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)** _____

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?	Roma Marae Committee, Matatarahea Trust, Te Rarawa Kuia and Kaumatua
Who else have you consulted with?	Whanau, Neighbours, Kuia, Kaumatua

*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: Tia and Raymon Ashby

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: Steven Sanson - Sanson & Associates Limited

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: Refer Record of Title

Property Address/ Location: 184 Roma Road, Ahipara

Postcode 0481

8. Application Site Details

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

Name/s: Refer Record of Title

Site Address/ Location: 184 Roma Road, Ahipara

Postcode 0481

Legal Description: Ahipara A81 Block **Val Number:**

Certificate of title: 337317

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.

Call applicant prior to 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.

new dwelling in the 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** EBC-2023-7/0 here (if known)
- [ ] **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**
- [ ] **Changing the use of a piece of land**
- [ ] **Disturbing, removing or sampling soil**
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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) Tia and Raymon Ashby

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) Tia Ashby

Signature:
(signature of bill payer

Date

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.
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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)**

Signature:

Date

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

Checklist (please tick if information is provided)

- ◯ Payment (cheques payable to Far North District Council)
- ◯ A current Certificate of Title (Search Copy not more than 6 months old)
- ◯ Details of your consultation with Iwi and hapū
- ◯ Copies of any listed encumbrances, easements and/or consent notices relevant to the application
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Name: (please write in full) Tia Ashby

Signature: [redacted]
(signature of bill payer)

Date 27/10/2024

MANDATORY

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Declaration

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Name: (please write in full) Tia Ashby

Signature: [redacted] Date 27/10/24

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

Checklist (please tick if information is provided)

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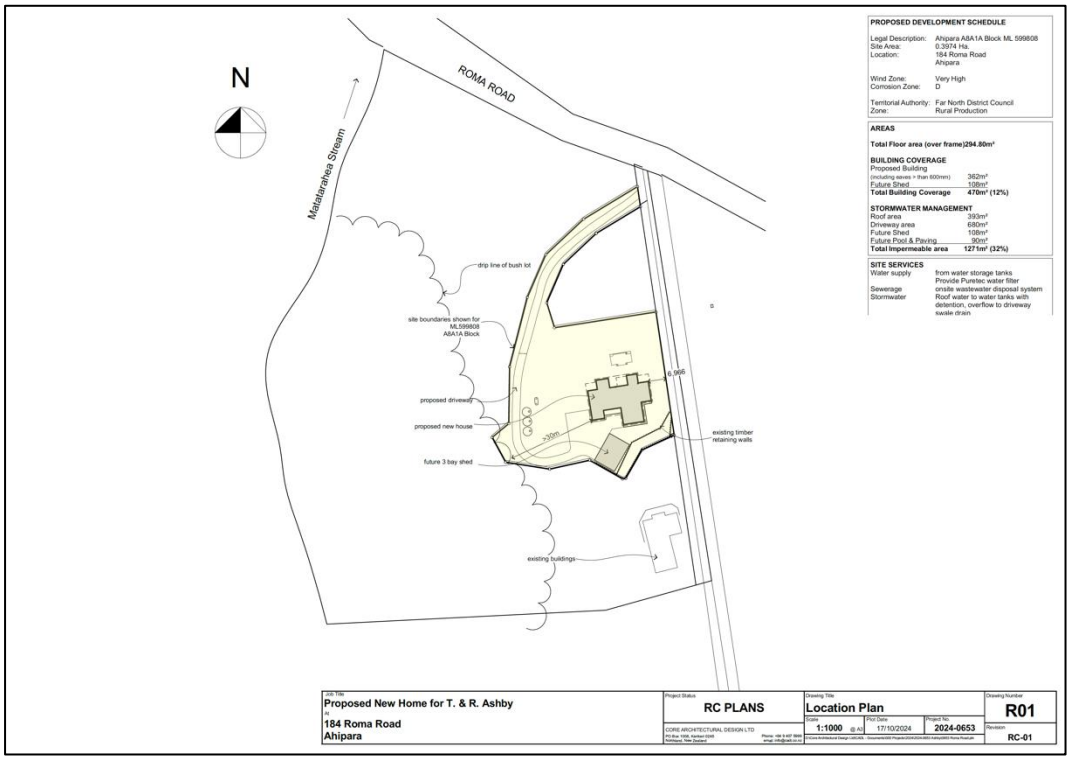
SANSON & ASSOCIATES LTD

Planners & Resource Consent Specialists



Assessment of Environmental Effects (AEE)

Application for Resource Consent: Proposed new home at 184 Roma Road, Ahipara

Prepared for: Tia & Raymon Ashby

Prepared by: Steven Sanson | Consultant Planner

1. APPLICANT & PROPERTY DETAILS

Applicant	Tia & Raymon Ashby
Address for Service	Sanson & Associates Limited PO Box 318 PAIHIA 0247 C/O - Steven Sanson steve@sansons.co.nz 021-160-6035
Legal Description	Ahipara A8A1 Block
Certificate Of Title	337317
Physical Address	184 Roma Road, Ahipara
Site Area	2.8500ha
Owner of the Site	John Hepa Makimou Paitaia & Tia Kimberley Paitai-Ashby
District Plan Zone / Features	Rural Production [ODP] ; Maori Purpose - Rural
Archaeology	Nil known
NRC Overlays	Flooding
Soils	Class 2 and Class 4
Protected Natural Area	Nil
HAIL	Nil
Kiwi	Kiwi Present

Schedule 1

2. SUMMARY OF PROPOSAL

Proposal	To construct a new architecturally designed 362m^2 home and 3-bay shed in the Rural Production Zone.
Reason for Application	The proposal is considered to breach the following rules of the Operative Far North District Plan: • 8.6.5.1.1 Residential Intensity • 8.6.5.1.3 Stormwater Management • 8.6.5.1.4 Setback from Boundaries • 12.3.6.1.1 Excavation / Filling in the Rural Production Zone There are no PDP rule breaches. The proposal overall is a Non-Complying Activity.
Appendices	Appendix A – Record of Title & Maori Land Court Documents Appendix B – Architectural Drawings Appendix C – Engineering Report
Consultation	Refer application form.
Pre Application Consultation	Refer application form.

3. INTRODUCTION & PROPOSAL

3.1 Report Requirements

This report has been prepared for Tia & Raymon Ashby in support of a land use consent application at 184 Roma Road, Ahipara.

The details of the site are provided in Schedule 1 above and in the Record of Title found in **Appendix A**.

The application has been prepared in accordance with the provisions of Section 88 and the Fourth Schedule of the Resource Management Act 1991. This report serves as the Assessment of Environmental Effects required under both provisions.

The report also includes an analysis of the relevant provisions of the Operative Far North District Plan [**ODP**], the Proposed Far North District Plan [**PDP**], relevant Regional Planning documents, National Policy Statements and Environmental Standards, as well as Part 2 of the Resource Management Act 1991.

3.2 Proposal

The proposal seeks to construct an architecturally designed house that is 362m^2 in size. The house is proposed to include 4 bedrooms, open family, lounge, and kitchen, private study, laundry and bathroom areas.

A double garage is proposed to provide parking. The height of the proposed dwelling is 3.973m. A 108m^2, 3-bay shed is also proposed in the future.

Total building coverage on the site is 470m2 [12%]. Total impervious coverage including future pool and paving and driveway area is 1,271m^2 [32%].

The proposal is to be serviced by 3 x 25,000l new water storage tanks which will also provide stormwater attenuation. Wastewater is proposed to be managed via ETS Beds.

Figure 1 below outlines the proposed floor plan for the development.

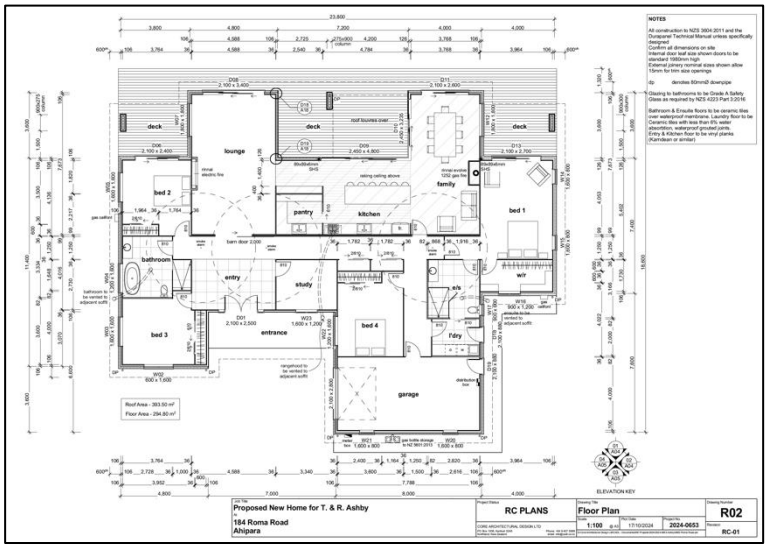


Figure 1 – Proposed Scheme Plan [Source: Core Architecture]

Further details of the proposal as described above are provided in **Appendix B**. An Engineering Report and associated calculations are provided in **Appendix C**.

The proposal requires consent for numerous items, many of which arise from the fact that the site is not yet formally partitioned.

However, as this is a timing issue and for fullness, a complete consent has been sought considering the current record of title as the overall 'site' subject to assessment.

4. SITE & SURROUNDING ENVIRONMENT

The site is located at 184 Roma Road, Ahipara. The site is 2.8500ha in size and is Maori Freehold Land. Roma Road is sealed and two-way.

The applicant is currently going through the Maori Land Court process to partition a small portion off the site [4,047m^2]. The details of this partition are outlined in **Appendix A**.

Whilst this partition is imminent, as it is not yet fully completed the 'site' under consideration remains that as outlined on the Record of Title.

Figure 2 – Site [Source: Prover]

The site already contains an existing dwelling, located to the southeastern corner of the site. The site is a mixture of grassed pasture and exotic / indigenous vegetation as shown in Figure 2.

In terms of topography, the site rises from Roma Road towards the existing dwelling. The Matatarahoa Stream runs along the western extent of the site.

