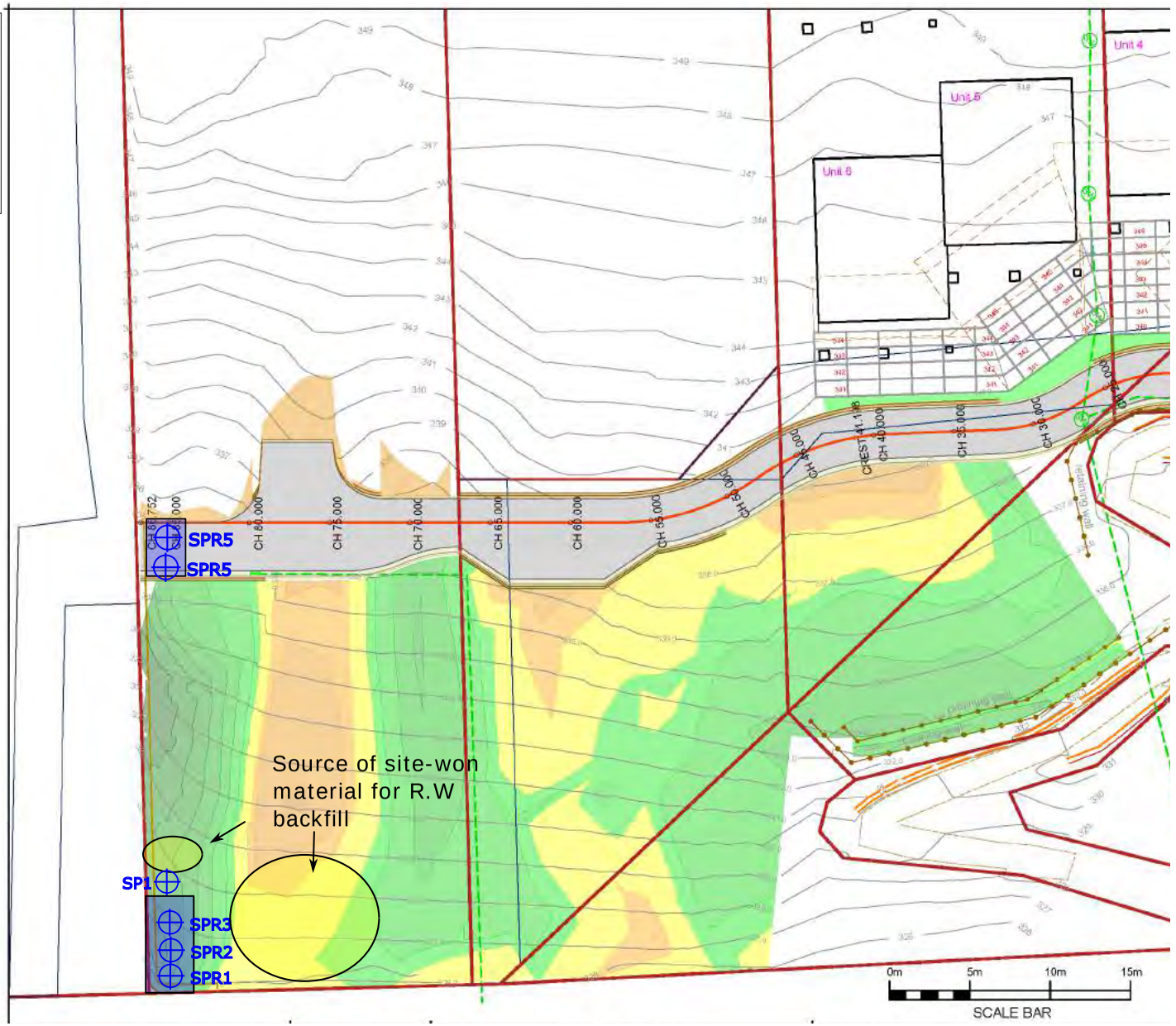
Photos:

Photo 1: Looking north-west across the fill placed along behind the retaining wall and the subgrade exposed at the northern end.

Photo 2: Looking west across the fill area located next to the timber retaining wall at finished height.

Legend:

- Location of Scala test
- Approximate extent of fill



Application as Notified 146

Engineering firm: www.rda.co.nz

RDA Consulting
GEOTECHNICAL • CIVIL • ENVIRONMENTAL

Project:
Robertson FT Geotech
355 Frankton Road
Queenstown

Client:
Robertson Family Trust
32 Panorama Terrace
Queenstown
9300

Drawing Title:
Test location Plan
Access Road 1.2 m and Backfill
Retaining Wall 1.9 m

Job Number: 50860

Scale: NTS

Date: 26/02/2020

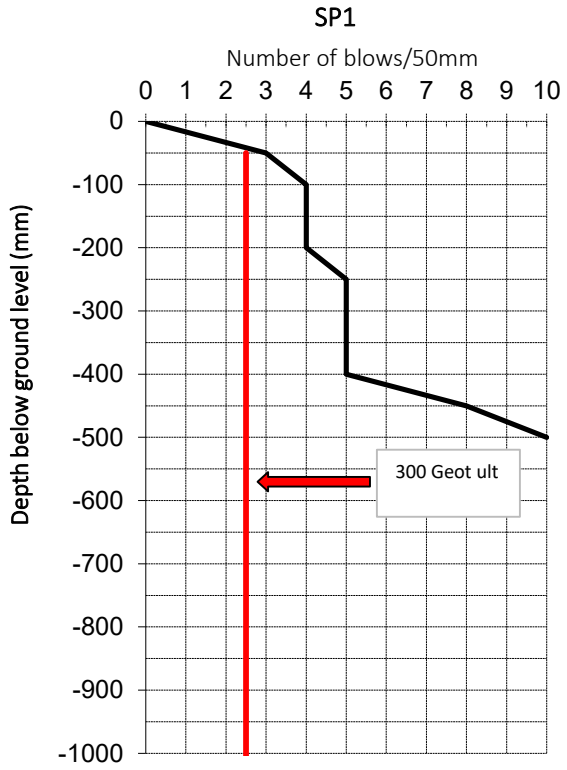
Drawing No.1

SCALA PENETROMETER RESULTS

JOB NUMBER:	50860	PROJECT:	Robertson FT Geotech
		LOCATION:	355 Frankton Road
CO-ORDINATES:	mE	DATE:	26-Feb-20
See attached plan	mN	OPERATOR:	HDJ

RDA Consulting
GEOTECHNICAL • CIVIL • ENVIRONMENTAL

Note: No Friction correction has been applied to the field results. 5 Blows per 100mm is considered compliance with NZS3604 3.3.7



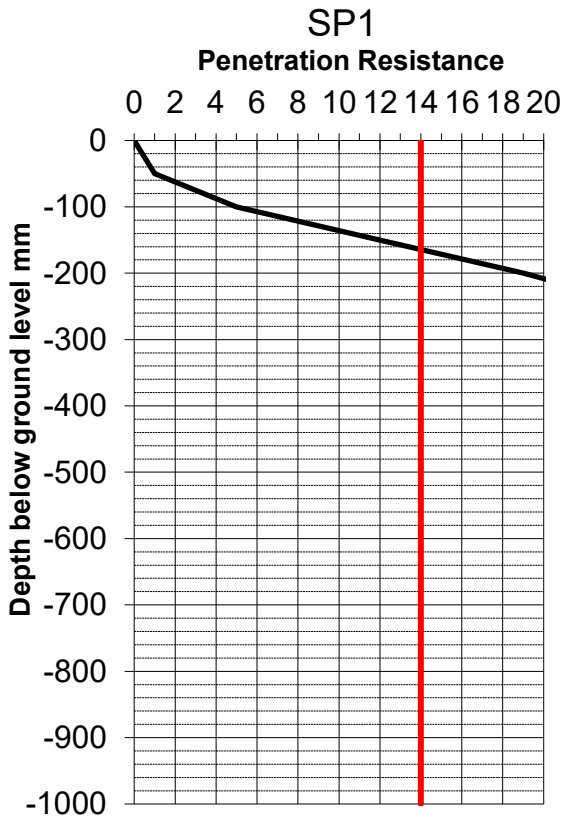
RDA Consulting
PO Box 1771, Invercargill 9840 | PO Box 1880, Queenstown 9348 | 0800 732474 | www.RDA.co.nz

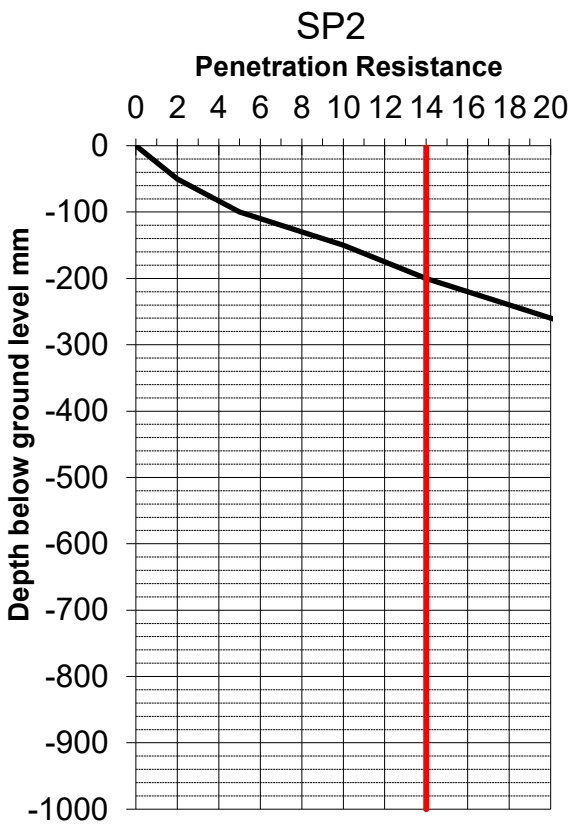
PENETRATION RESISTANCE TESTING

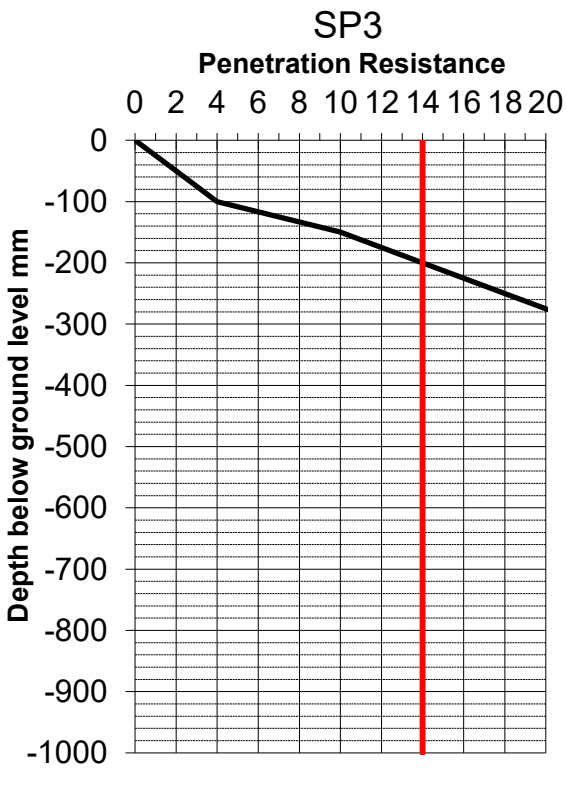
RDA Consulting
GEOTECHNICAL • CIVIL • ENVIRONMENTAL

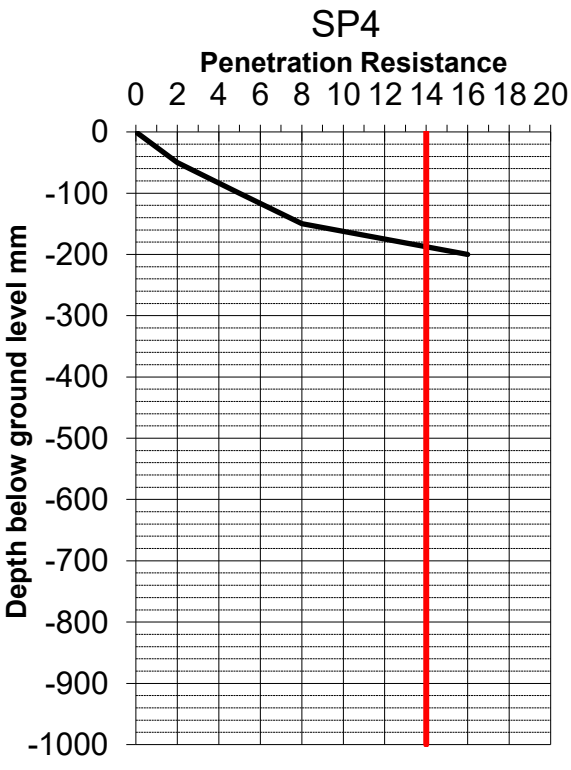
JOB NUMBER: 50860	PROJECT: Robertson FT Geotech		
	LOCATION: 355 Frankton Road		Weather:
CO-ORDINATES:	mE	DATE: 26-Feb-20	Comments:
Refer site plan attached	mN	OPERATOR: HDJ	

Testing Location: Access road and RW Material: Site-won Level: 1.2 m and 1.9 m





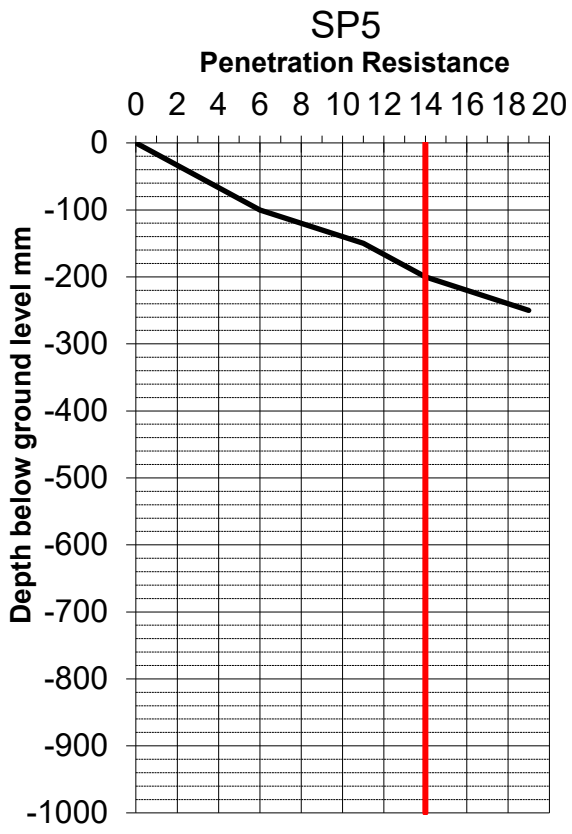




PENETRATION RESISTANCE TESTING

RDA Consulting
GEOTECHNICAL • CIVIL • ENVIRONMENTAL

JOB NUMBER: 50860	PROJECT: Robertson FT Geotech		
	LOCATION: 355 Frankton Road		Weather:
CO-ORDINATES: mE	DATE: 26-Feb-20		Comments:
Refer site plan attached mN	OPERATOR: HDJ		
Testing Location: Access road and RW	Material: Site-won	Level: 1.2 m and 1.9 m	



RDA Consulting
GEOTECHNICAL • CIVIL • ENVIRONMENTAL

SITE REPORT	44
Job Title	Robertson FT Geotech
Physical Address	355 Frankton Road
	Queenstown
Job No.	50860
Date	04/03/2020

To	Name	Company	Email
☑	Ian Robertson	Robertson Family Trust	ianjrobertsonqtn@gmail.com
☑	Stephen Bates	Structor	info@structor.nz
☑	Trevor Jones	Jones contracting	earthworks@queenstown.co.nz

Work Reviewed:

Fill compaction testing, behind Boundary retaining wall 2.5 m and 2.9 m (lower pad)

Observations and Comments:

RDA Consulting were requested to conduct a fill compaction test for the fill placed behind the boundary retaining wall located in the south-western corner of the site. At the time of inspection 2.5 m of fill had been placed and a new layer of geogrid was being placed. Steve indicated that finished level was achieved for the southern portion of the pad, whereas the northern end would be continued backfilled stepping up along the slope in 0.5 m intervals.

Three Scala tests were conducted (SPR1-3) as indicated on the Test Location Plan. The Scala results indicated that the required compaction was achieved with a SPR value of 14 over 150 mm within the upper 300 mm.

The same day, RDA was contacted for another fill test following placement of additional 400 mm of fill across the northern end of the lower pad. Two Scala tests were conducted (SP4 and SP5), indicating that the required compaction had been achieved with a SPR values of 14.

Recommendations:

- Contact RDA following placement of additional 0.5 m fill;
- Contact Central Testing for an NDM test.

Report Prepared by:

Hilde Jordet
MSc (Geol)
Engineering Geologist
50860 Roberton FT Geotech SR44

☑ Issued, date sent 5/03/2020
☑ Reviewed by: DWR

Attached: Photos, Test Location Plan, Scala Logs SP1-SP5

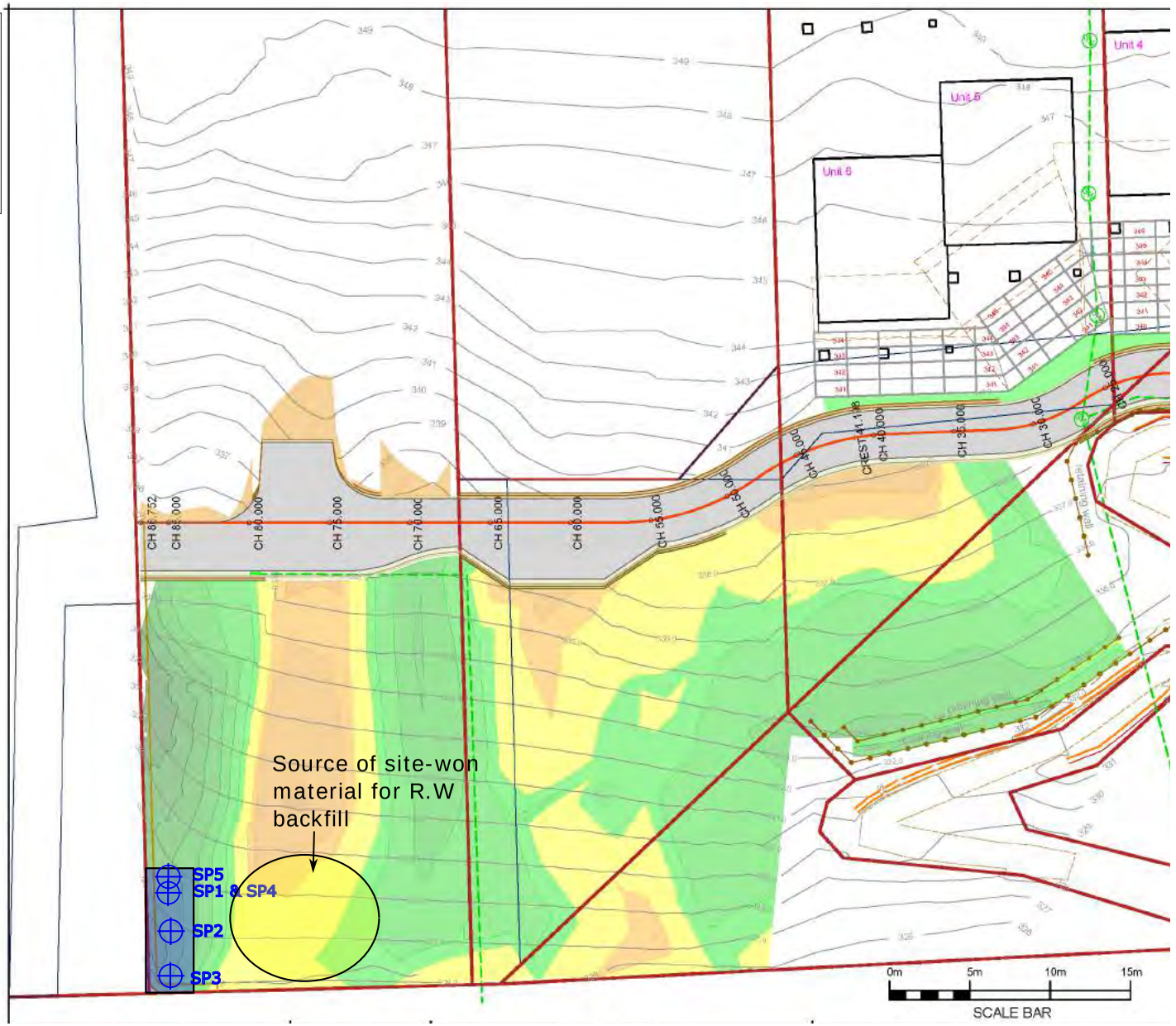
Photos:

Photo 1: Looking south across the fill area located behind the retaining wall. The southern end of the fill is at finished level whereas the northern end will be further backfilled at stages.

Photo 2: Looking north across the lower pad following placement of an additional 400 mm of fill.

Legend:

- Location of Scala test
- Approximate extent of fill



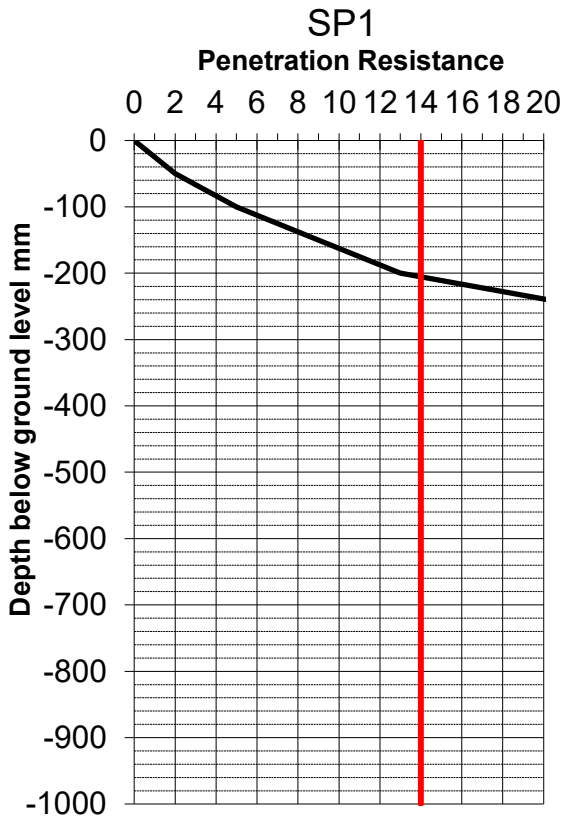
Application as Notified 152

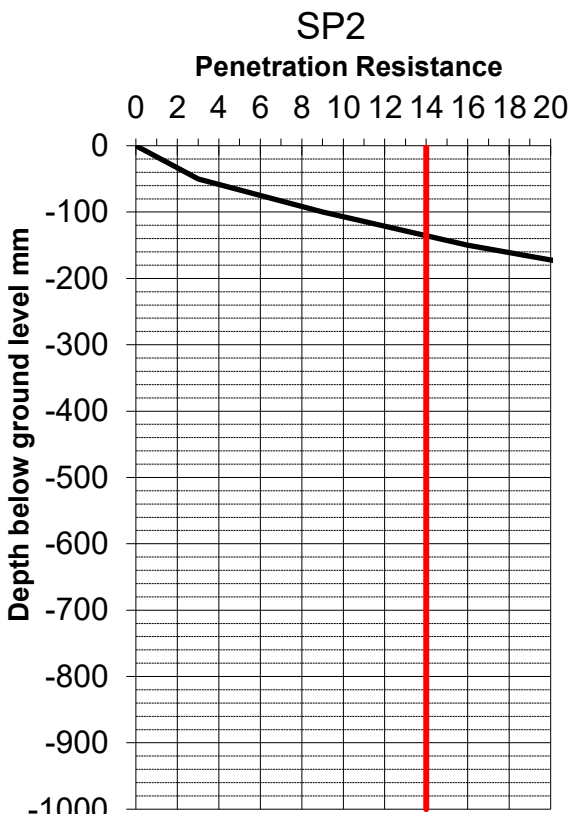
Engineering firm: www.rda.co.nz RDA Consulting GEOTECHNICAL • CIVIL • ENVIRONMENTAL	Project: Robertson FT Geotech 355 Frankton Road Queenstown	Client: Robertson Family Trust 32 Panorama Terrace Queenstown 9300	Drawing Title: Test location Plan Retaining Wall 2.5 m + 2.9 m Job Number: 50860	Scale: NTS Date: 04/03/2020 Drawing No.1

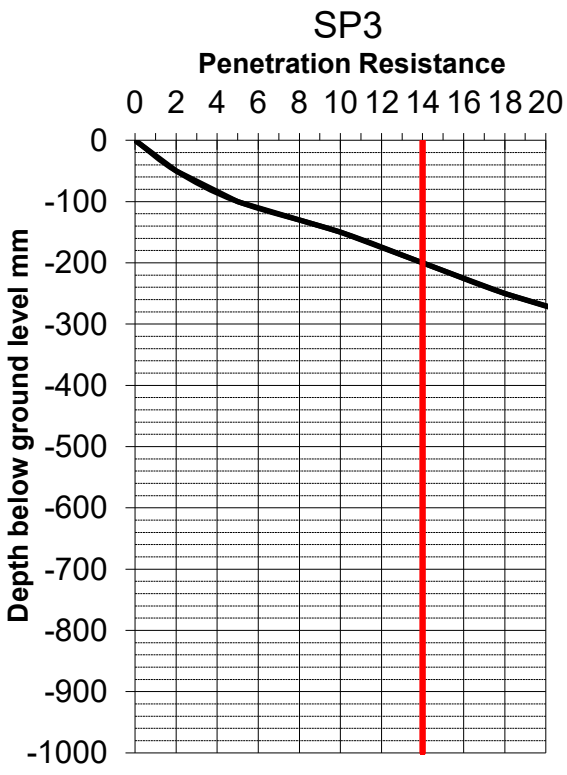
PENETRATION RESISTANCE TESTING

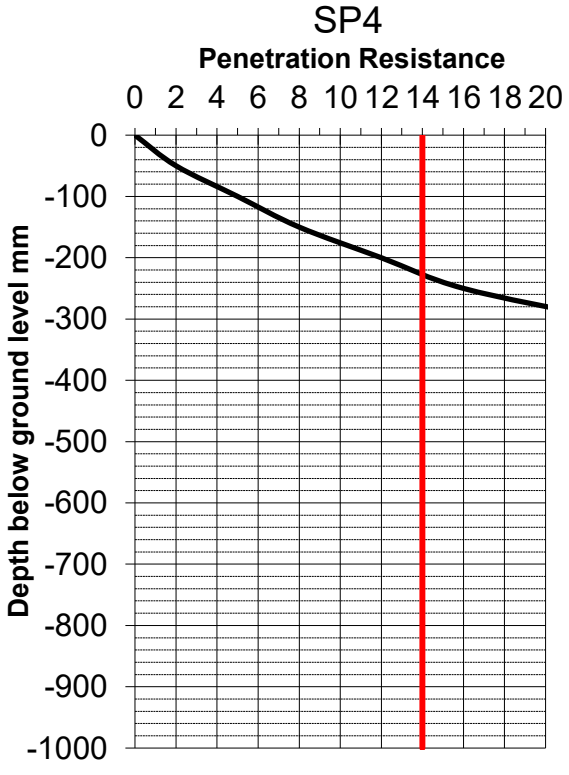
RDA Consulting
GEOTECHNICAL • CIVIL • ENVIRONMENTAL

JOB NUMBER:	50860	PROJECT:	Robertson FT Geotech	
		LOCATION:	355 Frankton Road	Weather:
CO-ORDINATES:	mE	DATE:	4-Mar-20	Comments:
Refer site plan attached	mN	OPERATOR:	HDJ	
Testing Location: Behind RW		Material: Site-won		Level: 2.5 m + 2.9m





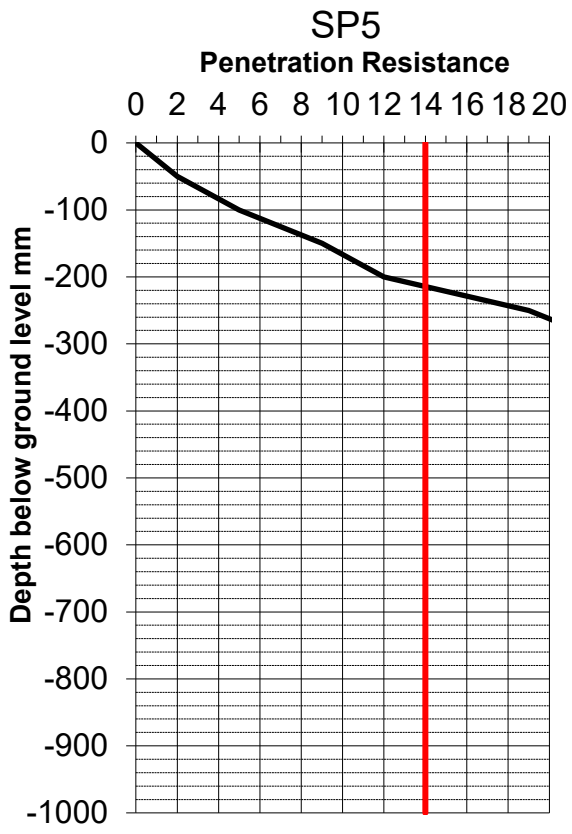




PENETRATION RESISTANCE TESTING

RDA Consulting
GEOTECHNICAL • CIVIL • ENVIRONMENTAL

JOB NUMBER: 50860	PROJECT: Robertson FT Geotech		
	LOCATION: 355 Frankton Road		Weather:
CO-ORDINATES: mE	DATE: 4-Mar-20		Comments:
Refer site plan attached mN	OPERATOR: HDJ		
Testing Location: Behind RW	Material: Site-won	Level: 2.5 m + 2.9m	



RDA Consulting
GEOTECHNICAL • CIVIL • ENVIRONMENTAL

SITE REPORT	45
Job Title	Robertson FT Geotech
Physical Address	355 Frankton Road
	Queenstown
Job No.	50860
Date	16/03/2020

To	Name	Company	Email
☑	Ian Robertson	Robertson Family Trust	ianjrobertsonqtn@gmail.com
☑	Stephen Bates	Structor	info@structor.nz
☑	Trevor Jones	Jones contracting	earthworks@queenstown.co.nz

Work Reviewed:

Fill compaction testing, behind Boundary retaining wall 3.5 m

Observations and Comments:

RDA Consulting were requested to conduct a fill compaction test for the fill placed behind the boundary retaining wall located in the south-western corner of the site. At the time of inspection 3.5 m of fill had been placed across the northern portion of the lower pad and natural subgrade was exposed across the northern end.

