Te Kaunihera o Te Hiku o te Ika
Far North District Council

Office Use Only
Application Number:

Application for resource consent or fast-track resource consent

(Or Associated Consent Pursuant to the Resource Management Act 1991 (RMA)) (If applying for a Resource Consent pursuant to Section 87AAC or 88 of the RMA, this form can be used to satisfy the requirements of Schedule 4). Prior to, and during, completion of this application form, please refer to Resource Consent Guidance Notes and Schedule of Fees and Charges — both available on the Council's web page.

1. Pre-Lodgement Meeting

Have you met with a council Resource Consent representative to discuss this application prior to lodgement? ✔ **Yes** ○ **No**

2. Type of Consent being applied for

(more than one circle can be ticked):

- ○ **Land Use**
- ○ **Fast Track Land Use***
- ○ **Subdivision**
- ○ **Consent under National Environmental Standard** (e.g. Assessing and Managing Contaminants in Soil)
- ○ **Discharge**
- ○ **Change of Consent Notice (s.221(3))**
- ○ **Extension of time (s.125)**
- ● **Other (please specify)** CHANGE AND CANCELLATION OF CONDITIONS OF RC 2250212 - RMALUC (s.127)

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

3. Would you like to opt out of the Fast Track Process?

✔ **Yes** ○ **No**

4. Consultation

Have you consulted with Iwi/Hapū? ✔ **Yes** ○ **No**

If yes, which groups have you consulted with?	We are a Maori Hapu Trust that is of Te Roroa affiliation and we have had deep consultation with the iwi organisation.
Who else have you consulted with?	

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

5. Applicant Details

Name/s: TIOPIRA TANIERA HAPU TRUST

Email: [redacted]

Phone number:

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

6. Address for Correspondence

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

Name/s: LMD PLANNING CONSULTANCY (ATTEN: LEONARD DISSANAYAKE)

Email: [redacted]

Phone number:

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

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

7. Details of Property Owner/s and Occupier/s

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

Name/s: EDWARD FRANK THOMPSON, ROBYN THOMPSON, GLORIANNE PARKS

Property Address/ Location:
52 HOOKS AND HALL ROAD
WAIMAMAKU

Postcode 0473

8. Application Site Details

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

Name/s:

Site Address/ Location:

52 HOOKS AND HALL ROAD

WAIMAMAKU

Postcode 0473

Legal Description: LOT 1 DP 590384 **Val Number:** 00619-52306

Certificate of title: 1128616

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

Site visit requirements:

Is there a locked gate or security system restricting access by Council staff? ◯ **Yes** ✔ **No**

Is there a dog on the property? ✔ **Yes** ◯ **No**

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

PLEASE CONTACT CARTAKER (WI) - PH: 0211387005 BEFORE ANY SITE VISIT

9. Description of the Proposal:

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

TO CHANGE AND CANCELLATION OF CONSENT CONDITIONS OF RC 2250212 - RMALUC THAT GRANTED APPROVAL TO ESTABLISH AN AGED CARE AND RETIREMENT VILLAGE FACILITY ON THE SITE IN A RURAL PRODUCTION ZONE.

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

10. Would you like to request Public Notification?

◯ **Yes** ✔ **No**

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

(more than one circle can be ticked):

- [x] **Building Consent** Enter BC ref # here (if known)
- [x] **Regional Council Consent (ref # if known)** Ref # here (if known)
- [ ] **National Environmental Standard consent** Consent here (if known)
- [ ] **Other (please specify)** Specify 'other' here

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

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

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

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

- [ ] **Subdividing land**
- [x] **Changing the use of a piece of land**
- [x] **Disturbing, removing or sampling soil**
- [ ] **Removing or replacing a fuel storage system**

13. Assessment of Environmental Effects:

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

Your AEE is attached to this application ☑ **Yes**

13. Draft Conditions:

Do you wish to see the draft conditions prior to the release of the resource consent decision? ● **Yes** ○ **No**

If yes, do you agree to extend the processing timeframe pursuant to Section 37 of the Resource Management Act by 5 working days? ☑ **Yes** ☐ **No**

14. Billing Details:

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

Name/s: (please write in full) EDWARD FRANK HARINGTON THOMPSON

Email: [redacted]

Phone number: [redacted]

Postal address:
(or alternative method of service under section 352 of the act) [redacted]

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

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

Name: (please write in full) EDWARD FRANK HARINGTON THOMPSON

Signature: [redacted]
(signature of bill payer)

Date 04-Mar-2025

MANDATORY

15. Important Information:

Note to applicant
You must include all information required by this form. The information must be specified in sufficient detail to satisfy the purpose for which it is required.
You may apply for 2 or more resource consents that are needed for the same activity on the same form.
You must pay the charge payable to the consent authority for the resource consent application under the Resource Management Act 1991.

Fast-track application
Under the fast-track resource consent process, notice of the decision must be given within 10 working days after the date the application was first lodged with the authority, unless the applicant opts out of that process at the time of lodgement.
A fast-track application may cease to be a fast-track application under section 87AAC(2) of the RMA.

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

15. Important information continued...

Declaration

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

Name: **(please write in full)** LEONARD DISSANAYAKE (AGENT)

Signature: Date

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

Checklist (please tick if information is provided)

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

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

Kaumatua Housing Development

At

52A, Hooks and Hall Road, Waimamaku

Application for Change and Cancellation of Conditions of RC 2250212 -RMALUC

(Under 127 of the RMA)

by

Tiopira Taniera Hapu Trust

Planning Report

LMD Planning Consultancy

9 Campbell Lane, Kerikeri

Ph: 027 712 2280

E-mail: lmdpc@xtra.co.nz

Website: www.lmdplanning.co.nz

April 2025

1.0 REASON FOR THE APPLICATION

In December 2024, the applicant, Tiopira Taniera Hapu Trust (or the Trust) obtained a resource consent (Ref: RC 2250212-RMALUC) to establish an aged care and retirement village facility on the property at 52 Hooks and Hall Road in Waimamaku. Copies of the RC decision and approved plans are attached in **Appendix 1.**

In summary, the consent was granted for the following activities;

- Construction of a 1140m2 aged care building containing 50 beds,
- Construction of 25 residential kaumatua retirement units (each 45m2);

with associated activities including earthworks, access provisions, parking, wastewater disposal, water supply and stormwater attenuation.

The Trust initially had an investor interested in including an aged care facility in the overall project. To meet the investor's requirements, the Trust applied for and obtained the necessary resource consent. Unfortunately, the investor decided not to proceed with the project, and the Trust ended its involvement.

After evaluating the options and financial situation, the Trust is independently pursuing the project only as a kaumatua housing development on the site.

The Trust has now developed a new master plan to construct the residential units within roughly the same footprint of the site but with a different layout than what was previously approved. The revised proposal does not include an aged care building; however, the number of residential units designated for kaumatua has been increased to 30, and a manager's house with an office space has been added.

Due to these variations, the Council's approval is necessary to change or cancel some conditions of RC 2250215 to align with the revised proposal.

This report intends to provide updated information and an assessment regarding the effects of the changes to the consent.

Therefore, on behalf of the applicant, I request changes to Condition 1 of RC 2250215, particularly the references to the approved plans and technical reports, and consequent amendments to other conditions as described below, pursuant to Section 127 of the Resource Management Act.

2.0 DESCRIPTION OF THE SITE

A detailed description of the site was provided in the original RC 2250212 application, which may be referenced.

In summary, the application site is located at 52 Hooks and Hall Road off State Highway 12 in Waimamaku, as shown on the map below.

Fig. 1: Site Location Map (*Source - Far North Maps)*

The site is legally described as Lot 1 DP 590384. The total area of the site is 10.5454 hectares. A copy of the Record of Title (1128616) dated 27 October 2023 is included in **Appendix 2**.

An old farmhouse, a garage, and sheds exist, along with a recently constructed sleepout in the eastern part of the site.

The southern part of the site is generally flat and is predominantly grass. The northern part of the site rises towards the north, where there are scattered trees and small pockets of regenerating bush.

Northland Regional Council's Natural Hazards maps indicate that the southern part of the site is at risk of River Flood hazard Zones for 10, 50 and 100-year storm events.

According to the FNDC's Land Cover and Land Use maps, the site contains two different soil types (2w 4 & 6e 70).

3.0 REVISED PROPOSAL

A copy of the revised Site Masterplan prepared by WEIR + is attached in **Appendix 3.**

As indicated in this Masterplan, the revised proposal includes the following activities and features

Residential Units

- 6 x One bed kaumatua unit – each 45m2; named as Witarina.
- 17 x Two-bed kaumatua unit – each 60m2; named as Tiopira or Waipuia (The distinction between these two types lies in the shape of their roofs.)
- 7 x Three-bed kaumatua unit – each 105m2; named as Corrin
- 1 x Manager's house & office – 256m2; named as Taniera

Copies of the kaumatua unit building plans prepared by Kit HOMES are attached in **Appendix 4.**

[Note: Building plans for the Manager's house and office are not attached. It will be built after the kaumatua units are constructed. Detailed plans for this building will be provided later with its building consent application to the Council.]

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- **Access and Parking**
- As in the case of the original proposal, the existing two driveways will be upgraded to provide access to all residential units.
- Hooks and Hall Road section between the site boundary and State Highway 12 will be upgraded, along with improvements at its intersection with SH 12 as approved under RC 2250212.
- 35 car parking spaces will be provided within the site.

Earthworks and On-Site Infrastructure Facilities

- The total volume of earthworks within the site is estimated as 4880 m3.
- As in the case of the original proposal, an advanced secondary treatment system will be constructed for wastewater disposal.
- Water supply will be provided through a rainwater storage tank farm for human consumption and two water tanks for firefighting purposes.
- A suitable stormwater management system will be established for the development

The updated engineering reports to support this application are attached in the following appendices.

Appendix 5 – "Geotechnical Investigation Report, 52 Hooks and Hall Road, Waimamaku" dated 11 April 2025, prepared by RS Eng Ltd. [**Geotech Report**]

Appendix 6 – "Three Waters Report, 52 Hooks and Hall Road, Waimamaku" dated 15 April 2025, prepared by RS Eng Ltd. [**Three Waters Report]**

[This report covers stormwater, wastewater, water supply, firefighting, and flooding. Appendix A of the report includes concept civil drawings]

4.0 COMPARISON BETWEEN ORIGINAL AND REVISED PROPOSALS

The site is located in the Rural Production Zone of the Far North Operative District Plan (ODP). The original proposal breached six (6) permitted activity rules of the ODP and was assessed overall as a non-complying activity.

The table below compares the revised proposal with the original proposal regarding the breaches of those six District Plan rules and other relevant rules

Permitted Rule	**Original Proposal**	**Revised Proposal**
8.6.5.1.1 Residential Intensity	25 units on 10.54ha site – (Non-complying)	**30 units & Manager's house** on the site – (Non-complying)
8.6.5.1.2 Sunlight	(Permitted)	(Permitted)
8.6.5.1.3 Stormwater Management	Impermeable surfaces – Approx. 7500 m2; less than 15% of site area. (Permitted)	Impermeable surfaces- Approx. **5945 m2**; less than 15% of site area. (Permitted).
8.6.5.1.4 Setback from Boundaries	12 units located within 10m from the eastern boundary. (Restricted Discretionary)	**7 units** located within 10m from the eastern boundary. (Restricted Discretionary)
8.6.5.1.8 Building Height	Less than 12m. (Permitted)	Less than 12m. (Permitted)
8.7.5.1.10 Building Coverage	Less than 12.5% of site area. (Permitted activity)	Less than 12.5% of site area. (Permitted activity)
8.6.5.1.11 Scale of Activities	The number of employees and visitors in the Aged Care building exceeded the allowable limit of 10 persons for the site. (Discretionary)	**Not applicable** due to the removal of the Aged Care building from the proposal.
12.3.6.1.2 Excavation and/or Filling	Total Volume -13,250m3 Max. cut face – 5.4m (Restricted Discretionary)	Total Volume – **4880m3** Max cut face - **3.3m** (Restricted Discretionary) Due to the breach of the permitted maximum cut face of 1.5m only)

15.1.6A.1 Traffic Intensity (60 for the Zone)	Based on Appendix 3A standards, the total TIF for Kaumatua units and the Aged Care building was estimated as - 50 + 100 = 150. (Restricted Discretionary)	Total TIF for 30 kaumatua units - (2 x 30) = **60** *(TIF for the Manager's house is not included as per the exception provision of the rule)* (Permitted)
15.1.6B.1.1– Parking	Based on Appendix 3C, 39 car parking spaces were required for all activities. The site plan indicated more parking spaces than this number. (Permitted)	Required Parking spaces- • Kaumatua units - 30x1 • Manager's house – 2 **35 parking spaces** are provided. (Permitted)
15.1.6B.1.4 Accessible Car Parking Spaces	The required accessible car parking spaces were shown on the site plan. (Permitted)	**Not applicable** as there are no non-residential activities requiring accessible car parking spaces.
15.1.6C.1.1 Private Accessway in All Zones	The proposal breached subclauses (a) & (c) of this rule in respect of providing access to more than 8 residential units. (Discretionary)	The revised proposal also breaches these rules. (Discretionary)

The above information reveals that the revised proposal is still a non-complying activity, but it breaches only four (4) permitted activity rules of the ODP compared to six (6) in the original proposal.

5.0 STAUTORY REQUIREMENTS UNDER RMA

The following section of the RMA is relevant in the assessment of this application.

Section 127: Change or Cancellation of Consent Condition by Consent Holder

This Section states;

(1) The holder of a resource consent may apply to a consent authority for a change or cancellation of a condition of the consent, subject to the following:

(a) the holder of a subdivision consent must apply under this section for a change or cancellation of the consent before the deposit of the

survey plan (and must apply under section 221 for a variation or cancellation of a consent notice after the deposit of the survey plan); and

(b) no holder of any consent may apply for a change or cancellation of a condition on the duration of the consent.

(2) [Repealed]

(3) Sections 88 to 121 apply, with all necessary modifications, as if—
(a) the application were an application for a resource consent for a discretionary activity; and
(b) the references to a resource consent and to the activity were references only to the change or cancellation of a condition and the effects of the change or cancellation respectively

(3A) If the resource consent is a coastal permit authorising aquaculture activities to be undertaken in the coastal marine area, no aquaculture decision is required in respect of the application if the application is for a change or cancellation of a condition of the consent and does not relate to a condition that has been specified under section 186H(3) of the Fisheries Act 1996 as a condition that may not be changed or cancelled until the chief executive of the Ministry of Fisheries makes a further aquaculture decision.

(4) For the purposes of determining who is adversely affected by the change or cancellation, the consent authority must consider, in particular, every person who—
(a) made a submission on the original application; and
(b) may be affected by the change or cancellation.

Response/Comments -

This application is not related to a subdivision consent. It is not requesting to change or cancel a condition on the duration of the consent. The original application is not a coastal permit.

Accordingly, the above-stated clauses (1) and (3A) are not applicable. This application is therefore assessed in respect of clauses (3) & (4) as discussed later in this report.

Although the revised proposal is classified as a non-complying activity under the Operative District Plan, the Council is obligated to treat this variation application as a **'discretionary activity'** under Section 127 of the Act. The focus should be on the effects of the proposed changes, specifically comparing any adverse effects from the activity in its original form with any adverse effects that may arise from the proposal in its revised form.

6.0 PROPOSED CHANGES AND CANCELLATION OF CONDITIONS

We request the Council to change or cancel the conditions of RC 2250212 as outlined below. [Any wording to be removed is indicated with a ~~strikethrough,~~ while the new wording is shown underlined].

The reasons for these changes are also provided in *italics* letters

Condition 1

The Site Plan and RS Eng's three technical reports referenced in this condition have been amended or updated to suit the revised proposal. The Concept Civil Drawings submitted as a separate report in the original application are now included as Appendix 6 in the Three Waters Report. Thus, the condition should refer to the updated 'site masterplan' and reports submitted with this application.

*Engineering Outcomes plan titled 'Figure 1 Hooks and Hal Road Safety Measures Plan' is dated **3** December 2024, and not 5 December 2024, as referenced in this condition. This typological error needs to be corrected.*

Engineering Outcomes plan titled 'Figure 2 Parking Internal Plan' is no longer relevant for this consent. That reference needs to be cancelled.

Accordingly, the following changes are requested for Condition 1.

1. The activity shall be carried out in accordance with the approved plans and reports prepared by:

   - ~~Thomson Survey, referenced 'Proposed Aged Care Facility and Private Residencies on Lot 1 DP 590384 - Site Plan', dated 6 December 2024~~,
   - WEIR + , referenced 'Waimamaku Affordable and Kauatua Housing'- Site Masterplan, dated 01.04.2025, and
   - RS Eng, titled 'Geotechnical Investigation Report' referenced 19340 ~~Rev 2~~ Rev 3, dated ~~11 November 2024~~, 11 April 2025, and
   - RS Eng, titled 'Three Waters Report' referenced 19340 ~~Rev 3~~ Rev 4, dated ~~5 December 2024~~, 15 April 2025, and
   - ~~RS Eng, titled 'Concept Civil Drawings' referenced 19340 Rev B, dated 4 December 2024, and~~
   - Engineering Outcomes, titled 'Retirement and Elder Care Assessment of Traffic Effects Report, dated 3 December 2024, and
   - Engineering Outcomes, titled 'Figure 1 Hooks and Hall Road Safety Measures Plan', dated ~~5~~ 3 December 2024, and
   - ~~Engineering Outcomes, titled 'Figure 2 Parking Internal Plan', dated 3 December 2024, and~~

Attached to this consent with the Council's "Approved Stamp" affixed to it.

[Note: Copies of the concept building plans for the Aged Care Building and the typical residential unit were included in the original application. However, these plans are not mentioned in Condition 1 and were not part of the approved plans provided with the RC Decision.

The council may include references to the building plans submitted with this application and affix "Approved Stamp" to them.]

Condition 2

Condition 2 d. requires the detailed plans to include the location of accessible parking spaces and loading bays. Since the Aged Care building is removed in the revised proposal, such requirements are no longer necessary, and an amendment to this condition is requested as follows.

d. Detailed designs of the internal accessways, internal footpaths, and parking areas on the site. Plans are to include:

- Details of final parking layout ~~including location of accessible parking spaces and loading bays,~~
- Details of final access road layouts including turning areas,
- Footpath locations,
- Typical cross sections, long sections and details,
- Pavement construction details,
- Proposed signage and line markings, and
- Vehicle tracking curves showing the passage of a Heavy Rigid Vehicle (8m length) around the site.

Condition 9

Due to the recent update of the RS Eng Geotechnical Report, the following amendment to this condition is requested.

9. The consent holder shall ensure that any earthworks comply with the restrictions and recommendations identified in the RS Eng Geotechnical Investigation Report reference 19340 ~~Rev 2~~ Rev 3 dated ~~11.11.2024~~, 11.04.2025, unless an alternative engineering report prepared by a suitably experienced Chartered Professional Engineer is provided to, and approved in writing by Council.

[Note: Due to the removal of the Aged Care Facility from the development, it is requested to amend the wording of the implementing stage mentioned after Condition 10 as follows]

Prior to Occupation of ~~the Aged Care Facility or~~ a Residential Unit ~~(whichever comes first):~~

Condition 12

Due to the changes in activities outlined in the revised proposal, an update to the wording and the correct date of the plan referenced in this condition are requested.

12. Prior to the occupation ~~of the 50-bed aged care facility or any~~ of the ~~25~~ 30 kaumatua residential units, the Consent Holder shall ensure that the proposed safety measures as detailed in the plan titled "Hooks & Halls Rd Safety Measures", dated ~~5~~ 3 December 2024 are of the New Zealand Transport Agency Network Manager. Specifically, this includes:
    - Signage located at the Hooks and Hall Road/State Highway 12 intersection as a "Stop Ahead" warning sign.
    - A bi-directional chevron board on SH12 opposite the intersection of Hooks and Halls Road/State Highway 12.
    - A WJ5R warning sign 200m east of the intersection of Hooks and Halls Road/State Highway 12 for westbound traffic on State Highway 12.

Condition 17

Given the removal of the aged care facility from the consent, complete cancellation of this condition is requested as follows.

~~17. The consent holder shall provide evidence to Council's resource consent monitoring officer, or duly delegated officer that the aged care facility has been registered as an aged care facility with the Ministry of Health.~~

Condition 22

Based on the RS Eng. updated Geotechnical Investigation Report (refer to section 7.3 Ground Improvement), it is requested to reword Condition 22 as indicated below.

~~22. The consent holder shall ensure that a 5m building setback restriction is implemented along the crest of the moderate western slope as detailed in Appendix A of the RS Eng Geotechnical Investigation Report reference 19340 Rev 2 dated 11.11.2024. Alternatively, earthworks shall be completed to re-contour the moderate slope to create a level platform for the aged care facility.~~

The consent holder shall ensure that earthworks are completed to re-contour the moderate to steep slopes, filling and/or cutting is expected to re-shape the western and southern edge of the terrace to create platforms for the residential units, as detailed in Appendix A of the RS Eng Geotechnical Investigation Report reference 19340 Rev 3 dated 11.04.2025. Alternatively, where these slopes are not re-contoured, a 5m building setback restriction shall be implemented along the crest of the moderate to steep western and southern slopes.

Condition 26

Due to the removal of the aged care facility from the consent and the updated Three Water Report, the following changes to this condition are requested.

26 In conjunction with the construction of the ~~new aged care facility and~~ units, the consent holder shall obtain a Building Consent and install a wastewater treatment and effluent disposal system on the Lot. The system shall be designed by a Suitably Qualified and Experienced Person in general accordance with the RS Eng Three Waters Report reference 19340 ~~rev 3~~ Rev 4 ~~dated 05.12.2024~~ 15.04.2025

Condition 27

Due to the removal of the aged care facility from the consent, the following changes to this condition are requested.

27. In ~~conjunction with the construction of the new aged care facilities, and in~~ addition to a potable water supply, the consent holder shall ensure that sufficient water supply for firefighting purposes is provided and is made accessible for firefighting appliances in accordance with Council's Engineering Standards 2023 and more particularly with the 'FENZ Fire Fighting Code of Practice SNZ PAS 4509:2008'. An alternative means of compliance with this standard will require written approval from Fire and Emergency NZ.

7.0 ASSESSMENT OF ENVIRONMENTAL EFFECTS

The applicant has decided not to proceed with the Aged Care facility approved under the original consent. Consequently, the scale and intensity of the overall proposal have been significantly reduced in many aspects.

The revised site masterplan of the proposal is functionally efficient, cost-effective, and has less environmental impact on the site and its surroundings compared to the original proposal.

The effects of the following changes are evaluated against the original proposal.

Residential Intensity and Traffic Intensity

The key effect of the increase in the number of kaumatua units from 25 to 30 would be the traffic generated by the additional 5 units, which is estimated as 10 daily one-way traffic movements based on the District Plan's Appendix 3A standards (2 per kaumatua/kuia unit). However, these extra traffic movements are easily balanced by the 50 traffic movements that were estimated for the Aged Care facility in the original proposal.

As mentioned in the table provided in Section 4 of this report, the overall traffic intensity of the revised proposal is 60, so it is considered a permitted activity.

Nevertheless, the applicant is prepared to upgrade Hooks and Hall Road as required under the original consent to mitigate any adverse traffic effects.

Setback From Boundary
Regarding the breach of the 10m setback from the eastern boundary, the number of units affected by that rule with only a 3m setback has now been reduced to 7 from 12.

Earthworks
The estimated volume of earthworks in the revised proposal is approximately 4880m3. This is now within the permitted limit for the site. Adequate measures have been recommended in the revised Engineering Reports to mitigate any adverse effects from earthworks activities.

Stormwater Management
The impermeable surfaces of the development have been reduced from approximately 7500m2 to 5945m2 (by about 20%), resulting in less impact from stormwater management.

Wastewater Disposal
According to the Three Waters Report, the total volume of daily wastewater flows from the development is 18125 L. This exceeds the permitted activity standard specified in the Proposed Regional Plan. Therefore, a separate application is submitted to the Northland Regional Council to obtain a Discharge Permit for wastewater disposal.

Summery
It is concluded that the adverse effects of the revised proposal will be less compared to those anticipated in the original proposal.

8.0 AFFECTED PERSONS AND CONSULTATION

In determining who may be adversely affected by the application, Section 127 (4) directs the Council to consider every person who made a submission on the original application, as well as anyone who may be affected by the proposed changes. The focus is on the **'effects of the change or cancellation'** that are relevant to this consideration.

The original application was approved under the delegated authority and was not subject to the public or limited notification procedure. As such, there were no submissions.

However, it must be mentioned that the applicant provided written approvals from the owners of six adjacent properties. The revised proposal does not breach any additional rules requiring further consultation with those neighbours. It is considered that the proposed changes and cancellations to conditions will have no adverse effects on these neighbours.

No changes are proposed for the conditions recommended by the NZ Transport Agency regarding the upgrade of the intersection of State Highway 12 with Hooks and Hall Road. Hence, further consultation with NZTA is not necessary.

9.0 DISTRICT PLAN OBJECTIVES AND POLICIES

RC 2250212 has been granted on the basis that the proposed activity is consistent with the objectives and policies of the Far North Operative District Plan and Proposed District Plan. The revised proposal will not alter this status. The proposed changes being sought are considered to remain consistent with the objectives and policies of both the Operative and Proposed District Plans.

10.0 OTHER PLANNING DOCUMENTS

The original application was assessed against higher-order planning documents, including the following, which had been considered in the decision-making process by the Council.;

- National Policy Statement for Highly Productive Land (NPS-HPL)
- Regional Policy Statement for Northland (RPS)

The development layout of the revised proposal is almost within the same footprint of the site as in the original proposal.

Considering the nature of the proposed changes outlined in this application, further assessment under NPS-HPL and RPS is unnecessary.

11.0 PART 2 OF THE RMA

The Council has approved RC 2250212 based on the understanding that the original proposal is consistent with the purpose of the Act, as it supports and promotes the sustainable management of natural and physical resources [Reason No. 8 of the decision]. The proposed changes detailed in this application will not change this assessment.

12.0 CONCLUSION

There will be no adverse environmental effects due to the proposed changes and cancellation of consent conditions of RC 2250212.

No person will be adversely affected by the proposed changes or cancellation of consent conditions.

The proposed changes are consistent with the objectives and policies of the Far North Operative and Proposed District Plans and relevant National and Regional Planning documents.

Proposed changes do not contravene sustainable management principles of the RMA

For these reasons, I request the Council to approve the proposed changes or cancellation of conditions of RC 2250212 under s127 of the Act as detailed in this application.

Leonard Dissanayake; MNZPI
Principal Planner
LMD Planning Consultancy

16 April 2025

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Appendices

Appendix 1 - Copy of RC 2250212 -RMALUC Decision and Approved Plans
Appendix 2 - Record of Title
Appendix 3 - Site Masterplan prepared by WEIR +.
Appendix 4 - Architectural Plans for Kaumatua Units
Appendix 5 - Geotechnical Report by RS Eng Ltd
Appendix 6 - Three Waters Report by RS Eng Ltd

APPENDIX 1

COPY OF RC 2250212-RMALUC DECISION

AND

APPROVED PLANS

DECISION ON LAND USE CONSENT APPLICATION

UNDER THE RESOURCE MANAGEMENT ACT 1991

Decision

Pursuant to section 34(1) and sections 104, 104B and 104D, and Part 2 of the Resource Management Act 1991 (the Act), the Far North District Council **grants** land use resource consent for a non-complying activity, subject to the conditions listed below, to:

Applicant:	Tiopira Taniera Hapu Trust
Council Reference:	2250212-RMALUC
Property Address:	52 Hooks and Halls Road, Waimamaku 0473
Legal Description:	Lot 1 DP 590384

The activities to which this decision relates are listed below:

To establish an aged care and retirement village facility, consisting of a 1140m^2 aged care building containing 50 beds, and 25 separate residential retirement units (each 45m^2) with associated activities including earthworks, access provisions, parking, wastewater disposal, water supply and stormwater attenuation in the Rural Production Zone.

Conditions

Pursuant to sections 108 of the Act, this consent is granted subject to the following conditions:

1. The activity shall be carried out in accordance with the approved plans and reports prepared by:

    - Thomson Survey, referenced 'Proposed Aged Care Facility and Private Residencies on Lot 1 DP 590384 - Site Plan', dated 6 December 2024, and
    - RS Eng, titled 'Geotechnical Investigation Report' referenced 19340 Rev 2, dated 11 November 2024, and
    - RS Eng, titled 'Three Waters Report' referenced 19340 Rev 3, dated 5 December 2024, and
    - RS Eng, titled 'Concept Civil Drawings' referenced 19340 Rev B, dated 4 December 2024, and
    - Engineering Outcomes, titled 'Retirement and Elder Care Assessment of Traffic Effects Report, dated 3 December 2024, and
    - Engineering Outcomes, titled 'Figure 1 Hooks and Hall Road Safety Measures Plan', dated 5 December 2024, and
    - Engineering Outcomes, titled 'Figure 2 Parking Internal Plan', dated 3 December 2024, and

    Attached to this consent with the Council's "Approved Stamp" affixed to it.

Prior to the commencement of any works:

2. The consent holder shall submit a detailed set of engineering plans, and inspection, and test plan prepared in accordance with Council's Engineering Standards 2023 Edition to Council's Resource Consent Engineer or designate. Hooks and Hall Road upgrade works are to be approved by Council's Roading Asset Manager or designate. Design is to be completed by a Suitably Qualified Engineer including PS1A or similar. FNDC formal approval must be obtained prior to commencing construction.

   Plans and details are to include but are not limited to:

   a. An Inspection and Test Plan produced in accordance with Council's Engineering Standards 2023 Edition identifying the following items:

      - Element of work,
      - Tests and checks required,
      - Quality requirements,
      - Frequency of testing,
      - Contractor's responsibility,
      - Developers Representative and SQEP's responsibilities, and
      - Asset data recording requirements.

   b. Design details of the upgrade of the existing vehicle crossing for the Main Facilities Access in accordance with Sheet 21 Rural Type 1A Crossing with a 6m width at the property boundary, and also in accordance with sheets 22 & 23 of Council's Engineering Standards 2023 Edition. The crossing is to have an unsealed surface where it joins Hooks and Hall Road.

   c. Design details of the upgrade of the existing vehicle crossing for the Residents Access in accordance with Sheet 21 Rural Type 1A Crossing with a 5m width at the property boundary, and also in accordance with sheets 22 & 23 of Council's Engineering Standards 2023 Edition. The crossing is to have an unsealed surface where it joins Hooks and Hall Road.

      Note: Entrance crossings are to be designed and constructed in such a manner that will control stormwater run-off entering a property from the road, and that likewise prevent stormwater and detritus, including gravel, dirt and other materials, migrating onto the road reserve from a property.

   d. Detailed designs of the internal accessways, internal footpaths, and parking areas on the site. Plans are to include:

      - Details of final parking layout including location of accessible parking spaces and loading bays,
      - Details of final access road layouts including turning areas,
      - Footpath locations,
      - Typical cross sections, long sections and details,
      - Pavement construction details,
      - Proposed signage and line markings, and
      - Vehicle tracking curves showing the passage of a Heavy Rigid Vehicle (8m length) around the site.

e. Detailed design of the Hooks and Hall Road upgrades proposed in Engineering Outcomes Figure 1 Hooks and Halls Rd Safety Measures Plan dated 03.12.2024 including:

- Passing bays including pavement and drainage design,
- Vegetation clearance and earthworks required to achieve sight distances,
- Bridge sight rails, marker relocation and kerb painting, and
- Road signage.

f. Details of the site firefighting and potable water supply.

g. Evidence that Fire and Emergency New Zealand approval has been obtained for firefighting water supplies for the development.

h. Details of the site wastewater and stormwater reticulation systems.

i. Details of the wastewater disposal area design including plant types, fencing and/ signage to deter people from accessing the wastewater disposal area.

j. Detailed design of the stormwater treatment swale including plant types and the existing discharge culvert capacity and condition assessment. Details shall include flow calculations, including commentary on whether attenuation for the development is proposed.

k. Details of proposed changes to overland flow paths including proposed new culvert under the wastewater disposal area.

l. Bulk earthworks design including cut and fill volumes, bulk storage locations, and erosion and sediment controls in accordance with GD05 “Erosion and Sediment Control Guide for Land Disturbing Activities in the Auckland Region”.

3. The consent holder shall submit a Construction Management Plan in accordance with Council’s Engineering Standards to the approval of the Resource Consent Engineer or delegated representative prior to commencing works on site. The plan shall include the following details:

- Timing and methodology for Hooks and Hall Road upgrades,
- Starting date, working days, hours of work, and estimated completion date,
- Names and contact details of principal contractor and sub-contractor,
- Confirmation of all insurances, and
- Contingency and emergency procedures.

4. The consent holder shall notify Council, in writing, of their intention to begin works, a minimum of seven days prior to commencing works.

5. Within six months of the date of this consent, the consent holder shall provide, for the approval of the Council’s Resource Consents Manager, or other duly delegated officer, a landscape/planting plan, to be prepared by a suitably qualified and experienced person, which details the means of reducing the visual impact of the building, and any

earthworks, by way of suitable plantings and landscaping. The plan is to identify the species of plants to be used, their numbers and locations on the site, and the means of maintaining these plants for a minimum of one further planting season or one year, whichever is the longer, from the time of planting.

6. The consent holder shall notify the residents of Hooks and Hall Road of any impending road upgrading work, at least 7 days prior to work commencing. Evidence that this has been undertaken shall be provided to Council's resource consent monitoring officer, or duly delegated officer.

During Construction:

7. The consent holder shall ensure that a copy of the approved engineering plans, inspection and testing plan, and a copy of the resource consent conditions (including an approved corridor access request) are held onsite at all times during construction. All personnel working on the site shall be made aware of and have access to the resource consent and accompanying documentation.

8. The consent holder shall ensure that all construction works on the site are to be undertaken in accordance with the approved Construction Management Plan as approved in accordance with condition 3 of this consent (2250212-RMALUC).

9. The consent holder shall ensure that any earthworks comply with the restrictions and recommendations identified in the RS Eng Geotechnical Investigation Report reference 19340 Rev 2 dated 11.11.2024, unless an alternative engineering report prepared by a suitably experienced Chartered Professional Engineer is provided to, and approved in writing by Council.

10. All earthworks shall be monitored by a suitably experienced Chartered Professional Engineer as outlined in the Inspection and Test Plan approved in Condition 2 of this consent (2250212-RMALUC).

Prior to Occupation of the Aged Care Facility <u>or</u> a Residential Unit (whichever comes first):

11. The consent holder shall ensure that all work as required by the approved engineering plans in Condition 2 of this consent (2250212-RMALUC) is to be carried out to the approval of the Resource Consent Engineer. Compliance with this condition shall be determined by;

    - Site inspections undertaken as agreed in Council's engineering plan approval letter/ Inspection and Test Plan.

    - PS4A and approval of supporting documentation provided by the developer's representative/s including evidence of inspections by those persons, and all other test certificates and statements required to confirm compliance of the works as required by Council's QA/QC Manual and the Council's Engineering Standards 2023.

    - "Certificate of Completion of Resource Consent Works" from the Contractor.

12. Prior to the occupation of the 50-bed aged care facility or any of the 25 residential units, the Consent Holder shall ensure that the proposed safety measures as detailed in the plan titled "Hooks & Halls Rd Safety Measures", dated 5 December 2024 are

constructed and/or installed in the state highway corridor to the satisfaction of the New Zealand Transport Agency Network Manager. Specifically, this includes:

- Signage located at the Hooks and Hall Road/State Highway 12 intersection as a "Stop Ahead" warning sign.
- A bi-directional chevron board on SH12 opposite the intersection of Hooks and Halls Road/State Highway 12.
- A WJ5R warning sign 200m east of the intersection of Hooks and Halls Road/State Highway 12 for westbound traffic on State Highway 12.

13. The consent holder must submit certified RAMM data for all new/upgraded Roading infrastructure including road culverts prepared by a suitably qualified person in accordance with Council's Engineering Standards 2023 to the satisfaction of the Resource Consent Engineer or delegated representative.

14. The consent holder must provide written confirmation from a Licensed Cadastral Surveyor that all services and accesses are located within the site boundaries, or the appropriate easement boundaries to the satisfaction of the Resource Consent Engineer or delegated representative.

15. The consent holder shall provide to Council, an emergency evacuation plan which is to be implemented in the event of an emergency. In particular, the evacuation plan shall provide details for access to and from the site during flooding events and include details on how this is to be managed.

16. The consent holder shall ensure that the approved landscaping/planting plan as provided in accordance with condition 5 of this consent (2250212-RMALUC) is implemented and is to be maintained for the duration of the consent. Any plants that are removed or damaged are to be replaced as soon as possible, or within the next planting season (1st May to 30th September).

17. The consent holder shall provide evidence to Council's resource consent monitoring officer, or duly delegated officer that the aged care facility has been registered as an aged care facility with the Ministry of Health.

18. The consent holder shall provide Council's resource consent monitoring officer, or duly delegated officer with evidence that the wastewater and stormwater easements over the adjoining properties have been registered with Land Information New Zealand.

Ongoing Conditions:

19. The consent holder shall ensure that finished floor levels are calculated using the latest information available on the FNDC, NRC website and Ministry of Environment guidelines when applying for a Building Consent.

    Note: The RS Eng Three Waters Report reference 19340 Rev 3 dated 05.12.24 recommends a minimum freeboard of 0.5m above the 1% AEP + CC flood level for habitable structures, equivalent to a minimum level of 23.10m NZVD2016.

20. The consent holder shall ensure that a maintenance contract for the on-site wastewater system is in place at all times which includes inspections and maintenance of both the wastewater treatment and disposal systems.

21. The consent holder shall ensure that a detailed site-specific geotechnical assessment is undertaken at building consent stage. All earthworks into slopes greater than 14 degrees shall be reviewed by a Chartered Professional Engineer.

22. The consent holder shall ensure that a 5m building setback restriction is implemented along the crest of the moderate western slope as detailed in Appendix A of the RS Eng Geotechnical Investigation Report reference 19340 Rev 2 dated 11.11.2024. Alternatively, earthworks shall be completed to re-contour the moderate slope to create a level platform for the aged care facility.

23. The consent holder shall ensure that at building consent stage, details of a first flush diverter or similar system to manage potential dust contamination of roof captured drinking water supplies shall be detailed. The system shall be suitably sized for the units and aged care facility roof areas.

General Conditions:

24. The consent holder shall ensure that parking spaces are formed with an all-weather surface and marked out. Parking space dimensions are to be in accordance with Appendix 3D of the Operative District Plan.

25. The consent holder shall ensure that erosion and sediment control is undertaken in accordance with the Erosion and Sediment Control Guide for Land Disturbing Activities in the Auckland Region GD05.

26. In conjunction with the construction of the new aged care facility and units, the consent holder shall obtain a Building Consent and install a wastewater treatment and effluent disposal system on the Lot. The system shall be designed by a Suitably Qualified and Experienced Person in general accordance with the RS Eng Three Waters Report reference 19340 rev 3 dated 05.12.2024.

27. In conjunction with the construction of the new aged care facilities, and in addition to a potable water supply, the consent holder shall ensure that sufficient water supply for firefighting purposes is provided and is made accessible for firefighting appliances in accordance with Council's Engineering Standards 2023 and more particularly with the 'FENZ Fire Fighting Code of Practice SNZ PAS 4509:2008'. An alternative means of compliance with this standard will require written approval from Fire and Emergency NZ.

28. The consent holder shall ensure that potable water is treated in accordance with G12 of the NZ Building Code and Water Services (Drinking Water Standards for New Zealand) Regulations 2022.

29. The consent holder shall ensure that within one month of completing the earthworks, all exposed cut surfaces (that are not subject to the approved landscaping plan in Condition 5 of this consent (2250212-RMALUC) or that will be covered by any building) are revegetated.

30. The consent holder shall ensure that all excess material not held behind a properly designed and constructed retaining wall is removed from the site to an approved fill disposal area, following the completion of works.

Advice Notes

Lapsing of Consent

1. *Pursuant to section 125 of the Act, this resource consent will lapse 5 years after the date of commencement of consent unless, before the consent lapses;*
   a) *The consent is given effect to; or*
   b) *An application is made to the Council to extend the period of consent, and the council decides to grant an extension after taking into account the statutory considerations, set out in section 125(1)(b) of the Act.*

Right of Objection

2. *If you are dissatisfied with the decision or any part of it, you have the right (pursuant to section 357A of the Act) to object to the decision. The objection must be in writing, stating reasons for the objection and must be received by Council within 15 working days of the receipt of this decision.*

Archaeological Sites

3. *Archaeological sites are protected pursuant to the Heritage New Zealand Pouhere Taonga Act 2014. It is an offence, pursuant to the Act, to modify, damage or destroy an archaeological site without an archaeological authority issued pursuant to that Act. Should any site be inadvertently uncovered, the procedure is that work should cease, with the Trust and local iwi consulted immediately. The New Zealand Police should also be consulted if the discovery includes koiwi (human remains). A copy of Heritage New Zealand's Archaeological Discovery Protocol (ADP) is attached for your information.This should be made available to all person(s) working on site.*

General Advice Notes

4. *The site is adjacent to, accessed off and in close proximity to an unsealed road. Unsealed roads have been shown to create a dust nuisance from vehicle usage. It is advised that the dwelling is either located as far as possible or at least 80m from the road, and/or boundary planting within the site is utilised to assist with this nuisance. Alternatively, the applicant may consider sealing their road frontage to remove the issue.*

5. *The consent holder is advised that Resource Consent from Northland Regional Council is required for earthworks and wastewater disposal in association with this activity.*

6. *The consent holder is advised that building consent may be required for the wastewater disposal system and site retaining structures.*

7. *A Corridor Access Request (CAR) is an application for a permit to carry out works within the road reserve, this is defined in the National Code of Practice for Utilities access to the transport Corridors and has been adopted by Council.*

8. *A Traffic Management Plan (TMP) must be uploaded with the CAR submission, describing the proposed works, design, setup, and removal of any activity being carried out within the road Reserve. A Work Access Permit (WAP) and reasonable conditions will be issued once TMP is Approved. Enquiries as to its use may be directed to Council's Road Corridor Co-ordinator, corridor.access@nta.govt.nz.*

9. *Before undertaking any physical work on the state highway, including the formation of any vehicle crossing, the consent holder is legally required to apply to the New Zealand Transport Agency for a Corridor Access Request (CAR) and for that request to be*

approved.

Please submit your CAR via www.submitica.com a minimum of fourteen working days prior to the commencement of any works on the state highway; longer is advised for complex works.

10. *The consent holder is advised that If construction or construction traffic affects the normal operation condition of the State Highway, approval will be required to be sought from NZTA's Network Manager (Works Infrastructure Ltd) to work on/adjacent to the State Highway. As part of this process the consent holder is required to submit a Traffic Management Plan in accordance with NZTA's 'Code of Practice for Temporary Traffic Management' at least 10 working days prior to the commencement of works. No work can commence on site until this written approval is received.*

11. *The consent holder is responsible for arranging for buried services to be located and marked prior to commencing the vehicle crossing construction works and is also responsible for the repair and reinstatement of any underground services damaged as a result of the earthworks.*

12. *The consent holder is responsible for the repair and reinstatement of the road carriageway, damaged as a result of the vehicle crossing works. Such works, where required, will be completed to the satisfaction of the Councils Roading Manager.*

13. *The consent holder is advised that any Erosion and Sedimentation Control should be designed and carried out in accordance with GD05 "Erosion and Sediment Control Guide for Land Disturbing Activities in the Auckland Region"*

14. *The consent holder is advised that Rule EW-R13 of the Proposed Far North District Plan has immediate legal effect and requires that earthworks must, for their duration, be controlled in accordance with the Erosion and Sediment Control Guidelines for Land Disturbing Activities in the Auckland Region 2016 (Auckland Guideline Document GD2016/005). Failure to comply with this rule may result in enforcement action and will require additional consents.*

15. *The consent holder is advised that approval for this application has been granted on the basis that the residential retirement units are only to be occupied by retirees and their spouses/partners. Any other use of these units will require further resource consent approval.*

Reasons for the Decision

1. By way of an earlier report that is contained within the electronic file of this consent, it was determined that pursuant to sections 95A and 95B of the Act the proposed activity will not have, and is not likely to have, adverse effects on the environment that are more than minor, there are also no affected persons and no special circumstances exist. Therefore, under delegated authority, it was determined that the application be processed without notification.

2. The application is for a non-complying activity resource consent as such under section 104 the Council can consider all relevant matters. In particular the matters listed below are of particular relevance.

Rule Number and Name	Non Compliance Aspect	Activity Status
8.6.5.4.1 Residential Intensity	The subject site is 10.54ha in size. The construction of 25 residential units and an aged care facility does not comply with the District Plan requirements.	Non-Complying
8.6.5.3.4 Setback from Boundaries	Residential Units numbered 14 – 25 as indicated on the site plans provided with the application are to be located within 3m of the eastern boundary of the site.	Restricted Discretionary
8.6.5.4.4 Scale of Activities	Due to the site area, 10 employees are allowed on site at any one time. The applicant has advised that there will be 8 employees working on site at any one period of time (3 shifts per 24 hours), however has allowed for visitors and additional staff and therefore acknowledges that non-residents on site may exceed 10.	Discretionary
12.3.6.2(a) Excavation and/or Filling	The applicant proposes to undertake 13,250m^3 of earthworks across the site in order to prepare the site for the proposed development.	Restricted Discretionary
15.1.6A.4.1 Traffic Intensity	The applicant has calculated that there will be 150 one-way movements as a result of the proposal.	Restricted Discretionary
15.1.6C.2(a) and (c) Private Accessway in All Zones	The proposed accessway cannot comply with the requirements of Appendix 3B-1 and is serving more than 8 household equivalents.	Discretionary

3. In regard to section 104(1)(a) of the Act the actual and potential effects of the proposal will be acceptable as:

a. Additional housing will be established where there is a housing shortage.
b. Additional aged care and medical facilities will be provided where there is significant shortage.
c. Landscaping is to be provided to reduce visual effects from adjacent properties and public viewing areas.

d. Written approvals have been provided from property owners in the immediate surrounding area.
e. Upgrades are to be undertaken on Hooks and Hall Road and the one way bridge across the Waimamaku Stream which will result in a positive impact on road users, despite the increase in traffic movements.
f. Preparatory earthworks will be undertaken on site to provide for site levelling and building platforms which are outside of the flood susceptible areas on site.

4. In regard to section 104(1)(ab) of the Act there are no offsetting or environmental compensation measures proposed or agreed to by the applicant for the activity.

5. In regard to section 104(1)(b) of the Act the following statutory documents are considered to be relevant to the application:

a. National Policy Statement for Highly Productive Land 2022,
b. Northland Regional Policy Statement 2016,
c. Operative Far North District Plan 2009, and
d. Proposed Far North District Plan 2022.

National Policy Statement for Highly Productive Land (NPS-HPL)

The property has a land use classification of LUC 2w4, which is identified as being Highly Productive Land under section 3.6 under the NPS-HPL.

The applicant has assessed that the subject site is exempt from the NPS-HPL for the following reasons:

- With regard to section 3.9 of the NPS-HPL: Although the property is not specified Māori land as defined by the NPS-HPL, the Tiopira Taniera Hapu Trust is a Whanau Trust over 25 years old, and the owner of the land block is registered in the Māori Land Court. It has been requested that Council acknowledges this Trust as a suitable entity that has authority to qualify its whenua with the same meaning of 'specified Māori Land Types' so that the proposed development is not disregarded as inappropriate.

- With regard to section 3.10(1)(a) of the NPS-HPL: The applicant has provided the following considerations: That a substantial area of land within the area identified as LUC 2w4 is subject to permanent constraints due to the river flood hazard present on site, and the existing areas of development.

- With regard to section 3.10(1)(b)(i) of the NPS-HPL: The surveyor has estimated that approximately 8400m^2 of highly productive land is available after all LUC 2w4 land subject to flooding and existing development is removed from the overall space, and that this amount of highly productive land is insignificant on a 'District-Wide' scale.

- With regard to section 3.10(1)(b)(ii) of the NPS-HPL: The proposal will not result in fragmentation of large and geographically cohesive areas.

- With regard to section 3.10(1)(b)(iii) of the NPS-HPL: Any reverse sensitivity effects can be discounted due to the provision of written approval.

- With regard to section 3.10(1)(c) of the NPS-HPL: The activity will provide environmental benefit due to the improvements to Hooks and Hall Road, and

the bridge over Waimamaku River. Long term social and economic benefits will be provided to the community due to the creation of permanent jobs, and boost for construction businesses. The activity is significant for the Trust's marae.

However, the applicant's assessment has not been fully adopted. The following additional assessment has therefore been made:

- The previous underlying subdivision has already compromised the ability of the highly productive land to be used for productive purposes without being highly intensive.
- The flood hazard which applies to the site does not create a permanent or long-term constraint. However, the area of existing development, curtilage areas, vegetation plantings and access on site and where the activity is to be undertaken are comparable and the reduction of highly productive land as a result of the activity being established is reduced in comparison to what it could have been.
- The activity will provide significant social and economic benefits to the Waimamaku and Hokianga communities, as well as the wider Far North District by association.
- Separately, the applicant's assessment against exemptions 3.9 and 3.10 are weak, however combination the assessment against these exemptions can be considered.

In addition to the assessment above and for the purpose of completeness, I have undertaken an assessment against the relevant policies of the NPS-HPL as follows:

Policy 1: The underlying soil types on the subject site are recognised as class 1 – 3 which supports land-based primary production. This has been recognised and included in the assessment of this application.

Policy 4: At the time of the site visit and assessment of this application, it is recognised that the property is not currently being used for land-based primary production. The area subject to LUC 2w4 land is currently compromised to an extent with existing residential development, associated cartilage areas and access tracks being located in this area. Due to the layout of the site, it is assessed that any land-based primary production located within the remaining area of LUC 2w4 land available would have to be highly intensive to be productive.

Policy 7: The activity does not involve subdivision of highly productive land.

Policy 8: Recent subdivision of the underlying site has further fragmented the LUC 2w4 land and created small areas of highly productive land which are not practical for production purposes without the implementation of highly intensive practices.

The area of land where the activity is to occur has already been developed with two access ways and one residential dwelling with associated curtilage area. There is a second dwelling on site (consistent with a Minor Residential Unit) which has a separate access and curtilage area, however it is unclear if this has been legally established. Nonetheless, the aged care facility, residential units and associated parking and access are to be mostly located in the area which is already affected by development or vegetation plantings on site.

Policy 9: No reverse sensitivity effects have been identified, as written approvals from adjacent and surrounding landowners were provided with the application. The activity will not prevent land-based productivities occurring on highly productive land outside of the site boundaries.

Northland Regional Policy Statement

Objectives:

Objective 3.5 – Enabling Economic Wellbeing: The activity will create investment opportunities, as well as enhancing economic well-being by providing additional housing and healthcare facilities to a community where these services are required. The provision of short term and long-term job opportunities will also be an outcome of the activity.

Objective 3.6 – Economic activities, reverse sensitivity and sterilisation: The surrounding area being located in the Rural Production Zone supports the mixed use of the land for productive and lifestyle opportunities. The activity will not detract from the ability of surrounding land parcels or the remainder of the site to be used for productive purposes, should it be desired. No industrial, commercial or mining activities are included as part of the activity. Reverse sensitivity has been disregarded in relation to the proposed activity due to the provision of written approvals within the application.

Objective 3.13 – Natural Hazard Risk: The applicant has not provided an assessment against this objective, however, relies on the assessment provided against natural hazards within the Three Water Report prepared by RS Engineering and provided with the application. This has been assessed within the s95 report associated with this application.

In addition to the assessment provided by the applicant, I consider that although Hooks and Hall Road, and the access to the site is subject to river flood hazards, the aged care facility and residential buildings will be located outside of the flood hazard areas.

Policy 7.1.1 – General Risk Management Approach: As previously identified, the aged care facility and residential buildings will be located outside of the flood hazard areas. Conditions have been imposed which require the consent holder to implement mitigation techniques to ensure that flooding hazards insofar as they relate to the site and the surrounding environment (including up and downstream of the Waimamaku River) are not exacerbated as a result of the activity.

Operative Far North District Plan

The following objectives and policies of the Operative District Plan have been considered:

Chapter 8: Rural Environment and Chapter 8.6: Rural Production Zone

The activity does not promote the sustainable management of the natural and physical resources of the rural environment; however, it does also not prevent this from occurring.

Conditions of consent as imposed above ensure that adverse and cumulative effects on the rural environment are mitigated.

The life supporting capacity of the soils will be compromised in the area development as a result of the activity, as the ability for them to be used will be removed, however there is ample soil available on the remainder of the site.

There are no areas of indigenous vegetation of ecological habitat identified on the site, or that will be affected by this activity. There is an existing consent notice which applies to the subject site and which will restrict the ownership of cats and dogs. This consent notice will continue to apply to the site going forwards.

No conflict between the activity and existing land use in the surrounding environment has been identified as written approvals have been provided with the application. The Rural Environment also provides for a variation of activities.

The activity is inclusive of earthworks and landscaping which will allow the character and amenity of the Rural Environment to be maintained following the establishment of the development on site.

Although the activity does not include Rural Production activities, it does not prevent productive activities from occurring on site or in the surrounding environment either.

Chapter 12.3: Soils and Minerals

An assessment on the proposal with regard to highly productive soils has been provided above, in association with the National Policy Statement for Highly Productive soils. It is considered that this assessment can be applied to the objectives and policies of the Soils and Minerals chapter of the District Plan.

In addition, it is assessed that soil excavation and filling will be contained within the site. There are no anticipated effects on archaeological, cultural or ecological features within the area of earthworks to be undertaken.

Chapter 15: Traffic, Parking and Access

As part of the activity, upgrades and improvements are to be undertaken to Hooks and Hall Road, with the applicant confirming they are willing to undertake any required upgrades to the intersection of State Highway 12 if New Zealand Transport Agency considers any are required.

On-site car parking and manoeuvring can be provided for in accordance with the District Plan requirements. No pedestrian or cycling provisions are existing in the surrounding environment, and none have been included as part of the activity. It is not considered these are necessary outside of the site given the location of the site.

Access to the site has already been provided for and will be upgraded as part of the activity. Although the access to the site (including Hooks and Hall Road) is within an area subject to river flood hazards, it is considered that the access will be largely unaffected for the majority of the time. An evacuation plan has been required by way of consent condition to ensure that there is a procedure in place for emergency scenarios.

Proposed Far North District Plan

The following objectives and policies of the Proposed District Plan have been considered:

Rural Production Zone

I consider that the assessment of the Rural Environment and Rural Production Zone chapter of the Operative District Plan above, and the National Policy Statement for Highly Productive Soils can largely be applied to the objectives and policies of the Rural Production Zone of the Proposed District Plan.

Having reviewed the objectives and policies for the Rural Production Zone within the Proposed District Plan, I note the following:

- Although the activity is not considered to be a low-density development, it has a low site coverage in comparison to the size of the property. The rural character and amenity are somewhat maintained through the implementation of landscaping on the eastern and southern boundaries. The development does not prevent production activities from being conducted on the remainder of the side, if this is desired in future.
- There is no functional need for the activity to be located within the Rural Production Zone. However, the site is located in an area which has limited availability of housing and health care provisions, and it is therefore assessed that the activity will cover a wide service area due to its location.
- The activity will not exacerbate natural hazards.
- On-site infrastructure is able to be provided for, and roading infrastructure is to be upgraded in recognition of the increase in traffic movements as a result of the proposal.
- No adverse effect on historic heritage or cultural values are anticipated as a result of the proposal.

For this resource consent application, the relevant provisions of both an operative and any proposed plan must be considered. Weighting is relevant if different outcomes arise from assessments of objectives and policies under both the operative and proposed plans.

As the outcomes sought are the same under the operative and the proposed plan frameworks, no weighting is necessary.

6. In regard to section 104(1)(c) of the Act there the following other matters are relevant and reasonably necessary to determine the application.

<u>Precedent:</u>

Case Law has established that the precedent of granting resource consent is a relevant factor for a consent authority in considering whether to grant non-complying resource consent. A precedent effect is likely to arise in a situation where consent is granted to a non-complying activity that lacks the evident unique, unusual or distinguished qualities that serve to take the application out of the generality of cases, or similar sites in the vicinity. In other words, if an activity is sufficiently unusual and sufficiently outside the run of foreseeable proposals it avoids any precedent effect.

The existing rural character is one of pastoral land, and a few rural and residential lifestyle lots. It is considered that the proposal is somewhat consistent with and will maintain the existing character of the area through the establishment of landscaping on the southern and eastern boundaries.

The size, layout and level of intensity of the activity is not generally consistent with the amenity and rural character already present in the area, and it is considered that this type of activity is unusual in this type of environment. As written approvals have been provided from adjacent and nearby properties however, any adverse effects on the amenity and rural character of the surrounding environment have been disregarded or considered to be temporary when viewed from public areas.

With regard to the activity being located within an area of LUC 2w4 soils, it is assessed that although highly productive soils are present on site, the general area of development has already been compromised to an extent due to the existing residential activities and associated access on site. In addition, the area of highly productive land available is not of a size that can realistically be used for productive purposes considering the existing constraints on the subject site.

7. In regard to section 104D of the Act the activity meets one / both tests as any adverse effects arising from this proposed activity will not be more than minor, and the activity will not be contrary to the objectives and policies of the Operative District Plan. Therefore, consent can be granted for this non-complying activity.

8. Based on the assessment above the activity will be consistent with Part 2 of the Act.

   The activity will avoid, remedy or mitigate any potential adverse effects on the environment while providing for the sustainable management of natural and physical resources and is therefore in keeping with the Purpose and Principles of the Act. There are no matters under section 6 that are relevant to the application. The proposal is an efficient use and development of the site that will maintain existing amenity values without compromising the quality of the environment. The activity is not considered to raise any issues in regard to Te Tiriti o Waitangi.

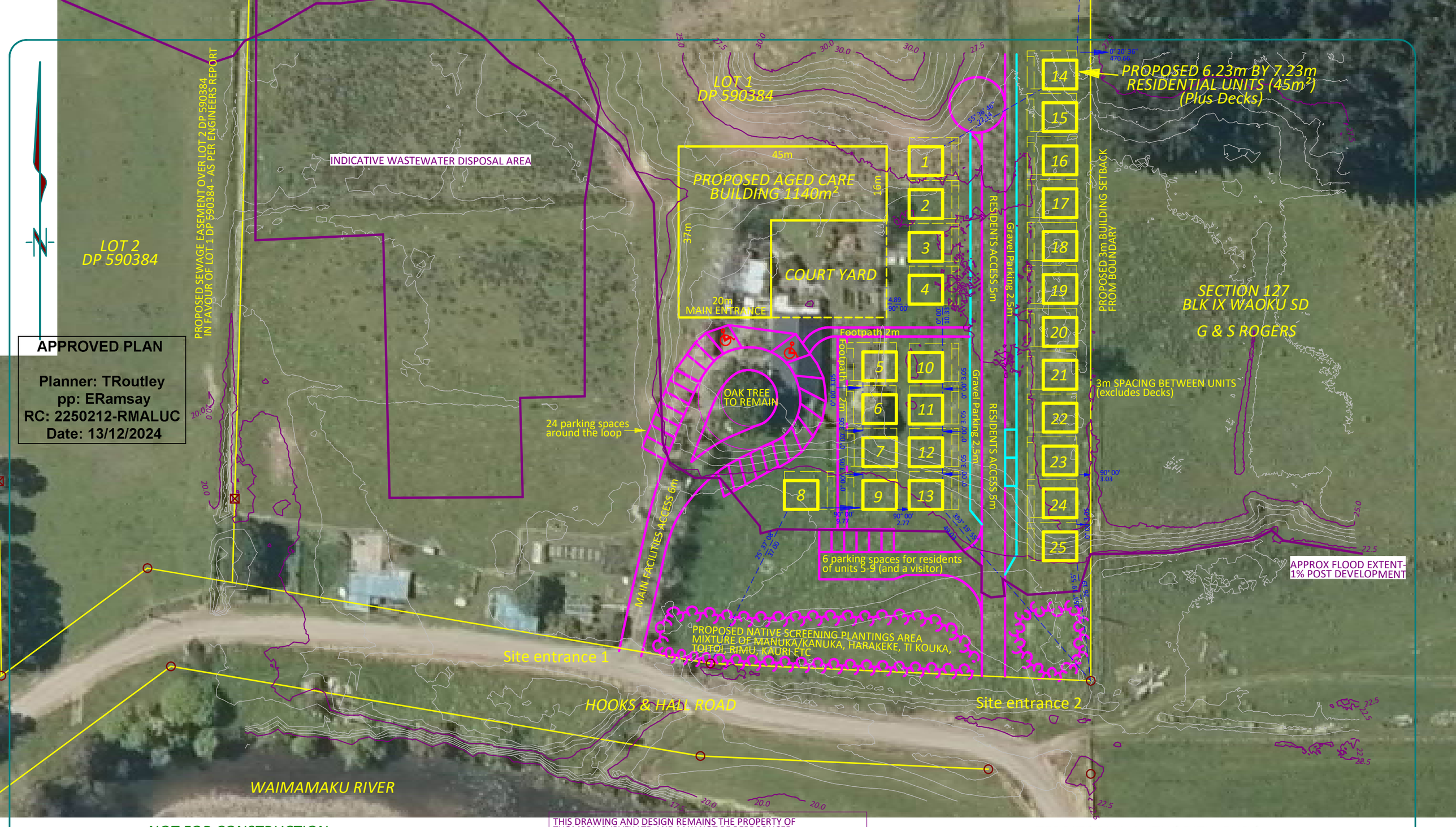
9. Overall, for the reasons above it is appropriate for consent to be granted subject to the imposed conditions.