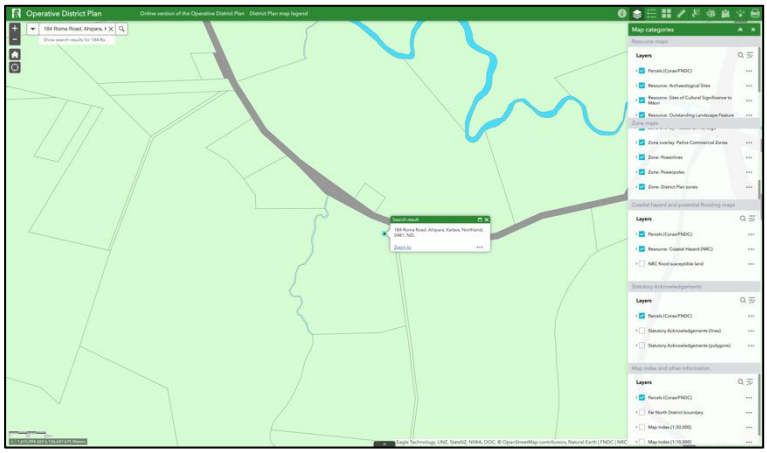


Figure 3 – ODP Zoning [Source: Far North Maps]

The site is located within the Rural Production Zone under the Operative District Plan [ODP] as shown in Figure 3. The site is located within a Kiwi Present Zone as shown in Figure 4. Localised flooding occurs along the western extent of the site as shown in Figure 5.

Soils are a mixture of Class 2 and 3 across the property as per Figure 6. Under the Proposed District Plan [PDP], the site is zoned Maori Purpose – Rural as per Figure 7.

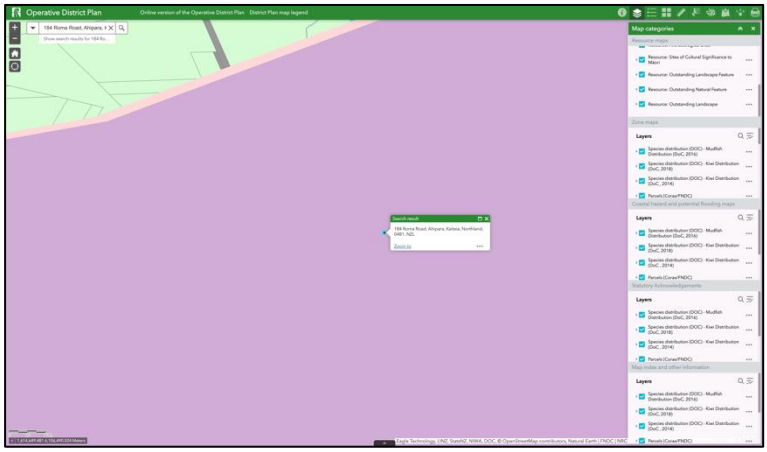


Figure 4 – Kiwi Density (Source: Far North Maps)

Figure 5 – Flooding (Source: NRC Local Maps)

Figure 6 – Soils (Source: Far North Maps)

Figure 7 – PDP Zone Maps (Source: Far North Maps)

The site is surrounded by various natural and physical features such as Whangatautia Mountain, Ahipara Gumlands, various pa sites, the local marae, and kohanga reo.

The site and surrounds are rural in nature which is mixed with maori freehold land and rural residential / lifestyle living.

5. ASSESSMENT OF RELEVANT RULES

5.1 Far North District Plan

An assessment of the relevant rules of the Far North District Plan has been undertaken below.

Table 1: Rural Production Zone Rule Assessment

Rule	Standards	Assessment
Residential Intensity	Permitted – One unit per 12ha of land Restricted Discretionary - One unit per 4ha of land Discretionary – One unit per 2ha of land In all cases the land shall be developed in such a way that each unit shall have at least 2,000m^2 for its exclusive use surrounding the unit plus a minimum of 1.8ha elsewhere on the property.	The proposed dwelling will be the 2nd on the site. **Non-Complying**
Sunlight	Permitted - No part of any building shall project beyond a 45 degree recession plane as measured inwards from any point 2m vertically above ground level on any site boundary Restricted Discretionary – if	The proposal does not breach any sunlight planes. **Complies**

	permitted standard breached	
Stormwater Management	Permitted - The maximum proportion of the gross site area covered by buildings and other impermeable surfaces shall be 15%. Controlled - The maximum proportion of the gross site area covered by buildings and other impermeable surfaces shall be 20%.	Total impervious surfaces proposed is 32% **Discretionary Activity**
Setback from Boundaries	Permitted - No building shall be erected within 10m of any site boundary; Restricted Discretionary – if permitted standard breached	The proposed dwelling is located within the 10m permitted setback. **Restricted Discretionary**
Keeping of Animals		Not applicable **Complies**
Noise		Residential activity **Complies**
Building Height	Permitted - The maximum height of any building shall be 12m. Restricted Discretionary - The maximum height of any building shall be 15m.	The proposed dwelling will be less than 12m in height. **Complies**
Helicopter Landing Area		Not applicable

		Complies
Building Coverage	Permitted - Any new building or alteration/addition to an existing building is a permitted activity if the total Building Coverage of a site does not exceed 12.5% of the gross site area. Controlled - Any new building or alteration/addition to an existing building is a controlled activity if the total Building Coverage of a site does not exceed 15% of the gross site area.	Total building coverage proposed in 12%. **Complies**
Scale of Activities		Not applicable **Complies**
Temporary Events		Not applicable **Complies**
Minor Residential Unit	Controlled - Minor residential units are a controlled activity in the zone provided that: there is no more than one minor residential unit per site; the site has a minimum net site area of 5000m2	Not applicable **Complies**

	the minor residential unit shares vehicle access with the principal dwelling; the separation distance of the minor residential unit is no greater than 30m from the principal dwelling.	

Table 2: District Wide Rule Assessment

Rule	**Assessment**
12.1 Landscape & Natural Features	Not applicable **Complies**
12.2 Indigenous Flora & Fauna	No clearance proposed. **Complies**
12.3 Soils & Minerals	Earthworks will be less than 5,000m^3. The proposal involves 2m high retaining walls which are existing but are not consented. **Restricted Discretionary**
12.4 Natural Hazards	The dwellings are not within 20m of a dripline of naturally occurring or deliberately planted scrub, shrub, woodlot or forest.

	Complies
12.5 Heritage	Not applicable **Complies**
12.7 Lakes, Rivers, Wetlands and the Coastline	Not applicable **Complies**
12.8 Hazardous Substances	Not applicable **Complies**
12.9 Renewable Energy & Energy Efficiency	Not applicable **Complies**
13 Subdivision	Not applicable **Complies**
14 Financial Contributions	No reserves are required. **Complies**
15 Transport	The proposal results in an additional 10 traffic movements. **Complies** There is sufficient space for parking.

	Complies Both the access and vehicle crossing are considered suitable for the proposed dwelling, however if localised upgrades are required these can be undertaken in accordance with the relevant engineering standards. **Complies**
16 Signs and Lighting	No signage is required. **Complies**
17 Designations & Utility Services	Not applicable. **Complies**
18 Special Areas	Not applicable. **Complies**
19 GMO's	Not applicable. **Complies**

Overall, this combined application falls to be considered as a **'Non-Complying Activity'** under the ODP.

Clause 2(1)(d) of Schedule 4 of the RMA requires applicants to identify other activities of the proposal with the intention of capturing activities which need permission or licensing under other enactments. These are considered below.

5.3 Northland Regional Council Requirements

The relevant matter to consider in terms of the proposal is with respect to the matters under management of the Northland Regional Council.

The proposal has been assessed against the Proposed Regional Plan for Northland and no consents are considered to be required.

5.4 Proposed Far North District Plan 2022

The PDP has rules which have immediate legal effect for the following chapters:

Table 3 – Assessment of the PDP Rules

Matter	Rule/Std Ref	Evidence
Hazardous Substances	Rule HS-R2 has immediate legal effect but only for a new significant hazardous facility located within a scheduled site and area of significance to Māori, significant natural area or a scheduled heritage resource. HS-R5, HS-R6, HS-R9	Not relevant as no such substances proposed. **Complies**
Heritage Area Overlays	All rules have immediate legal effect (HA-R1 to HA-R14) All standards have immediate legal effect (HA-S1 to HA-S3)	Not relevant. **Complies**

Historic Heritage	All rules have immediate legal effect (HH-R1 to HH-R10) Schedule 2 has immediate legal effect	Not relevant. **Complies**
Notable Trees	All rules have immediate legal effect (NT-R1 to NT-R9) All standards have legal effect (NT-S1 to NT-S2) Schedule 1 has immediate legal effect	Not relevant. **Complies**
Sites and Areas of Significance to Māori	All rules have immediate legal effect (SASM-R1 to SASM-R7) Schedule 3 has immediate legal effect	Not relevant. **Complies**
Ecosystems and Indigenous Biodiversity	All rules have immediate legal effect (IB-R1 to IB-R5)	Not relevant. **Complies**
Activities on the Surface of Water	All rules have immediate legal effect (ASW-R1 to ASW-R4)	Not relevant. **Complies**

Earthworks	The following rules have immediate legal effect: EW-R12, EW-R13 The following standards have immediate legal effect: EW-S3, EW-S5	These standards can be imposed and required at time of EPA. **Complies**
Signs	The following rules have immediate legal effect: SIGN-R9, SIGN-R10 All standards have immediate legal effect but only for signs on or attached to a scheduled heritage resource or heritage area	Not relevant. **Complies**
Orongo Bay Zone	Rule OBZ-R14 has partial immediate legal effect because RD-1(5) relates to water	Not relevant. **Complies**
Subdivision	Various subdivision rules have legal effect.	Not relevant. **Complies**

6. NOTIFICATION ASSESSMENT

6.1 Public Notification

The table below outlines the steps associated with public notification insofar as it relates to s95 of the Act.