Two Scala tests were conducted (SPR1-2) across the fill area as indicated on the Test Location Plan. The Scala results indicated that the required compaction was achieved with a SPR value of 14 over 150 mm within the upper 300 mm.

One test (SP3) was conducted for the natural subgrade exposed across the northern end, a sandy, gravelly material. The Scala result indicated that an Ultimate Bearing Capacity of 300 kPa was encountered within the upper 100 mm.

Recommendations:

- Contact RDA following placement of additional 0.5 m fill.

Report Prepared by:

Hilde Jordet
MSc (Geol)
Engineering Geologist
50860 Roberton FT Geotech SR45

☑ Issued, date sent 17/03/2020
☑ Reviewed by: DWR

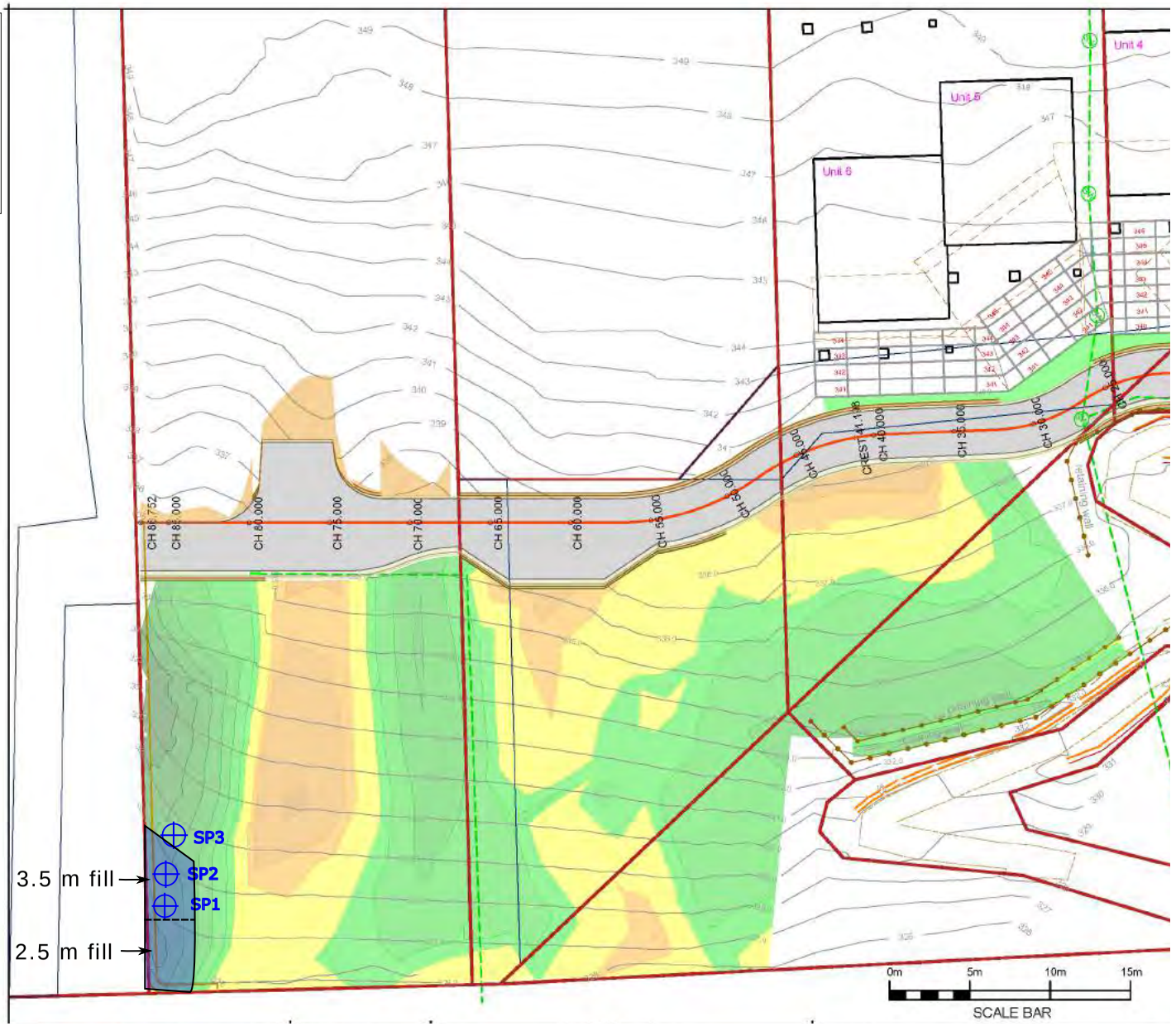
Attached: Photos, Test Location Plan, Scala Logs SP1-SP3

Photos:

Photo 1: Looking north across the lower pad. 3.5 m of fill placed in total with natural subgrade exposed at the northern end.

Legend:

- Location of Scala test
- Approximate extent of fill



Application as Notified 157

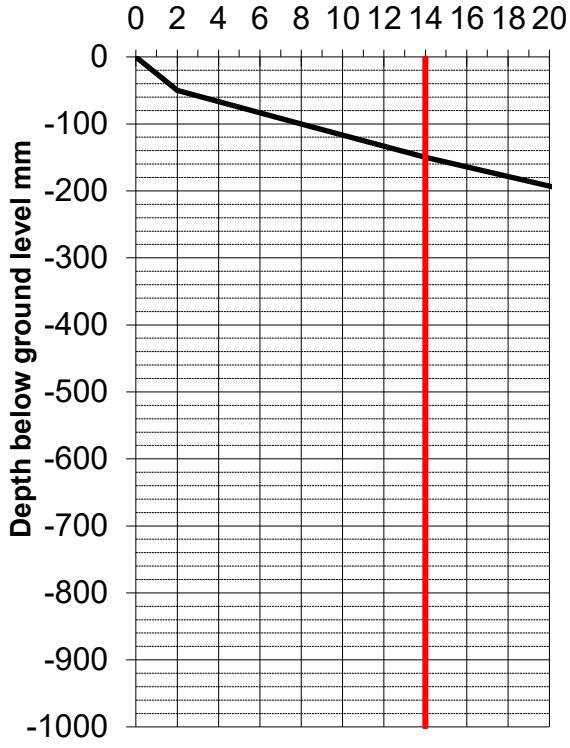
Engineering firm: www.rda.co.nz	Project:	Client:	Drawing Title:	Scale: NTS
RDA Consulting GEOTECHNICAL • CIVIL • ENVIRONMENTAL	Robertson FT Geotech 355 Frankton Road Queenstown	Robertson Family Trust 32 Panorama Terrace Queenstown 9300	Test location Plan Retaining Wall 3.5 m Job Number: 50860	Date: 16/03/2020 Drawing No.1

PENETRATION RESISTANCE TESTING

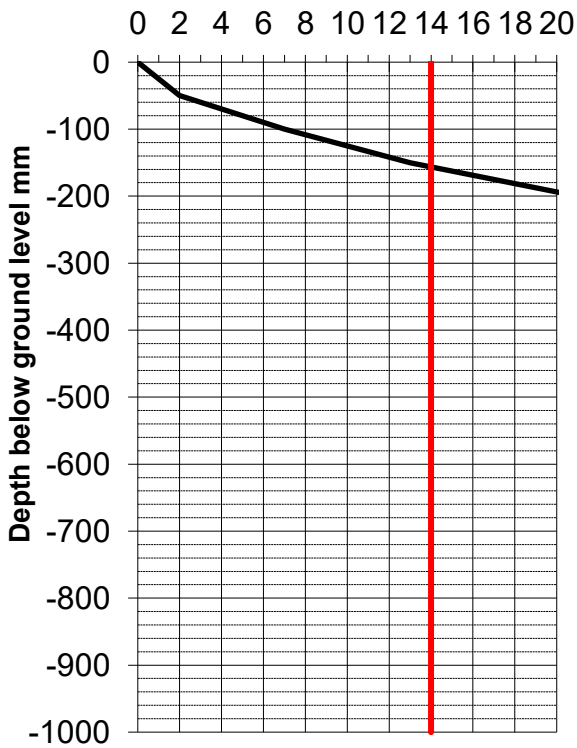
RDA Consulting
GEOTECHNICAL • CIVIL • ENVIRONMENTAL

JOB NUMBER: 50860	PROJECT: Robertson FT Geotech		
	LOCATION: 355 Frankton Road	Weather:	
CO-ORDINATES: mE	DATE: 16-Mar-20	Comments:	
Refer site plan attached mN	OPERATOR: HDJ		
Testing Location: Behind RW	Material: Site-won	Level: 3.5 m	

SP1



SP2

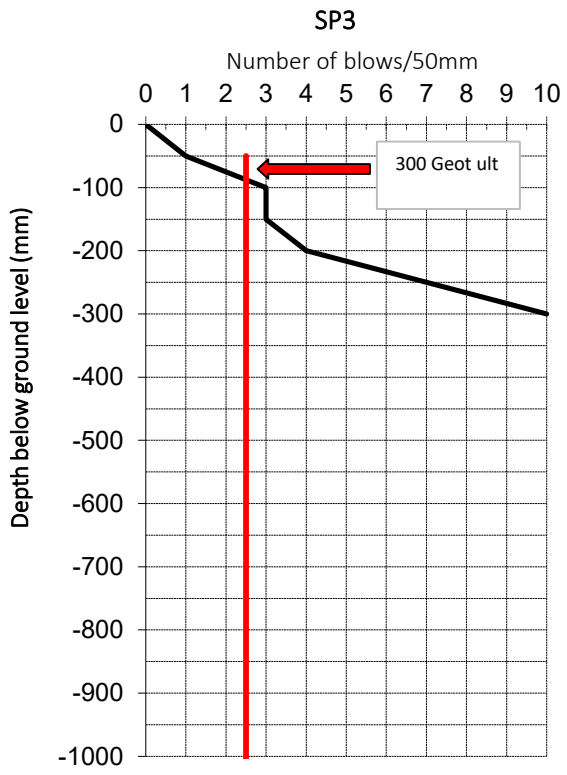


SCALA PENETROMETER RESULTS

JOB NUMBER:	50860	PROJECT:	Robertson FT Geotech
		LOCATION:	355 Frankton Road
CO-ORDINATES:	mE	DATE:	16-Mar-20
See attached plan	mN	OPERATOR:	HDJ

RDA Consulting
GEOTECHNICAL • CIVIL • ENVIRONMENTAL

Note: No Friction correction has been applied to the field results. 5 Blows per 100mm is considered compliance with NZS3604 3.3.7



RDA Consulting
PO Box 1771, Invercargill 9840 | PO Box 1880, Queenstown 9348 | 0800 732474 | www.RDA.co.nz

RDA Consulting
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SITE REPORT	46
Job Title	Robertson FT Geotech
Physical Address	355 Frankton Road
	Queenstown
Job No.	50860
Date	18 and 19/03/2020

To	Name	Company	Email
☑	Ian Robertson	Robertson Family Trust	ianjrobertsonqtn@gmail.com
☑	Stephen Bates	Structor	info@structor.nz
☑	Trevor Jones	Jones contracting	earthworks@queenstown.co.nz

Work Reviewed:

Fill compaction testing, behind Boundary retaining wall 4.0 m and 4.5 m

Observations and Comments:

RDA Consulting were requested to conduct a fill compaction test for the fill placed behind the boundary retaining wall located in the south-western corner of the site. At the time of the first inspection (18/03/20) 4.0 m of fill had been placed across the northern portion of the lower pad.

Four Scala tests were conducted (SP1-4) across the fill area as indicated on the Test Location Plan. Across the northern portion of the fill area, only 0.5 m had been placed over natural subgrade tested during last site visit (SR45). The Scala results indicated that the required compaction for SP3 and SP4 did not achieve the required compaction. Additional four passes were conducted with the plate compactor prior to a retest (SP5 and SP6). Following the additional compaction, the SPR value had increased and the required SPR value of 14 over 150 mm within the upper 300 mm had been achieved, indicating that the initial number of passes was too low. The contractor indicated that the subgrade had not been compacted sufficiently prior to fill placement, which also may have resulted in the lower compaction values.

The following day, additional 0.5 m had been placed and was tested with three Scala penetrometer tests (SP7-SP9). The results indicated that the required SPR value of 14 over 150 mm within the upper 300 mm had been achieved

Recommendations:

- Contact RDA following placement of additional 0.5 m fill.

Report Prepared by:

Hilde Jordet
MSc (Geol)
Engineering Geologist
50860 Roberton FT Geotech SR46

☑ Issued, date sent 27/03/2020
☑ Reviewed by: DWR

Attached: Photos, Test Location Plan, Scala Logs SP1-SP9

Photos:

Photo 1: Looking north across the lower pad. 4.0 m of fill placed in total.

Photo 2: Looking north-west across the lower pad. 4.5 m of fill placed in total.

Legend:

- Location of Scala test
- Approximate extent of fill

Application as Notified 162

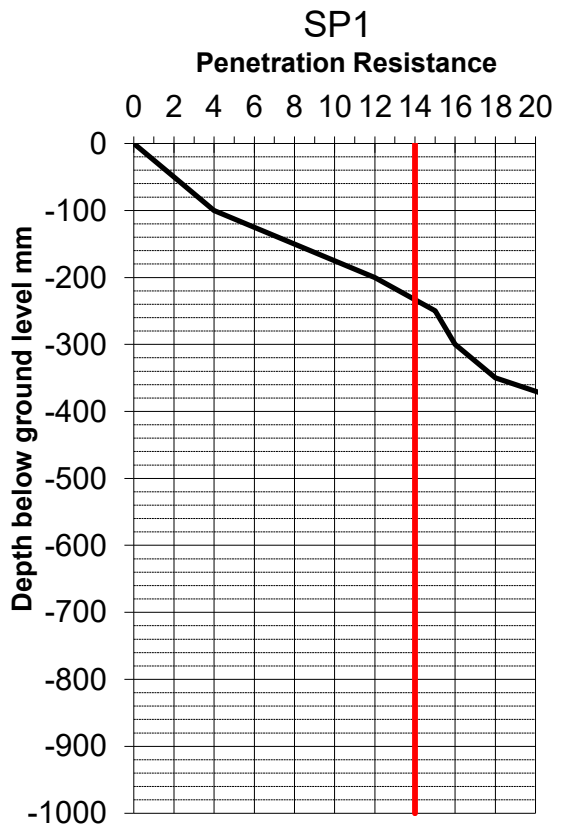
Engineering firm: www.rda.co.nz RDA Consulting GEOTECHNICAL • CIVIL • ENVIRONMENTAL	Project: Robertson FT Geotech 355 Frankton Road Queenstown	Client: Robertson Family Trust 32 Panorama Terrace Queenstown 9300	Drawing Title: Test location Plan Retaining Wall 4.0 m and 4.5 m Job Number: 50860	Scale: NTS Date: 19/03/2020 Drawing No.1

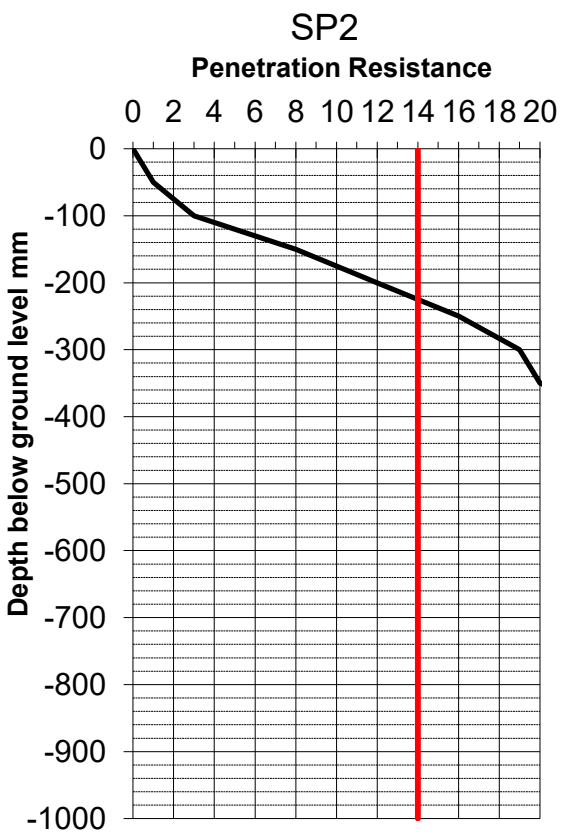
PENETRATION RESISTANCE TESTING

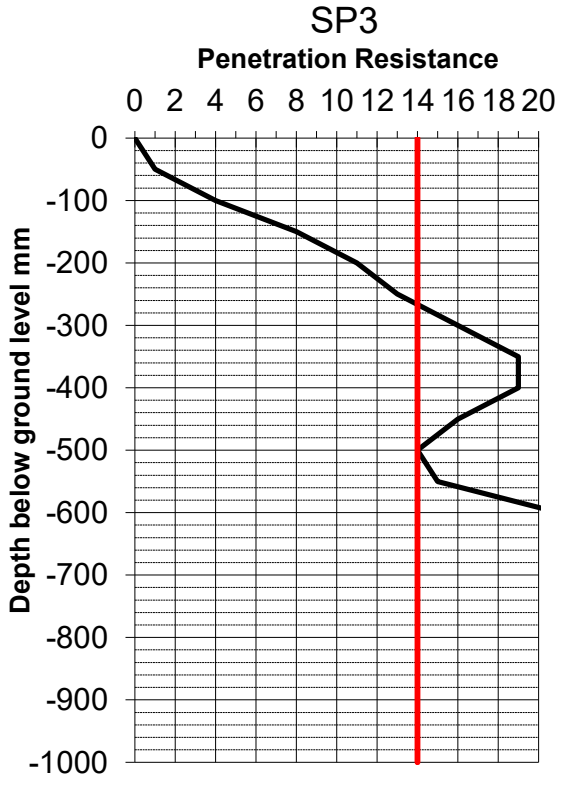
RDA Consulting
GEOTECHNICAL • CIVIL • ENVIRONMENTAL

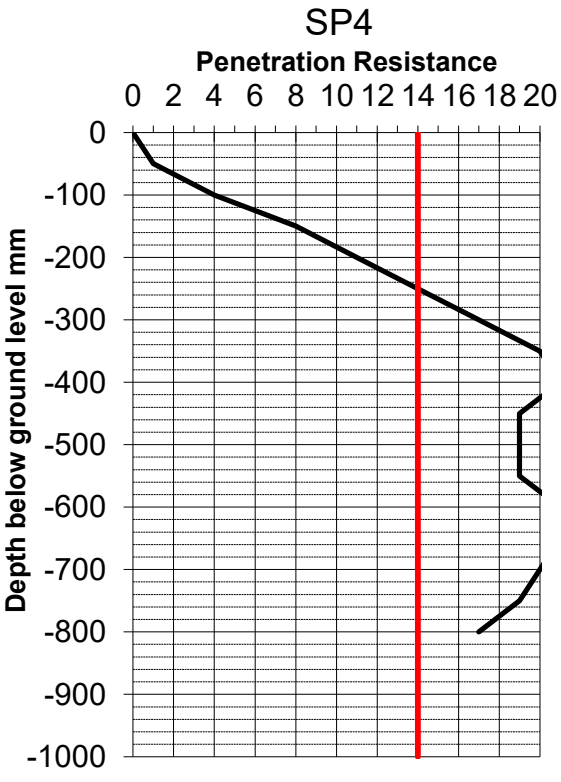
JOB NUMBER: 50860	PROJECT: Robertson FT Geotech		
	LOCATION: 355 Frankton Road	Weather:	
CO-ORDINATES: mE	DATE: 18-19/03/2020	Comments:	
Refer site plan attached mN	OPERATOR: HDJ		

Testing Location: Behind retaining wall Material: Site-won Level: 4.0m and 4.5 m







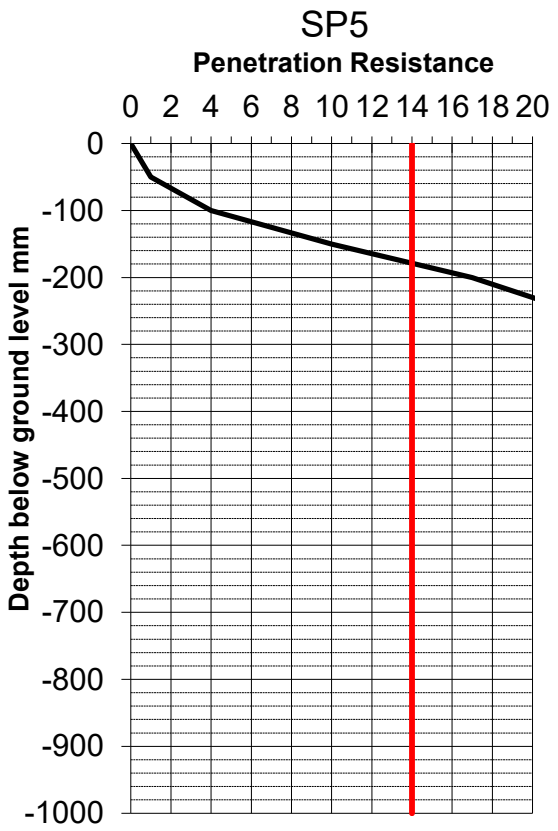


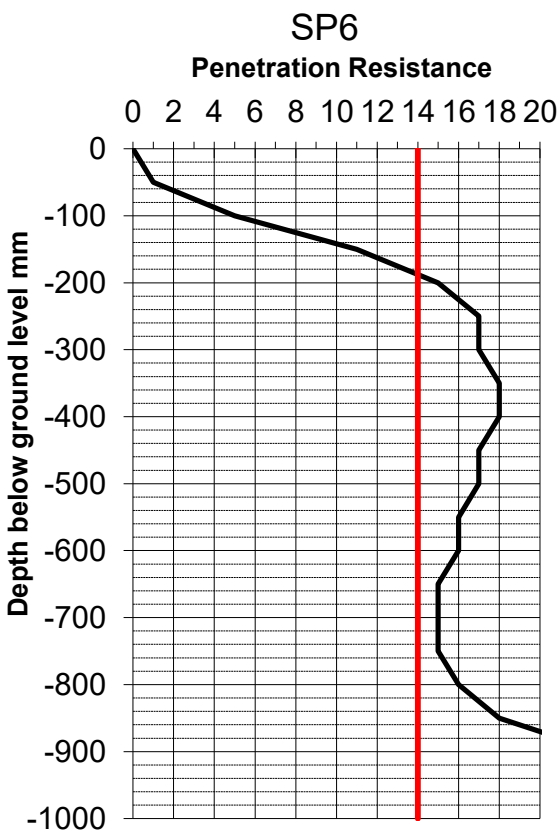
PENETRATION RESISTANCE TESTING

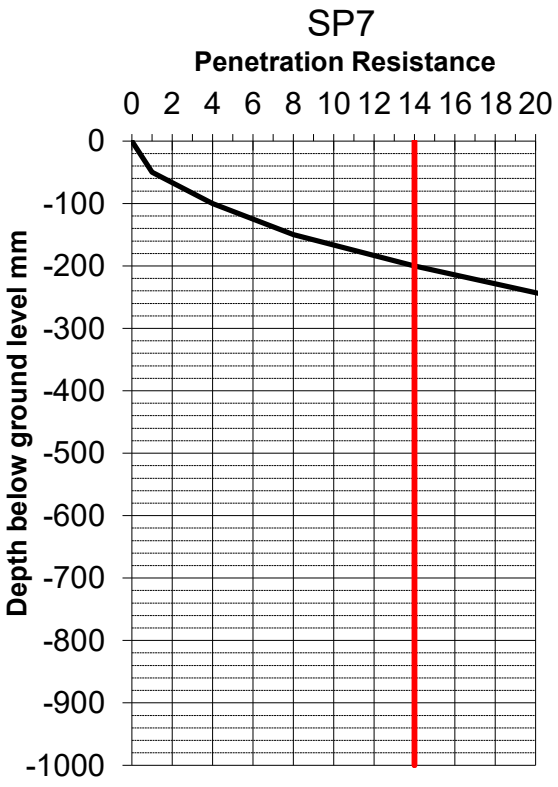
RDA Consulting
GEOTECHNICAL • CIVIL • ENVIRONMENTAL

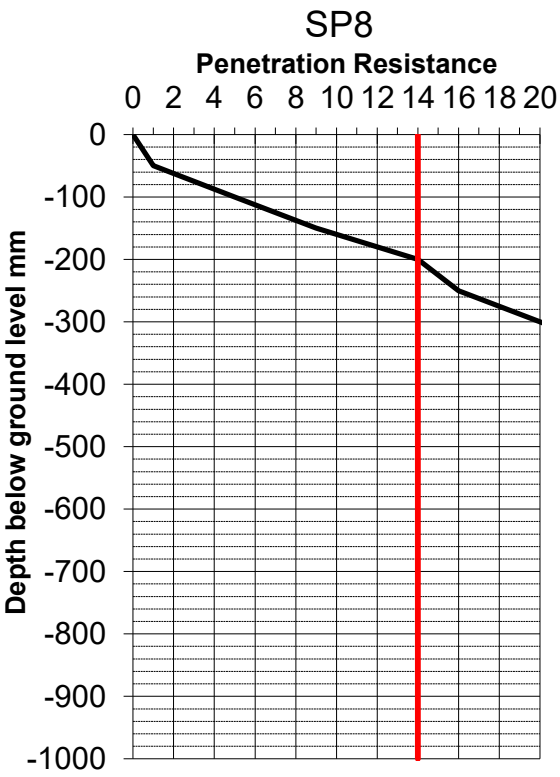
JOB NUMBER: 50860	PROJECT: Robertson FT Geotech		
	LOCATION: 355 Frankton Road	Weather:	
CO-ORDINATES: mE	DATE: 18-19/03/2020	Comments:	
Refer site plan attached mN	OPERATOR: HDJ		

Testing Location: Behind retaining wall Material: Site-won Level: 4.0m and 4.5 m









PENETRATION RESISTANCE TESTING

RDA Consulting
GEOTECHNICAL • CIVIL • ENVIRONMENTAL

JOB NUMBER:	50860	PROJECT:	Robertson FT Geotech	
		LOCATION:	355 Frankton Road	Weather:
CO-ORDINATES:	mE	DATE:	18-19/03/2020	Comments:
Refer site plan attached	mN	OPERATOR:	HDJ	

Testing Location: Behind retaining wall Material: Site-won Level: 4.0m and 4.5 m

RDA Consulting
GEOTECHNICAL • CIVIL • ENVIRONMENTAL

SITE REPORT	47
Job Title	Robertson FT Geotech
Physical Address	355 Frankton Road
	Queenstown
Job No.	50860
Date	30/04/2020

To	Name	Company	Email
☑	Ian Robertson	Robertson Family Trust	ianjrobertsonqtn@gmail.com
☑	Stephen Bates	Structor	info@structor.nz
☑	Trevor Jones	Jones contracting	earthworks@queenstown.co.nz

Work Reviewed:

Fill compaction testing, behind Boundary retaining wall ~1.0 m

Observations and Comments:

RDA Consulting were requested to conduct a fill compaction test for the fill placed behind the boundary retaining wall located in the south-western corner of the site. ~1.0 m of fill had been placed across the northern portion of the lower pad.