Approval

This resource consent has been prepared by Hannah Kane, Consultant Planner. I have reviewed this and the associated information (including the application and electronic file material) and for the reasons and subject to the conditions above, and under delegated authority, grant this resource consent.

Name: Pat Killalea Date: 12th December 2024

Title: Independent Commissioner



APPROVED PLAN

Planner: TRoutley
pp: ERamsay
RC: 2250212-RMALUC
Date: 13/12/2024

NOT FOR CONSTRUCTION

FOR DISCUSSION/CONSENT PURPOSES ONLY

0 7.5 15 30 45 60 75 m

AREAS AND MEASUREMENTS ARE SUBJECT TO FINAL SURVEY

TOPOGRAPHICAL DETAIL IS APPROXIMATE ONLY AND DERIVED FROM LINZ LIDAR DATA. CONTOURS IN TERMS OF NZVD16, 0.5m MINOR, 2.5m MAJOR INTERVAL.

BACK GROUND IMAGE IS LINZ NORTHLAND 0.4m ORTHO 2014 -2016

TERRITORIAL AUTHORITY: FNDC

This drawing has been prepared solely for the use intended by the client stated on the plan, and must not be used for any other purpose. Thomson Survey Ltd accepts no responsibility for this plan, or any data contained on this plan, to be used for any other purpose.

THOMSON SURVEY LIMITED
315 Kerikeri Rd
P.O. Box 372 Kerikeri
Email: kerikeri@tsurvey.co.nz
Ph: (09) 4077360 Fax (09) 4077322
Registered Land Surveyors, Planners & Land Development Consultants

PROPOSED AGED CARE FACILITY & PRIVATE RESIDENCES ON LOT 1 DP 590384 - SITE PLAN

HOOKS & HALL ROAD, WAIMAMAKU

PREPARED FOR: SYNERGIZE CORP SOLUTIONS LTD

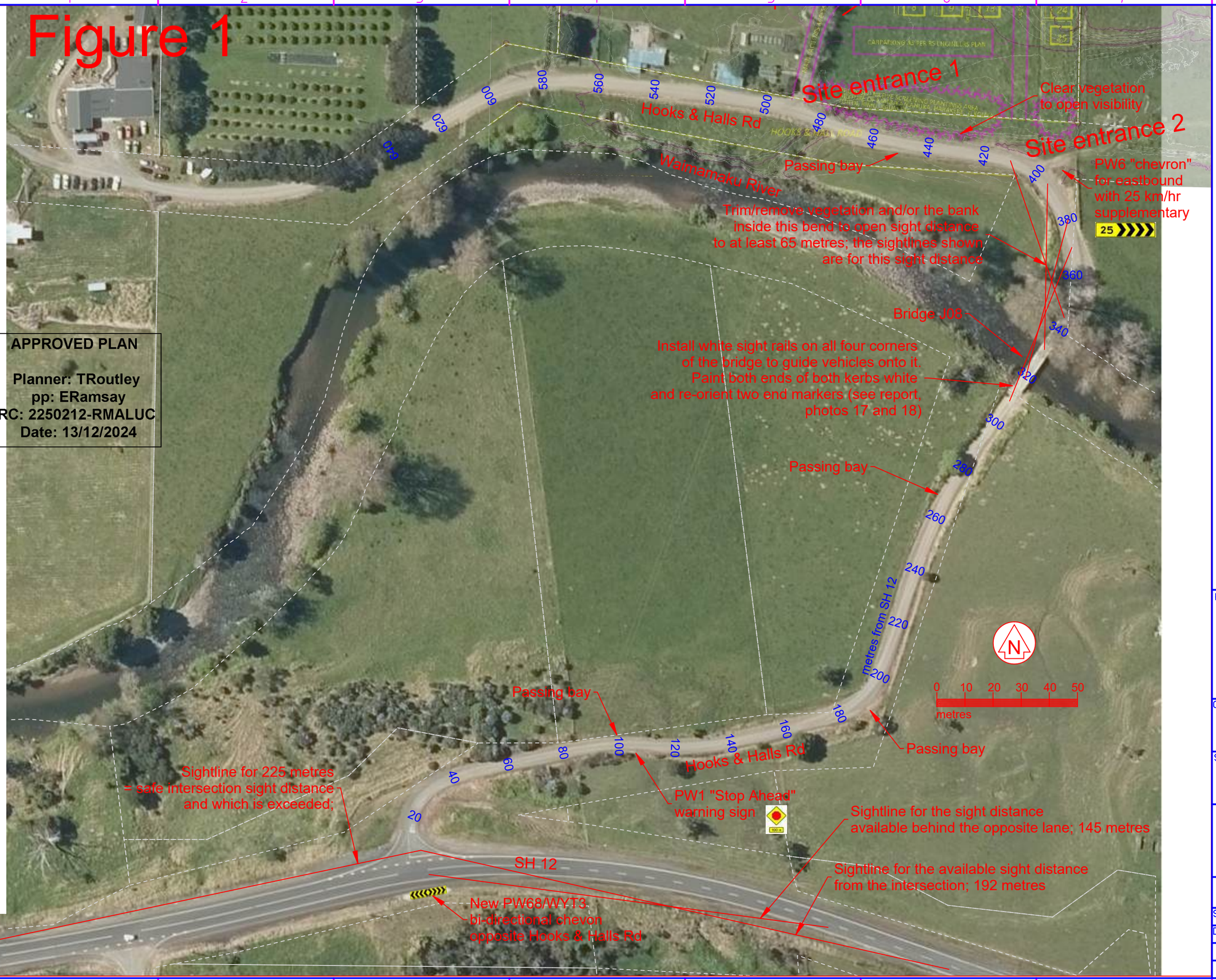
	Name	Date
Survey		
Design		
Drawn	SL	12.11.24
Approved		
Rev	SL	06.12.24

Scheme 1.LCD

ORIGINAL
SCALE *1:750*
SHEET SIZE *A3*

Surveyors Ref. No: *10669*
Series
Sheet of

Figure 1



APPROVED PLAN

Planner: TRoutley
pp: ERamsay
RC: 2250212-RMALUC
Date: 13/12/2024

Plan
Hooks & Halls Rd Safety Measures

engineering outcomes
PO Box 3048,
Onerahi
Whangarei 0142
Tel. 09 436 5534
info@e-outcomes.co.nz

Project
Retirement & Elder Care
Hooks & Halls Rd
Waimamaku

Client
Tiopira Taniera Hapu Trust

Surveyed by
Thomson Survey
NRC
LINZ

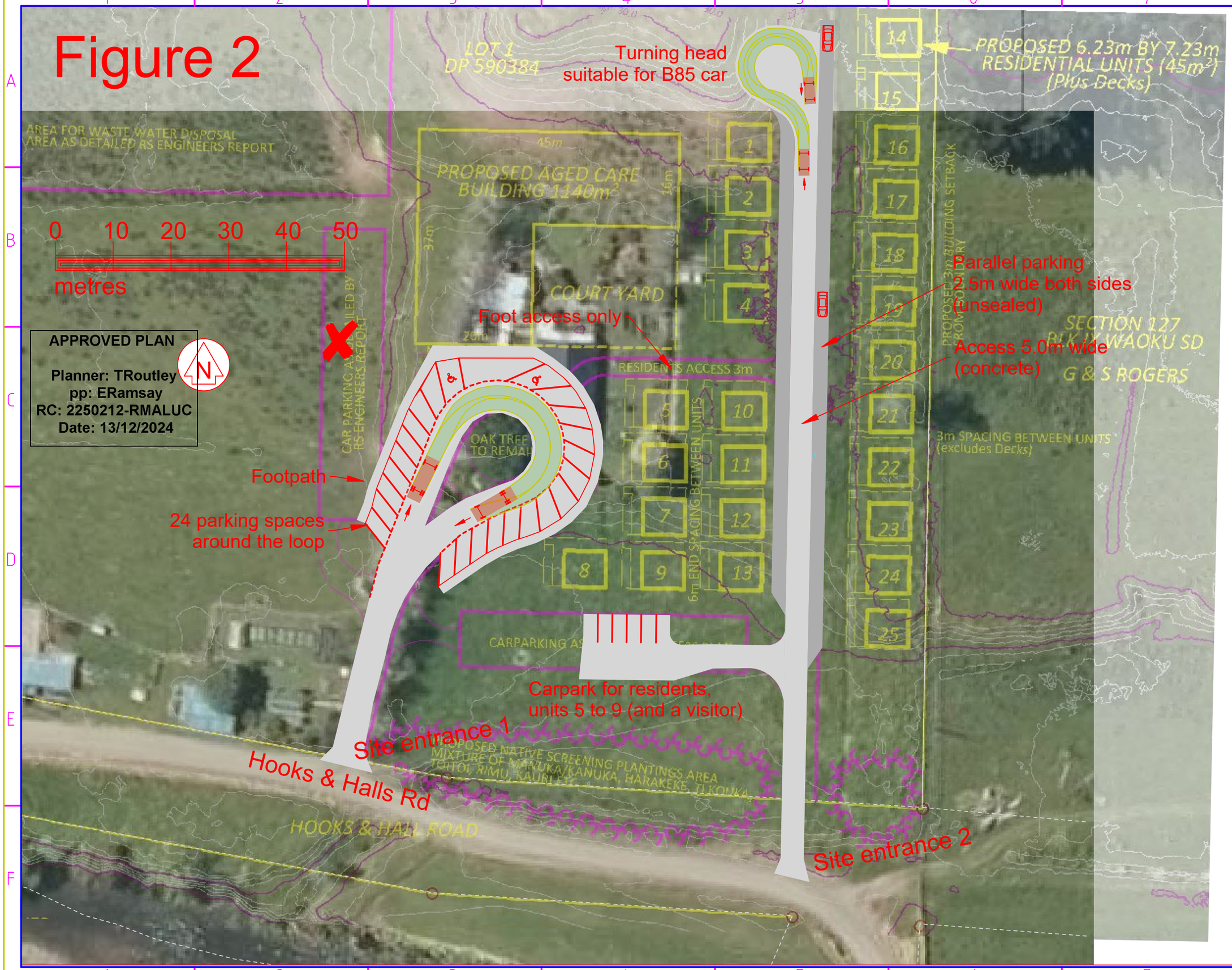
Amendments

Council ref.

Scale 1: 1250 at A4

Date 03-Dec-2024 13:57:58

Figure 2



Plan
Parking
Internal

engineering outcomes
PO Box 3048,
Onerahi
Whangarei 0142
Tel. 09 436 5534
info@e-outcomes.co.nz

Project
Retirement & Elder Care
Hooks & Halls Rd
Waimamaku

Client
Tiopira Taniera Hapu Trust

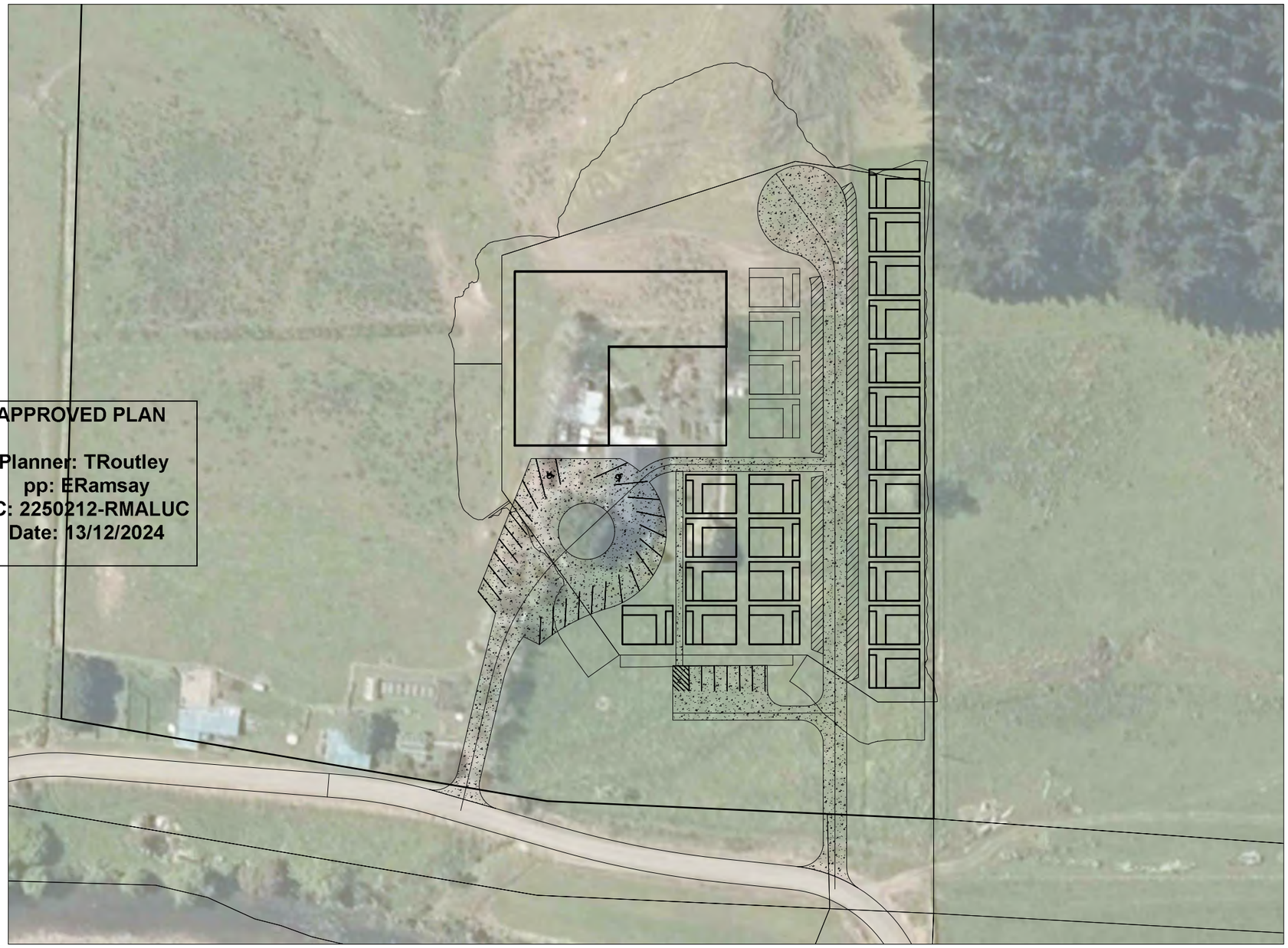
Surveyed by
Thomson Survey
NRC
LINZ

Amendments

Council ref.

Scale 1: 600 at A4

Date 03-Dec-2024 13:58:00



APPROVED PLAN

Planner: TRoutley
pp: ERamsay
RC: 2250212-RMALUC
Date: 13/12/2024

DETAILS		
JOB NO.	19340	
DATE	04/12/2024	
REVISION	B	RC RFIs

SHEET INDEX			
NO.	SHEET NAME	REV	DATE
C01	EXISTING FEATURES PLAN	B	07/11/2024
C02	OVERALL SITE PLAN	B	07/11/2024
C03	SITE PLAN	B	07/11/2024
C04	CUT/FILL PLAN	B	07/11/2024
C05	TYPICAL SECTION DETAILS	B	07/11/2024
C06	ROAD 2 LONGITUDINAL SECTION	B	07/11/2024
C07	ROAD 3 LONGITUDINAL SECTION	B	07/11/2024
C08	WATER/ROOFWATER LAYOUT PLAN	B	07/11/2024
C09	STORMWATER LAYOUT PLAN	B	07/11/2024
C10	WASTEWATER MANGAMENT LAYOUT PLAN	B	07/11/2024
C11	STORMWATER TYPICAL DETAILS	B	07/11/2024

PROPOSED DEVELOPMENT

CONCEPT CIVIL DRAWINGS

TIOPIRA TANIERA HAPU TRUST

HOOKS AND HALL ROAD, WAIMAMAKU

RS Eng Ltd
09 438 3273
office@RSEng.co.nz
2 Seaview Road,
Whangarei 0110

APPROVED PLAN

Planner: TRoutley
pp: ERamsay
RC: 2250212-RMALUC
Date: 13/12/2024

NOTES:

- All services should be located on-site prior to commencement of works.
- All works to comply with all relevant local authority by-laws and council regulations where applicable.
- Contractors to confirm all dimensions on site prior to commencing any work.
- Do not scale off drawings.
- These drawings are to be read in conjunction with specifications - plans take precedence.

Contour Interval: 2.0m
Vertical Datum: NZVD2016
Survey Data Source: LiDAR (2018)

0 20 40
PLAN 1:2000

WORK IN PROGRESS

RS Eng Ltd
09 438 3273
office@RSEng.co.nz
2 Seaview Road,
Whangarei 0110

PROPOSED DEVELOPMENT
CONCEPT CIVIL DRAWINGS
EXISTING FEATURES PLAN

Client: TIOPIRA TANIERA HAPU TRUST

Location: HOOKS AND HALL ROAD
WAIMAMAKU

Date	Rev	Notes
04/12/2024	B	RC RFIs
08/11/2024	A	For EPA

Drawn by: NW | Reviewed by: NW | Approved by: MJ

Scale: 1:2,000
Original: A3
Job No.: 19340
Rev No.: B
Sheet No.: C01

NOTES:

- All services should be located on-site prior to commencement of works.
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WORK IN PROGRESS

0 40 80
PLAN 1:4000

RS Eng Ltd
09 438 3273
office@RSEng.co.nz
2 Seaview Road,
Whangarei 0110

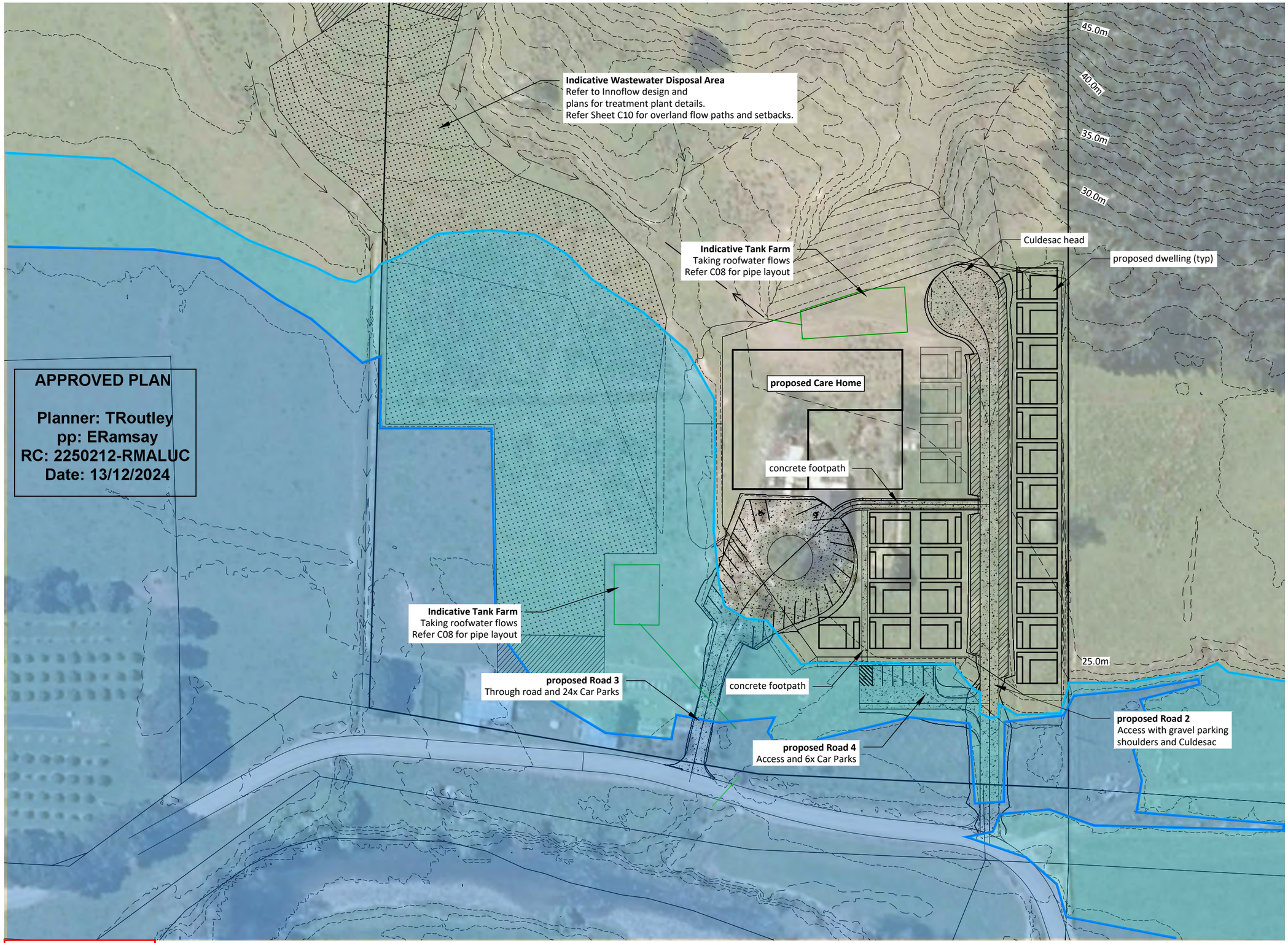
PROPOSED DEVELOPMENT
CONCEPT CIVIL DRAWINGS
OVERALL PLAN

Client: TIOPIRA TANIERA HAPU TRUST
Location: HOOKS AND HALL ROAD WAIMAMAKU

Date	Rev	Notes
04/12/2024	B	RC RFIs
08/11/2024	A	For EPA

Drawn by: NW | Reviewed by: NW | Approved by: MJ

Scale: 1:4,000
Rev No.: B
Original: A3
Sheet No.: C02
Job No.: 19340



NOTES:

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- These drawings are to be read in conjunction with specifications - plans take precedence.

LEGEND

- Overland Flow Path
- pr Concrete Road/CarPark
- pr Gravel Shoulder - Parking
- 25,000L Rainwater storage tank
- Approx Flood extent - 5% post development
- Approx Flood extent - 1% post development

Contour Interval: 1.0m
Vertical Datum: NZVD2016
Survey Data Source: LiDAR (2018)

0 10 20
PLAN 1:1000

WORK IN PROGRESS

RS Eng Ltd
09 438 3273
office@RSEng.co.nz
2 Seaview Road,
Whangarei 0110

PROPOSED DEVELOPMENT
CONCEPT CIVIL DRAWINGS
SITE/DESIGN CONTOURS PLAN

Client: TIOPIRA TANIERA HAPU TRUST

Location: HOOKS AND HALL ROAD
WAIMAMAKU

Date	Rev	Notes
04/12/2024	B	RC RFIs
08/11/2024	A	For EPA

Drawn by: NW | Reviewed by: NW | Approved by: MJ

Scale: 1:1,000
Original: A3
Job No.: 19340
Rev No.: B
Sheet No.: C03

ID	Minimum Elevation	Maximum Elevation	Color Scheme
1	-5.498m	-4.000m	
2	-4.000m	-3.000m	
3	-3.000m	-2.000m	
4	-2.000m	-1.000m	
5	-1.000m	-0.100m	
6	0.100m	0.800m	
7	0.800m	1.600m	
8	1.600m	2.307m	

CUT/FILL DEPTHS

Earthworks Volumes within Site only:
5,950m³ Cut
7,100m³ Fill

Max 5.4m vertical cut.

Effluent field to be mounted in low-lying area to maintain groundwater separation as per three waters report

APPROVED PLAN

Planner: TRoutley
pp: ERamsay
RC: 2250212-RMALUC
Date: 13/12/2024

45.0m
40.0m
35.0m
30.0m
25.0m

5.4m Cut
2.3m Fill
1.9m Fill

proposed Care Home

proposed road/car park (3)
Refer Sheet C05

proposed car park (4)
Refer Sheet C05

proposed road (2)
Refer Sheet C05

proposed road upgrade (1)
Refer 'Engineering Outcomes' Traffic Report

NOTES:

- All services should be located on-site prior to commencement of works.
- All works to comply with all relevant local authority by-laws and council regulations where applicable.
- Contractors to confirm all dimensions on site prior to commencing any work.
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LEGEND

- Overland Flow Path
- pr Concrete Road/CarPark
- pr Gravel Road
- 25,000L Rainwater tanks area
- Cut/Fill Spot Depth
- Subsoil Drains
- Potential Retaining Wall Location

Contour Interval: 1.0m
Vertical Datum: NZVD2016
Survey Data Source: LiDAR (2018)

0 10 20
PLAN 1:1000

WORK IN PROGRESS

RS Eng Ltd
09 438 3273
office@RSEng.co.nz
2 Seaview Road,
Whangarei 0110

PROPOSED DEVELOPMENT
CONCEPT CIVIL DRAWINGS
CUT/FILL PLAN

Client: TIOPIRA TANIERA HAPU TRUST
Location: HOOKS AND HALL ROAD WAIMAMAKU

Date	Rev	Notes
04/12/2024	B	RC RFIs
08/11/2024	A	For EPA

Drawn by: NW | Reviewed by: NW | Approved by: MJ

Scale: 1:1,000
Original: A3
Job No.: 19340
Rev No.: B
Sheet No.: C04

NOTES:

- All services should be located on-site prior to commencement of works.
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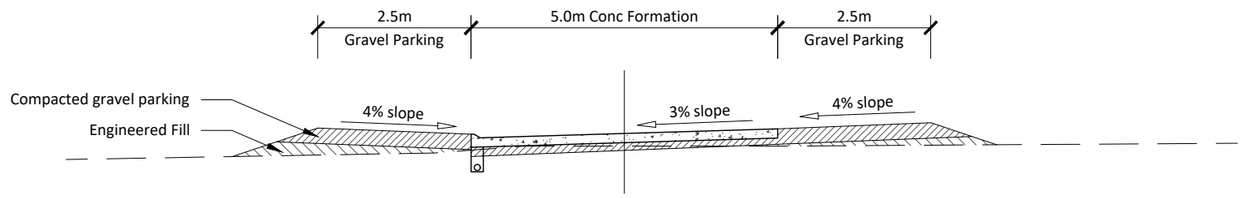
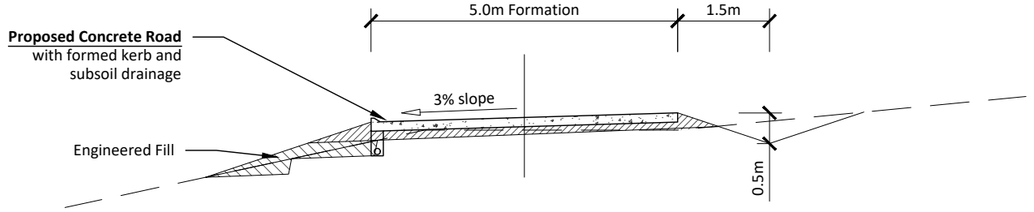


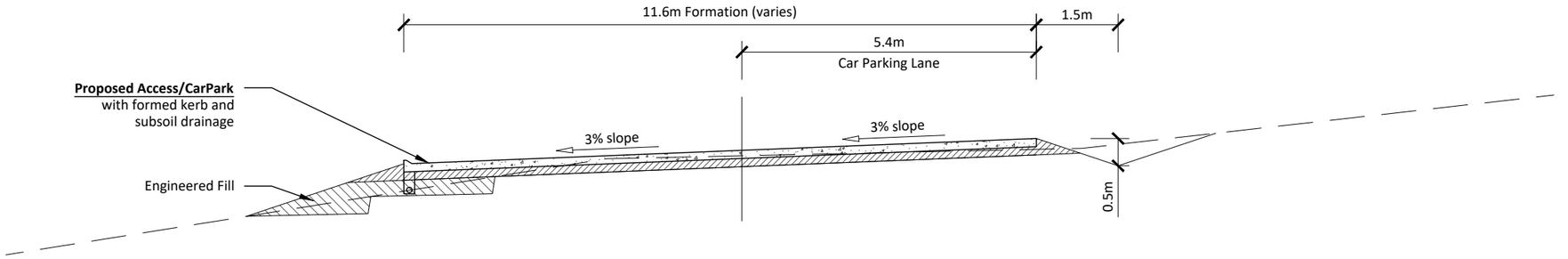
PROPOSED ROAD (2) - TYPICAL CROSS SECTION

1:100



PROPOSED CONCRETE ACCESS ROAD - TYPICAL CROSS SECTION

1:100



PROPOSED CONCRETE CAR PARKING - TYPICAL CROSS SECTION

1:100

APPROVED PLAN

Planner: TRoutley
pp: ERamsay
RC: 2250212-RMALUC
Date: 13/12/2024

WORK IN PROGRESS

0 1.0 2.0
SECTION 1:100

RS Eng Ltd
09 438 3273
office@RSEng.co.nz
2 Seaview Road,
Whangarei 0110

PROPOSED DEVELOPMENT
CONCEPT CIVIL DRAWINGS
ROAD TYPICAL DETAILS

Client: TIOPIRA TANIERA HAPU TRUST

Location: HOOKS AND HALL ROAD
WAIMAMAKU

Date	Rev	Notes
04/12/2024	B	RC RFIs
08/11/2024	A	For EPA

Drawn by: NW | Reviewed by: NW | Approved by: MJ

Scale: 1:100
Original: A3
Job No.: 19340
Rev No.: B
Sheet No.: C05

NOTES:

- All services should be located on-site prior to commencement of works.
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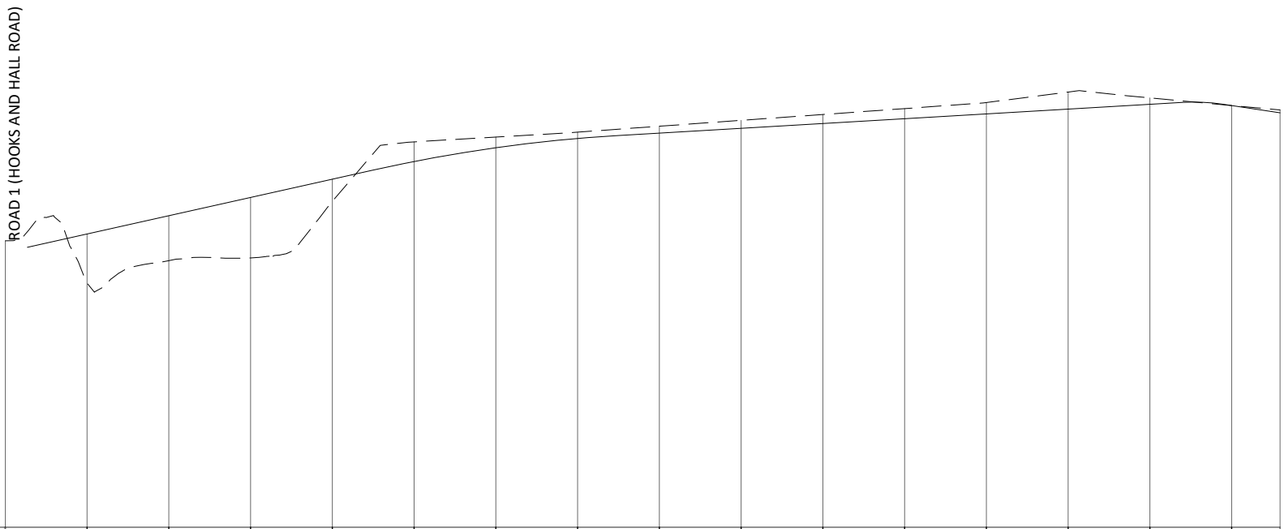
APPROVED PLAN

Planner: TRoutley
pp: ERamsay
RC: 2250212-RMALUC
Date: 13/12/2024



Datum 15.000m R.L.														
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DEPTH	1.207	1.098	1.480	0.540	-0.481	-0.261	-0.156	-0.168	-0.194	-0.220	-0.247	-0.277	-0.416	-0.155	-0.001
EXISTING LEVELS	20.966	21.521	21.586	22.972	24.425	24.542	24.663	24.807	24.951	25.095	25.238	25.386	25.643	25.499	25.314
VERT. GEOMETRY	4.46%		R912.75m			1.18%							R119.75m	3.00%	
HORIZ. GEOMETRY	129.94m Lth.												R9.38m	16.60m Lth.	
CHAINAGE	10.000	20.000	30.000	40.000	50.000	60.000	70.000	80.000	90.000	100.000	110.000	120.000	130.000	140.000	150.000

LEGEND

— — — ex Surface
——— pr Design Surface

*Refer Plan on C03

WORK IN PROGRESS

0 1.5 3 SECTION 1:150

0 7.5 15 SECTION 1:750

RS Eng Ltd
09 438 3273
office@RSEng.co.nz
2 Seaview Road,
Whangarei 0110

PROPOSED DEVELOPMENT
CONCEPT CIVIL DRAWINGS
ROAD 2 LONG SECTION

Client: TIOPIRA TANIERA HAPU TRUST
Location: HOOKS AND HALL ROAD WAIMAMAKU

Date	Rev	Notes
04/12/2024	B	RC RFIs
08/11/2024	A	For EPA

Drawn by: NW | Reviewed by: NW | Approved by: MJ

Scale 1:750H 1:150V | Rev No. B
Original A3 | Sheet No. C06
Job No. 19340

NOTES:

- All services should be located on-site prior to commencement of works.
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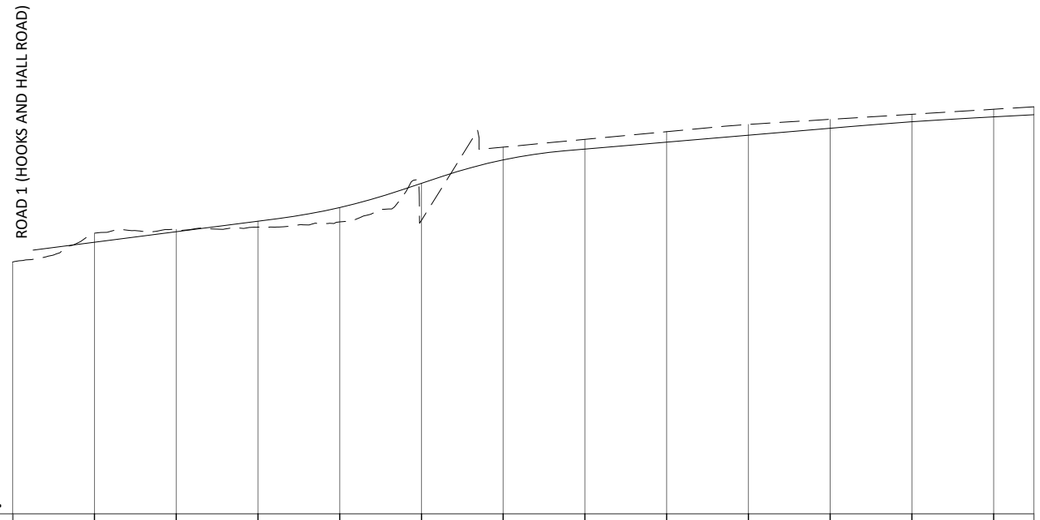
APPROVED PLAN

Planner: TRoutley
pp: ERamsay
RC: 2250212-RMALUC
Date: 13/12/2024



Datum 15.000m R.L.

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EXISTING LEVELS	21.864	21.957	22.014	22.141	22.180	23.968	24.158	24.347	24.523	24.648	24.771	24.894
VERT. GEOMETRY	2.57%		R365.31m	6.68%	R301.28m		1.70%		R2391.86m	1.07%		
HORIZ. GEOMETRY	28.52m Lth.		R32.42m		22.72m Lth.	R7.53m		33.72m Lth.				
CHAINAGE	10.000	20.000	30.000	40.000	50.000	60.000	70.000	80.000	90.000	100.000	110.000	120.000

LEGEND

— — — ex Surface
——— pr Design Surface

*Refer Plan on C03

WORK IN PROGRESS

0 1.5 3 SECTION 1:150

0 7.5 15 SECTION 1:750

RS Eng Ltd
09 438 3273
office@RSEng.co.nz
2 Seaview Road,
Whangarei 0110

PROPOSED DEVELOPMENT
CONCEPT CIVIL DRAWINGS
ROAD 3 LONG SECTION

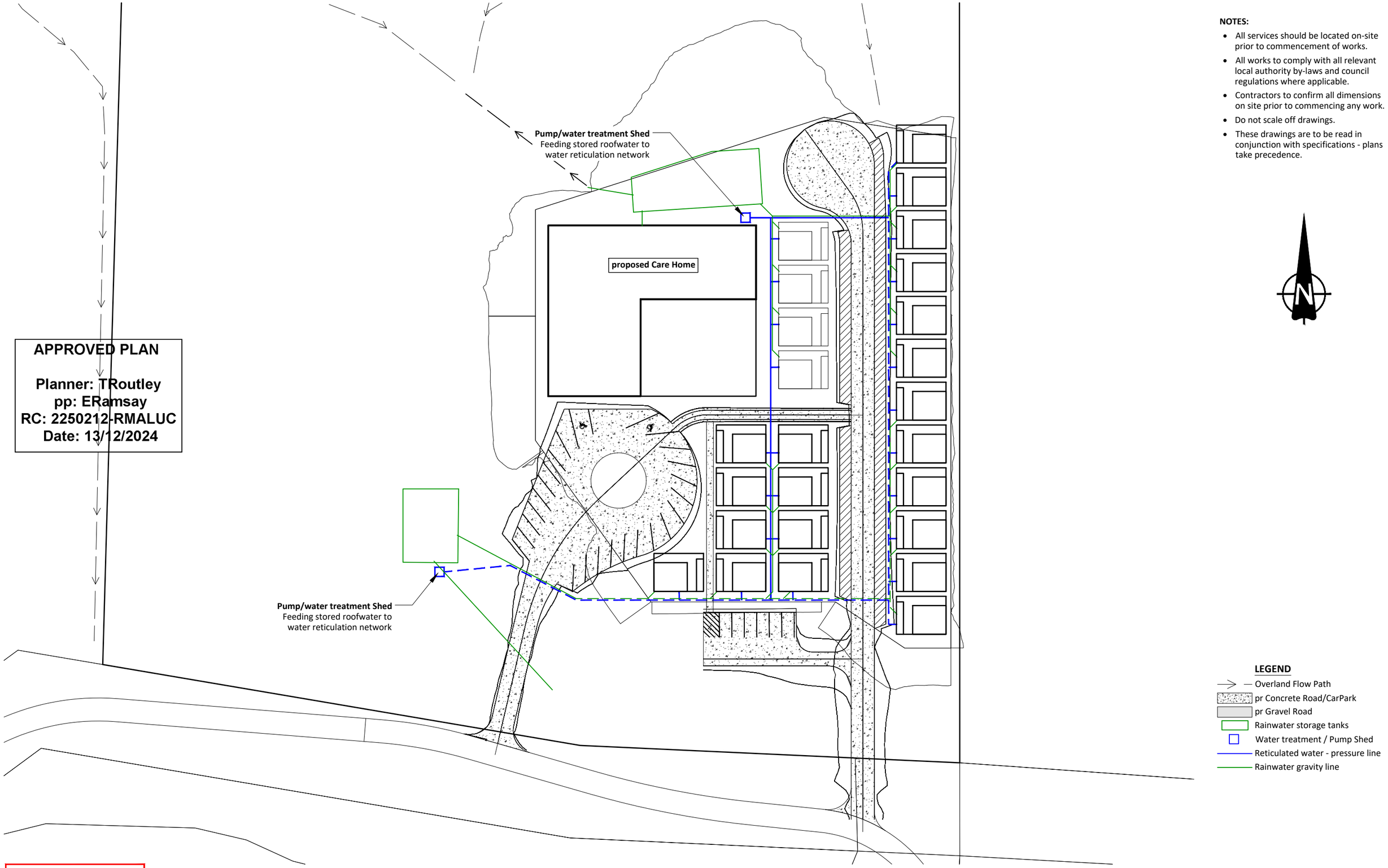
Client
TIOPIRA TANIERA HAPU TRUST

Location
HOOKS AND HALL ROAD
WAIMAMAKU

Date	Rev	Notes
04/12/2024	B	RC RFIs
08/11/2024	A	For EPA

Drawn by: NW | Reviewed by: NW | Approved by: MJ

Scale 1:750H 1:150V
Rev No. B
Original A3
Sheet No. C07
Job No. 19340



APPROVED PLAN

Planner: TRoutley
pp: ERamsay
RC: 2250212-RMALUC
Date: 13/12/2024

NOTES:

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LEGEND

- Overland Flow Path
- pr Concrete Road/CarPark
- pr Gravel Road
- Rainwater storage tanks
- Water treatment / Pump Shed
- Reticulated water - pressure line
- Rainwater gravity line

WORK IN PROGRESS

0 7.5 15
PLAN 1:750

RS Eng Ltd
09 438 3273
office@RSEng.co.nz
2 Seaview Road,
Whangarei 0110

PROPOSED DEVELOPMENT
CONCEPT CIVIL DRAWINGS
ROOFWATER/WATER SUPPLY PLAN

Client: TIOPIRA TANIERA HAPU TRUST

Location: HOOKS AND HALL ROAD
WAIMAMAKU

Date	Rev	Notes
04/12/2024	B	RC RFIs
08/11/2024	A	For EPA

Drawn by: NW | Reviewed by: NW | Approved by: MJ

Scale: 1:750
Original: A3
Job No.: 19340
Rev No.: B
Sheet No.: C08

NOTES:

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- Contractors to confirm all dimensions on site prior to commencing any work.
- Do not scale off drawings.
- These drawings are to be read in conjunction with specifications - plans take precedence.

APPROVED PLAN

Planner: TRoutley
pp: ERamsay
RC: 2250212-RMALUC
Date: 13/12/2024

30.0m

proposed Care Home

proposed Road 2
Access and Culdesac

proposed Road 4
Access and 6x Car Parks

25.0m

Tank overflow outlet

proposed Road 3
Through road and 24x Car Parks

Planted treatment Swale Drain - directing flows to existing culvert

existing culvert

LEGEND

- Overland Flow Path
- pr Concrete Road/CarPark
- pr Gravel Road
- Subsoil Drainage
- Planted Treatment Swale
- pr Stormwater Culvert
- pr Pipe Flows
- pr Road Surface Flows
- pr Culvert Headwall
- pr Stormwater Cesspit

Contour Interval: 1.0m
Vertical Datum: NZVD2016
Survey Data Source: LiDAR (2018)

0 7.5 15
PLAN 1:750

WORK IN PROGRESS

RS Eng Ltd
09 438 3273
office@RSEng.co.nz
2 Seaview Road,
Whangarei 0110

PROPOSED DEVELOPMENT
CONCEPT CIVIL DRAWINGS
STORMWATER LAYOUT PLAN

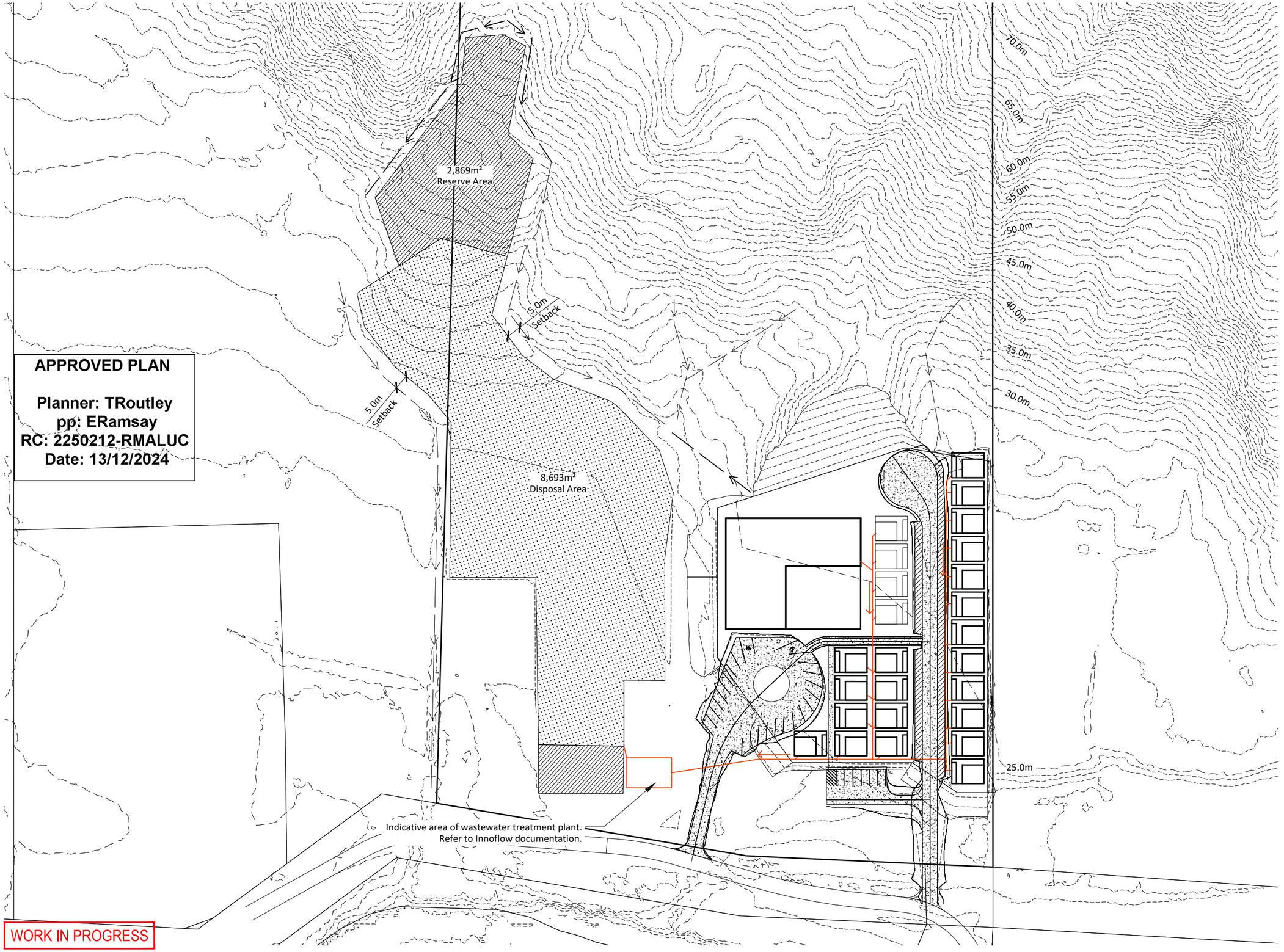
Client: TIOPIRA TANIERA HAPU TRUST

Location: HOOKS AND HALL ROAD
WAIMAMAKU

Date	Rev	Notes
04/12/2024	B	RC RFIs
08/11/2024	A	For EPA

Drawn by: NW | Reviewed by: NW | Approved by: MJ

Scale: 1:750
Original: A3
Job No.: 19340
Rev No.: B
Sheet No.: C09



APPROVED PLAN

Planner: TRoutley
pp: ERamsay
RC: 2250212-RMALUC
Date: 13/12/2024

WORK IN PROGRESS

NOTES:

- All services should be located on-site prior to commencement of works.
- All works to comply with all relevant local authority by-laws and council regulations where applicable.
- Contractors to confirm all dimensions on site prior to commencing any work.
- Do not scale off drawings.
- These drawings are to be read in conjunction with specifications - plans take precedence.

LEGEND

- Overland Flow Path
- Surface water cutoff drain
- pr Concrete Road/CarPark
- pr Gravel Road
- pr WWM Disposal Area
- WWM Reserve Area (33%)
- Gravity Sewer Network
- Indicative Sewer Treatment Plant

Contour Interval: 1.0m
Vertical Datum: NZVD2016
Survey Data Source: LiDAR (2018)

0 12.5 25
PLAN 1:1250

RS Eng Ltd
09 438 3273
office@RSEng.co.nz
2 Seaview Road,
Whangarei 0110

PROPOSED DEVELOPMENT
CONCEPT CIVIL DRAWINGS
WASTEWATER LAYOUT PLAN

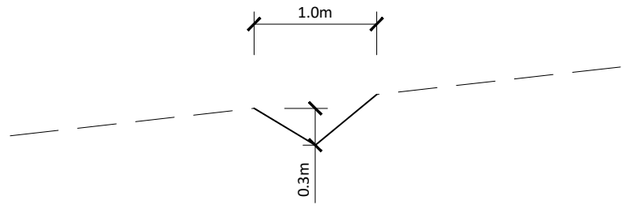
Client: TIOPIRA TANIERA HAPU TRUST

Location: HOOKS AND HALL ROAD
WAIMAMAKU

Date	Rev	Notes
04/12/2024	B	RC RFIs
08/11/2024	A	For EPA

Drawn by: NW | Reviewed by: NW | Approved by: MJ

Scale: 1:1,250
Original: A3
Job No.: 19340
Rev No.: B
Sheet No.: C10



SW CUTOFF DRAIN - TYPICAL SECTION

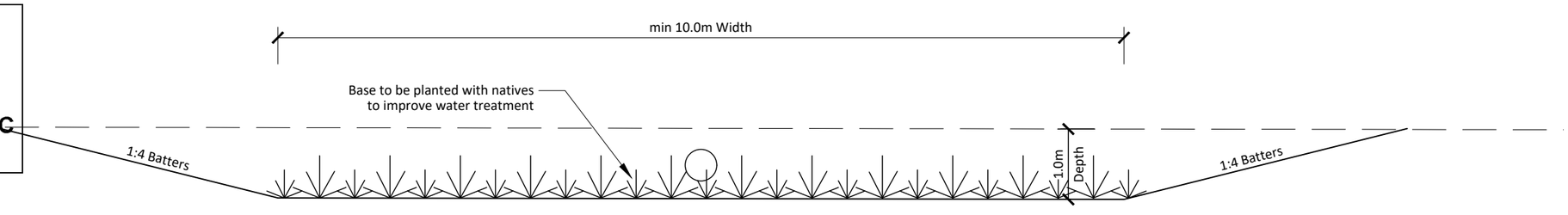
1:50

NOTES:

- All services should be located on-site prior to commencement of works.
- All works to comply with all relevant local authority by-laws and council regulations where applicable.
- Contractors to confirm all dimensions on site prior to commencing any work.
- Do not scale off drawings.
- These drawings are to be read in conjunction with specifications - plans take precedence.