Table 4 – s95 Assessment

Step 1	Mandatory public notification in certain circumstances	
S95A(3)(a)	Has the applicant requested that the application be publicly notified?	No
S95A(3)(b)	Is public notification required under section 95C? (after a request for further information)	TBC
S95A(3)(c)	Has the application been made jointly with an application to exchange recreation reserve land under section 15AA of the Reserves Act 1977.	No
Step 2	if not required by step 1, public notification precluded in certain circumstances	
S95A(5)(a)	Is the application for a resource consent for 1 or more activities and each activity is subject to a rule or national environmental standard that precludes public notification?	No
S95A(5)(b)	Is the application for a resource consent for 1 or more of the following, but no other, activities. (i) a controlled activity. (ii) a restricted discretionary, discretionary, or non-complying activity, but only if the activity is a boundary activity.	No
Step 3	if not precluded by step 2, public notification required in certain circumstances	
S95A(7)(a) / (b)	Determine whether the application meets the criteria set out in Clause 8.	TBC
S95A(8)A	The application is for a resource consent for 1 or more activities, and any of those activities is subject to a rule or national environmental standard that requires public notification.	No

S95A(8)B	The consent authority decides, in accordance with s95D, that the activity will have or is likely to have adverse effects on the environment that are more than minor	TBC
Step 4	Public notification in certain circumstances	
S95A(9)	Determine whether special circumstances exist in relation to the application that warrant the application being publicly notified	No

The proposed development does not meet the tests for mandatory public notification, nor does it meet the tests for precluding public notification.

Therefore, an assessment of environmental effects is required to consider whether these matters should be further explored.

7. EFFECTS ON THE ENVIRONMENT

7.1 Effects That Must Be Disregarded

Effects on persons who are owners and occupiers of the land in, on, or over which the application relates, or of adjacent land must be disregarded when considering effects on the environment (s 95D(a)).

Those properties / persons are shown in Table 5 and shown in Figure 8 below.

Table 5 - Adjacent Persons

Download CSV

Address	Suburb	Town	Capital Value	Owners	Last Sale Date	Last Sale Price	Land Area	Floor Area
202 Roma Road	Ahipara	Far North	977000	David Dean Manga	01 Jan 1900	92000	11.5160 ha	255 m²
0 Roma Road	Ahipara	Far North	277000	Daniella Paratene,Fiona Rangi Paratene,Freda Mary Lorraine Paratene	01 Jan 1900	42000	3.2500 ha	
179 Roma Road	Ahipara	Far North	281000	Tania Charlotte Heke,Anna Barbara Hohaia,Barry Hohaia,Henry William Hohaia,Hone Hohaia,Huia Hohaia,Ivan Michael Hohaia,John Hohaia,John Alfred Hohaia,John Andrew Hohaia,Marokura Hohaia,Sheryl Agnes Hohaia,Sidney Hohaia,Tira Hohaia,David Jonathon Hori,Dennis Raymond Hori,Leslie Brian Hori,Noel Stanley Hori,Paul Nathaniel Hori,William Grant Douglas Hori,Mavis Evelyn MacDowall,Kylie Aroha Stowers	01 Jan 1900	57000	1,213 m²	110 m²
159 Roma Road	Ahipara	Far North	504000	Tahi Kingi Piripi	01 Jan 1900	95000	8.3600 ha	50 m²
154 Roma Road	Ahipara	Far North	533000	Henare King,Adrian Carol Marsden,John Paitai,Haami Piripi,Peter Charles Ruka,Rodney William Ruka,Lance Walker,Richard Joseph Walker	01 Jan 1900	142500	13.9869 ha	140 m²

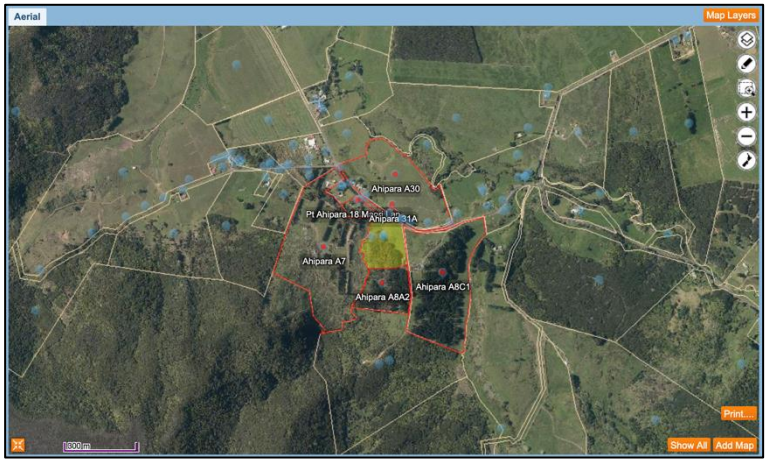


Figure 8 – Adjacent Persons [Source: Prover]

7.2 Written Approvals

No written approvals have been sought.

7.3 Effects That May Be Disregarded

Sections 95D(b) and 95E(2)(a) provide that when determining the extent of the adverse effects of an activity or the effects on a person respectively, a council 'may disregard an adverse effect if a rule or national environmental standard permits an activity with that effect'. This is known as the permitted activity baseline test.

The purpose of the permitted baseline test is to isolate and make effects of activities on the environment that are permitted by a plan or NES, irrelevant.

When applying the permitted baseline such effects cannot then be taken into account when assessing the effects of a particular resource consent application.

The baseline has been defined by case law as comprising non-fanciful (credible) activities that would be permitted as of right by the plan in question.

7.4 Existing Environment

The receiving environment is the environment upon which a proposed activity might have effects. It is permissible (and often desirable or necessary) to consider the future state of the environment upon which effects will occur, including:

- the future state of the environment as it might be modified by the utilization of rights to carry out permitted activities (refer above).

- the environment as it might be modified by implementing resource consents that have been granted at the time a particular application is considered, where it appears likely that those resource consents will be implemented.

The existing environment in this instance is characterized by the existing and legalized built development already located on site.

There are no known unimplemented consents in the environment.

7.5 Effects Assessment

The following assessment (refer Table 6) has been prepared in accordance with Section 88 and Schedule 4 of the Act which specifies that the assessment of effects provided should correspond with the scale and significance of the proposal.

The effects assessment is largely linked to the rules breached as well as any other matter that is considered relevant to the scope and context of the overall development.

The effects considered include positive effects associated with the proposed development.

Table 6 – Effect Assessment (Environment)

Item	Assessment Criteria	Comments
Positive Effects	Nil	The proposal will result in an additional house in the Ahipara community and there will be flow on effects in terms of economic growth and employment resulting from the construction of the dwelling. There are social benefits to the applicant in terms of providing a house for themselves and family. Cultural benefits include the appropriate development of maori freehold land and Papakainga type living.
Residential Intensity	11.1	The character and appearance of the proposed dwellings will be as shown in **Appendix B**. The dwelling is modern and architecturally designed and there are typically minimal effects when associated with a new build such as that proposed in terms of character and amenity. Siting and design has been undertaken so that occupants receive appropriate privacy and passive solar gain. The location of the dwelling is lower in topography then nearby dwellings. Other dwellings are sufficiently separated not to be impacted. The area of open space provided overall remains as 68% of the total site on completion of impervious surfaces and buildings. This remains a large component of the overall site and is commensurate with the surrounds. The location and design of vehicular access on the site are from Roma Road and are / can be designed / upgraded to meet Council standards. The additional dwelling is not expected to result in traffic effects.

		Hours of operation will be residential in nature with no additional effects beyond this type of use. Similarly, noise generation will be of a similar standard. In terms of adequate provision of three waters, these will be provided on site in accordance with **Appendix C**. The site will be landscaped over time, but no formal conditions are sought or proposed in this respect. With respect to soils, the land is maori freehold land and is exempt from consideration under the National Policy Statement [NPS-HPL]. There are no effects on indigenous vegetation or fauna. The site is not within the Coastal Environment. Natural hazards are not of concern where development is proposed. The land is in maori freehold land and density is discounted in the Plan to support Papakainga housing. Effects are considered to be no more than minor.
Setback from Boundaries	8.6.5.3.4	The house on Ahipara A8C1 is on a much higher contour and given the design of the dwelling [less than 4m in height], single story and located on a lower contour. All other adjacent sites are either vacant or sufficiently separated from the dwelling. The proposal does not reduce the outlook or privacy of adjacent properties given these factors. The dwelling does not restrict visibility of access to users.

		Planting will occur over time but as above this is not considered necessary to condition. The dwelling does not impact public enjoyment of esplanades, reserves or strips. The retaining walls do not generate any effects in terms of being setback from boundaries. Effects are considered to be less than minor.
Stormwater Management	11.3	There are 13 relevant matters to assess which are all associated with the management of stormwater. The proposal can appropriately attenuated stormwater as required under the District Plan / Engineering Standards. This is proven via **Appendix C**. The solution proposed is to attenuate via tanks [x3] in a series. The last tank will slowly release water as required and then connect to the existing driveway swale. Provided the Engineering Report and associated drawings are adhered to, the effects of stormwater will be no more than minor.
Retaining Walls	Chapter 12.3	The existing retaining walls do not generate any known effects to persons or on the environment. They have been developed to provide a stable and level building platform for the proposed building. The effects are less than minor.
Effects Conclusion: Having considered the relevant actual and potential effects associated with the development, it is considered that the proposed activity promotes effects that are no more than minor on the environment.		

8. EFFECTS TO PEOPLE

8.1 Limited Notification

The table below outlines the steps associated with limited notification insofar as it relates to s95 of the Act.

Table 7 – s95 Assessment

Step 1	certain affected groups and affected persons must be notified	
S95B(2)(a)	Are there any affected protected customary rights groups?	No
S95B(2)(b)	Are there any affected customary marine title groups (in the case of an application for a resource consent for an accommodated activity)?	No
S95B(3)(a)	Is the proposed activity on or adjacent to, or may affect, land that is the subject of a statutory acknowledgement made in accordance with an Act specified in Schedule 11?	No
S95B(3)(b)	Is the person to whom the statutory acknowledgement is made is an affected person under section 95E?	No
Step 2	if not required by step 1, limited notification precluded in certain circumstances	
S95B(6)(a)	the application is for a resource consent for 1 or more activities, and each activity is subject to a rule or national environmental standard that precludes limited notification:	No
S95B(6)(b)	the application is for a controlled activity (but no other activities) that requires a resource consent under a district plan (other than a subdivision of land)	No
Step 3	If not precluded by step 2, certain other affected persons must be notified	
S95B(7)	In the case of a boundary activity, determine in accordance with section 95E whether an owner of an allotment with an infringed boundary is an affected person.	No

S95B(8)	In the case of any other activity, determine whether a person is an affected person in accordance with section 95E.	Refer below
S95B(9)	Notify each affected person identified under subsections (7) and (8) of the application.	No
Step 4	Further notification in special circumstances	
S95B(10)	Determine whether special circumstances exist in relation to the application that warrant notification of the application to any other persons not already determined to be eligible for limited notification under this section (excluding persons assessed under section 95E as not being affected persons), and,— (a)if the answer is yes, notify those persons; and (b)if the answer is no, do not notify anyone else.	No

8.2 Affected Person Determination

As the proposed activity does not trigger mandatory limited notification, nor is it precluded, an assessment of potential affected persons must be undertaken.