Two Scala tests were conducted (SPR1-2) across the fill area as indicated on the Test Location Plan. The Scala results indicated that the required SPR value of 14 over 150 mm within the upper 300 mm had been achieved.

Two benches had been cut into natural subgrade at the northern end of the site. Two Scala tests (SP3 and SP4) were conducted, one on each bench as indicated in Photo 1. The results indicated that SP3 encountered an Ultimate Bearing Capacity of 300 kPa within the upper 250 mm and within the upper 100 mm for SP4.

Recommendations:

- Contact RDA following placement of additional 0.5 m fill.
- Compact the subgrade with the plate compactor prior to fill placement to increase the bearing capacity for the upper 250 mm.
- Ensure that the sloping fill batter is no steeper than 1:2 (H:V).

Report Prepared by:

Hilde Jordet
MSc (Geol)
Engineering Geologist
50860 Roberton FT Geotech SR47

☑ Issued, date sent 1/05/2020
☑ Reviewed by:

Attached: Photos, Test Location Plan, Scala Logs SPR1-2, SP3-4

Photos:

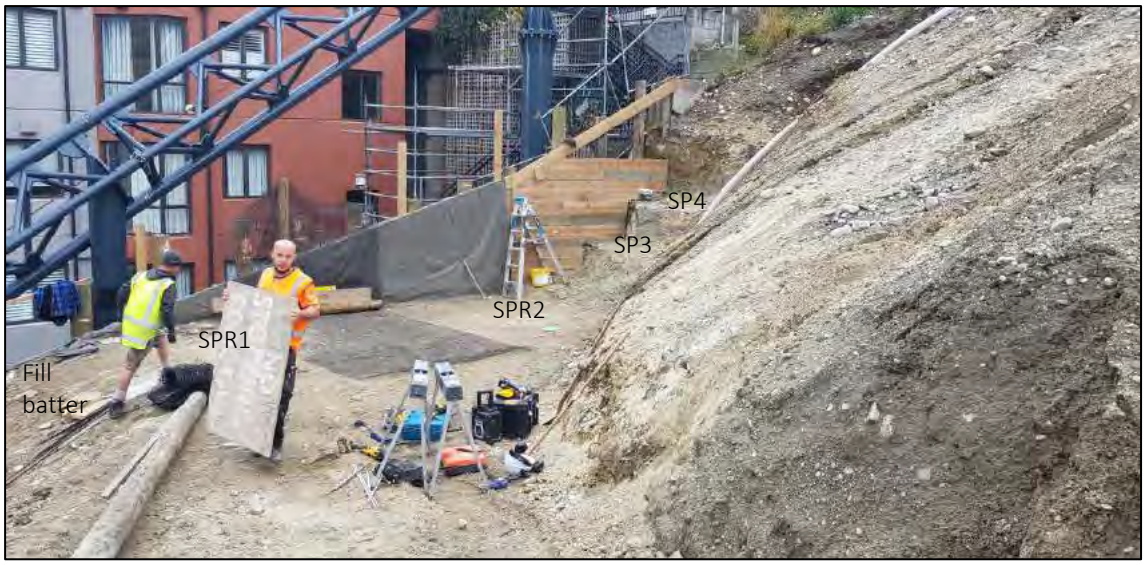


Photo 1: Looking north-west across the lower pad. ~1.0 m of fill placed in total. The fill will be placed up to/just below the top of the timber retaining wall along the western boundary.

Legend:

- Location of Scala test
- Approximate extent of fill

Application as Notified 168

Engineering firm: www.rda.co.nz	Project:	Client:	Drawing Title:	Scale: NTS
RDA Consulting GEOTECHNICAL • CIVIL • ENVIRONMENTAL	Robertson FT Geotech 355 Frankton Road Queenstown	Robertson Family Trust 32 Panorama Terrace Queenstown 9300	Test location Plan Retaining Wall 1.0 m Job Number: 50860	Date: 30/04/2020 Drawing No.1

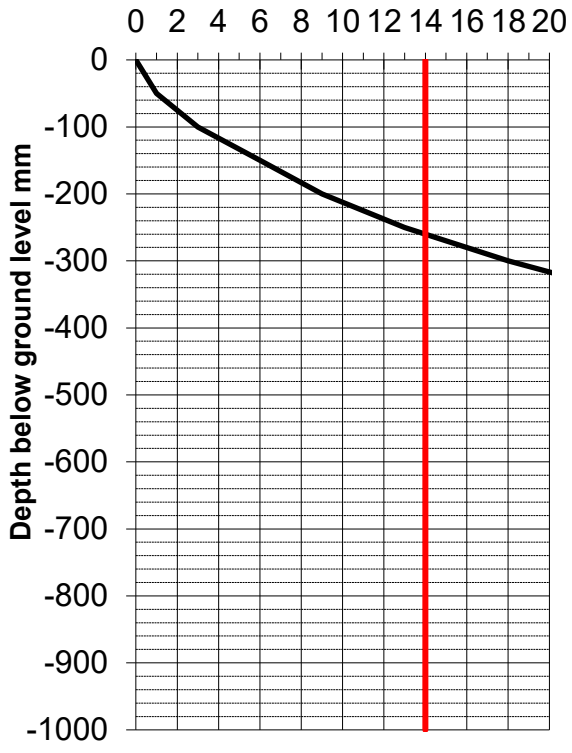
PENETRATION RESISTANCE TESTING

RDA Consulting
GEOTECHNICAL • CIVIL • ENVIRONMENTAL

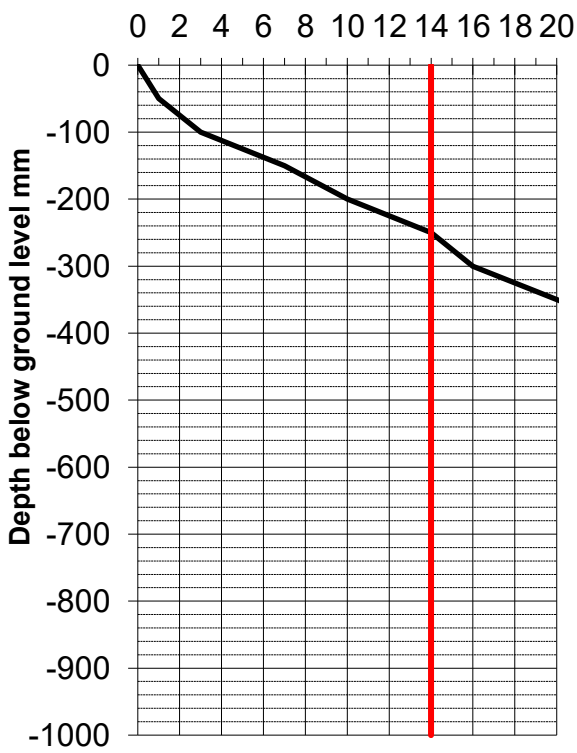
JOB NUMBER:	50860	PROJECT: Robertson FT Geotech	
		LOCATION: 355 Frankton Road	Weather:
CO-ORDINATES:	mE	DATE: 30-Apr-20	Comments:
Refer site plan attached	mN	OPERATOR: HDJ	

Testing Location: Behind retaining wall Material: Site-won Level: ~1.0 m

SPR1



SPR2



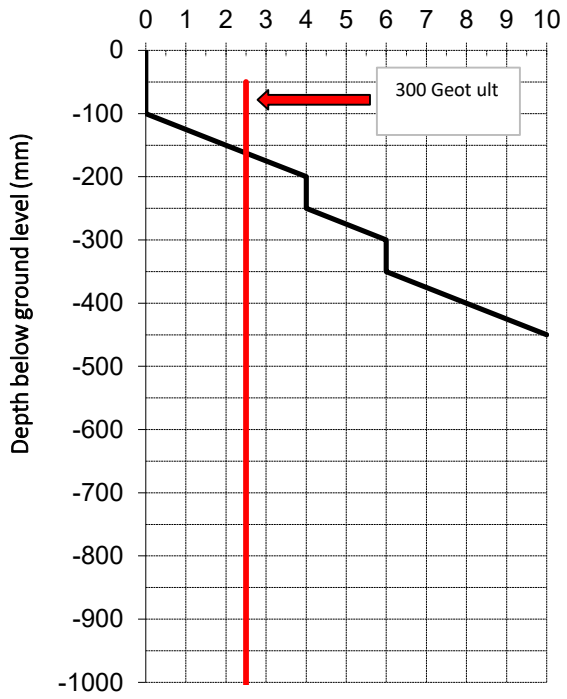
SCALA PENETROMETER RESULTS

JOB NUMBER:	50860	PROJECT:	Robertson FT Geotech
		LOCATION:	355 Frankton Road
CO-ORDINATES:	mE	DATE:	30-Apr-20
See attached plan	mN	OPERATOR:	HDJ

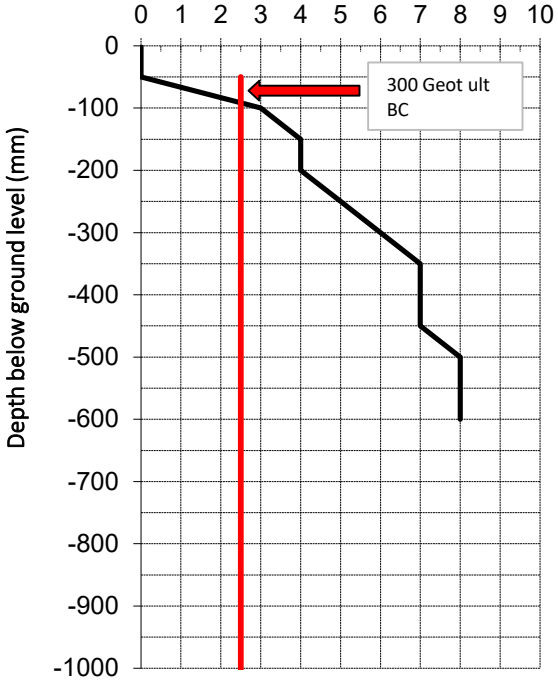
RDA Consulting
GEOTECHNICAL • CIVIL • ENVIRONMENTAL

Note: No Friction correction has been applied to the field results. 5 Blows per 100mm is considered compliance with NZS3604 3.3.7

SP3



SP4



RDA Consulting
GEOTECHNICAL • CIVIL • ENVIRONMENTAL

SITE REPORT	48
Job Title	Robertson FT Geotech
Physical Address	355 Frankton Road
	Queenstown
Job No.	50860
Date	07-08/05/2020

To	Name	Company	Email
☑	Ian Robertson	Robertson Family Trust	ianjrobertsonqtn@gmail.com
☑	Stephen Bates	Structor	info@structor.nz
☑	Trevor Jones	Jones contracting	earthworks@queenstown.co.nz

Work Reviewed:

- Fill compaction testing, behind Boundary retaining wall ~1.0-1.5 m
- Retest following undercut of 600 mm

Observations and Comments:

RDA Consulting were requested to conduct a fill compaction test for the fill placed behind the boundary retaining wall located in the south-western corner of the site. ~1.0 m of fill had been placed across the northern portion of the lower pad grading up to ~1.5 m towards the southern end.

Two Scala tests were conducted across the fill area as indicated on the Test Location Plan, SP1 across the southern end and SP2 at the northern end. The Scala tests indicated that the required compaction had not been achieved. Further compaction was conducted and the fill was retested; SP3, SP4 and SP5. The retest indicated that the southern portion of the fill (SP3) had achieved the required compaction whereas the northern end still did not achieve required compaction (SP4 and SP5). The moisture content of the fill in this area has higher than the southern portion and has heaving under the plate compactor indicating it is over optimum moisture. It was recommended to undercut the upper 300 mm of fill across the northern end, recompact the base and re-place and compact the fill.

Following 300 mm undercut the fill material still had a high moisture content and the contractor undercut to 600 mm. The base of the fill was compacted with the plate compactor and RDA was requested to conduct an inspection prior to backfilling the fill material. Four Scala tests were conducted, SP6 close to the natural soil batter and SP7-SP9 towards the mid-section of the undercut fill. The Scala result for SP6 indicated that the required compaction was achieved for the upper 300 mm, however the number dropping until it hits dense ground 550 mm below ground level. The low Scala numbers from 300 mm is likely due to encountering natural subgrade.

The Scala results for SP7-9 indicated that the required SPR value of 14 over 150 mm within the upper 300 mm had been achieved.

Water seepage was observed along the batter upslope from the fill. The contractor indicated that the stormwater catchment for the units located upslope were not completed and the seepage is likely a result of overflow from the upslope site following rainfall the recent days. A drain coil is being installed along the edge of the fill during construction which will drain away the water once the fill is placed to finished level.

Recommendations:

- Contact RDA following placement of additional 0.6 m fill.
- Ensure that the finished surface of the fill is gently sloping towards south to ensure that water is not ponding in the northern corner of the site.
- Ensure that the sloping fill batter is no steeper than 1:2 (H:V). and inline with the retaining wall design by Bartlett Consulting's surcharge design for the wall

Report Prepared by:

Hilde Jordet
MSc (Geol)
Engineering Geologist
50860 Roberton FT Geotech SR48

☑ Issued, date sent 8/05/2020
☑ Reviewed by: DWR

Attached: Photos, Test Location Plan, Scala Logs SPR1-2, SP3-4

Photos:

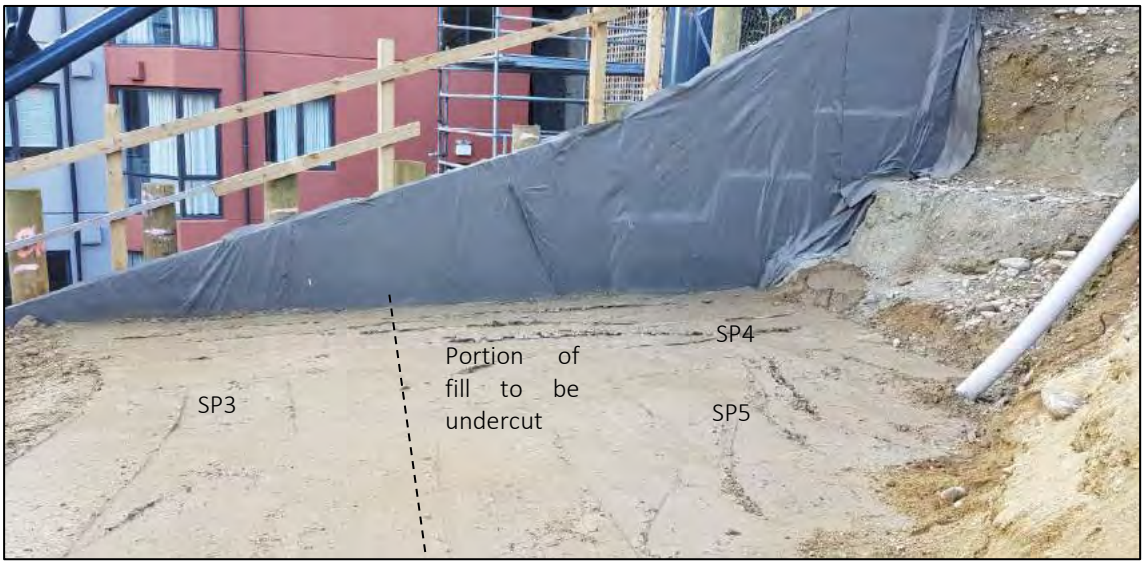


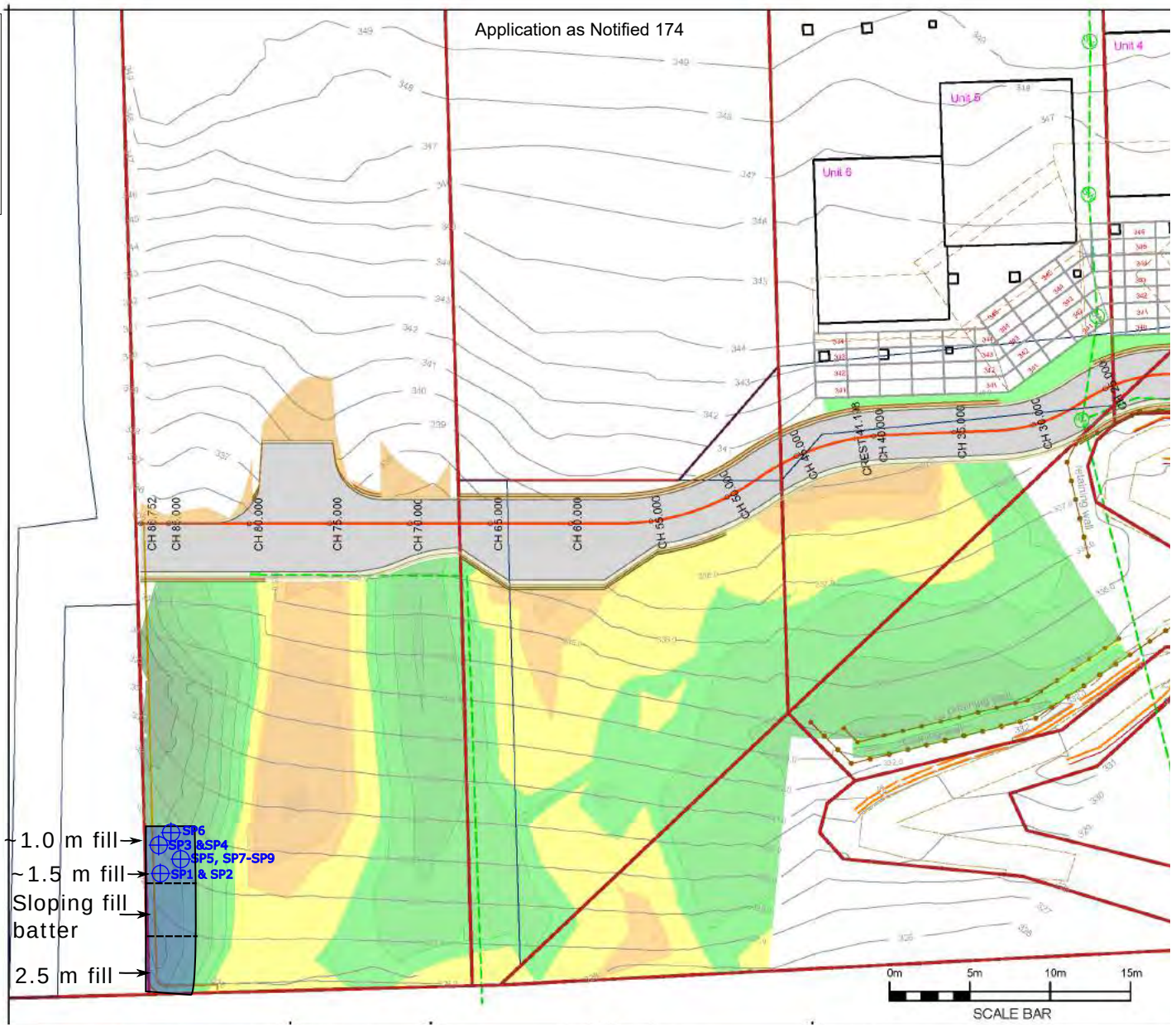
Photo 1: The northern portion of the fill did not achieve required compaction and had a high water content and required undercut and replacement.

Photo 2: 600 mm of fill had been undercut.

Legend:

Location of Scala test

Approximate extent of fill



Engineering firm: www.rda.co.nz RDA Consulting GEOTECHNICAL • CIVIL • ENVIRONMENTAL	Project: Robertson FT Geotech 355 Frankton Road Queenstown	Client: Robertson Family Trust 32 Panorama Terrace Queenstown 9300	Drawing Title: Test location Plan Retaining Wall 0.5-1.0 m Job Number: 50860	Scale: NTS Date: 7-8/05/2020 Drawing No.1

PENETRATION RESISTANCE TESTING

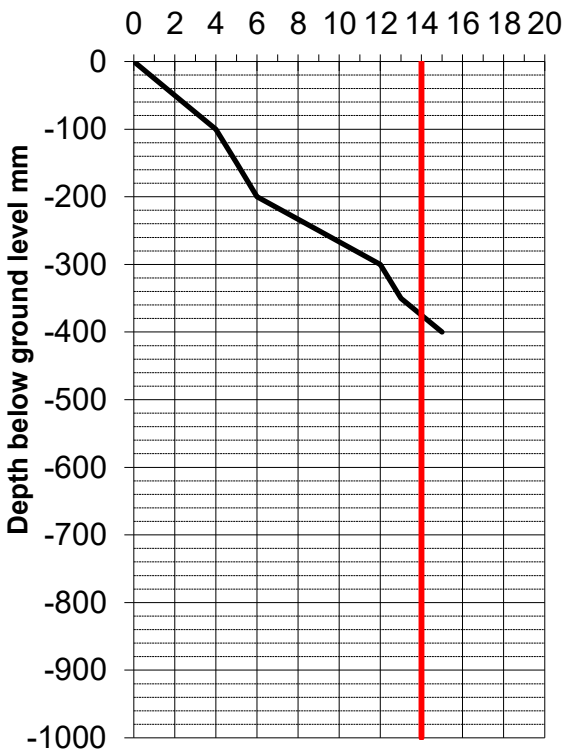
RDA Consulting
GEOTECHNICAL • CIVIL • ENVIRONMENTAL

JOB NUMBER:	50860	PROJECT:	Robertson FT Geotech	
		LOCATION:	355 Frankton Road	Weather:
CO-ORDINATES:	mE	DATE:	7-8/05/2020	Comments:
Refer site plan attached	mN	OPERATOR:	HDJ	

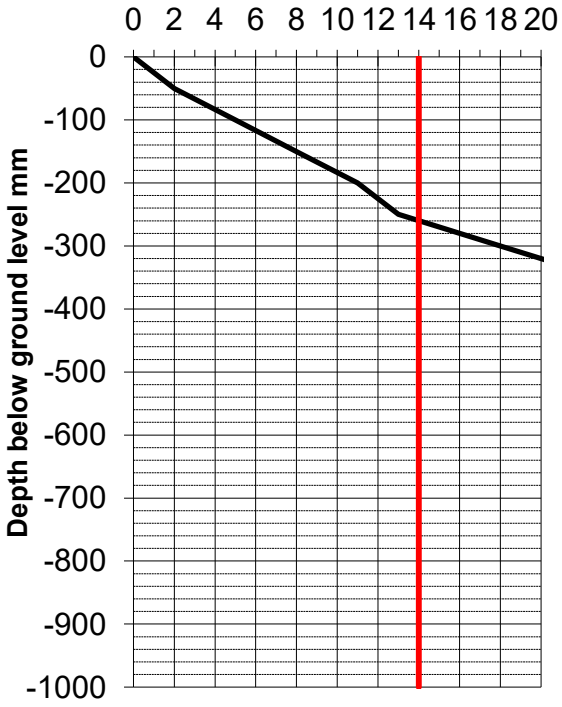
Testing Location: Along retaining wall, western l Material: Site-won Level: 0.5-1.0 m

SP1

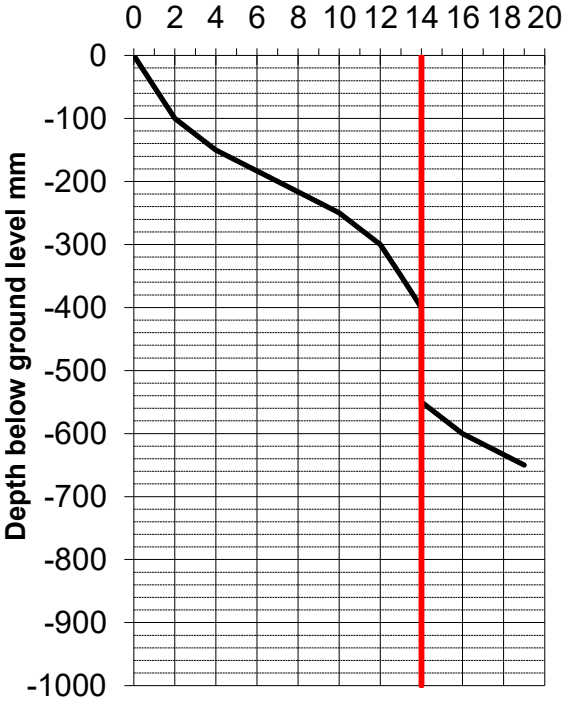
SP2



SP3



SP4



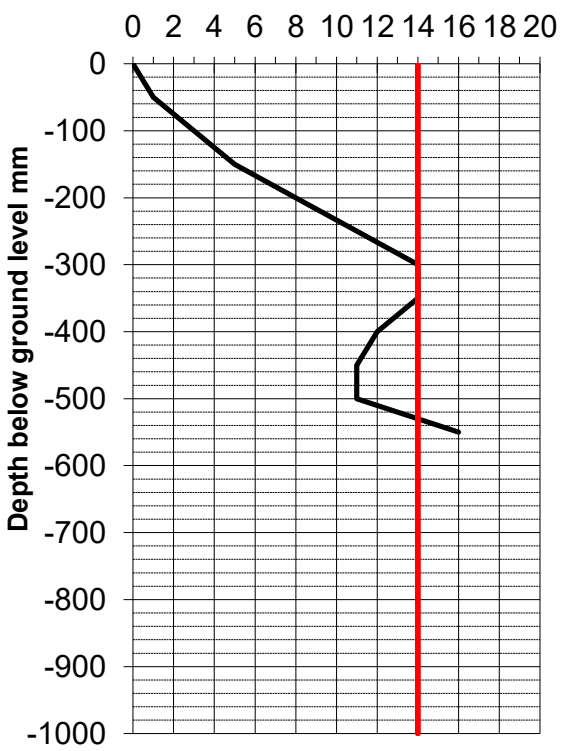
PENETRATION RESISTANCE TESTING

RDA Consulting
GEOTECHNICAL • CIVIL • ENVIRONMENTAL

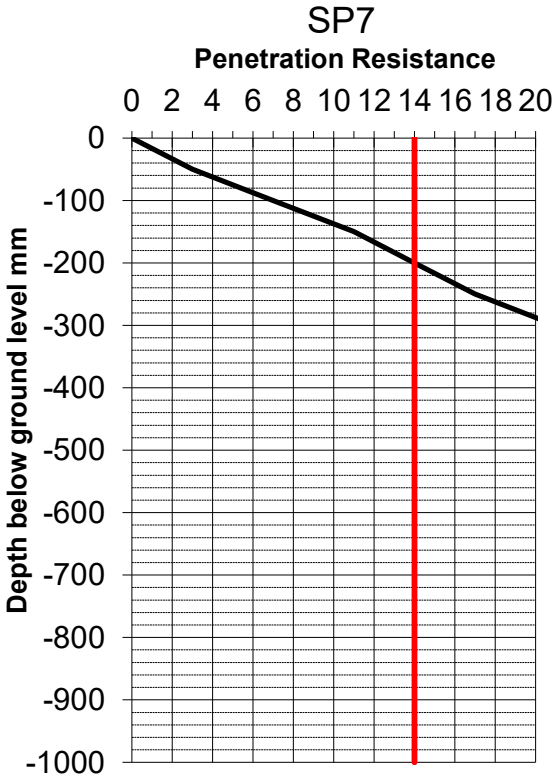
JOB NUMBER: 50860	PROJECT: Robertson FT Geotech		
	LOCATION: 355 Frankton Road	Weather:	
CO-ORDINATES: mE	DATE: 7-8/05/2020	Comments:	
Refer site plan attached mN	OPERATOR: HDJ		
Testing Location: Along retaining wall, western b	Material: Site-won	Level: 0.5-1.0 m	

SP5

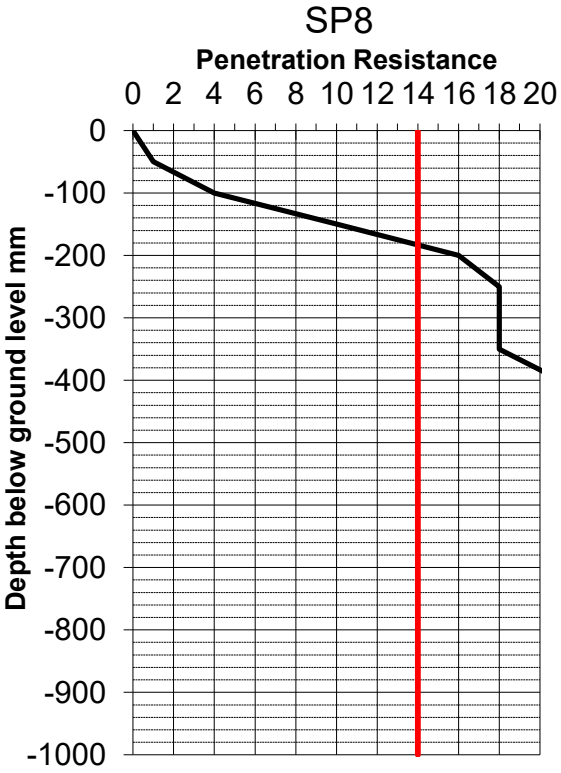
SP6



SP7



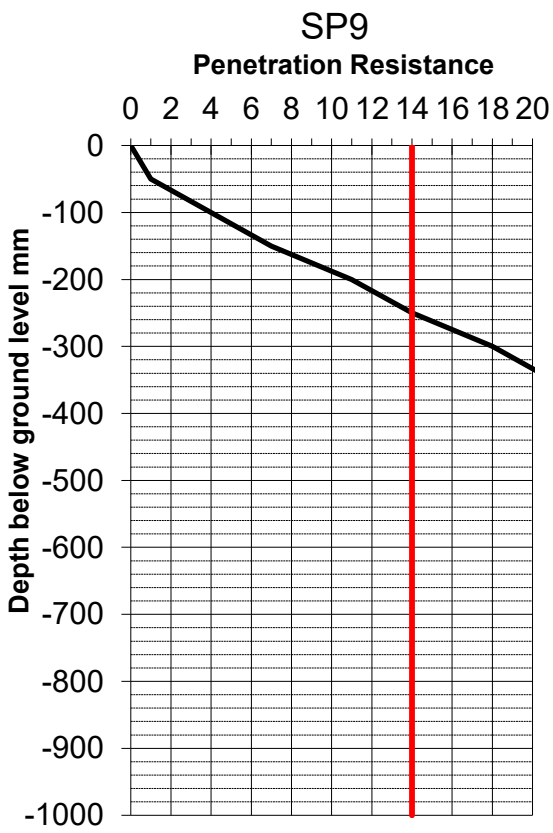
SP8



PENETRATION RESISTANCE TESTING

RDA Consulting
GEOTECHNICAL • CIVIL • ENVIRONMENTAL

JOB NUMBER: 50860	PROJECT: Robertson FT Geotech		
	LOCATION: 355 Frankton Road		Weather:
CO-ORDINATES: mE	DATE: 7-8/05/2020		Comments:
Refer site plan attached mN	OPERATOR: HDJ		
Testing Location: Along retaining wall, western b	Material: Site-won	Level: 0.5-1.0 m	



RDA Consulting
GEOTECHNICAL • CIVIL • ENVIRONMENTAL

SITE REPORT	49
Job Title	Robertson FT Geotech
Physical Address	355 Frankton Road
	Queenstown
Job No.	50860
Date	08/05/2020

To	Name	Company	Email
☑	Ian Robertson	Robertson Family Trust	ianjrobertsonqtn@gmail.com
☑	Stephen Bates	Structor	info@structor.nz
☑	Trevor Jones	Jones contracting	earthworks@queenstown.co.nz

Work Reviewed:

- Retest of following backfilling of 600 mm fill material

Observations and Comments:

RDA Consulting were requested to conduct a fill compaction test for the re-compaction of the fill material across the northern end of the site, behind the retaining wall.