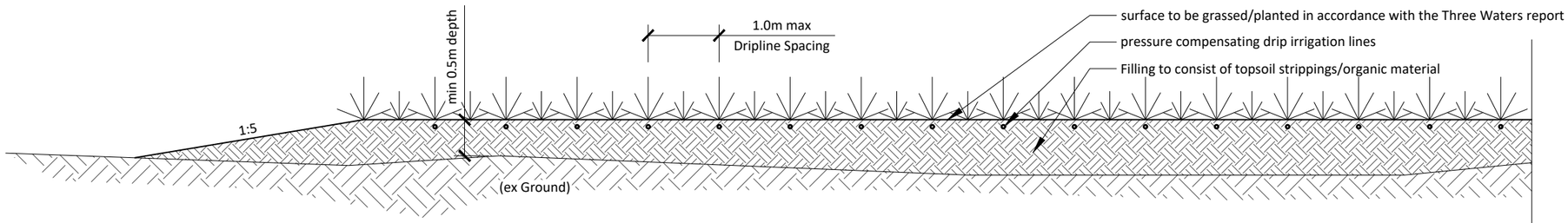
APPROVED PLAN

Planner: TRoutley
pp: ERamsay
RC: ~~2250212-RMALUC~~
Date: 13/12/2024



SW TREATMENT SWALE - TYPICAL SECTION

1:75



MOUNDED WASTEWATER DISPOSAL FIELD - TYPICAL SECTION

1:75

WORK IN PROGRESS

0 0.5 1.0 SECTION 1:50 0 0.75 1.5 SECTION 1:75

RS Eng Ltd
09 438 3273
office@RSEng.co.nz
2 Seaview Road,
Whangarei 0110

PROPOSED DEVELOPMENT
CONCEPT CIVIL DRAWINGS
STORMWATER TYPICAL DETAILS

Client: TIOPIRA TANIERA HAPU TRUST

Location: HOOKS AND HALL ROAD
WAIMAMAKU

Date	Rev	Notes
04/12/2024	B	RC RFIs
08/11/2024	A	For EPA

Drawn by: NW | Reviewed by: NW | Approved by: MJ

Scale: As Shown
Original: A3
Job No.: 19340
Rev No.: B
Sheet No.: C11

APPENDIX 2

RECORD OF TITLE

RECORD OF TITLE
UNDER LAND TRANSFER ACT 2017
FREEHOLD

Search Copy

R.W. Muir
Registrar-General
of Land

Identifier **1128616**

Land Registration District **North Auckland**

Date Issued 27 October 2023

Prior References
NA54D/1131

Estate Fee Simple

Area 10.5454 hectares more or less

Legal Description Lot 1 Deposited Plan 590384

Registered Owners

Edward Frank Harington Thompson, Robyn Flanagan Thompson and Glorianne Selise Parkes

---

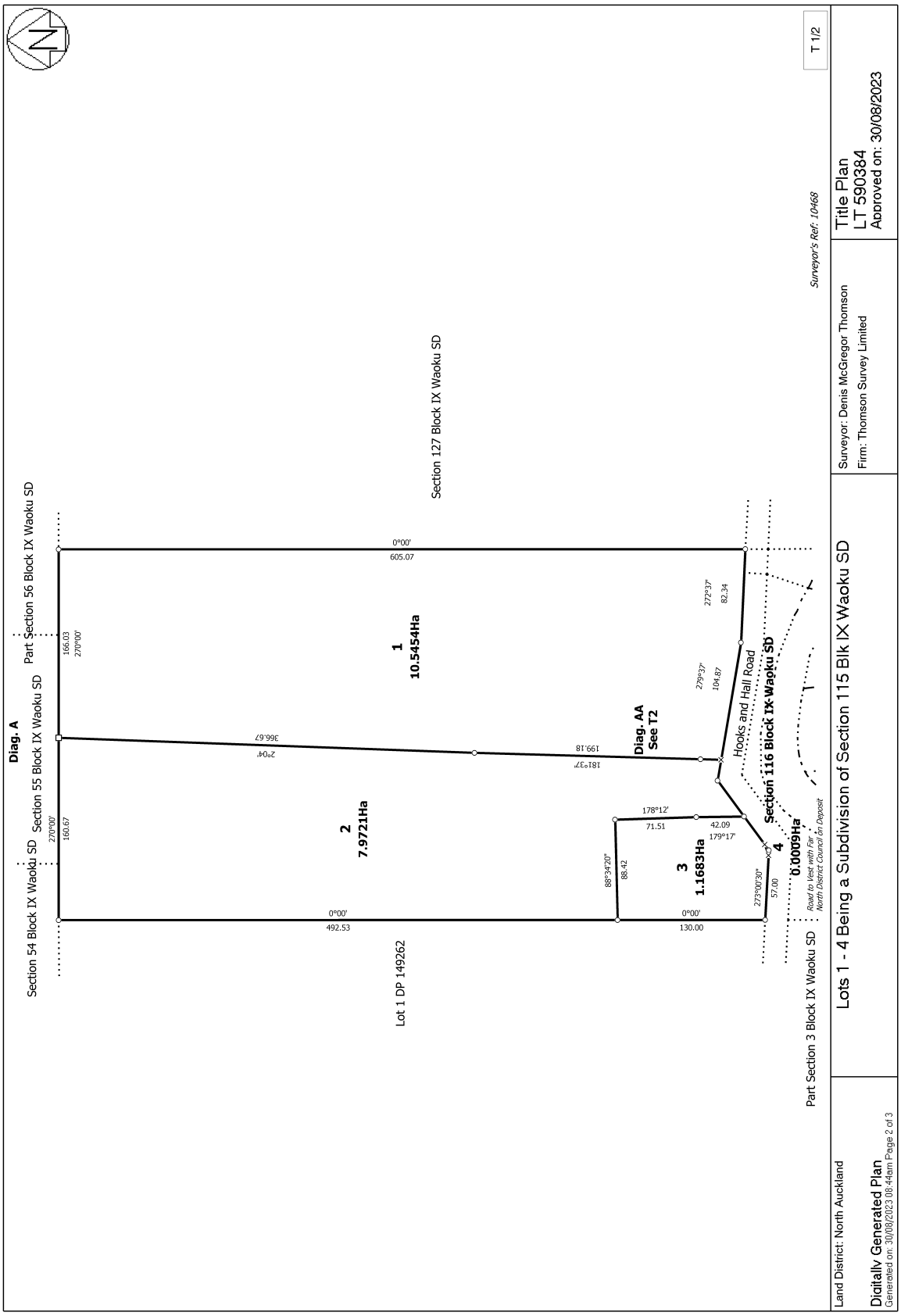
Interests

Subject to Section 8 Mining Act 1971

Subject to Section 5 Coal Mines Act 1979

12140044.3 Mortgage to Fico Finance Limited - 10.6.2021 at 1:10 pm

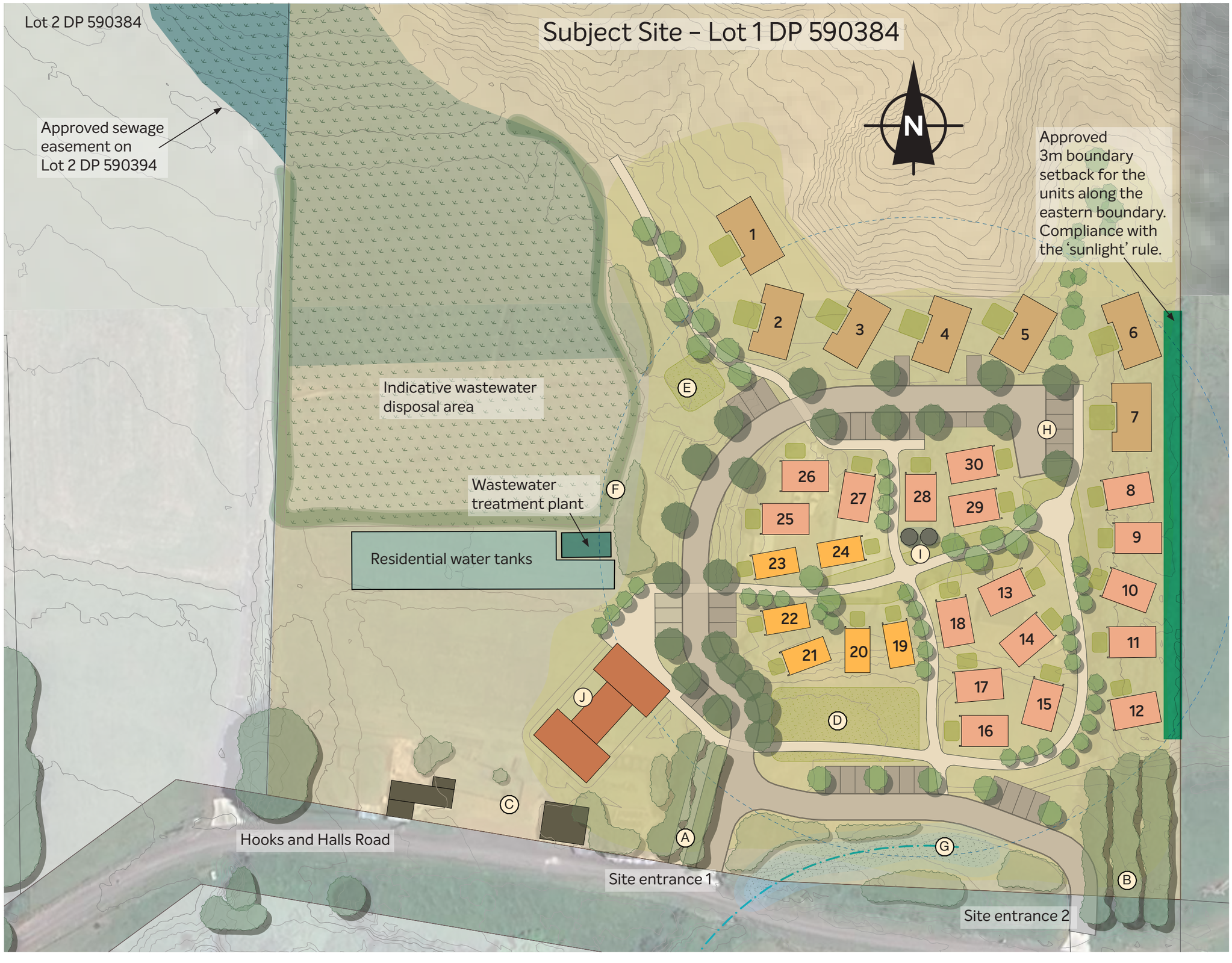
12863748.5 Consent Notice pursuant to Section 221 Resource Management Act 1991 - 27.10.2023 at 3:12 pm


T 1/2
Surveyor's Ref: 10468
Title Plan
LT 590384
Approved on: 30/08/2023
Surveyor: Denis McGregor Thomson
Firm: Thomson Survey Limited
Lots 1 - 4 Being a Subdivision of Section 115 Blk IX Waoku SD
Land District: North Auckland
Digitally Generated Plan
Generated on: 30/08/2023 08:44am Page 2 of 3
Section 54 Block IX Waoku SD
Section 55 Block IX Waoku SD
Part Section 56 Block IX Waoku SD
Section 127 Block IX Waoku SD
Lot 1 DP 149262
Part Section 3 Block IX Waoku SD
Section 116 Block IX Waoku SD
Hooks and Hall Road
Diag. A
Diag. AA
See T2
1
10.5454Ha
2
7.9721Ha
3
1.1683Ha
4
0.0009Ha
Road to Vest with Far North District Council on Deposit
0°00'
605.07
270°00'
166.03
270°00'
160.67
270°00'
0°00'
492.53
0°00'
130.00
366.67
270°4'
199.18
181°37'
272°37'
82.34
279°37'
104.87
178°12'
71.51
42.09
179°17'
88°34'20"
88.42
273°00'30"
57.00

APPENDIX 3

SITE MASTERPLAN

52 Hooks and Halls Road, Waimamaku.



REV	ISSUE	DATE
A	Developed Design	01/04/2025

Legend:

- (A) Pathway within Existing Trees
- (B) Retain Existing Trees
- (C) Rongōa
- (D) Mahinga Kai
- (E) Play Area
- (F) Bund / Planted Landscape
- (G) OLFP Rocky/Planted Landscape
- Specimen Trees per Client Specs
- (H) Total Number of Car Spaces 35
- (I) Fire Fighting Water Tanks
- 1 Bedroom Typology
- 2 Bedroom Typology
- 3 Bedroom Typology
- (J) Manager's House and Office

WEIR +

TITLE
Site Masterplan

SCALE (A3)
1 : 750

NORTH

PROJECT
Waimamaku Affordable & Kaumātua Housing

CLIENT
Tiopira Taniera Hapū Trust

JOB NO
24-010

STATUS
Developed Design

DRAWING NO
400

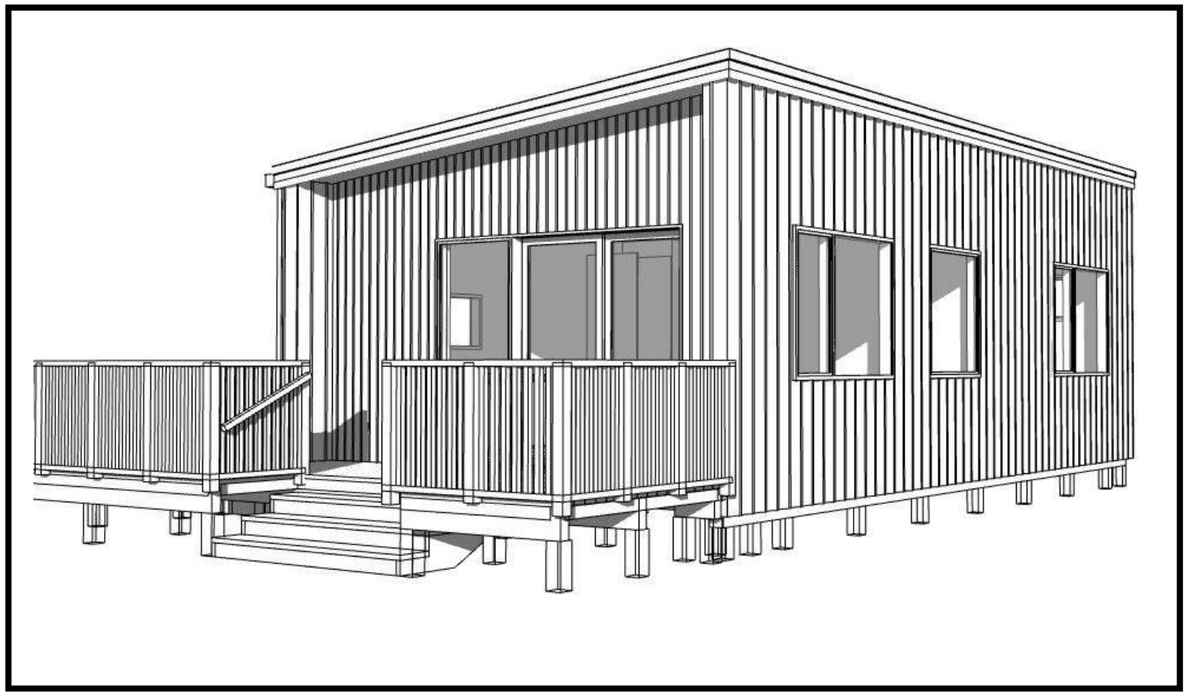
REVISION
A

DATE
01/04/2025

APPENDIX 4

RESIDENTIAL UNITS – CONCEPT PLANS

- **WITARINA - 45M2 UNIT**
- **TIOPIRA - 60M2 UNIT**
- **WAIPUIA - 60M2 UNIT**
- **CORRIN - 105M2 UNIT**



CONTENTS / SHEET INDEX:

WITARINA AFFORDABLE KITSET

PROPOSED DWELLING AT: 52 HOOKS AND HALL ROAD, WAIMAMAKU, NORTHLAND

DATE	ISSUE ID	REVISION NOTES:	
26-02-25	CONCEPT	CPT-01	INITIAL CONCEPT PLANS
04-03-25	PRELIM.	PRE-01	PRELIMINARY PLANS FOR EXTERNAL CONSULTANTS

PRELIMINARY ONLY
FOR DISCUSSION PURPOSE ONLY

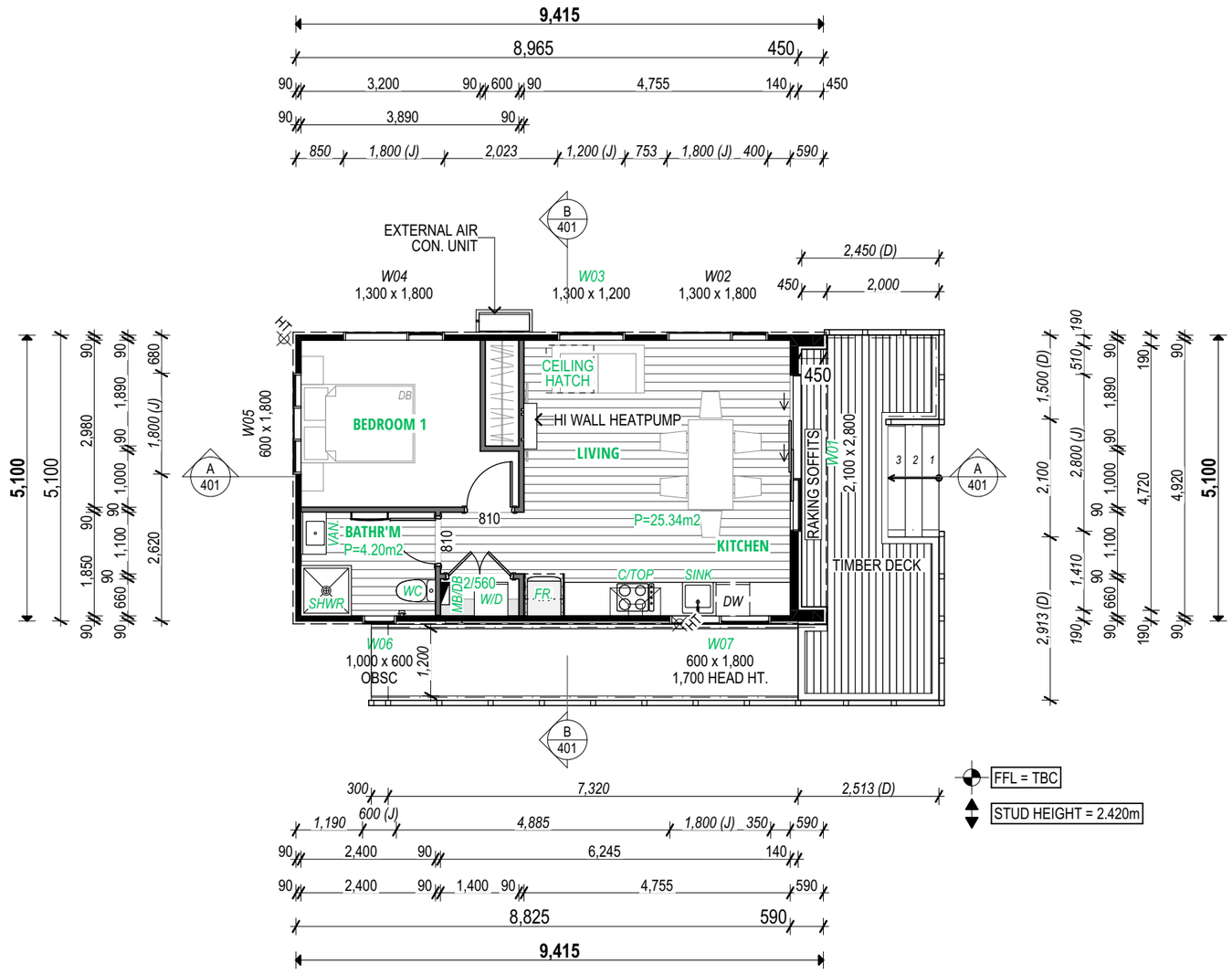
INFORMATION REQUIRED:
INFORMATION REQUIRED TO CONFIRM DESIGN REQUIREMENTS:
- TITLE PLAN (INC. SITE/LOT BDY LENGTHS AND BEARING ANGLES)
- ON-SITE WW/SW ENG CONFIRMATION
- GEOTECH REPORT

! IMPORTANT !
PRICING NOTES AND ASSUMPTIONS

- ENGINEERED TIMBER SUBFLOOR TBC
- FINAL ENGINEERING TBC
- CEILING DIAPHRAGM TO LIVING AREA
- V. HIGH WIND ZONE - REDUCED STUD CRS

ALL PLANS TO BE CROSS REFERENCED WHERE REQUIRED, IF ANY CONFLICTS ARE FOUND DESIGNER SHALL BE CONTACTED PRIOR TO FINAL PRICE CONFIRMATION

Kit HOMES



ALL PLANS TO BE READ IN CONJUNCTION WITH 'KEY NOTES SUMMARY' PAGE

- SUBJECT TO COUNCIL APPROVAL
- DO NOT SCALE OFF DRAWINGS-REFER TO WRITTEN DIMENSIONS
- IF ANY CHANGES ARE MADE TO THE PLANS WITHOUT CONSULTING WITH THE DESIGNER, NO RESPONSIBILITY SHALL BE HELD BY THE DESIGNER

ELEVATION KEY

CLIMATE ZONE:	**1**
WIND ZONE:	**EX. HIGH**
EARTHQ ZONE:	**1**
EXPOS. ZONE:	**D**
SNOW LOAD:	**N/A**

FLOOR AREA SUMMARY:

O/FRAME AREA	45.89m²
O/CLADDING AREA	47.16m²
O/ROOF AREA	49.54m²

KEY / LEGEND:

*E- = REFER TO EXTERNAL INFORMATION EG: ENGINEERS DESIGN

= CUPBOARD SHELVES

= BEDROOM WARDROBE SHELF & RAIL

BUILDING SUMMARY NOTES:

STUD HEIGHT:	= 2.420m
UNLESS NOTED OTHERWISE, EXTERNAL JOINERY HEIGHT	= 2.100m
INTERNAL DOOR LEAF HEIGHT	= 1.980m
ROOF PITCH:	= 6°

GENERAL NOTES:

STRUCTURAL FIXINGS & CONCRETE STRENGTH: READ IN ACCORDANCE WITH KEY NOTES & EXPOSURE ZONE NOTES:

ALL STRUCTURAL FIXINGS TO BE:
● TYPE 304 STAINLESS STEEL.

NOTE: STEEL FIXINGS AND FASTENINGS IN CONTACT WITH TIMBER TREATED WITH COPPER-BASED TIMBER PRESERVATIVES (H3.2 OR HIGHER) IN EXPOSED OR SHELTERED LOCATIONS SHALL BE TYPE 304 STAINLESS STEEL

CONCRETE STRENGTH:
● 25MPa CONCRETE

JOINERY:
● ALL JOINERY TO BE SITE MEASURED AND TO BE CONFIRMED, NO LIABILITY SHALL BE HELD BY DESIGNER IF SITE MEASURE IS NOT CARRIED OUT.
● ALL EXTERNAL WINDOW & DOOR SIZES SHOWN TO TRIMMED OPENINGS - UNLESS NOTED OTHERWISE

Kit HOMES

WAIMAMAKU AFFORDABLE & KAUMATUA HOUSING
LOT:1 | DP:590384
52 HOOKS AND HALL ROAD, WAIMAMAKU, NORTHLAND

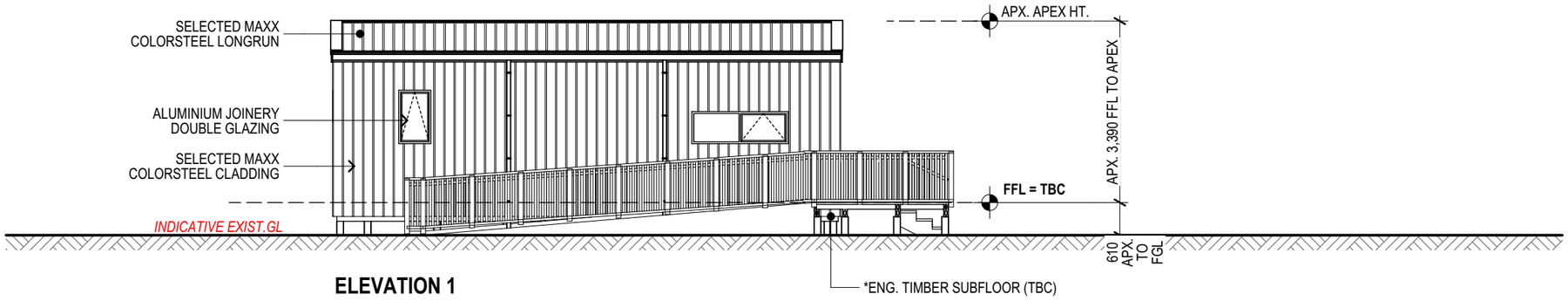
GROUND FLOOR PLAN

DWG SCALE: 1:100 @ A3

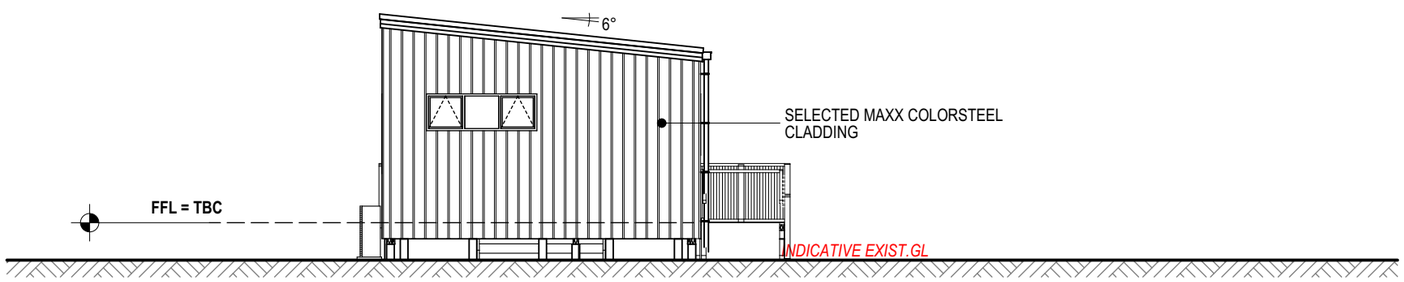
DESIGN BY: G. BASILA
DRAWN BY: G. BASILA
REVIEW BY: -

PROJECT REFERENCE: KHA24XX | PRE-01
DWG DATE: 3/5/2025
LAYOUT ID: 204

PRELIM.



ELEVATION 1



ELEVATION 2

BUILDING ENVELOPE RISK MATRIX		
ELEVATION 1		
Risk Factor	**Risk Severity**	**Risk Score**
Wind zone (per NZS 3604)	High risk	1
Number of storeys	Low risk	0
Roof/wall intersection design	Medium risk	1
Eaves width	Very high risk	5
Envelope complexity	Low risk	0
Deck design	Low risk	0
Total Risk Score:		**7**

BUILDING ENVELOPE RISK MATRIX		
ELEVATION 2		
Risk Factor	**Risk Severity**	**Risk Score**
Wind zone (per NZS 3604)	High risk	1
Number of storeys	Low risk	0
Roof/wall intersection design	Medium risk	1
Eaves width	Very high risk	5
Envelope complexity	Low risk	0
Deck design	Low risk	0
Total Risk Score:		**7**

ALL PLANS TO BE READ IN CONJUNCTION WITH 'KEY NOTES SUMMARY' PAGE

- SUBJECT TO COUNCIL APPROVAL
- DO NOT SCALE OFF DRAWINGS-REFER TO WRITTEN DIMENSIONS
- IF ANY CHANGES ARE MADE TO THE PLANS WITHOUT CONSULTING WITH THE DESIGNER, NO RESPONSIBILITY SHALL BE HELD BY THE DESIGNER

WIND ZONE: **EX. HIGH** EXPOS. ZONE: D
EARTHQ ZONE: **1** SNOW LOAD: N/A

GENERAL NOTES:

NOTE: DESIGNER SHALL HOLD NO LIABILITY FOR DAYLIGHTING, MAX BUILDING HEIGHT COMPLIANCE IF SITE IS NOT SURVEYED BY A REGISTERED SURVEYOR PRIOR TO ANY CONSTRUCTION

ACCESS STEPS AND LANDINGS TO HAVE A MINIMUM SLIP RESISTANCE, AS PER; NZBC D1 - ACCESS ROUTES - E.G. ACROSS-PROFILE TIMBER OR BROOM-FINISH CONCRETE WITH MAX. RISER HT. INTO DWELLING OF 190mm

REFER TO FLOOR PLAN FOR JOINERY SIZES & WINDOW HEAD HEIGHTS (UNLESS NOTED OTHERWISE)

Kit HOMES

HART CAD
022 463 4278
david.hartcad@gmail.com

DRAWING:
ELEVATIONS

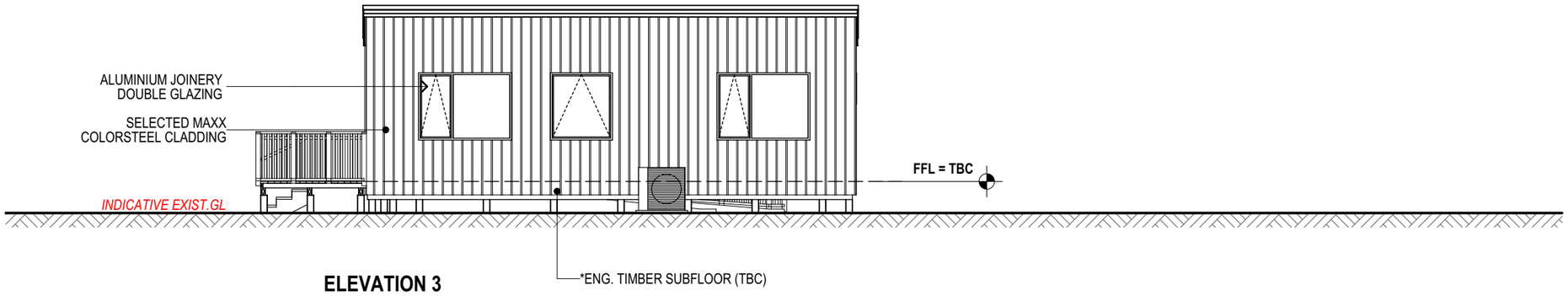
DWG DATE: 3/5/2025 SCALE: *1:100, 1:1 @ A3*

WAIMAMAKU AFFORDABLE & KAUMATUA HOUSING
LOT:1 | DP: 590384
52 HOOKS AND HALL ROAD,
WAIMAMAKU, NORTHLAND

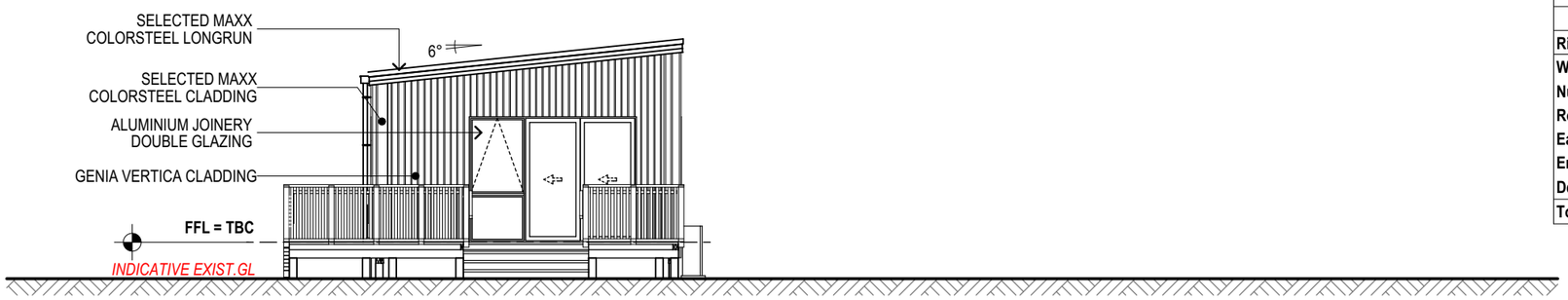
DRAWN BY: G. BASILA
REVIEWED BY: -
REFERENCE: KHA24XX | PRE-01
LAYOUT ID: 301

PRELIM.

THE FOLLOWING MUST BE CONFIRMED (& OR LOCATED) ON SITE PRIOR TO CONSTRUCTION: (1) *ALL MEASUREMENTS AND DIMENSIONS (2) SITE GROUND LINES AND LEVELS, INC. HIRB POINT RLs (3) ALL EXIST. STRUCTURES, TREES, SEWER AND STORMWATER MAINS, INVERTS, MANHOLES, AND ANY CONNECTION POINTS, INC. ANY OTHER SITE FEATURES.* SHOULD ANY DISCREPANCIES BE FOUND, CONTRACTOR SHALL CONTACT THE DESIGNER BEFORE PROCEEDING



ELEVATION 3



ELEVATION 4

BUILDING ENVELOPE RISK MATRIX		
ELEVATION 3		
Risk Factor	**Risk Severity**	**Risk Score**
Wind zone (per NZS 3604)	High risk	1
Number of storeys	Low risk	0
Roof/wall intersection design	Medium risk	1
Eaves width	Very high risk	5
Envelope complexity	Low risk	0
Deck design	Low risk	0
Total Risk Score:		**7**

BUILDING ENVELOPE RISK MATRIX		
ELEVATION 4		
Risk Factor	**Risk Severity**	**Risk Score**
Wind zone (per NZS 3604)	High risk	1
Number of storeys	Low risk	0
Roof/wall intersection design	Medium risk	1
Eaves width	Very high risk	5
Envelope complexity	Low risk	0
Deck design	Low risk	0
Total Risk Score:		**7**

ALL PLANS TO BE READ IN CONJUNCTION WITH 'KEY NOTES SUMMARY' PAGE

- SUBJECT TO COUNCIL APPROVAL
- DO NOT SCALE OFF DRAWINGS-REFER TO WRITTEN DIMENSIONS
- IF ANY CHANGES ARE MADE TO THE PLANS WITHOUT CONSULTING WITH THE DESIGNER, NO RESPONSIBILITY SHALL BE HELD BY THE DESIGNER

WIND ZONE: **EX. HIGH** EXPOS. ZONE: D
EARTHQ ZONE: **1** SNOW LOAD: N/A

GENERAL NOTES:

NOTE: DESIGNER SHALL HOLD NO LIABILITY FOR DAYLIGHTING, MAX BUILDING HEIGHT COMPLIANCE IF SITE IS NOT SURVEYED BY A REGISTERED SURVEYOR PRIOR TO ANY CONSTRUCTION

ACCESS STEPS AND LANDINGS TO HAVE A MINIMUM SLIP RESISTANCE, AS PER; NZBC D1 - ACCESS ROUTES - E.G. ACROSS-PROFILE TIMBER OR BROOM-FINISH CONCRETE WITH MAX. RISER HT. INTO DWELLING OF 190mm

REFER TO FLOOR PLAN FOR JOINERY SIZES & WINDOW HEAD HEIGHTS (UNLESS NOTED OTHERWISE)

Kit HOMES

HART CAD
022 463 4278
david.hartcad@gmail.com

DRAWING:
ELEVATIONS

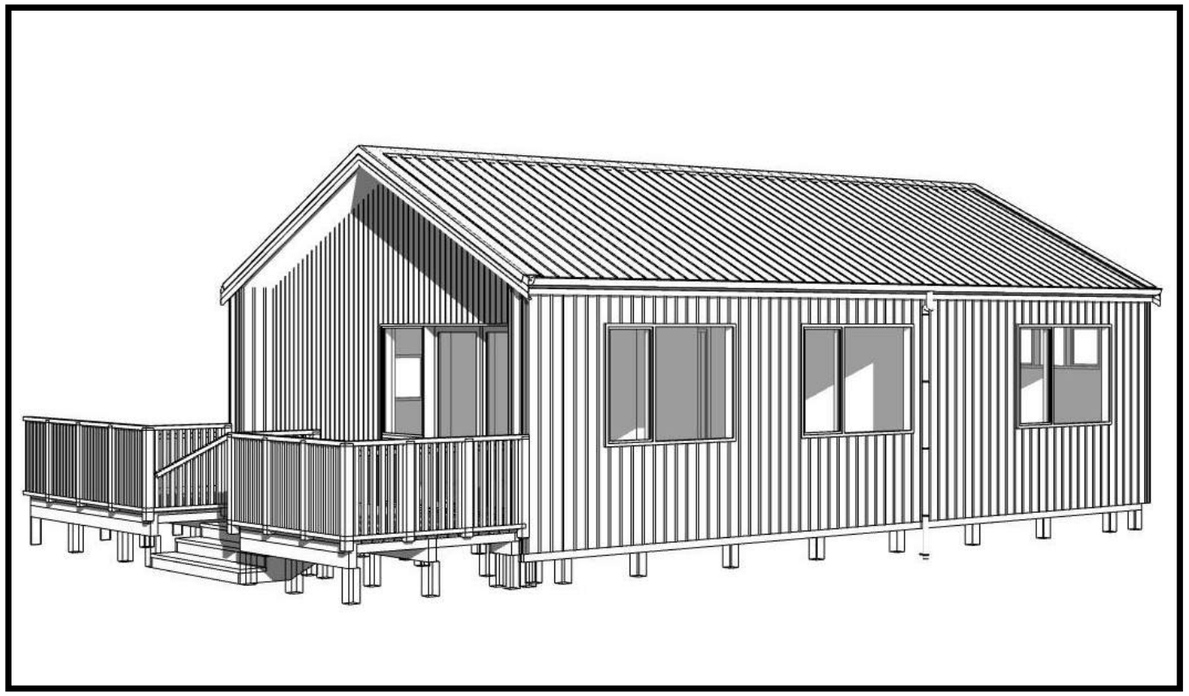
DWG DATE: 3/5/2025 SCALE: *1:100 @ A3*

WAIMAMAKU AFFORDABLE & KAUMATUA HOUSING
LOT:1 | DP: 590384
52 HOOKS AND HALL ROAD,
WAIMAMAKU, NORTHLAND

DRAWN BY: G. BASILA REFERENCE: KHA24XX | PRE-01
REVIEWED BY: - LAYOUT ID: 302

PRELIM.

THE FOLLOWING MUST BE CONFIRMED (& OR LOCATED) ON SITE PRIOR TO CONSTRUCTION: (1) *ALL MEASUREMENTS AND DIMENSIONS (2) SITE GROUND LINES AND LEVELS, INC. HIRB POINT RLs (3) ALL EXIST. STRUCTURES, TREES, SEWER AND STORMWATER MAINS, INVERTS, MANHOLES, AND ANY CONNECTION POINTS, INC. ANY OTHER SITE FEATURES.* SHOULD ANY DISCREPANCIES BE FOUND, CONTRACTOR SHALL CONTACT THE DESIGNER BEFORE PROCEEDING



CONTENTS / SHEET INDEX:

TIOPIRA AFFORDABLE KITSET

PROPOSED DWELLING AT: 52 HOOKS AND HALL ROAD, WAIMAMAKU, NORTHLAND

DATE	ISSUE ID	REVISION NOTES:	
26-02-25	CONCEPT	CPT-01	INITIAL CONCEPT PLANS
04-03-25	PRELIM.	PRE-01	PRELIMINARY PLANS FOR EXTERNAL CONSULTANTS

PRELIMINARY ONLY
FOR DISCUSSION PURPOSE ONLY

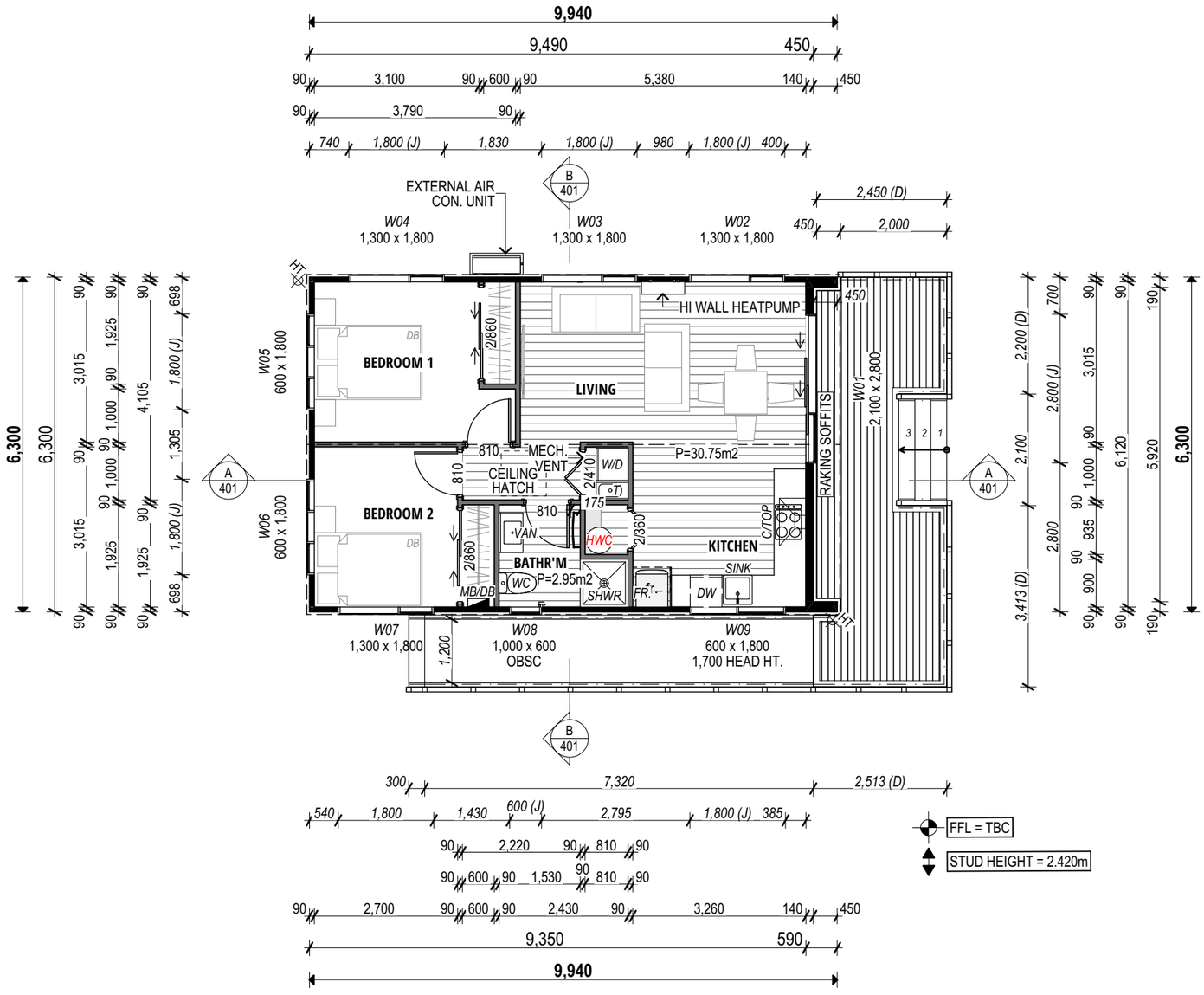
INFORMATION REQUIRED:
INFORMATION REQUIRED TO CONFIRM DESIGN REQUIREMENTS:
- TITLE PLAN (INC. SITE/LOT BDY LENGTHS AND BEARING ANGLES)
- ON-SITE WW/SW ENG CONFIRMATION
- GEOTECH REPORT

! IMPORTANT !
PRICING NOTES AND ASSUMPTIONS

- ENGINEERED TIMBER SUBFLOOR TBC
- FINAL ENGINEERING TBC
- CEILING DIAPHRAGM TO LIVING AREA
- V. HIGH WIND ZONE - REDUCED STUD CRS

ALL PLANS TO BE CROSS REFERENCED WHERE REQUIRED. IF ANY CONFLICTS ARE FOUND DESIGNER SHALL BE CONTACTED PRIOR TO FINAL PRICE CONFIRMATION

Kit HOMES



ALL PLANS TO BE READ IN CONJUNCTION WITH 'KEY NOTES SUMMARY' PAGE

- SUBJECT TO COUNCIL APPROVAL
- DO NOT SCALE OFF DRAWINGS-REFER TO WRITTEN DIMENSIONS
- IF ANY CHANGES ARE MADE TO THE PLANS WITHOUT CONSULTING WITH THE DESIGNER, NO RESPONSIBILITY SHALL BE HELD BY THE DESIGNER

ELEVATION KEY

CLIMATE ZONE:	**1**
WIND ZONE:	**EX. HIGH**
EARTHQ ZONE:	**1**
EXPOS. ZONE:	**D**
SNOW LOAD:	**N/A**

FLOOR AREA SUMMARY:

O/FRAME AREA	59.96m²
O/CLADDING AREA	61.35m²
O/ROOF AREA	64.92m²

KEY / LEGEND:

*E- = REFER TO EXTERNAL INFORMATION EG: ENGINEERS DESIGN

= CUPBOARD SHELVES

= BEDROOM WARDROBE SHELF & RAIL

BUILDING SUMMARY NOTES:

STUD HEIGHT:	= 2.420m
UNLESS NOTED OTHERWISE, EXTERNAL JOINERY HEIGHT	= 2.100m
INTERNAL DOOR LEAF HEIGHT	= 1.980m
ROOF PITCH:	= 25°

GENERAL NOTES:

STRUCTURAL FIXINGS & CONCRETE STRENGTH: READ IN ACCORDANCE WITH KEY NOTES & EXPOSURE ZONE NOTES:

ALL STRUCTURAL FIXINGS TO BE:
● TYPE 304 STAINLESS STEEL.

NOTE: STEEL FIXINGS AND FASTENINGS IN CONTACT WITH TIMBER TREATED WITH COPPER-BASED TIMBER PRESERVATIVES (H3.2 OR HIGHER) IN EXPOSED OR SHELTERED LOCATIONS SHALL BE TYPE 304 STAINLESS STEEL

CONCRETE STRENGTH:
● 25MPa CONCRETE

JOINERY:
● ALL JOINERY TO BE SITE MEASURED AND TO BE CONFIRMED, NO LIABILITY SHALL BE HELD BY DESIGNER IF SITE MEASURE IS NOT CARRIED OUT.
● ALL EXTERNAL WINDOW & DOOR SIZES SHOWN TO TRIMMED OPENINGS - UNLESS NOTED OTHERWISE

STRUCTURAL ENGINEERING:

PLANS TO BE READ IN CONJUNCTION WITH REPORT COMPILED BY. PLACEMAKERS. (REFERENCE: 231201), STRUCTURAL DESIGN CALCULATIONS AND PLANS. IN THE CASE OF ANY DISCREPANCIES ENG. DESIGN TO TAKE PRECEDENCE.

' * ' = ENGINEERED COMPONENT(S)

ENG. SCOPE OF WORK:
- ROOF
- LINTELS

Kit HOMES

WAIMAMAKU AFFORDABLE & KAUMATUA HOUSING
LOT:1 | DP:590384
52 HOOKS AND HALL ROAD, WAIMAMAKU, NORTHLAND

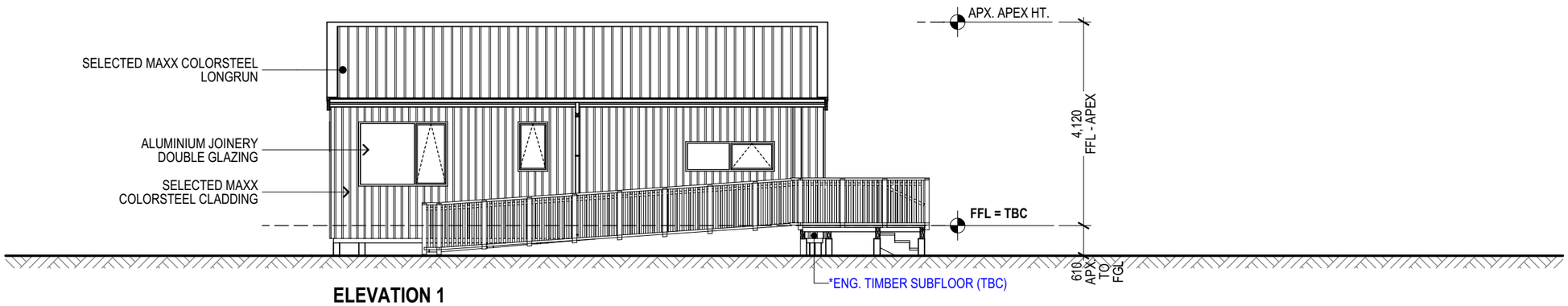
GROUND FLOOR PLAN

DWG SCALE: 1:100 @ A3

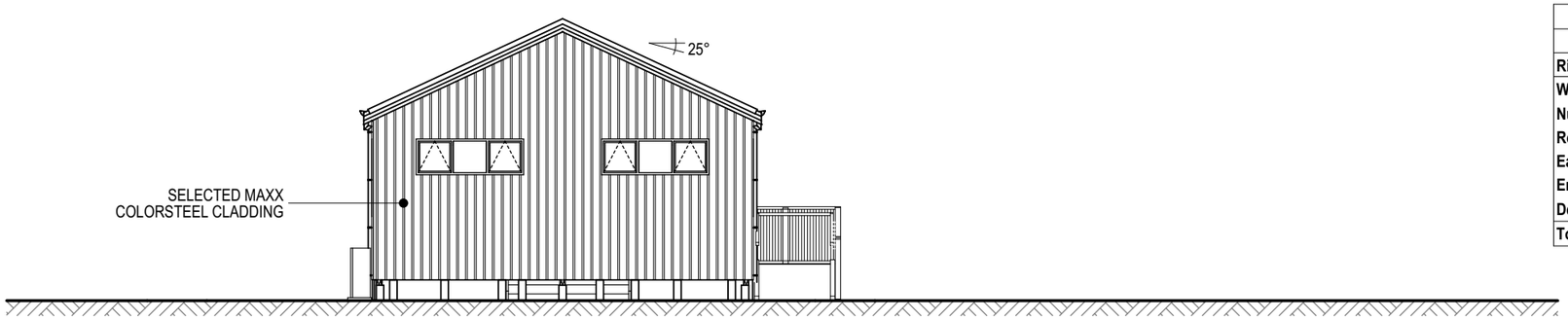
DESIGN BY: G. BASILA
DRAWN BY: G. BASILA
REVIEW BY: -

PRELIM.

PROJECT REFERENCE: KHA24XX | PRE-01
DWG DATE: 3/5/2025
LAYOUT ID: 206



ELEVATION 1



ELEVATION 2

ALL PLANS TO BE READ IN CONJUNCTION WITH 'KEY NOTES SUMMARY' PAGE

- SUBJECT TO COUNCIL APPROVAL
- DO NOT SCALE OFF DRAWINGS-REFER TO WRITTEN DIMENSIONS
- IF ANY CHANGES ARE MADE TO THE PLANS WITHOUT CONSULTING WITH THE DESIGNER, NO RESPONSIBILITY SHALL BE HELD BY THE DESIGNER

ELEVATION KEY

CLIMATE ZONE:	**1**
WIND ZONE:	**EX. HIGH**
EARTHQ ZONE:	**1**
EXPOS. ZONE:	**D**
SNOW LOAD:	**N/A**

GENERAL NOTES:

NOTE: DESIGNER SHALL HOLD NO LIABILITY FOR DAYLIGHTING, MAX BUILDING HEIGHT COMPLIANCE IF SITE IS NOT SURVEYED BY A REGISTERED SURVEYOR PRIOR TO ANY CONSTRUCTION

ACCESS STEPS AND LANDINGS TO HAVE A MINIMUM SLIP RESISTANCE, AS PER; NZBC D1 - ACCESS ROUTES - E.G. ACROSS-PROFILE TIMBER OR BROOM-FINISH CONCRETE WITH MAX. RISER HT. INTO DWELLING OF 190mm

REFER TO FLOOR PLAN FOR JOINERY SIZES & WINDOW HEAD HEIGHTS (UNLESS NOTED OTHERWISE)

BUILDING ENVELOPE RISK MATRIX		
ELEVATION 1		
Risk Factor	**Risk Severity**	**Risk Score**
Wind zone (per NZS 3604)	Extra high risk	2
Number of storeys	Low risk	0
Roof/wall intersection design	Medium risk	1
Eaves width	Very high risk	5
Envelope complexity	Low risk	0
Deck design	Low risk	0
Total Risk Score:		**8**

BUILDING ENVELOPE RISK MATRIX		
ELEVATION 2		
Risk Factor	**Risk Severity**	**Risk Score**
Wind zone (per NZS 3604)	Extra high risk	2
Number of storeys	Low risk	0
Roof/wall intersection design	Medium risk	1
Eaves width	Very high risk	5
Envelope complexity	Low risk	0
Deck design	Low risk	0
Total Risk Score:		**8**

Kit HOMES

WAIMAMAKU AFFORDABLE & KAUMATUA HOUSING
LOT:1 | DP:590384
52 HOOKS AND HALL ROAD, WAIMAMAKU, NORTHLAND

ELEVATIONS

DWG SCALE: 1:100, 1:1 @ A3

DESIGN BY: G. BASILA
DRAWN BY: G. BASILA
REVIEW BY: -

PRELIM.

PROJECT REFERENCE: KHA24XX | PRE-01
DWG DATE: 3/5/2025
LAYOUT ID: 301

ALL PLANS TO BE READ IN CONJUNCTION WITH 'KEY NOTES SUMMARY' PAGE

- SUBJECT TO COUNCIL APPROVAL
- DO NOT SCALE OFF DRAWINGS-REFER TO WRITTEN DIMENSIONS
- IF ANY CHANGES ARE MADE TO THE PLANS WITHOUT CONSULTING WITH THE DESIGNER, NO RESPONSIBILITY SHALL BE HELD BY THE DESIGNER

ELEVATION KEY

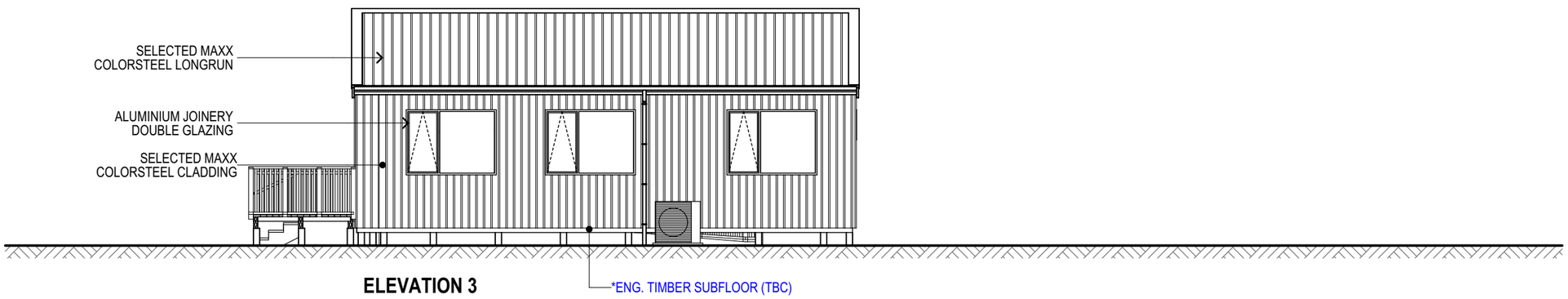
CLIMATE ZONE:	**1**
WIND ZONE:	**EX. HIGH**
EARTHQ ZONE:	**1**
EXPOS. ZONE:	**D**
SNOW LOAD:	**N/A**

GENERAL NOTES:

NOTE: DESIGNER SHALL HOLD NO LIABILITY FOR DAYLIGHTING, MAX BUILDING HEIGHT COMPLIANCE IF SITE IS NOT SURVEYED BY A REGISTERED SURVEYOR PRIOR TO ANY CONSTRUCTION

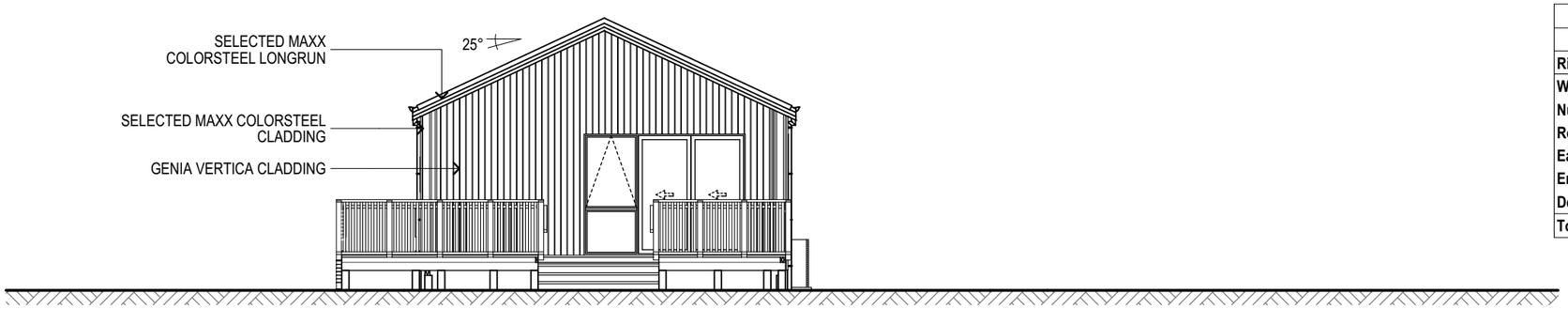
ACCESS STEPS AND LANDINGS TO HAVE A MINIMUM SLIP RESISTANCE, AS PER; NZBC D1 - ACCESS ROUTES - E.G. ACROSS-PROFILE TIMBER OR BROOM-FINISH CONCRETE WITH MAX. RISER HT. INTO DWELLING OF 190mm

REFER TO FLOOR PLAN FOR JOINERY SIZES & WINDOW HEAD HEIGHTS (UNLESS NOTED OTHERWISE)



ELEVATION 3

BUILDING ENVELOPE RISK MATRIX		
ELEVATION 3		
Risk Factor	**Risk Severity**	**Risk Score**
Wind zone (per NZS 3604)	Extra high risk	2
Number of storeys	Low risk	0
Roof/wall intersection design	Medium risk	1
Eaves width	Very high risk	5
Envelope complexity	Low risk	0
Deck design	Low risk	0
Total Risk Score:		**8**



ELEVATION 4

BUILDING ENVELOPE RISK MATRIX		
ELEVATION 4		
Risk Factor	**Risk Severity**	**Risk Score**
Wind zone (per NZS 3604)	Extra high risk	2
Number of storeys	Low risk	0
Roof/wall intersection design	Medium risk	1
Eaves width	Very high risk	5
Envelope complexity	Medium risk	1
Deck design	Low risk	0
Total Risk Score:		**9**

Kit HOMES

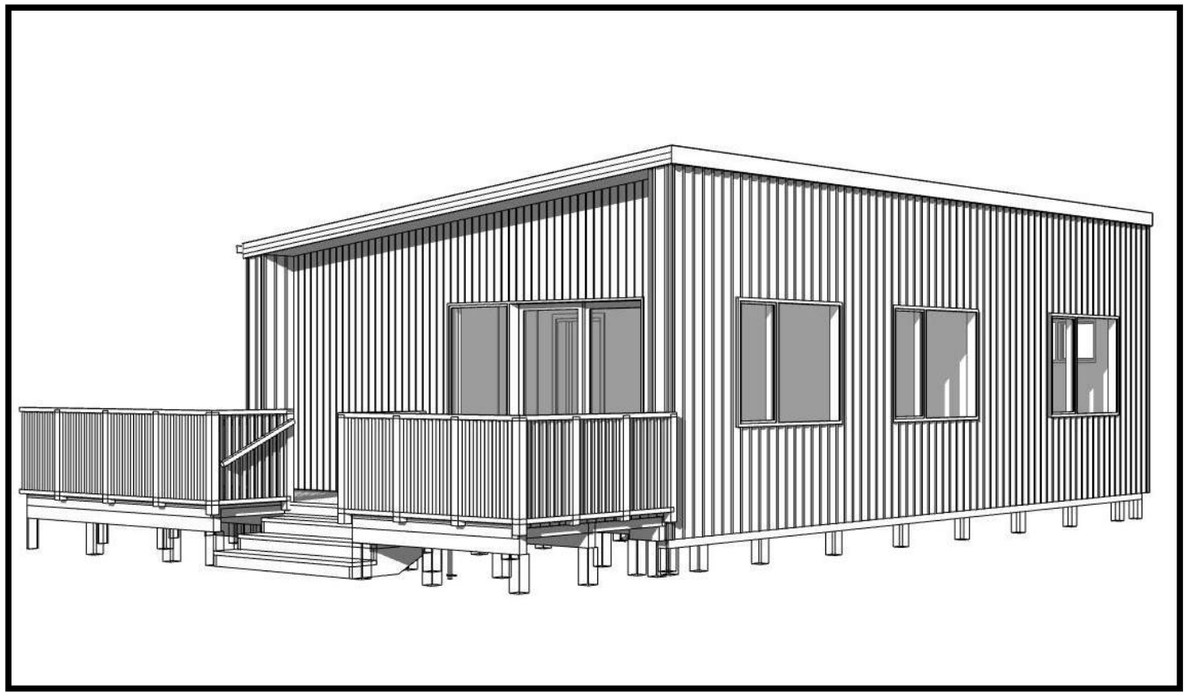
WAIMAMAKU AFFORDABLE & KAUMATUA HOUSING
LOT:1 | DP:590384
52 HOOKS AND HALL ROAD, WAIMAMAKU, NORTHLAND

ELEVATIONS

DWG SCALE: 1:100 @ A3
DESIGN BY: G. BASILA
DRAWN BY: G. BASILA
REVIEW BY: -

PRELIM.

PROJECT REFERENCE: KHA24XX | PRE-01
DWG DATE: 3/5/2025
LAYOUT ID: 302



CONTENTS / SHEET INDEX:

WAIPUIA AFFORDABLE KITSET

PROPOSED DWELLING AT: 52 HOOKS AND HALL ROAD, WAIMAMAKU, NORTHLAND

DATE	ISSUE ID	REVISION NOTES:	
23-02-25	CONCEPT	CPT-01	INITIAL CONCEPT PLANS
04-03-25	PRELIM.	PRE-01	PRELIMINARY PLANS FOR EXTERNAL CONSULTANTS

PRELIMINARY ONLY
FOR DISCUSSION PURPOSE ONLY

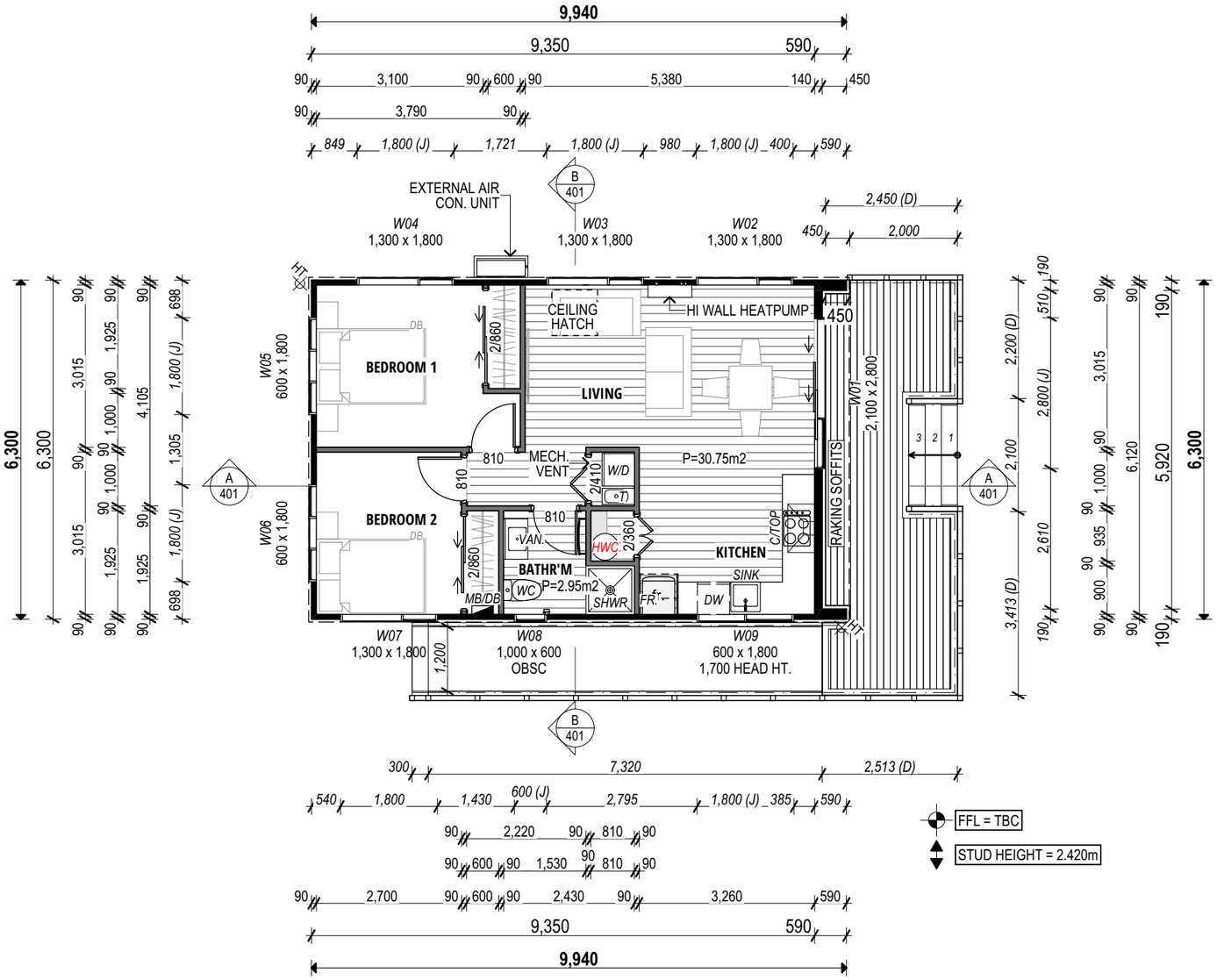
INFORMATION REQUIRED:
INFORMATION REQUIRED TO CONFIRM DESIGN REQUIREMENTS:
- TITLE PLAN (INC. SITE/LOT BDY LENGTHS AND BEARING ANGLES)
- ON-SITE WW/SW ENG CONFIRMATION
- GEOTECH REPORT

! IMPORTANT !
PRICING NOTES AND ASSUMPTIONS

- ENGINEERED TIMBER SUBFLOOR TBC
- FINAL ENGINEERING TBC
- CEILING DIAPHRAGM TO LIVING AREA
- V. HIGH WIND ZONE - REDUCED STUD CRS

ALL PLANS TO BE CROSS REFERENCED WHERE REQUIRED. IF ANY CONFLICTS ARE FOUND DESIGNER SHALL BE CONTACTED PRIOR TO FINAL PRICE CONFIRMATION

Kit HOMES



ALL PLANS TO BE READ IN CONJUNCTION WITH 'KEY NOTES SUMMARY' PAGE

- SUBJECT TO COUNCIL APPROVAL
- DO NOT SCALE OFF DRAWINGS-REFER TO WRITTEN DIMENSIONS
- IF ANY CHANGES ARE MADE TO THE PLANS WITHOUT CONSULTING WITH THE DESIGNER, NO RESPONSIBILITY SHALL BE HELD BY THE DESIGNER

ELEVATION KEY

CLIMATE ZONE: **1**
WIND ZONE: **EX. HIGH**
EARTHQ ZONE: **1**
EXPOS. ZONE: **D**
SNOW LOAD: **N/A**

FLOOR AREA SUMMARY:

O/FRAME AREA	59.96m²
O/CLADDING AREA	61.35m²
O/ROOF AREA	64.32m²

KEY / LEGEND:

*E- = REFER TO EXTERNAL INFORMATION EG: ENGINEERS DESIGN

= CUPBOARD SHELVES

= BEDROOM WARDROBE SHELF & RAIL

BUILDING SUMMARY NOTES:

STUD HEIGHT: = 2.420m

UNLESS NOTED OTHERWISE,
EXTERNAL JOINERY HEIGHT = 2.100m
INTERNAL DOOR LEAF HEIGHT = 1.980m

ROOF PITCH: = 6°

GENERAL NOTES:

STRUCTURAL FIXINGS & CONCRETE STRENGTH: READ IN ACCORDANCE WITH KEY NOTES & EXPOSURE ZONE NOTES:

ALL STRUCTURAL FIXINGS TO BE:
● TYPE 304 STAINLESS STEEL.

NOTE: STEEL FIXINGS AND FASTENINGS IN CONTACT WITH TIMBER TREATED WITH COPPER-BASED TIMBER PRESERVATIVES (H3.2 OR HIGHER) IN EXPOSED OR SHELTERED LOCATIONS SHALL BE TYPE 304 STAINLESS STEEL

CONCRETE STRENGTH:
● 25MPa CONCRETE

JOINERY:
● ALL JOINERY TO BE SITE MEASURED AND TO BE CONFIRMED, NO LIABILITY SHALL BE HELD BY DESIGNER IF SITE MEASURE IS NOT CARRIED OUT.
● ALL EXTERNAL WINDOW & DOOR SIZES SHOWN TO TRIMMED OPENINGS - UNLESS NOTED OTHERWISE

STRUCTURAL ENGINEERING:

PLANS TO BE READ IN CONJUNCTION WITH REPORT COMPILED BY. PLACEMAKERS. (REFERENCE: 231201), STRUCTURAL DESIGN CALCULATIONS AND PLANS. IN THE CASE OF ANY DISCREPANCIES ENG. DESIGN TO TAKE PRECEDENCE.