The consent authority has discretion to determine whether a person is an affected person. A person is affected if an activity's adverse effects are minor or more than minor to them.

The potential effects of the proposal on adjacent landowners have been undertaken below in context of those parties outlined earlier in Section 7.

8.3 Effects on Persons Assessment

The proposal is not considered to result in any potential affected persons for the following reasons:

- There is no vegetation clearance required / proposed.
- The site can be serviced on site in terms of 3 waters. There are no offsite effects from this.
- There are no special features / resources that apply to the site.
- The proposal will result in residential end use in an area where residential use in a rural environment is typical.
- Effects to those persons are limited because of the design, scale and location of the dwelling.
- Persons would not be affected or implicated by the construction of an additional house.

9. STATUTORY CONTEXT

9.1 National Policy Statements & Plans

In terms of NPS' and NES' the following is provided:

- With respect to the National Environmental Standard – Soil Contamination, the site is not HAIL.
- The site is not Coastal as per the Regional Policy Statement and therefore the New Zealand Coastal Policy Statement is not relevant.
- The site is within an urban area and is considered to be contributing to the outcomes outlined in the NPS – Urban Development.
- The site has no wetlands attributed to it as defined in various planning documents. The NPS for Freshwater Management is not considered relevant.
- The site is subject to the NPS-HPL, however as specified maori land, there is an ability to develop highly productive land for the purpose of Papakainga development. Therefore, the NPS-HPL is attended to and not relevant.

9.2 Regional Policy Statement for Northland

Table 8 – RPS Assessment

Objective / Policy	Assessment
Integrated Catchment Management	Not relevant.
Region-Wide Water Quality	Not relevant.
Ecological Flows and Water Levels	Not relevant.
Indigenous Ecosystems & Biodiversity	Not relevant.
Enabling Economic Wellbeing	The proposal allows for various goods/services in the construction sector in Ahipara.

Economic Activities – Reverse Sensitivity and Sterilization	The proposal does not result in any reverse sensitivity or sterilization effects.
Regionally Significant Infrastructure	The proposal does not impact any regionally significant infrastructure.
Efficient and Effective Infrastructure	The proposal generally seeks to use existing on site infrastructure.
Security of Energy Supply	Power is already provided to the boundary of the site.
Use and Allocation of Common Resources	Not relevant.
Regional Form	The proposal does not result in any reverse sensitivity effects, or a change in a character or sense of place.
Tangata Whenua Role in Decision Making	Not relevant in this instance.
Natural Hazard Risk	Not relevant.
Natural Character, Outstanding Natural Features, Outstanding Natural Landscapes and Historic Heritage	Not relevant.

9.3 Far North District Plan Assessment

An assessment of the relevant objectives and policies associated with the Far North District Plan has been undertaken.

The relevant objectives and policies of the Plan are those related to the Rural Environment in general, and the Rural Production Zone. The general intent of the Rural Production Zone is revolved around land use compatibility and reverse sensitivity.

Table 9 – Rural Production Zone Objective / Policy Assessment

Objectives	Assessment
8.6.3.1 To promote the sustainable management of natural and physical	The proposal seeks this outcome.

resources in the Rural Production Zone.	
8.6.3.2 To enable the efficient use and development of the Rural Production Zone in a way that enables people and communities to provide for their social, economic, and cultural well being and for their health and safety.	The proposed use is considered to be an efficient use of the landholding to provide housing for social and economic wellbeing of the owners.
8.6.3.3 To promote the maintenance and enhancement of the amenity values of the Rural Production Zone to a level that is consistent with the productive intent of the zone.	The proposal seeks to maintain the amenity of the site and surrounds via the architecturally designed home.
8.6.3.4 To promote the protection of significant natural values of the Rural Production Zone.	These are not apparent on the site.
8.6.3.5 To protect and enhance the special amenity values of the frontage to Kerikeri Road between its intersection with SH10 and the urban edge of Kerikeri.	Not applicable.
8.6.3.6 To avoid, remedy or mitigate the actual and potential conflicts between new land use activities and existing lawfully established activities (reverse sensitivity) within the Rural Production Zone and on land use activities in neighbouring zones.	Residential use is not incompatible with the surrounds.
8.6.3.7 To avoid remedy or mitigate the adverse effects of incompatible use or development on natural and physical resources.	As above.
8.6.3.8 To enable the efficient establishment and operation of activities and services that have a functional need to be located in rural environments.	The residential use is considered to be an activity that meets the objective.
8.6.3.9 To enable rural production activities to be undertaken in the zone.	Noted.

Policy	Assessment
8.6.4.1 That the Rural Production Zone enables farming and rural production activities, as well as a wide range of activities, subject to the need to ensure that any adverse effects on the environment, including any reverse sensitivity effects, resulting from these activities are avoided, remedied or mitigated and are not to the detriment of rural productivity.	Housing is considered as an activity that meets the policy.
8.6.4.2 That standards be imposed to ensure that the off site effects of activities in the Rural Production Zone are avoided, remedied or mitigated.	Noted.
8.6.4.3 That land management practices that avoid, remedy or mitigate adverse effects on natural and physical resources be encouraged.	Refer **Appendix C**.
8.6.4.4 That the type, scale and intensity of development allowed shall have regard to the maintenance and enhancement of the amenity values of the Rural Production Zone to a level that is consistent with the productive intent of the zone.	The dwelling proposed is considered to meet this policy.
8.6.4.5 That the efficient use and development of physical and natural resources be taken into account in the implementation of the Plan.	Noted.
8.6.4.6 That the built form of development allowed on sites with frontage to Kerikeri Road between its intersection with SH10 and Cannon Drive be maintained as small in scale, set back from the road, relatively inconspicuous and in harmony with landscape plantings and shelter belts.	Not applicable.

8.6.4.7 That although a wide range of activities that promote rural productivity are appropriate in the Rural Production Zone, an underlying goal is to avoid the actual and potential adverse effects of conflicting land use activities.	There are no such conflicting uses.
8.6.4.8 That activities whose adverse effects, including reverse sensitivity effects, cannot be avoided remedied or mitigated are given separation from other activities.	Not relevant.
8.6.4.9 That activities be discouraged from locating where they are sensitive to the effects of or may compromise the continued operation of lawfully established existing activities in the Rural Production zone and in neighbouring zones.	Not relevant.

9.4 Proposed Far North District Plan

Section 88A(2) provides that "any plan or proposed plan which exists when the application is considered must be had regard to in accordance with section 104(1)(b)." This requires applications to be assessed under both the operative and proposed objective and policy frameworks from the date of notification of the proposed district plan.

In the event of differing directives between objective and policy frameworks, it is well established by case law that the weight to be given to a proposed district plan depends on what stage the relevant provisions have reached, the weight generally being greater as a proposed plan moves through the notification and hearing process. In Keystone Ridge Ltd v Auckland City Council, the High Court held that the extent to which the provisions of a proposed plan are relevant should be considered on a case by case basis and might include:

- The extent (if any) to which the proposed measure might have been exposed to testing and independent decision making;
- Circumstances of injustice; and
- The extent to which a new measure, or the absence of one, might implement a coherent pattern of objectives and policies in a plan.

In my view the PDP has not gone through the sufficient process to allow a considered view of the relevant objectives and policies. However, for fullness the relevant objectives and policies have been assessed below.

Table 10 – PDP Maori Purpose Zone - Rural Assessment

Objectives & Policies	**Assessment**
MPZ-O1 The viability of the Maori Purpose Zone is ensured for future generations	The proposal does not impact this objective.
MPS-O2 The Maori Purpose Zone enables a range of social, cultural, and economic development opportunities that support the occupation, use, development and ongoing relationship with ancestral land.	The proposal is consistent with this outcome.
MPZ-O3 Use and development in the Maori Purpose Zone reflects the sustainable carrying capacity of the land and surrounding environment.	The proposal is supported by engineering assessment which concurs that an additional dwelling is possible on the site.
MPZ-P1 Provide for the use and development of ancestral Māori land administered under Te Ture Whenua Māori Act 1993.	Noted.
MPZ-P2 Enable a range of activities on Māori land in the Māori Purpose zone including marae, papakāinga, customary use, cultural and small-scale commercial activities where the	Housing is considered to meet the policy.

adverse effects can be avoided, remedied or mitigated.	
MPZ-P3 Provide for development on Māori land where it is demonstrated: a. it is compatible with surrounding activities; b. it will not compromise occupation, development and use of Māori land; c. it will not compromise use of adjacent land or other zones to be efficiently and effectively used for their intended purpose; d. it maintains character and amenity of surrounding area; e. it provides for community wellbeing, health and safety; f. it can be serviced by onsite infrastructure or reticulated infrastructure where this is available; and g. that any adverse effects can be avoided, remedied or mitigated.	The proposal meets the policy and sub clauses as outlined in the report.
MPZ-P4 Manage land use and subdivision to address the effects of the activity requiring resource consent, including (but not limited to) consideration of the following matters where relevant to the application: a. consistency with the scale, density, design and character of the environment and purpose of the zone; b. the location, scale and design of buildings and structures; c. the positive effects resulting from the economic, social and	The proposal meets the policy and sub clauses as outlined in the report.

cultural wellbeing provided by the proposed activity. d. at zone interfaces: i. any setbacks, fencing, screening or landscaping required to address potential conflicts; ii. managing reverse sensitivity effects on adjacent land uses, including the ability of surrounding properties to undertake primary production activities in a rural environment; e. the adequacy and capacity of available or programmed development infrastructure to accommodate the proposed activity; or the capacity of the site to cater for on-site infrastructure associated with the proposed activity; f. the adequacy of roading infrastructure to service the proposed activity; g. managing natural hazards; h. any loss of highly productive land; i. adverse effects on areas with historic heritage and cultural values, natural features and landscapes, natural character or indigenous biodiversity values; and j. any historical, spiritual, or cultural association held by tangata whenua, with regard	

to the matters set out in Policy TW-P6.	