Four Scala tests were conducted across the fill area as indicated on the Test Location Plan. The Scala test indicated that the required compaction had not been achieved. Up to 18 passes had been conducted by the plate compactor per 150 mm layer, however the moisture content in the fill material is too high, indicated by the material heaving underfoot, and hence resulting in the low SPR results.

From 350-400 mm below ground level the SPR values are reaching the required penetration and all tests hit refusal between 500-600 mm below ground level.

An inspection of the stockpile fill material on site was conducted to decide if the moisture content of the fill material was suitable to be used as fill material. As indicated on Photo 2, the stockpile material had a reasonable high water content and with the water seeping in from the soil batter, the moisture content in the fill material is likely be too high.

To avoid further seepage from the soil batter, stormwater from the units shall be captured and redirected away from the soil batter. Temporarily drainage at the base of the soil batter directed towards the drainage coil might be required to prevent the water seeping into the fill material.

Recommendations:

- Undercut the upper 200-300 mm of fill across the site and leave to dry over the weekend before any further compaction is conducted;
- OR undercut the upper 600 mm of wet fill material and replace with either Shotover River Run or AP65.
- Contact RDA Monday morning (11/05/2020) for an inspection of the fill material;
- Ensure that the finished surface of the fill is gently sloping towards south to ensure that water is not ponding in the northern corner of the site.
- Ensure that the sloping fill batter is no steeper than 1:2 (H:V) and in line with the retaining wall design by Bartlett Consulting's surcharge design for the wall

Report Prepared by:

Hilde Jordet
MSc (Geol)
Engineering Geologist
50860 Roberton FT Geotech SR49

☑ Issued, date sent 12/05/2020
☑ Reviewed by: DWR

Attached: Photos, Test Location Plan, Scala Logs SP1-4

Photos:

Photo 1: The northern portion of the fill did not achieve required compaction and had a high water content.

Photo 2: Fill material from stockpile on site.

Legend:

Location of Scala test

Approximate extent of fill

Engineering firm: www.rda.co.nz

RDA Consulting
GEOTECHNICAL • CIVIL • ENVIRONMENTAL

Project:
Robertson FT Geotech
355 Frankton Road
Queenstown

Client:
Robertson Family Trust
32 Panorama Terrace
Queenstown
9300

Drawing Title:
Test location Plan
Retaining Wall ~1.0m

Job Number: 50860

Scale: NTS

Date: 8/05/2020

Drawing No.1

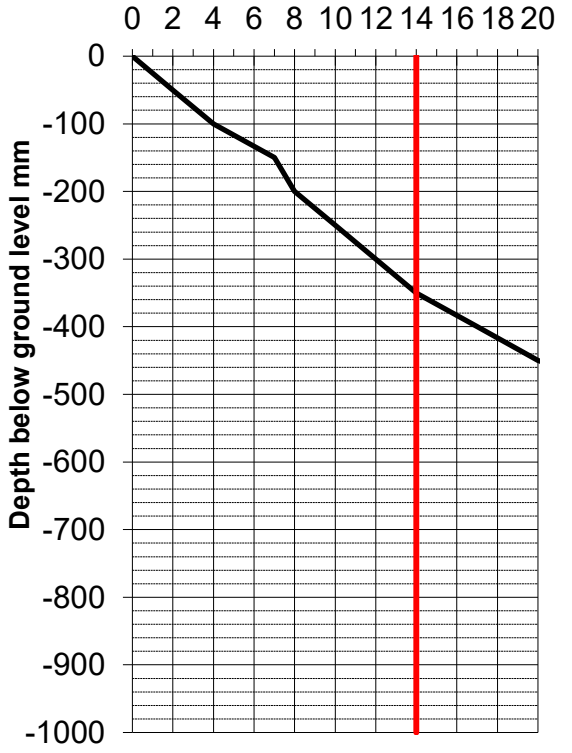
PENETRATION RESISTANCE TESTING

RDA Consulting
GEOTECHNICAL • CIVIL • ENVIRONMENTAL

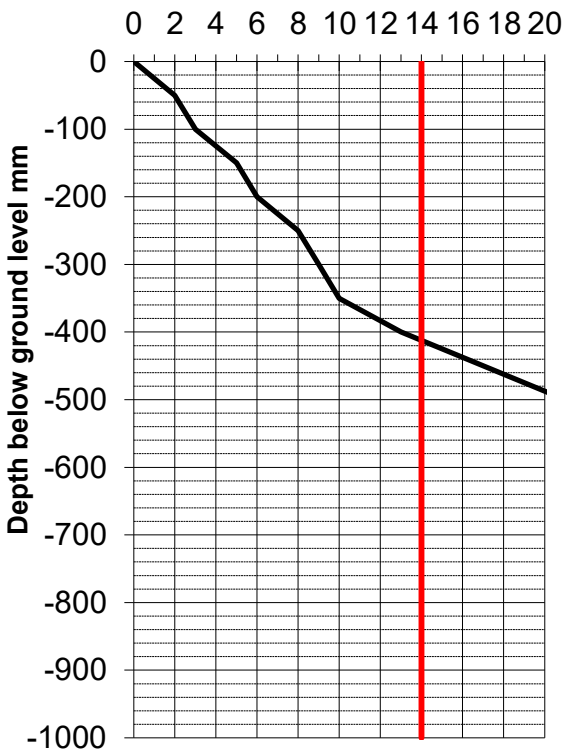
JOB NUMBER:	50860	PROJECT:	Robertson FT Geotech	
		LOCATION:	355 Frankton Road	Weather:
CO-ORDINATES:	mE	DATE:	8-May-20	Comments:
Refer site plan attached	mN	OPERATOR:	HDJ	

Testing Location: Along retaining wall, western l Material: Site-won Level: ~1.0 m

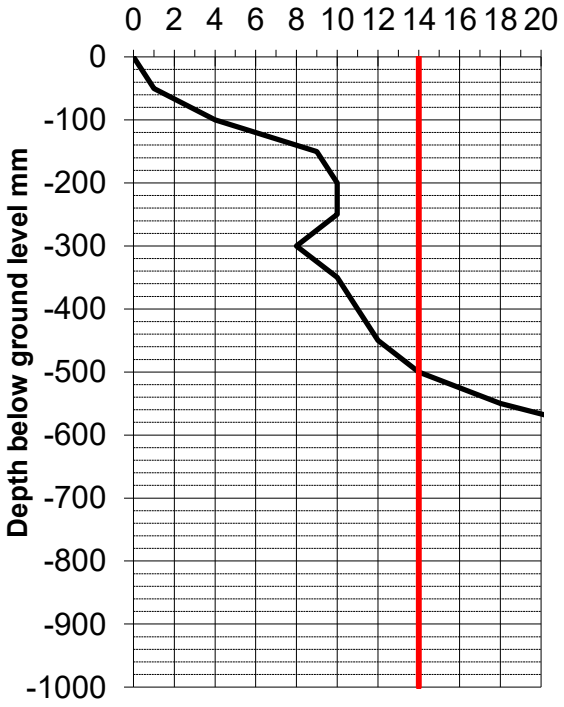
SP1



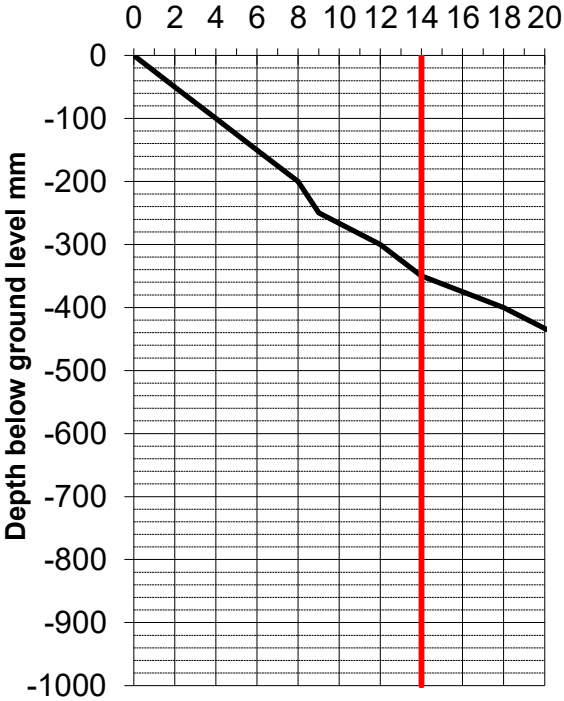
SP2



SP3



SP4



RDA Consulting
GEOTECHNICAL • CIVIL • ENVIRONMENTAL

SITE REPORT	50
Job Title	Robertson FT Geotech
Physical Address	355 Frankton Road
	Queenstown
Job No.	50860
Date	11/05/2020

To	Name	Company	Email
☑	Ian Robertson	Robertson Family Trust	ianjrobertsonqtn@gmail.com
☑	Stephen Bates	Structor	info@structor.nz
☑	Trevor Jones	Jones contracting	earthworks@queenstown.co.nz

Work Reviewed:

- Retest following undercut of 100 mm and drying over the weekend.

Observations and Comments:

RDA Consulting were requested to conduct a fill compaction test Monday morning for the fill placed behind the boundary retaining wall located in the south-western corner of the site. Following the fill test conducted on Friday (08/05/2020, SR49) approximately 100 mm of fill had been undercut to create a fall away from the natural soil bank to prevent the water from ponding within the corner area and the fill had been left to dry over the weekend.

The lack of precipitation over the weekend had allowed the fill material to dry up and the moisture content had been lowered. However, the fill was still slightly heaving indicating that the water content is still over optimum for compaction.

Three Scala tests were conducted across the fill area as indicated on the Test Location Plan. The Scala tests indicated that the required SPR value of 14 over 150 mm within the upper 300 mm had been achieved.

Recommendations:

- It is recommended to import a dry, angular fill material (e.g AP65) and place in a 300-400 mm thick layer (150 mm lifts) to create a stiff layer between the site-won fill.
- Alternatively, cement can be mixed into the existing site-won fill material to increase stiffness and reduce the free moisture content. Contact RDA for further mixing advice if this option is utilised.
- Due to the fill material's sensitivity to moisture, the fill material shall be covered with a tarpaulin or similar prior to a rainfall event to reduce the water entering the fill.
- Contact RDA following placement of additional 0.6 m fill.
- Conduct a NDM test following placement of minimum 400 mm of "original" site-won fill material. The NDM shall be conducted into the site-won fill material and not imported hardfill or fill mixed with cement.
- Ensure that the finished surface of the fill is gently sloping towards south to ensure that water is not ponding in the northern corner of the site.
- Ensure that the sloping fill batter is no steeper than 1:2 (H:V). and in line with the retaining wall design by Bartlett Consulting's surcharge design for the wall.

Report Prepared by:

Hilde Jordet
MSc (Geol)
Engineering Geologist
50860 Roberton FT Geotech SR50

☑ Issued, date sent 12/05/2020
☑ Reviewed by:

Attached: Photos, Test Location Plan, Scala Logs SP1-3

Photos:

Photo 1: The moisture content of the fill had reduced over the weekend and the required compaction has met.

Legend:

- Location of Scala test
- Approximate extent of fill

Engineering firm: www.rda.co.nz

RDA Consulting
GEOTECHNICAL • CIVIL • ENVIRONMENTAL

Project:
Robertson FT Geotech
355 Frankton Road
Queenstown

Client:
Robertson Family Trust
32 Panorama Terrace
Queenstown
9300

Drawing Title:
Test location Plan
Retaining Wall 0.5-1.0 m

Job Number: 50860

Scale: NTS

Date: 11/05/2020

Drawing No.1

PENETRATION RESISTANCE TESTING

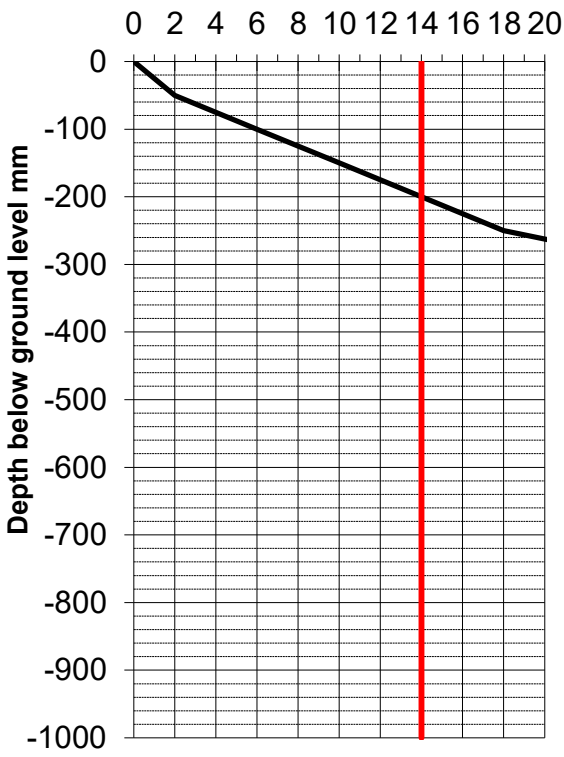
RDA Consulting
GEOTECHNICAL • CIVIL • ENVIRONMENTAL

JOB NUMBER:	50860	PROJECT:	Robertson FT Geotech	
		LOCATION:	355 Frankton Road	Weather:
CO-ORDINATES:	mE	DATE:	11-May-20	Comments:
Refer site plan attached	mN	OPERATOR:	HDJ	

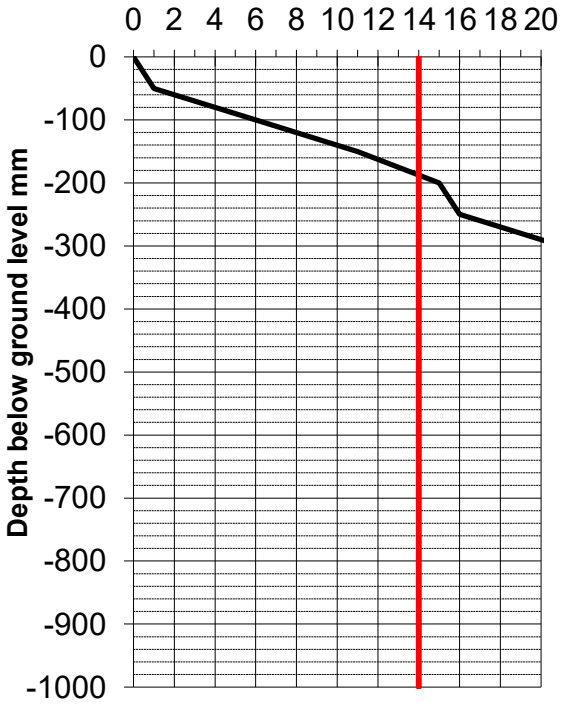
Testing Location: Along retaining wall, western l Material: Site-won Level: 0.5-1.0 m

SP1

SP2



SP3



RDA Consulting
GEOTECHNICAL • CIVIL • ENVIRONMENTAL

SITE REPORT	51
Job Title	Robertson FT Geotech
Physical Address	355 Frankton Road
	Queenstown
Job No.	50860
Date	12/05/2020

To	Name	Company	Email
☑	Ian Robertson	Robertson Family Trust	ianjrobertsonqtn@gmail.com
☑	Stephen Bates	Structor	info@structor.nz
☑	Trevor Jones	Jones contracting	earthworks@queenstown.co.nz

Work Reviewed:

- Call form Steve to David Rider on Subgrade material dilating under compaction plant

Steven Called DWR to discuss the issue of the subgrade and batter slope dilating by the vibration of the compaction plant.

After a discussion on the site limitations for supplying drainage aggregate or Hardfill to site the proposed solution to place geotextile cloth and drainage metal over the area and batter were discounted.

The site has an available supply of bedding sand so it was agreed to use this material as a free draining drainage material to address the current situation.

The existing drain coil is to have a "t" join installed and a small extension of drain coil connected and placed in a shallow dish drain at the base of the cut slope and into the heaving subgrade just enough to embed the pipe below subgrade and covered with the bedding sand The drain coil is to be wrapped with geotextile cloth.

Bedding sand is then to be placed on the subgrade to a thickness of 150mm and against the cut face for a depth of 200mm this sand is to be placed against the face with each lift of fill placed so it becomes a "chimney" drain against the face of the natural material.

No boxing is required between the sand and fill, just careful placement to achieve a continuous sand layer below and up the face.

No geotextile cloth is required as a separating layer between the sand natural/fill materials.

The subsoil drain will need to be pick up for as-builting purposes and if survey as built of the cut face has not been conducted it should be completed asap to record the fill areas for the final certification documentation.

Recommendations:

- As above

Report Prepared by:

David Rider
BSc (Geol) MEngNZ
Principal Geoprofessioanl/Senior Engineering Geologist

50860 Roberton FT Geotech SR51

☑ Issued, date sent 12/05/2020
☑ Reviewed by:

RDA Consulting
GEOTECHNICAL • CIVIL • ENVIRONMENTAL

SITE REPORT	52
Job Title	Robertson FT Geotech
Physical Address	355 Frankton Road
	Queenstown
Job No.	50860
Date	12/05/2020

To	Name	Company	Email
☑	Ian Robertson	Robertson Family Trust	ianjrobertsonqtn@gmail.com
☑	Stephen Bates	Structor	info@structor.nz
☑	Trevor Jones	Jones contracting	earthworks@queenstown.co.nz

Work Reviewed:

- Fill compaction testing, ~1.0-2.0 m

Observations and Comments:

RDA Consulting were requested to conduct a fill compaction following placement of additional 600 mm of fill behind the boundary retaining wall located in the south-western corner of the site. The contractor indicated that they had chosen to add cement to the fill material instead of importing hardfill as the options given in site report 50.

For the initial 400 mm of fill, 40 kg of cement had been mixed in with the fill material per 150 mm. For the upper 200 mm, the amount of cement increased to 80 kg, resulting in the percentage of cement in the fill material being approximately 2 %. The contractor indicated that the cement had been spread over the layer of fill and then been mixed using the excavator bucket to ensure that the cement was evenly distributed throughout the material. The cement will reduce the moisture in the fill material and increase stiffness of the material.

Three Scala tests were conducted across the fill area as indicated on the Test Location Plan. The Scala tests indicated that the required SPR value of 14 over 150 mm within the upper 300 mm had been achieved.

As recommended in Site Report 51, a drain coil had been placed horizontally against the cut batter and connected to the drain coil running downslope along the edge of the fill. Bedding sand had been placed below and over the drain coil as indicated on Photo 2.

Proceeding with the fill placement, Steve indicated that they would mix in 80 kg of cement for the following 200 mm of fill and thereafter only using “original” fill material with no cement.

Recommendations:

- Due to the fill material’s sensitivity to moisture, the fill material shall be covered with a tarpaulin or similar prior to a rainfall event to reduce the water entering the fill.
- Conduct NDM testing following placement of minimum 400 mm of “original” site-won fill material. The NDM shall be conducted into the site-won fill material and not fill mixed with cement. Unless cement is used for the remaining fill placement then conduct NDM test as soon as possible
- Ensure that the finished surface of the fill is gently sloping towards south to ensure that water is not ponding in the northern corner of the site.
- Ensure that the sloping fill batter is no steeper than 1:2 (H:V). and in line with the retaining wall design by Bartlett Consulting’s surcharge design for the wall.

Report Prepared by:

Hilde Jordet
MSc (Geol)
Engineering Geologist
50860 Roberton FT Geotech SR52

☑ Issued, date sent 14/05/2020
☑ Reviewed by: DWR

Attached: Photos, Test Location Plan, Scala Logs SP1-3

Photos:

Photo 1: Test locations indicated on the photo.

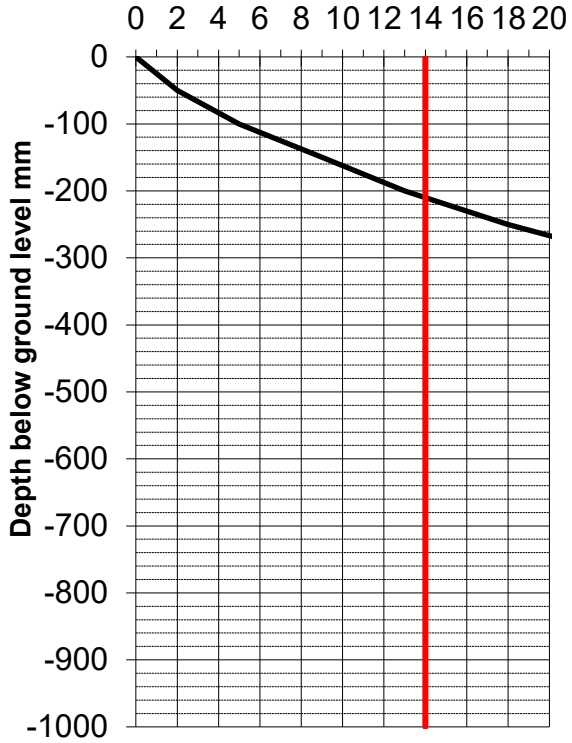
Photo 1: A drain coil is placed horizontally along the edge of the fill surrounded by bedding sand. The drain coil is connected to the drain coil running along the eastern edge of the fill (indicated on photo).

PENETRATION RESISTANCE TESTING

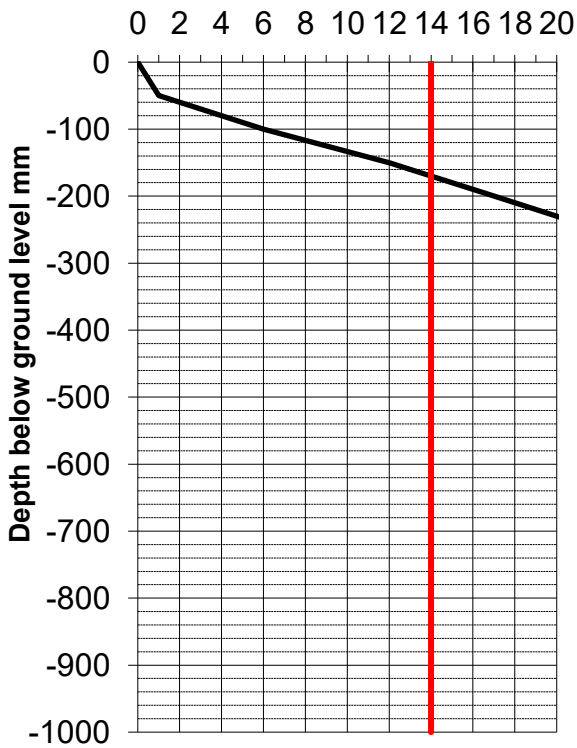
RDA Consulting
GEOTECHNICAL • CIVIL • ENVIRONMENTAL

JOB NUMBER: 50860	PROJECT: Robertson FT Geotech		
	LOCATION: 355 Frankton Road	Weather:	
CO-ORDINATES: mE	DATE: 12-May-20	Comments:	
Refer site plan attached mN	OPERATOR: HDJ		
Testing Location: Along retaining wall, western b	Material: Site-won	Level: 1.0-2.0	

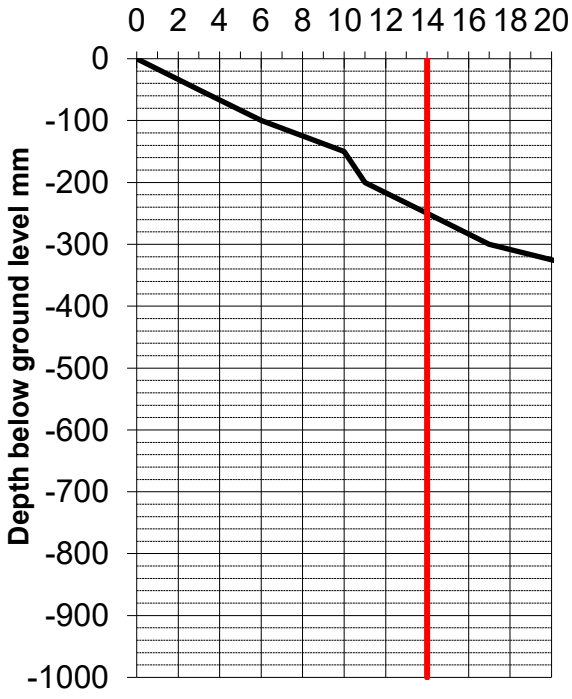
SP1



SP2



SP3



RDA Consulting
GEOTECHNICAL • CIVIL • ENVIRONMENTAL

SITE REPORT	53
Job Title	Robertson FT Geotech
Physical Address	355 Frankton Road
	Queenstown
Job No.	50860
Date	18/05/2020

To	Name	Company	Email
☑	Ian Robertson	Robertson Family Trust	ianjrobertsonqtn@gmail.com
☑	Stephen Bates	Structor	info@structor.nz
☑	Trevor Jones	Jones contracting	earthworks@queenstown.co.nz

Work Reviewed:

- Fill compaction testing, ~1.0-2.0 m

Observations and Comments:

RDA Consulting were requested to conduct a fill compaction following placement of additional 500 mm of fill behind the boundary retaining wall located in the south-western corner of the site. No cement had been added to this 500 mm of fill.

An NDM test had been conducted for the previous 500 mm of fill layer. The test was conducted into "original" fill material, no cement and the results indicated a maximum dry density of 99 %.

Two Scala tests (SP1 and SP2) were conducted across the fill area as indicated on the Test Location Plan. The Scala tests indicated that the required SPR value of 14 over 150 mm within the upper 300 mm had been achieved.