' * ' = ENGINEERED COMPONENT(S)

ENG. SCOPE OF WORK:
- ROOF
- LINTELS

Kit HOMES

WAIMAMAKU AFFORDABLE & KAUMATUA HOUSING
LOT:1 | DP:590384
52 HOOKS AND HALL ROAD, WAIMAMAKU, NORTHLAND

GROUND FLOOR PLAN

DWG SCALE: 1:100 @ A3

DESIGN BY: G. BASILA
DRAWN BY: G. BASILA
REVIEW BY: -

PRELIM.

PROJECT REFERENCE: KHA24XX | PRE-01
DWG DATE: 3/5/2025
LAYOUT ID: 206

ALL PLANS TO BE READ IN CONJUNCTION WITH 'KEY NOTES SUMMARY' PAGE

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ELEVATION KEY

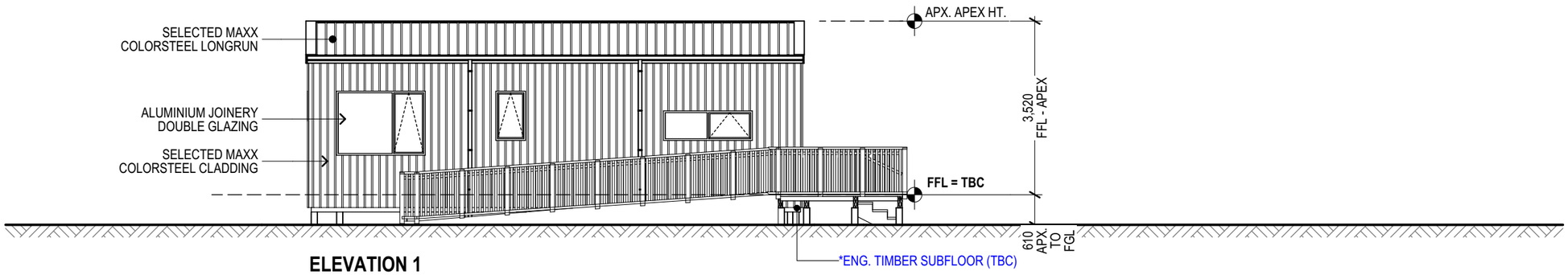
CLIMATE ZONE:	**1**
WIND ZONE:	**EX. HIGH**
EARTHQ ZONE:	**1**
EXPOS. ZONE:	**D**
SNOW LOAD:	**N/A**

GENERAL NOTES:

NOTE: DESIGNER SHALL HOLD NO LIABILITY FOR DAYLIGHTING, MAX BUILDING HEIGHT COMPLIANCE IF SITE IS NOT SURVEYED BY A REGISTERED SURVEYOR PRIOR TO ANY CONSTRUCTION

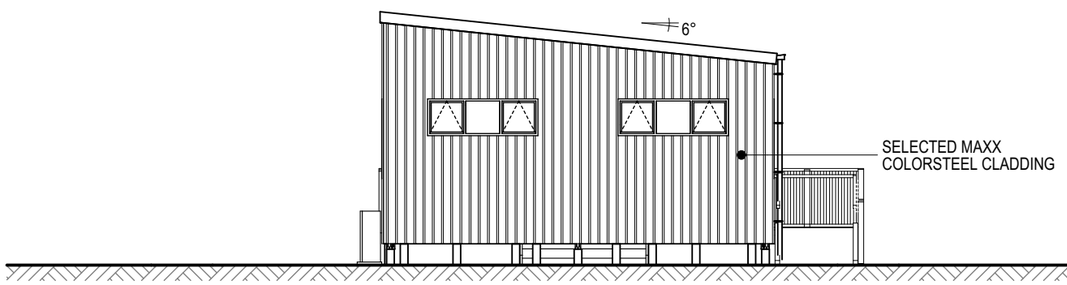
ACCESS STEPS AND LANDINGS TO HAVE A MINIMUM SLIP RESISTANCE, AS PER; NZBC D1 - ACCESS ROUTES - E.G. ACROSS-PROFILE TIMBER OR BROOM-FINISH CONCRETE WITH MAX. RISER HT. INTO DWELLING OF 190mm

REFER TO FLOOR PLAN FOR JOINERY SIZES & WINDOW HEAD HEIGHTS (UNLESS NOTED OTHERWISE)



ELEVATION 1

BUILDING ENVELOPE RISK MATRIX		
ELEVATION 1		
Risk Factor	**Risk Severity**	**Risk Score**
Wind zone (per NZS 3604)	Extra high risk	2
Number of storeys	Low risk	0
Roof/wall intersection design	Medium risk	1
Eaves width	Very high risk	5
Envelope complexity	Low risk	0
Deck design	Low risk	0
Total Risk Score:		**8**



ELEVATION 2

BUILDING ENVELOPE RISK MATRIX		
ELEVATION 2		
Risk Factor	**Risk Severity**	**Risk Score**
Wind zone (per NZS 3604)	Extra high risk	2
Number of storeys	Low risk	0
Roof/wall intersection design	Medium risk	1
Eaves width	Very high risk	5
Envelope complexity	Low risk	0
Deck design	Low risk	0
Total Risk Score:		**8**

Kit HOMES

WAIMAMAKU AFFORDABLE & KAUMATUA HOUSING
LOT:1 | DP:590384
52 HOOKS AND HALL ROAD, WAIMAMAKU, NORTHLAND

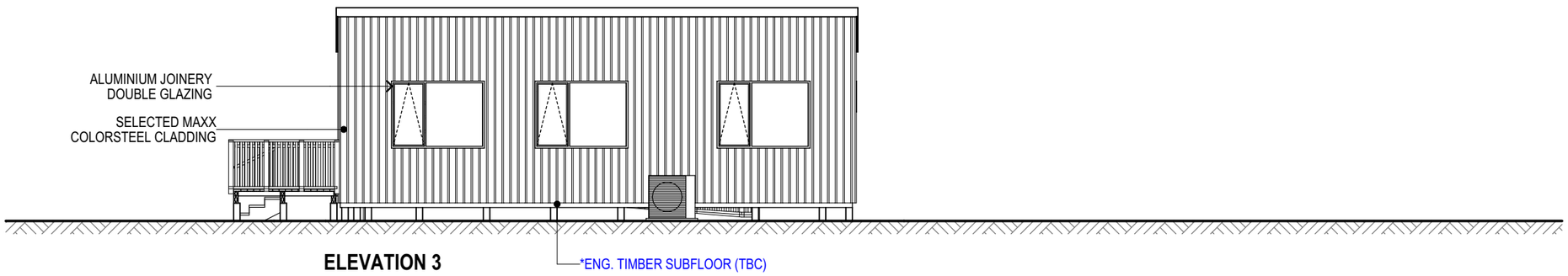
ELEVATIONS

DWG SCALE: 1:100, 1:1 @ A3

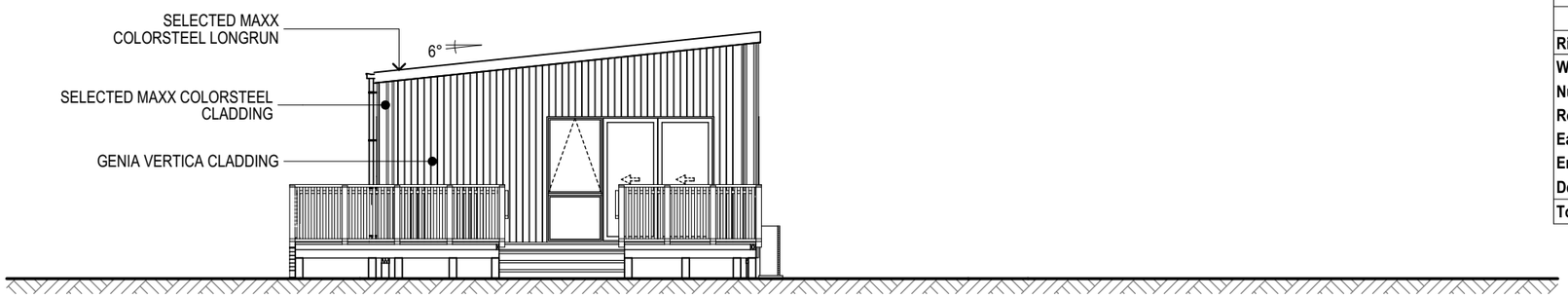
DESIGN BY: G. BASILA
DRAWN BY: G. BASILA
REVIEW BY: -

PRELIM.

PROJECT REFERENCE: KHA24XX | PRE-01
DWG DATE: 3/5/2025
LAYOUT ID: 301



ELEVATION 3



ELEVATION 4

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ELEVATION KEY

CLIMATE ZONE:	**1**
WIND ZONE:	**EX. HIGH**
EARTHQ ZONE:	**1**
EXPOS. ZONE:	**D**
SNOW LOAD:	**N/A**

GENERAL NOTES:

NOTE: DESIGNER SHALL HOLD NO LIABILITY FOR DAYLIGHTING, MAX BUILDING HEIGHT COMPLIANCE IF SITE IS NOT SURVEYED BY A REGISTERED SURVEYOR PRIOR TO ANY CONSTRUCTION

ACCESS STEPS AND LANDINGS TO HAVE A MINIMUM SLIP RESISTANCE, AS PER; NZBC D1 - ACCESS ROUTES - E.G. ACROSS-PROFILE TIMBER OR BROOM-FINISH CONCRETE WITH MAX. RISER HT. INTO DWELLING OF 190mm

REFER TO FLOOR PLAN FOR JOINERY SIZES & WINDOW HEAD HEIGHTS (UNLESS NOTED OTHERWISE)

BUILDING ENVELOPE RISK MATRIX		
ELEVATION 3		
Risk Factor	**Risk Severity**	**Risk Score**
Wind zone (per NZS 3604)	Extra high risk	2
Number of storeys	Low risk	0
Roof/wall intersection design	Medium risk	1
Eaves width	Very high risk	5
Envelope complexity	Low risk	0
Deck design	Low risk	0
Total Risk Score:		**8**

BUILDING ENVELOPE RISK MATRIX		
ELEVATION 4		
Risk Factor	**Risk Severity**	**Risk Score**
Wind zone (per NZS 3604)	Extra high risk	2
Number of storeys	Low risk	0
Roof/wall intersection design	Medium risk	1
Eaves width	Very high risk	5
Envelope complexity	Medium risk	1
Deck design	Low risk	0
Total Risk Score:		**9**

Kit HOMES

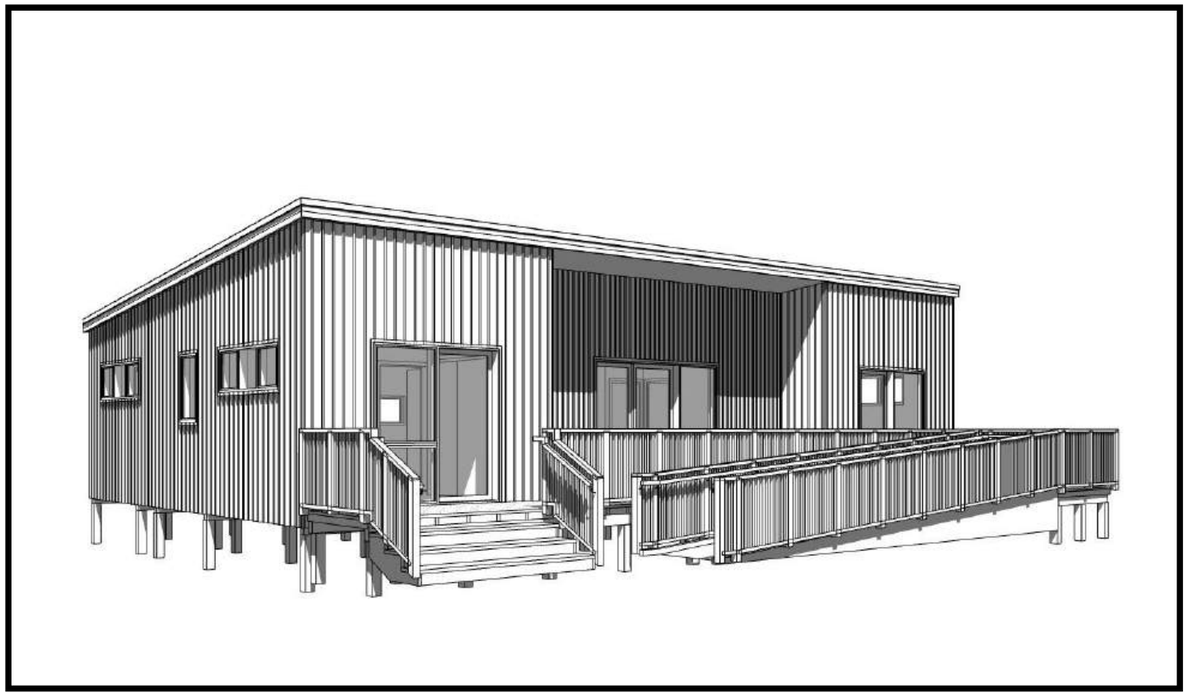
WAIMAMAKU AFFORDABLE & KAUMATUA HOUSING
LOT:1 | DP:590384
52 HOOKS AND HALL ROAD, WAIMAMAKU, NORTHLAND

ELEVATIONS

DWG SCALE: 1:100 @ A3
DESIGN BY: G. BASILA
DRAWN BY: G. BASILA
REVIEW BY: -

PRELIM.

PROJECT REFERENCE: KHA24XX | PRE-01
DWG DATE: 3/5/2025
LAYOUT ID: 302



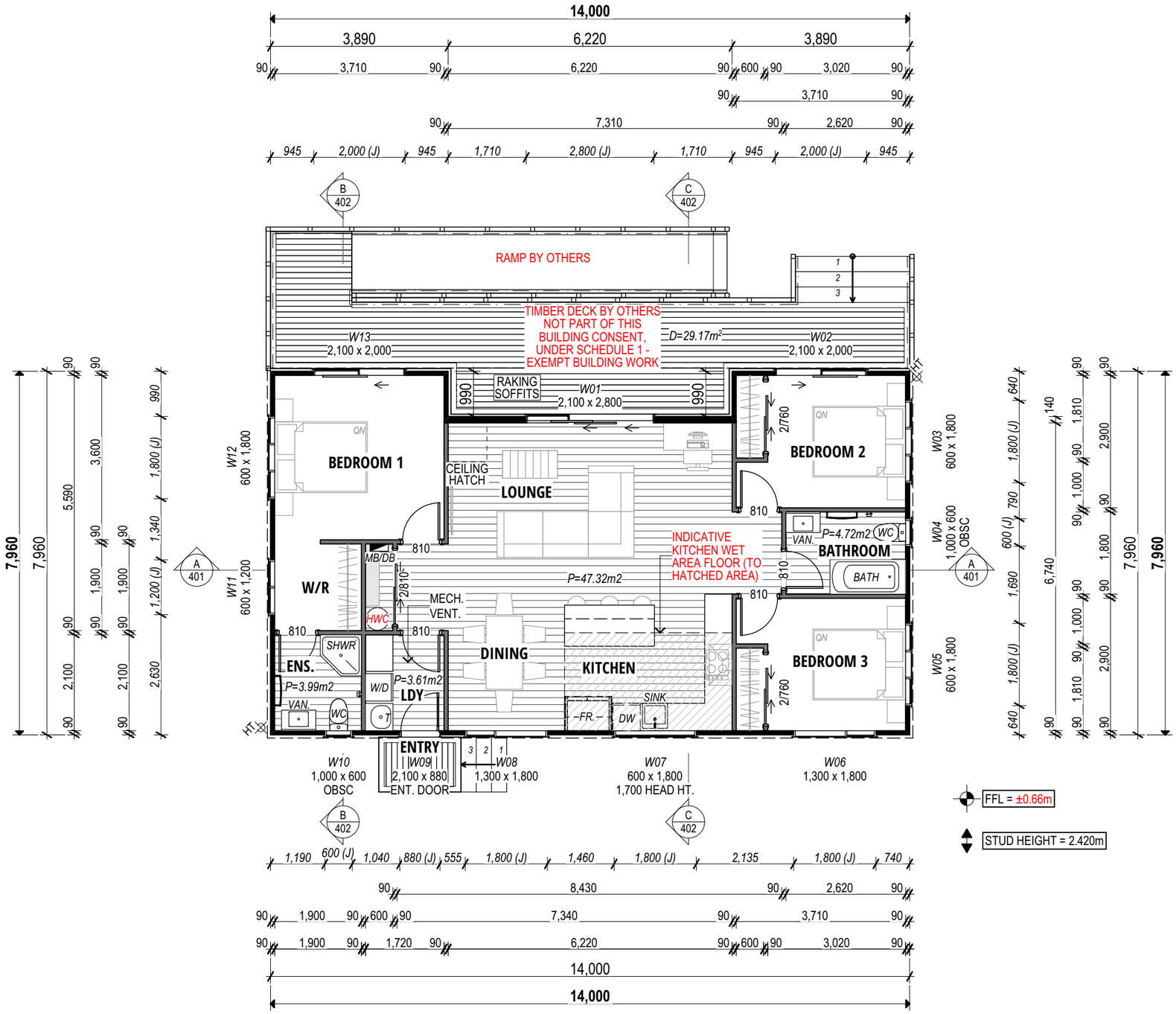
CONTENTS / SHEET INDEX:

CORRIN AFFORDABLE KITSET

PROPOSED DWELLING AT: 52 HOOKS AND HALL ROAD, WAIMAMAKU, NORTHLAND

DATE	ISSUE ID	REVISION NOTES:	
26-03-25	PRELIM.	PRE-01	PRELIMINARY PLANS FOR EXTERNAL CONSULTANTS
30-03-25	CONSENT	CON-01	FINAL CONSENT PLANS

Kit HOMES



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ELEVATION KEY

CLIMATE ZONE:	1
WIND ZONE:	EX. HIGH
EARTHQ ZONE:	1
EXPOS. ZONE:	D
SNOW LOAD:	N/A

FLOOR AREA SUMMARY:

O/FRAME AREA	105.28m²
O/CLADDING AREA	106.96m²
O/ROOF AREA	114.53m²

KEY / LEGEND:

*E- = REFER TO EXTERNAL INFORMATION EG: ENGINEERS DESIGN

= CUPBOARD SHELVES

= BEDROOM WARDROBE SHELF & RAIL

BUILDING SUMMARY NOTES:

STUD HEIGHT:	= 2.420m
UNLESS NOTED OTHERWISE, EXTERNAL JOINERY HEIGHT	= 2.100m
INTERNAL DOOR LEAF HEIGHT	= 1.980m
ROOF PITCH:	= 6°

GENERAL NOTES:

STRUCTURAL FIXINGS & CONCRETE STRENGTH: READ IN ACCORDANCE WITH KEY NOTES & EXPOSURE ZONE NOTES:

ALL STRUCTURAL FIXINGS TO BE:
- TYPE 304 STAINLESS STEEL.

NOTE: STEEL FIXINGS AND FASTENINGS IN CONTACT WITH TIMBER TREATED WITH COPPER-BASED TIMBER PRESERVATIVES (H3.2 OR HIGHER) IN EXPOSED OR SHELTERED LOCATIONS SHALL BE TYPE 304 STAINLESS STEEL

CONCRETE STRENGTH:
- 25MPa CONCRETE

JOINERY:

- ALL JOINERY TO BE SITE MEASURED AND TO BE CONFIRMED, NO LIABILITY SHALL BE HELD BY DESIGNER IF SITE MEASURE IS NOT CARRIED OUT.
- ALL EXTERNAL WINDOW & DOOR SIZES SHOWN TO TRIMMED OPENINGS - UNLESS NOTED OTHERWISE

Kit HOMES

WAIMAMAKU AFFORDABLE & KAUMATUA HOUSING
LOT:1 | DP:590384
52 HOOKS AND HALL ROAD, WAIMAMAKU, NORTHLAND

GROUND FLOOR PLAN

DWG SCALE: 1:100 @ A3

DESIGN BY: G. BASILA
DRAWN BY: G. BASILA
REVIEW BY: -

CONSENT

PROJECT REFERENCE: KHA24XX | CON-01
DWG DATE: 3/30/2025
LAYOUT ID: 203

ALL PLANS TO BE READ IN CONJUNCTION WITH 'KEY NOTES SUMMARY' PAGE

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ELEVATION KEY

CLIMATE ZONE:	**1**
WIND ZONE:	**EX. HIGH**
EARTHQ ZONE:	**1**
EXPOS. ZONE:	**D**
SNOW LOAD:	**N/A**

GENERAL NOTES:

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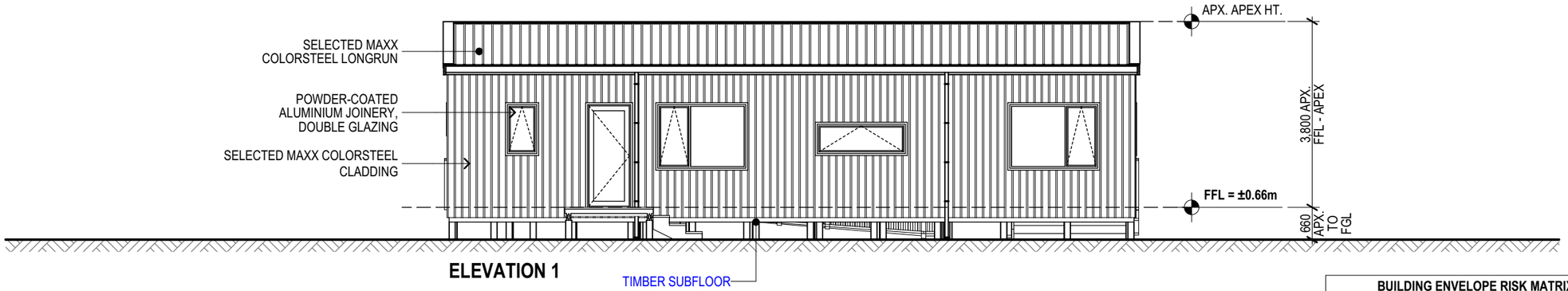
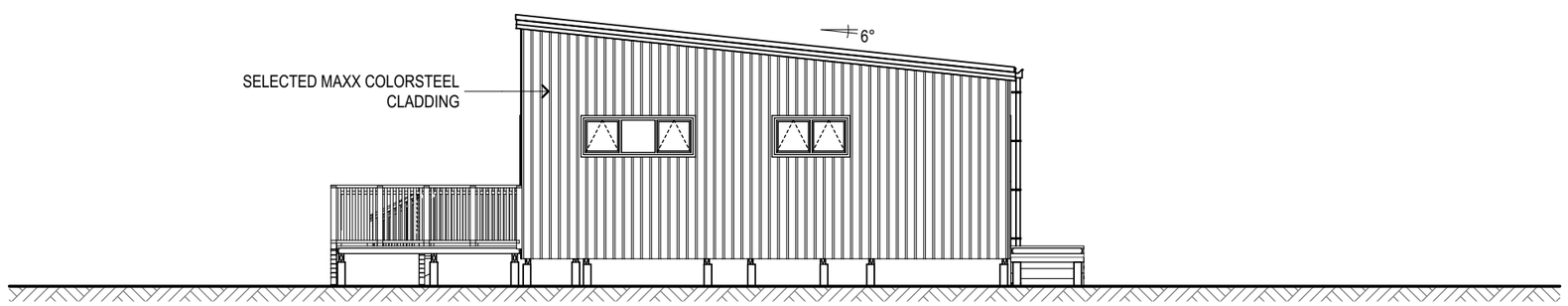
REFER TO FLOOR PLAN FOR JOINERY SIZES & WINDOW HEAD HEIGHTS (UNLESS NOTED OTHERWISE)



ELEVATION 1

BUILDING ENVELOPE RISK MATRIX		
ELEVATION 1		
Risk Factor	**Risk Severity**	**Risk Score**
Wind zone (per NZS 3604)	Extra high risk	2
Number of storeys	Low risk	0
Roof/wall intersection design	Medium risk	1
Eaves width	Very high risk	5
Envelope complexity	Low risk	0
Deck design	Low risk	0
Total Risk Score:		**8**



ELEVATION 2

BUILDING ENVELOPE RISK MATRIX		
ELEVATION 2		
Risk Factor	**Risk Severity**	**Risk Score**
Wind zone (per NZS 3604)	Extra high risk	2
Number of storeys	Low risk	0
Roof/wall intersection design	Medium risk	1
Eaves width	Very high risk	5
Envelope complexity	Low risk	0
Deck design	Low risk	0
Total Risk Score:		**8**

Kit HOMES

WAIMAMAKU AFFORDABLE & KAUMATUA HOUSING
LOT:1 | DP:590384
52 HOOKS AND HALL ROAD, WAIMAMAKU, NORTHLAND

ELEVATIONS

DWG SCALE: 1:100, 1:1 @ A3

DESIGN BY: G. BASILA
DRAWN BY: G. BASILA
REVIEW BY: -

CONSENT

PROJECT REFERENCE: **KHA24XX | CON-01**
DWG DATE: 3/30/2025
LAYOUT ID: **301**

ALL PLANS TO BE READ IN CONJUNCTION WITH 'KEY NOTES SUMMARY' PAGE

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- IF ANY CHANGES ARE MADE TO THE PLANS WITHOUT CONSULTING WITH THE DESIGNER, NO RESPONSIBILITY SHALL BE HELD BY THE DESIGNER

ELEVATION KEY

CLIMATE ZONE:	**1**
WIND ZONE:	**EX. HIGH**
EARTHQ ZONE:	**1**
EXPOS. ZONE:	**D**
SNOW LOAD:	**N/A**

GENERAL NOTES:

NOTE: DESIGNER SHALL HOLD NO LIABILITY FOR DAYLIGHTING, MAX BUILDING HEIGHT COMPLIANCE IF SITE IS NOT SURVEYED BY A REGISTERED SURVEYOR PRIOR TO ANY CONSTRUCTION

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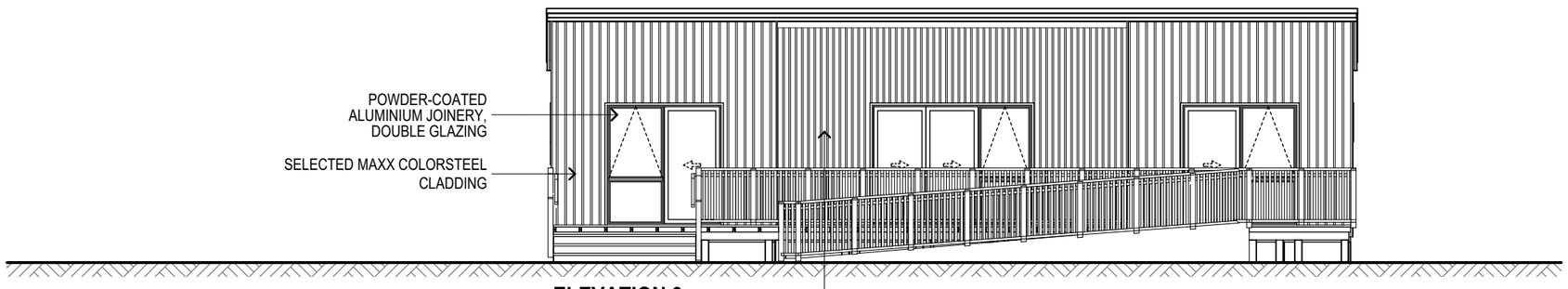
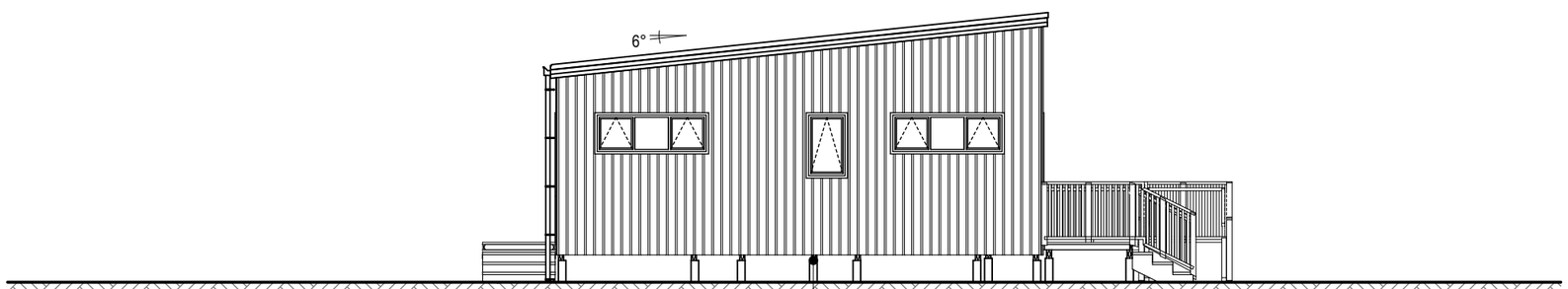
REFER TO FLOOR PLAN FOR JOINERY SIZES & WINDOW HEAD HEIGHTS (UNLESS NOTED OTHERWISE)



ELEVATION 3

BUILDING ENVELOPE RISK MATRIX		
ELEVATION 3		
Risk Factor	**Risk Severity**	**Risk Score**
Wind zone (per NZS 3604)	Extra high risk	2
Number of storeys	Low risk	0
Roof/wall intersection design	Medium risk	1
Eaves width	Very high risk	5
Envelope complexity	Medium risk	1
Deck design	Low risk	0
Total Risk Score:		**9**



ELEVATION 4

BUILDING ENVELOPE RISK MATRIX		
ELEVATION 4		
Risk Factor	**Risk Severity**	**Risk Score**
Wind zone (per NZS 3604)	Extra high risk	2
Number of storeys	Low risk	0
Roof/wall intersection design	Medium risk	1
Eaves width	Very high risk	5
Envelope complexity	Low risk	0
Deck design	Low risk	0
Total Risk Score:		**8**

WAIMAMAKU AFFORDABLE & KAUMATUA HOUSING
LOT:1 | DP:590384
52 HOOKS AND HALL ROAD, WAIMAMAKU, NORTHLAND

ELEVATIONS

DESIGN BY: G. BASILA
DRAWN BY: G. BASILA
REVIEW BY: -

DWG SCALE: 1:100 @ A3
PROJECT REFERENCE: **KHA24XX | CON-01**
DWG DATE: 3/30/2025
LAYOUT ID: **302**

CONSENT

APPENDIX 5

GEOTECHNICAL INVESTIGATION REPORT

BY RS ENG. LTD

GEOTECHNICAL INVESTIGATION REPORT

52 Hooks and Hall Road

Waimamaku

(Lot 1 DP 590384)

RS Eng Ltd • 2 Seaview Road, Whangarei 0110 • **09 438 3273** • **office@RSEng.co.nz**
Consulting Engineers

GEOTECHNICAL INVESTIGATION REPORT

52 Hooks and Hall Road

Waimamaku

(Lot 1 DP 590384)

Report prepared for: Tiopira Taniera Hapu Trust

Report reference: 19340

Date: 11 April 2025

Revision: 3

Document Control

Date	Revision	Description	Prepared by:	Reviewed by:	Authorised by:
7/11/2024	1	Draft Issue	C Hay	D Platt	M Jacobson
11/11/2024	2	Resource Consent Issue	C Hay	D Platt	M Jacobson
11/04/2025	3	Revised Proposal – RC Variation	C Hay	D Platt	M Jacobson

Contents

Appendices

File: 19340
11 April 2025
Revision: 3

GEOTECHNICAL INVESTIGATION REPORT

52 Hooks and Hall Road, Waimamaku

(Lot 1 DP 590384)

1.0 Introduction

RS Eng Ltd (RS Eng) has been engaged by Tiopira Taniera Hapu Trust to investigate the suitability of the property (Lot 1 DP 590384) for construction of residential units. The purpose of this report is to assess the geotechnical suitability of the proposed development.

The client proposes to locate 6 one-bedroom units, 17 two-bedroom units, 7 three-bedroom units, and one managers house onto the property.

2.0 Site Description

This property is located on the northern side of Hooks and Hall Road, approximately 400m from its intersection with State Highway 12. The property encompasses near level to steeply sloping topography, with the steep slopes being buttressed by near level to gently sloping terrain towards the southern side of the property. The development is proposed over the southern side of the property, which consists of a low-lying gently sloping area and near level to gently sloping elevated terrace, backing onto the steep slopes. An existing residential dwelling, sheds and a cabin currently occupy the elevated terrace portion of the property.

Figure 1: View of property, northern direction from Road (*Source: RS Eng File*).

Figure 2: Aerial View of property / proposed development area, hatched areas identifying the low-lying and elevated terraces (*Source: QGIS, Linz Boundaries, NRC Contour - Hill shade*).

3.0 Desk Study

3.1 Referenced/Reviewed Documents

The following documents have been referenced in this report:

- GNS – Geology of The Kaitaia Area – Isaac – 1996.
- Property Consent Notice.

3.2 Site Geology

The GNS 1:250,000 scale New Zealand Geology Web Map indicates that the property is located within an area that is underlain by Karioitahi Group and Otaua Group, which are described respectively as follows: "*Unconsolidated to poorly consolidated sand, peat, mud and shell deposits (estuarine, lacustrine, swamp, alluvial and colluvial)*" and *"Massive to poorly bedded mudstone and muddy sandstone."*

Figure 3: Snip of geological maps at the property (*Source: GNS 250K Maps*).

Investigations at the property and building areas have confirmed the mapped geologies under the property. Specifically, from our desktop study and subsoil investigations completed across the property, both the low-lying and elevated terraces consist of alluvium with colluvium (slope wash) encountered near to the base of the steep northern slopes. Investigations over the northern slopes of the property have confirmed the mapped Otaua Group geology.

3.3 Aerial Photography

RS Eng has undertaken a review of historical aerial photography, specifically images from 1942 and Google Earth imagery. See Figure 4 below of the 1980 image. Several notable features were observed, listed below.

- The existing dwelling and buildings occupy the property prior to 1980. Red indicates approximate property boundaries.
- Soil creep, erosion, and shallow slope instability are evident over the steep slopes north of the existing dwelling.
- Deep seated relic slope instability is observed in areas of the steep slopes, identified below.

Figure 4: 1980 Aerial Image *(Source: www.retrolens.nz).*

4.0 Field Investigation

Technicians and a Graduate Engineer from this office visited the property on 15 October 2024 and 10 March 2025 to undertake a walkover inspection, 3 Scala Penetrometer tests, and 35 hand augers. A Senior Engineer from RS Eng visited the property on 1 November 2024 to undertake a walkover inspection. The walkover inspections did not observe any signs of concern at the building areas in relation to the proposal.

The hand augers were dug to a maximum depth of 4.2m below ground level (BGL). Shear Vane readings were taken at regular intervals throughout the hand augers. Soil and rock descriptions are in general accordance with the New Zealand Geotechnical Society guideline.

The Scala Penetrometer tests were performed at the base of hand augers where the hand augers collapsed, or impenetrable gravels were encountered. The Scala's recorded 5 to 50 blows per 100mm in the gravels.

Seven Cone Penetration Tests (CPTs) were completed by Underground Investigations on 22 October 2024. The CPTs extended to a maximum depth of 13.96m below ground level (BGL).

5.0 Subsoil Conditions

Interpretation of the subsurface conditions is based on the investigations shown on the drawings in Appendix A. The conditions are summarised below.

- Topsoil was encountered to an approximate depth varying between 0.15m to 0.4m BGL.
- Alluvium encountered at the low-lying and gently sloping terrace consisted of soft to very stiff, high plasticity clayey silts, silty sandy clays, silty clays and gravelly clays to depths of 3.3m BGL. In-Situ Undrained Shear Strengths ranged between 29kPa and 160kPa, generally decreasing in strength with depth within this layer.
- Colluvium was encountered in HA7 and HA8 at the base of the northern Otaua Group slopes, consisting of very stiff, high plasticity silty sandy clays and silty clays to depths of 1.2m and 2.0m BGL. In-Situ Undrained Shear Strengths ranged between 130kPa and 163kPa.
- Inferred gravels, cobbles, and/or boulders were encountered within the alluvium, underlying the clays at depths ranging between 2.0m and 3.3m BGL. The gravels, cobbles, and boulders are inferred to be greater than 5.0m thick.
- Otaua Group residual soils on the northern slopes consisted of very stiff, low to high plasticity silty clays, silty sandy clays, and clayey sandy silts to depths of 1.5m and 2.0m BGL. In-Situ Undrained Shear Strengths in this material ranged between 130kPa to 173kPa.

- Completely weathered mudstone was encountered consisting of very stiff clayey sandy silt, with some fine to medium gravels to a depth of 4.2m BGL. In-Situ Undrained Shear Strengths in this material exceeded 201kPa.
- The CPTs generally recorded similar results to the hand auger investigations, encountering and refusing (Qc >20-60MPa) on inferred gravels and boulders at depths generally between 2.0m and 3.0m BGL across the low-lying area and gently sloping terrace.
- CPTs on and adjacent to the northern slopes encountered and refused on inferred weak to moderately strong mudstone and/or sandstone at depths of 13m to 14m BGL.
- Groundwater was encountered across the proposed development area / gently sloping terrace at depths of 0.4m to 1.3m BGL. Downslope to the west of the gently sloping terrace area, within the low-lying paddocks, groundwater was encountered between 0.3m to 0.5m BGL.

6.0 Geotechnical Assessment

6.1 Slope Stability

The proposed units are to be located on the near level to gently sloping alluvial terrace, extending into the proximity of moderately to steeply sloping Otaua Group knoll which protrudes out from the northern Otaua Group slopes.

Both the low-lying alluvial terrain and the elevated alluvial terrace display no signs of slope instability. However, the western edge of the elevated terrace where the terrace falls moderately down to the low-lying western paddocks displays signs of shallow soil creep. These slopes are proposed to be re-shaped as part of the development earthworks to achieve suitable building platforms for the units.

The northern portion of the property, where the Otaua Group slopes become steep, displays signs of soil creep and slope instability. It is envisaged that cutting into the steep Otaua Group slopes will be required as part of the development earthworks. All earthworks into slopes >14° shall be reviewed by a Chartered Professional Engineer at the detailed design stage, to confirm the stability of the cut slope.

Considering the proposed units are to be located over the elevated predominantly gently sloping terrace, and proposed re-shaping of moderate and steep slopes and further detailed earthworks review to be undertaken, RS Eng consider the proposed works to be at a risk of low slope instability, provided the recommendations within this report are adhered to.

6.2 Static Settlement

The proposed units are underlain by alluvium. The alluvium generally consisted of 2m to 3m of soft to stiff lightly over consolidated clays.

Settlement over the property is in the order of 5-10mm per 10kPa of load imposed is expected. However, this is based on the CPT results and correlations using CPet-IT, and actual settlements may be less.

Earthworks across the development will involve approximately up to 1.5m of fill above existing ground. Due to the fill required and expected building loads, settlements are expected up to a maximum of 25mm, with differential settlements expected to be less than the NZ Building Code limits of 1V:240H.

Where filling exceeds 1.5m and building loads are greater than 10kPa, further geotechnical assessment shall be undertaken. To reduce settlements, foundations can be excavated through the clay and embedded into the underlying gravel/boulder layer.

6.3 Liquefaction

The proposed units are positioned on land underlain by the Karioitahi Group - Alluvium and Otaua Group. Hand augers and CPTs have encountered soils that are cohesive in nature overlying dense to very dense gravels and boulders within the alluvial terrace. The Otaua Group soils encountered were cohesive in nature, overlying very weak to weak mudstone. RS Eng consider that liquefaction triggering of the cohesive soils and cobbles is unlikely during the design seismic events.

6.4 Expansive Soils

The clayey soils encountered on-site are likely to be subject to volumetric change with seasonal changes in moisture content (wet winters / dry summers); this is known as expansive or reactive soils. Apart from seasonal changes in moisture content other factors that can influence soil moisture content at the include:

- Influence of garden watering and site drainage.
- The presence of large trees close to buildings. Large trees can cause variation in the soil moisture content for a distance of up to 1.5 times their mature height.
- Initial soil moisture conditions during construction, especially during summer and more so during a drought. Building platforms that have dried out after initial excavation should be thoroughly wet prior to any floor slabs being poured.
- Plumbing leaks.

Based on a visual tactile assessment made during the subsoil investigation, and laboratory test results in this geology within similar terrain, RS Eng considers the soils as being Class H1 (highly expansive) as per AS 2870.

6.5 Shallow Soil Creep

Seasonal changes in moisture content of clayey soils cause shrink/swell effects (expansive soils). On slopes generally more than 14° the cyclic shrink/swell characteristics combined with gravity forces cause the surface soil to displace downslope over time. This can be accelerated and exaggerated by stock. Soil creep can affect shallow slope angles where underlain by weaker materials but may not affect steeper slopes when soil strengths are high.

Shallow creep was generally evident on the moderate and steep slopes over the property, being evident at the western edge and an isolated area on the southern edge of the elevated alluvial terrace. Units are proposed within proximity to these moderate and steep slopes. These slopes with the identified creep have been detailed in Appendix A.

Earthworks shall be completed to re-contour the moderate slope, cuts and fills are expected to be required to re-shape the western edge and the isolated southern edge of the terrace to create building platforms. Alternatively, 5m building setbacks shall be implemented along the crest of the moderate and steep slopes along the western and southern edge of the elevated terraces.

7.0 Engineering Recommendations

7.1 Site Subsoil Class

In accordance with NZS 1170.5:2004, Section 3.12.3 the site has been assessed for its Site Subsoil Class. Based on the observations listed above RS Eng considers the site soils lie within Site Class C *"Shallow Soil Site."*

7.2 Further Geotechnical Assessment

All earthworks into slopes >14° shall be reviewed by a Chartered Professional Engineer at the detailed design stage.

Where filling exceeds 1.5m and building loads are greater than 10kPa, further geotechnical assessment shall be undertaken. To reduce settlements, foundations can be excavated through the clay and embedded into the underlying gravel/boulder layer

7.3 Ground Improvement

Earthworks shall be completed to re-contour the moderate to steep slopes, filling and cutting is expected to re-shape the western and southern edge of the terrace to create a platforms for the residential units. Refer to the attached site plan in Appendix A.

Where these slopes are not re-contoured, a 5m building setback restriction shall be implemented along the crest of the moderate to steep western and southern slopes.

7.4 Earthworks

To form access to and create building platforms for the proposed units, earthworks are proposed. To suitably develop the building area, RS Eng recommend as follows.

- The building site and driveway should be shaped to assist in stormwater run-off and avoid ponding of surface water.
- A surface water cut-off drain shall be excavated upslope of the development, to divert surface water away from the units.
- Cuts on slopes >14° shall consider the effects of global slope instability.
- Cuts shall take into account the flood level and minimum floor levels, outlined in a separate report by RS Eng.
- Fills shall be limited to a maximum of 2.0m above existing ground level.
- Where fills exceed 1.0m above existing ground level, consideration and further assessment of settlement shall be undertaken with the addition of the specific proposed building loads.
- Cut batters should be sloped at angles less than 1V to 2.5H.
- Fill batters should be sloped at angles less than 1V to 3H.

- Steep temporary excavations should not be left unsupported with impending bad weather or for extended periods of time, typically less than 3 days.
- Isolated soft areas may be encountered around the existing dwelling where existing foundations are removed.
- Existing soakage pits, septic tanks, effluent disposal fields is expected to be located near the existing dwelling on the property. If encountered, these shall be removed and replaced with compacted granular hardfill and/or foundations shall extend a minimum of 0.5m below any fill, pits, etc.
- All earthworks shall be monitored by a suitably experienced Chartered Professional Engineer.
- Site works shall generally be completed in accordance with NZS 4431.

7.5 Foundations

It is envisaged that the units will comprise of timber floors supported on pile foundations. To suitably found the proposed construction, RS Eng make the following recommendations.

- All foundations shall be specifically designed by a Chartered Professional Engineer to account for Class H1 soils and the bearing capacities set out below.
- Foundation designs shall consider settlement, being assessed as in the order of 5-10mm per 10kPa of load imposed.
- Pile shaft adhesion shall be ignored from the surface to a depth of 1.0m due to the presence of Class H soils as per AS 2870.
- If timber driven piles are adopted, these shall be specifically designed in accordance with Section 7.5.1 below.
- Timber piles foundations drilled below 1.0m may prove difficult due to the soft clays and shallow groundwater possibly causing augered holes to collapse.

Shallow Foundations

Notwithstanding the recommendations of this report, for the specific design of shallow foundations, RS Eng has assessed the following.

- 150kPa Ultimate Bearing Capacity (Geotechnical Ultimate).
- 100kPa Dependable Bearing Capacity (Ultimate Limit State).
- 50kPa Allowable Bearing Capacity (Serviceability Limit State).

Deep Foundations

Notwithstanding the recommendations of this report, for the specific design of deep foundations, embedded a minimum of 0.5m into the dense gravel layer, RS Eng has assessed the following.

- 300kPa Ultimate Bearing Capacity (Geotechnical Ultimate).
- 150kPa Dependable Bearing Capacity (Ultimate Limit State).
- 100kPa Allowable Bearing Capacity (Serviceability Limit State).

7.5.1 Driven Pile Foundations

Timber driven piles shall be specifically designed by a Chartered Professional Engineer using acceptable methods. Minimum embedments of 2.0m is required. Vertical pile capacities shall be determined using B1/VM4 of the NZ Building Code. Under no circumstances shall the Hiley Formula be solely used to determine pile capacities. The Hiley Formula using a FoS=5 could be adopted to assess driven pile sets and to review capacities during pile installation.

For specific design of driven timber pile foundations, being driven to refusal (expected at 3.0m to 6.0m BGL), RS Eng has assessed the following as per B1/VM4 of the NZ Building Code.

- 1100kPa Ultimate End Bearing Capacity (Geotechnical Ultimate).

For Ultimate Limit State design, a strength reduction factor of 0.45 should be adopted for pile design.

7.5.2 Leading Edge Creep Foundations

Where re-contouring of the moderate to steep slopes is not undertaken as detailed in Section 7.3, leading edge timber pile foundations shall be incorporated where foundations are located within 5m of the moderate to steeply sloping edge of the elevated alluvial terrace, being specifically designed by a suitably experienced Chartered Professional Engineer to account for the lateral forces associated with at least 1.0m of shallow soil creep below original ground level.

The piles shall be designed for an effective retaining width of 3 x pile diameters (unless spaced closer), using the assessed parameters listed in Table 1.

7.6 Timber Pole Retaining Walls

Retaining walls shall be specifically designed by a suitably experienced Chartered Professional Engineer familiar with the contents of this report, using the assessed soil parameters presented in Table 1. Retaining walls shall be designed for at rest earth pressures. Retaining wall designs shall incorporate global stability analysis.

Where retaining walls are incorporated in buildings or located adjacent to buildings and property boundaries, the effects of deformation should be considered.

Retaining wall footings drilled below 1.0m are likely to encounter groundwater potentially causing difficulty for augering of the footings due to collapsing.

Table 1: Assessed Retaining Wall Design Parameters.

Parameter	Alluvial Clays	Alluvial Gravel	Otaua Group residual soil	Otaua Group completely weathered mudstone
Soil Density (kN/m³)	18	22	19	19
Friction Angle (°)	25	30	26	28
Drained Cohesion, (kPa)	0	0	0	0
Undrained Shear Strength (kPa)	40	80	60	80

8.0 Construction Monitoring and Producer Statements

Any works not inspected will be excluded from future producer statements (PS4) to be issued by RS Eng. In any event, where doubt exists regarding inspections, this office should be contacted for advice and provided with reasonable notice of inspections.

9.0 Conclusions

It is the conclusion of RS Eng Ltd that the building area is suitable for the proposal provided the recommendations and limitations stated within this report are adhered to.

RS Eng Ltd also concludes that subject to the recommendations of this report, in terms of Section 72 of the Building Act 2004;

(a) the building work to which an application for a building consent relates will not accelerate, worsen, or result in slippage or subsidence on the land on which the building work is to be carried out or any other property; and

(b) the land is neither subject to nor likely to be subject to slippage or subsidence.

10.0 Limitations

This report has been prepared solely for the benefit of our client. The purpose is to determine the engineering suitability of the proposed residential units, in relation to the material covered by the report. The reliance by other parties on the information, opinions or recommendations contained therein shall, without our prior review and agreement in writing, do so at their own risk.

Recommendations and opinions in this report are based on data obtained as previously detailed. The nature and continuity of subsoil conditions away from the test locations are inferred and it should be appreciated that actual conditions could vary from those assumed. If during the construction process, conditions are encountered that differ from the inferred conditions on which the report has been based, RS Eng should be contacted immediately.

Construction site safety is the responsibility of the builder/contractor. The recommendations included herein should not be construed as direction of the contractor's methods, construction sequencing or procedures. RS Eng can provide recommendations if specifically engaged to, upon request.

This report does not address matters relating to the National Environmental Standard for Contaminated Sites, and if applicable separate advice should be sought on this matter from a suitably qualified person.

Prepared by:

Codie Hay
Senior Technician
NZDE(Civil)

Reviewed by:

David Platt
Geotechnical Team Leader
NZDE(Civil), MEngNZ

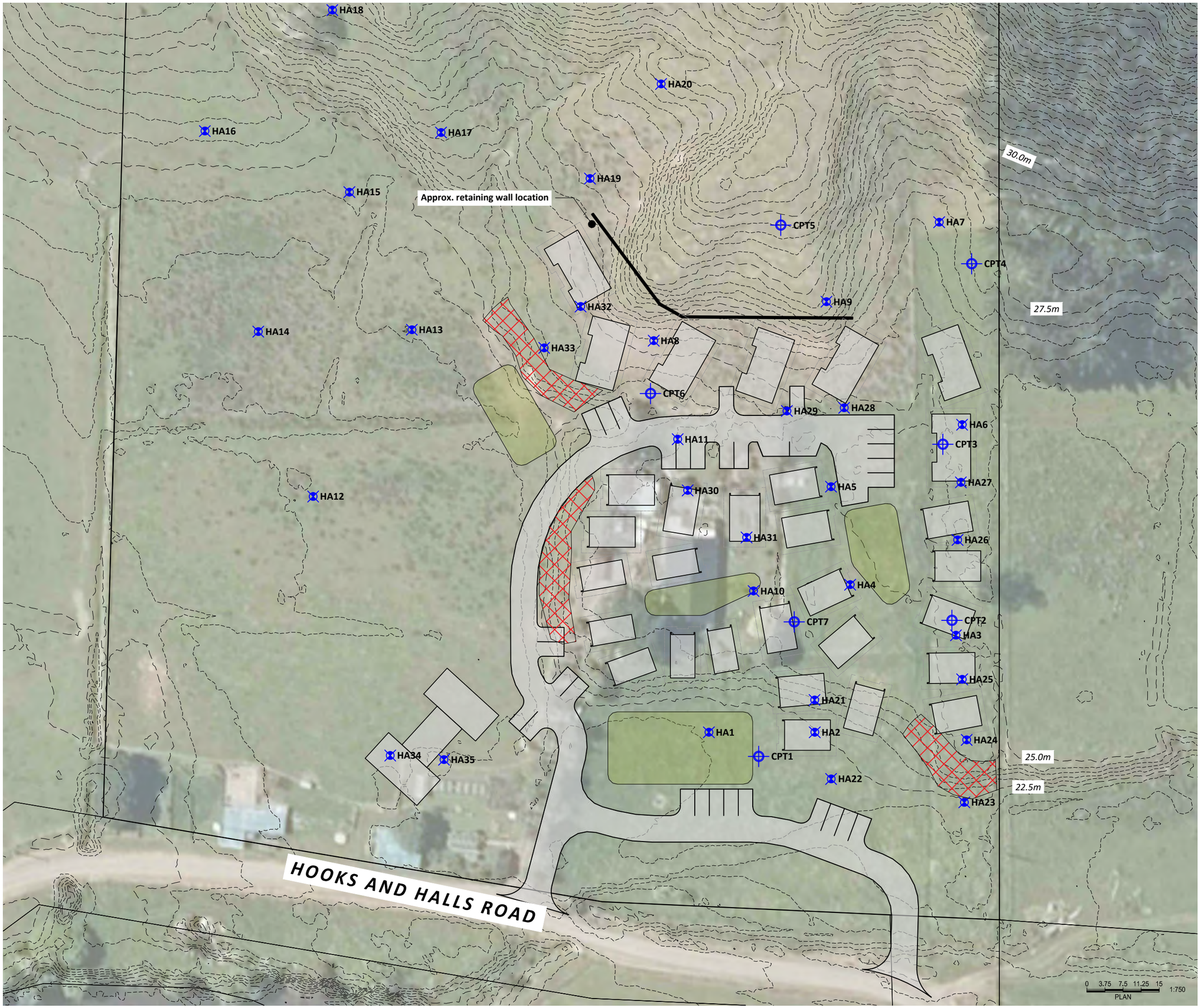
Approved by:

Matthew Jacobson
Director
NZDE(Civil), BE(Hons)(Civil), CPEng, CMEngNZ

RS Eng Ltd

Appendix A

Drawings



NOTES:

- If any part of these documents are unclear, please contact RSEng Ltd.
- This plan is copyright to RSEng Ltd and should not be reproduced without prior permission.

Contours are shown at 0.5m crs.
Contours are derived from LiDAR (2018) and are shown at NZVD2016 Vertical Datum.

LEGEND

- Hand Auger Location
- Cone Penetration Test Location
- Individual Units
- Slopes to be re-contoured with earthworks or leading edge piles to be incorporated, refer to attached RS Eng report.