Overall, and considering the above, the proposal is considered to be consistent with the objectives and policies of all relevant statutory documents.

10 PART 2 ASSESSMENT

10.1 Section 5 – Purpose of The Act

Section 5 in Part 2 of the Act identifies the purpose as being the sustainable management of natural and physical resources. This means managing the use of natural and physical resources in a way that enables people and communities to provide for their social, cultural and economic well-being which sustain those resources for future generations, protecting the life supporting capacity of ecosystems, and avoiding remedying or mitigating adverse effects on the environment.

It is considered that the proposal represents a sustainable use of existing resources that allow people and the community to provide for its social and economic wellbeing in a manner that mitigates adverse effects on the environment.

10.2 Section 6 – Matters of National Importance

In achieving the purpose of the Act, a range of matters are required to be recognised and provided for. This includes:

a) the preservation of the natural character of the coastal environment (including the coastal marine area), wetlands, and lakes and rivers and their margins, and the protection of them from inappropriate subdivision, use, and development:
b) the protection of outstanding natural features and landscapes from inappropriate subdivision, use, and development:

c) the protection of areas of significant indigenous vegetation and significant habitats of indigenous fauna:
d) the maintenance and enhancement of public access to and along the coastal marine area, lakes, and rivers:
e) the relationship of Maori and their culture and traditions with their ancestral lands, water, sites, waahi tapu, and other taonga:
f) the protection of historic heritage from inappropriate subdivision, use, and development:
g) the protection of protected customary rights:
h) the management of significant risks from natural hazards.

In context, the relevant items to the proposal and have been recognised and provided for in the design of the development. The proposal also directly relates to 6[e].

10.3 Section 7 – Other Matters

In achieving the purpose of the Act, a range of matters are to be given particular regard. This includes:

(a) kaitiakitanga:
(aa) the ethic of stewardship:
(b) the efficient use and development of natural and physical resources:
(ba) the efficiency of the end use of energy:
(c) the maintenance and enhancement of amenity values:
(d) intrinsic values of ecosystems:
(e) [Repealed]
(f) maintenance and enhancement of the quality of the environment:
(g) any finite characteristics of natural and physical resources:

(h) the protection of the habitat of trout and salmon:

(i) the effects of climate change:

(j) the benefits to be derived from the use and development of renewable energy.

These matters have been given particular regard through the design of the proposal.

10.4 Section 8 – Treaty of Waitangi

The Far North District Council is required to take into account the principles of the Treaty of Waitangi when processing this consent. This consent application may be sent to local iwi and hapū who may have an interest in this application.

10.5 Part 2 Conclusion

Given the above, it is considered that the proposal meets the purpose of the Act.

11. CONCLUSION

A Non-Complying Activity resource consent is sought from the Far North District Council to carry out the proposed development.

The proposal is not precluded from public notification and is considered to have less than minor effects on the wider environment. Through assessment, there are considered to be no affected persons.

The proposal is consistent with the objectives and policies of the Far North District Plan [ODP and PDP], the Regional Policy Statement for Northland, and achieves the purpose of the Act.

Given the assessment carried out in this report, it is considered that this proposal can be determined non-notified under the RMA 1991.

We would appreciate the review of draft conditions when available.

Regards,

Steven Sanson

Consultant Planner

RECORD OF TITLE
UNDER LAND TRANSFER ACT 2017
FREEHOLD

Guaranteed Search Copy issued under Section 60 of the Land Transfer Act 2017

R.W. Muir
Registrar-General
of Land

Identifier	**337317**
Land Registration District	**North Auckland**
Date Issued	20 February 2007

Prior References
79046

Estate	Fee Simple
Area	2.8500 hectares more or less
Legal Description	Ahipara A8A1 Block

Registered Owners

John Hepa Makimou Paitai as to a 0.8580000000 share
Tia Kimberly Paitai-Ashby as to a 0.1420000000 share

Interests

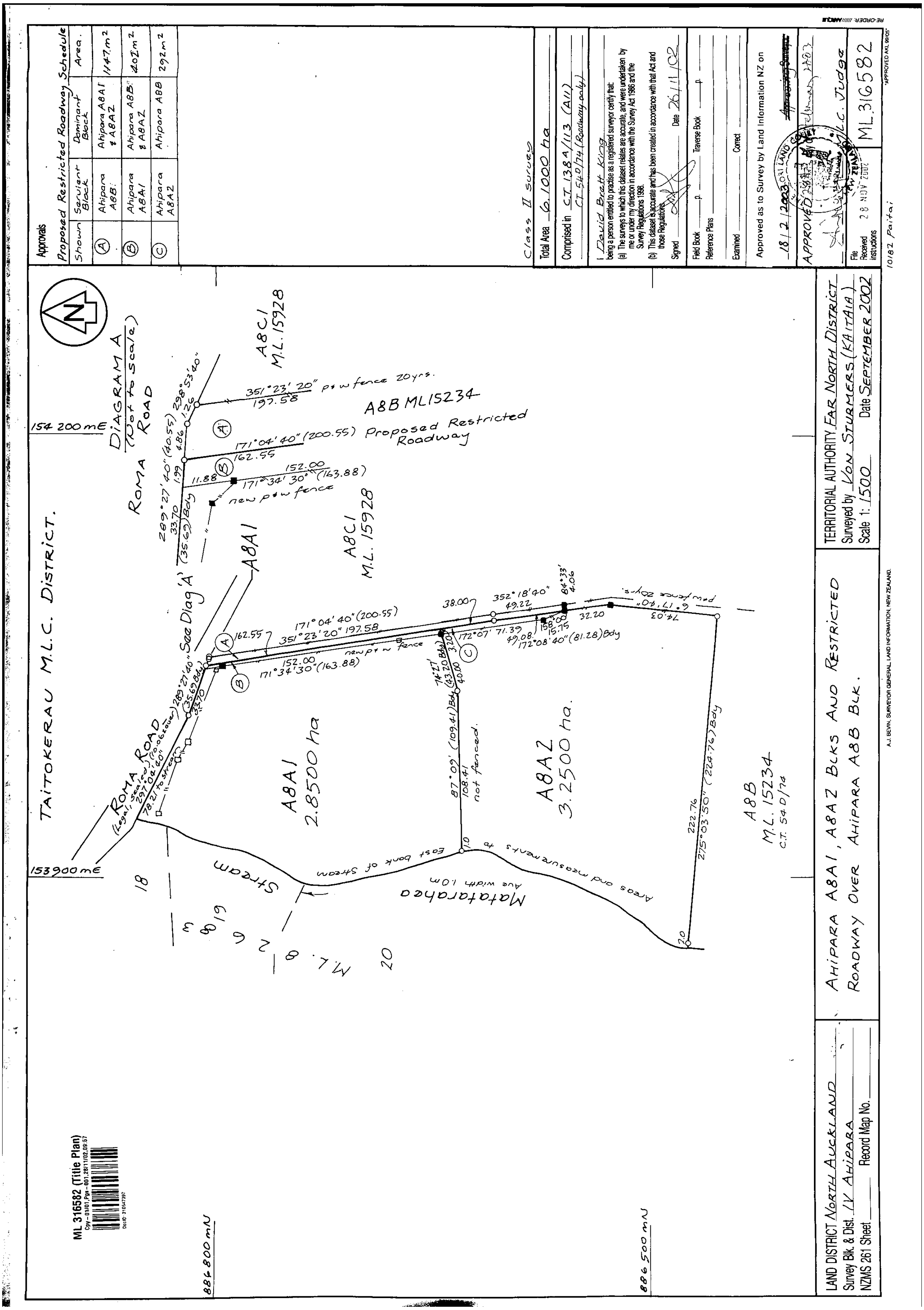
The proprietors listed above hold the shares out of a total of 1 shares.

7239747.1 Status Order determining the status of the within land to be Maori Freehold Land - 20.2.2007 at 9:00 am

9921418.2 Maori Land Court laying out a restricted roadway over part marked B on ML 316582 - 8.12.2014 at 2:40 pm

Appurtenant hereto is restricted roadway rights created by Maori Land Court Order 9921418.2 - 8.12.2014 at 2:40 pm

Subject to a right to convey electricity, telecommunications and computer media and drainage and water rights over part marked F on ML 426522 created by Maori Land Court Order 9921418.3 - 8.12.2014 at 2:40 pm


Approvals
Proposed Restricted Roadway Schedule
Shown | Servient Block | Dominant Block | Area
A | Ahipara A8B | Ahipara A8A1 & A8A2 | 147 m²
B | Ahipara A8A1 | Ahipara A8B & A8A2 | 202 m²
C | Ahipara A8A2 | Ahipara A8B | 292 m²
Class II survey
Total Area 6.1000 ha
Comprised in CT 138A/113 (All) CT 54D/74 (Roadway only)
TERRITORIAL AUTHORITY FAR NORTH DISTRICT
Surveyed by VON STURMERS (KAITAIA)
Scale 1:1500
Date SEPTEMBER 2002
AHIPARA A8A1, A8A2 BLKS AND RESTRICTED ROADWAY OVER AHIPARA A8B BLK.
LAND DISTRICT NORTH AUCKLAND
Survey Blk. & Dist. IV AHIPARA
NZMS 261 Sheet
Record Map No.
ML 316582
TAITOKERAU M.L.C. DISTRICT.
DIAGRAM A (Not to Scale)
ROMA ROAD
Proposed Restricted Roadway
A8B ML15234
A8C1 M.L. 15928
A8A1 2.8500 ha
A8A2 3.2500 ha
A8B M.L. 15234 C.T. 54D/74
Matatarahao Stream
M.L. 8269
154 200 mE
153 900 mE
886 800 mN
886 500 mN

Report on Maori Land details for the following Record(s) of Title

Record(s) of Title

337317	Identified as potentially Maori Freehold Land

***** End of Report *****

PARTITION ORDER

Te Ture Whenua Māori Act 1993, Sections 289 and 304(2)

In the Māori Land Court
of New Zealand
Taitokerau District

IN THE MATTER of the partition of the land known as Ahipara A8A1 being all that land described in Record of Title 337317, North Auckland Land Registration District

At a sitting of the Court held at Kaitaia via zoom on the 23rd day of November 2022 before Miharo Peter Armstrong, Judge