Later that evening, RDA was requested to conduct another fill test following placement of an additional 500 mm of fill. Two Scala tests were conducted (SP3 and SP4) and the results indicated that the required compaction had been achieved.

Recommendations:

- Contact RDA for a compaction test following additional 500 mm of fill placement;
- Ensure that the finished surface of the fill is gently sloping towards south to ensure that water is not ponding in the northern corner of the site.
- Ensure that the sloping fill batter is no steeper than 1:2 (H:V). and in line with the retaining wall design by Bartlett Consulting's surcharge design for the wall.

Report Prepared by:

Hilde Jordet
MSc (Geol)
Engineering Geologist
50860 Roberton FT Geotech SR53
☑ Issued, date sent 26/05/2020
☑ Reviewed by:

Attached: Photos, Test Location Plan, Scala Logs SP1-4

Photos:

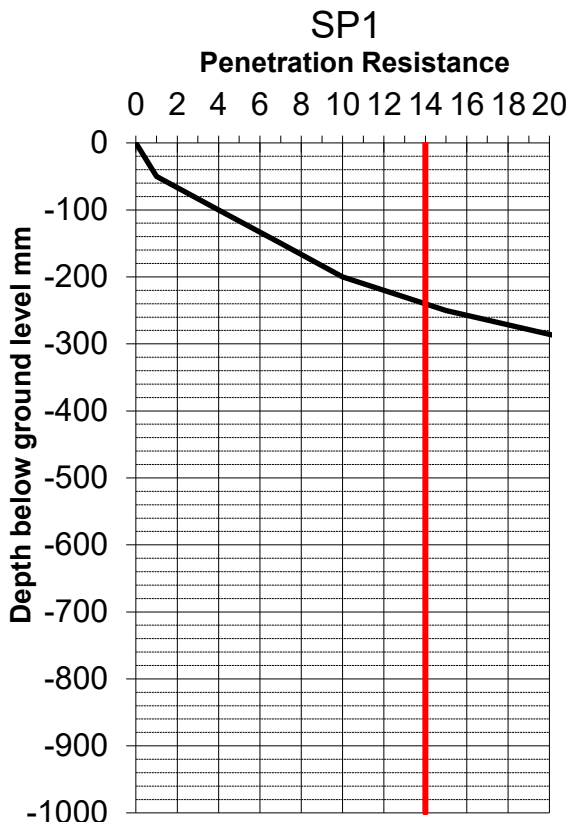
Photo 1: Test locations indicated on the photo.

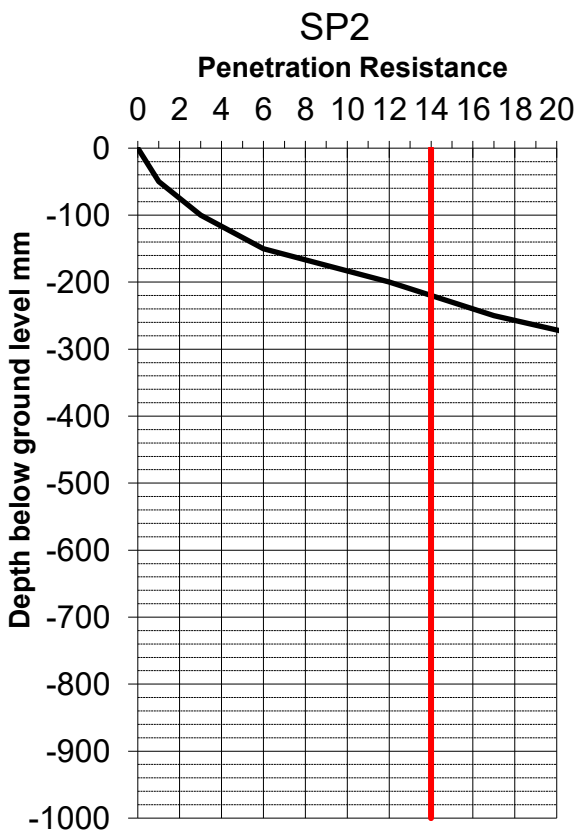
Photo 2: Fill testing following placement of additional 500 mm of fill. Test locations indicated on the photo.

PENETRATION RESISTANCE TESTING

RDA Consulting
GEOTECHNICAL • CIVIL • ENVIRONMENTAL

JOB NUMBER: 50860	PROJECT: Robertson FT Geotech		
	LOCATION: 355 Frankton Road	Weather:	
CO-ORDINATES: mE	DATE: 18-May-20	Comments:	
Refer site plan attached mN	OPERATOR: HDJ		
Testing Location: Along retaining wall, western b	Material: Site-won	Level: 1.0-2.0	





RDA Consulting
GEOTECHNICAL • CIVIL • ENVIRONMENTAL

SITE REPORT	54
Job Title	Robertson FT Geotech
Physical Address	355 Frankton Road
	Queenstown
Job No.	50860
Date	19 & 20/05/2020

To	Name	Company	Email
☑	Ian Robertson	Robertson Family Trust	ianjrobertsonqtn@gmail.com
☑	Stephen Bates	Structor	info@structor.nz
☑	Trevor Jones	Jones contracting	earthworks@queenstown.co.nz

Work Reviewed:

- Fill compaction testing, ~1.5 m and 2.0 m

Observations and Comments:

RDA Consulting were requested to conduct a fill compaction following placement of additional 500 mm of fill behind the boundary retaining wall located in the south-western corner of the site. The following day an additional 500 mm had been placed (~2.0 m) and was tested.

1.5 m fill test:

Two Scala tests (SP1 and SP2) were conducted across the fill area as indicated Photo 1 below. The Scala tests indicated that the required SPR value of 14 over 150 mm within the upper 300 mm had been achieved.

2.0 m fill test:

Two Scala tests (SP3 and SP4) were conducted across the fill area as indicated on as indicated Photo 2. The Scala tests indicated that the upper 300 mm of fill did not achieve the required compaction. Additional compaction with the plate compactor was conducted whilst on site. A retest was conducted following the additional compaction (SP5). The results indicated that the fill compaction had increased within the upper 300 mm achieved with a SPR value of 14 over 150 mm within the upper 300 mm.

As indicated on Photo 2, a small area of fill is remaining, approximately 400-500 mm until finished level and top of retaining wall is achieved. Steve indicated that once finished level is achieved, the southern portion of fill will be cut down again to achieve a natural sloping ground. This will result in very small area of fill remaining before finished level is achieved.

Recommendations:

- RDA to prepare an Earthfill Certification Report.
- Patterson Pitts to provide As-built survey drawings.
- Steve to Provide PS3 for Fill compaction.
- Above Docs to be forwarded to Derek Chinn for his PS4 wall construction.

Hilde Jordet
MSc (Geol)
Engineering Geologist

50860 Roberton FT Geotech SR54

☑ Issued, date sent 26/05/2020

☑ Reviewed by:

Attached: Photos, Test Location Plan, Scala Logs SP1-5

Photos:

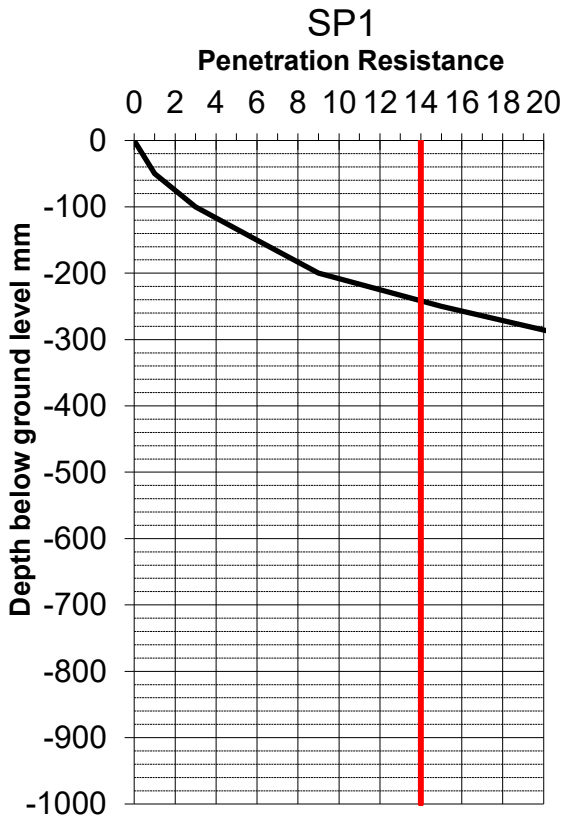
Photo 1: 1.5 m fill testing. Test locations indicated on the photo.

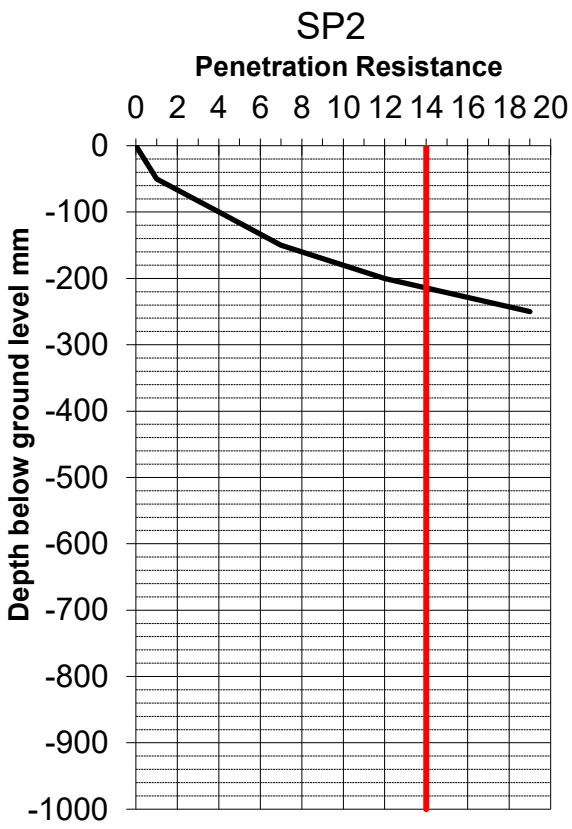
Photo 2: 2.0 m fill testing. Test locations indicated on the photo. Small area of fill remaining.

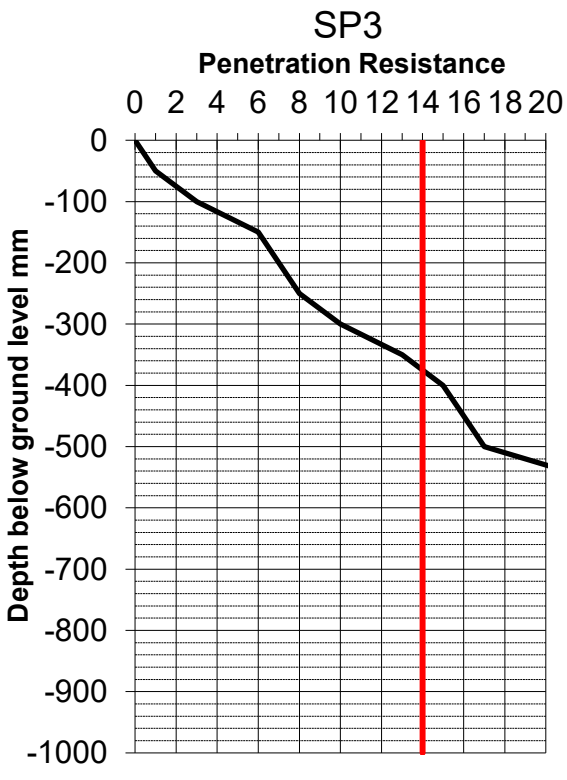
PENETRATION RESISTANCE TESTING

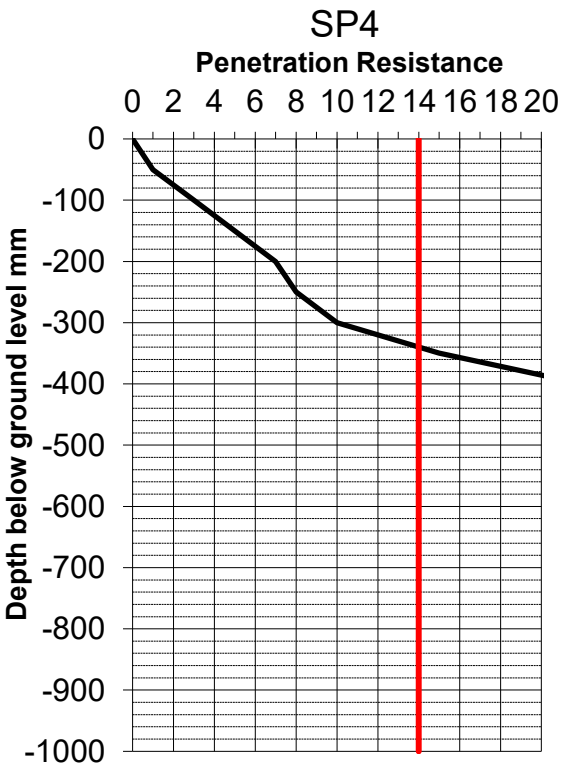
RDA Consulting
GEOTECHNICAL • CIVIL • ENVIRONMENTAL

JOB NUMBER:	50860	PROJECT:	Robertson FT Geotech	
		LOCATION:	355 Frankton Road	Weather:
CO-ORDINATES:	mE	DATE:	19 and 20/05/2020	Comments:
Refer site plan attached	mN	OPERATOR:	HDJ	
Testing Location: Along retaining wall, western l		Material:	Site-won	Level: 1.5-2.0





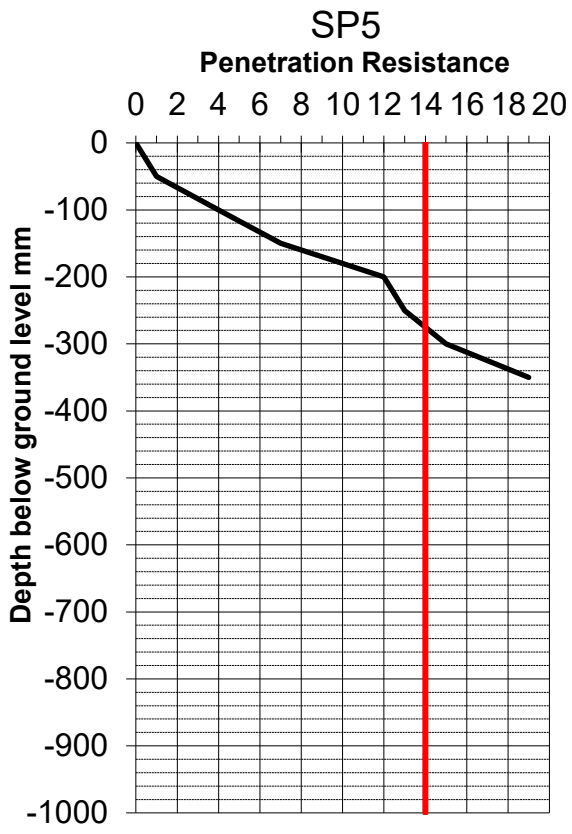




PENETRATION RESISTANCE TESTING

RDA Consulting
GEOTECHNICAL • CIVIL • ENVIRONMENTAL

JOB NUMBER:	50860	PROJECT: Robertson FT Geotech	
		LOCATION: 355 Frankton Road	Weather:
CO-ORDINATES:	mE	DATE: 19 and 20/05/2020	Comments:
Refer site plan attached	mN	OPERATOR: HDJ	
Testing Location: Along retaining wall, western b		Material: Site-won	Level: 1.5-2.0



Central Testing Services
18 Ngapara St, P.O. Box 397, Alexandra 9340, Central Otago, New Zealand
P: 03 4487644, W: www.centraltesting.co.nz, E: info@centraltesting.co.nz

Reference No: 20/485

Date: 10 March 2020

TEST REPORT - NZ STANDARD COMPACTION & DRY DENSITY

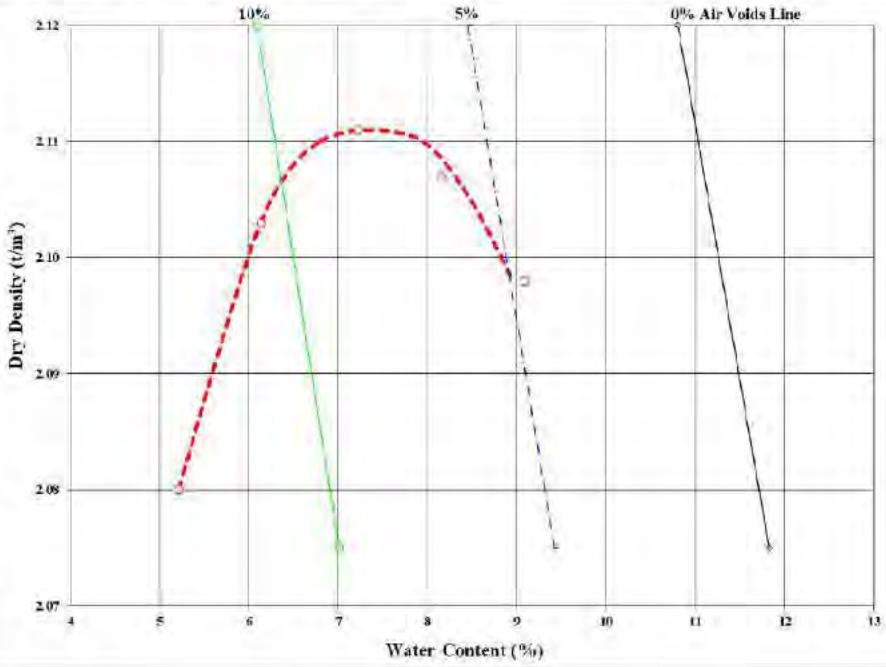
Client Details:	Ian Robertson, ianjrobertson@xtra.co.nz	**Attention:**	I. Robertson
Job Description:	355 Frankton Road, Queenstown		
Sample Description:	Sandy GRAVEL with minor silt	**Order No:**	N/A
Sample Source:	Cut to Fill	**Sample Label No:**	53622
Date & Time Sampled:	18-Feb-20	**Sampled By:**	C. Maxwell
Sample Method:	NZS 4407:2015, Test 2.4.8.3	**Date Received:**	18-Feb-20

NZ STANDARD COMPACTION - NZS 4402:1986, Test 4.1.1
DRY DENSITY & ABSORPTION - NZS 3111:1986, Test 12

% Retained (+19.0mm Fraction)	**14.0 %**
Dry Density: (+19.0mm Fraction)	**2.75 t/m³**
Absorption (+19.0mm Fraction)	**1.0 %**
Maximum Dry Density: (-19.0mm Fraction)	**2.11 t/m³**
Optimum Water Content: (-19.0mm Fraction)	**7.5 %**

Notes:

- *The sample was received in a natural state.*
- *The material tested in the NZ Standard Compaction test was the fraction passing a 19.0mm test sieve.*
- *The air voids lines were calculated from an assumed solid density of 2.75 t/m³.*



General Notes:

- *Information contained in this report which is Not IANZ Accredited relates to the sample description based on NZ Geotechnical Society Guidelines 2005.*
- *This report may not be reproduced except in full.*

Tested By: C. Fisher & L.T. Smith **Date:** 19 to 24-Feb-20

Checked By:

Approved Signatory

A.P. Julius
Laboratory Manager

Tests indicated as Not Accredited are outside the scope of the laboratory's accreditation

IANZ ACCREDITED LABORATORY Accreditation No: 434

Central Testing Services
18 Ngapara St, P.O. Box 397, Alexandra 9340, Central Otago, New Zealand
P: 03 4487644, W: www.centraltesting.co.nz, E: info@centraltesting.co.nz

Reference No: 20/1091

Date: 15 May 2020

TEST REPORT - FIELD DENSITY & WATER CONTENT

Client Details:	Ian Robertson, ianjrobertson@xtra.co.nz	**Attention:**	I. Robertson
Job Description:	355 Frankton Road, Queenstown		
Sample Description:	Sandy GRAVEL with minor silt	**Sample Source:**	Cut to Fill
Sample Method:	NZS 4407:2015, Test 2.4.8.3	**Sampled By:**	C. Maxwell
Test Methods:	Field Density - NZS 4407:2015, Test 4.2; Water Content - NZS 4402:1986, Test 2.1		

FIELD DENSITY & WATER CONTENT RESULTS

Location Details			Probe Depth (mm)	Wet Density (t/m³)	Dry Density (t/m³)	Water Content (%)	Relative Compaction (%)	Air Voids (1) (%)	Total Voids (1) (%)
Site No.	Test Location	Fill Depth							
5	See location page 2	See page 2	250	2.25	2.17	3.3	100	14	21
6	See location page 2	See page 2	250	2.30	2.22	3.6	98	11	19
Mean Values Sites: 5 & 6				2.27	2.20	3.4	99	13	20
NZS 4431:1989, Section 7.4.2.1 Specification:				Minimum Relative Compaction: 95.0 %.					

(1) Voids were calculated from an assumed solid density of 2.75 t/m³ – See Reference No 20/485.

Note:

1. *Information contained in this report which is Not IANZ Accredited relates to; the calculation of the corrected maximum dry density, the calculation of % relative compaction and the sample description based on NZ Geotechnical Society Guidelines 2005.*
2. *Relative compaction values have been calculated from the following maximum dry densities, corrected in accordance with USBR Des-E38 where the % +19mm fraction was greater than 5% (see NZS 4402:1986, Test 4.1.1 Note 1).*

   S:5 - 2.17 t/m³ (corrected for 12% +19mm fraction) *S:6 - 2.25 t/m³ (corrected for 29% +19mm fraction)*

   See Reference No. 20/485 for NZ standard compaction details.
3. *The results stated above are specific to the test locations as recorded. CTS accepts no liability for any extrapolated use of this data.*
4. *This report may not be reproduced except in full.*

Tested By: C. Maxwell & C. Fisher **Date:** 14 & 15-May-20

Checked By:

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IANZ ACCREDITED LABORATORY Accreditation No: 434

Central Testing Services
18 Ngapara St, P.O. Box 397, Alexandra 9340, Central Otago, New Zealand
P: 03 4487644, W: www.centraltesting.co.nz, E: info@centraltesting.co.nz

Reference No: 20/1091

Date: 15 May 2020

TEST REPORT – FIELD DENSITY & WATER CONTENT (cont.)

Approximate Test Locations

Notes

- *This report may not be reproduced except in full.*

Tested By: C. Maxwell & C. Fisher **Date:** 14 & 15-May-20

Checked By:

Approved Signatory

A.P. Julius
Laboratory Manager

Tests indicated as Not Accredited are outside the scope of the laboratory's accreditation

IANZ ACCREDITED LABORATORY
Accreditation No: 434

Central Testing Services
18 Ngapara St, P.O. Box 397, Alexandra 9340, Central Otago, New Zealand
P: 03 4487644, W: www.centraltesting.co.nz, E: info@centraltesting.co.nz

Reference No: 20/484

Date: 10 March 2020

TEST REPORT - FIELD DENSITY & WATER CONTENT

Client Details:	Ian Robertson, ianjrobertson@xtra.co.nz	**Attention:**	I. Robertson
Job Description:	355 Frankton Road, Queenstown		
Sample Description:	Sandy GRAVEL with minor silt	**Sample Source:**	Cut to Fill
Sample Method:	NZS 4407:2015, Test 2.4.8.3	**Sampled By:**	C. Maxwell
Test Methods:	Field Density - NZS 4407:2015, Test 4.2; Water Content - NZS 4402:1986, Test 2.1		

FIELD DENSITY & WATER CONTENT RESULTS

Location Details			Probe Depth (mm)	Wet Density (t/m³)	Dry Density (t/m³)	Water Content (%)	Relative Compaction (%)	Air Voids (1) (%)	Total Voids (1) (%)
Site No.	Test Location	Fill Depth							
1	See location page 2	See page 2	250	2.30	2.17	5.8	98	9	21
2	See location page 2	See page 2	300	2.30	2.16	6.4	98	8	22
Mean Values Sites: 1 & 2				2.30	2.16	6.1	98	8	21
NZS 4431:1989, Section 7.4.2.1 Specification:				Minimum Relative Compaction: 95.0 %.					

(1) Voids were calculated from an assumed solid density of 2.75 t/m³ – See Reference No 20/485.

Note:

1. *Information contained in this report which is Not IANZ Accredited relates to; the calculation of the corrected maximum dry density, the calculation of % relative compaction and the sample description based on NZ Geotechnical Society Guidelines 2005.*
2. *Relative compaction values have been calculated from the following maximum dry densities, corrected in accordance with USBR Des-E38 where the % +19mm fraction was greater than 5% (see NZS 4402:1986, Test 4.1.1 Note 1).*

   S:1 - 2.21 t/m³ (corrected for 19% +19mm fraction) *S:2 - 2.19 t/m³ (corrected for 16% +19mm fraction)*

   See Reference No. 20/485 for NZ standard compaction details.
3. *The results stated above are specific to the test locations as recorded. CTS accepts no liability for any extrapolated use of this data.*
4. *This report may not be reproduced except in full.*

Tested By: C. Maxwell & L.T. Smith **Date:** 18 & 19-Feb-20

Checked By:

Tests indicated as Not Accredited are outside the scope of the laboratory's accreditation

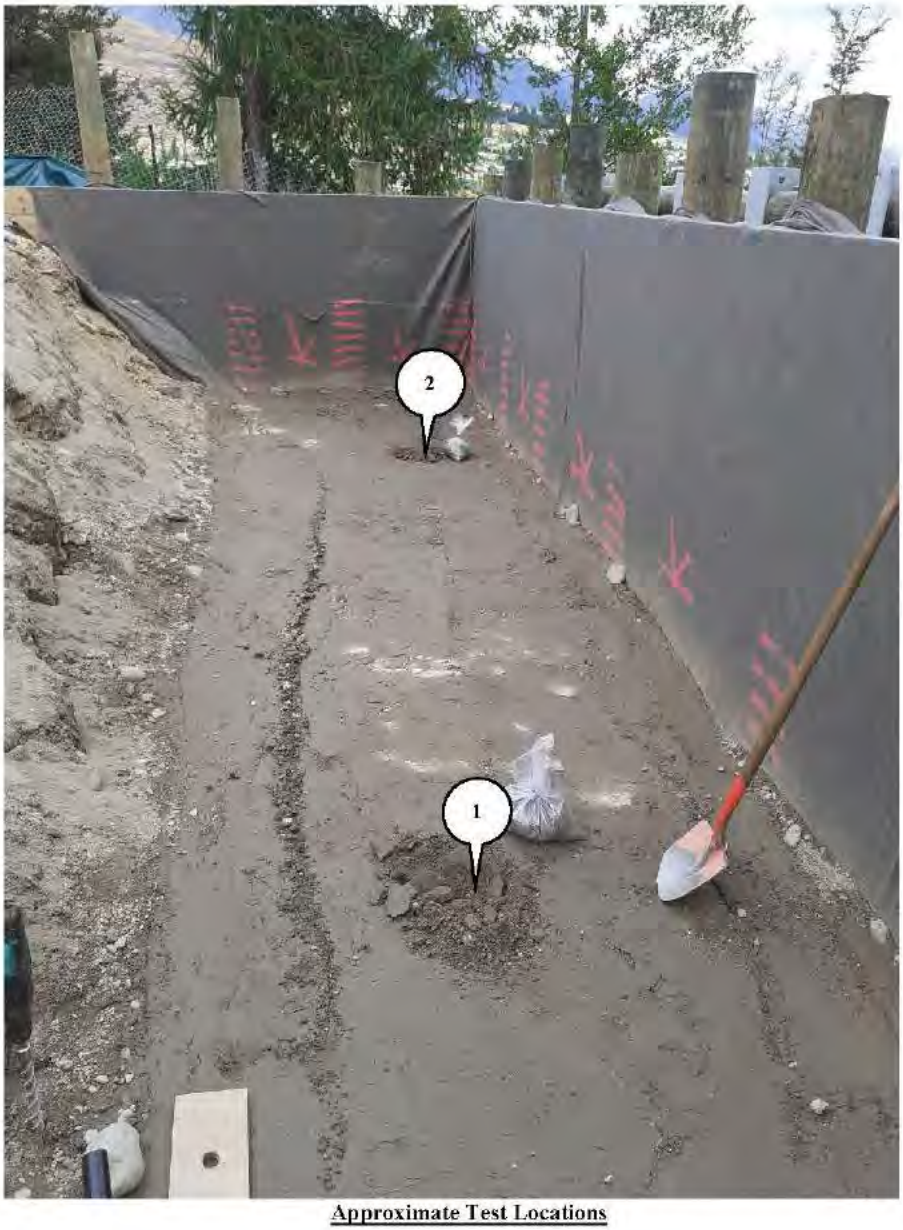
IANZ ACCREDITED LABORATORY Accreditation No: 434

Central Testing Services
18 Ngapara St, P.O. Box 397, Alexandra 9340, Central Otago, New Zealand
P: 03 4487644, W: www.centraltesting.co.nz, E: info@centraltesting.co.nz

Reference No: 20/484

Date: 10 March 2020

TEST REPORT – FIELD DENSITY & WATER CONTENT (cont.)