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2 Seaview Road,
Whangarei 0110

Title
GEOTECHNICAL INVESTIGATION
WAIMAMAKU HOUSING DEVELOPMENT

Client
TIOPIRA TANIERA HAPU TRUST

Location
52 HOOKS & HALLS ROAD
WAIMAMAKU

Date	Rev	Notes
20/03/2025	B	PROPOSAL CHANGE ISSUE
31/10/2024	A	GEOTECH REPORT ISSUE

Scale	Original	Rev
1:750	A3	B

Drawn	Approved	File #	Sheet
CH	MJ	19340	1

Appendix B

Subsurface Investigations

GeoLogismiki
Geotechnical Engineers
Merarhias 56
http://www.geologismiki.gr

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Surface Elevation: 0.00 m
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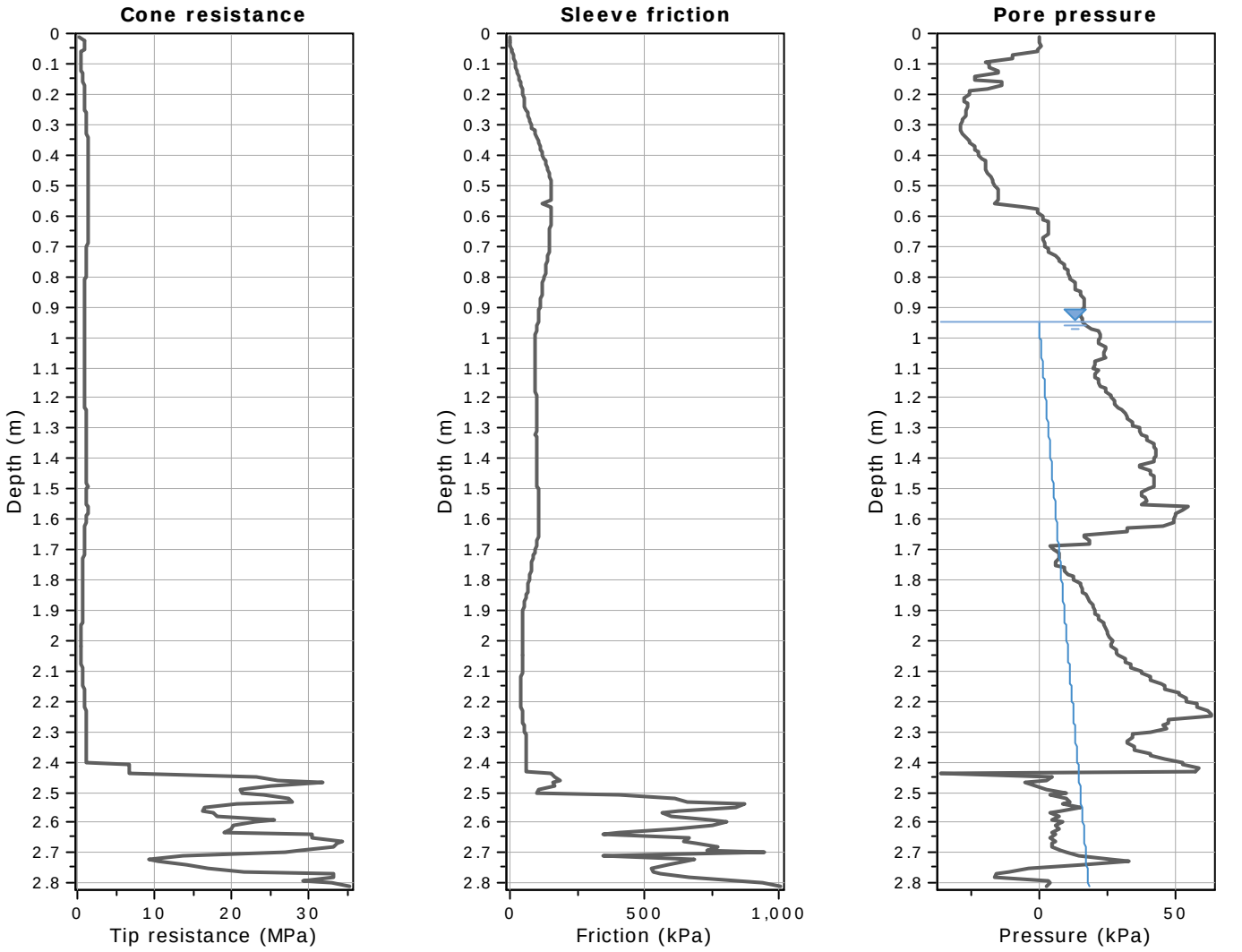
Cone Operator:

Project: Aged Care Facility and Units
Location: 52 Hooks and Hall Road, Waimamaku



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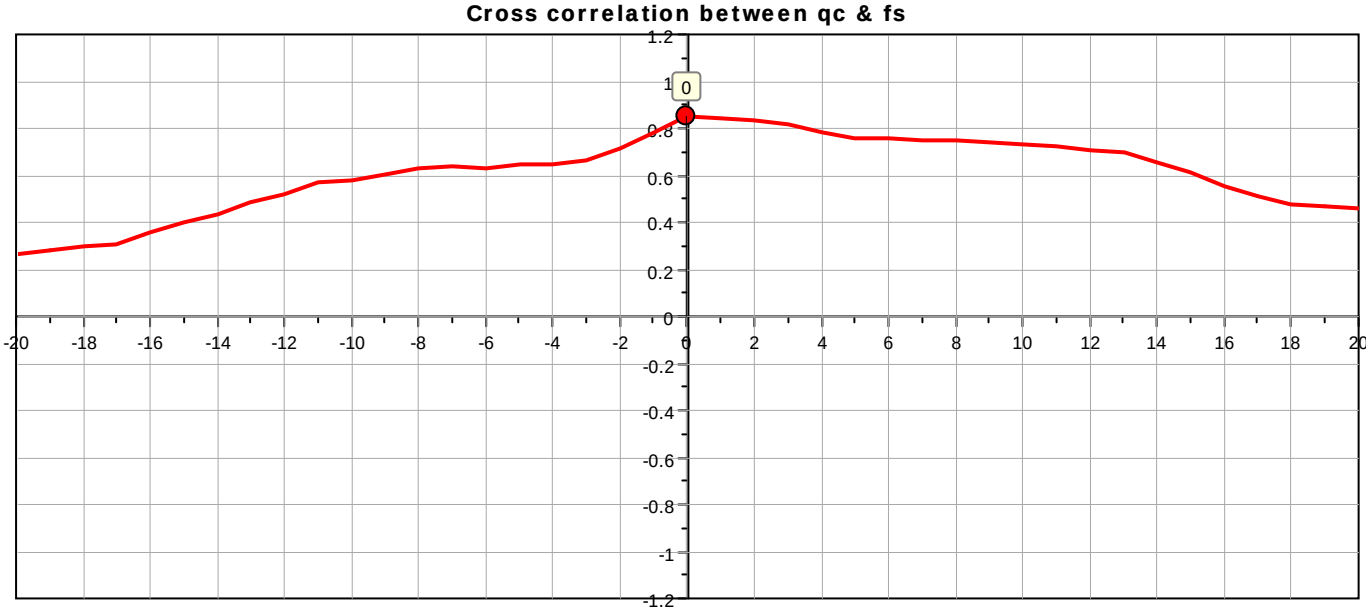

GeoLogismiki
Geotechnical Engineers
Merarhias 56
http://www.geologismiki.gr

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Project: Aged Care Facility and Units
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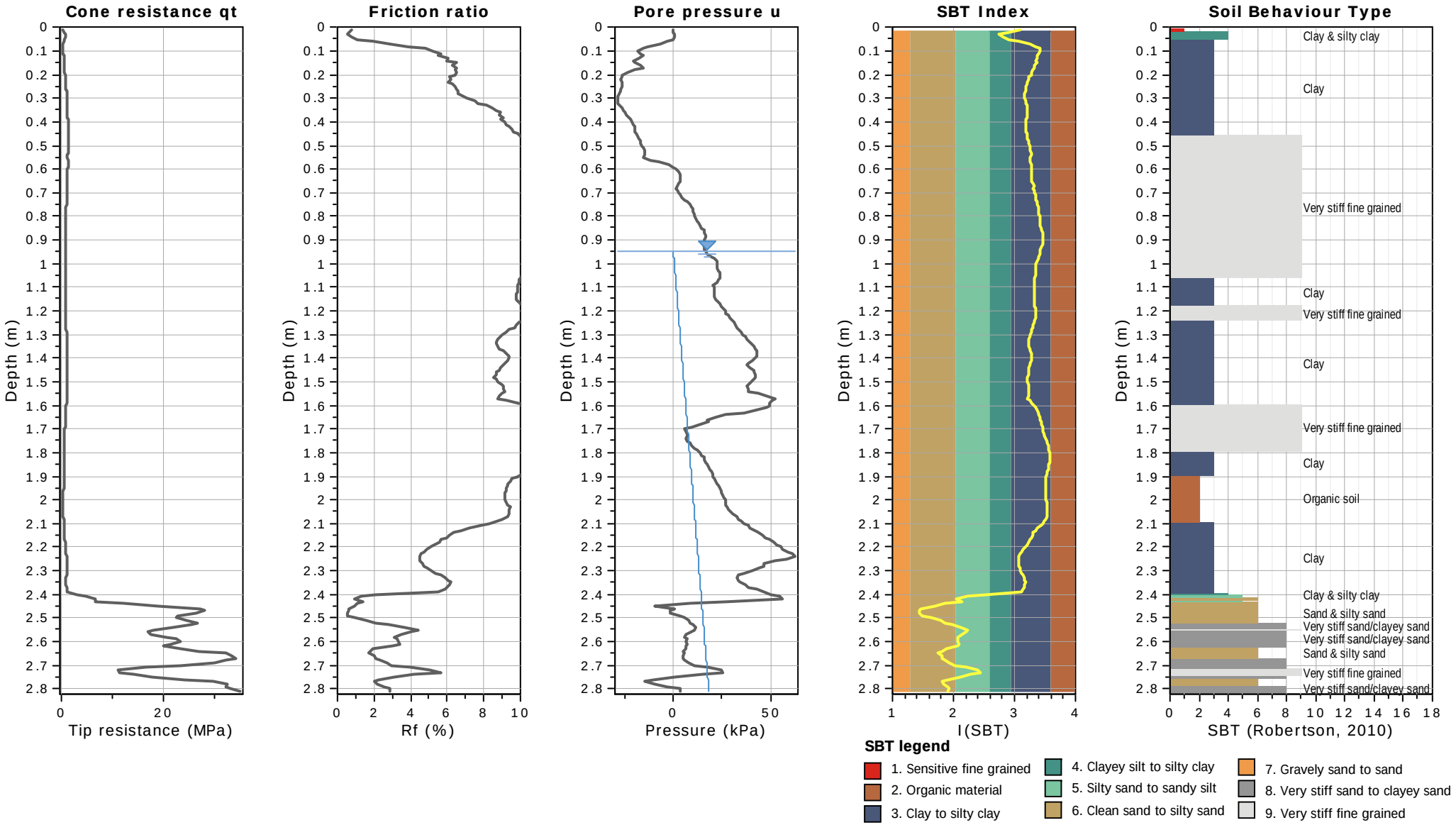

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Geotechnical Engineers
Merarhias 56
http://www.geologismiki.gr

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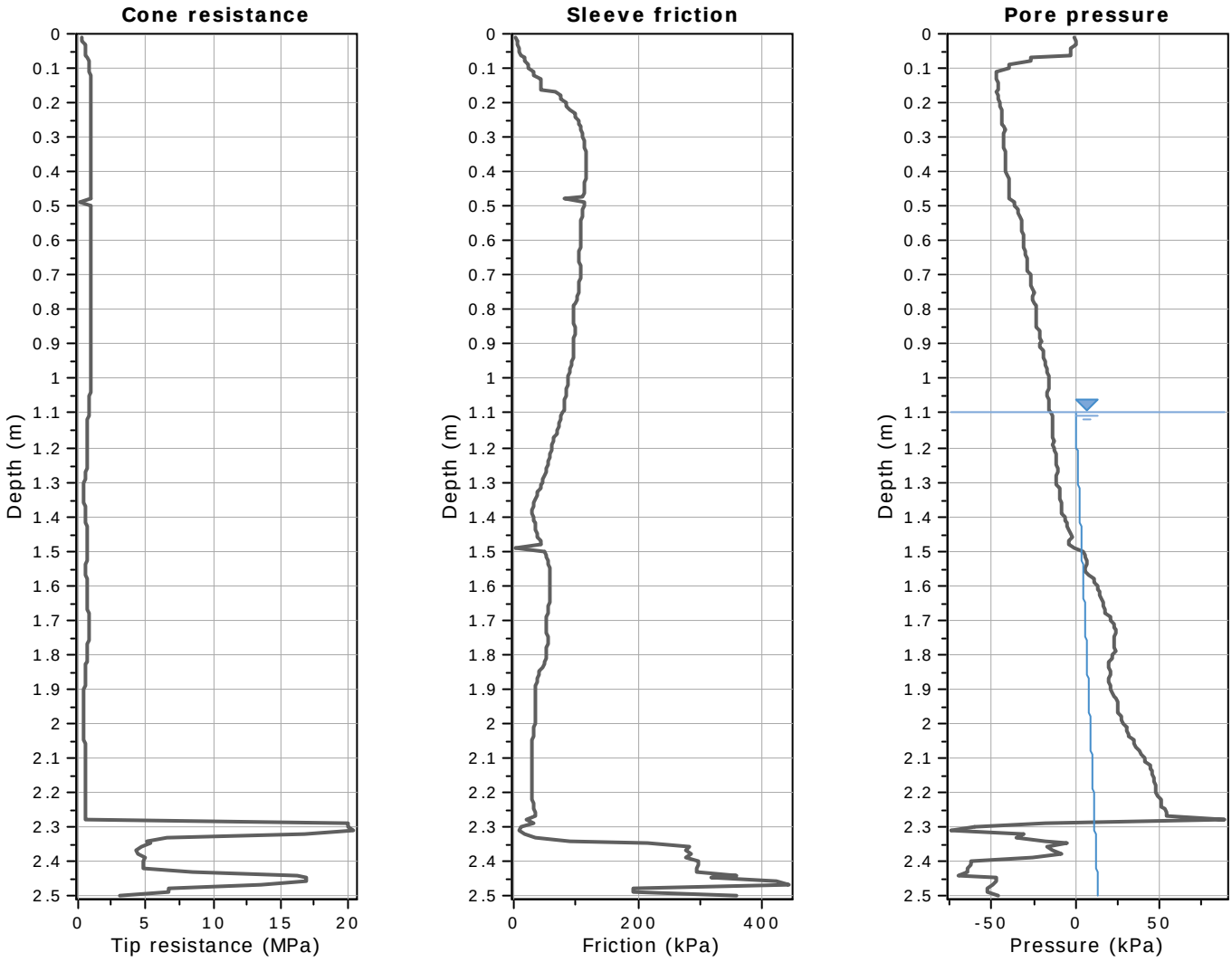
Project: Aged Care Facility and Units
Location: 52 Hooks and Hall Road, Waimamaku



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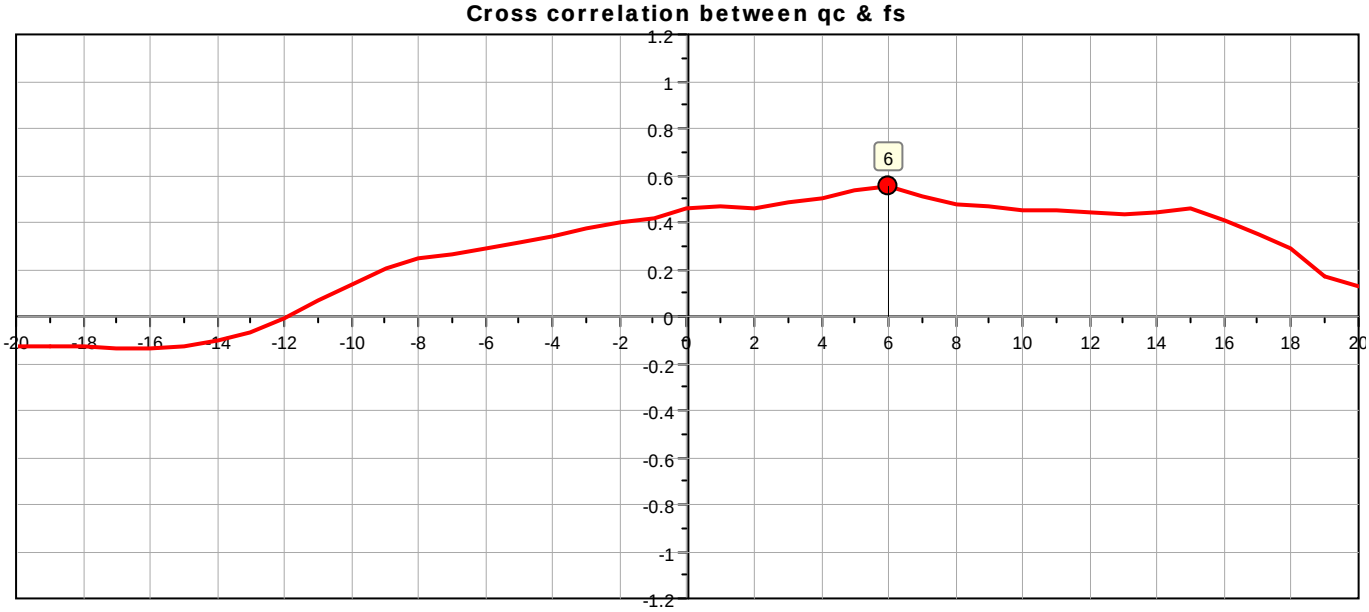

GeoLogismiki
Geotechnical Engineers
Merarhias 56
http://www.geologismiki.gr

Project: Aged Care Facility and Units
Location: 52 Hooks and Hall Road, Waimamaku

CPT: CPT02
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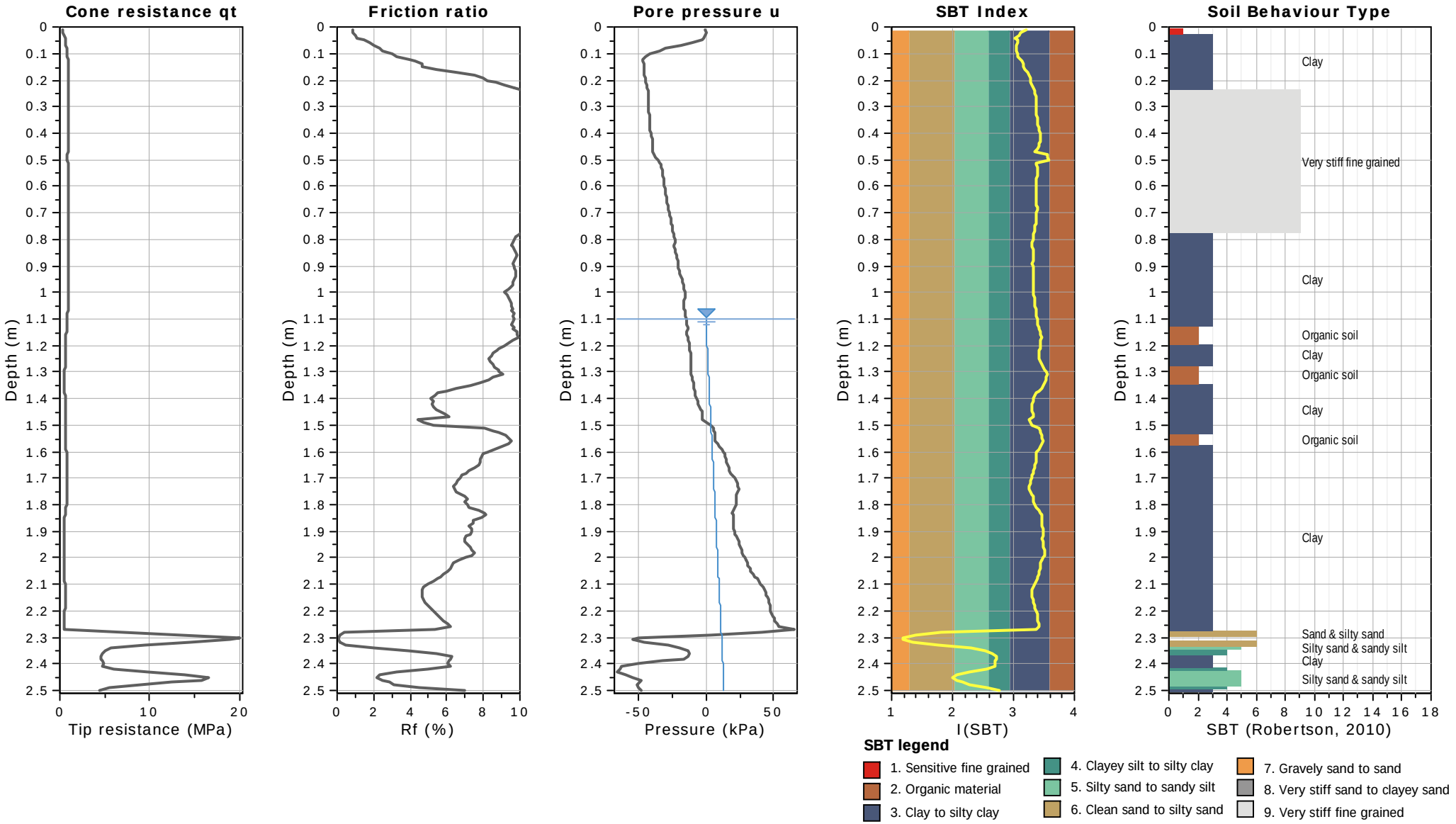
Cone Operator:



GeoLogismiki
Geotechnical Engineers
Merarhias 56
http://www.geologismiki.gr

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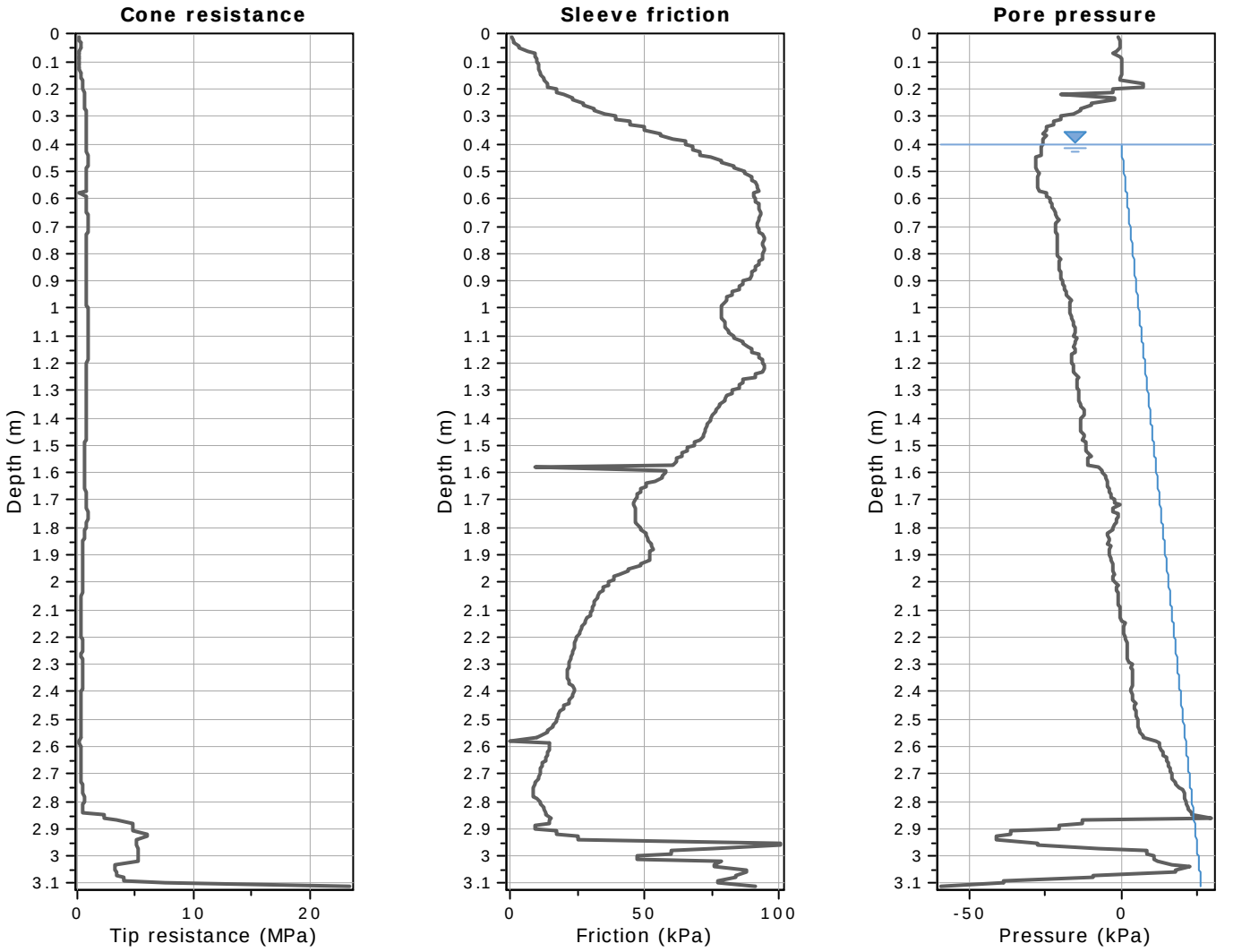
Cone Operator:

Project: Aged Care Facility and Units
Location: 52 Hooks and Hall Road, Waimamaku



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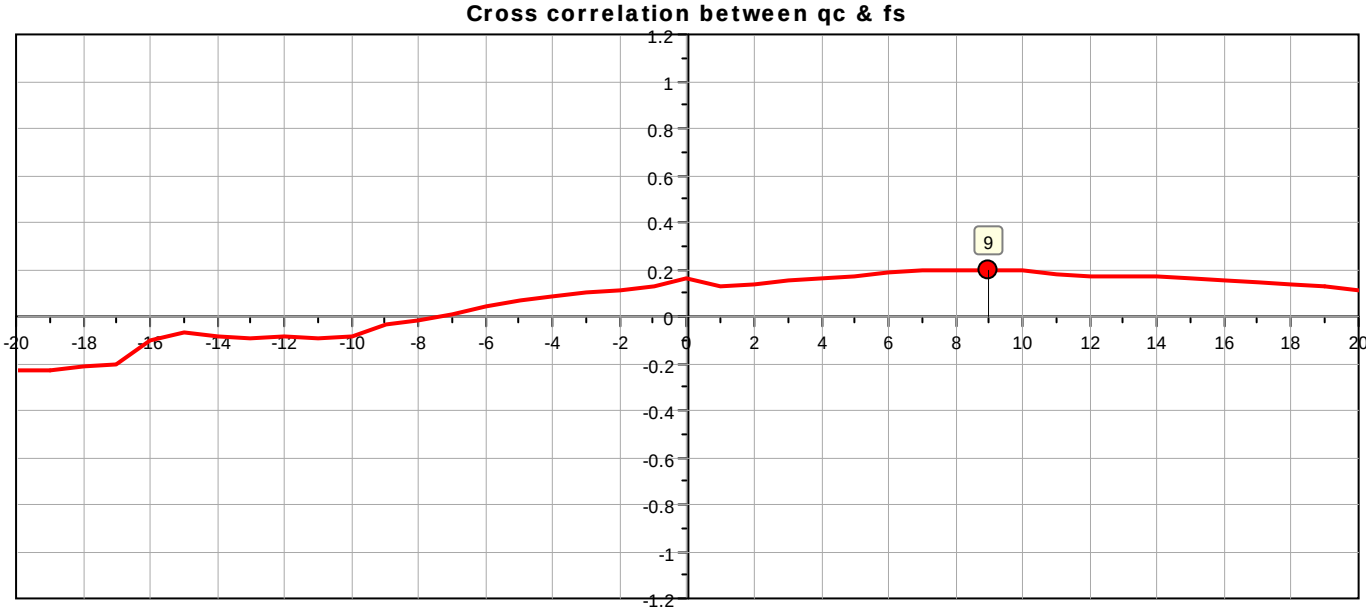

GeoLogismiki
Geotechnical Engineers
Merarhias 56
http://www.geologismiki.gr

CPT: CPT03
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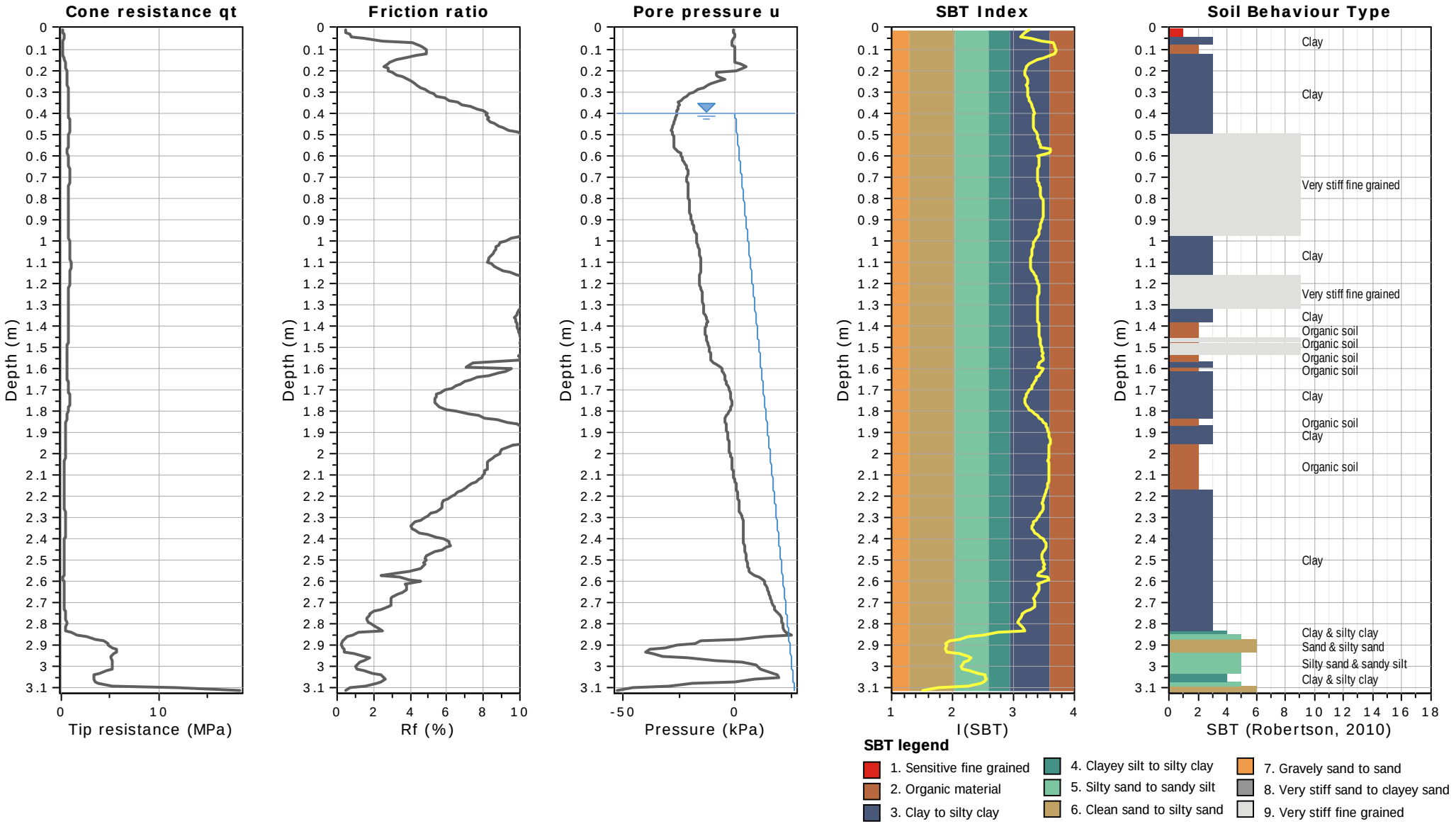
Cone Operator:

Project: Aged Care Facility and Units
Location: 52 Hooks and Hall Road, Waimamaku



GeoLogismiki
Geotechnical Engineers
Merarhias 56
http://www.geologismiki.gr

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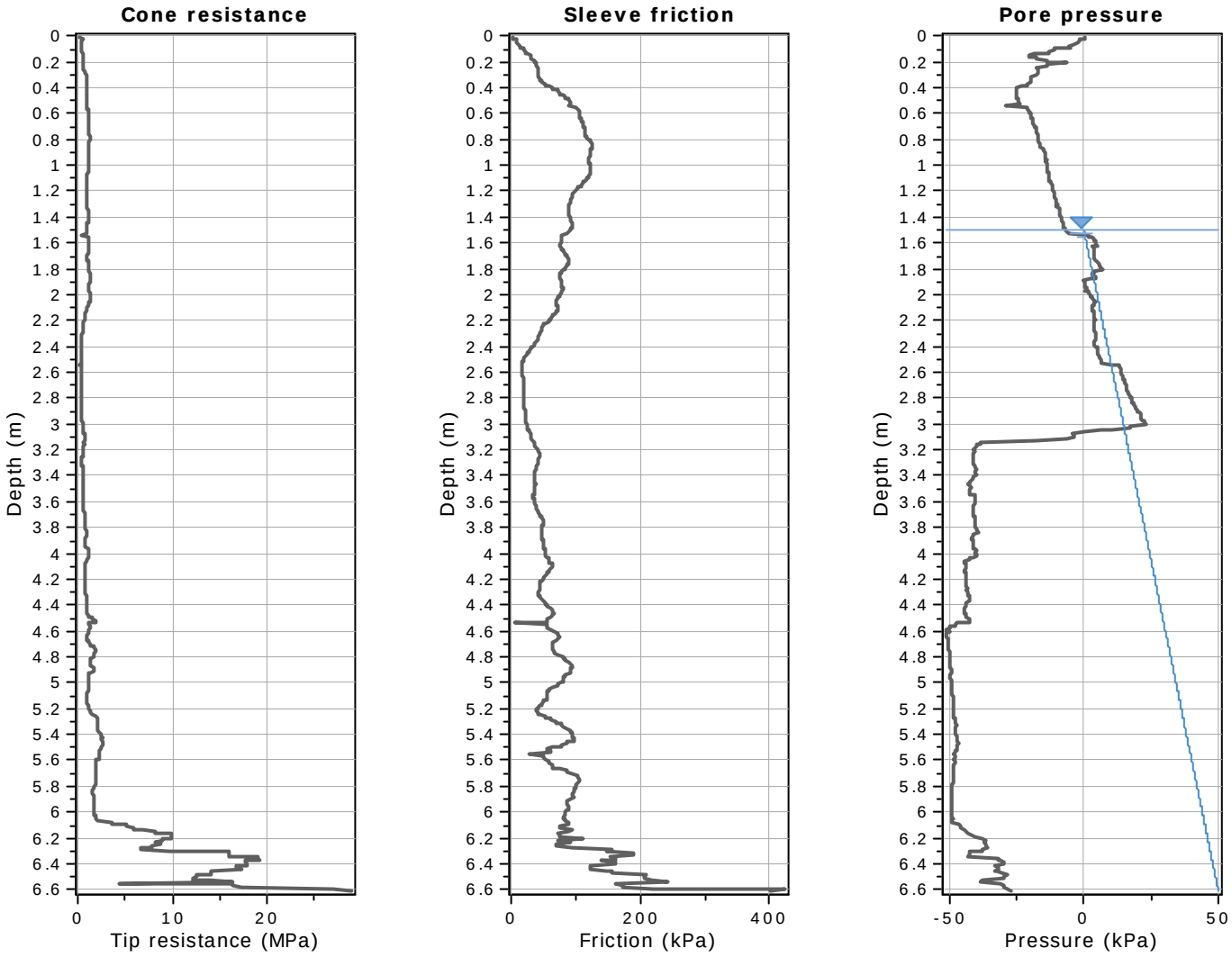
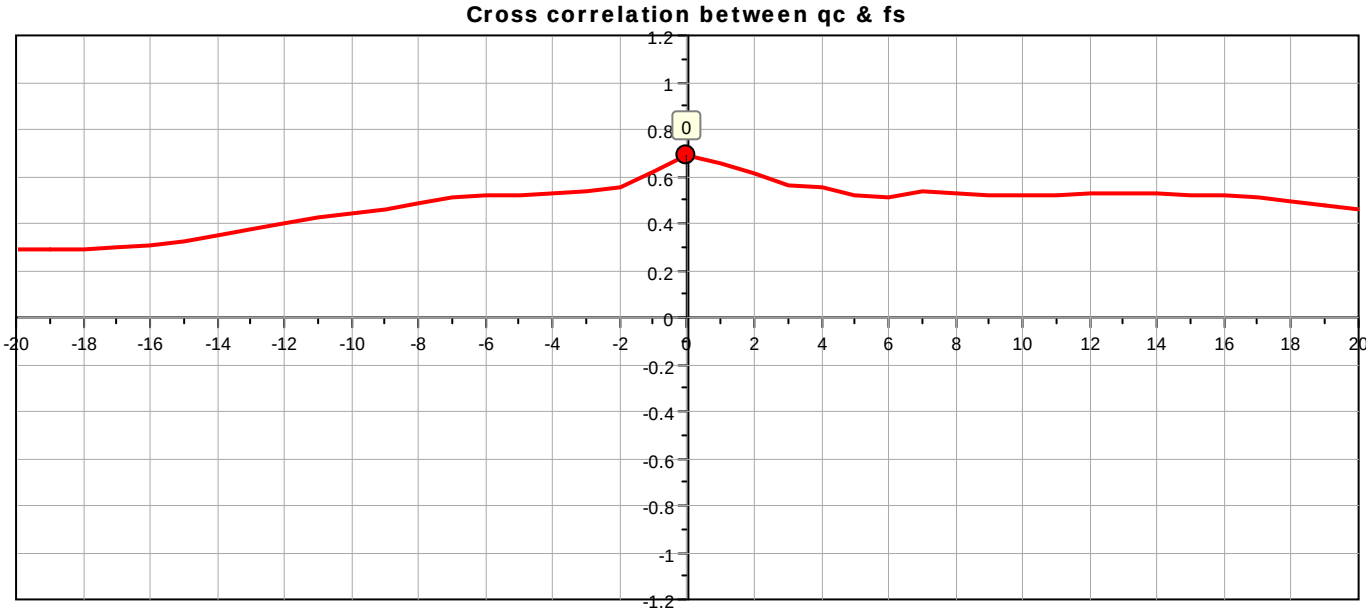
Surface Elevation: 0.00 m
Coords: X:0.00, Y:0.00
Cone Type:
Cone Operator:

Project: Aged Care Facility and Units
Location: 52 Hooks and Hall Road, Waimamaku



The plot below presents the cross correlation coeficient between the raw qc and fs values (as measured on the field). X axes presents the lag distance (one lag is the distance between two sucessive CPT measurements).



GeoLogismiki
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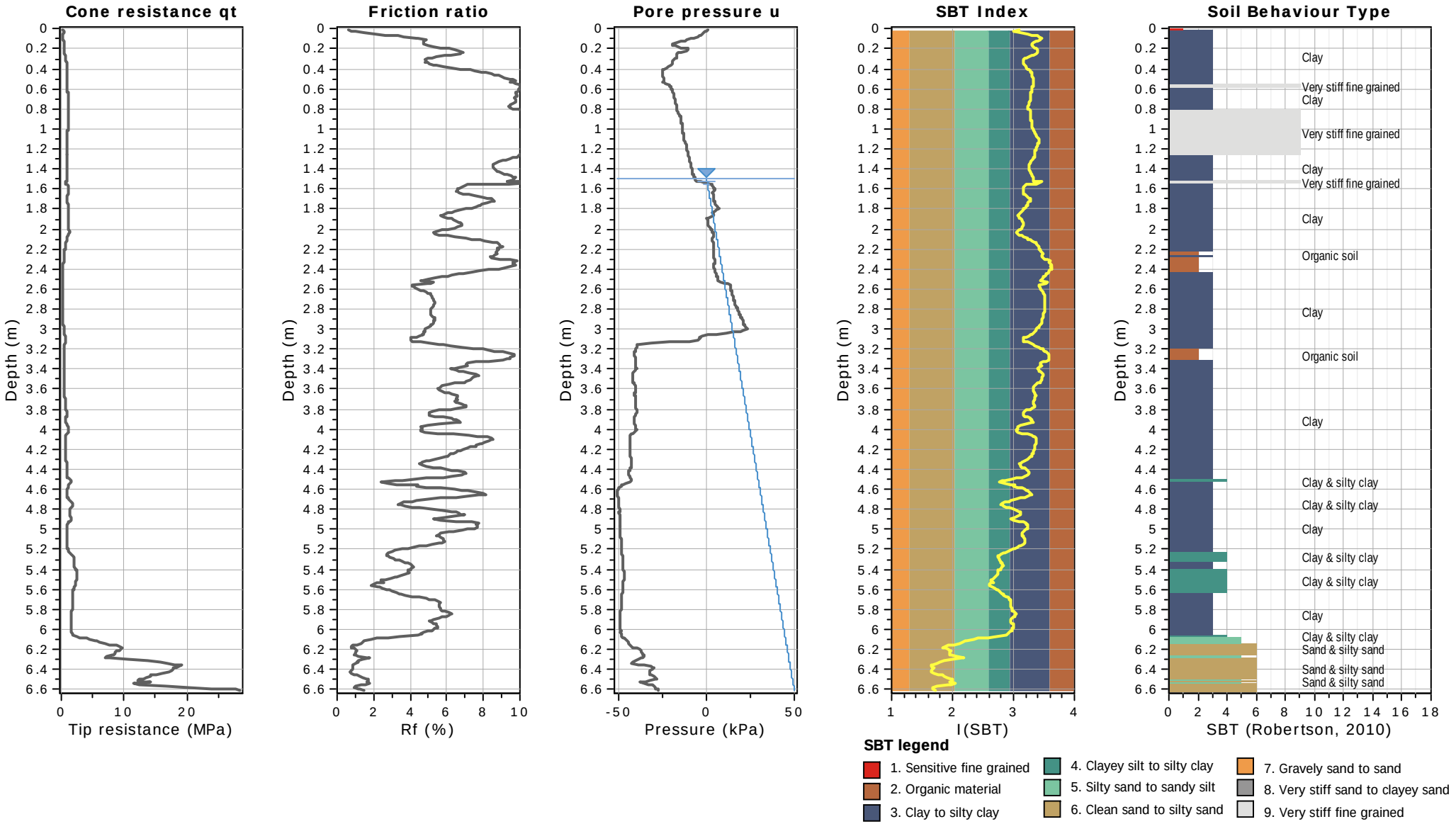
http://www.geologismiki.gr

CPT: CPT04
Total depth: 6.61 m, Date: 31/10/2024
Surface Elevation: 0.00 m
Coords: X:0.00, Y:0.00
Cone Type:
Cone Operator:

Project: Aged Care Facility and Units
Location: 52 Hooks and Hall Road, Waimamaku



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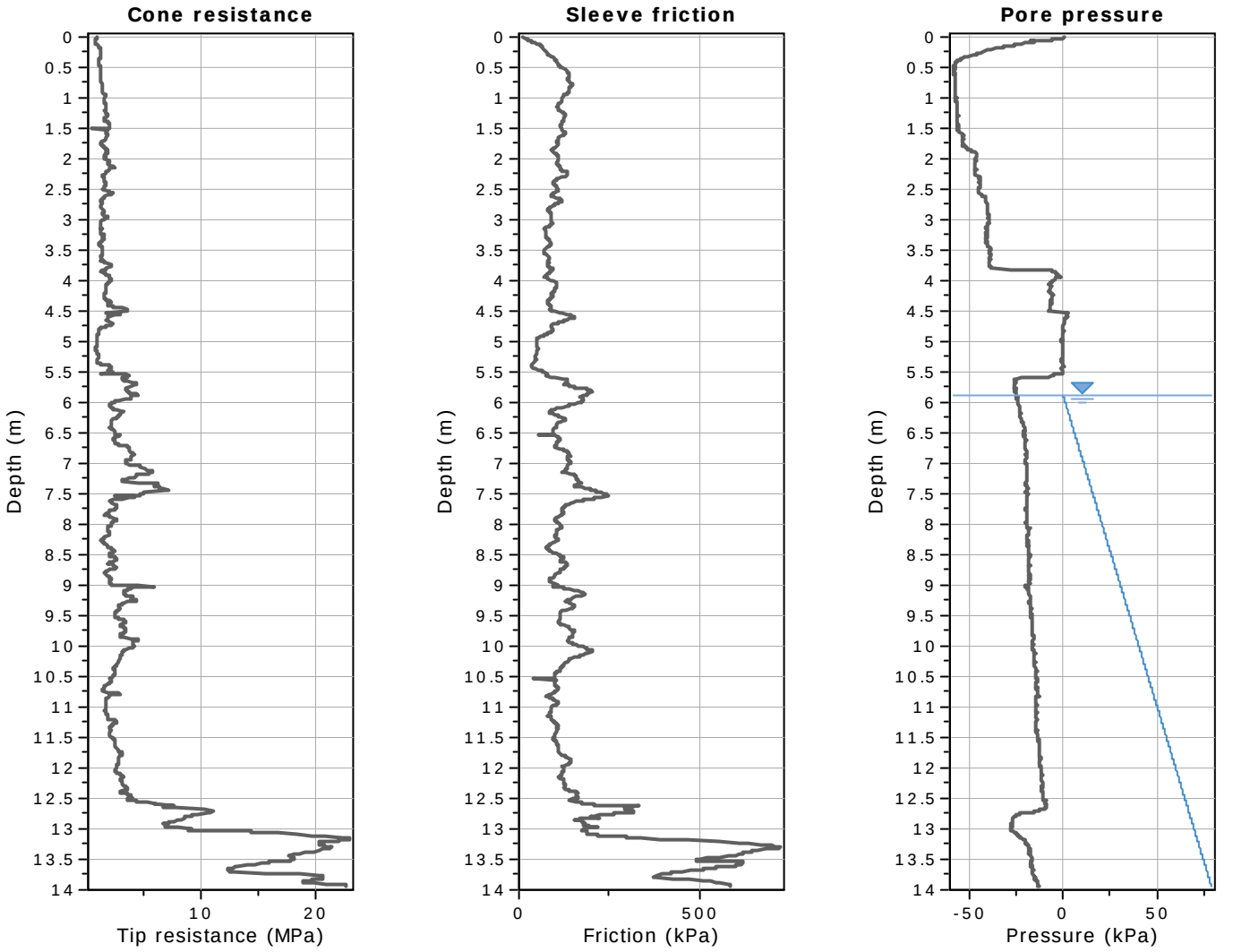
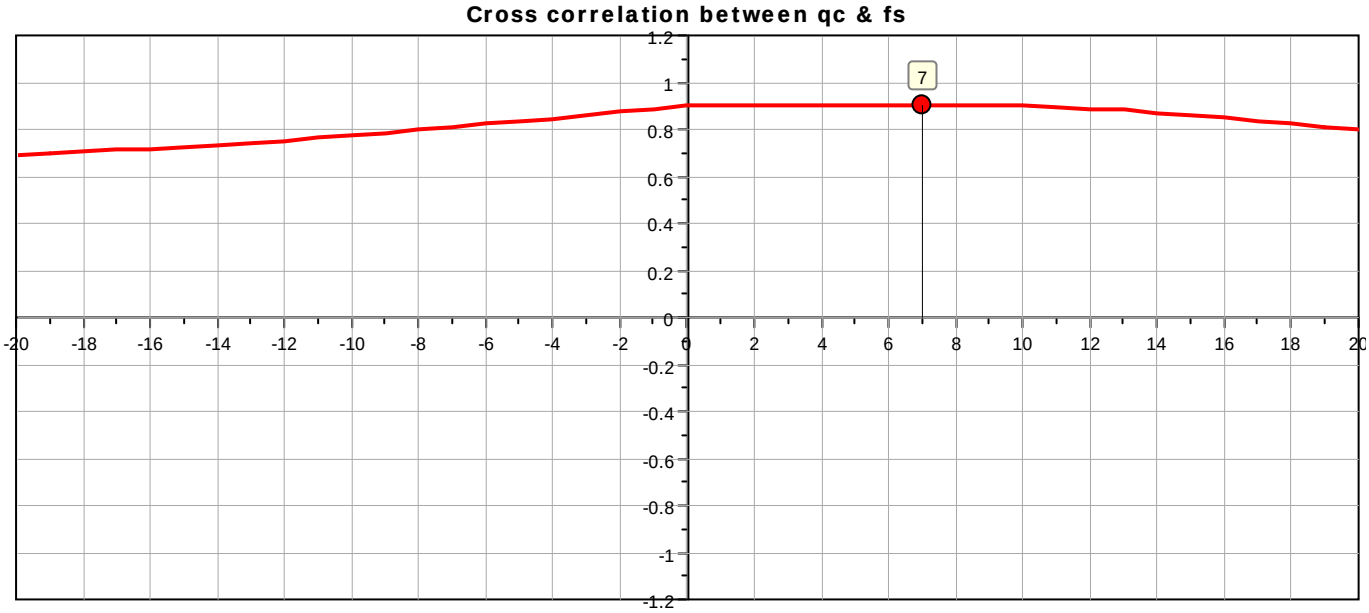
CPT: CPT05
Total depth: 13.95 m, Date: 31/10/2024
Surface Elevation: 0.00 m
Coords: X:0.00, Y:0.00
Cone Type:
Cone Operator:

Project: Aged Care Facility and Units
Location: 52 Hooks and Hall Road, Waimamaku



The plot below presents the cross correlation coeficient between the raw qc and fs values (as measured on the field). X axes presents the lag distance (one lag is the distance between two sucessive CPT measurements).



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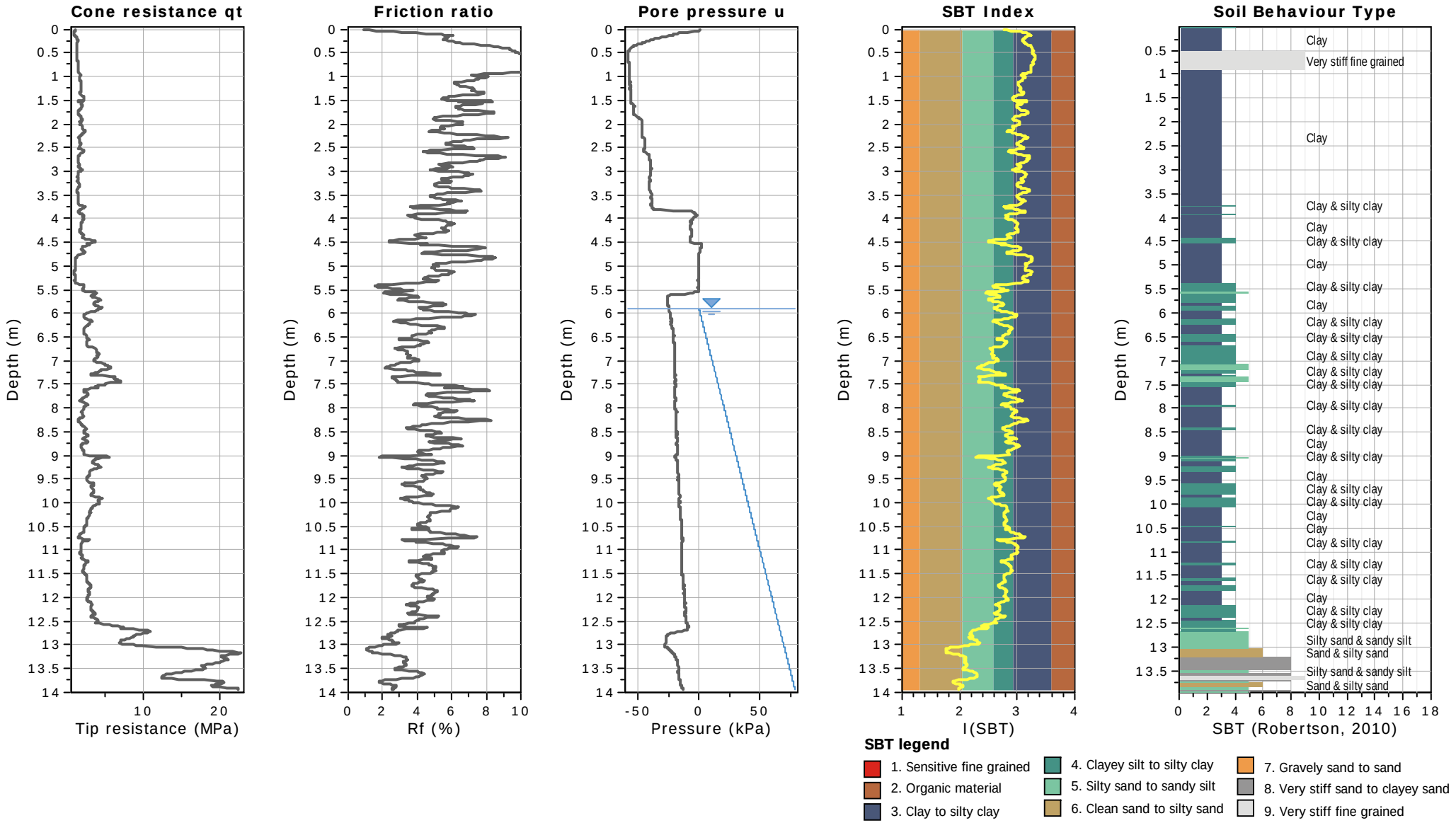
Project: Aged Care Facility and Units
Location: 52 Hooks and Hall Road, Waimamaku

CPT: CPT05
Total depth: 13.95 m, Date: 31/10/2024
Surface Elevation: 0.00 m
Coords: X:0.00, Y:0.00
Cone Type:
Cone Operator:



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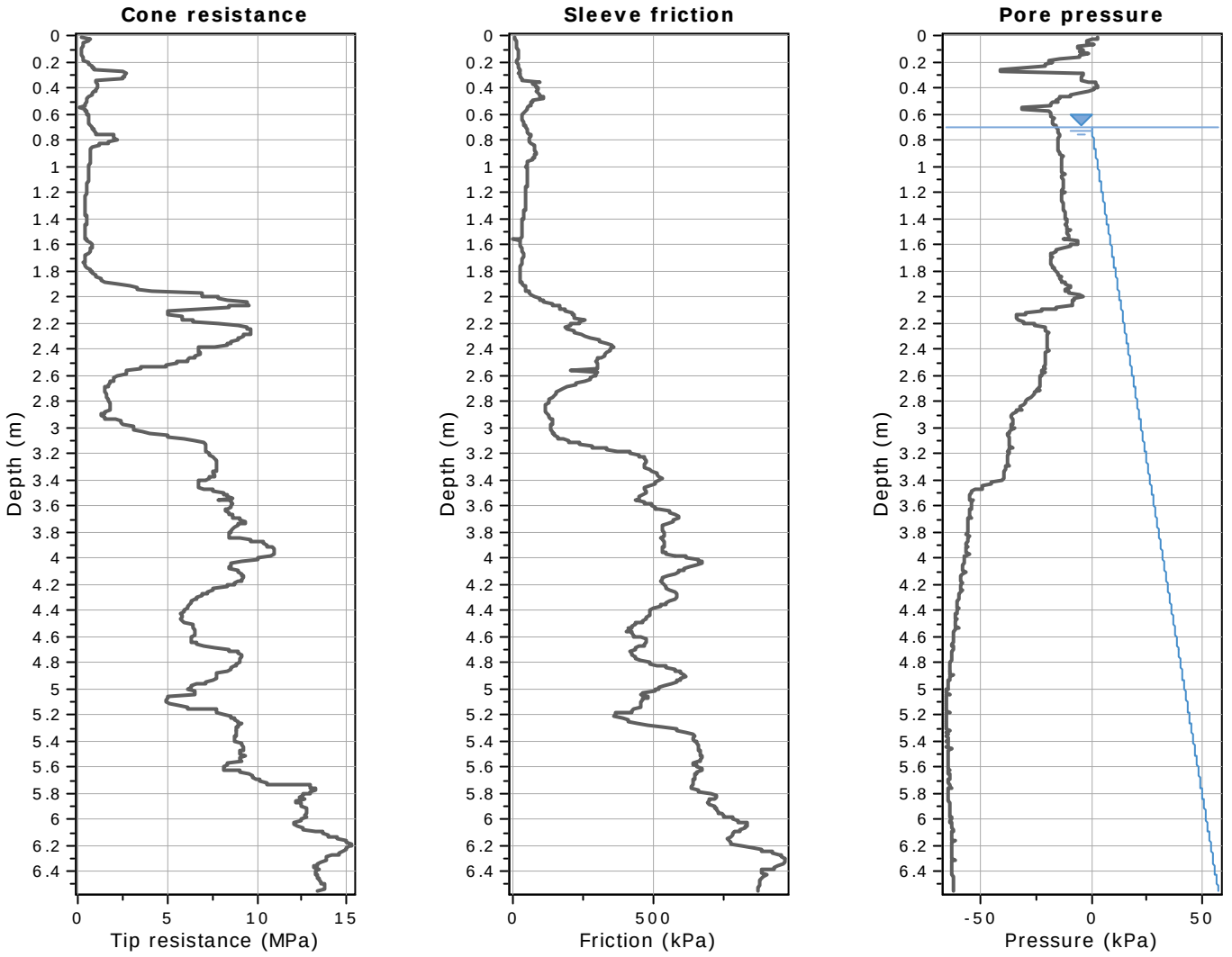
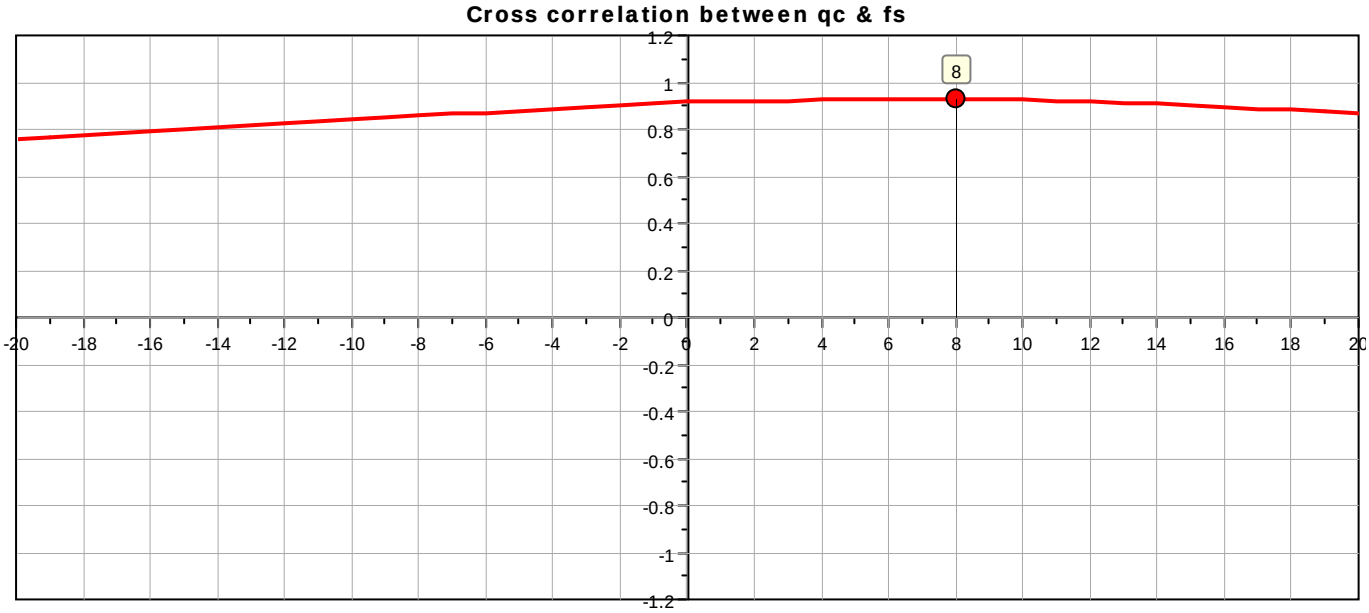
CPT: CPT06
Total depth: 6.55 m, Date: 31/10/2024
Surface Elevation: 0.00 m
Coords: X:0.00, Y:0.00
Cone Type:
Cone Operator:

Project: Aged Care Facility and Units
Location: 52 Hooks and Hall Road, Waimamaku



The plot below presents the cross correlation coeficient between the raw qc and fs values (as measured on the field). X axes presents the lag distance (one lag is the distance between two sucessive CPT measurements).



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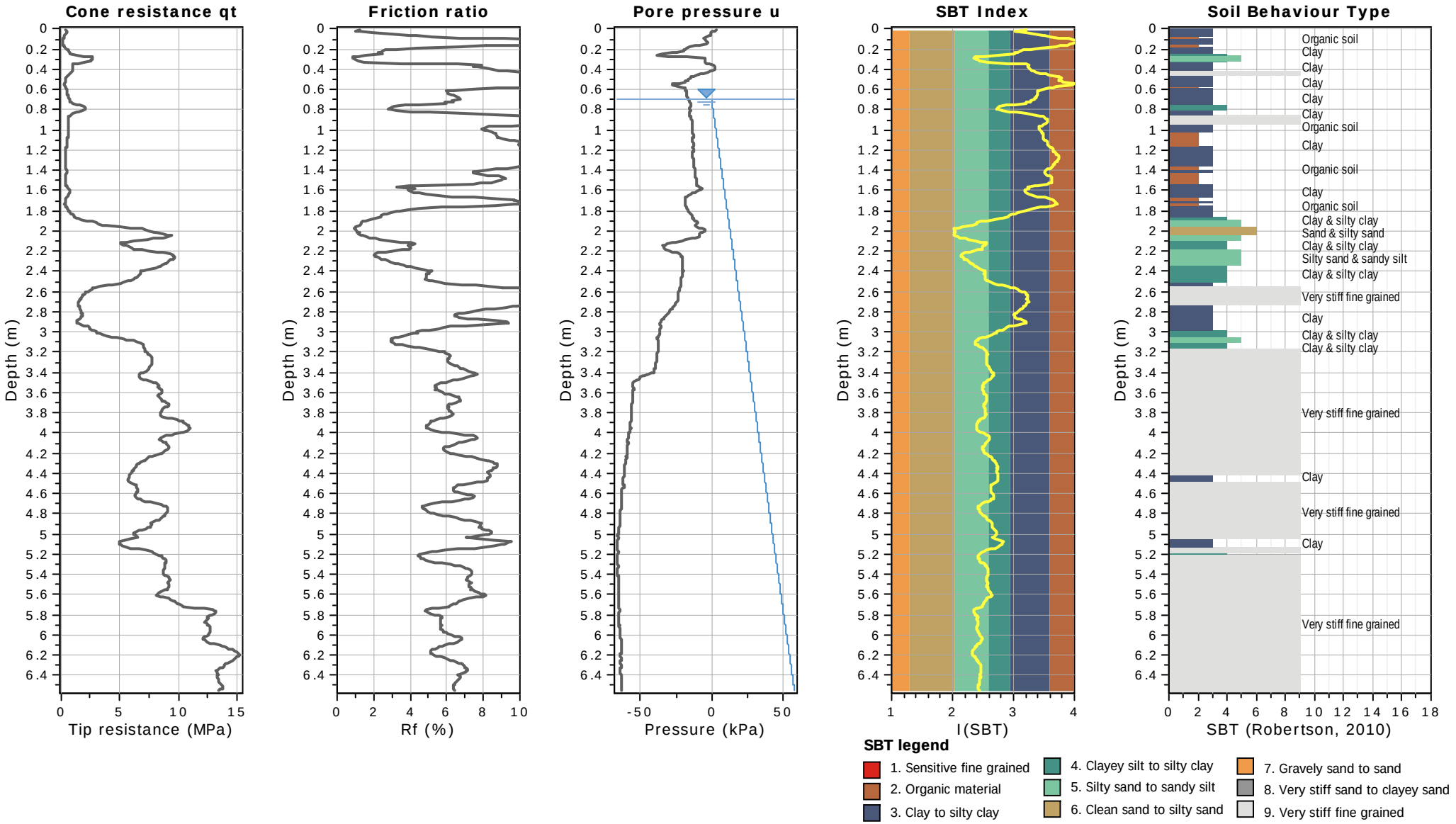
CPT: CPT06
Total depth: 6.55 m, Date: 31/10/2024
Surface Elevation: 0.00 m
Coords: X:0.00, Y:0.00
Cone Type:
Cone Operator:

Project: Aged Care Facility and Units
Location: 52 Hooks and Hall Road, Waimamaku



GeoLogismiki
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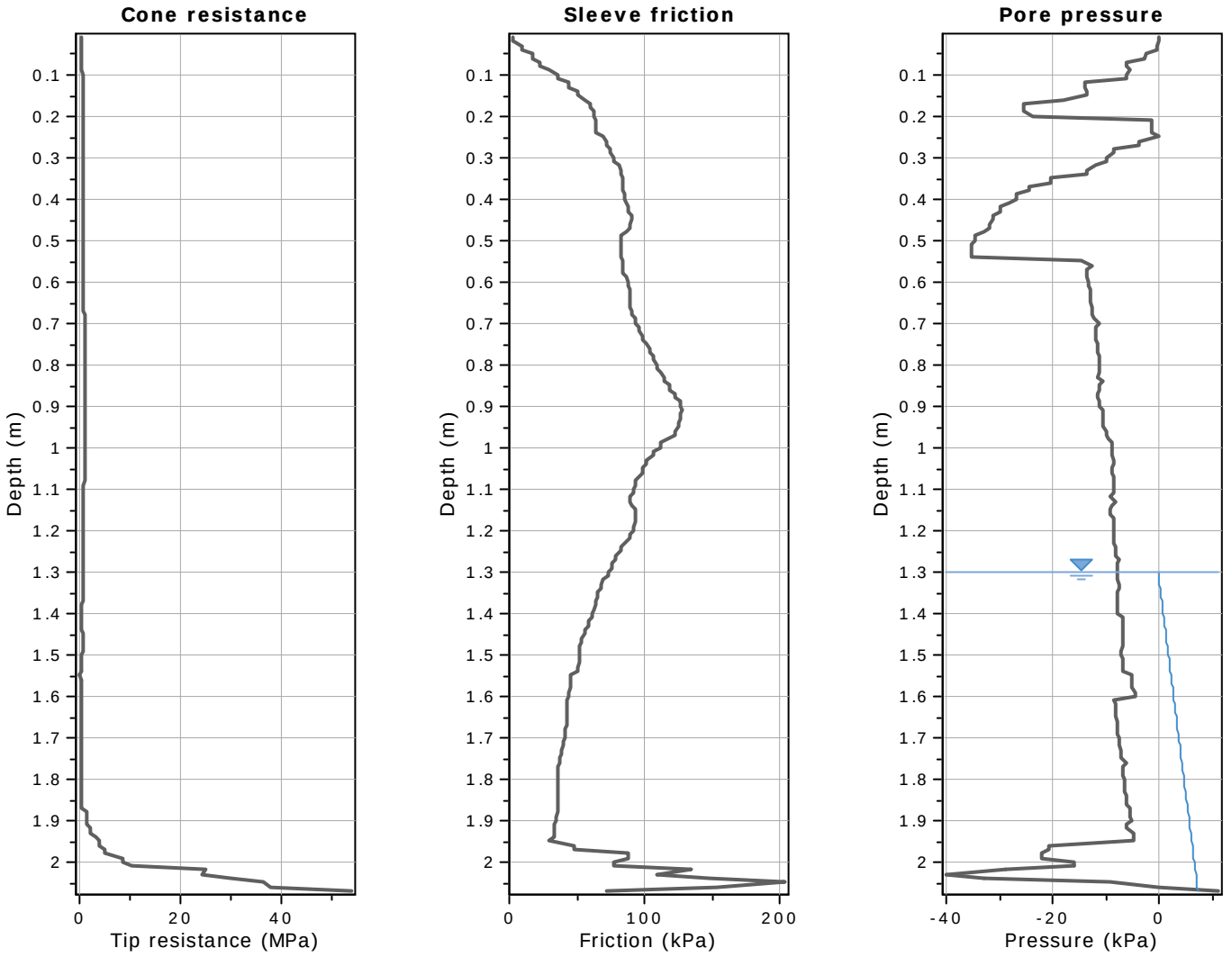
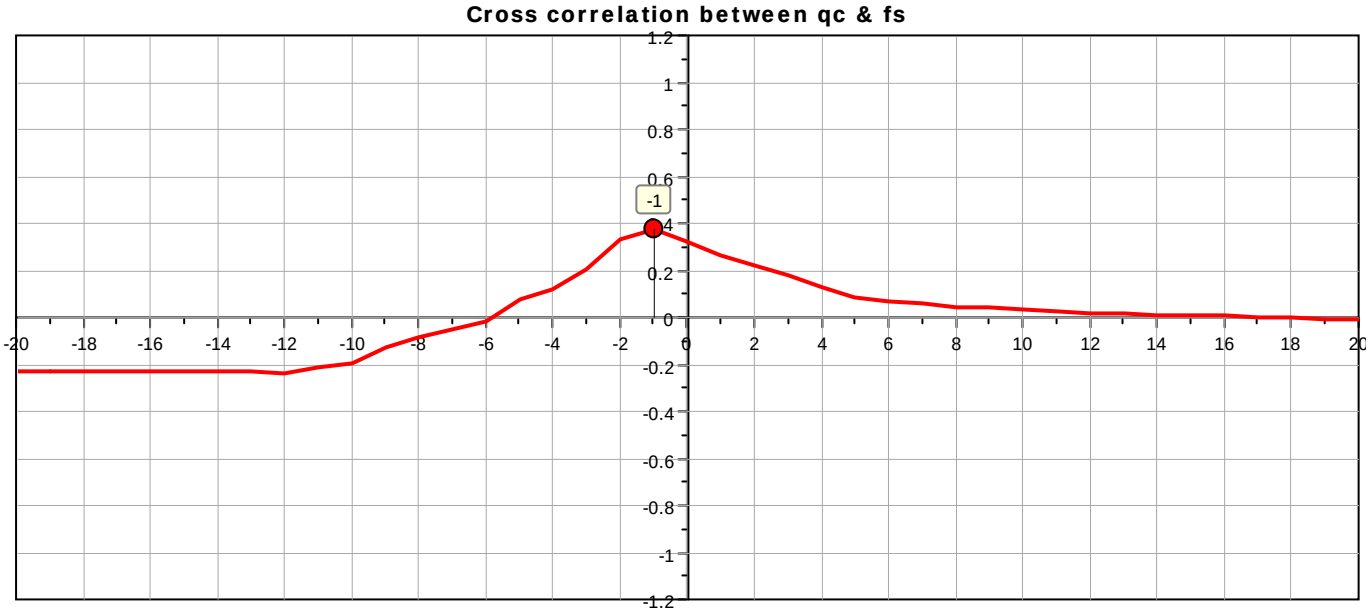
CPT: CPT07
Total depth: 2.07 m, Date: 31/10/2024
Surface Elevation: 0.00 m
Coords: X:0.00, Y:0.00
Cone Type:
Cone Operator:

Project: Aged Care Facility and Units
Location: 52 Hooks and Hall Road, Waimamaku



The plot below presents the cross correlation coeficient between the raw qc and fs values (as measured on the field). X axes presents the lag distance (one lag is the distance between two sucessive CPT measurements).