IT IS, as a part of the said partition of Ahipara A8A1 Block, HEREBY ORDERED AND DECLARED in satisfaction of all her shares held that Tia Kimberley Paitai Ashby is the owner of Ahipara A8A1A block containing 4047m², and which part is particularly delineated on ML599808 plan attached hereto

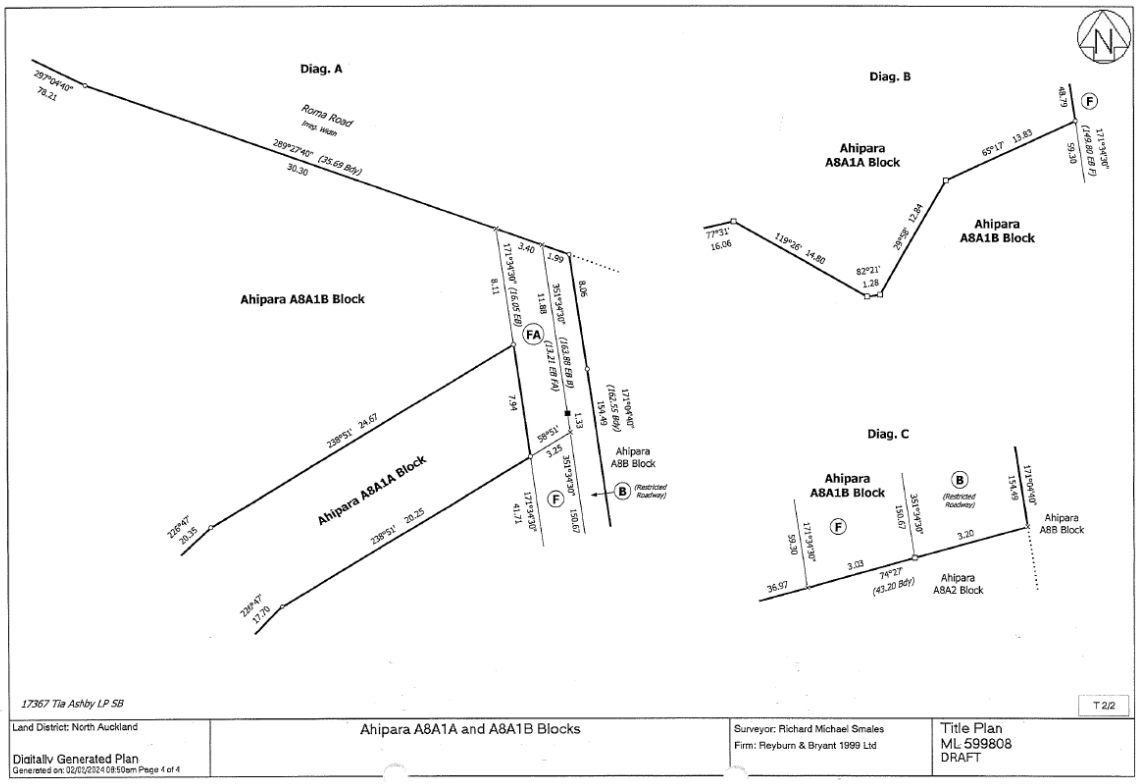
AND IT IS HEREBY FURTHER ORDERED that this land is subject to the restrictions imposed by Section 304 of Te Ture Whenua Māori Act 1993

AS WITNESS the hand of the Judge and the Seal of the Court

THE MAORI LAND COURT OF NEW ZEALAND

JUDGE

Plan


Diag. A
Roma Road
(Hwy) Wide
289°27'40" (25.69 Bdy)
30.30
297°04'40"
78.21
Ahipara A8A1B Block
Ahipara A8A1A Block
238°51' 24.67
238°51' 20.25
238°47' 17.70
220°47' 20.35
Ahipara A8B Block
(Restricted Roadway)
Diag. B
Ahipara A8A1A Block
Ahipara A8A1B Block
65°17' 19.89
77°31' 16.06
119°26' 34.80
82°21' 1.28
Diag. C
Ahipara A8A1B Block
Ahipara A8B Block
Ahipara A8A2 Block
74°27' (43.20 Bdy)
36.97
3.03
3.20
17367 Tia Ashby LP SB
T 2/2
Land District: North Auckland
Digitally Generated Plan
Generated on: 02/01/2024 08:50am Page 4 of 4
Ahipara A8A1A and A8A1B Blocks
Surveyor: Richard Michael Smales
Firm: Reyburn & Bryant 1999 Ltd
Title Plan
ML 599808
DRAFT

Title Plan - ML 599808

Survey Number	ML 599808
Surveyor Reference	17367 Tia Ashby LP SB
Surveyor	Richard Michael Smales
Survey Firm	Reyburn & Bryant 1999 Ltd
Surveyor Declaration	

Survey Details

Dataset Description	Ahipara A8A1A and A8A1B Blocks		
Status	Initiated		
Land District	North Auckland	**Survey Class**	Class B
Submitted Date		**Survey Approval Date**	
		Deposit Date	

Territorial Authorities

Far North District

Comprised In

RT 337317

Created Parcels

Parcels	Parcel Intent	Area	RT Reference
Ahipara A8A1A Block Maori Land Plan 599808	Maori	0.3974 Ha	
Ahipara A8A1B Block Maori Land Plan 599808	Maori	2.5293 Ha	
Area B Maori Land Plan 599808	Easement		
Area F Maori Land Plan 599808	Easement		
Area FA Maori Land Plan 599808	Easement		
Total Area		2.9267 Ha	

Schedule / Memorandum

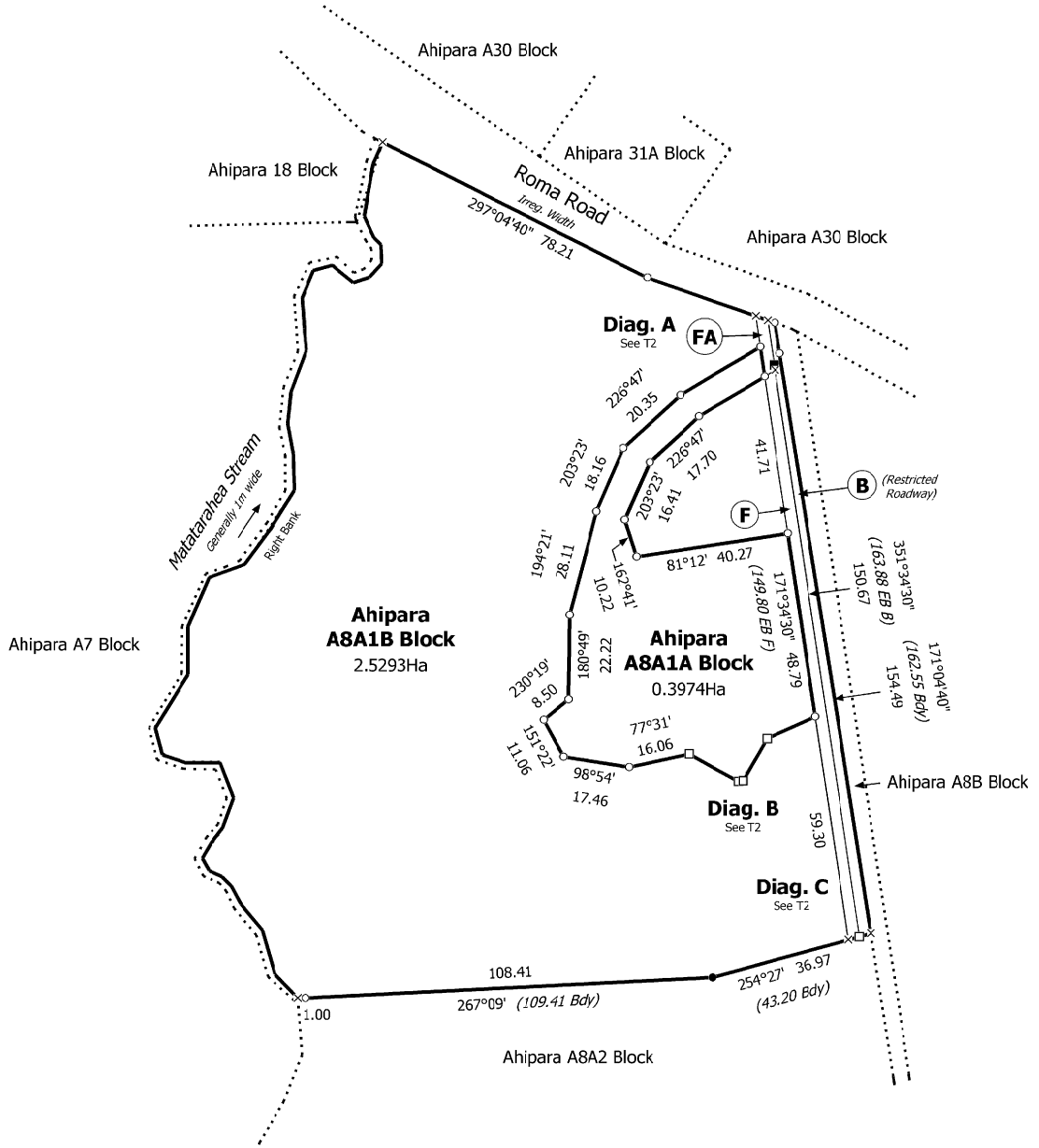
Land Registration District	Plan Number
North Auckland	ML 599808

Territorial Authority (the council): Far North District Council

Schedule of Easements				
Purpose	**Shown**	**Area**	**Burdened Land (Servient Tenement)**	**Benefitted Land (Dominant Tenement)**
Right of Way, Right to Convey Water, Electricity & Telecommunications	FA	0.0043 Ha	Ahipara A8A1B Block	Ahipara A8A1A Block

Existing Restricted Roadway Maori Land Court Order 9921418.2			
Area	**Shown**	**Burdened Land (Servient Tenement)**	**Benefitted Land (Dominant Tenement)**
0.0402 Ha	B	Ahipara A8A1B Block	Ahipara A8B Block & Ahipara A8A2 Block