Approximate Test Locations

Notes

- *This report may not be reproduced except in full.*

Tested By: C. Maxwell & L.T. Smith **Date:** 18 & 19-Feb-20

Checked By:

Approved Signatory

A.P. Julius
Laboratory Manager

Tests indicated as Not Accredited are outside the scope of the laboratory's accreditation

IANZ ACCREDITED LABORATORY Accreditation No: 434

Central Testing Services
18 Ngapara St, P.O. Box 397, Alexandra 9340, Central Otago, New Zealand
P: 03 4487644, W: www.centraltesting.co.nz, E: info@centraltesting.co.nz

Reference No: 20/681

Date: 10 March 2020

TEST REPORT - FIELD DENSITY & WATER CONTENT

Client Details:	Ian Robertson, ianjrobertson@xtra.co.nz	**Attention:**	I. Robertson
Job Description:	355 Frankton Road, Queenstown		
Sample Description:	Sandy GRAVEL with minor silt	**Sample Source:**	Cut to Fill
Sample Method:	NZS 4407:2015, Test 2.4.8.3	**Sampled By:**	C. Maxwell
Test Methods:	Field Density - NZS 4407:2015, Test 4.2; Water Content - NZS 4402:1986, Test 2.1		

FIELD DENSITY & WATER CONTENT RESULTS

Location Details			Probe Depth (mm)	Wet Density (t/m³)	Dry Density (t/m³)	Water Content (%)	Relative Compaction (%)	Air Voids (1) (%)	Total Voids (1) (%)
Site No.	Test Location	Fill Depth							
3	See location page 2	See page 2	200	2.33	2.26	2.8	99	11	18
4	See location page 2	See page 2	150	2.25	2.14	5.0	96	12	22
Mean Values Sites: 3 & 4				2.29	2.20	3.9	97	12	20
NZS 4431:1989, Section 7.4.2.1 Specification:				Minimum Relative Compaction: 95.0 %.					

(1) Voids were calculated from an assumed solid density of 2.75 t/m³ – See Reference No 20/485.

Note:

1. *Information contained in this report which is Not IANZ Accredited relates to; the calculation of the corrected maximum dry density, the calculation of % relative compaction and the sample description based on NZ Geotechnical Society Guidelines 2005.*
2. *Relative compaction values have been calculated from the following maximum dry densities, corrected in accordance with USBR Des-E38 where the % +19mm fraction was greater than 5% (see NZS 4402:1986, Test 4.1.1 Note 1).*

   S:3 - 2.29 t/m³ (corrected for 40% +19mm fraction) *S:4 - 2.23 t/m³ (corrected for 24% +19mm fraction)*

   See Reference No. 20/485 for NZ standard compaction details.
3. *The results stated above are specific to the test locations as recorded. CTS accepts no liability for any extrapolated use of this data.*
4. *This report may not be reproduced except in full.*

Tested By: C. Maxwell & C. Fisher **Date:** 5 & 6-Mar-20

Checked By:

Tests indicated as Not Accredited are outside the scope of the laboratory's accreditation

IANZ ACCREDITED LABORATORY Accreditation No: 434

Central Testing Services
18 Ngapara St, P.O. Box 397, Alexandra 9340, Central Otago, New Zealand
P: 03 4487644, W: www.centraltesting.co.nz, E: info@centraltesting.co.nz

Reference No: 20/681

Date: 10 March 2020

TEST REPORT – FIELD DENSITY & WATER CONTENT (cont.)

Approximate Test Locations

Notes

- *This report may not be reproduced except in full.*

Tested By: C. Maxwell & C. Fisher **Date:** 5 & 6-Mar-20

Checked By:

Approved Signatory

A.P. Julius
Laboratory Manager

Tests indicated as Not Accredited are outside the scope of the laboratory's accreditation

IANZ ACCREDITED LABORATORY Accreditation No: 434

APPENDIX C. PRODUCER STATEMENTS

1. Statement of Suitability – Inspecting Engineer – (David Rider)
2. PS3 (Schedule 6) Construction – (Master Bates Construction Ltd T/A Structor NZ Ltd)

RDA Consulting
GEOTECHNICAL • CIVIL • ENVIRONMENTAL

STATEMENT OF SUITABILITY OF EARTHFILL FOR RESIDENTIAL DEVELOPMENT

ISSUED BY:	RDAGRITECH LTD (Design Firm)
TO:	ROBERTSON FAMILY TRUST (Building Consent Applicant)
SUPPLIED TO:	QUEENSTOWN LAKES DISTRICT COUNCIL (Building Consent Authority)
IN RESPECT OF:	EARTHFILL FOR RESIDENTIAL DEVELOPMENT (Description of Building Work)
AT:	355 FRANKTON ROAD, QUEENSTOWN (Address)
LEGAL DESCRIPTION:	LOT 1 DP 10647

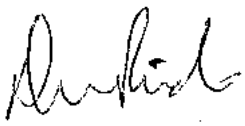
This document certifies that the structural earthfill shown on the Patterson Pitts as-built plan titled "Depth Range Excavation level vs final backfill level" dated 27/07/2020 included in the Earthfill Certification Report dated 29/07/2020 has been placed in accordance with NZS 4431:1989, industry best practice and sound engineering principles.

During the structural earth fill construction works, David Rider of RDAgritech Ltd was retained as the Inspecting Engineer as defined in NZS 4431:1989. RDAgritech Ltd were engaged by The Robinson Family Trust

During the work, the inspecting engineer and his representative made periodic visits of inspection to the site. Inspection results are detailed in the RDAgritech Ltd Earthfill Certification Report, Titled "Earthfill Certification Report" dated 29/07/2020. Details of the soil testing carried out by the inspecting engineer and previous consultants on the project to check the quality of the fill are contained in this report.

This certifies that the structural earth fill covered by this report has been placed in compliance with the terms of NZS:4431:1989. This does not remove the necessity for proper engineering investigation, inspection, assessment and design of all future foundations.

Signed by DAVID WINSTON RIDER on behalf of RDAgritech LTD



Principal GeoProfessional

Senior Engineering Geologist

(Date Issued) 29 July 2020

Note: This statement shall only be relied upon by the Building Consent Authority named above. Liability under this statement accrues to the Design Firm only. The total maximum amount of damages payable arising from this statement and all other statements provided to the Building Consent Authority in relation to this building work, whether in contract, tort or otherwise (including negligence), is limited to the sum of $100,000 or five times the fees charged to the client, whichever is the lesser amount.

50860 Robertson FT Geotech Earthfill Sos

Producer Statement Construction (PS3)
General Construction Work

QUEENSTOWN LAKES DISTRICT COUNCIL

All sections of this form must be completed

TO BE COMPLETED BY THE PERSON WHO HAS UNDERTAKEN THE BUILDING WORK

Author name:	STEPHEN BATES	Building consent No:	181084
Author company:	MASTER BATES CONSTRUCTION LTD	Author Registration No:	LBP 111776

Description of building work: CONSTRUCTION OF SED POLE RETAINING WALL ON OAKS SHORES BOUNDARY AS PER DEREK CHINN'S DESIGN @ BARTLETT CONSULTING PLACEMENT OF RECYCLED FILL MATERIALS TO REAR OF RETAINING WALL IN 0.5m LAYERS, SEPERATED BY MIRAGRID GX100

Performance standard for maintenance and inspection, if applicable ☒ N/A

Site address:

Legal description: LOT 4 DP8984

NZBC clauses: (circle as applicable)

B1 ☑	B2 ☑	C1 ☐	C2 ☐	C3 ☐	C4 ☐	C5 ☐	C6 ☐	D1 ☐	D2 ☐	E1 ☐	E2 ☐	E3 ☐
F1 ☐	F2 ☐	F3 ☐	F4 ☐	F5 ☐	F6 ☐	F7 ☐	F8 ☐	G1 ☐	G2 ☐	G3 ☐	G4 ☐	G5 ☐
G6 ☐	G7 ☐	G8 ☐	G9 ☐	G10 ☐	G11 ☐	G12 ☐	G13 ☐	G14 ☐	G15 ☐	H1 ☐		

I have sighted the above building consent and read the attached conditions of consent and confirm that I have undertaken the building work described above in accordance with the consented plans and specifications.

I understand that Queenstown Lakes District Council is reliant on this producer statement in order to establish compliance with the requirements of the Building Act 2004, Building Code and the consented plans and will use this statement in order to issue the code compliance certificate for this application.

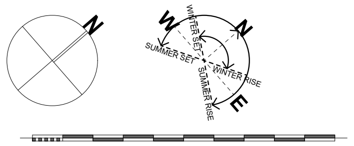
Producer statements are accepted solely at Queenstown Lakes District Council discretion

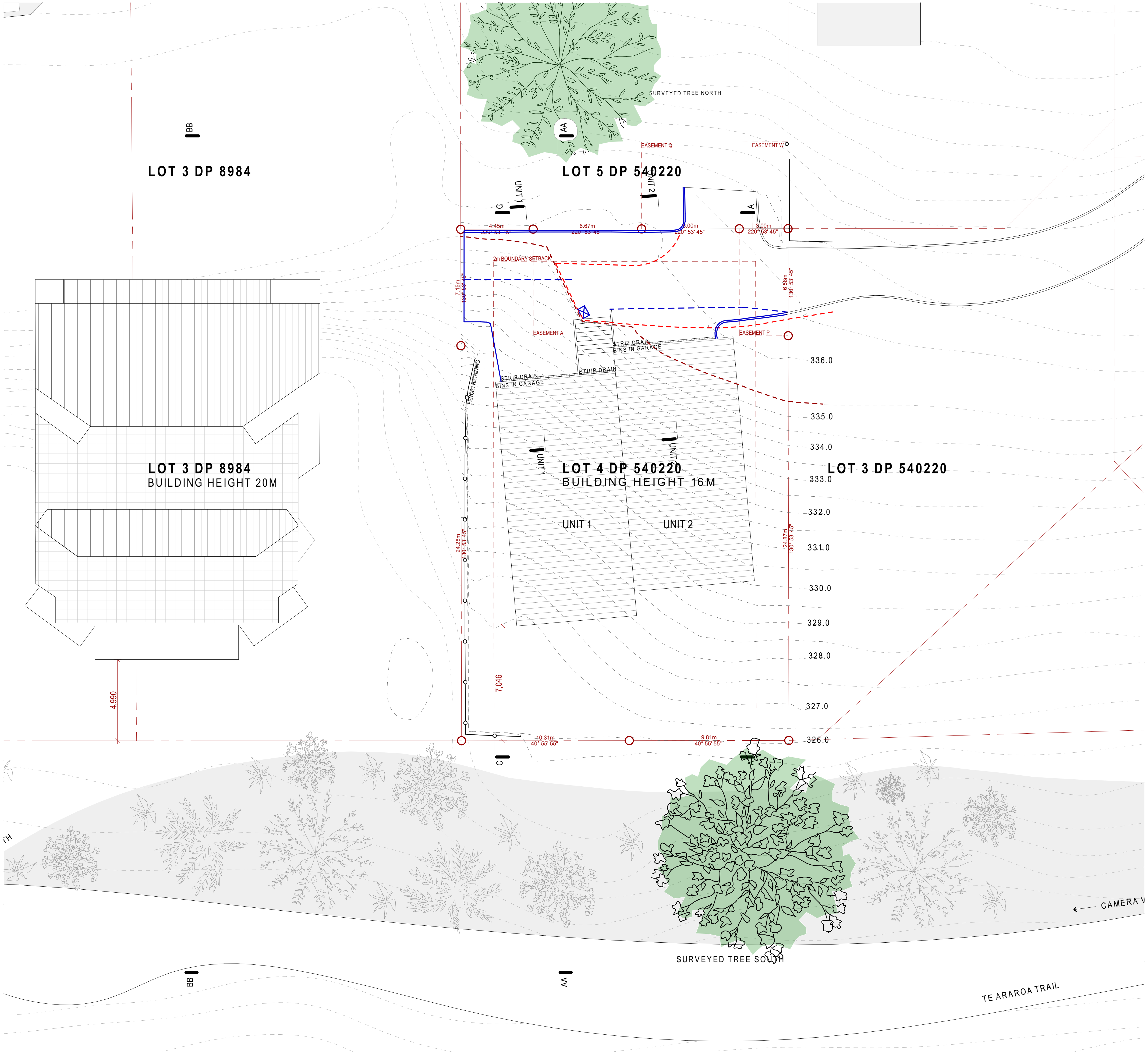
Signature: [signature] Date: 30-06-2020

Tradesperson's contact details:

Address:	3 SEVIOT LANE, ARTHURS POINT, QUEENSTOWN		
Business:		Fax:	
Mobile:	021 02283191	Email	INFO@STRUCTOR.CO.NZ

SITE LOCATION PLAN (NTS)





359 FRANKTON ROAD
QUEENSTOWN 9300

LEGAL DESCRIPTION	LOT 4 DP 540220
GROSS SITE AREA	632m²
NET SITE AREA	529m² (LESS ROW EASEMENT A & P)
GFA	620m² (310m² UNIT 1 & 310m² UNIT 2)
SITE COVERAGE	35% (70% MAX, 222m² BUILDING FOOTPRINT TOTAL)

SITE CONDITIONS:

EQ ZONE:	3
EXPOSURE ZONE:	B
RAINFALL:	20-30
CLIMATE ZONE:	6
WIND ZONE:	HIGH
DISTRICT PLAN ZONE:	HIGH DENSITY RESIDENTIAL
SUBJECT TO RULES:	9.5.1.3 & 9.5.3.3
OVERLAY TYPE:	QUEENSTOWN & FRANKTON URBAN GROWTH BOUNDARY

PN-391

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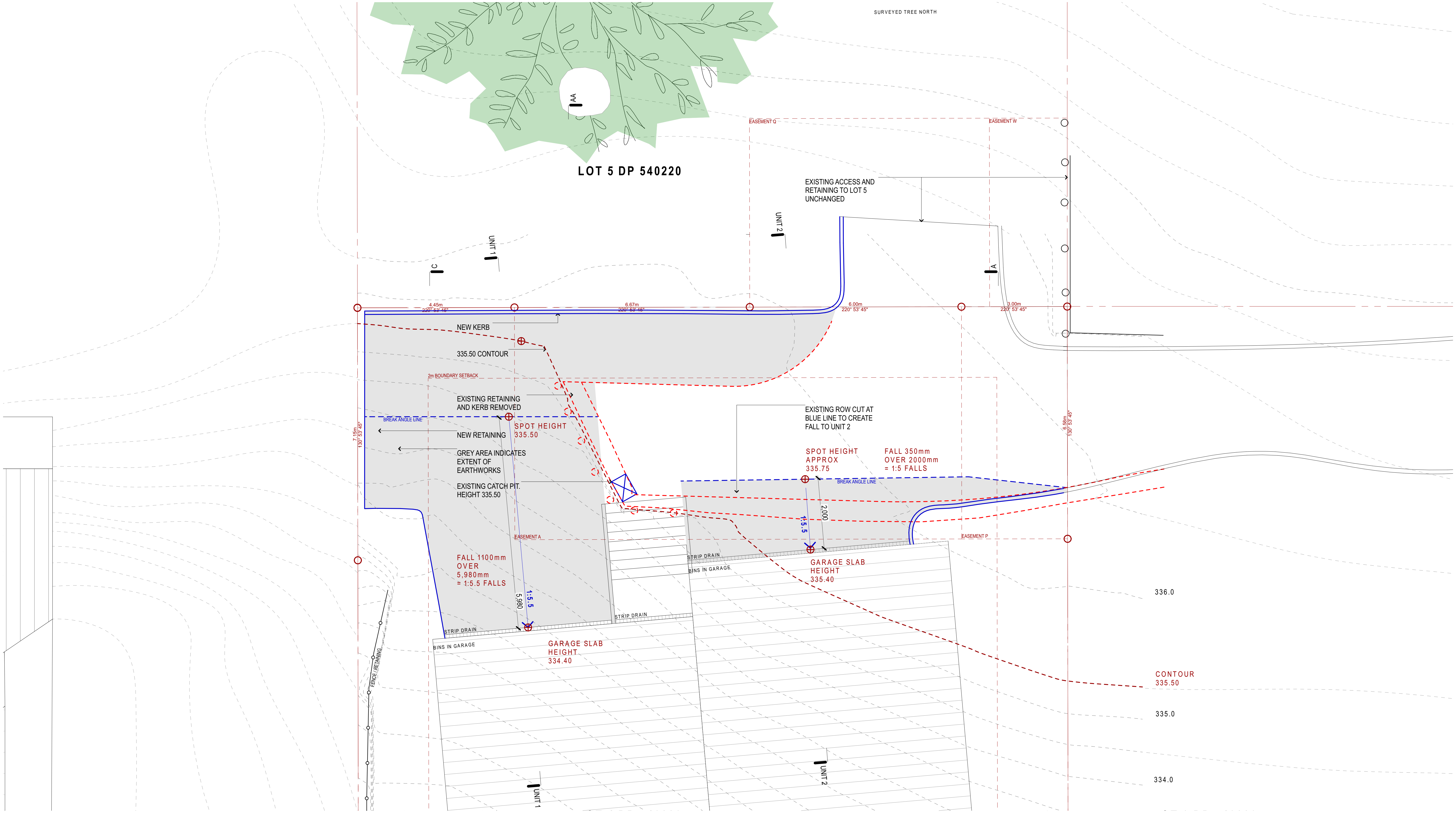
LEVEL 1, 190 ST ASAPH ST, CHRISTCHURCH NZ
+64 3 390 0488 WWW.AWARCHITECTS.CO.NZ

TOWNHOUSES
FRANKTON ROAD

07.12.23	PRELIMINARY ISSUE
21.06.24	**RESOURCE CONSENT ISSUE**

RESOURCE CONSENT ISSUE
NOT TO BE USED UNTIL ENDORSED FOR BUILDING CONSENT BY QLDC. DO NOT SCALE DRAWING. CONTRACTOR TO VERIFY ALL DIMENSIONS PRIOR TO COMMENCING WORK

SHEET : SITE PLAN 1:250
SHEET # : A.01
SCALE : 1:250 @ A3
DATE : 20/03/2025



PN-391

awarchitects

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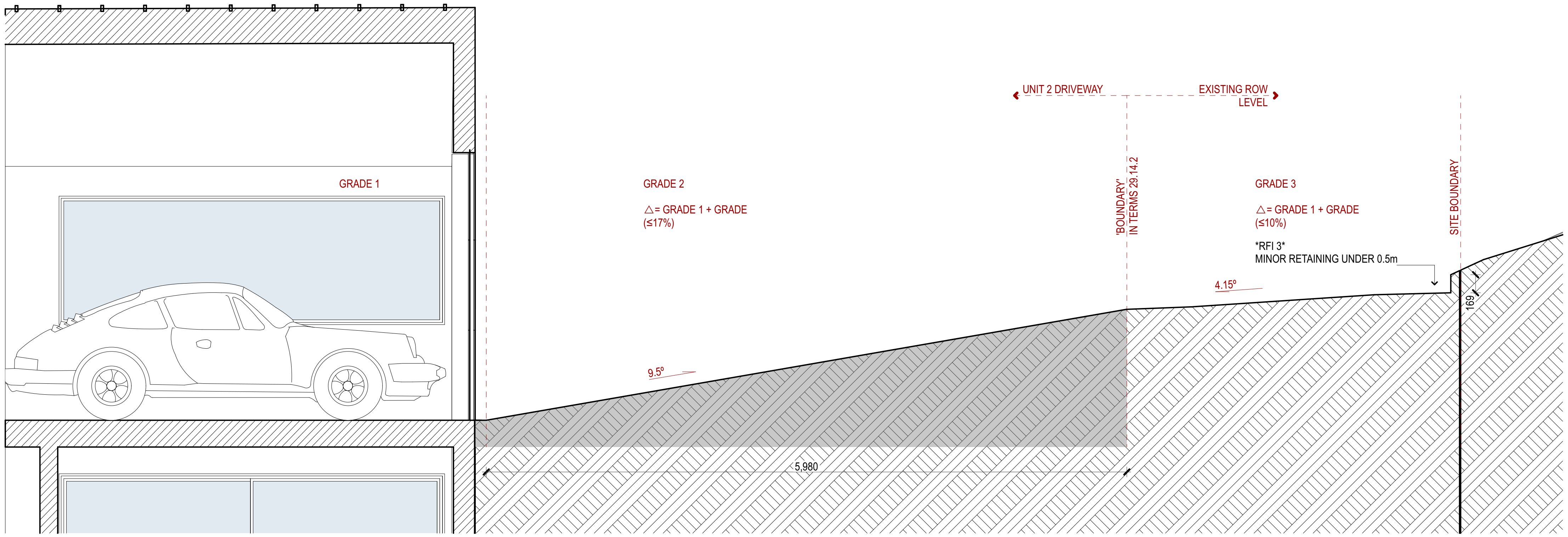
+64 3 390 0488 WWW.AWARCHITECTS.CO.NZ

TOWNHOUSES
FRANKTON ROAD

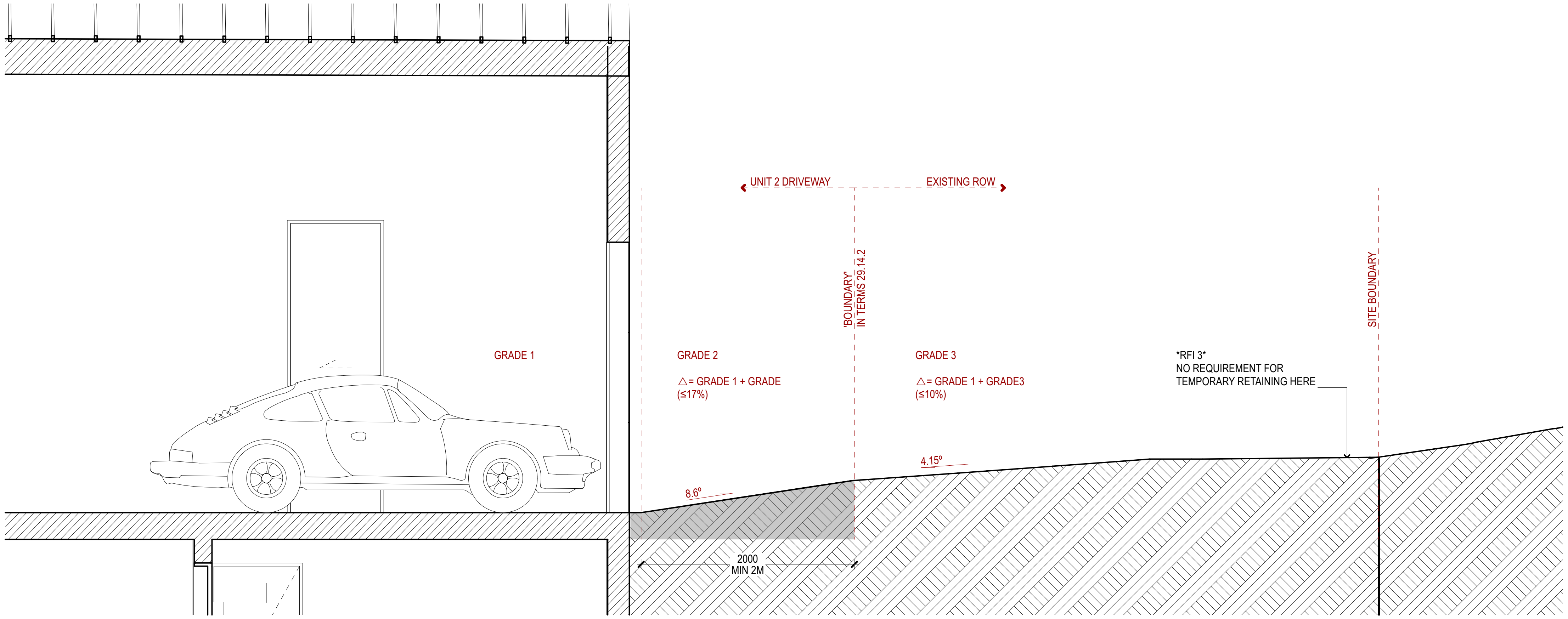
07.12.23	PRELIMINARY ISSUE
21.06.24	**RESOURCE CONSENT ISSUE**

RESOURCE CONSENT ISSUE
NOT TO BE USED UNTIL ENDORSED FOR BUILDING CONSENT BY QLDC. DO NOT SCALE DRAWING. CONTRACTOR TO VERIFY ALL DIMENSIONS PRIOR TO COMMENCING WORK