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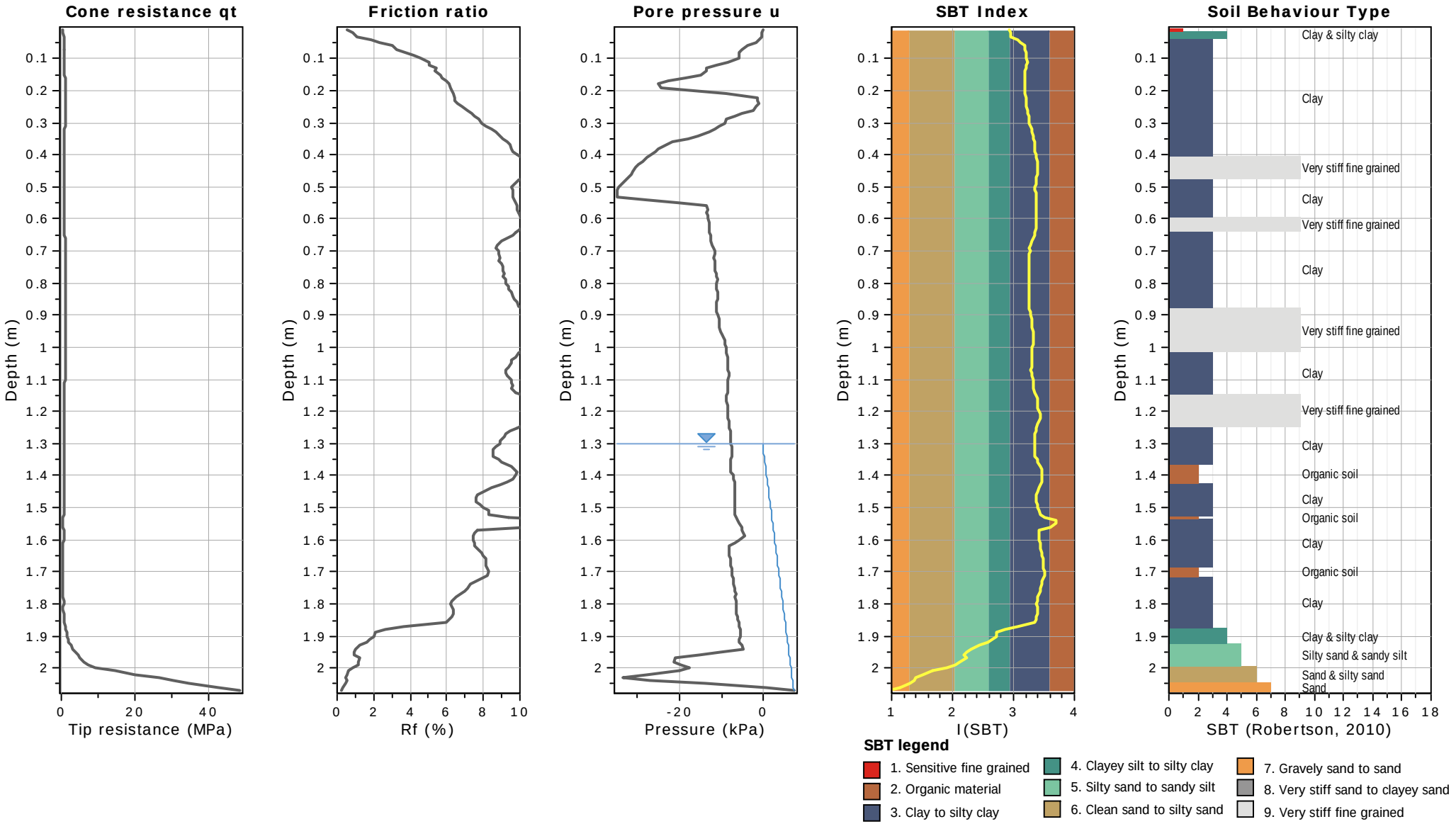
Project: Aged Care Facility and Units
Location: 52 Hooks and Hall Road, Waimamaku

CPT: CPT07
Total depth: 2.07 m, Date: 31/10/2024
Surface Elevation: 0.00 m
Coords: X:0.00, Y:0.00
Cone Type:
Cone Operator:



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HAND AUGER LOG

HOLE NO.: HA01

CLIENT: Tiopira Taniera Hapu Trust
PROJECT: Geotechnical Investigations

JOB NO.: 19340

SITE LOCATION: 52 Hooks & Hall Road, Waimamaku
CO-ORDINATES: 1641720mE, 6065256mN
ELEVATION: 22.1m

START DATE: 15/10/2024
END DATE: 15/10/2024
LOGGED BY: CH

UNIT	MATERIAL DESCRIPTION (See Classification & Symbology sheet for details)	SAMPLES	DEPTH (m)	LEGEND	SCALA PENETROMETER (Blows / 0mm)	VANE SHEAR STRENGTH (kPa) Vane: GEO415	Values	WATER
TS	TOPSOIL.		0.0					
Alluvium	Silty sandy CLAY; brown/orange/grey. Stiff; moist; low plasticity.		0.2 – 1.2				160 52 148 67	◁
	1.3m - Some grey, high plasticity.		1.4 – 1.6				89 44	
	Sandy CLAY; grey/brown. Firm to stiff; moist to wet; high plasticity.		1.8 – 2.4				77 27 96 30	
	2.5m - Recovery loss.							
	Sandy gravelly CLAY; grey/brown. Firm; moist to wet; high plasticity; gravel, subround to angular.		2.6 – 3.0				UTP -	
	3.0m - Unable to penetrate - gravels. End Of Hole: 3.00m		3.2 – 4.2					

Scala penetrometer scale: 2 4 6 8 10 12 14 16 18
Vane shear strength scale (kPa): 50 100 150 200

PHOTO(S)

REMARKS

UTP at 3.0m

WATER

- ▼ Standing Water Level
- ▷ Out flow
- ◁ In flow

INVESTIGATION TYPE

- ☑ Hand Auger
- ☐ Test Pit

HAND AUGER LOG

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HOLE NO.: HA02

CLIENT: Tiopira Taniera Hapu Trust
PROJECT: Geotechnical Investigations

JOB NO.: 19340

SITE LOCATION: 52 Hooks & Hall Road, Waimamaku
CO-ORDINATES: 1641743mE, 6065261mN
ELEVATION: 22.6m
START DATE: 15/10/2024
END DATE: 15/10/2024
LOGGED BY: CH

UNIT	MATERIAL DESCRIPTION (See Classification & Symbology sheet for details)	SAMPLES	DEPTH (m)	LEGEND	SCALA PENETROMETER (Blows / 100mm)	VANE SHEAR STRENGTH (kPa) Vane: GEO415 Values	WATER
TS	TOPSOIL.		0.0–0.3	TS			
Alluvium	Silty sandy CLAY; brown/orange/grey. Stiff; moist; low plasticity.		0.3–1.3			148 / 65	
						98 / 15	◁— In flow
	1.3m - Moist to wet, high plasticity.		1.3–1.6			83 / 27	
	1.6m - Soft to firm.		1.6–2.2			103 / 27	
	Silty CLAY, with some sand; brownish grey. Firm; moist to wet; high plasticity.		2.2–2.6			89 / 44	
	2.6m - Trace gravels.		2.6–3.0			UTP / -	
	3.0m - Unable to penetrate - gravels. End Of Hole: 3.00m		3.0		65 >>		

PHOTO(S)

REMARKS

UTP at 3.0m

WATER

▼ Standing Water Level
▷— Out flow
◁— In flow

INVESTIGATION TYPE

[✓] Hand Auger
☐ Test Pit

Generated with CORE-GS by Geroc - 1 - Hand Auger - RS Standard scala & vane bars - 4/11/2024 3:41:41 PM

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HAND AUGER LOG

HOLE NO.: HA03

CLIENT: Tiopira Taniera Hapu Trust
PROJECT: Geotechnical Investigations

JOB NO.: 19340

SITE LOCATION: 52 Hooks & Hall Road, Waimamaku
CO-ORDINATES: 1641771mE, 6065281mN
ELEVATION: 25.5m

START DATE: 15/10/2024
END DATE: 15/10/2024
LOGGED BY: RJ

UNIT	MATERIAL DESCRIPTION (See Classification & Symbology sheet for details)	SAMPLES	DEPTH (m)	LEGEND	SCALA PENETROMETER (Blows / 100mm)	VANE SHEAR STRENGTH (kPa) Vane: GEO3603	WATER
TS	TOPSOIL.		0.0				
Alluvium	Clayey SILT; brown, orange, grey mottling. Stiff; moist; low plasticity.		0.4			132 62	
Alluvium	Clayey SILT, with minor sand; brown, orange, grey mottling. Firm to stiff; moist; low plasticity.		0.8			119 42	15/10/2024
Alluvium	Clayey sandy SILT; brown, orange, grey, black. Firm to stiff; moist; low plasticity.		1.4			101 36	
	End Of Hole: 2.70m		2.0		1:5 33: >> 1:3 29: >> 1:8 36: >> 31: >>	UTP -	

Scala penetrometer axis: 2 4 6 8 10 12 14 16 18
Vane shear strength axis (kPa): 50 100 150 200 Values

PHOTO(S)

REMARKS

UTP at 2.7m

WATER
- Standing Water Level
- Out flow
- In flow

INVESTIGATION TYPE
- [x] Hand Auger
- [ ] Test Pit

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HAND AUGER LOG

HOLE NO.: HA04

CLIENT: Tiopira Taniera Hapu Trust
PROJECT: Geotechnical Investigations

JOB NO.: 19340

SITE LOCATION: 52 Hooks & Hall Road, Waimamaku
CO-ORDINATES: 1641745mE, 6065295mN
ELEVATION: 25m

START DATE: 15/10/2024
END DATE: 15/10/2024
LOGGED BY: CH

UNIT	MATERIAL DESCRIPTION (See Classification & Symbology sheet for details)	SAMPLES	DEPTH (m)	LEGEND	SCALA PENETROMETER (Blows / 0mm)	VANE SHEAR STRENGTH (kPa) Vane: GEO415	Values	WATER
TS	TOPSOIL.		0.0					
Alluvium	Silty CLAY; grey/orange mottling. Firm to stiff; moist; high plasticity.		0.4				89 15	15/10/2024
	Silty sandy CLAY; brown/orange/grey. Stiff; moist; high plasticity.		1.0				127 59	
	1.3m - Minor fine gravels.		1.4				148 30	
	End Of Hole: 2.00m		2.0				UTP -	

Scala penetrometer scale: 2 4 6 8 10 12 14 16 18
Vane shear strength scale: 50 100 150 200

PHOTO(S)

REMARKS

UTP at 2.0m

WATER

- Standing Water Level
- Out flow
- In flow

INVESTIGATION TYPE

- [x] Hand Auger
- [ ] Test Pit

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HAND AUGER LOG

HOLE NO.: HA05

CLIENT: Tiopira Taniera Hapu Trust
PROJECT: Geotechnical Investigations

JOB NO.: 19340

SITE LOCATION: 52 Hooks & Hall Road, Waimamaku
CO-ORDINATES: 1641744mE, 6065316mN
ELEVATION: 25m

START DATE: 15/10/2024
END DATE: 15/10/2024
LOGGED BY: CH

UNIT	MATERIAL DESCRIPTION (See Classification & Symbology sheet for details)	SAMPLES	DEPTH (m)	LEGEND	SCALA PENETROMETER (Blows / 100mm)	VANE SHEAR STRENGTH (kPa) Vane: GEO415	Values	WATER
TS	TOPSOIL.		0.0	TS				
Alluvium	Silty sandy CLAY; brown/orange/grey. Stiff; moist; low plasticity.		0.4				133 52	
	1.3m - Some grey, high plasticity.		1.0				118 21	
	1.5m - Collapse, push to 2.0m.		1.5				74 15	
	End Of Hole: 2.00m		2.0		1 1 1 1 5 6 50: >>		74 15	

Scala Penetrometer scale: 2 4 6 8 10 12 14 16 18
Vane Shear Strength scale: 50 100 150 200

PHOTO(S)

REMARKS

UTP at 1.5m

WATER

- Standing Water Level
- Out flow
- In flow

INVESTIGATION TYPE

- [x] Hand Auger
- [ ] Test Pit

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HAND AUGER LOG

HOLE NO.: HA06

CLIENT: Tiopira Taniera Hapu Trust
PROJECT: Geotechnical Investigations

JOB NO.: 19340

SITE LOCATION: 52 Hooks & Hall Road, Waimamaku
CO-ORDINATES: 1641773mE, 6065320mN
ELEVATION: 25.8m

START DATE: 15/10/2024
END DATE: 15/10/2024
LOGGED BY: RJ

UNIT	MATERIAL DESCRIPTION (See Classification & Symbology sheet for details)	SAMPLES	DEPTH (m)
TS	TOPSOIL.		0.0
Alluvium	Clayey SILT; brown, orange, grey. Firm to stiff; moist; low plasticity.		0.4
	Clayey SILT; dark brown, orange, grey. Firm to stiff; moist; low plasticity.		0.8
	Clayey SILT, with minor sand; brown, orange, black. Firm to stiff; moist; low plasticity.		1.0
	Clayey sandy SILT; dark brown, grey. Firm; wet; low plasticity.		1.4
	Sandy CLAY; grey/blue. Soft to firm; wet; high plasticity.		2.2
	2.7m - Unable to penetrate. End Of Hole: 2.70m		2.8

LEGEND

SCALA PENETROMETER (Blows / 0mm): 2, 4, 6, 8, 10, 12, 14, 16, 18

VANE SHEAR STRENGTH (kPa)
Vane: GEO3603
50, 100, 150, 200

Values
142
65
127
47
82
6
65
36
29
7

WATER: 15/10/2024

PHOTO(S)

REMARKS

UTP at 2.7m

WATER
- Standing Water Level
- Out flow
- In flow

INVESTIGATION TYPE
- [x] Hand Auger
- [ ] Test Pit

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HAND AUGER LOG

HOLE NO.: HA07

CLIENT: Tiopira Taniera Hapu Trust
PROJECT: Geotechnical Investigations

JOB NO.: 19340

SITE LOCATION: 52 Hooks & Hall Road, Waimamaku
CO-ORDINATES: 1641767mE, 6065369mN
ELEVATION: 26.4m

START DATE: 15/10/2024
END DATE: 15/10/2024
LOGGED BY: CH

UNIT	MATERIAL DESCRIPTION (See Classification & Symbology sheet for details)	SAMPLES	DEPTH (m)	LEGEND	SCALA PENETROMETER (Blows / 0mm)	VANE SHEAR STRENGTH (kPa) Vane: GEO415	Values	WATER
TS	TOPSOIL.		0.0					
Colluvium Deposits	Silty sandy CLAY; grey/orange. Very stiff; moist; low plasticity.		0.2 – 1.6				148 59 163 59 148 52	◁
	1.6m - High plasticity, some brown.							
Alluvium	Sandy CLAY; grey/blue. Stiff; moist; high plasticity.		1.8 – 3.0				133 44 126 47 59 15	
	3.2m - Minor retrival, End of Bore. End Of Hole: 3.20m		3.2 – 4.2					

Scala penetrometer: 2 4 6 8 10 12 14 16 18 (Blows / 0mm)
Vane shear strength (kPa): 50 100 150 200

PHOTO(S)

REMARKS

Collapsed at 3.2m

WATER

- ▼ Standing Water Level
- ▷ Out flow
- ◁ In flow

INVESTIGATION TYPE

- ☑ Hand Auger
- ☐ Test Pit

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HAND AUGER LOG

HOLE NO.: HA08

CLIENT: Tiopira Taniera Hapu Trust
PROJECT: Geotechnical Investigations

JOB NO.: 19340

SITE LOCATION: 52 Hooks & Hall Road, Waimamaku
CO-ORDINATES: 1641704mE, 6065348mN
ELEVATION: 26m

START DATE: 15/10/2024
END DATE: 15/10/2024
LOGGED BY: RJ

UNIT	MATERIAL DESCRIPTION (See Classification & Symbology sheet for details)	SAMPLES	DEPTH (m)	LEGEND	SCALA PENETROMETER (Blows / 0mm)	VANE SHEAR STRENGTH (kPa) Vane: GEO3603	WATER
TS	TOPSOIL.		0.0				
Colluvium Deposits	Silty CLAY, with some sand; orange/grey. Very stiff; moist; low plasticity; sand, fine.		0.4			141 69	
	Silty CLAY, with some sand; orange/grey/yellow. Very stiff; moist; low plasticity; sand, fine.		0.8			147 46	
Otaua Group	Silty sandy CLAY, with some gravel; light grey, brown, orange. Moist; low plasticity; sand, fine; gravel, fine to coarse, rounded to angular.		1.2			130 46	15/10/2024
	Completely weathered; very weak; Sandy Mudstone. - - Clayey sandy SILT, with some gravel; brown/grey. Very stiff; moist; low plasticity; gravel, fine to medium, rounded to subround.		2.0			201+ -	
			2.4			201+ -	
			2.8			201+ -	
	3.3m - Unable to penetrate, gravels. End Of Hole: 3.30m		3.2				
			4.0				
			4.2				

PHOTO(S)

REMARKS

UTP at 3.3m

WATER

- Standing Water Level
- Out flow
- In flow

INVESTIGATION TYPE

- [x] Hand Auger
- [ ] Test Pit

HAND AUGER LOG

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HOLE NO.: HA09

JOB NO.: 19340

CLIENT: Tiopira Taniera Hapu Trust
PROJECT: Geotechnical Investigations

SITE LOCATION: 52 Hooks & Hall Road, Waimamaku
CO-ORDINATES: 1641743mE, 6065356mN
ELEVATION: 30.9m
START DATE: 15/10/2024
END DATE: 15/10/2024
LOGGED BY: RJ

UNIT	MATERIAL DESCRIPTION (See Classification & Symbology sheet for details)	SAMPLES	DEPTH (m)	VANE SHEAR STRENGTH (kPa) Vane: GEO3603 Values	WATER
TS	TOPSOIL.		0.0 – 0.4		Groundwater Not Encountered
Otaua Group	Clayey sandy SILT; brown. Very stiff; moist; low plasticity; sand, fine to medium.		0.4 – 1.5	173 / 62 173 / 53 201+ / -	
	Completely weathered; extremely weak; Sandy Mudstone. - - Clayey sandy SILT, with minor gravel; grey, orange, brown. Very stiff; moist; low plasticity; sand, fine to medium; gravel, fine, subangular.		1.5 – 2.9	201+ / - 201+ / -	
	Completely weathered; extremely weak; Sandy Mudstone. - - Clayey sandy SILT, with some gravel; brown, orange. Very stiff; moist; low plasticity; sand, fine to medium; gravel, fine, subangular.		2.9 – 3.1	201+ / -	
	Completely weathered; extremely weak; Sandy Mudstone. - - Clayey sandy SILT, with some gravel; brown. Very stiff; moist; low plasticity; sand, fine to medium; gravel, fine, subangular.		3.1 – 4.2	201+ / - 201+ / -	
	End Of Hole: 4.20m				

SCALA PENETROMETER (Blows / 0mm)
2 4 6 8 10 12 14 16 18

PHOTO(S)

REMARKS

Target Depth reached

WATER

- ▼ Standing Water Level
- ▷ Out flow
- ◁ In flow

INVESTIGATION TYPE

- [✓] Hand Auger
- [ ] Test Pit

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HAND AUGER LOG

HOLE NO.: HA10

CLIENT: Tiopira Taniera Hapu Trust
PROJECT: Geotechnical Investigations

JOB NO.: 19340

SITE LOCATION: 52 Hooks & Hall Road, Waimamaku
CO-ORDINATES: 1641723mE, 6065292mN
ELEVATION: 24.7m

START DATE: 15/10/2024
END DATE: 15/10/2024
LOGGED BY: RJ

UNIT	MATERIAL DESCRIPTION (See Classification & Symbology sheet for details)	SAMPLES	DEPTH (m)	LEGEND	SCALA PENETROMETER (Blows / 0mm)	VANE SHEAR STRENGTH (kPa) Vane: GEO3603	Values	WATER
TS	TOPSOIL.		0.0					
Alluvium	Silty CLAY; orange, grey, brown. Stiff; moist; low plasticity.		0.2 – 1.2				147 63 118 49	
	Silty sandy CLAY; orange, grey, brown. Firm to stiff; moist; low plasticity.		1.2 – 1.4					15/10/2024
	Silty sandy CLAY, with minor gravel; orange, grey, brown. Firm to stiff; moist; low plasticity; gravel, fine.		1.4 – 1.6				78 26	
	1.6m - Unable to penetrate. End Of Hole: 1.60m		1.6					

Scala penetrometer scale: 2 4 6 8 10 12 14 16 18
Vane shear strength scale (kPa): 50 100 150 200

PHOTO(S)

REMARKS

UTP at 1.6m

WATER

- Standing Water Level
- Out flow
- In flow

INVESTIGATION TYPE

- [x] Hand Auger
- [ ] Test Pit

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HAND AUGER LOG

HOLE NO.: HA11

CLIENT: Tiopira Taniera Hapu Trust
PROJECT: Geotechnical Investigations

JOB NO.: 19340

SITE LOCATION: 52 Hooks & Hall Road, Waimamaku
CO-ORDINATES: 1641707mE, 6065320mN
ELEVATION: 24.6m

START DATE: 15/10/2024
END DATE: 15/10/2024
LOGGED BY: CH

UNIT	MATERIAL DESCRIPTION (See Classification & Symbology sheet for details)	SAMPLES	DEPTH (m)	LEGEND	SCALA PENETROMETER (Blows / 0mm)	VANE SHEAR STRENGTH (kPa) Vane: GEO415	Values	WATER
TS	TOPSOIL.		0.0					
Alluvium	Clayey SILT, with some sand; orange/brown/grey. Stiff; moist; low plasticity.		0.2 – 1.6				148 50 163 44 133 40	Groundwater Not Encountered
	1.6m - Firm.							
	Silty sandy CLAY; brownish grey. Firm; moist; high plasticity.		1.8 – 2.2				58 22	
	2.2m - Unable to penetrate. End Of Hole: 2.20m		2.4 – 4.2					

Scala penetrometer axis: 2 4 6 8 10 12 14 16 18
Vane shear strength axis: 50 100 150 200

PHOTO(S)

REMARKS

UTP at 2.2

WATER

- Standing Water Level
- Out flow
- In flow

INVESTIGATION TYPE

- [x] Hand Auger
- [ ] Test Pit

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HAND AUGER LOG

HOLE NO.: HA12

CLIENT: Tiopira Taniera Hapu Trust
PROJECT: Geotechnical Investigations

JOB NO.: 19340

SITE LOCATION: 52 Hooks & Hall Road, Waimamaku
CO-ORDINATES: 1641634mE, 6065308mN
ELEVATION: 21m

START DATE: 15/10/2024
END DATE: 15/10/2024
LOGGED BY: CH

UNIT	MATERIAL DESCRIPTION (See Classification & Symbology sheet for details)	SAMPLES	DEPTH (m)	LEGEND	SCALA PENETROMETER (Blows / 0mm)	VANE SHEAR STRENGTH (kPa) Vane: GEO415	Values	WATER
TS	TOPSOIL.		0.0	TS				
Alluvium	Silty sandy CLAY; grey/brown. Very stiff; moist; low plasticity.		0.2 – 1.2				103 30 89 22	◁
	End Of Hole: 1.20m		1.4 – 4.2					

Scala Penetrometer: 2 4 6 8 10 12 14 16 18
Vane Shear Strength (kPa): 50 100 150 200

PHOTO(S)

REMARKS

Target Depth reached

WATER

- ▼ Standing Water Level
- ▷ Out flow
- ◁ In flow

INVESTIGATION TYPE

- ☑ Hand Auger
- ☐ Test Pit

HAND AUGER LOG

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HOLE NO.: HA13

CLIENT: Tiopira Taniera Hapu Trust
PROJECT: Geotechnical Investigations

JOB NO.: 19340

SITE LOCATION: 52 Hooks & Hall Road, Waimamaku
CO-ORDINATES: 1641656mE, 6065351mN
ELEVATION: 21.5m

START DATE: 15/10/2024
END DATE: 15/10/2024
LOGGED BY: RJ

UNIT	MATERIAL DESCRIPTION (See Classification & Symbology sheet for details)	SAMPLES	DEPTH (m)	LEGEND	SCALA PENETROMETER (Blows / 0mm)	VANE SHEAR STRENGTH (kPa) Vane: GEO3603 Values	WATER
TS	TOPSOIL.		0.0–0.2	TS			
Alluvium	Silty CLAY; orange/grey. Firm; moist.		0.2–1.0			89 / 36; 75 / 16	15/10/2024
	End Of Hole: 1.00m						

Depth scale (m): 0.2, 0.4, 0.6, 0.8, 1.0, 1.2, 1.4, 1.6, 1.8, 2.0, 2.2, 2.4, 2.6, 2.8, 3.0, 3.2, 3.4, 3.6, 3.8, 4.0, 4.2

Scala scale: 2, 4, 6, 8, 10, 12, 14, 16, 18

Vane scale: 50, 100, 150, 200

PHOTO(S)

REMARKS

Target Depth reached

WATER

▼ Standing Water Level
▷ Out flow
◁ In flow

INVESTIGATION TYPE

✓ Hand Auger
☐ Test Pit

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HAND AUGER LOG

HOLE NO.: HA14

CLIENT: Tiopira Taniera Hapu Trust
PROJECT: Geotechnical Investigations

JOB NO.: 19340

SITE LOCATION: 52 Hooks & Hall Road, Waimamaku
CO-ORDINATES: 1641618mE, 6065351mN
ELEVATION: 22.3m

START DATE: 15/10/2024
END DATE: 15/10/2024
LOGGED BY: RJ

UNIT	MATERIAL DESCRIPTION (See Classification & Symbology sheet for details)	SAMPLES	DEPTH (m)	LEGEND	SCALA PENETROMETER (Blows / 0mm)	VANE SHEAR STRENGTH (kPa) Vane: GEO3603	Values	WATER
TS	TOPSOIL.		0.0	TS				
Alluvium	Silty CLAY; orange/grey. Firm; moist; high plasticity.		0.2 – 0.8				86 26	15/10/2024
	Silty sandy CLAY; orange/grey/brown. Firm; moist; low plasticity.		0.8 – 1.0				72 6	
	End Of Hole: 1.00m		1.0 – 4.2					

Scala penetrometer: 2 4 6 8 10 12 14 16 18 (Blows / 0mm)
Vane shear strength (kPa): 50 100 150 200

PHOTO(S)

REMARKS

Target Depth reached

WATER

- Standing Water Level
- Out flow
- In flow

INVESTIGATION TYPE

- [x] Hand Auger
- [ ] Test Pit

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HAND AUGER LOG

HOLE NO.: HA15

CLIENT: Tiopira Taniera Hapu Trust
PROJECT: Geotechnical Investigations

JOB NO.: 19340

SITE LOCATION: 52 Hooks & Hall Road, Waimamaku
CO-ORDINATES: 1641637mE, 6065382mN
ELEVATION: 26.2m

START DATE: 15/10/2024
END DATE: 15/10/2024
LOGGED BY: CH

UNIT	MATERIAL DESCRIPTION (See Classification & Symbology sheet for details)	SAMPLES	DEPTH (m)	LEGEND	SCALA PENETROMETER (Blows / 0mm)	VANE SHEAR STRENGTH (kPa) Vane: GEO415	WATER
TS	TOPSOIL.		0.0				Groundwater Not Encountered
Alluvium	Clayey SILT; brown. Very stiff; moist; low plasticity.		0.2				
	0.4m - Light grey/orange.		0.4			103	
			0.6			44	
			0.8				
	End Of Hole: 1.00m		1.0				
			1.2				
			1.4				
			1.6				
			1.8				
			2.0				
			2.2				
			2.4				
			2.6				
			2.8				
			3.0				
			3.2				
			3.4				
			3.6				
			3.8				
			4.0				
			4.2				

Scala Penetrometer: 2 4 6 8 10 12 14 16 18
Vane Shear Strength (kPa): 50 100 150 200
Values

PHOTO(S)

REMARKS

Target Depth reached

WATER

- Standing Water Level
- Out flow
- In flow

INVESTIGATION TYPE

- [x] Hand Auger
- [ ] Test Pit

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HAND AUGER LOG

HOLE NO.: HA16

CLIENT: Tiopira Taniera Hapu Trust
PROJECT: Geotechnical Investigations

JOB NO.: 19340

SITE LOCATION: 52 Hooks & Hall Road, Waimamaku
CO-ORDINATES: 1641610mE, 6065394mN
ELEVATION: 23.7m

START DATE: 15/10/2024
END DATE: 15/10/2024
LOGGED BY: RJ

UNIT	MATERIAL DESCRIPTION (See Classification & Symbology sheet for details)	SAMPLES	DEPTH (m)	LEGEND	SCALA PENETROMETER (Blows / 0mm)	VANE SHEAR STRENGTH (kPa) Vane: GEO3603	Values	WATER
TS	TOPSOIL.		0.0	TS				Groundwater Not Encountered
Alluvium	Silty CLAY; orange/grey. Firm; moist; high plasticity.		0.2				115	
			0.4				58	
	Silty sandy CLAY; orange/grey/brown. Firm; moist; low plasticity.		0.6					
			0.8					
			1.0				108	
	End Of Hole: 1.00m						43	

Scala Penetrometer: 2 4 6 8 10 12 14 16 18
Vane Shear Strength (kPa): 50 100 150 200

PHOTO(S)

REMARKS

Target Depth reached

WATER

- Standing Water Level
- Out flow
- In flow

INVESTIGATION TYPE

- [x] Hand Auger
- [ ] Test Pit

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HAND AUGER LOG

HOLE NO.: HA17

CLIENT: Tiopira Taniera Hapu Trust
PROJECT: Geotechnical Investigations

JOB NO.: 19340

SITE LOCATION: 52 Hooks & Hall Road, Waimamaku
CO-ORDINATES: 1641665mE, 6065385mN
ELEVATION: 21.2m

START DATE: 15/10/2024
END DATE: 15/10/2024
LOGGED BY: RJ

UNIT	MATERIAL DESCRIPTION (See Classification & Symbology sheet for details)	SAMPLES	DEPTH (m)	LEGEND	SCALA PENETROMETER (Blows / 0mm)	VANE SHEAR STRENGTH (kPa) Vane: GEO3603	Values	WATER
TS	TOPSOIL.		0.0	TS				Groundwater Not Encountered
Alluvium	Silty sandy CLAY; orange/grey/brown. Firm; moist; low plasticity.		0.2 – 1.0				82 12 141 68	
	End Of Hole: 1.00m		1.0					

Scala Penetrometer: 2 4 6 8 10 12 14 16 18
Vane Shear Strength (kPa): 50 100 150 200

PHOTO(S)

REMARKS

Target Depth reached

WATER

- Standing Water Level
- Out flow
- In flow

INVESTIGATION TYPE

- [x] Hand Auger
- [ ] Test Pit

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HAND AUGER LOG

HOLE NO.: HA18

CLIENT: Tiopira Taniera Hapu Trust
PROJECT: Geotechnical Investigations

JOB NO.: 19340

SITE LOCATION: 52 Hooks & Hall Road, Waimamaku
CO-ORDINATES: 1641633mE, 6065416mN
ELEVATION: 28.9m

START DATE: 15/10/2024
END DATE: 15/10/2024
LOGGED BY: CH

UNIT	MATERIAL DESCRIPTION (See Classification & Symbology sheet for details)	SAMPLES	DEPTH (m)	LEGEND	SCALA PENETROMETER (Blows / 0mm)	VANE SHEAR STRENGTH (kPa) Vane: GEO415	WATER
TS	TOPSOIL.		0.0	TS			Groundwater Not Encountered
Otaua Group	Clayey SILT; brown. Very stiff; moist; low plasticity.		0.2 – 1.0			112 59	
	End Of Hole: 1.00m		1.0				

Scala Penetrometer scale: 2 4 6 8 10 12 14 16 18
Vane Shear Strength scale: 50 100 150 200 Values

PHOTO(S)

REMARKS

Target Depth reached

WATER

- Standing Water Level
- Out flow
- In flow

INVESTIGATION TYPE

- [x] Hand Auger
- [ ] Test Pit

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HAND AUGER LOG

HOLE NO.: HA19

CLIENT: Tiopira Taniera Hapu Trust
PROJECT: Geotechnical Investigations

JOB NO.: 19340

SITE LOCATION: 52 Hooks & Hall Road, Waimamaku
CO-ORDINATES: 1641695mE, 6065377mN
ELEVATION: 27.5m

START DATE: 15/10/2024
END DATE: 15/10/2024
LOGGED BY: RJ

UNIT	MATERIAL DESCRIPTION (See Classification & Symbology sheet for details)	SAMPLES	DEPTH (m)	LEGEND	SCALA PENETROMETER (Blows / 0mm)	VANE SHEAR STRENGTH (kPa) Vane: GEO3603	Values	WATER
TS	TOPSOIL.		0.0	TS				Groundwater Not Encountered
Otaua Group	Silty CLAY; brown, orange. Stiff; moist; high plasticity.		0.2					
Otaua Group	Silty CLAY, with trace sand; light brown, orange. Stiff; moist; high plasticity.		0.4				115	
			0.6				58	
			0.8					
			1.0				137	
	End Of Hole: 1.00m		1.2				65	
			1.4					
			1.6					
			1.8					
			2.0					
			2.2					
			2.4					
			2.6					
			2.8					
			3.0					
			3.2					
			3.4					
			3.6					
			3.8					
			4.0					
			4.2					

SCALA PENETROMETER (Blows / 0mm): 2 4 6 8 10 12 14 16 18

VANE SHEAR STRENGTH (kPa) Vane: GEO3603: 50 100 150 200

PHOTO(S)

REMARKS

Target Depth reached

WATER

- Standing Water Level
- Out flow
- In flow

INVESTIGATION TYPE

- [x] Hand Auger
- [ ] Test Pit

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HAND AUGER LOG

HOLE NO.: HA20

CLIENT: Tiopira Taniera Hapu Trust
PROJECT: Geotechnical Investigations

JOB NO.: 19340

SITE LOCATION: 52 Hooks & Hall Road, Waimamaku
CO-ORDINATES: 1641705mE, 6065398mN
ELEVATION: 29.6m

START DATE: 15/10/2024
END DATE: 15/10/2024
LOGGED BY: RJ

UNIT	MATERIAL DESCRIPTION (See Classification & Symbology sheet for details)	SAMPLES	DEPTH (m)	LEGEND	SCALA PENETROMETER (Blows / 0mm)	VANE SHEAR STRENGTH (kPa) Vane: GEO3603	Values	WATER
TS	TOPSOIL.		0.0					Groundwater Not Encountered
Otaua Group	SILT; white. Stiff; moist; low plasticity.		0.2					
	Silty CLAY; orange, borwn, grey. Firm to stiff; moist; high plasticity.		0.4				112	
			0.6				46	
			0.8					
			1.0				104	
	End Of Hole: 1.00m		1.2				39	
			1.4					
			1.6					
			1.8					
			2.0					
			2.2					
			2.4					
			2.6					
			2.8					
			3.0					
			3.2					
			3.4					
			3.6					
			3.8					
			4.0					
			4.2					

SCALA PENETROMETER (Blows / 0mm): 2 4 6 8 10 12 14 16 18

VANE SHEAR STRENGTH (kPa) Vane: GEO3603: 50 100 150 200

PHOTO(S)

REMARKS

Target Depth reached

WATER

- Standing Water Level
- Out flow
- In flow

INVESTIGATION TYPE

- [x] Hand Auger
- [ ] Test Pit

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HAND AUGER LOG

HOLE NO.: HA21

CLIENT: Tiopira Taniera Hapu Trust
PROJECT: Geotechnical Investigations

JOB NO.: 19340

SITE LOCATION: 52 Hooks & Hall Road, Waimamaku
CO-ORDINATES: 1641744mE, 6065270mN
ELEVATION: 22.93m

START DATE: 10/03/2025
END DATE: 10/03/2025
LOGGED BY: CH

UNIT	MATERIAL DESCRIPTION (See Classification & Symbology sheet for details)	SAMPLES	DEPTH (m)	LEGEND	SCALA PENETROMETER (Blows / 0mm)	VANE SHEAR STRENGTH (kPa) Vane: GEO3603	Values	WATER
TS	TOPSOIL.		0.0					Groundwater Not Encountered
Alluvium	Clayey sandy SILT, with minor gravel; brown/grey/orange mottling. Stiff; dry; low plasticity.		0.4			173	173	
	Moist; gravels decrease.		0.6			29	29	
	Unable to penetrate - rock/gravels. End Of Hole: 1.00m		1.0			UTP	UTP -	

Scala Penetrometer scale: 2 4 6 8 10 12 14 16 18
Vane Shear Strength scale: 50 100 150 200
Depth scale: 0.2 0.4 0.6 0.8 1.0 1.2 1.4 1.6 1.8 2.0 2.2 2.4 2.6 2.8 3.0 3.2 3.4 3.6 3.8 4.0 4.2

PHOTO(S)

REMARKS

WATER

- Standing Water Level
- Out flow
- In flow

INVESTIGATION TYPE

- [x] Hand Auger
- [ ] Test Pit

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HAND AUGER LOG

HOLE NO.: HA22

CLIENT: Tiopira Taniera Hapu Trust
PROJECT: Geotechnical Investigations

JOB NO.: 19340

SITE LOCATION: 52 Hooks & Hall Road, Waimamaku
CO-ORDINATES: 1641742mE, 6065250mN
ELEVATION: 22.41m

START DATE: 10/03/2025
END DATE: 10/03/2025
LOGGED BY: RB

UNIT	MATERIAL DESCRIPTION (See Classification & Symbology sheet for details)	SAMPLES	DEPTH (m)	LEGEND	SCALA PENETROMETER (Blows / 0mm)	VANE SHEAR STRENGTH (kPa) Vane: GEO3603	WATER
TS	TOPSOIL.		0.0				
FILL	Clayey SILT; dark brown some orange and grey mottling. Very stiff; dry to moist; low plasticity.		0.2				
Alluvium	Clayey sandy SILT; dark brown, some orange and grey mottling. Very stiff; moist; low plasticity; sand, fine to medium.		0.4			201+	
			0.6			-	
			0.8				
			1.0			201+	
			1.2			-	
	Silty sandy CLAY, with minor organics; brown, orange and grey mottling, black speckles. Stiff; moist; high plasticity.		1.4			158	
			1.6			65	
			1.8				
			2.0			76	
	Sandy CLAY; greyish. Firm; moist to wet; low plasticity.		2.2			42	
			2.4				
			2.6			60	
			2.8			32	▼ 10/03/2025
	Unable to penetrate. End Of Hole: 2.90m		3.0				
			3.2				
			3.4				
			3.6				
			3.8				
			4.0				
			4.2				

SCALA PENETROMETER (Blows / 0mm): 2 4 6 8 10 12 14 16 18

VANE SHEAR STRENGTH (kPa) Vane: GEO3603: 50 100 150 200

Values

PHOTO(S)

REMARKS

WATER

- ▼ Standing Water Level
- ▷ Out flow
- ◁ In flow

INVESTIGATION TYPE

- ☑ Hand Auger
- ☐ Test Pit

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HAND AUGER LOG

HOLE NO.: HA23

CLIENT: Tiopira Taniera Hapu Trust
PROJECT: Geotechnical Investigations

JOB NO.: 19340

SITE LOCATION: 52 Hooks & Hall Road, Waimamaku
CO-ORDINATES: 1641767mE, 6065256mN
ELEVATION: 25m

START DATE: 10/03/2025
END DATE: 10/03/2025
LOGGED BY: CH

UNIT	MATERIAL DESCRIPTION (See Classification & Symbology sheet for details)	SAMPLES	DEPTH (m)	LEGEND	SCALA PENETROMETER (Blows / 0mm)	VANE SHEAR STRENGTH (kPa) Vane: GEO3603	WATER
TS	TOPSOIL.		0.0				
Alluvium	Clayey sandy SILT, with minor gravel; brown/grey/orange mottling. Stiff; dry; low plasticity.		0.4			178 / 43	
	Silty CLAY, with some sand; brown/grey some orange mottling. Very stiff; dry; low plasticity.		0.8			201+ / -	
	Sandy SILT, with trace clay; light yellow/brown/grey mottling. Stiff; moist; low plasticity.		1.6			201+ / -	
	Clayey sandy SILT, with trace gravel; light yellowish grey. Stiff; moist; low plasticity.		2.0			190 / 26	
	Unable to penetrate. End Of Hole: 2.30m		2.2				

Groundwater Not Encountered

PHOTO(S)

REMARKS

WATER

- Standing Water Level
- Out flow
- In flow

INVESTIGATION TYPE

- [x] Hand Auger
- [ ] Test Pit

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HAND AUGER LOG

HOLE NO.: HA24

CLIENT: Tiopira Taniera Hapu Trust
PROJECT: Geotechnical Investigations

JOB NO.: 19340

SITE LOCATION: 52 Hooks & Hall Road, Waimamaku
CO-ORDINATES: 1641769mE, 6065264mN
ELEVATION: 25.22m
START DATE: 10/03/2025
END DATE: 10/03/2025
LOGGED BY: RB

UNIT	MATERIAL DESCRIPTION (See Classification & Symbology sheet for details)	SAMPLES	DEPTH (m)	LEGEND	SCALA PENETROMETER (Blows / 0mm)	VANE SHEAR STRENGTH (kPa) Vane: GEO3603 Values	WATER
TS	Silty TOPSOIL.		0.0–0.1	TS			Groundwater Not Encountered
	Sandy SILT, with some rootlets; light brown, some orange. Very stiff; dry to moist; low plasticity.		0.1–0.6			201+ / -	
	With trace gravel. Gravel, fine to medium.		0.6–1.1			187 / 22	
	Clayey sandy SILT. Very stiff; moist; low plasticity; sand, fine to medium.		1.1–1.7			201 / -	
	Unable to penetrate. End Of Hole: 1.70m		1.7				

PHOTO(S)

REMARKS

WATER
- ▼ Standing Water Level
- ▷ Out flow
- ◁ In flow

INVESTIGATION TYPE
- [✓] Hand Auger
- [ ] Test Pit

Generated with CORE-GS by Geroc - 1 - Hand Auger - RS Standard scala & vane bars - 13/03/2025 10:55:30 am

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HAND AUGER LOG

HOLE NO.: HA25

CLIENT: Tiopira Taniera Hapu Trust
PROJECT: Geotechnical Investigations

JOB NO.: 19340

SITE LOCATION: 52 Hooks & Hall Road, Waimamaku
CO-ORDINATES: 1641769mE, 6065274mN
ELEVATION: 25.39m

START DATE: 10/03/2025
END DATE: 10/03/2025
LOGGED BY: CH

UNIT	MATERIAL DESCRIPTION (See Classification & Symbology sheet for details)	SAMPLES	DEPTH (m)
TS	TOPSOIL.		0.0
Alluvium	Clayey sandy SILT, with minor gravel; brown/grey/orange mottling. Stiff; dry; low plasticity.		0.4
	Light grey/orange mottling.		1.6
	With trace gravel.		2.0
	Unable to penetrate. End Of Hole: 2.20m		2.2

LEGEND

SCALA PENETROMETER (Blows / 0mm): 2 4 6 8 10 12 14 16 18

VANE SHEAR STRENGTH (kPa), Vane: GEO3603: 50 100 150 200

Values
201+ -
201+ -
201+ -
201+ -

WATER: Groundwater Not Encountered

PHOTO(S)

REMARKS

WATER

- Standing Water Level
- Out flow
- In flow

INVESTIGATION TYPE

- [x] Hand Auger
- [ ] Test Pit

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HAND AUGER LOG

HOLE NO.: HA26

CLIENT: Tiopira Taniera Hapu Trust
PROJECT: Geotechnical Investigations

JOB NO.: 19340

SITE LOCATION: 52 Hooks & Hall Road, Waimamaku
CO-ORDINATES: 1641770mE, 6065295mN
ELEVATION: 25.51m

START DATE: 10/03/2025
END DATE: 10/03/2025
LOGGED BY: RB

UNIT	MATERIAL DESCRIPTION (See Classification & Symbology sheet for details)	SAMPLES	DEPTH (m)	LEGEND	SCALA PENETROMETER (Blows / 0mm)	VANE SHEAR STRENGTH (kPa) Vane: GEO3603	WATER
	TOPSOIL.						
	Sandy SILT, with some clay; brown some orange mottling. Very stiff; dry to moist; sand, fine to medium.		0.2				
	Clayey sandy SILT, with minor organics; brown and orange mottling, some limonite staining. Very stiff; moist; low plasticity.		0.4 0.6 0.8 1.0 1.2			201+ 201+	
	Silty SAND, with some clay; grey, some orange mottling. Very stiff to hard; dry; sand, fine to medium.		1.4			160 17	
	Sandy SILT, with minor clay; grey . Very stiff; dry; low plasticity.		1.6 1.8 2.0			142 29	
	Unable to penetrate. End Of Hole: 2.10m		2.2 2.4 2.6 2.8 3.0 3.2 3.4 3.6 3.8 4.0 4.2				Groundwater Not Encountered

Scala Penetrometer: 2 4 6 8 10 12 14 16 18
Vane Shear Strength (kPa): 50 100 150 200 | Values

PHOTO(S)

REMARKS

WATER

- Standing Water Level
- Out flow
- In flow

INVESTIGATION TYPE

- [x] Hand Auger
- [ ] Test Pit

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HAND AUGER LOG

HOLE NO.: HA27

CLIENT: Tiopira Taniera Hapu Trust
PROJECT: Geotechnical Investigations

JOB NO.: 19340

SITE LOCATION: 52 Hooks & Hall Road, Waimamaku
CO-ORDINATES: 1641770mE, 6065307mN
ELEVATION: 25.62m
START DATE: 10/03/2025
END DATE: 10/03/2025
LOGGED BY: CH

UNIT	MATERIAL DESCRIPTION (See Classification & Symbology sheet for details)	SAMPLES	DEPTH (m)
TS	TOPSOIL.		0.0
Alluvium	Clayey sandy SILT, with minor gravel; brown/grey/orange mottling. Stiff; dry; low plasticity.		0.4
	Silty sandy CLAY; grey/brown/orange. Very stiff; moist; low plasticity.		0.8
	Clayey sandy SILT; greyish brown. Very stiff; moist; low plasticity.		1.2
	Sandy SILT; greyish. Very stiff; moist; non-plastic.		1.8
	Unable to penetrate. End Of Hole: 2.20m		2.2

SCALA PENETROMETER (Blows / 0mm): 2, 4, 6, 8, 10, 12, 14, 16, 18

VANE SHEAR STRENGTH (kPa) Vane: GEO3603: 50, 100, 150, 200

Values
201+ -
201+ -
201+ -
201+ -

WATER: Groundwater Not Encountered

PHOTO(S)

REMARKS

WATER
- Standing Water Level
- Out flow
- In flow

INVESTIGATION TYPE
- [x] Hand Auger
- [ ] Test Pit

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Whangarei 0110

HAND AUGER LOG

HOLE NO.: HA28

CLIENT: Tiopira Taniera Hapu Trust
PROJECT: Geotechnical Investigations

JOB NO.: 19340

SITE LOCATION: 52 Hooks & Hall Road, Waimamaku
CO-ORDINATES: 1641746mE, 6065329mN
ELEVATION: 24.99m

START DATE: 10/03/2025
END DATE: 10/03/2025
LOGGED BY: RB

UNIT	MATERIAL DESCRIPTION (See Classification & Symbology sheet for details)	SAMPLES	DEPTH (m)	LEGEND	SCALA PENETROMETER (Blows / 0mm)	VANE SHEAR STRENGTH (kPa) Vane: GEO3603	Values	WATER
TS	TOPSOIL.		0.0					
Alluvium	Clayey SILT; light brown, some orange. Very stiff; dry; low plasticity.		0.2					
	Clayey sandy SILT; light brown and more orange mottling. Very stiff; dry to moist; low plasticity.		0.4				201+	
			0.6				-	
			0.8					
			1.0				194	
			1.2				50	
	Silty sandy CLAY; orange/grey/brown. Stiff; moist; high plasticity.		1.4				101	
			1.6				35	
	Firm; moist to wet.		1.8					
			2.0				50	
			2.2				26	
	Sandy CLAY; bluish grey. Soft to firm; wet; high plasticity.		2.4					10/03/2024
			2.6				75	
			2.8				17	
	Clayey gravelly SAND, with some fibrous peat and rootlets. Soft; saturated; low plasticity; sand, fine to coarse; gravel, fine.		3.0				UTP	
	Unable to penetrate. End Of Hole: 3.00m		3.2				-	
			3.4					
			3.6					
			3.8					
			4.0					
			4.2					

PHOTO(S)

REMARKS

WATER

- Standing Water Level
- Out flow
- In flow

INVESTIGATION TYPE

- [x] Hand Auger
- [ ] Test Pit

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HAND AUGER LOG

HOLE NO.: HA29

CLIENT: Tiopira Taniera Hapu Trust
PROJECT: Geotechnical Investigations

JOB NO.: 19340

SITE LOCATION: 52 Hooks & Hall Road, Waimamaku
CO-ORDINATES: 1641733mE, 6065329mN
ELEVATION: 25.03m

START DATE: 10/03/2025
END DATE: 10/03/2025
LOGGED BY: CH

UNIT	MATERIAL DESCRIPTION (See Classification & Symbology sheet for details)	SAMPLES	DEPTH (m)	LEGEND	SCALA PENETROMETER (Blows / 0mm)	VANE SHEAR STRENGTH (kPa) Vane: GEO3603	WATER
TS	TOPSOIL.		0.0	TS			
Alluvium	Silty sandy CLAY; light greyish, orange. Stiff; dry; low plasticity.		0.2 – 1.0			190 72	
	Brownish grey. Moist.		1.0 – 1.4			153 63	
	Silty CLAY; light brownish grey. Stiff; moist; low plasticity.		1.4 – 1.8			130 46	
	Dark grey.		1.8 – 2.0			75 40	
	Soft to firm.		2.0 – 2.8			63 26	
	Wet.		2.8				◁
	Unable to penetrate. End Of Hole: 2.90m		2.90				

Scala penetrometer scale: 2 4 6 8 10 12 14 16 18
Vane shear strength scale (kPa): 50 100 150 200

PHOTO(S)

REMARKS

WATER

- ▼ Standing Water Level
- ▷ Out flow
- ◁ In flow

INVESTIGATION TYPE

- ☑ Hand Auger
- ☐ Test Pit

HAND AUGER LOG

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Whangarei 0110

HOLE NO.: HA30

CLIENT: Tiopira Taniera Hapu Trust
PROJECT: Geotechnical Investigations

JOB NO.: 19340

SITE LOCATION: 52 Hooks & Hall Road, Waimamaku
CO-ORDINATES: 1641708mE, 6065315mN
ELEVATION: 24.64m
START DATE: 10/03/2025
END DATE: 10/03/2025
LOGGED BY: RB

UNIT	MATERIAL DESCRIPTION (See Classification & Symbology sheet for details)	SAMPLES	DEPTH (m)	LEGEND	SCALA PENETROMETER (Blows / 0mm)	VANE SHEAR STRENGTH (kPa) Vane: GEO3603 Values	WATER
TS	TOPSOIL.		0.0–0.2	TS			Groundwater Not Encountered
Alluvium	Clayey sandy SILT; grey/brown and orange mottling. Very stiff; dry to moist; low plasticity.		0.2–1.7			201+ / - 187 / 29 184 / 40	
Alluvium	Sandy CLAY; greyish orange. Firm; moist to wet; high plasticity.		1.7–2.1			130 / 43	
Alluvium	Bluish grey.		2.1–2.7			78 / 40	
	Unable to penetrate. End Of Hole: 2.70m						

PHOTO(S)

REMARKS

WATER

Standing Water Level
Out flow
In flow

INVESTIGATION TYPE

[✓ Hand Auger]
Test Pit

HAND AUGER LOG

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2 Seaview Road, Whangarei 0110

HOLE NO.: HA31

CLIENT: Tiopira Taniera Hapu Trust
PROJECT: Geotechnical Investigations
JOB NO.: 19340

SITE LOCATION: 52 Hooks & Hall Road, Waimamaku
CO-ORDINATES: 1641723mE, 6065304mN
ELEVATION: 24.8m
START DATE: 10/03/2025
END DATE: 10/03/2025
LOGGED BY: CH

UNIT	MATERIAL DESCRIPTION (See Classification & Symbology sheet for details)	SAMPLES	DEPTH (m)	LEGEND	SCALA PENETROMETER (Blows / 0mm)	VANE SHEAR STRENGTH (kPa) Vane: GEO3603 Values	WATER
TS	TOPSOIL.		0.0–0.2	TS			Groundwater Not Encountered
Alluvium	Silty CLAY; orangish, light grey. Very stiff; moist; low plasticity.		0.2–1.0			201+ / -	
Alluvium	Firm.		1.0–1.9			147 / 69; 115 / 49	
Alluvium	Sandy SILT, with minor clay; greyish. Firm; wet; low plasticity.		1.9–2.1			UTP / -	
	Unable to penetrate. End Of Hole: 2.10m						

PHOTO(S)

REMARKS

WATER

▼ Standing Water Level
▷ Out flow
◁ In flow

INVESTIGATION TYPE

✓ Hand Auger
☐ Test Pit

Generated with CORE-GS by Geroc - 1 - Hand Auger - RS Standard scala & vane bars - 13/03/2025 10:55:38 am

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Whangarei 0110

HAND AUGER LOG

HOLE NO.: HA32

CLIENT: Tiopira Taniera Hapu Trust
PROJECT: Geotechnical Investigations

JOB NO.: 19340

SITE LOCATION: 52 Hooks & Hall Road, Waimamaku
CO-ORDINATES: 1641693mE, 6065352mN
ELEVATION: 27.9m

START DATE: 10/03/2025
END DATE: 10/03/2025
LOGGED BY: RB

UNIT	MATERIAL DESCRIPTION (See Classification & Symbology sheet for details)	SAMPLES	DEPTH (m)	LEGEND
TS	Silty TOPSOIL.		0.0	TS
	Clayey SILT; grey/brown and orange mottling. Very stiff; dry to moist; low plasticity.		0.2 – 1.6	
	Clayey sandy SILT; brown/grey some orange. Very stiff; dry to moist; low plasticity.		1.2 – 1.6	
	Hard.		1.6	
	Unable to penetrate - gravels. End Of Hole: 1.70m		1.7	

SCALA PENETROMETER (Blows / 0mm)
2 4 6 8 10 12 14 16 18

VANE SHEAR STRENGTH (kPa)
Vane: GEO3603
50 100 150 200

Values
176
36
201+
-
201+
-

WATER
Groundwater Not Encountered

PHOTO(S)

REMARKS

WATER
- Standing Water Level
- Out flow
- In flow

INVESTIGATION TYPE
- [x] Hand Auger
- [ ] Test Pit

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HAND AUGER LOG

HOLE NO.: HA33

CLIENT: Tiopira Taniera Hapu Trust
PROJECT: Geotechnical Investigations

JOB NO.: 19340

SITE LOCATION: 52 Hooks & Hall Road, Waimamaku
CO-ORDINATES: 1641686mE, 6065346mN
ELEVATION: 26.13m

START DATE: 10/03/2025
END DATE: 10/03/2025
LOGGED BY: CH

UNIT	MATERIAL DESCRIPTION (See Classification & Symbology sheet for details)	SAMPLES	DEPTH (m)	LEGEND	SCALA PENETROMETER (Blows / 0mm)	VANE SHEAR STRENGTH (kPa) Vane: GEO3603	WATER
TS	TOPSOIL.		0.0 – 0.2	TS			
Alluvium	Clayey sandy SILT; brown/grey/orange. Very stiff; dry; low plasticity.		0.2 – 1.0			201+ -	Groundwater Not Encountered
Alluvium	Very stiff to hard.		1.0 – 1.4			201+ -	
	Unable to penetrate. End Of Hole: 1.40m		1.4				

Scala Penetrometer: 2 4 6 8 10 12 14 16 18
Vane Shear Strength (kPa): 50 100 150 200 Values

PHOTO(S)

REMARKS

WATER

- Standing Water Level
- Out flow
- In flow

INVESTIGATION TYPE

- [x] Hand Auger
- [ ] Test Pit

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HAND AUGER LOG

HOLE NO.: HA34

CLIENT: Tiopira Taniera Hapu Trust
PROJECT: Geotechnical Investigations

JOB NO.: 19340

SITE LOCATION: 52 Hooks & Hall Road, Waimamaku
CO-ORDINATES: 1641657mE, 6065259mN
ELEVATION: 21.58m

START DATE: 10/03/2025
END DATE: 10/03/2025
LOGGED BY: CH

UNIT	MATERIAL DESCRIPTION (See Classification & Symbology sheet for details)	SAMPLES	DEPTH (m)	LEGEND	SCALA PENETROMETER (Blows / 0mm)	VANE SHEAR STRENGTH (kPa) Vane: GEO3603	WATER
TS	TOPSOIL.		0.0	TS			
Alluvium	Clayey sandy SILT; orangish brown. Very stiff; moist; low plasticity.		0.2–1.0			187 / 46	
Alluvium	Silty CLAY; brownish. Stiff; moist; low plasticity.		1.0–1.8			144 / 58; 130 / 58	Groundwater Not Encountered
Alluvium	Silty sandy CLAY; greyish/brown and orange. Stiff; moist; low plasticity.		1.8–2.4			115 / 40	
Alluvium	Wet.		2.4				
	Unable to penetrate - gravels. End Of Hole: 2.40m		2.4				

Scala penetrometer scale: 2 4 6 8 10 12 14 16 18
Vane shear strength scale: 50 100 150 200 Values

PHOTO(S)

REMARKS

WATER

- Standing Water Level
- Out flow
- In flow

INVESTIGATION TYPE

- [x] Hand Auger
- [ ] Test Pit

HAND AUGER LOG

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HOLE NO.: HA35

JOB NO.: 19340

CLIENT: Tiopira Taniera Hapu Trust

PROJECT: Geotechnical Investigations

SITE LOCATION: 52 Hooks & Hall Road, Waimamaku

CO-ORDINATES: 1641647mE, 6065261mN

ELEVATION: 21.55m

START DATE: 10/03/2025

END DATE: 10/03/2025

LOGGED BY: RB

UNIT	MATERIAL DESCRIPTION (See Classification & Symbology sheet for details)	DEPTH (m)	VANE SHEAR STRENGTH (kPa) Vane: GEO3603 Values	WATER
TS	TOPSOIL.	0.0–0.2		Groundwater Not Encountered
Alluvium	Clayey SILT; grey/brown some orange mottling. Very stiff; dry; low plasticity.	0.2–1.4	0.5: 176 / 36; 1.0: 201+ / -	
Alluvium	Clayey sandy SILT; grey/brown/orange. Very stiff to hard; moist; low plasticity; sand, fine to coarse.	1.4–1.8	1.5: 173 / 33	
	Unable to penetrate - gravels. End Of Hole: 1.80m	1.8		

SCALA PENETROMETER (Blows / 0mm): no readings recorded.