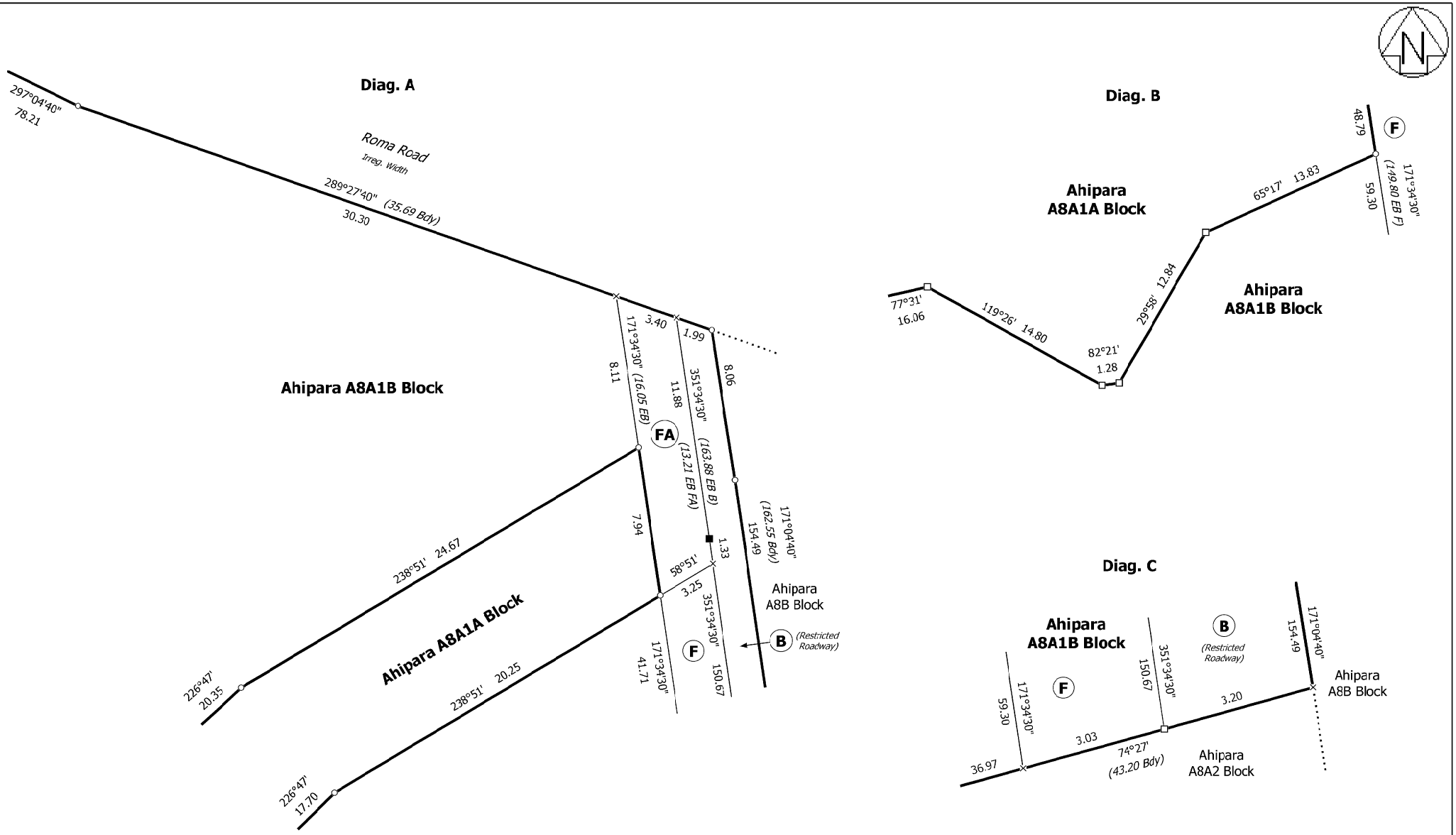
Schedule of Existing Easements Maori Land Court Order 9921418.3				
Purpose	**Shown**	**Area**	**Burdened Land (Servient Tenement)**	**Benefitted Land (Dominant Tenement)**
Right to Convey Electricity	F	0.0452 Ha	Ahipara A8A1B Block	Ahipara A8A2 Block
Right to Convey Telecommunication & Computer Media Right to Convey Water	FA	0.0043 Ha		



17367 Tia Ashby LP SB

T 1/2

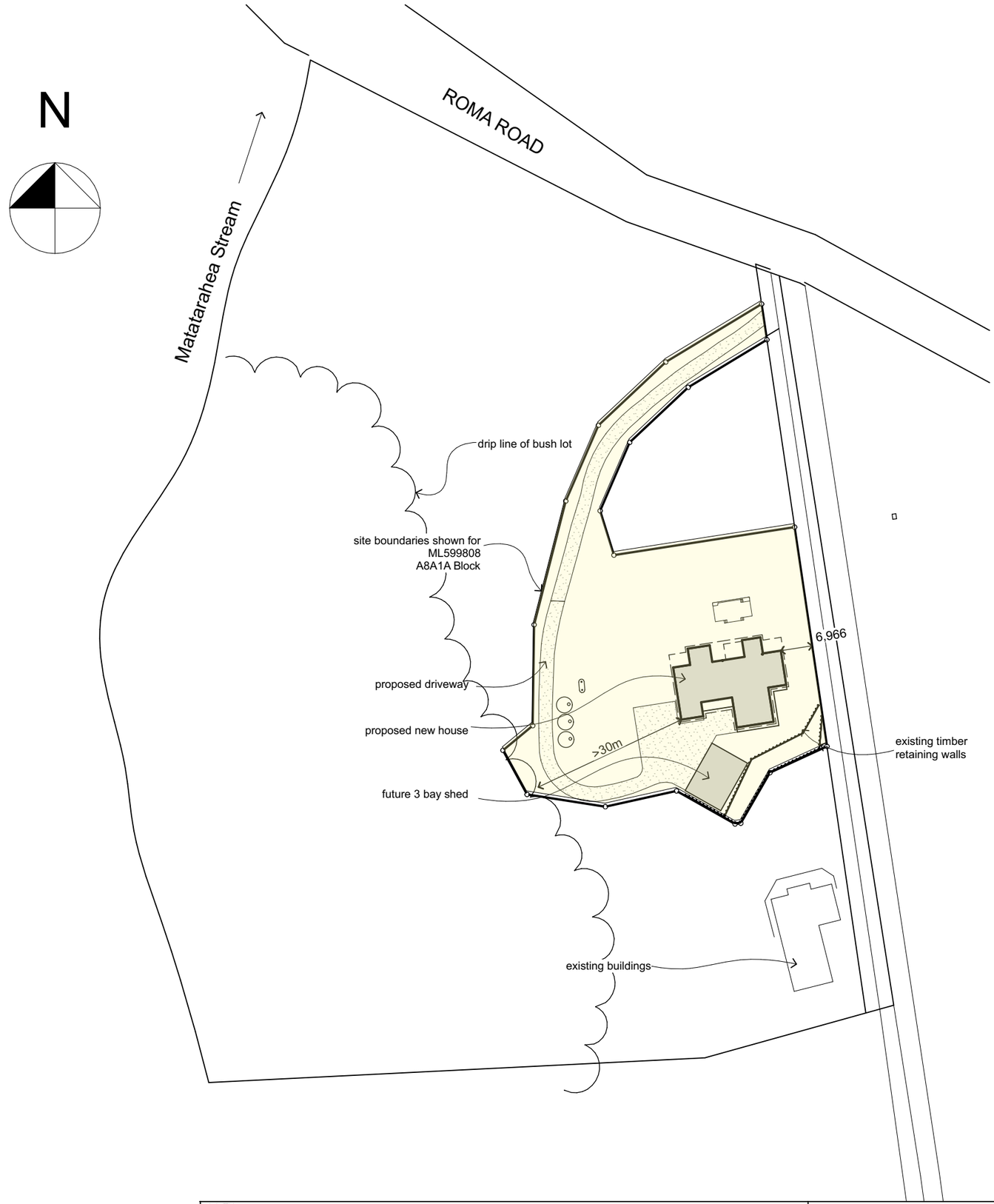
Land District: North Auckland Digitally Generated Plan Generated on: 02/02/2024 08:50am Page 3 of 4	Ahipara A8A1A and A8A1B Blocks	Surveyor: Richard Michael Smales Firm: Reyburn & Bryant 1999 Ltd	Title Plan ML 599808 DRAFT



17367 Tia Ashby LP SB

T 2/2

Land District: North Auckland Digitally Generated Plan Generated on: 02/02/2024 08:50am Page 4 of 4	Ahipara A8A1A and A8A1B Blocks	Surveyor: Richard Michael Smales Firm: Reyburn & Bryant 1999 Ltd	Title Plan ML 599808 DRAFT



PROPOSED DEVELOPMENT SCHEDULE

Legal Description:	Ahipara A8A1A Block ML 599808
Site Area:	0.3974 Ha.
Location:	184 Roma Road Ahipara
Wind Zone:	Very High
Corrosion Zone:	D
Territorial Authority:	Far North District Council
Zone:	Rural Production

AREAS

Total Floor area (over frame)294.80m²

BUILDING COVERAGE

Proposed Building (including eaves > than 600mm)	362m²
Future Shed	108m²
Total Building Coverage	**470m² (12%)**

STORMWATER MANAGEMENT

Roof area	393m²
Driveway area	680m²
Future Shed	108m²
Future Pool & Paving	90m²
Total Impermeable area	**1271m² (32%)**

SITE SERVICES

Water supply	from water storage tanks Provide Puretec water filter
Sewerage	onsite wastewater disposal system
Stormwater	Roof water to water tanks with detention, overflow to driveway swale drain

Job Title
Proposed New Home for T. & R. Ashby
At
184 Roma Road
Ahipara

Project Status
RC PLANS

CORE ARCHITECTURAL DESIGN LTD
PO Box 1006, Kerikeri 0245
Northland, New Zealand
Phone: +64 9 407 5999
email: info@cadl.co.nz