SHEET : DRIVEWAY PLAN
SHEET # : A.01a
SCALE : 1:100 @ A3
DATE : 20/03/2025



UNIT 1 SECTION | SCALE 1:200



UNIT 2 SECTION | SCALE 1:200

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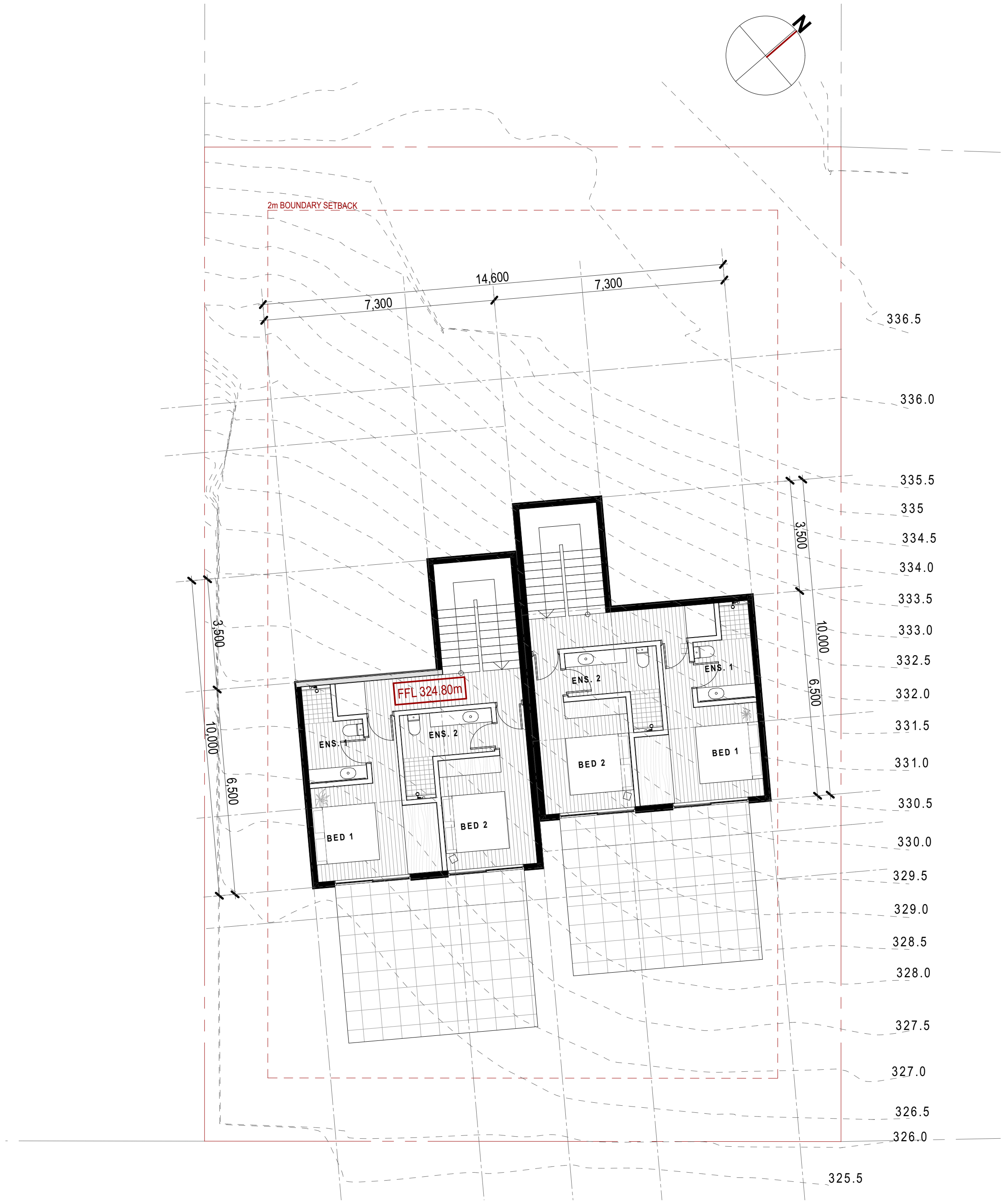
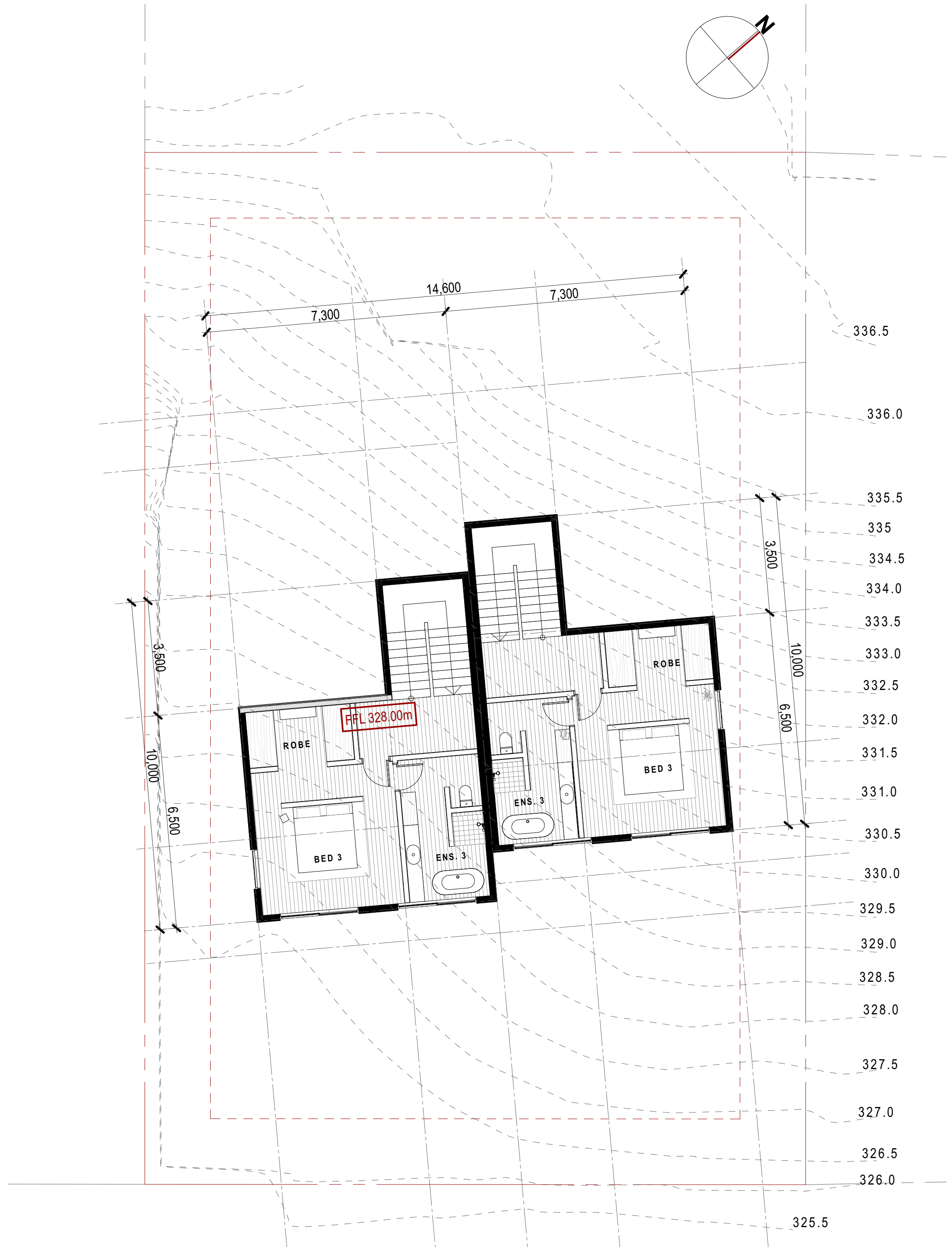
SHEET : DRIVEWAY SECTIONS
SHEET # : A.01b
SCALE : 1:50 @ A3
DATE : 20/03/2025



GROUND FLOOR



FIRST FLOOR

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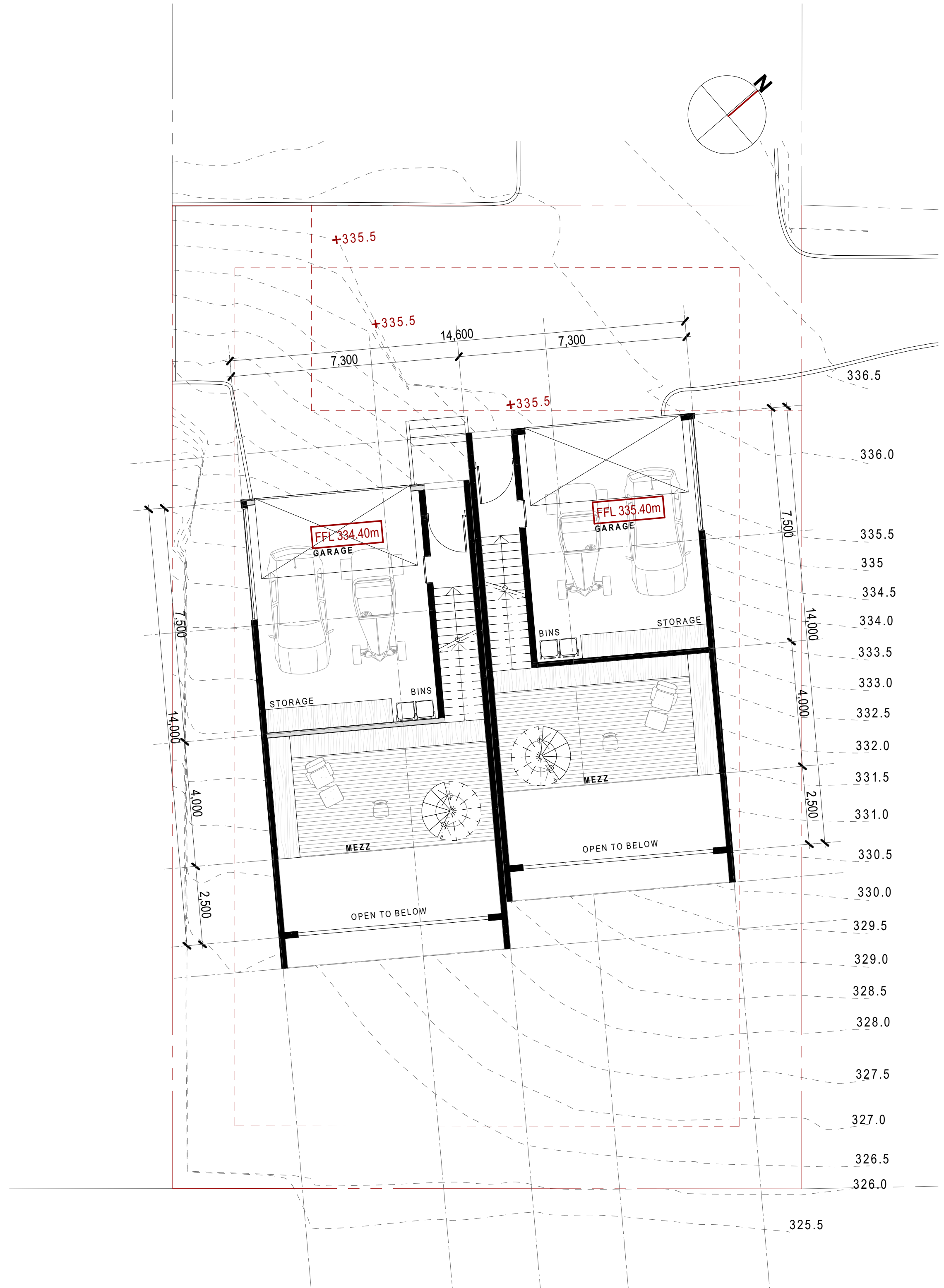
SHEET : FLOOR PLANS
SHEET # : A.02
SCALE : 1:200 @ A3
DATE : 20/03/2025

SECOND FLOOR



THIRD FLOOR

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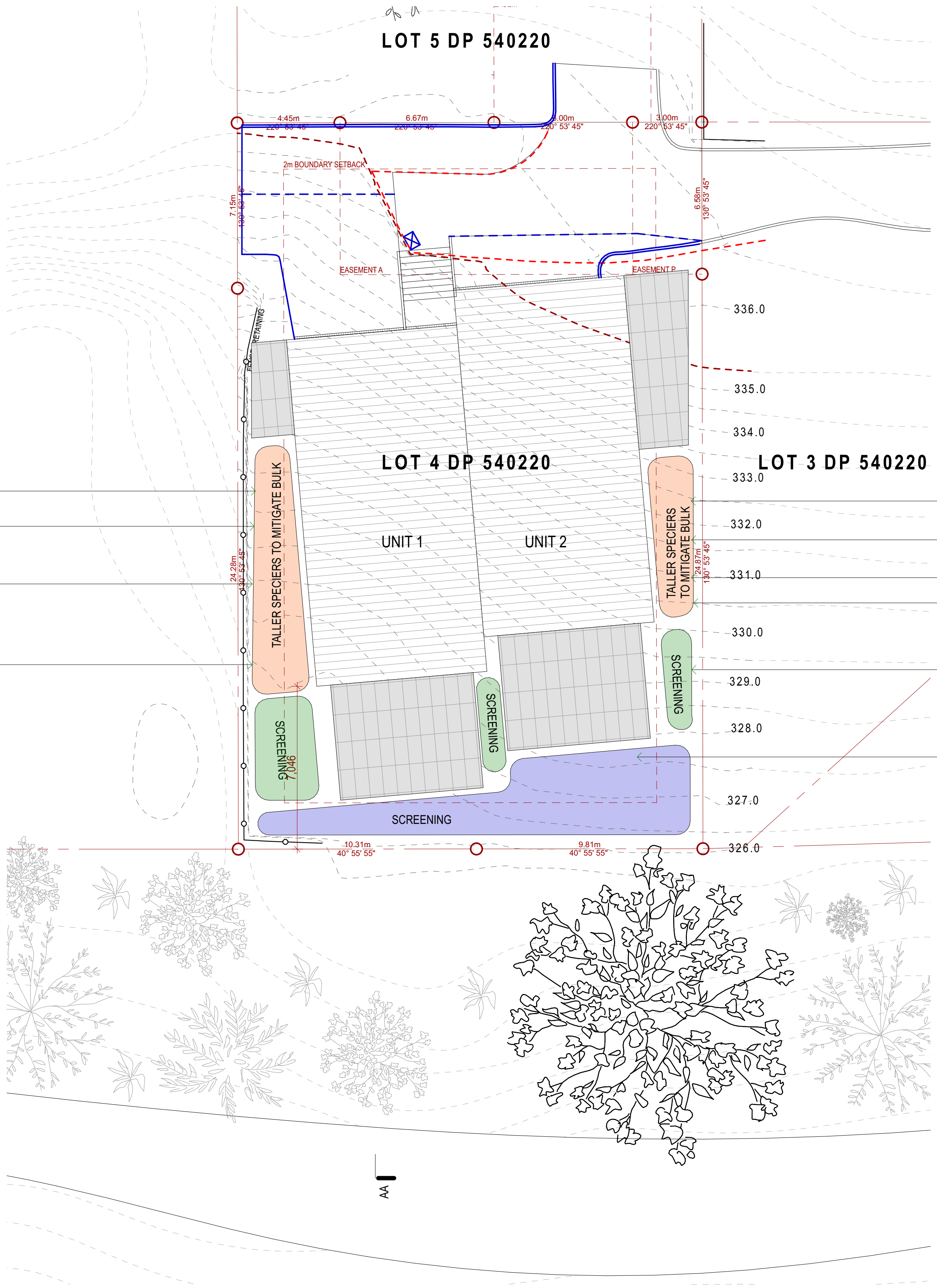
SHEET : FLOOR PLANS
SHEET # : A.03
SCALE : 1:200 @ A3
DATE : 20/03/2025



NOTHOFAGUS SOLANDRI (BLACK BEACH) 3m

MUEHLENBECKIA ASTONII

CHIANOCHLOA RUBRA

UNDER PLANTED WITH MUEHLENBECKIA AXILLARIS

NOTHOFAGUS SOLANDRI (BLACK BEACH) 3m CENTRES

MUEHLENBECKIA AXILLARIS USED AS A GROUNDCOVER THROUGH WHOLE PLANTING

MUEHLENBECKIA ASTONII

CHIONOCHLOA RUBRA

MUEHLENBECKIA ASTONII ALL THREE SCREENING AREAS TRIMMED TO DESIRED WIDTH AND LENGTH 1m CENTRES

MIXTURE OF:

CHIONOCHLOA RUBRA (PREDOMINANTLY AT THE FRONT 1m CENTRES

COPROSMA VIVESCENI

GRISELINIA ARDMORE

MUEHLENBECKIA ASTONII

CHIONOCHLOA RUBRA

NOTHOFAGUS SOLANDRI (BLACK BEACH)

COPROSMA VIVESCENI

MUEHLENBECKIA ASTONII

MUEHLENBECKIA AXILLARIS

GRISELINIA ARDMORE

Notes

Planting Plan Notes from Tim Prebble at Texturegroup

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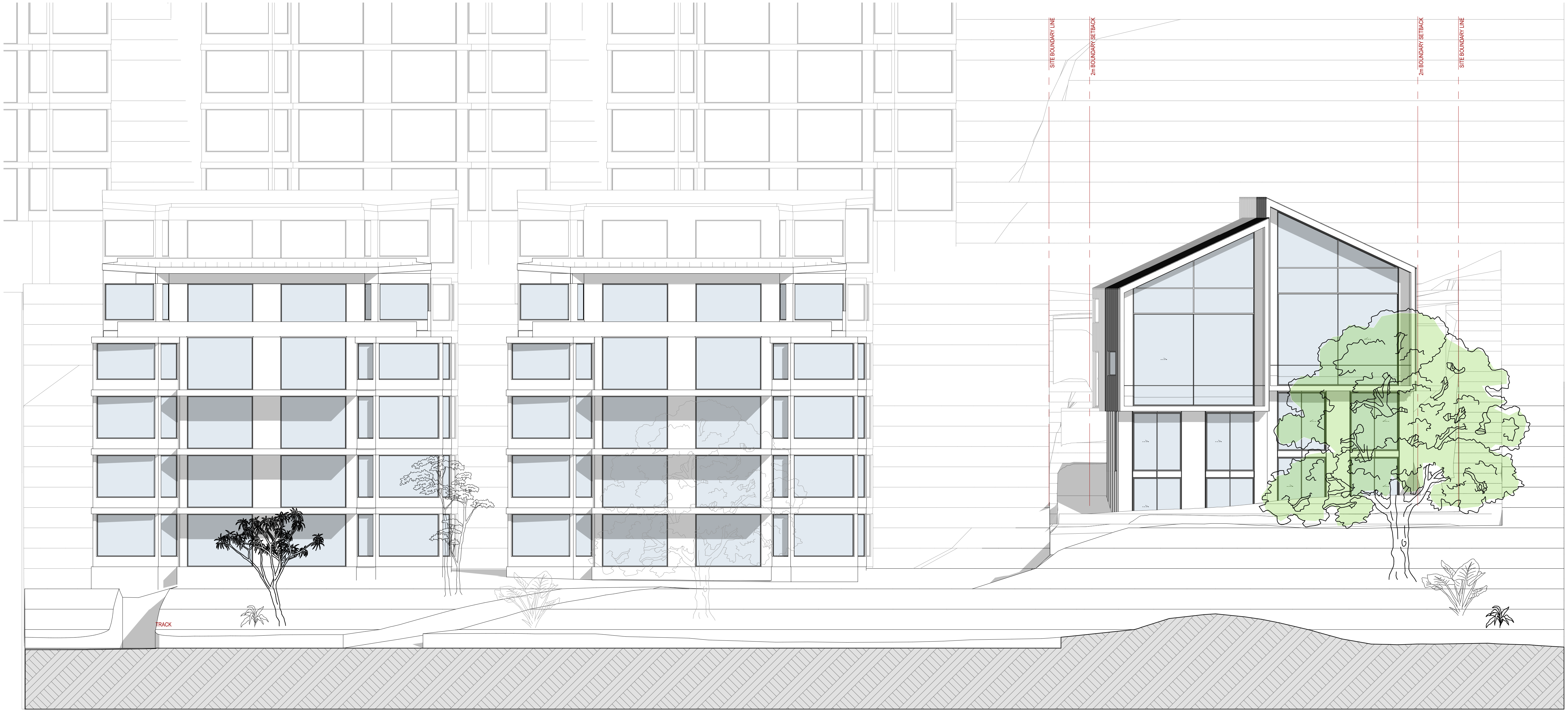
SHEET:
SHEET #: 1:250, 1:1, 1:7.68, 1:6.67,
SCALE: 1:1.84, 1:3.98, 1:3.84, 1:8.19

LANDSCAPE PLAN
A.04
DATE: 20/03/2025

Document Set ID: 8531247
Version: 1, Version Date: 25/03/2025



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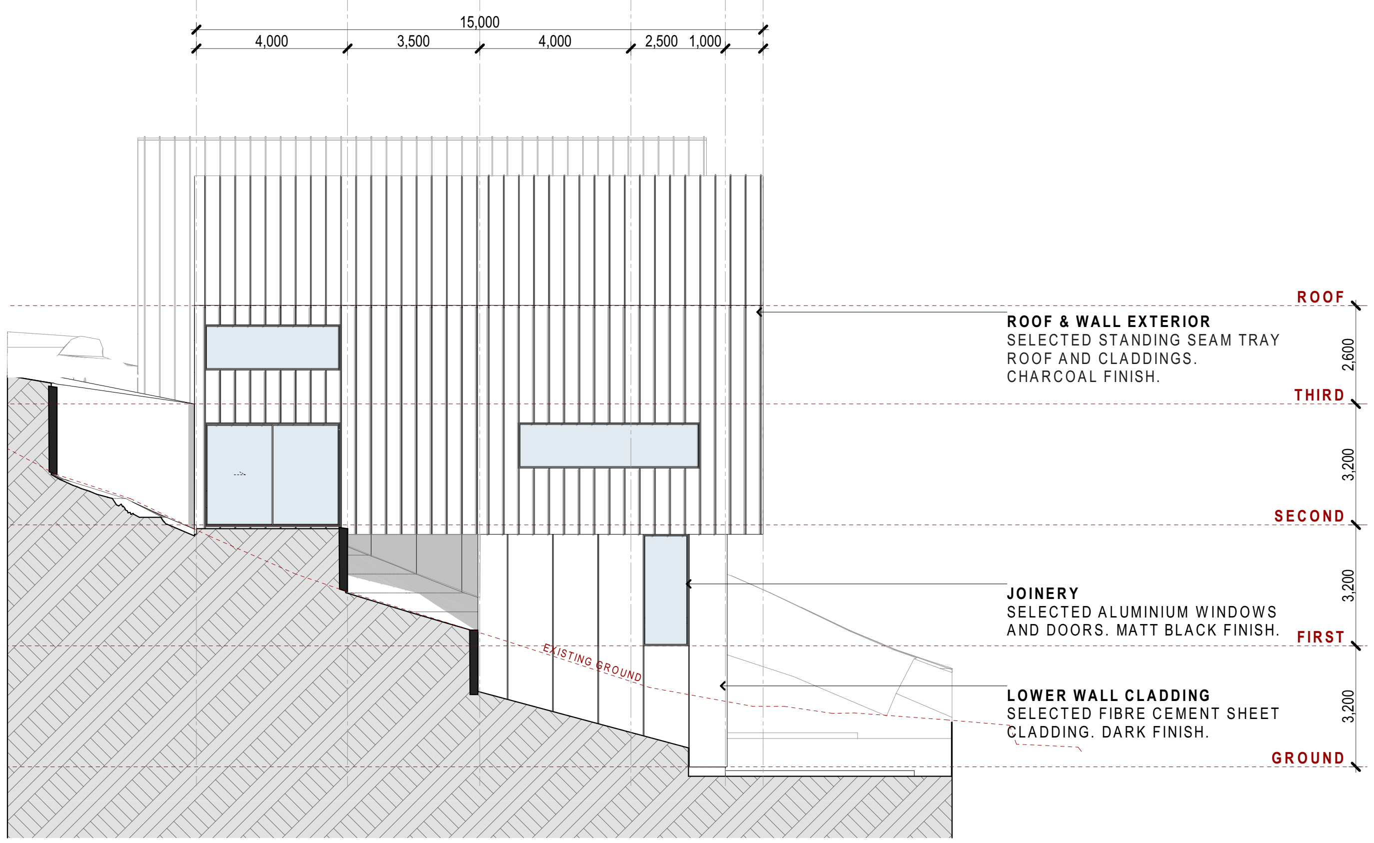
SHEET : SOUTH ELEVATION - TRACK