PHOTO(S)

REMARKS

WATER
- Standing Water Level
- Out flow
- In flow

INVESTIGATION TYPE
- [x] Hand Auger
- [ ] Test Pit

APPENDIX 6

THREE WATERS REPORT

BY RS ENG. LTD

THREE WATERS REPORT

52 Hooks and Halls Road

Waimamaku

(Lot 1 DP 590384)

RS Eng Ltd • 2 Seaview Road, Whangarei 0110 • **09 438 3273** • **office@RSEng.co.nz**
Consulting Engineers

THREE WATERS REPORT

52 Hooks and Halls Road

Waimamaku

(Lot 1 DP 590384)

Report prepared for: Tiopira Taniera Hapu Trust

Report reference: 19340

Date: 15 April 2025

Revision: 4

Document Control

Date	Revision	Description	Prepared by:	Reviewed by:	Authorised by:
8/11/2024	1	Draft Issue	C Hay	D Platt	M Jacobson
11/11/2024	2	Resource Consent Issue	C Hay	D Platt	M Jacobson
5/12/2024	3	RFI Response	C Hay	D Platt	M Jacobson
15/04/2025	4	Proposal Change	C Hay	D Platt	M Jacobson

Contents

Appendices

File: 19340
14 April 2025
Revision: 4

THREE WATERS REPORT

52 Hooks and Halls Road, Waimamaku

(Lot 1 DP 590384)

1.0 Introduction

RS Eng Ltd (RS Eng) has been engaged by Tiopira Taniera Hapu Trust to investigate the suitability of the property (Lot 1 DP 590384) for the construction of self-contained units. The purpose of this report is to assess the preliminary water supply, firefighting supply, stormwater treatment and disposal, flood susceptibility and effects assessment, and on-site wastewater disposal in order to service the proposed development.

The client proposes to construct 6 one-bedroom, 17 two-bedroom, and 7 three-bedroom self-contained residential units, and an eight-bedroom managers house including office spaces.

2.0 Site Description

This property is located on the northern side of Hooks and Halls Road, approximately 400m from its intersection with State Highway 12. The property encompasses near level to steeply sloping topography, with the steep slopes being buttressed by near level to gently sloping terrain towards the southern side of the property. The development is proposed majority over the southern side of the property, which consists of a low-lying gently sloping area and near level to gently sloping elevated terrace, backing onto the steep slopes.

Existing manmade drains occupy areas of the property, generally being on the low-lying topography on the western side of the property. Overland flow paths drain through the property, being from the steep northern slopes, falling generally towards the western boundary of the property, where an existing open-drain collects stormwater and directs flows to the Waimamaku River.

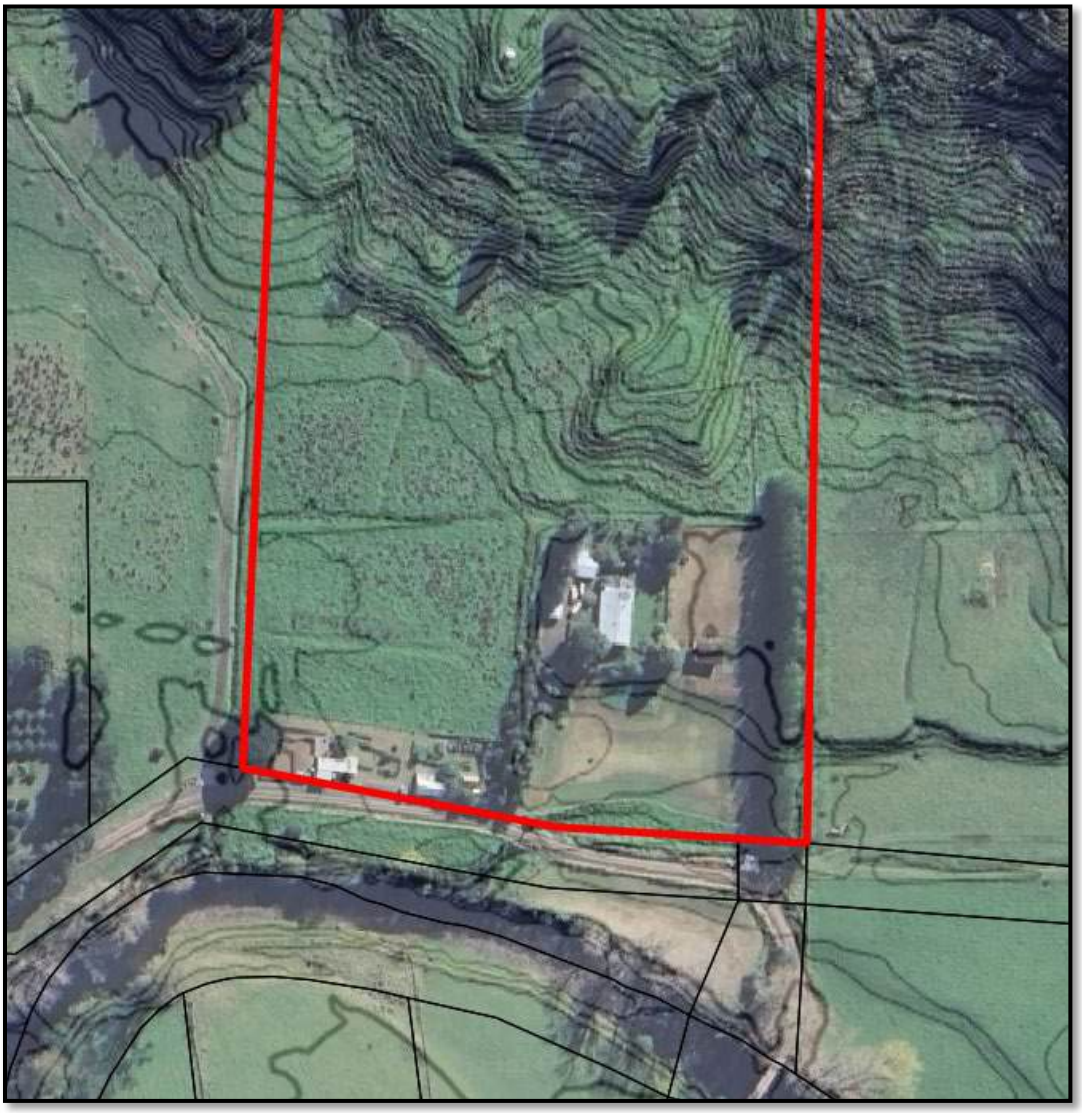

Figure 1: Aerial view of property, highlighted in red (*Source: QGIS, Linz Boundaries, LiDAR, Google Earth Imagery*).

3.0 Flood Assessment

The Northland Regional Council have designated this property as being flood susceptible. To assess the flood hazard and effects from the development, RS Eng have undertaken modelling using Hec-Ras.

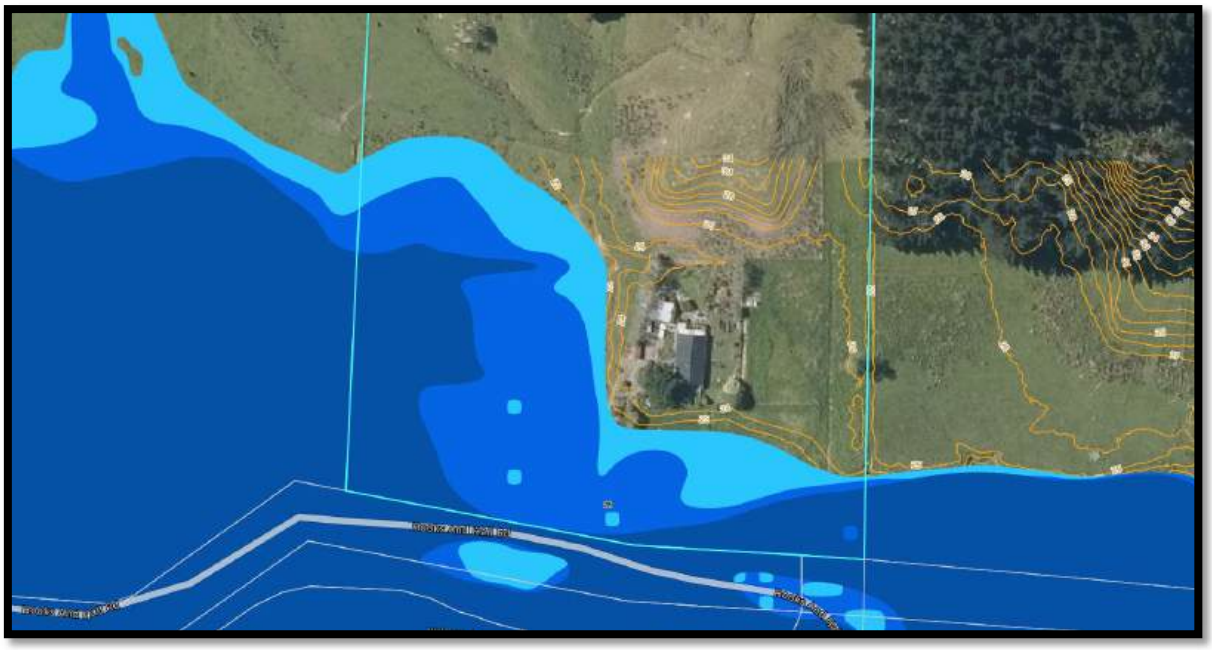

Figure 2: NRC Flood Mapping

3.1 Hec-Ras

The modelling was completed using Hec-Ras V6.6, using the TR55 method and Type 1A storm in the rain on grid 2D mode. The model encompasses the outskirts of the Waima and Mataraua Forest following the Waimamaku River out to the west coast.

The soils have been taken as Class D, for alluvium with a CN value of 78 adopted to represent the rural environment and forestry that make up the catchment. Table 1 below provides a summary of the modelling.

The model parameters were varied, to calibrate the 1%AEP+CC flood level to match the Northland Regional Council regionwide model.

Table 1: Hec-Ras Model Summary

Model Type	Direct rainfall on grid
Rainfall Distribution	Type 1A 24hr – 15 min intervals
Rainfall Depth	256mm 1% AEP+CC (HIRDS V4 +20%)
CN Value (MPD)	78
Terrain Model	Pre Dev – 2018 NRC LiDAR Post Dev – 2018 NRC LiDAR + Modified cut and filled extents at building areas and filled wastewater disposal area.
Equation Set	SWE-ELM
Computation Interval	30s
Modelled grid	15m, refined to 1m adjacent to the area in question.

3.2 Pre-Development

Figure 3 below provides the pre-development depth and extent during a 1% AEP+CC event.

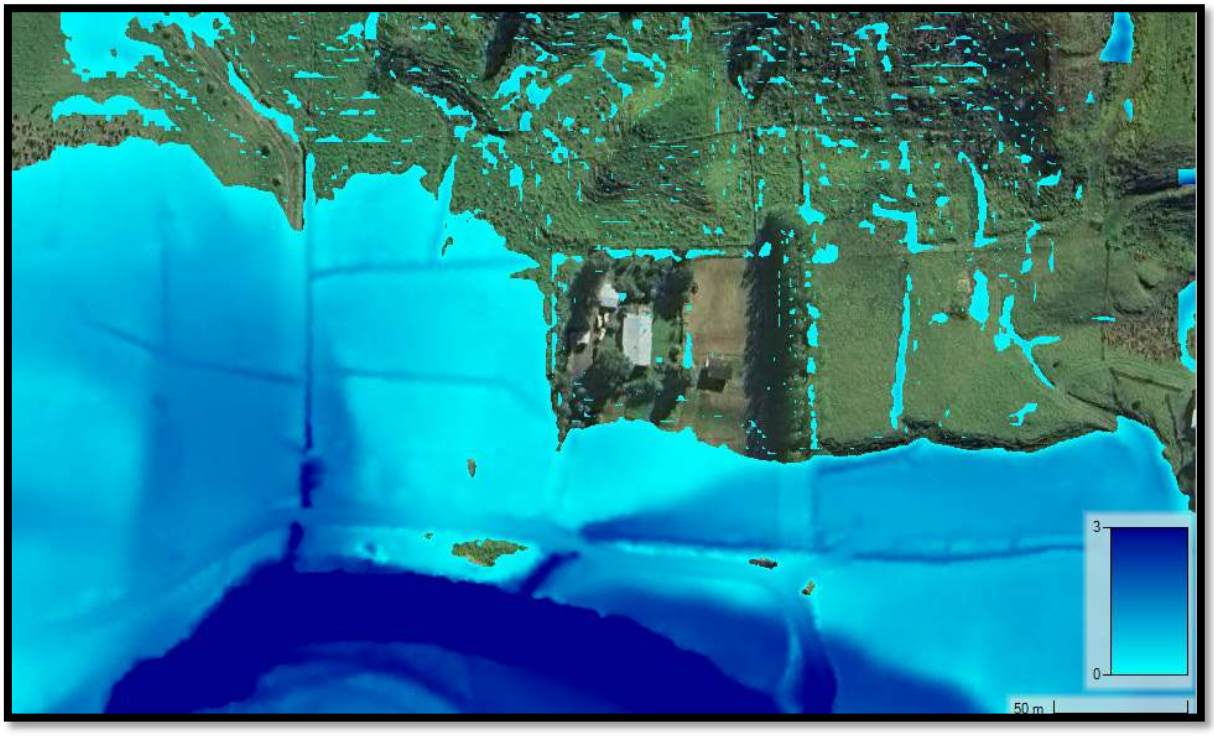

Figure 3: 1%AEP+CC extents pre-development (Depth extent shown >0.05m)

3.3 Post-Development

Figure 4 below provides the post-development depth and extent during a 1% AEP+CC flood event. Proposed earthworks are shown on the drawings attached in Appendix A. The post-development model demonstrates the proposed building areas are elevated above the 1%AEP +CC flood level.

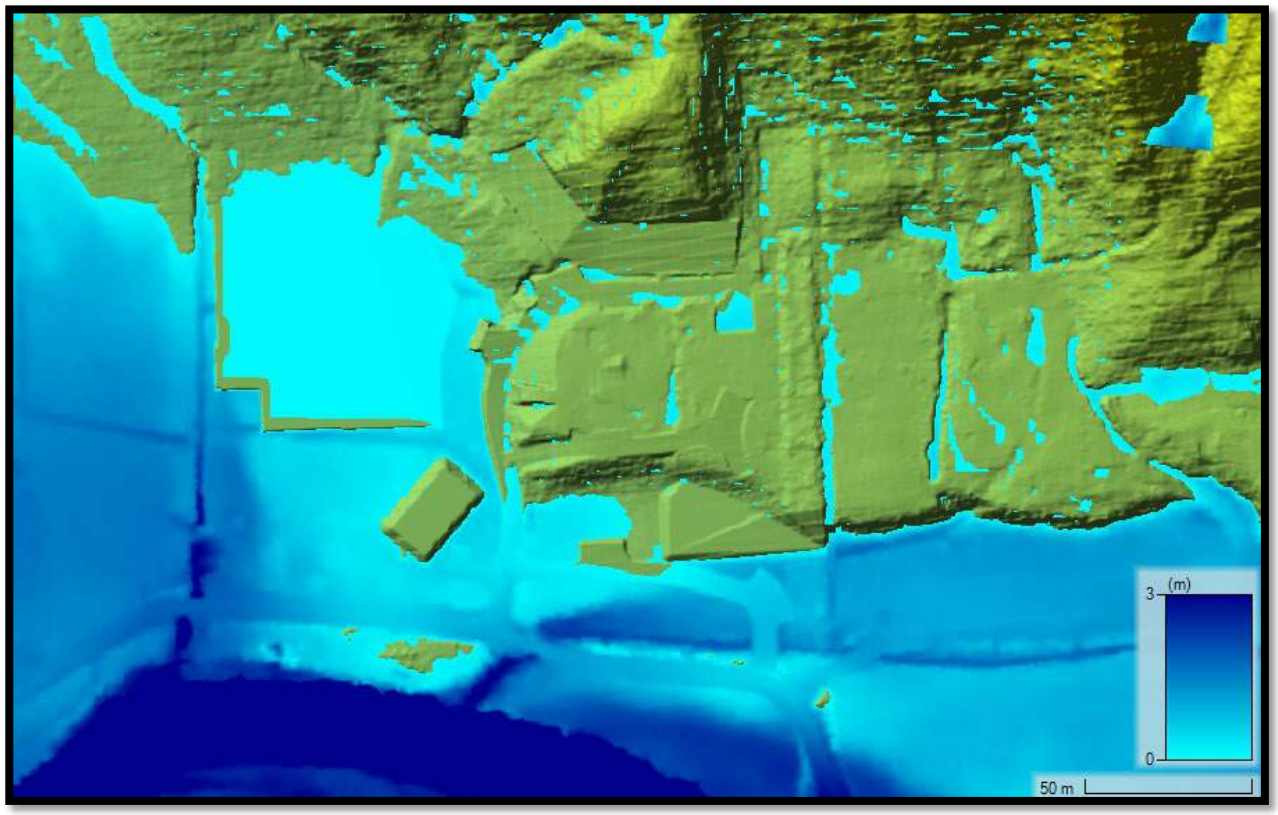

Figure 4: 1%AEP+CC extents post-development.

3.4 Adverse Effects

Post-development modelling depths and velocities have been assessed as having little to no effect to the wider up and downstream catchment. However, flood depths immediately upstream of this site increased by a maximum of approximately 50mm, isolated to where flood depths are generally 1.0m (refer to profile plot 10, Appendix D). The land subject to the increased flood depth is pasture land, away from any existing buildings, and steeply sloping. The increased flood depth does not affect any structures or access to them. The effects of the increased flood depths are considered less than minor. Refer to Appendix D for pre and post-development depth comparison plots.

3.5 Building Platforms

To develop platforms elevated above the 1%AEP+CC flood level, fills are proposed. Floor levels for the habitable dwellings adjacent to the flood extents shall have a minimum freeboard of 0.5m. Recommended minimum ground and floor levels are outlined in Table 2 below.

Table 2: Recommended Floor Levels

Minimum Level (mNZVD)	
Ground	**Habitable Floor**
22.60	23.10

3.6 Wastewater Disposal Field

The post-development flood model has included a raised platform for the wastewater disposal field. As further detailed in this report for groundwater separation and to achieve clearance from the 5%AEP+CC event. The level provided by the NRC for the 2%AEP event is 21.6mNZVD.

4.0 Wastewater Disposal

4.1 Design Flows

4.1.1 One-bedroom Units

The development proposes 6 self-contained, one-bedroom units. In accordance with TP58, an occupancy of 2 was applied to each unit. Allowing for 145L/person/day with 6/3 flush toilets, standard water fixtures, and no garbage grinders. The total wastewater flows for the one-bedroom units are presented in Table 3 below.

Table 3: One-bedroom Unit Flows

1-bedroom Units	6	No.
Design Occupancy	2	No.
Total Occupancy	12	No.
Flow Allowance	145	L/person/Day
Total Flow	**1740**	**L/Day**

4.1.2 Two-bedroom Units

The development proposes 17 self-contained, two-bedroom units. In accordance with TP58, an occupancy of 4 was applied to each unit. Allowing for 145L/person/day with 6/3 flush toilets, standard water fixtures, and no garbage grinders. The total wastewater flows for the two-bedroom units are presented in Table 4 below.

Table 4: Two-bedroom Unit Flows

2-bedroom Units	17	No.
Design Occupancy	4	No.
Total Occupancy	68	No.
Flow Allowance	145	L/person/Day
Total Flow	**9860**	**L/Day**

4.1.3 Three-bedroom Units

The development proposes 7 self-contained, three-bedroom units. In accordance with TP58, an occupancy of 4 was applied to each unit. Allowing for 145L/person/day with 6/3 flush toilets, standard water fixtures, and no garbage grinders. The total wastewater flows for the three-bedroom units are presented in Table 5 below.

Table 5: Three-bedroom Unit Flows

3-bedroom Units	7	No.
Design Occupancy	5	No.
Total Occupancy	35	No.
Flow Allowance	145	L/person/Day
Total Flow	**5075**	**L/Day**

4.1.4 Managers House including office space

The development proposes an eight-bedroom managers house including office spaces. In accordance with TP58, an occupancy of 4 has been applied. Allowing for 145L/person/day with 6/3 flush toilets, standard water fixtures, and no garbage grinders. The total wastewater flows for the managers building / office space are presented in Table 6 below.

Table 6: Managers House Flows

Bedrooms	8	No.
Design Occupancy	10	No.
Flow Allowance	145	L/person/Day
Total Flow	**1450**	**L/Day**

4.1.5 Total Flows

The total daily flow is 18,125L. A system capable of providing secondary treatment shall be installed and specifically designed by the manufacturer.

4.2 Site Evaluation

The land available for effluent disposal is gently sloped (less than 10°). Ground coverage at the disposal field location is currently pasture and recently mown pasture.

During our walkover investigation, an effluent disposal area was identified, comprised of two different ground conditions. A low-lying alluvial area was observed rolling into moderate hummocky slopes.

Shallow groundwater was encountered at approximately 0.3m below ground level at the low-lying area. Existing man-made drains were observed across the low-lying area. To provide groundwater separation and clearance from the drains, filling of the existing drains and mounding in the low-lying areas is required. Topsoil and suitable material from the proposed earthworks will be utilised for the filling and mounding. The effluent disposal field and mounding is shown on Sheet C14 of Appendix A.

The proposed mounding of the effluent disposal field will raise the effluent disposal field above the 2%AEP event.

The effluent disposal field over the moderate slopes does not require mounding. Groundwater on the slopes were not observed at depths greater than 1.0m BGL. However, during our walkover investigation, multiple overland flow paths were observed at and near to the proposal disposal area. To achieve setback compliance, the disposal field shall be setback from the overland flow paths, with some areas of the overland flow paths removed / filled in, shown on Sheet C13 of Appendix A.

During the site works, the existing overland flow paths shall be cleaned and cleared. The flow paths shall be collected via a culvert and piped beneath of the effluent disposal field to the existing drain towards the western boundary of the property.

Based on the subsoil investigations, RS Eng have assessed the soil at the disposal area as Category 7 as per TP58.

4.3 Design Irrigation Field Area

A total disposal area of 9063m² is required as detailed below based on the assessed total daily flow and irrigation rate. Refer to Appendix A and C for the attached site plan and specifications.

Table 7: Wastewater Disposal Calculations

Total Flow	18125	L/day
Irrigation Rate (DIR)	2.0	L/m²/day
Irrigation Area Required	9063	m²
Irrigation Line Spacing	1.0	m

A detailed design and effluent field layout plan to be provided at the detailed design stage.

4.4 Regional Plan Compliance

Table 8 below demonstrates compliance with the Northland Regional Council's Regional Plan.

Table 8: NRC Permitted Discharge Compliance

Feature	**Permitted Activity Requirements**	**Proposed**
Identified Stormwater Flow Path	5m	>5m
River, Lake, Pond, Stream, Dam or Wetland	15m	>15m
Existing Water Supply Bore	20m	>20m
Property Boundary	1.5m	>1.5m
Groundwater	0.6m	>0.6m[1]
10m Buffer Zone	Slopes >10°	<10°
Floodplain Exclusion	5% AEP	5% AEP
Reserve area	33%	33%
Daily discharge	<2m³/day	18.13m³/day

1) To achieve groundwater separation between the dripper lines, mounding of the disposal field will be required, refer to attached detail in Appendix C.

If the disposal field is laid on ground slopes greater than 10°, a minimum 10m planted buffer zone is required.

4.5 Assessment of Environmental Effects

The NRC Regional Plan states that a proposed treated wastewater discharge to land that exceeds 2000L/day is a discretionary activity. The proposed discharge requires an NRC Resource Consent. The following sections have assessed the relevant matters of discretion.

4.5.1 Irrigation Loading Rate

The soil has been categorised as being Soil Category 7 as per TP58 within the low-lying area of the disposal field. Soil Category 7 as per TP58 is described as "*Swelling clay, grey clay, hard pan – poorly or non-draining.*" The upslope soils where the disposal field extends over the northern slopes are assessed as being light clays when compared to the low-lying area which inherit poorly draining clays.

The low irrigation loading rate of 2.0mm/day is considered conservative over the entirety of the effluent disposal field, with an increased mounded topsoil / suitable fill material across the low-lying poorly draining clay will aid in the hydraulic capacity of the disposal field and assist in treatment of nitrogen and phosphorus.

Planting over the entirety of the disposal field is required which will promote the uptake of Nitrogen and Phosphorous through the vegetation. This will assist the effluent disposal field accumulating these compounds.

4.5.2 Treatment Plant

A secondary treatment system is recommended, which is capable of treating effluent to a high standard. This high level of treatment is the first mitigating factor in reducing the environmental effects of the proposed discharge, keeping Nitrogen and Biochemical Oxygen Demand (BOD) levels low. Such a system shall cater for the specific strength of the effluent.

4.5.3 Treatment Through Soils

Treated effluent from the wastewater treatment plant will be disposed of to a disposal field of which will provide treatment through the soils. The land treatment through the soils will allow to remove any BOD5, Total Suspended Solids (TSS), Nitrogen, Phosphorous, and pathogens remaining in the treated effluent.

4.5.4 Heavy Metals

The accumulation of heavy metals is typically found in large quantities within industrial or commercial zones / premises. Heavy metals within the soil profile for the proposed residential units are considered to not be of concern for the domestic strength wastewater.

4.5.5 Effects on Groundwater Quality

The proposed disposal field is located across gently sloping alluvial plains where shallow groundwater was encountered at depths of 0.3m to 0.5m below ground level. Groundwater during the winter is likely to be elevated at 0.2m below ground level. Existing drains across the low-lying land are evident at the low-lying alluvial plains.

Excess topsoil and suitable material sourced from the development earthworks will be utilised for filling of the existing drains and mounding of the effluent disposal field where the field is located over the low-lying alluvial plain.

This will allow for a minimum 0.6m groundwater separation between the proposed effluent disposal field. Groundwater was not encountered where the disposal field extends over the northern slopes and is expected to be at depths greater than 2.0m BGL.

Considering that the treated effluent quality is to a secondary level, percolation through the mounded topsoil / suitable fill material and underlying clays, planting to assist in transpiration, and low irrigation loading rate, RS Eng assess the risk of groundwater contamination as a result of the discharge of treated effluent to the effluent disposal field is low.

4.5.6 Effects on Surface Water Quality

The effluent disposal field will be sufficiently set back from existing watercourses and stormwater flow paths as required by the Northland Regional Council Discharge to Land Compliance.

Existing stormwater flow paths on the northern slopes will be maintained, with the proposed cleaning and clearing to provide sufficient capacity to mitigate over topping. This will mitigate the risk of the effluent break out across the field and over neighbouring properties.

The planting requirements of the effluent disposal field will aid in effluent retention and the uptake of effluent, aiding in reducing the risk of effluent break out.

4.5.7 Effects on Air Quality

It is expected that odours from the disposal field and treatment system will be no more than minor. The subsurface dripper lines are to be buried beneath the surface with planting to be undertaken which will aid in the uptake of effluent, aiding in the effects of odour.

The treatment system manufacturer shall consider the risk of odour on the residents and community and shall select a suitable treatment plant which will eliminate or reduce the risk of odour.

4.5.8 Effects on Public and Community

The effluent disposal field and treatment plant will be located on the subject property, with a portion of the disposal field extending across the property boundary onto the neighbouring property of which the Tiopira Taniera Hapu Trust currently own. A formal agreement has been signed allowing an easement onto the property.

The effects of residents and the wider community is considered to be minimal. The mounded disposal field will be formed to blend into the land, with planting and vegetation over the entirety of the field considered to be the most noticeable aspect of the disposal field, however of which will be consist of relatively small plants and shrubs as outlined on the suitable plant list attached to this report. Irrigation dripper lines will be buried below the surface (subsurface) and hidden from sight.

4.5.9 Summary

Overall, RS Eng consider the risk of potential effects of the effluent discharge on ground and surface water quality to be no more than minor. An NRC AEE-7 Part B Form is enclosed in Appendix E to supplement the Resource Consent application.

RS Eng expects that the requirement for annual / periodic monitoring of the system to be undertaken as a condition of the consent, as would be typically applied to a consent for a treatment and disposal system of this nature.

It is recommended the wastewater treatment system and disposal field be inspected by a suitably qualified Chartered Professional Engineer once installed to confirm its compliance with the recommendations of this report.

5.0 Stormwater Assessment

The Far North District Council (FNDC) District Plan shows the property within the Rural Production Zone. A permitted activity under the District Plan states the following regarding stormwater management within this zone: "*The maximum proportion of the gross site area covered by buildings and other impermeable surfaces shall be 15%*"

The total allowable impermeable coverage is 15818m² (15% gross site area). The proposed residential units and paved accessways are to have an approximate impervious surfaces area of 5945m², subject to the detailed design stage and finalised building plans.

Given that the approximate impermeable area of 5945m² is proposed, the allowable impermeable coverage of the Rural Production permitted activity is achieved.

5.1 Treatment

The accessway and parking areas are proposed to be surfaced with concrete, with the stormwater runoff to be collected and piped to a planted swale via a piped stormwater reticulation, located along the southern boundary of the property.

The planted swale will be designed to Auckland Council GD01 to promote sedimentation for any sediments and pollutants from the collected accessway and parking area runoff.

The planted swale outlets to a culvert which runs beneath of Hooks and Hall Road and directs stormwater to the Waimamaku River.

Leaf and debris diverters shall be considered for the unit buildings downpipes, to remove any debris from the roofs stormwater runoff prior to entering the water reticulation and water tanks.

5.2 Stormwater Disposal

Stormwater overflow from the water tanks should be discharged to drains and/or watercourses.

The parking and access areas shall fall to cesspits directing stormwater runoff to the planted swale. The outlet from the planted swale will connect to a culvert beneath of Hooks and Hall Road, directing stormwater to the Waimamaku River.

Under no circumstances shall uncontrolled stormwater be discharged to ground.

6.0 Water Supply

6.1 Potable Water

Potable water will be provided to each unit by rainwater tanks, an indicative area for the location of tanks has been identified on the layout plan attached in Appendix A. Runoff from the roof areas will need to be directed to the tanks by suitable pipe networks.

Due to the development's proximity to the gravel road (Hooks and Hall Road), there is risk of dust and pollutants contaminating the water supply. RS Eng recommends that a first flush system is implemented to the water supply, being in the form of a first flush diverter or similar approved treatment. The first flush system will capture the initial runoff from the roofs which may potentially contain dust and pollutants, and allow the initial/contaminated runoff to be diverted away from the water supply tanks. The first flush system shall be suitably sized for the units at the building consent stage.

In order to prevent clogging of the first flush system, gutter guards and/or debris diverters shall be implemented to all gutters/downpipes to reduce the maintenance requirements for the water supply system.

Potable water shall be treated in accordance with G12 of the NZ Building Code and New Zealand Drinking Water Standard.

6.2 Firefighting Supply

In accordance with the New Zealand Fire Service Firefighting Water Supplies Code of Practice (SNZ PAS 4509:2008) the units are classified as being FW2.

Minimum water storage volumes and distances to buildings have been specified in the New Zealand Fire Service Firefighting Water Supplies Code of Practice (SNZ PAS 4509:2008).

Further assessment and locations of the firefighting permanent storage shall be undertaken at the engineering plan approval stage (EPA). Specific approval shall be sought from the NZ Fire Service.

7.0 Conclusions

It is the conclusion of RS Eng Ltd that the building area is suitable for the proposal provided the recommendations and limitations stated within this report are adhered to.

RS Eng Ltd also concludes that subject to the recommendations of this report, in terms of Section 72 of the Building Act 2004;

(a) the building work to which an application for a building consent relates will not accelerate, worsen, or result in inundation on the land on which the building work is to be carried out or any other property; and

(b) the land is neither subject to nor likely to be subject to inundation.

8.0 Limitations

This report has been prepared solely for the benefit of our client. The purpose is to determine the engineering suitability of the proposed development, in relation to the material covered by the report. The reliance by other parties on the information, opinions or recommendations contained therein shall, without our prior review and agreement in writing, do so at their own risk.

Recommendations and opinions in this report are based on data obtained as previously detailed. The nature and continuity of subsoil conditions away from the test locations are inferred and it should be appreciated that actual conditions could vary from those assumed. If during the construction process, conditions are encountered that differ from the inferred conditions on which the report has been based, RS Eng should be contacted immediately.

Construction site safety is the responsibility of the builder/contractor. The recommendations included herein should not be construed as direction of the contractor's methods, construction sequencing or procedures. RS Eng can provide recommendations if specifically engaged to, upon request.

This report does not address matters relating to the National Environmental Standard for Contaminated Sites, and if applicable separate advice should be sought on this matter from a suitably qualified person.

Prepared by:

Codie Hay
Technician
NZDE(Civil)

Reviewed by:

David Platt
Geotechnical Team Leader
NZDE(Civil), MEngNZ

Approved by:

Matthew Jacobson
Director
NZDE(Civil), BE(Hons)(Civil), CPEng, CMEngNZ

RS Eng Ltd

Appendix A

Drawings

DETAILS		
JOB NO.	19340	
DATE	03/04/2025	
REVISION	B	FOR RCA

SHEET INDEX

NO.	SHEET NAME	REV	DATE
C01	EXISTING FEATURES PLAN	B	3/04/2025
C02	OVERALL SITE PLAN	B	3/04/2025
C03	LAYOUT PLAN	B	3/04/2025
C04	CUT AND FILL PLAN	B	3/04/2025
C05	TYPICAL SECTION DETAILS	B	3/04/2025
C06	ROAD 1 - PLAN & LONGITUDINAL SECTION	B	3/04/2025
C07	ROAD 2 - PLAN & LONGITUDINAL SECTION	B	3/04/2025
C08	WATER/ROOF WATER PLAN	B	3/04/2025
C09	STORMWATER LAYOUT PLAN	B	3/04/2025
C10	WASTEWATER MANAGEMENT LAYOUT PLAN - SHEET 1 OF 2	B	3/04/2025
C11	WASTEWATER MANAGEMENT LAYOUT PLAN - SHEET 2 OF 2	B	3/04/2025
C12	STORMWATER TYPICAL DETAILS	B	3/04/2025

PROPOSED DEVELOPMENT

LOCALITY MAP

TIOPIRA TANIERA HAPU TRUST

HOOKS AND HALLS ROAD, WAIMAMAKU

RS Eng Ltd
09 438 3273
office@RSEng.co.nz
2 Seaview Road,
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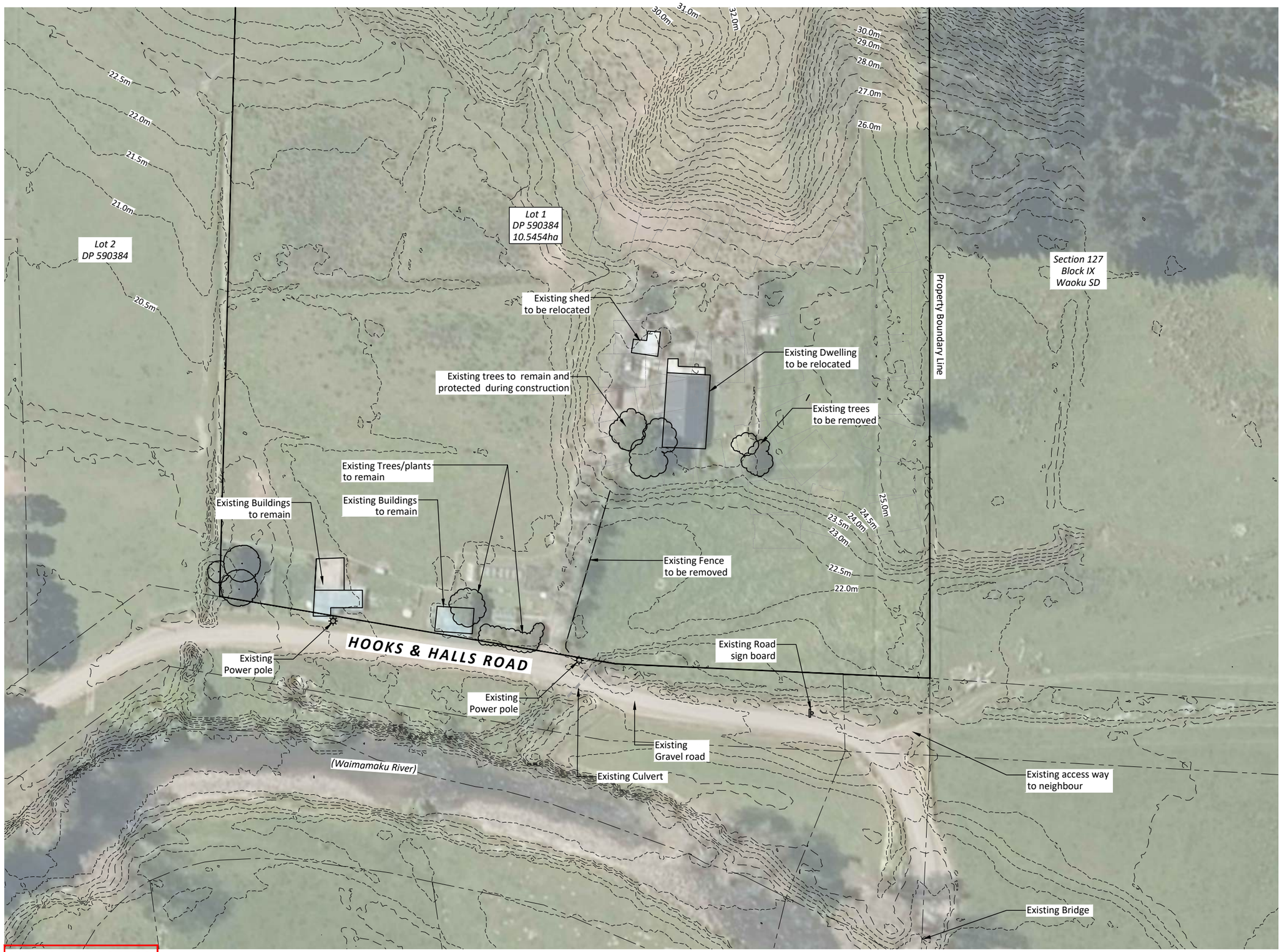

NOTES:

- All services should be located on-site prior to commencement of works.
- All works to comply with all relevant local authority by-laws and council regulations where applicable.
- Contractors to confirm all dimensions on site prior to commencing any work.
- Do not scale off drawings.
- These drawings are to be read in conjunction with specifications - plans take precedence.

WORK IN PROGRESS

Contour Interval:	0.5m
Vertical Datum:	NZVD2016
Survey Data Source:	LiDAR (2018)

0 10 20
PLAN 1:1000

RS Eng Ltd
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office@RSEng.co.nz
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Whangarei 0110

PROPOSED DEVELOPMENT
PRELIMINARY CIVIL DRAWINGS - RC AMENDMENT
EXISTING FEATURES PLAN

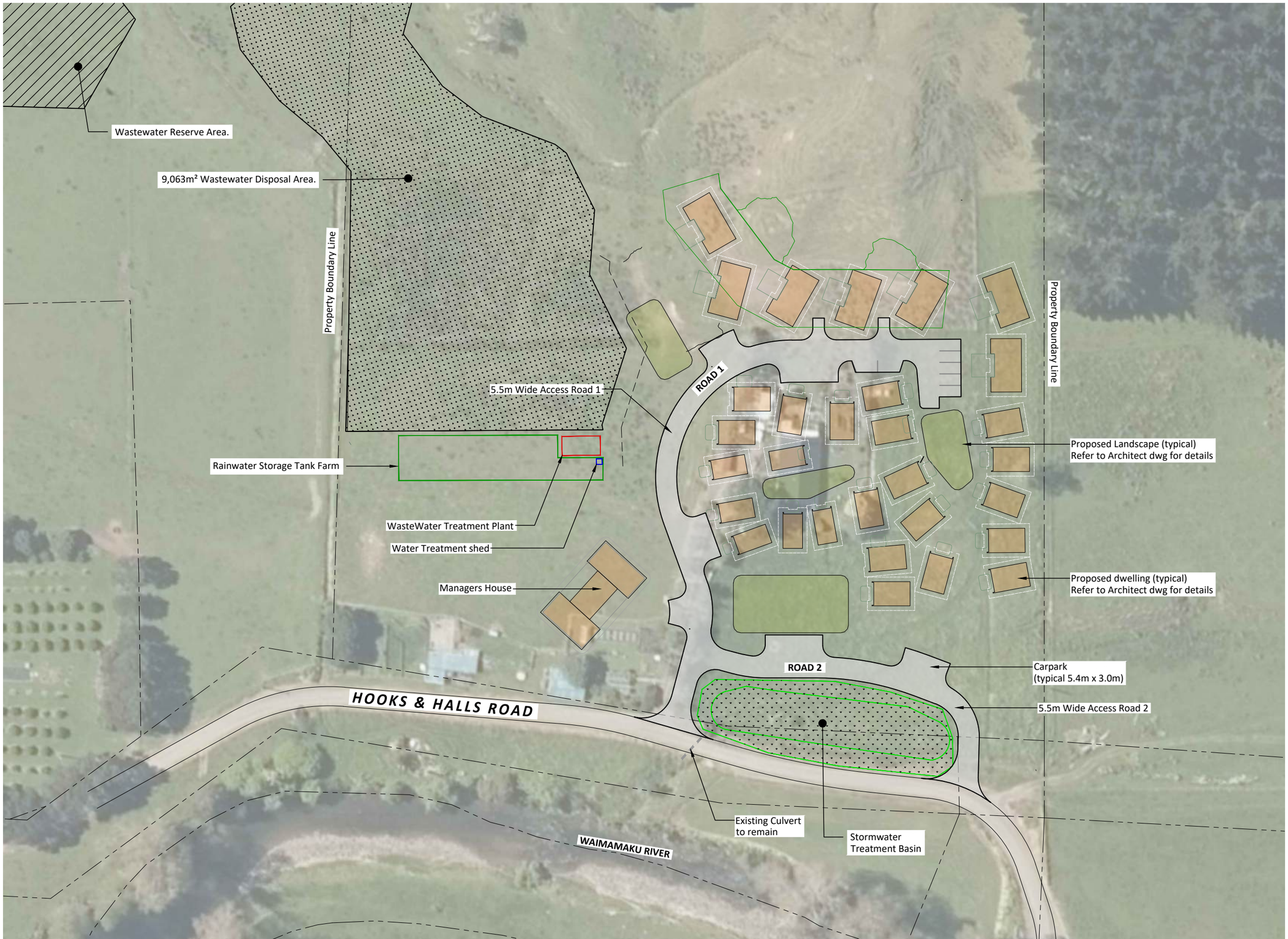
Client: TIOPIRA TANIERA HAPU TRUST

Location: HOOKS AND HALLS ROAD
WAIMAMAKU

Date	Rev	Notes
03/04/2025	B	For RCA
12/03/2025	A	For review

Drawn by: VDT | Reviewed by: NW | Approved by: MJ

Scale	1:1000
Original	A3
Job No.	19340
Rev No.	B
Sheet No.	C01



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LEGEND

- Proposed Dwelling
- Proposed Concrete Road
- Proposed Rainwater Tank Farm
- Proposed Wastewater Treatment Plant
- Proposed Water Treatment shed
- Proposed Wastewater Disposal Area
- Proposed Wastewater Reserve Area
- Proposed Treatment Basin
- Landscape

Contour Interval:	0.5m
Vertical Datum:	NZVD2016
Survey Data Source:	LiDAR (2018)

0 10 20
PLAN 1:1000

WORK IN PROGRESS

RS Eng Ltd
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Whangarei 0110

PROPOSED DEVELOPMENT
PRELIMINARY CIVIL DRAWINGS - RC AMENDMENT
OVERALL SITE PLAN

Client: TIOPIRA TANIERA HAPU TRUST

Location: HOOKS AND HALLS ROAD
WAIMAMAKU

Date	Rev	Notes
03/04/2025	B	For RCA
12/03/2025	A	For review

Drawn by: VDT | Reviewed by: NW | Approved by: MJ

Scale	1:1000
Rev No.	B
Original	A3
Sheet No.	C02
Job No.	19340

NOTES:

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- These drawings are to be read in conjunction with specifications - plans take precedence.

N

LEGEND

- Contour
- Proposed Concrete Road
- Proposed Dwelling
- Proposed Rainwater Storage Tank
- Proposed Wastewater Treatment Plant
- Proposed Water Treatment shed
- Proposed Wastewater Disposal Area
- Proposed Wastewater Reserve Area
- Proposed Stormwater Treatment Basin
- Landscape

Contour Interval: 0.5m
Vertical Datum: NZVD2016
Survey Data Source: LiDAR (2018)

0 10 20
PLAN 1:1000

WORK IN PROGRESS

RS Eng Ltd
09 438 3273
office@RSEng.co.nz
2 Seaview Road,
Whangarei 0110

PROPOSED DEVELOPMENT
PRELIMINARY CIVIL DRAWINGS - RC AMENDMENT
LAYOUT PLAN

Client: TIOPIRA TANIERA HAPU TRUST
Location: HOOKS AND HALLS ROAD WAIMAMAKU

Date	Rev	Notes
03/04/2025	B	For RCA
12/03/2025	A	For review

Drawn by: VDT | Reviewed by: NW | Approved by: MJ

Scale: 1:1000
Original: A3
Job No.: 19340
Rev No.: B
Sheet No.: C03

Earthworks Volumes in Flood Hazard:

10% AEP
2,590m² Area
20m³ Cut
1,430m³ Fill
1,450m³ Total

1% AEP
8,020m² Area
120m³ Cut
3,170m³ Fill
3,290m³ Total

Total Earthworks Areas:
11,035m²

Other Earthworks Areas (Outside Flood):
3,015m²

Total Earthworks Volumes :
1,410m³ Cut
3,470m³ Fill

4,880m³ Total Volumes

NOTES:

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ELEVATIONS TABLE			
Number	Min. Elevation	Max. Elevation	Color
1	-3.393	-2.500	
2	-2.500	-2.000	
3	-2.000	-1.500	
4	-1.500	-1.000	
5	-1.000	-0.500	
6	-0.500	-0.050	
7	0.050	0.500	
8	0.500	1.000	
9	1.000	1.500	

LEGEND

- Contour
- Proposed Dwelling
- Proposed Concrete Road
- Landscape
- Approx Flood extent - 5% post development
- Approx Flood extent - 1% post development

Contour Interval: 0.5m
Vertical Datum: NZVD2016
Survey Data Source: LiDAR (2018)

0 10 20
PLAN 1:1000

WORK IN PROGRESS

RS Eng Ltd
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Whangarei 0110

PROPOSED DEVELOPMENT
PRELIMINARY CIVIL DRAWINGS - RC AMENDMENT
CUT AND FILL PLAN

Client: TIOPIRA TANIERA HAPU TRUST
Location: HOOKS AND HALLS ROAD WAIMAMAKU

Date	Rev	Notes
03/04/2025	B	For RCA
12/03/2025	A	For review

Drawn by: VDT | Reviewed by: NW | Approved by: MJ

Scale: 1:1000
Original: A3
Job No.: 19340
Rev No.: B
Sheet No.: C04

NOTES:

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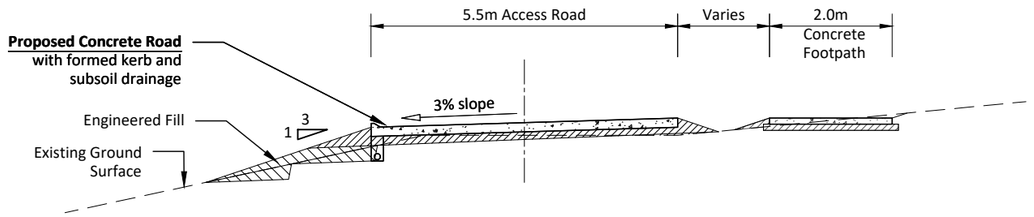
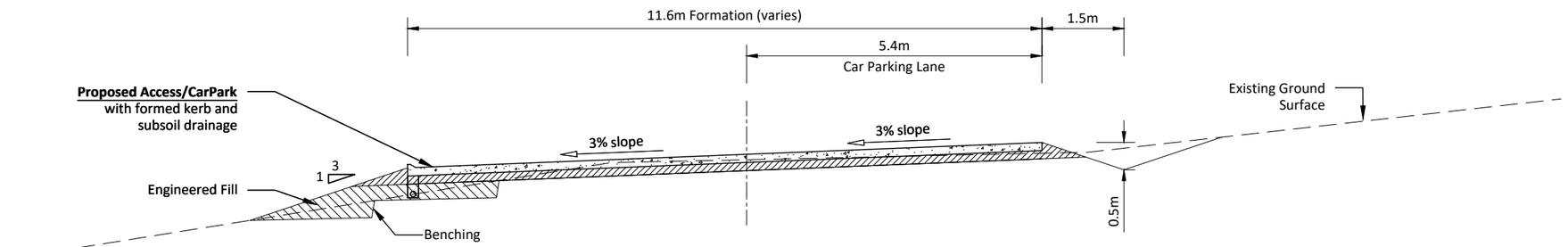


PROPOSED CONCRETE ACCESS ROAD - TYPICAL CROSS SECTION

1:100



PROPOSED CONCRETE CAR PARKING - TYPICAL CROSS SECTION

1:100

WORK IN PROGRESS

0 1.0 2.0
SECTION 1:100

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Whangarei 0110

PROPOSED DEVELOPMENT
PRELIMINARY CIVIL DRAWINGS - RC AMENDMENT
TYPICAL SECTION DETAILS

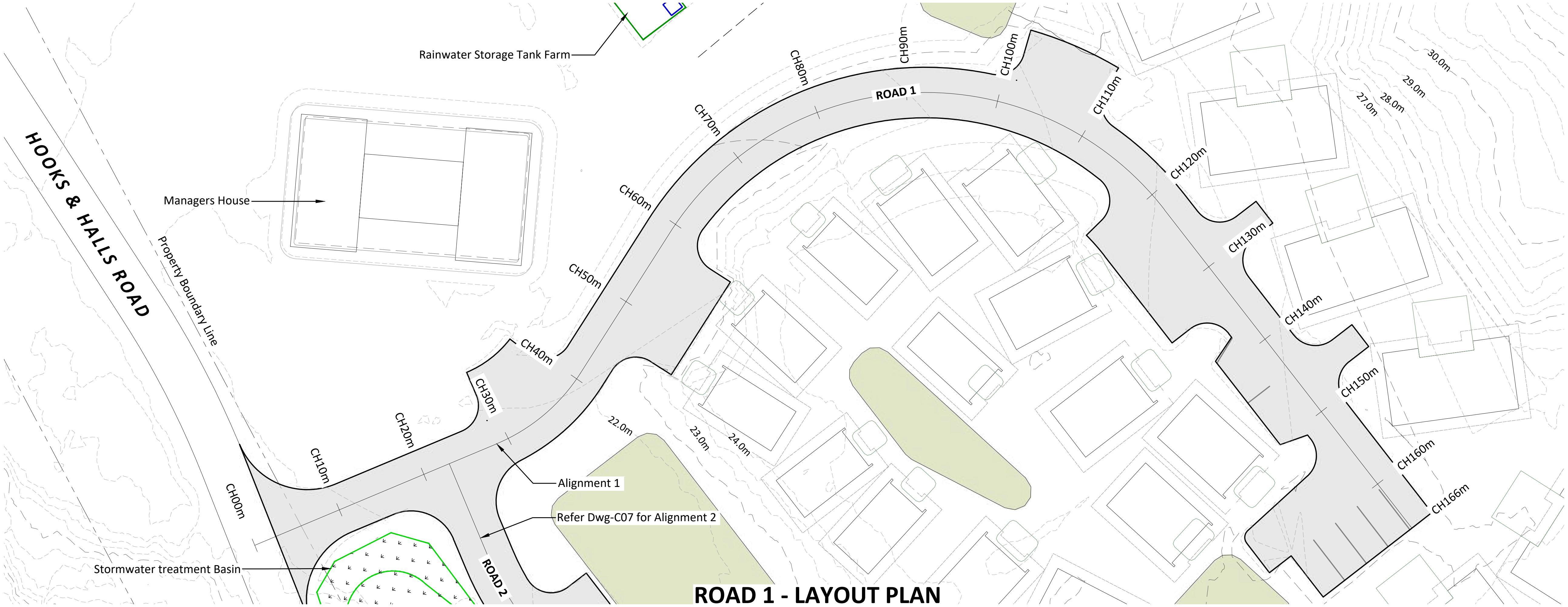
Client: TIOPIRA TANIERA HAPU TRUST

Location: HOOKS AND HALLS ROAD
WAIMAMAKU

Date	Rev	Notes
03/04/2025	B	For RCA
12/03/2025	A	For review

Drawn by: VDT | Reviewed by: NW | Approved by: MJ

Scale: as shown
Original: A3
Job No.: 19340
Rev No.: B
Sheet No.: C05



ROAD 1 - LAYOUT PLAN

SCALE 1:500

NOTES:

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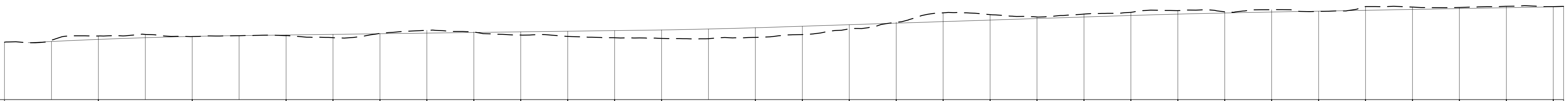
LEGEND

- Contour
- Proposed Dwelling
- Proposed Concrete Road
- Landscape
- Proposed Rainwater Tank Farm
- Proposed Wastewater Treatment Plant
- Proposed Water Treatment shed



Datum 15.000m R.L.

CHAINAGE	DESIGN LEVELS	DEPTH	EXISTING LEVELS
5.000			21.336
10.000	21.429	-0.365	21.794
15.000			21.957
20.000	21.744	0.007	21.737
25.000			21.823
30.000	21.900	0.072	21.828
35.000	21.967	0.356	21.611
40.000	22.033	-0.035	22.068
45.000	22.100	-0.303	22.403
50.000	22.167	-0.062	22.229
55.000	22.233	0.345	21.888
60.000	22.300	0.548	21.752
65.000	22.367	0.768	21.599
70.000	22.437	0.904	21.533
75.000			21.505
80.000	22.669	1.028	21.641
85.000	22.830	0.888	21.942
90.000	22.995	0.452	22.543
95.000	23.160	-0.103	23.263
100.000	23.325	-0.935	24.260
105.000	23.490	-0.581	24.071
110.000	23.655	-0.166	23.821
115.000	23.820	-0.310	24.130
120.000	23.984	-0.335	24.319
125.000	24.128	-0.369	24.497
130.000	24.248	-0.133	24.382
135.000	24.346	-0.248	24.594
140.000	24.438	0.020	24.418
145.000	24.530	-0.402	24.932
150.000	24.622	-0.257	24.879
155.000	24.714	-0.126	24.841
160.000	24.807	-0.155	24.961
165.000	24.899	-0.023	24.922

VERT. GEOMETRY: 4.97% | R549.70m | 1.33% | R762.64m | 3.30% | R1030.30m | 1.84%

HORIZ. GEOMETRY: 28.61m Lth. | R12.13m | R18.18m | R63.15m | 44.02m Lth.