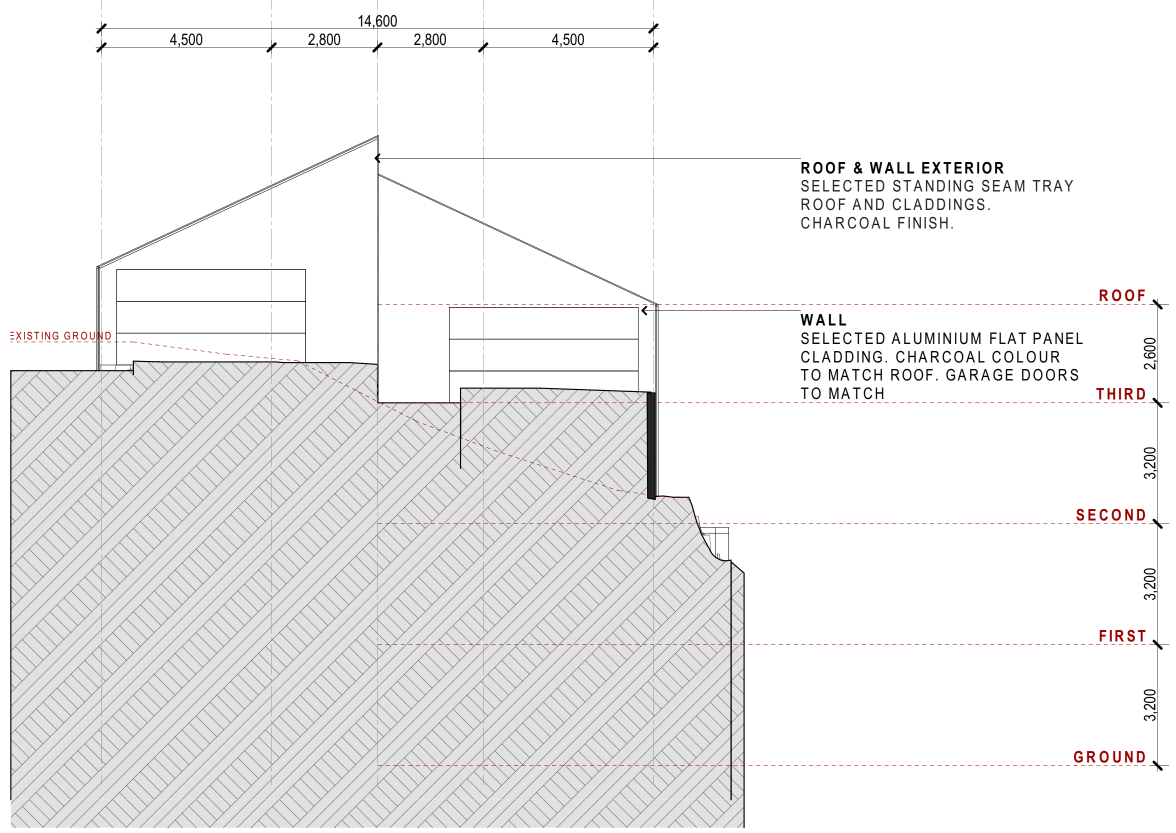
SHEET # : A.05

SCALE : 1:200 @ A3

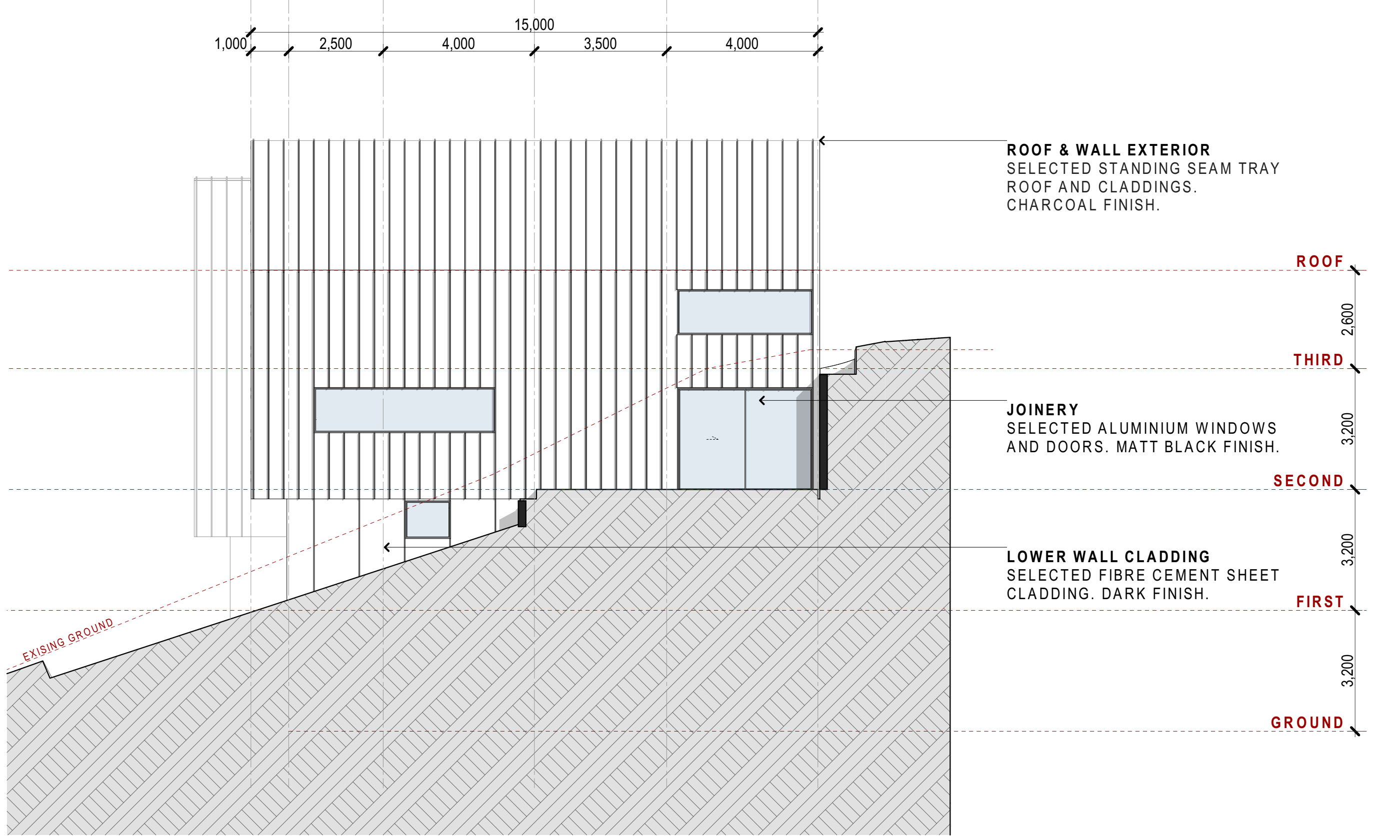
DATE : 20/03/2025



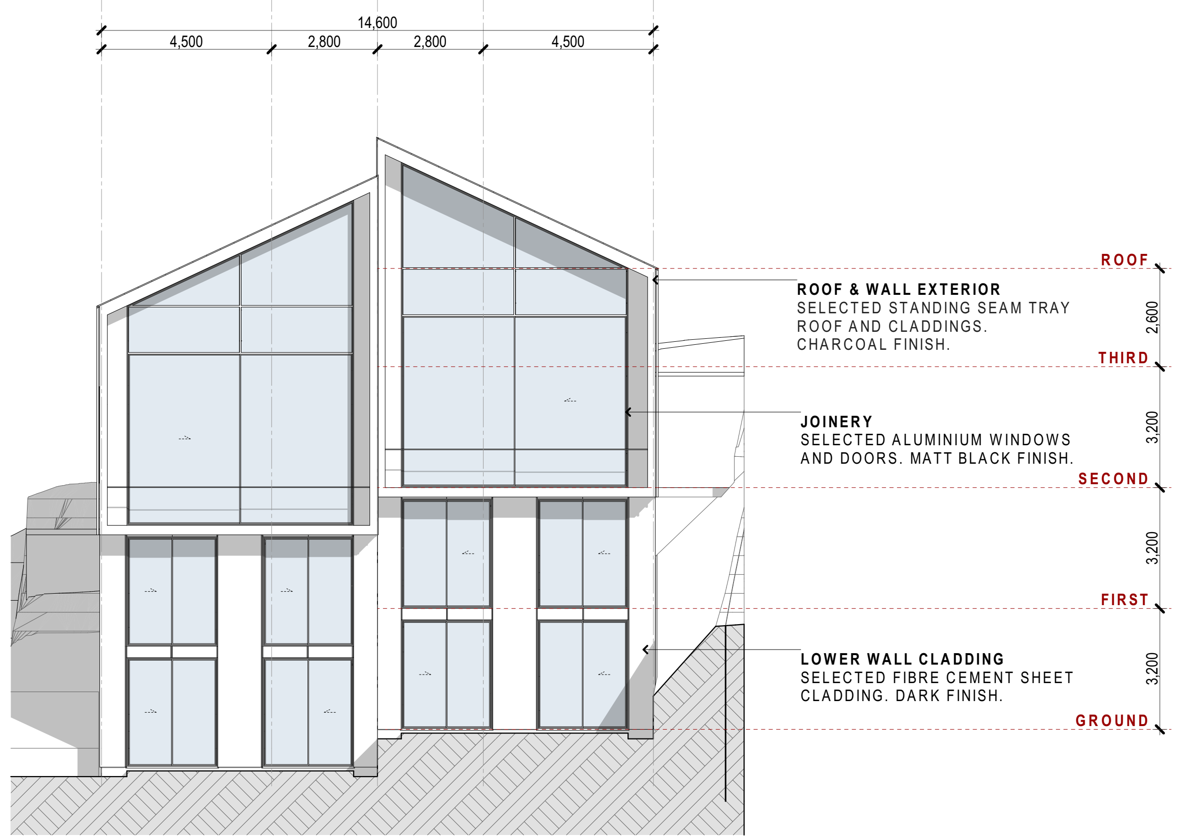
WEST ELEVATION | SCALE 1:200



NORTH ELEVATION | SCALE 1:200



EAST ELEVATION | SCALE 1:200



SOUTH ELEVATION | SCALE 1:200

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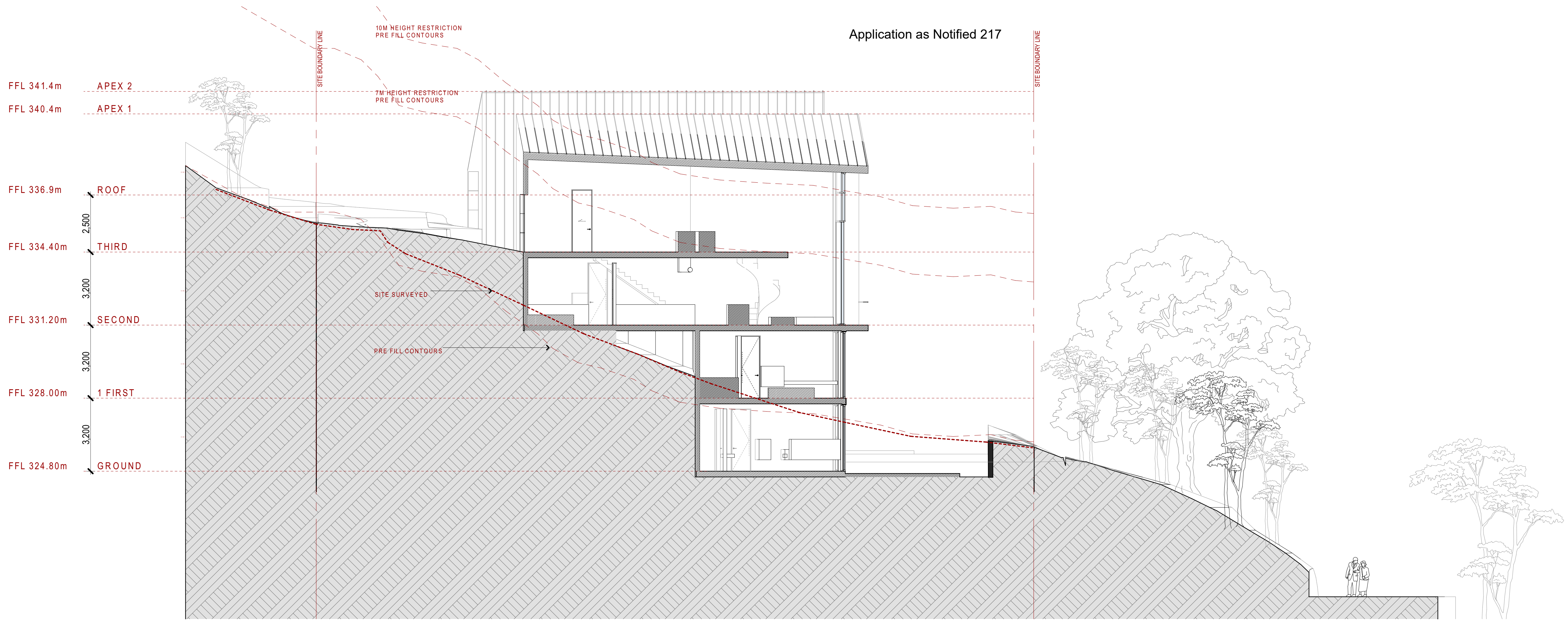
SHEET : ELEVATIONS
SHEET # : A.06
SCALE : 1:200 @ A3
DATE : 20/03/2025



WEST SECTION RESIDENCE BB-BB | SCALE 1:200

WEST SECTION OAKS AA-AA | SCALE 1:200

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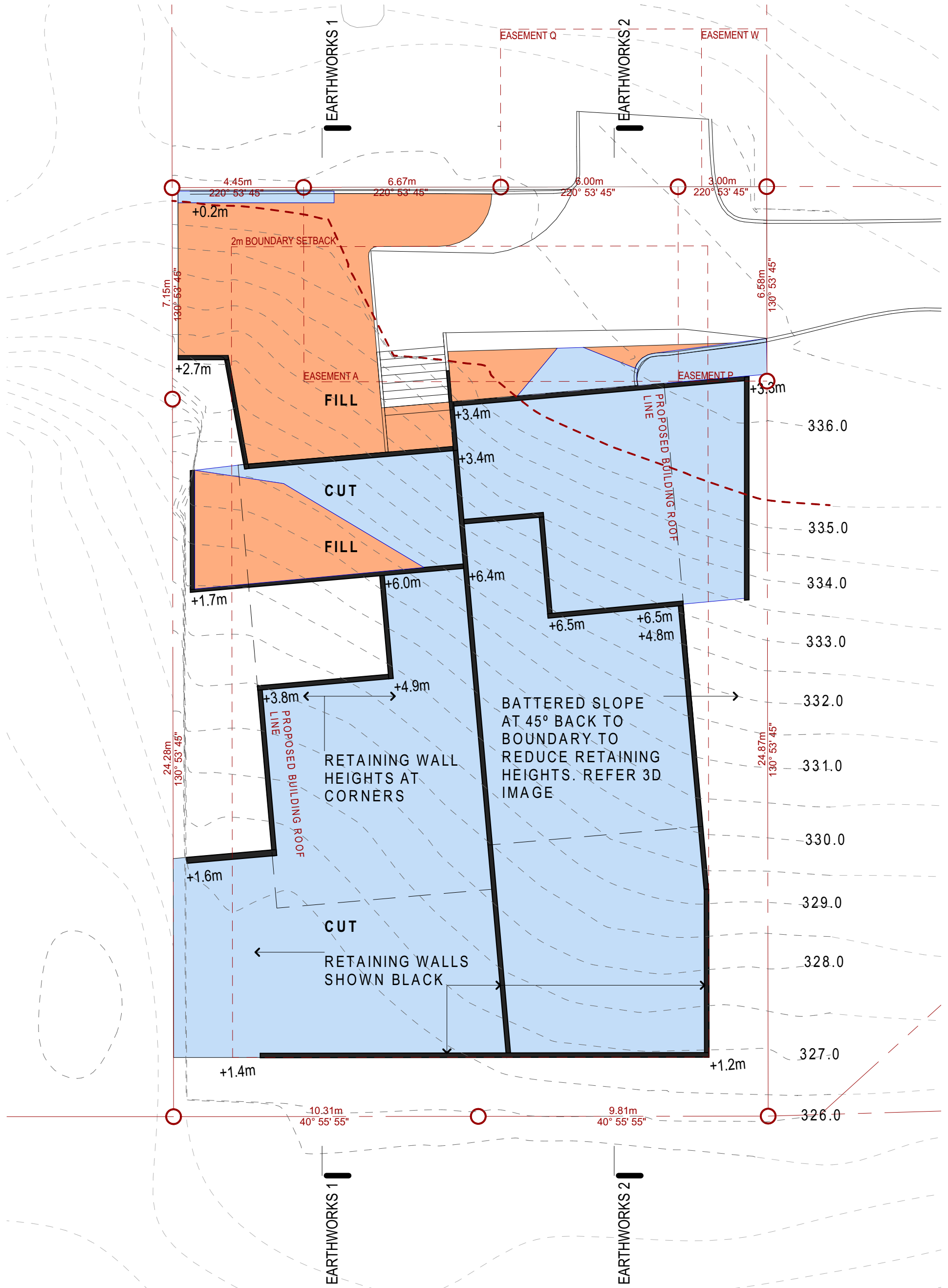
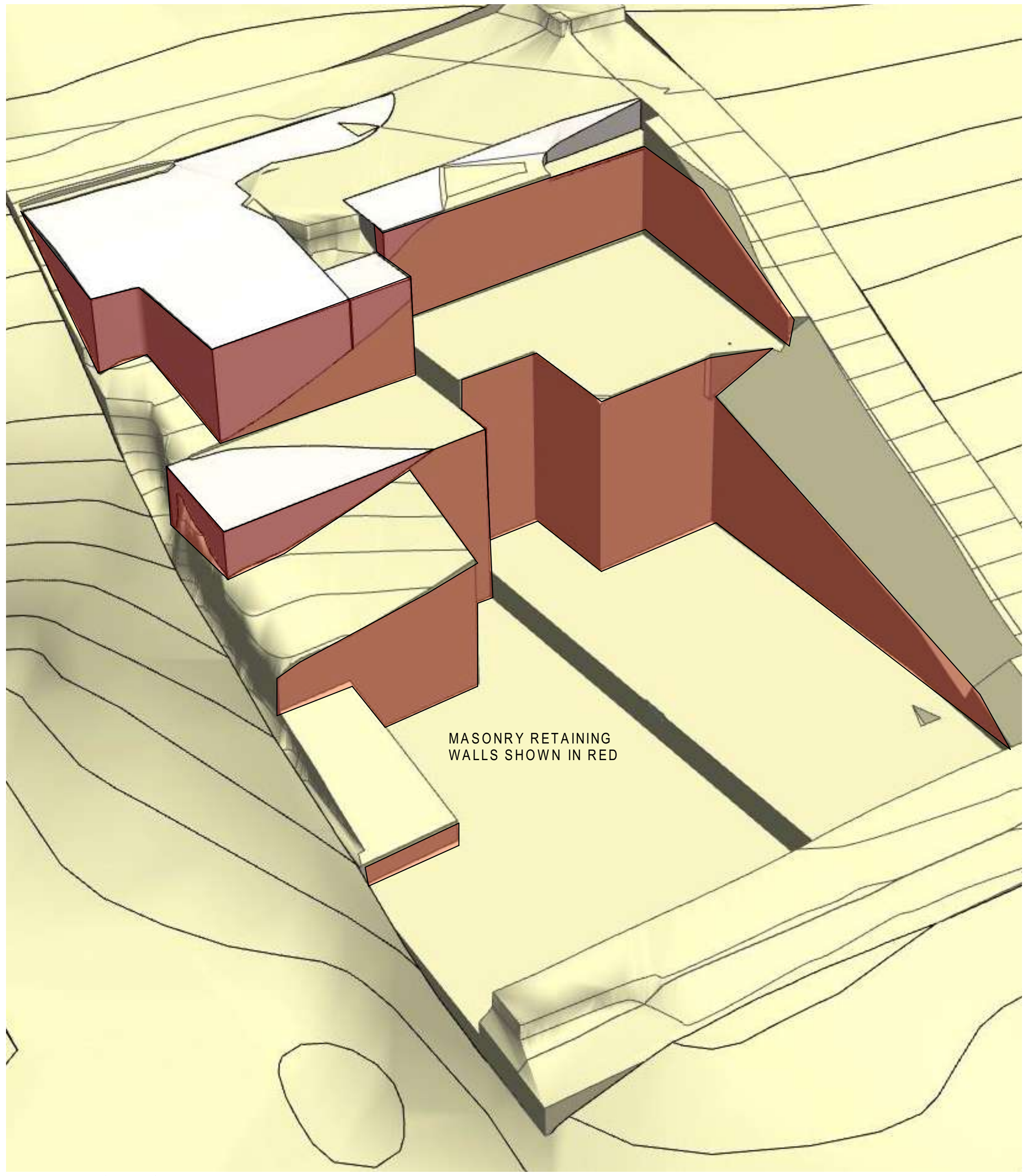
SHEET : SECTIONS
SHEET # : A.07
SCALE : 1:200 @ A3
DATE : 20/03/2025

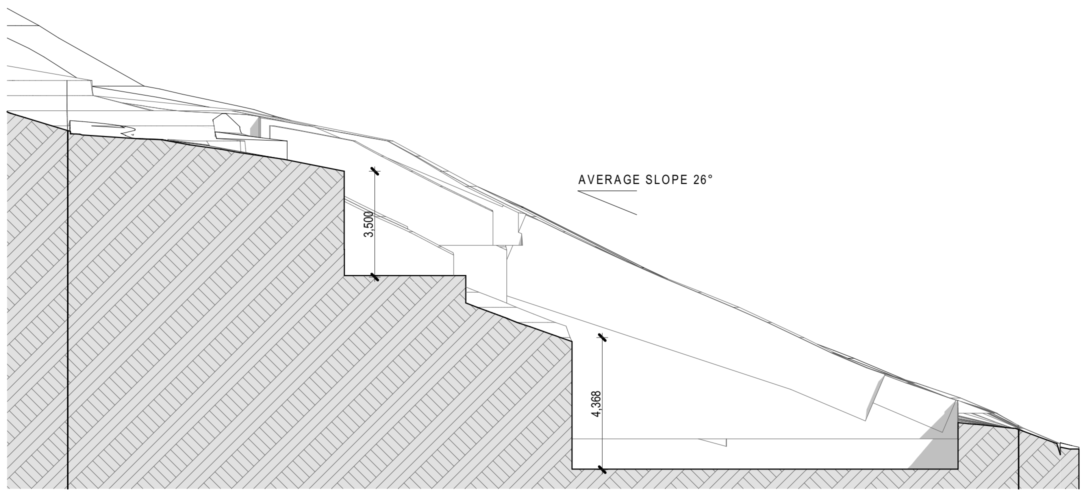


EARTH WORKS PLAN

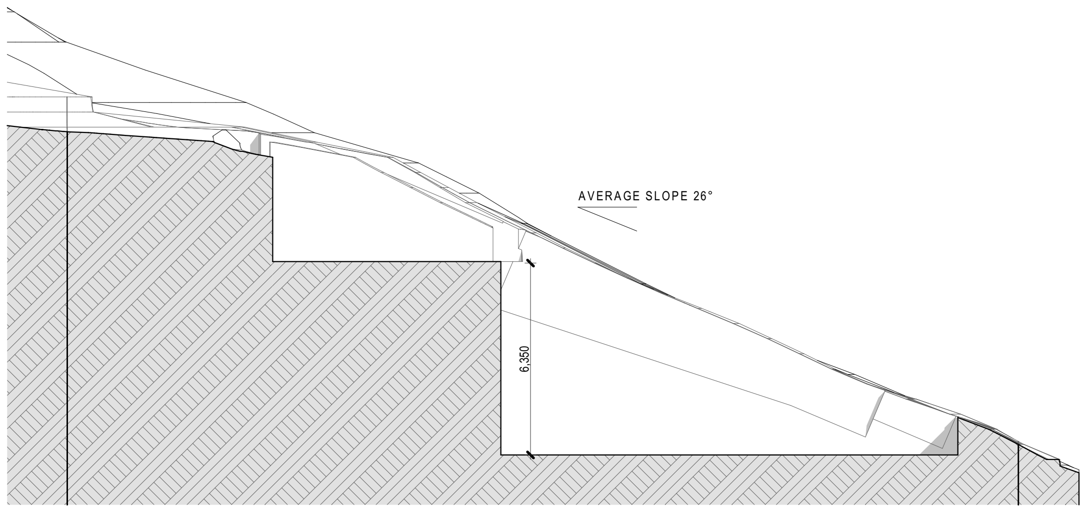
CUT VOLUME = 1,174m³
FILL VOLUME = 172m³



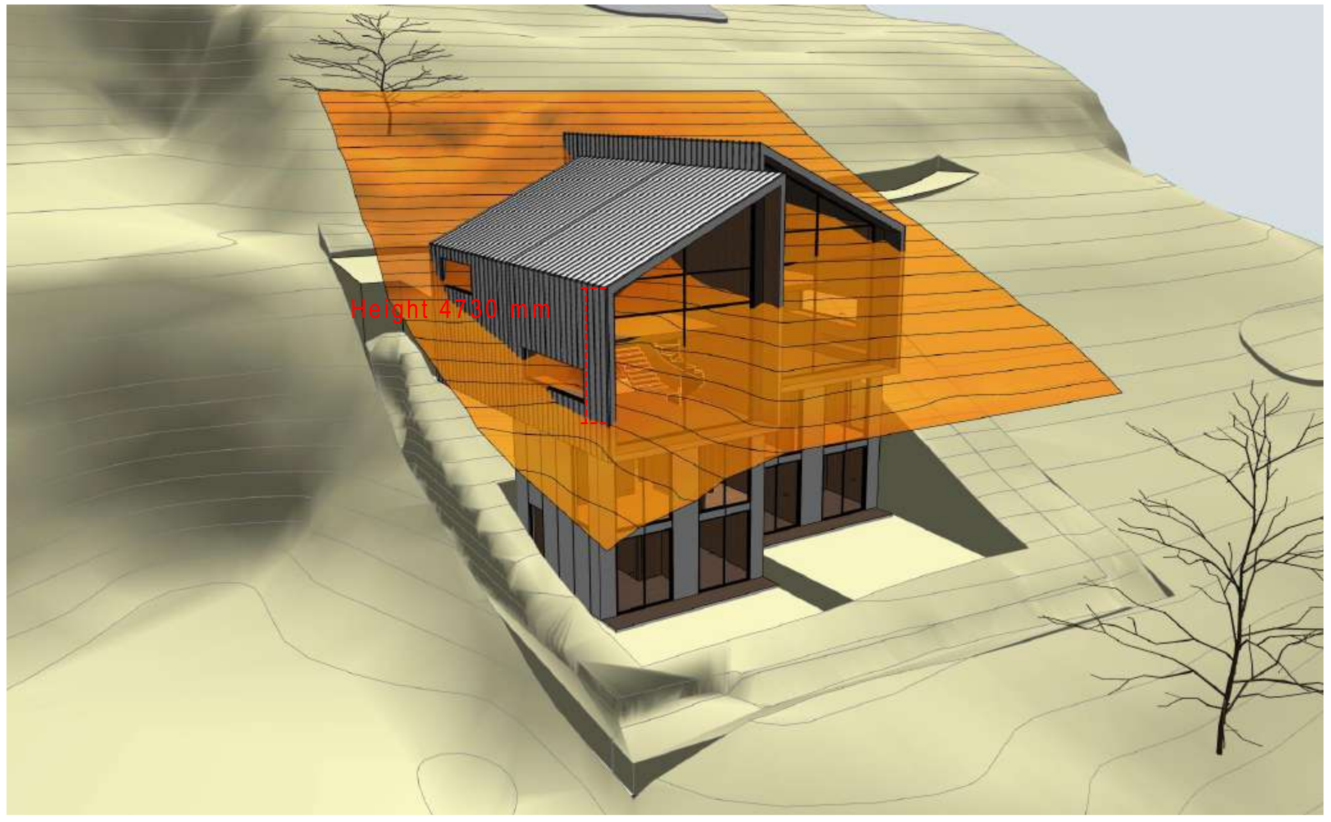
EARTH WORK SITE 3D



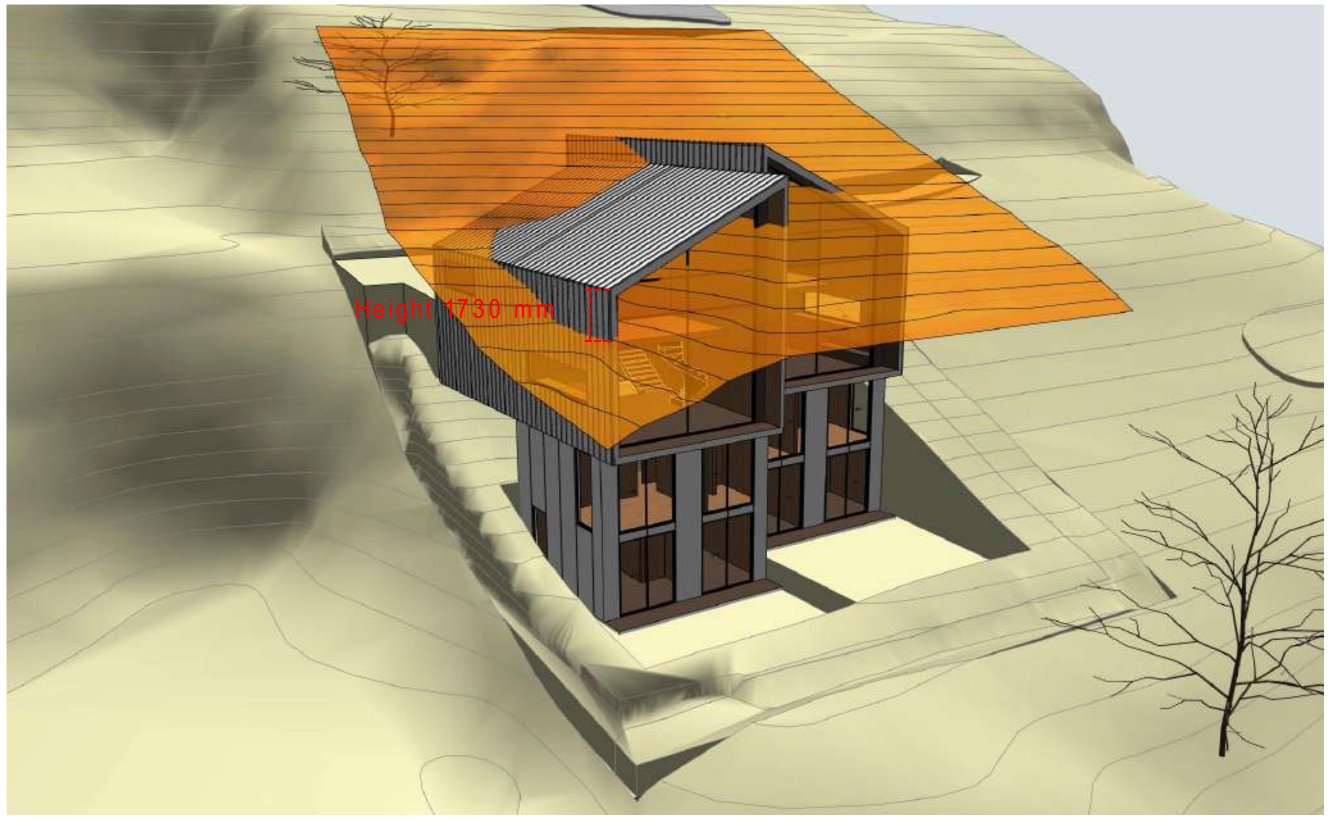
EARTH WORKS 1 SECTION



EARTH WORKS 2 SECTION



HEIGHT PLANE - 7m
PRE FILL CONTOURS



HEIGHT PLANE - 10m
PRE FILL CONTOURS

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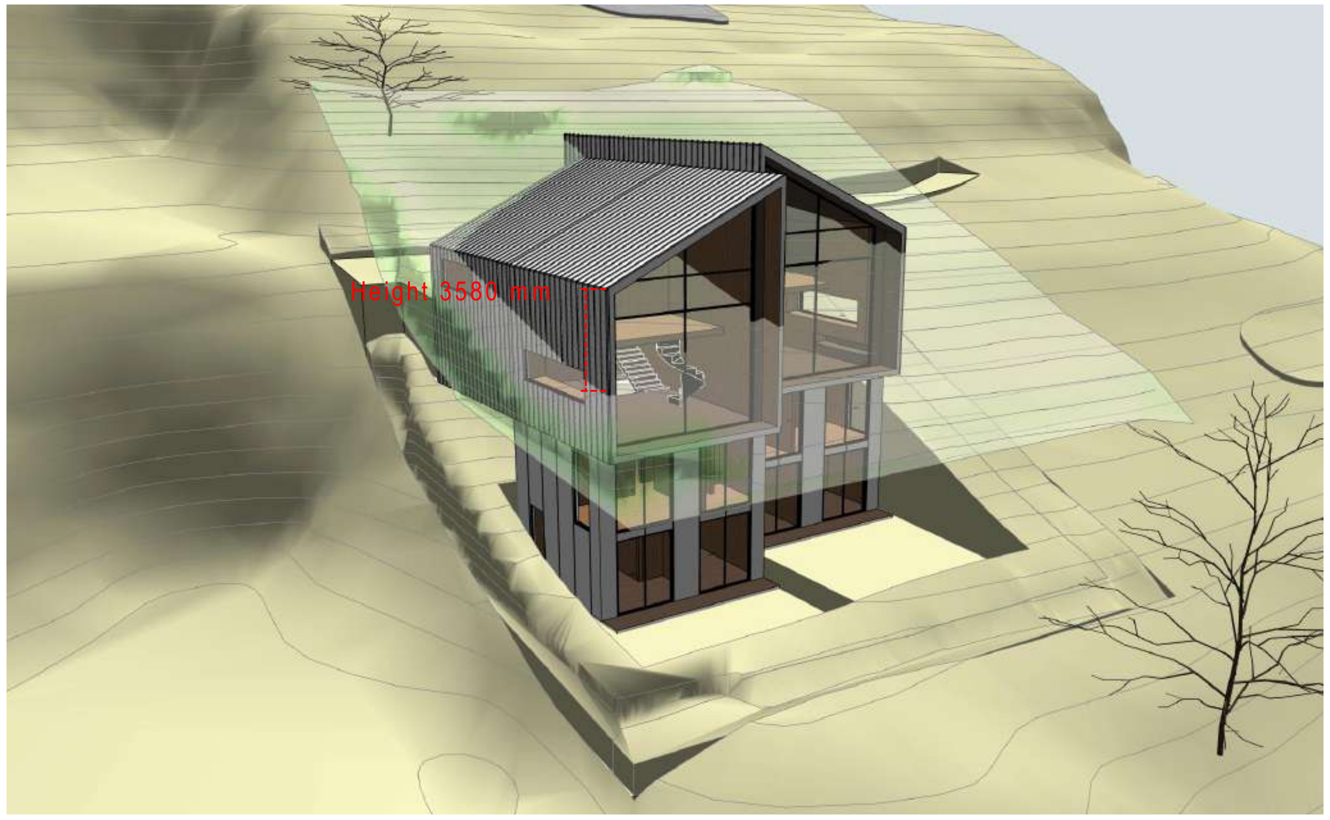
SHEET : HEIGHT PLANE PRE-FILL
SHEET # : A.09
SCALE : 1:400 @ A3
DATE : 20/03/2025



HEIGHT PLANE - 7m
CURRENT CONTOURS

HEIGHT PLANE - 10m
CURRENT CONTOURS

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SHEET : HEIGHT PLANE CURRENT
SHEET # : A.10
SCALE : 1:400 @ A3
DATE : 20/03/2025

WEST VIEW TE ARAROA TRAIL

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SHEET : 3D VIEW TRACK WEST
SHEET # : A.11
SCALE : 1:5 @ A3
DATE : 20/03/2025

EAST VIEW TE ARAROA TRAIL: OAKS COMPLEX LOCATION

ROPOSED BUILDING RELATIVE
LOCATION

EAST VIEW TE ARAROA TRAIL: OAKS AND
PROPOSED BUILDING RELATIVE LOCATION

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SHEET : 3D VIEW TRACK EAST 2

SHEET # : A.13

SCALE : 1:1.67 @ A3

DATE : 20/03/2025