WORK IN PROGRESS

ROAD 1 - LONGITUDINAL SECTION

Contour Interval: 0.5m
Vertical Datum: NZVD2016
Survey Data Source: LiDAR (2018)

SECTION 0 5 10 1:500
PLAN 0 5 10 1:500

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Whangarei 0110

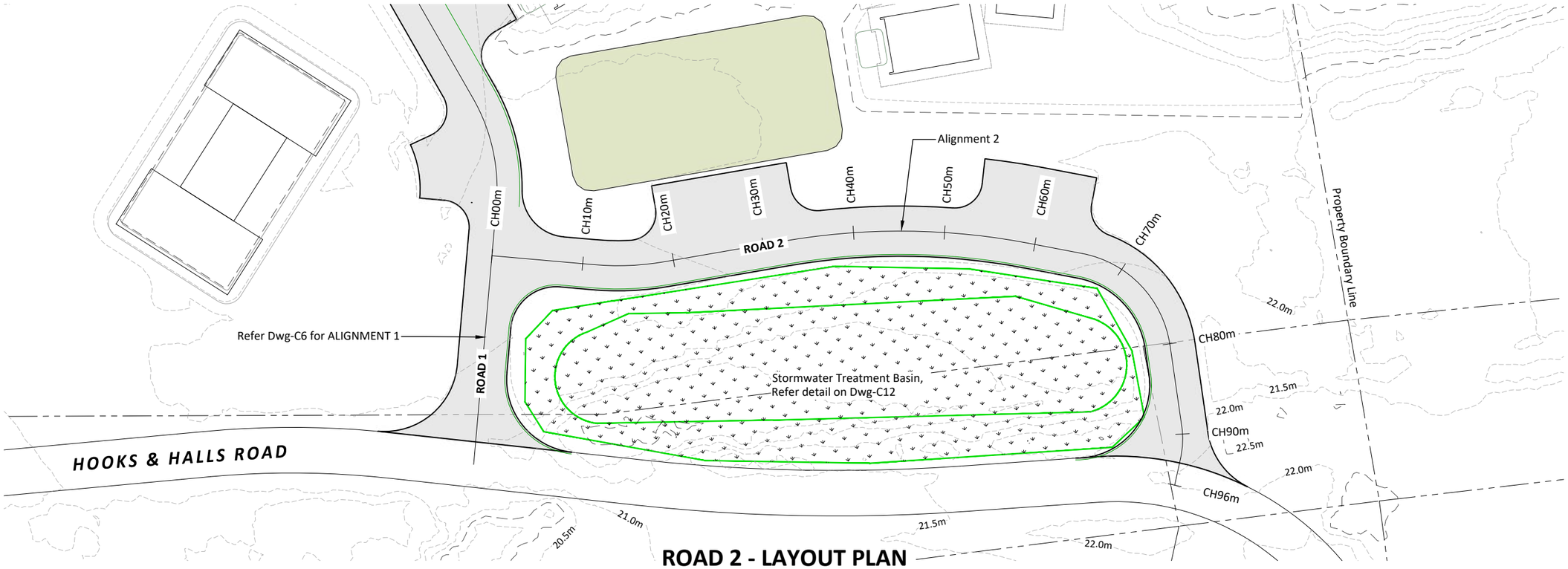
PROPOSED DEVELOPMENT
PRELIMINARY CIVIL DRAWINGS - RC AMENDMENT
ROAD 1 - PLAN AND LONGITUDINAL SECTION

Client: TIOPIRA TANIERA HAPU TRUST
Location: HOOKS AND HALLS ROAD WAIMAMAKU

Date	Rev	Notes
03/04/2025	B	For RCA
12/03/2025	A	For review

Drawn by: VDT | Reviewed by: NW | Approved by: MJ

Scale: As shown
Original: A3
Job No. 19340
Rev No. B
Sheet No. C06



ROAD 2 - LAYOUT PLAN

SCALE 1:500

NOTES:

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Datum 15.000m R.L.

DESIGN LEVELS	21.721	21.807	21.893	21.979	22.065	22.151	22.235	22.287	22.300	22.271	22.204	22.128	22.052	21.976	21.900	21.824	21.795	21.876
DEPTH	-0.108	-0.057	-0.061	-0.025	0.012	0.050	0.063	0.078	0.137	0.462	0.654	0.667	0.535	0.408	0.348	0.472	1.001	-0.784
EXISTING LEVELS	21.829	21.864	21.954	22.004	22.053	22.101	22.172	22.209	22.163	21.809	21.550	21.461	21.517	21.568	21.552	21.351	20.794	22.660	22.009
VERT. GEOMETRY		1.72%				R616.70m				-1.52%							R228.18m	2.86%	
HORIZ. GEOMETRY	11.26m Lth.		R7.76m		13.25m Lth.			R26.98m			6.04m Lth.		R14.86m			8.94m Lth.		R3.60m 3.01m Lth.
CHAINAGE	5.000	10.000	15.000	20.000	25.000	30.000	35.000	40.000	45.000	50.000	55.000	60.000	65.000	70.000	75.000	80.000	85.000	90.000	95.000

LEGEND

- Contour
- Proposed Dwelling
- Proposed Concrete Road
- Landscape

Contour Interval: 0.5m
Vertical Datum: NZVD2016
Survey Data Source: LiDAR (2018)

0 5 10 SECTION 1:500

0 5 10 PLAN 1:500

WORK IN PROGRESS

ROAD 2 - LONGITUDINAL SECTION

RS Eng Ltd
09 438 3273
office@RSEng.co.nz
2 Seaview Road,
Whangarei 0110

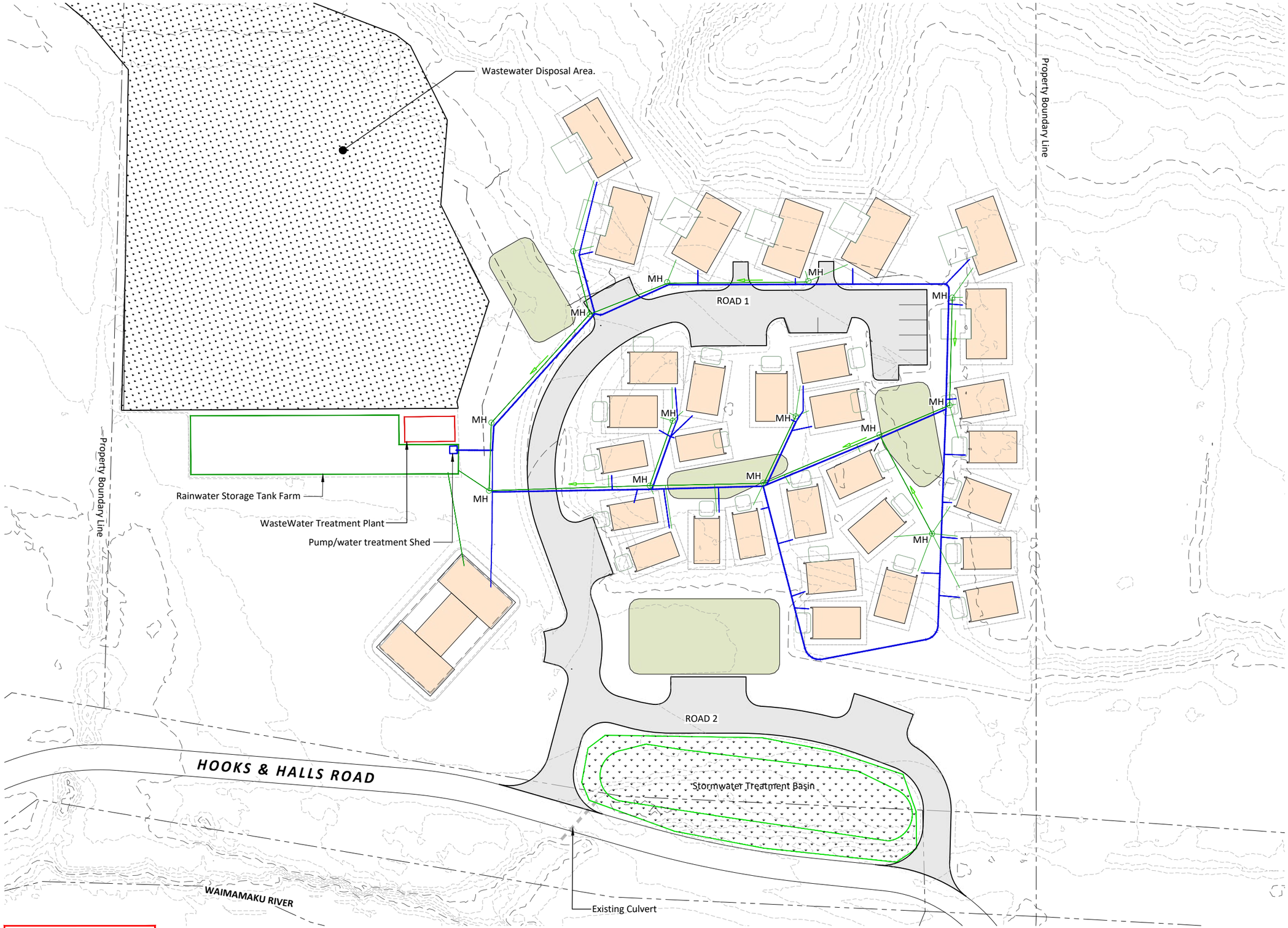
PROPOSED DEVELOPMENT
PRELIMINARY CIVIL DRAWINGS - RC AMENDMENT
ROAD 2 - PLAN AND LONGITUDINAL SECTION

Client: TIOPIRA TANIERA HAPU TRUST
Location: HOOKS AND HALLS ROAD WAIMAMAKU

Date	Rev	Notes
03/04/2025	B	For RCA
12/03/2025	A	For review

Drawn by: VDT | Reviewed by: NW | Approved by: MJ

Scale: As shown
Original: A3
Job No.: 19340
Rev No.: B
Sheet No.: C07



NOTES:

- All services should be located on-site prior to commencement of works.
- All works to comply with all relevant local authority by-laws and council regulations where applicable.
- Contractors to confirm all dimensions on site prior to commencing any work.
- Do not scale off drawings.
- These drawings are to be read in conjunction with specifications - plans take precedence.

LEGEND

- Contour
- Proposed Dwelling
- Proposed Concrete Road
- Proposed Rainwater Storage Tank
- Water treatment / Pump Shed
- Reticulated water - pressure line
- Rainwater gravity line
- Proposed Wastewater Treatment Plant
- Proposed Stormwater Treatment Basin
- Landscape

Contour Interval:	0.5m
Vertical Datum:	NZVD2016
Survey Data Source:	LiDAR (2018)

0 7.5 15
PLAN 1:750

WORK IN PROGRESS

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Whangarei 0110

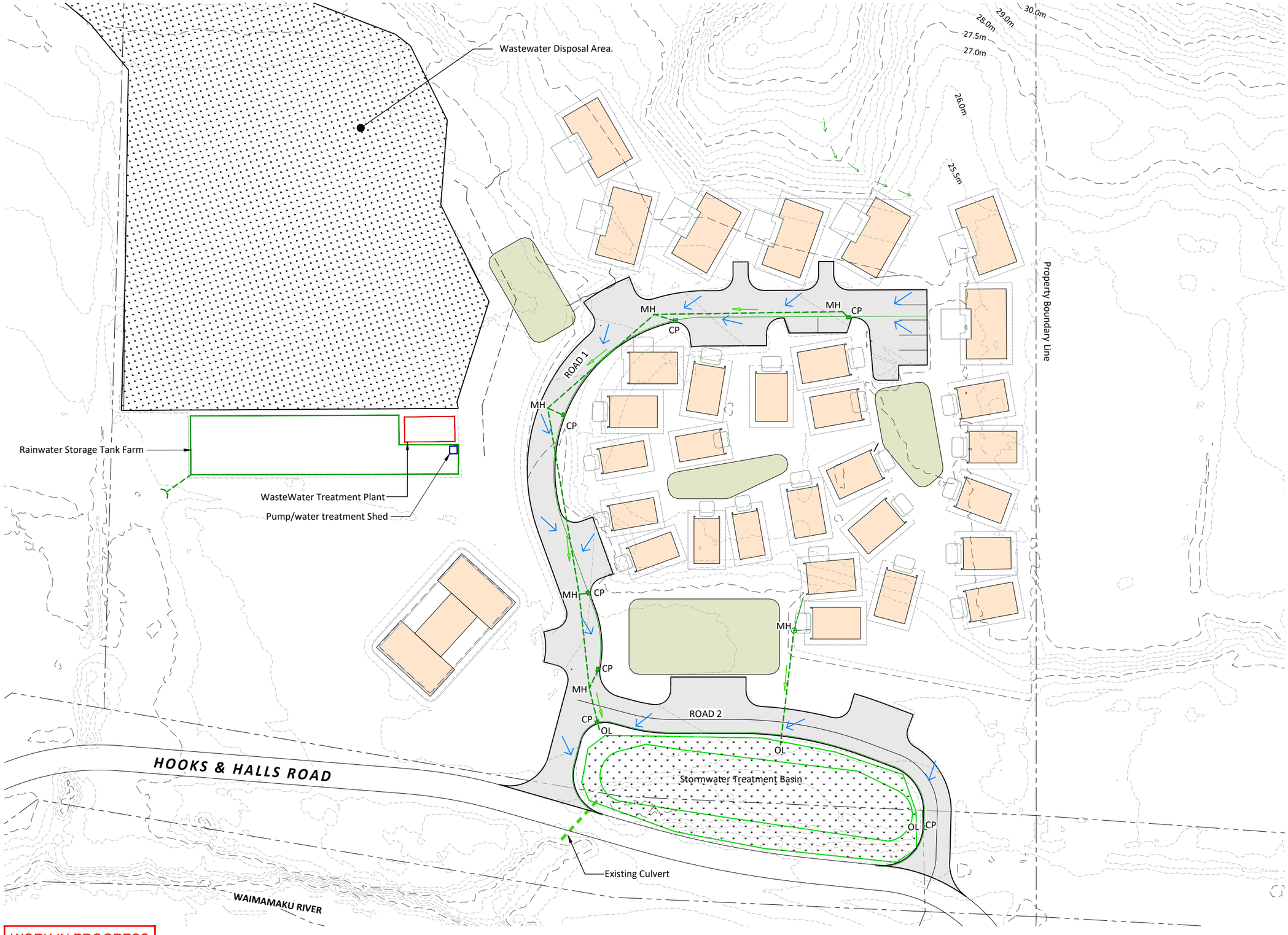
PROPOSED DEVELOPMENT
PRELIMINARY CIVIL DRAWINGS - RC AMENDMENT
WATER/ROOF WATER PLAN

Client: TIOPIRA TANIERA HAPU TRUST
Location: HOOKS AND HALLS ROAD WAIMAMAKU

Date	Rev	Notes
03/04/2025	B	For RCA
12/03/2025	A	For review

Drawn by: VDT | Reviewed by: NW | Approved by: MJ

Scale	1:750
Rev No.	B
Original	A3
Sheet No.	C08
Job No.	19340



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- Contractors to confirm all dimensions on site prior to commencing any work.
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LEGEND

- Contour
- Proposed Dwelling
- Proposed Concrete Road
- Proposed Stormwater Network
- Pipe Flows
- Road Surface Flows
- Proposed Culvert Headwall
- Proposed Stormwater Cesspit
- Proposed Stormwater Manhole
- Proposed Wastewater Treatment Plant
- Proposed Stormwater Treatment Basin
- Water treatment / Pump Shed
- Landscape

Contour Interval: 0.5m
Vertical Datum: NZVD2016
Survey Data Source: LiDAR (2018)

0 7.5 15
PLAN 1:750

WORK IN PROGRESS

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Whangarei 0110

PROPOSED DEVELOPMENT
PRELIMINARY CIVIL DRAWINGS - RC AMENDMENT
STORMWATER LAYOUT PLAN

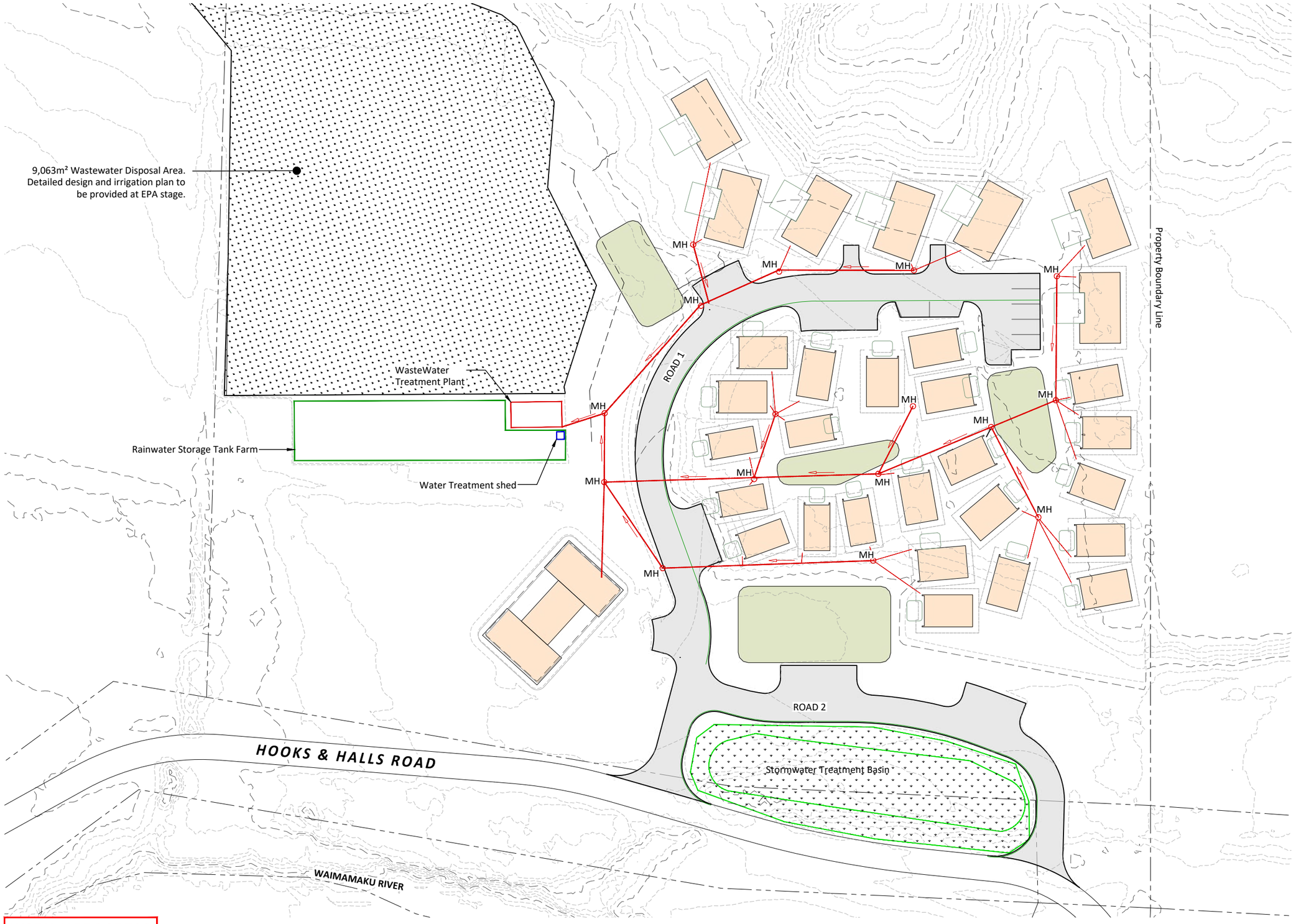
Client: TIOPIRA TANIERA HAPU TRUST
Location: HOOKS AND HALLS ROAD WAIMAMAKU

Date	Rev	Notes
03/04/2025	B	For RCA
12/03/2025	A	For review

Drawn by: VDT | Reviewed by: NW | Approved by: MJ

Scale: 1:750
Original: A3
Job No.: 19340
Rev No.: B
Sheet No.: C09

FOR MATCHING LINE REFER DWG-C11



NOTES:

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- All works to comply with all relevant local authority by-laws and council regulations where applicable.
- Contractors to confirm all dimensions on site prior to commencing any work.
- Do not scale off drawings.
- These drawings are to be read in conjunction with specifications - plans take precedence.

LEGEND

- Contour
- Proposed Dwelling
- Proposed Concrete Road
- Proposed Wastewater Disposal Area
- WWM Reserve Area
- Indicative Sewer Treatment Plant
- Proposed Stormwater Treatment Basin
- Water treatment / Pump Shed
- Gravity Sewer Network
- Proposed Wastewater Manhole
- Pipe Flows
- Landscape

Contour Interval: 0.5m
Vertical Datum: NZVD2016
Survey Data Source: LiDAR (2018)

0 7.5 15
PLAN 1:750

WORK IN PROGRESS

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PROPOSED DEVELOPMENT
PRELIMINARY CIVIL DRAWINGS - RC AMENDMENT
WASTEWATER MANAGEMENT LAYOUT PLAN
SHEET 1 OF 2

Client: TIOPIRA TANIERA HAPU TRUST
Location: HOOKS AND HALLS ROAD, WAIMAMAKU

Date	Rev	Notes
03/04/2025	B	For RCA
12/03/2025	A	For review

Drawn by: VDT | Reviewed by: NW | Approved by: MJ

Scale: 1:750
Original: A3
Job No.: 19340
Rev No.: B
Sheet No.: C10

NOTES:

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- These drawings are to be read in conjunction with specifications - plans take precedence.

Overland flow path. Flow paths to be cleaned out and well defined.

5.0m

5.0m

5.0m

25.0m
24.5m
24.0m
23.5m
23.0m
22.5m
22.0m
21.5m
32.5m
32.0m
31.5m
31.0m
30.5m
30.0m
29.5m
29.0m
28.5m
28.0m

Overland flow path

New flow path to be constructed

WWM Reserve Area.

9,063m² Wastewater Disposal Area. Detailed design and irrigation plan to be provided at EPA stage.

LEGEND

- Contour
- Proposed Dwelling
- Proposed Concrete Road
- Proposed Wastewater Disposal Area
- WWM Reserve Area
- Indicative Sewer Treatment Plant
- Gravity Sewer Network
- Wastewater Manhole
- Landscape

WORK IN PROGRESS

FOR MATCHING LINE REFER DWG-C10

0 7.5 15
PLAN 1:750

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PROPOSED DEVELOPMENT
PRELIMINARY CIVIL DRAWINGS - RC AMENDMENT
WASTEWATER MANAGEMENT LAYOUT PLAN
SHEET 2 OF 2

Client: TIOPIRA TANIERA HAPU TRUST

Location: HOOKS AND HALLS ROAD
WAIMAMAKU

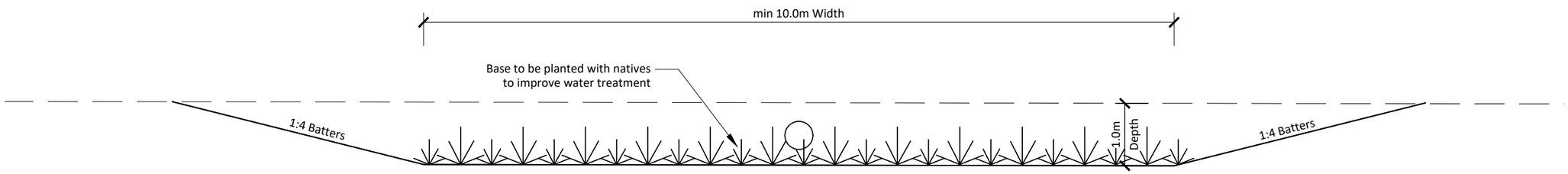
Date	Rev	Notes
03/04/2025	B	For RCA
12/03/2025	A	For review

Drawn by: VDT | Reviewed by: NW | Approved by: MJ

Scale: 1:750
Original: A3
Job No.: 19340
Rev No.: B
Sheet No.: C11

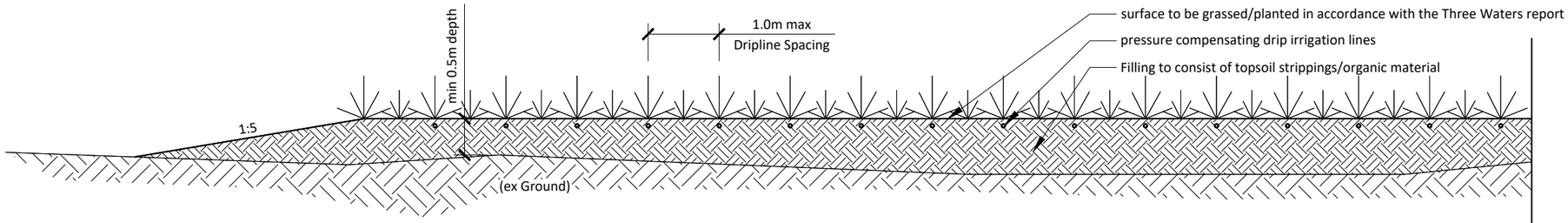
NOTES:

- All services should be located on-site prior to commencement of works.
- All works to comply with all relevant local authority by-laws and council regulations where applicable.
- Contractors to confirm all dimensions on site prior to commencing any work.
- Do not scale off drawings.
- These drawings are to be read in conjunction with specifications - plans take precedence.



SW TREATMENT BASIN - TYPICAL SECTION

1:75



MOUNDED WASTEWATER DISPOSAL FIELD - TYPICAL SECTION

1:75

WORK IN PROGRESS

0 0.75 1.5
SECTION 1:75

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PROPOSED DEVELOPMENT
PRELIMINARY CIVIL DRAWINGS - RC AMENDMENT
STORMWATER TYPICAL DETAILS

Client: TIOPIRA TANIERA HAPU TRUST

Location: HOOKS AND HALLS ROAD
WAIMAMAKU

Date	Rev	Notes
03/04/2025	B	For RCA
12/03/2025	A	For review

Drawn by: VDT | Reviewed by: NW | Approved by: MJ

Scale: 1:75
Original: A3
Job No.: 19340
Rev No.: B
Sheet No.: C12

Appendix B

Subsoil Investigations (Disposal Field Location)

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HAND AUGER LOG

HOLE NO.: HA12

CLIENT: Tiopira Taniera Hapu Trust
PROJECT: Geotechnical Investigations

JOB NO.: 19340

SITE LOCATION: 52 Hooks & Hall Road, Waimamaku
CO-ORDINATES: 1641634mE, 6065308mN
ELEVATION: 21m

START DATE: 15/10/2024
END DATE: 15/10/2024
LOGGED BY: CH

UNIT	MATERIAL DESCRIPTION (See Classification & Symbology sheet for details)	SAMPLES	DEPTH (m)	LEGEND	SCALA PENETROMETER (Blows / 0mm)	VANE SHEAR STRENGTH (kPa) Vane: GEO415	WATER
TS	TOPSOIL.		0.0	TS			
Alluvium	Silty sandy CLAY; grey/brown. Very stiff; moist; low plasticity.		0.2 – 1.2			103, 30, 89, 22	◁
	End Of Hole: 1.20m		1.2 – 4.2				

Scala Penetrometer: 2 4 6 8 10 12 14 16 18
Vane Shear Strength (kPa): 50 100 150 200 — Values

PHOTO(S)

REMARKS

Target Depth reached

WATER

- ▼ Standing Water Level
- ▷ Out flow
- ◁ In flow

INVESTIGATION TYPE

- ☑ Hand Auger
- ☐ Test Pit

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Whangarei 0110

HAND AUGER LOG

HOLE NO.: HA13

CLIENT: Tiopira Taniera Hapu Trust
PROJECT: Geotechnical Investigations

JOB NO.: 19340

SITE LOCATION: 52 Hooks & Hall Road, Waimamaku
CO-ORDINATES: 1641656mE, 6065351mN
ELEVATION: 21.5m

START DATE: 15/10/2024
END DATE: 15/10/2024
LOGGED BY: RJ

UNIT	MATERIAL DESCRIPTION (See Classification & Symbology sheet for details)	SAMPLES	DEPTH (m)	LEGEND	SCALA PENETROMETER (Blows / 0mm)	VANE SHEAR STRENGTH (kPa) Vane: GEO3603	Values	WATER
TS	TOPSOIL.		0.0					
Alluvium	Silty CLAY; orange/grey. Firm; moist.		0.2 – 1.0				89 36 75 16	15/10/2024
	End Of Hole: 1.00m		1.0					

Scala Penetrometer: 2 4 6 8 10 12 14 16 18
Vane Shear Strength (kPa): 50 100 150 200
Depth (m): 0.2 0.4 0.6 0.8 1.0 1.2 1.4 1.6 1.8 2.0 2.2 2.4 2.6 2.8 3.0 3.2 3.4 3.6 3.8 4.0 4.2

PHOTO(S)

REMARKS

Target Depth reached

WATER

- ▼ Standing Water Level
- ▷ Out flow
- ◁ In flow

INVESTIGATION TYPE

- ☑ Hand Auger
- ☐ Test Pit

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HAND AUGER LOG

HOLE NO.: HA14

CLIENT: Tiopira Taniera Hapu Trust
PROJECT: Geotechnical Investigations

JOB NO.: 19340

SITE LOCATION: 52 Hooks & Hall Road, Waimamaku
CO-ORDINATES: 1641618mE, 6065351mN
ELEVATION: 22.3m

START DATE: 15/10/2024
END DATE: 15/10/2024
LOGGED BY: RJ

UNIT	MATERIAL DESCRIPTION (See Classification & Symbology sheet for details)	SAMPLES	DEPTH (m)	LEGEND	SCALA PENETROMETER (Blows / 0mm)	VANE SHEAR STRENGTH (kPa) Vane: GEO3603	Values	WATER
TS	TOPSOIL.		0.0	TS				
Alluvium	Silty CLAY; orange/grey. Firm; moist; high plasticity.		0.2 – 0.8				86 26	15/10/2024
	Silty sandy CLAY; orange/grey/brown. Firm; moist; low plasticity.		0.8 – 1.0				72 6	
	End Of Hole: 1.00m		1.0 – 4.2					

Scala penetrometer: 2 4 6 8 10 12 14 16 18 (Blows / 0mm)
Vane shear strength (kPa): 50 100 150 200

PHOTO(S)

REMARKS

Target Depth reached

WATER

- Standing Water Level
- Out flow
- In flow

INVESTIGATION TYPE

- [x] Hand Auger
- [ ] Test Pit

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Whangarei 0110

HAND AUGER LOG

HOLE NO.: HA15

CLIENT: Tiopira Taniera Hapu Trust
PROJECT: Geotechnical Investigations

JOB NO.: 19340

SITE LOCATION: 52 Hooks & Hall Road, Waimamaku
CO-ORDINATES: 1641637mE, 6065382mN
ELEVATION: 26.2m

START DATE: 15/10/2024
END DATE: 15/10/2024
LOGGED BY: CH

UNIT	MATERIAL DESCRIPTION (See Classification & Symbology sheet for details)	SAMPLES	DEPTH (m)	LEGEND	SCALA PENETROMETER (Blows / 0mm)	VANE SHEAR STRENGTH (kPa) Vane: GEO415	WATER
TS	TOPSOIL.		0.0				Groundwater Not Encountered
Alluvium	Clayey SILT; brown. Very stiff; moist; low plasticity.		0.2				
	0.4m - Light grey/orange.		0.4			103	
			0.6			44	
			0.8				
	End Of Hole: 1.00m		1.0				
			1.2				
			1.4				
			1.6				
			1.8				
			2.0				
			2.2				
			2.4				
			2.6				
			2.8				
			3.0				
			3.2				
			3.4				
			3.6				
			3.8				
			4.0				
			4.2				

Scala Penetrometer: 2 4 6 8 10 12 14 16 18
Vane Shear Strength (kPa): 50 100 150 200
Values

PHOTO(S)

REMARKS

Target Depth reached

WATER

- Standing Water Level
- Out flow
- In flow

INVESTIGATION TYPE

- [x] Hand Auger
- [ ] Test Pit

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Whangarei 0110

HAND AUGER LOG

HOLE NO.: HA16

CLIENT: Tiopira Taniera Hapu Trust
PROJECT: Geotechnical Investigations

JOB NO.: 19340

SITE LOCATION: 52 Hooks & Hall Road, Waimamaku
CO-ORDINATES: 1641610mE, 6065394mN
ELEVATION: 23.7m

START DATE: 15/10/2024
END DATE: 15/10/2024
LOGGED BY: RJ

UNIT	MATERIAL DESCRIPTION (See Classification & Symbology sheet for details)	SAMPLES	DEPTH (m)	LEGEND	SCALA PENETROMETER (Blows / 0mm)	VANE SHEAR STRENGTH (kPa) Vane: GEO3603	Values	WATER
TS	TOPSOIL.		0.0	TS				Groundwater Not Encountered
Alluvium	Silty CLAY; orange/grey. Firm; moist; high plasticity.		0.2				115	
			0.4				58	
	Silty sandy CLAY; orange/grey/brown. Firm; moist; low plasticity.		0.6					
			0.8					
			1.0				108	
	End Of Hole: 1.00m						43	

Scala Penetrometer: 2 4 6 8 10 12 14 16 18
Vane Shear Strength (kPa): 50 100 150 200

PHOTO(S)

REMARKS

Target Depth reached

WATER

- Standing Water Level
- Out flow
- In flow

INVESTIGATION TYPE

- [x] Hand Auger
- [ ] Test Pit

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Whangarei 0110

HAND AUGER LOG

HOLE NO.: HA17

CLIENT: Tiopira Taniera Hapu Trust
PROJECT: Geotechnical Investigations

JOB NO.: 19340

SITE LOCATION: 52 Hooks & Hall Road, Waimamaku
CO-ORDINATES: 1641665mE, 6065385mN
ELEVATION: 21.2m

START DATE: 15/10/2024
END DATE: 15/10/2024
LOGGED BY: RJ

UNIT	MATERIAL DESCRIPTION (See Classification & Symbology sheet for details)	SAMPLES	DEPTH (m)	LEGEND	SCALA PENETROMETER (Blows / 0mm)	VANE SHEAR STRENGTH (kPa) Vane: GEO3603	Values	WATER
TS	TOPSOIL.		0.0	TS				Groundwater Not Encountered
Alluvium	Silty sandy CLAY; orange/grey/brown. Firm; moist; low plasticity.		0.2 – 1.0				82 12 141 68	
	End Of Hole: 1.00m		1.0					

Scala Penetrometer: 2 4 6 8 10 12 14 16 18
Vane Shear Strength (kPa): 50 100 150 200

PHOTO(S)

REMARKS

Target Depth reached

WATER

- Standing Water Level
- Out flow
- In flow

INVESTIGATION TYPE

- [x] Hand Auger
- [ ] Test Pit

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office@RSEng.co.nz
2 Seaview Road,
Whangarei 0110

HAND AUGER LOG

HOLE NO.: HA18

CLIENT: Tiopira Taniera Hapu Trust
PROJECT: Geotechnical Investigations

JOB NO.: 19340

SITE LOCATION: 52 Hooks & Hall Road, Waimamaku
CO-ORDINATES: 1641633mE, 6065416mN
ELEVATION: 28.9m

START DATE: 15/10/2024
END DATE: 15/10/2024
LOGGED BY: CH

UNIT	MATERIAL DESCRIPTION (See Classification & Symbology sheet for details)	SAMPLES	DEPTH (m)	LEGEND	SCALA PENETROMETER (Blows / 0mm)	VANE SHEAR STRENGTH (kPa) Vane: GEO415	WATER
TS	TOPSOIL.		0.0	TS			Groundwater Not Encountered
Otaua Group	Clayey SILT; brown. Very stiff; moist; low plasticity.		0.2 – 1.0			112 59	
	End Of Hole: 1.00m		1.0				

Scala Penetrometer scale: 2 4 6 8 10 12 14 16 18
Vane Shear Strength scale: 50 100 150 200 Values

PHOTO(S)

REMARKS

Target Depth reached

WATER

- Standing Water Level
- Out flow
- In flow

INVESTIGATION TYPE

- [x] Hand Auger
- [ ] Test Pit

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2 Seaview Road,
Whangarei 0110

HAND AUGER LOG

HOLE NO.: HA19

CLIENT: Tiopira Taniera Hapu Trust
PROJECT: Geotechnical Investigations

JOB NO.: 19340

SITE LOCATION: 52 Hooks & Hall Road, Waimamaku
CO-ORDINATES: 1641695mE, 6065377mN
ELEVATION: 27.5m

START DATE: 15/10/2024
END DATE: 15/10/2024
LOGGED BY: RJ

UNIT	MATERIAL DESCRIPTION (See Classification & Symbology sheet for details)	SAMPLES	DEPTH (m)	LEGEND	SCALA PENETROMETER (Blows / 0mm)	VANE SHEAR STRENGTH (kPa) Vane: GEO3603	Values	WATER
TS	TOPSOIL.		0.0	TS				Groundwater Not Encountered
Otaua Group	Silty CLAY; brown, orange. Stiff; moist; high plasticity.		0.2					
Otaua Group	Silty CLAY, with trace sand; light brown, orange. Stiff; moist; high plasticity.		0.4				115	
			0.6				58	
			0.8					
			1.0				137	
	End Of Hole: 1.00m		1.2				65	
			1.4					
			1.6					
			1.8					
			2.0					
			2.2					
			2.4					
			2.6					
			2.8					
			3.0					
			3.2					
			3.4					
			3.6					
			3.8					
			4.0					
			4.2					

SCALA PENETROMETER (Blows / 0mm): 2 4 6 8 10 12 14 16 18

VANE SHEAR STRENGTH (kPa) Vane: GEO3603: 50 100 150 200

PHOTO(S)

REMARKS

Target Depth reached

WATER

- Standing Water Level
- Out flow
- In flow

INVESTIGATION TYPE

- [x] Hand Auger
- [ ] Test Pit

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Whangarei 0110

HAND AUGER LOG

HOLE NO.: HA20

CLIENT: Tiopira Taniera Hapu Trust
PROJECT: Geotechnical Investigations

JOB NO.: 19340

SITE LOCATION: 52 Hooks & Hall Road, Waimamaku
CO-ORDINATES: 1641705mE, 6065398mN
ELEVATION: 29.6m

START DATE: 15/10/2024
END DATE: 15/10/2024
LOGGED BY: RJ

UNIT	MATERIAL DESCRIPTION (See Classification & Symbology sheet for details)	SAMPLES	DEPTH (m)	LEGEND	SCALA PENETROMETER (Blows / 0mm)	VANE SHEAR STRENGTH (kPa) Vane: GEO3603	Values	WATER
TS	TOPSOIL.		0.0					Groundwater Not Encountered
Otaua Group	SILT; white. Stiff; moist; low plasticity.		0.2					
	Silty CLAY; orange, borwn, grey. Firm to stiff; moist; high plasticity.		0.4				112	
			0.6				46	
			0.8					
			1.0				104	
	End Of Hole: 1.00m		1.2				39	
			1.4					
			1.6					
			1.8					
			2.0					
			2.2					
			2.4					
			2.6					
			2.8					
			3.0					
			3.2					
			3.4					
			3.6					
			3.8					
			4.0					
			4.2					

SCALA PENETROMETER (Blows / 0mm): 2 4 6 8 10 12 14 16 18

VANE SHEAR STRENGTH (kPa) Vane: GEO3603: 50 100 150 200

PHOTO(S)

REMARKS

Target Depth reached

WATER

- Standing Water Level
- Out flow
- In flow

INVESTIGATION TYPE

- [x] Hand Auger
- [ ] Test Pit

Appendix C

On-site Wastewater Disposal Details

Irrigation Field Installation Details

- Use a system producing secondary treated effluent.
- **Use 9063m (minimum) of Sub Surface Pressure Compensating Drip irrigation line**, with Arkal filters, flushing and air release valves fitted.
- Irrigation line is to be laid in a 50-100mm (minimum) trench (sub surface).
- Irrigation line is to be laid parallel with the contour.
- Disposal Field to be Planted.
- Disposal Field to be mounded by a minimum of 0.5m with topsoil and/or suitable material to achieve groundwater separation.
- System to be installed and maintained as per manufacturer's recommendations.
- Disposal area to be protected from stock and vehicles.
- The system will benefit from the use of water reduction fixtures, i.e. dual flush 6/3 litre water closets, shower-flow restrictors, aerator tap fittings and water conserving automatic washing machines.

Irrigation Line Specification

- Distribution is to be via drip irrigation line with self-compensating pressure drip emitters.
- Install an Arkal disc filter at the outlet of the treatment system. Install pressure checkpoints on either side of the filter to allow for gauges to check for blockages. Install pressure checkpoints at the end of each lateral.
- Install either manual or automatic flushing valves at the end of each lateral. Install air release valves in the high points of the irrigation field.
- Allow 5m head loss from semi-blocked filter and ensure 12m of end pressure for the lowest emitter in the field.
- Ensure there is laminar flow through all lines in the field. Ensure flushing velocity is greater than 0.5m/s.
- **Use drip irrigation line with 1.0m dripper spacing and 1.0m spacing between laterals.**

Suitable Plant Species for Evapo – Transpiration Systems

(Source: NRC *"Looking after your household Sewerage System")*

Native Shrubs and Trees

- **Coprosma**
- **Hebe**
- **Manuka**
- **Weeping Mapou**
- **Flax (Fast)**
- **Pokaka (slow)**
- **Cabbage Tree (fast)**
- **Rangiora (fast)**
- **Lacebark (fast)**
- **Ribbonwood (fast)**
- **Poataniwha**
- **Heketara**
- **Poataniweta**
- **Kohuhu (fast)**

Grasses

- **Jointed Twig Sedge**
- **Longwood Tussock**
- **Pukio**
- **Toetoe (native species)**
- **Umbrella Sedge**
- **Oioi**
- **Hooksedge**

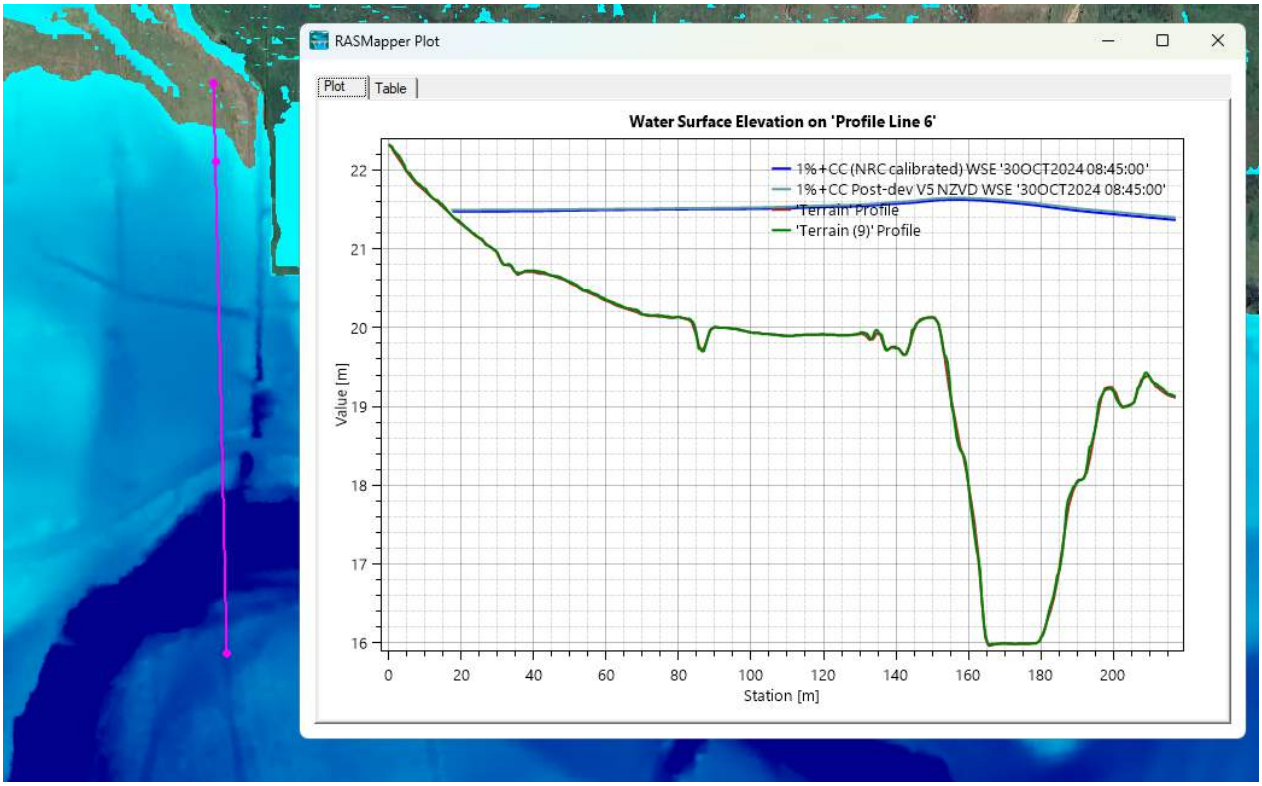
Introduced Species

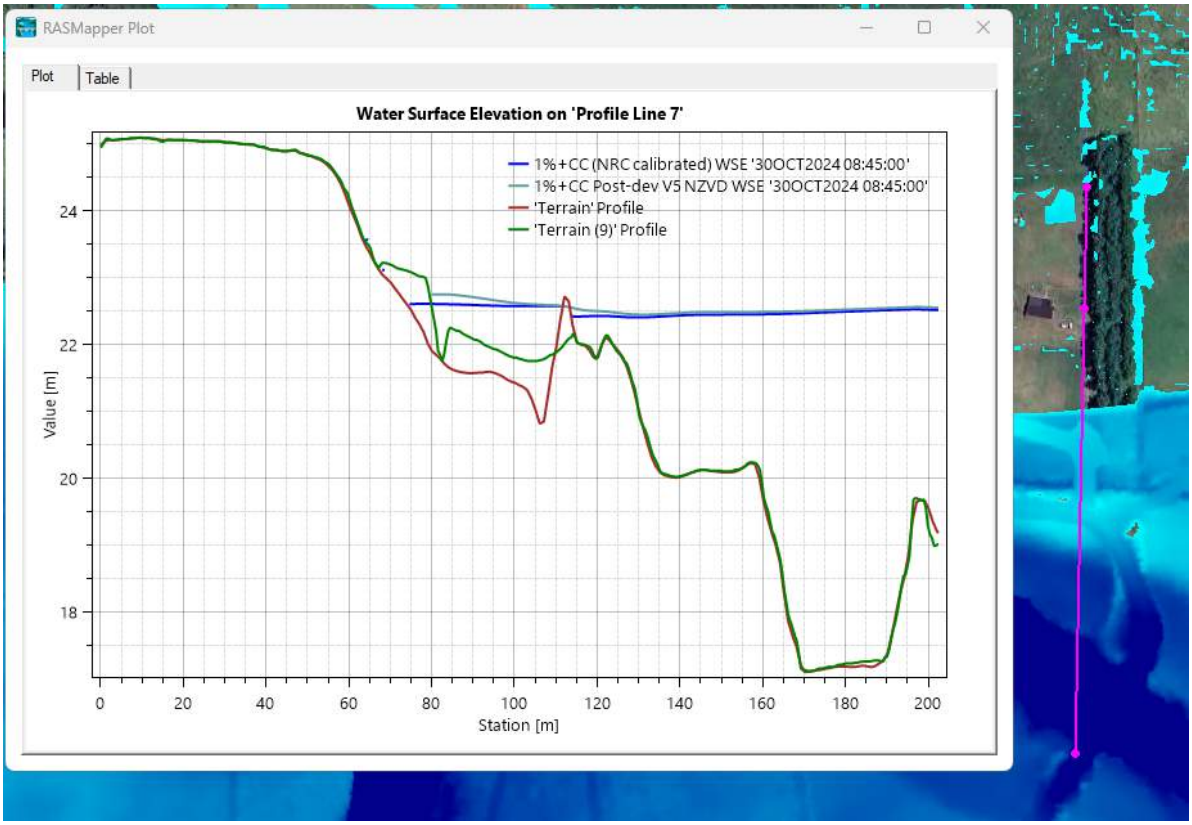
- **Canna Lilies**
- **Taro**
- **Aralia**
- **Fuschia**
- **Philodendrons**
- **Begonias**

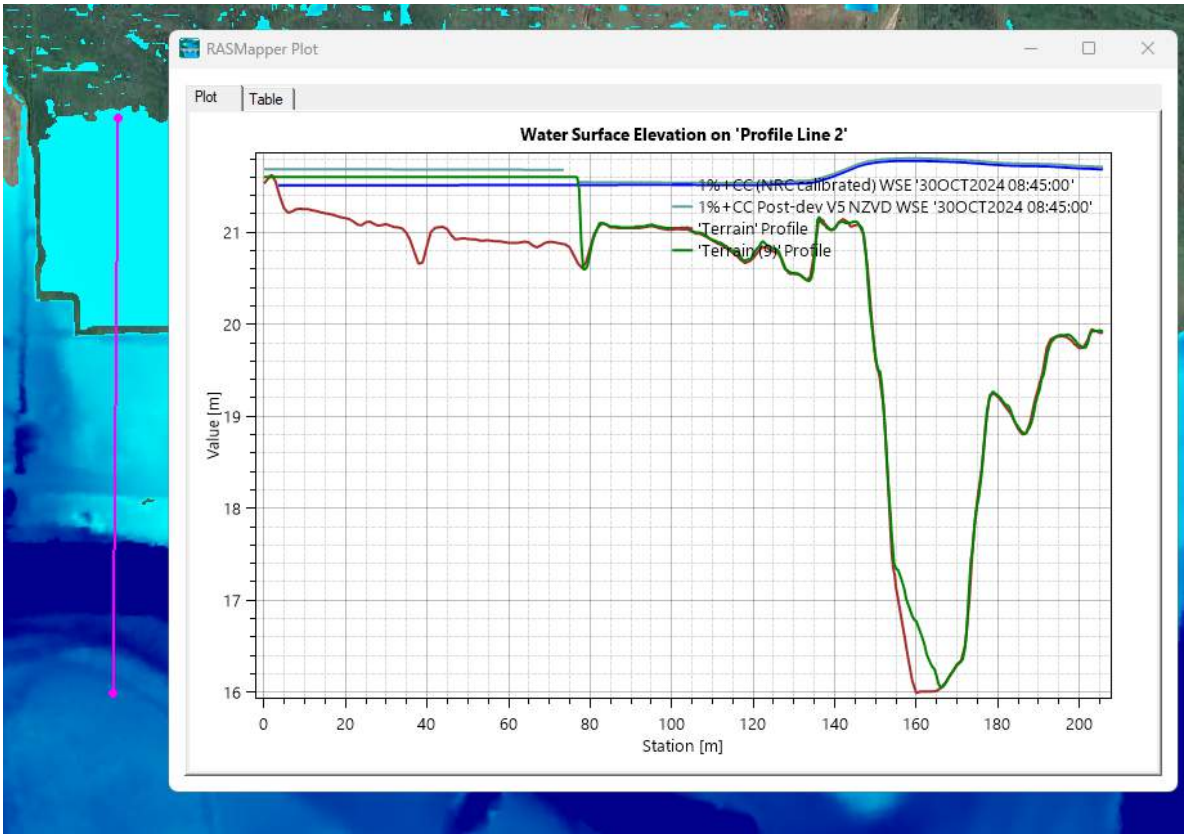
Appendix D

HecRas Results

Pre vs post-development water surface elevation comparison.




RASMapper Plot
Plot
Table
Water Surface Elevation on 'Profile Line 7'
1%+CC (NRC calibrated) WSE '30OCT2024 08:45:00'
1%+CC Post-dev V5 NZVD WSE '30OCT2024 08:45:00'
'Terrain' Profile
'Terrain (9)' Profile
Value [m]
Station [m]
24
22
20
18
0
20
40
60
80
100
120
140
160
180
200


RASMapper Plot
Plot
Table
Water Surface Elevation on 'Profile Line 2'
1%+CC (NRC calibrated) WSE '30OCT2024 08:45:00'
1%+CC Post-dev V5 NZVD WSE '30OCT2024 08:45:00'
'Terrain' Profile
'Terrain (9)' Profile
Value [m]
Station [m]
21
20
19
18
17
16
0
20
40
60
80
100
120
140
160
180
200

Appendix E

AEE Form (Assessment of Environmental Effects)

Northland REGIONAL COUNCIL
Te Kaunihera ā rohe o Te Taitokerau

Part B:
Assessment of Environmental Effects
Discharge Treated Sewage Effluent to Land

This application is made under Section 88/Section 127 of the Resource Management Act 1991

To: Consents Department
Northland Regional Council
Private Bag 9021
Te Mai
Whangārei 0143

Whangārei office: 09 470 1200
0800 002 004
Email: info@nrc.govt.nz
Website: www.nrc.govt.nz

PART B – ASSESSMENT OF ENVIRONMENTAL EFFECTS

Your application must include an Assessment of Effects on the Environment. This form is a guide to help you prepare one.

An assessment of effects is required so that you and others can understand what happens to the environment when you discharge domestic wastewater ("treated sewage effluent") to land. This will help you to propose ways to minimise those effects to the council's satisfaction.

The degree of detail required is in proportion to the scale of the environmental effects of your proposal. If you are required to apply for a consent to discharge sewage effluent into or onto land, then you will most probably need a qualified engineer (or similar) to design your on-site system. The information requested below is the minimum detail that your engineer must supply.

Please note that the word *"environment"* includes the surrounding waterways and groundwater, surrounding coastal water, adjoining land, any surrounding resource users, and local iwi.

It is advised that you make an appointment with an appropriate council officer to discuss your application prior to lodging it. This will help you to supply all the required information at the onset and ensure the efficient processing of your application.

A. Description of the Proposed Activity

A.1 What is the intended water supply?

- ☑ Rainwater collection
- ☐ Community or bore water supply
- ☐ Other *(please specify)* : _____

A.2 What is the source of the wastewater? *(please tick the appropriate box and answer those questions)*

☐ **Domestic House**

How many bedrooms are there in the house? _____

Will the house be permanently occupied? ☐ Yes ☐ No

☐ **Small Motel/Campground/Hostel/Marae/Sports Club**

What is the maximum number of occupants that your facility can accommodate? _____

How frequently does this maximum occupancy occur and for what length of time? _____

What is the typical number of occupants during the other periods of the year? _____

☐ **Shared On-site Systems/Subdivisions**

How many individual lots are/will the treatment and disposal system be servicing? _____

What will be the average number of bedrooms per house? _____

What is the area of the lot on which the discharge will occur? _____

☑ **Other**

Provide details of the source of effluent, the number of persons contributing to the wastewater and the source of water supply for the facility.

6 one-bedroom residential units, 17 two-bedroom units, 7 three-bedroom units, and 1 eight-bedroom Taniera house. On-site rainwater collection for water supply.

A.3 What is the likely maximum daily volume of wastewater to be discharged? 18,125 litres

The Wastewater Treatment System

A.4 What is your Proposed Wastewater Treatment System?
(please tick appropriate box and answer the associated questions)

☐ **Septic Tank**

What is the capacity of the tank? _____ litres

Will an effluent filter be fitted on the outlet? ☐ Yes ☐ No

☐ **Aerated Wastewater Treatment System (AWTS)**

What brand is the AWTS? _____

Will a programmed maintenance contract be entered into with the treatment systems manufacturer or agent? ☐ Yes ☐ No

☑ **Other,** what level of treatment do you consider the wastewater receives through your *"other"* treatment system?

☐ Primary

☑ Secondary

Describe the proposed *"other"* treatment system

Advanced secondary treatment

The Wastewater Disposal System

A.5 What is your proposed disposal system?
(please tick the appropriate box and answer the associated questions)

☐ **Soakage Trench/Bed System**

What are the dimensions of the proposed soakage trenches/beds?

Width _____ m
Depth _____ m

What is the total length of all the soakage trenches/beds? _____ m

How will the soakage trench/bed system be loaded?

☐ Trickle
☐ Pump
☐ Dose loaded via a syphon

Has a 100% reserve area of undeveloped land been allowed for in the disposal system design?

☐ Yes
☐ No, what percentage has been allowed for and why?

_____
_____
_____

What is the proposed loading rate to the trenches/beds? _____ mm/day

☑ **Irrigation Lines**

What area will the irrigation lines cover? 9063 m²

What is the distance between adjacent irrigation lines? 1.0 m

What is the distance between adjacent drip emitters along the irrigation line? 1.0 m

What brand is the irrigation line? Netafim

What is the proposed aerial loading rate to the disposal area? 2.0 mm/day

Has a 30% reserve area of undeveloped land been allowed for in the disposal system design?

☑ Yes
☐ No, what percentage has been allowed for and why?

_____
_____
_____

☐ **Other** *(please describe)*

_____
_____
_____

A.6 **What is the intended ground cover within the disposal area after the disposal system is operational?** *(i.e. what plant species do you intend to plant, if any)*

Mounded disposal field and planted as per the provided plant list in the attached RS Eng Three Waters Report, version 4.

B. Site Details

B.1 You **must** attach a map that shows the following:

- The location of your lot in relation to the nearest town.
- The legal property boundaries of your lot and the distance of your disposal system (including reserve area) from those boundaries.
- The layout of your disposal system (including reserve area) within your lot boundaries.
- The location of any groundwater bores within 20 metres of your disposal system (including reserve area).
- The location of any surface water (i.e. streams, roadside drains, lakes and rivers) within 20 metres of your disposal system (including reserve area).

B.2 **What is the map reference of the proposed disposal system?** *(if known)*

NZMS 260 Series map number:

Easting _____ (seven digit number)

Northing _____ (seven digit number)

B.3 **Which District Council is the property administered under?**

☐ Kaipara ☑ Far North ☐ Whangārei

B.4 **What is the slope of the proposed disposal area?**

☑ Flat

☑ Slightly sloping (5°–15°)

☐ Steep (>15°)

B.5 **Are any drainage controls required?**

☑ Yes, describe

Mounding of the effluent disposal field using topsoil and/or suitable material. Earthworks to clean and define the exisiting overland flow paths, as per RS Eng Three Waters Report.

☐ No, state why not

B.6 Was a soakage test (percolation test) performed at the location of the proposed disposal system? *(please tick the appropriate box and answer those questions)*

☐ Yes

What was the date of the test? _____

What were the weather conditions prior to the soakage test? _____

What is the average soakage rate of the disposal area? _____ mm/hr
(please ensure the individual soakage test results are included with this application)

Are the locations of the soakage tests marked on the map that shows the layout of the disposal system?

☐ Yes

☐ No, state why not

_____

_____

☑ No, what are the reasons for not performing a soakage test?

Visual and soil characteristics as outlined in TP58 and NZS1547.

_____

_____

B.7 Was any groundwater encountered during the site investigation?

☐ No ☑ Yes, at what depth? 0.3-0.5m (at low-lying area) metres

B.8 What is the estimated winter groundwater level for the disposal area? 0.2-0.5m metres

How was this winter groundwater level determined?

Based on subsoil investigations, geology, geomorphology of the property and surrounding area.

_____

_____

B.9 Has a detailed soil profile been included with this application form?

☑ Yes

☐ No, state why not _____

B.10 What is the estimated soil category of the disposal area?

☐ 1: Gravel and sands, Rapidly draining

☐ 2: Sandy loams, Well drained

☐ 3: Loams, Moderately well drained

☐ 4: Clay loams, Imperfectly drained

☐ 5: Light clays, Poorly drained

☑ 6: Medium to heavy clays, Very poorly drained (category 7 as per TP58)

Please state the criteria used for selecting the above soil category.
Subsoil investigations and obervations at the effluent disposal field location.

C. Assessment of Effects on the Environment

An assessment of effects should be proportional to the scale and significance of the proposed activity. Where your discharge could have an adverse effect on the environment, a detailed environmental assessment is required.

C.1 Affected Parties

Note: If you are proposing to dispose of your wastewater using a deep soakage system the determination of affected parties can be more complex, especially with relation to groundwater users. It is recommended that you contact the council to help determine who the affected parties from your proposal may be.

Are there any groundwater bores within 20 metres of any part of the disposal system (including reserve area) that are not owned by the applicant?

☐ Yes ☑ No

If you have answered **Yes**, then you will need to gain the written approvals of all the owners of neighbouring groundwater bores identified by the above question.

If written approvals cannot be obtained from all affected parties, describe what effect your discharge may have on the neighbouring groundwater bore and the steps you propose to take to minimise (i.e. mitigate) these effects *(attach a separate sheet if necessary)*

C.2 Given the estimated winter groundwater level (see Question B8) and your proposed treatment and disposal system, what is the risk of groundwater contamination occurring and why?

No more than minor, refer to attached RS Eng Three Waters Report.

C.3 What is the smallest horizontal separation distance between the disposal system (including reserve area) and any nearby watercourse, including roadside water table drains?

5.0 metres

C.4 Given the smallest horizontal separation distance to the nearest surface watercourse and your proposed treatment and disposal system (including reserve area), what is the risk of surface water contamination occurring and why?

No more than minor, refer to attached RS Eng Three Waters Report.

C.5 Consultation

Have you consulted with any of the following potentially affected parties?

	Yes	No
Neighbours	☐	☑
Department of Conservation *(if relevant)*	☐	☑
Fish and Game Council *(if relevant)*	☐	☑
District Council *(if relevant)*	☐	☑
Local iwi *(specify)*: _____	☐	☑
Other *(specify)*: _____	☐	☑

Please ensure all of the relevant questions on this form have been answered fully.

If you have any queries relating to information requirements or wish to meet with a council consents officer, please contact a Duty Planner at the Northland Regional Council.

Northland Regional Council offices:			
Whangārei Office 36 Water Street Whangārei 0110 **P** 0800 002 004 **E** info@nrc.govt.nz www.nrc.govt.nz	**Dargaville Office** Ground Floor 32 Hokianga Road Dargaville 0310 **P** 09 439 3300	**Kaitāia Office** 192 Commerce Street Kaitāia 0410 **P** 09 408 6600	**Waipapa Office** Shop 9 12 Klinac Lane Waipapa 0295 **P** 0800 002 004