Drawing Title
Location Plan

Scale	Plot Date	Project No.
1:1000 @ A3	17/10/2024	2024-0653

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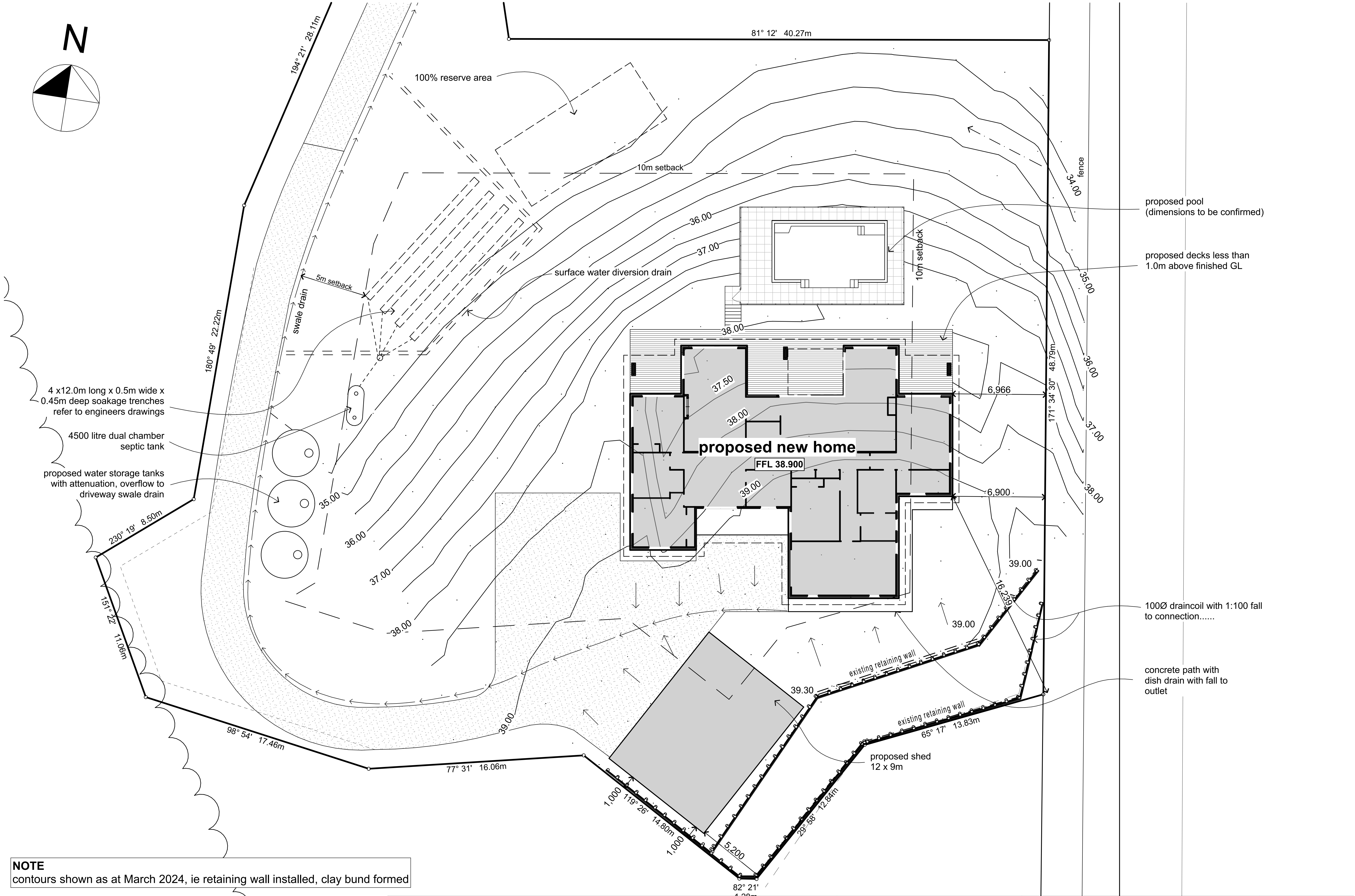
Drawing Number
R01

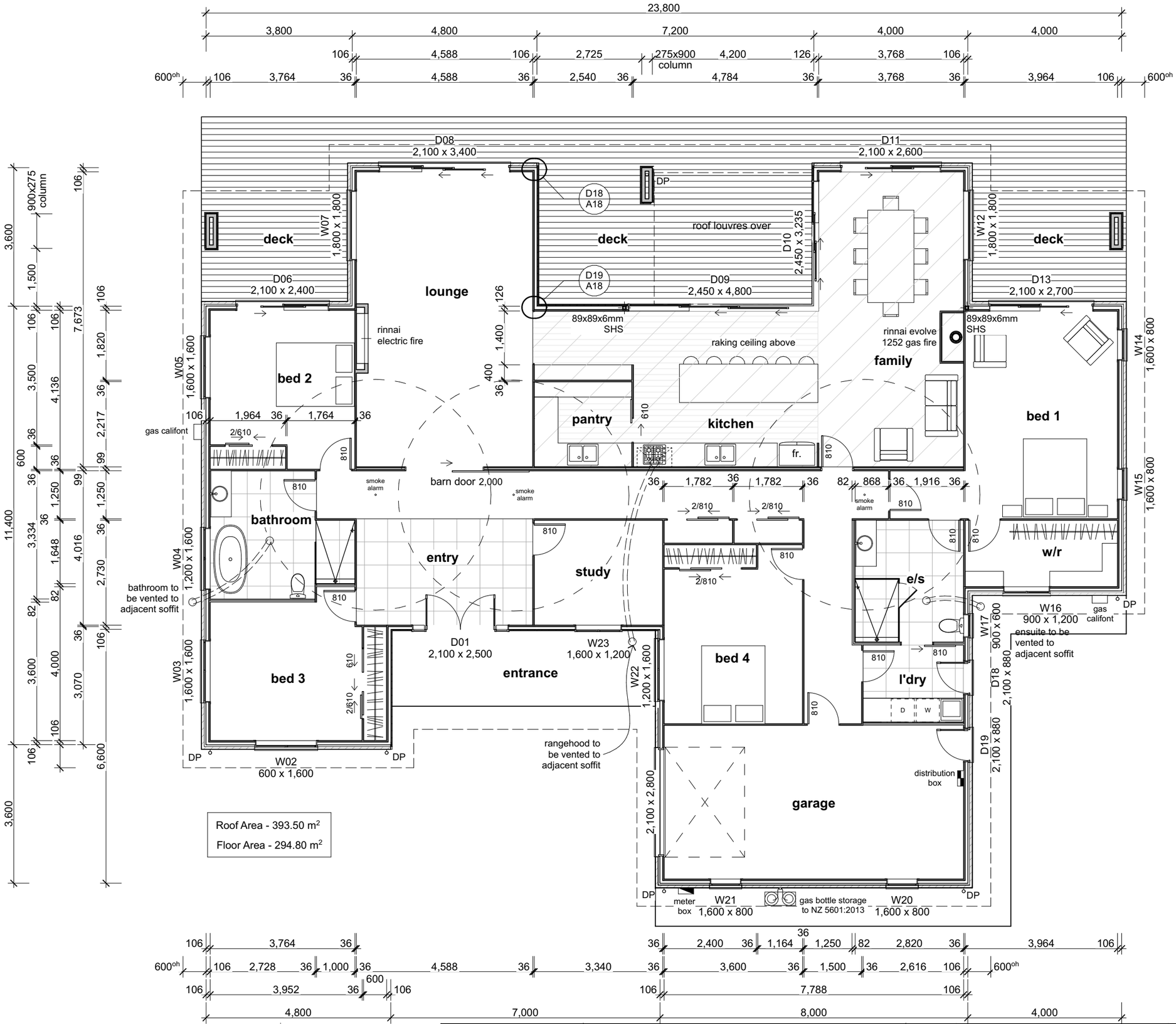
Revision
RC-01



NOTE

contours shown as at March 2024, ie retaining wall installed, clay bund formed

Job Title **Proposed New Home for T. & R. Ashby** At **184 Roma Road** **Ahipara**	Project Status **RC PLANS** CORE ARCHITECTURAL DESIGN LTD PO Box 1006, Kerikeri 0245 Northland, New Zealand Phone: +64 9 407 5999 email: info@cadl.co.nz	Drawing Title **Site Plan** Scale: **1:250** @ A3 Plot Date: 17/10/2024 Project No.: **2024-0653** D:\Core Architectural Design Ltd\CADL - Documents\000 Projects\2024\2024-0653 Ashby\0653 Roma Road.pln	Drawing Number **R01** Revision **RC-01**



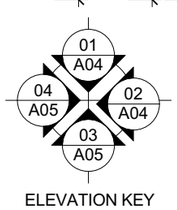
NOTES

All construction to NZS 3604:2011 and the Durapanel Technical Manual unless specifically designed
Confirm all dimensions on site
Internal door leaf size shown doors to be standard 1980mm high
External joinery nominal sizes shown allow 15mm for trim size openings

dp denotes 80mmØ downpipe

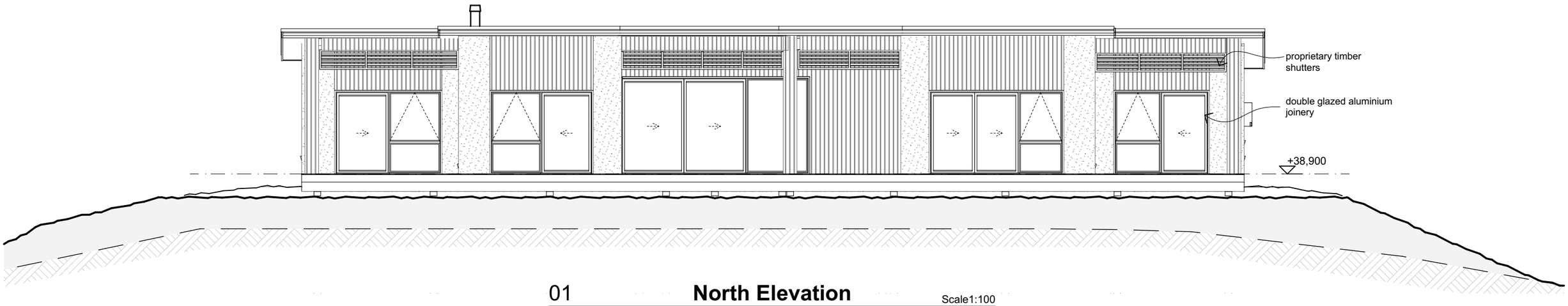
Glazing to bathrooms to be Grade A Safety Glass as required by NZS 4223 Part 3:2016

Bathroom & Ensuite floors to be ceramic tiles over waterproof membrane. Laundry floor to be Ceramic tiles with less than 6% water absorbtion, waterproof grouted joints.
Entry & Kitchen floor to be vinyl planks (Karndean or similar)

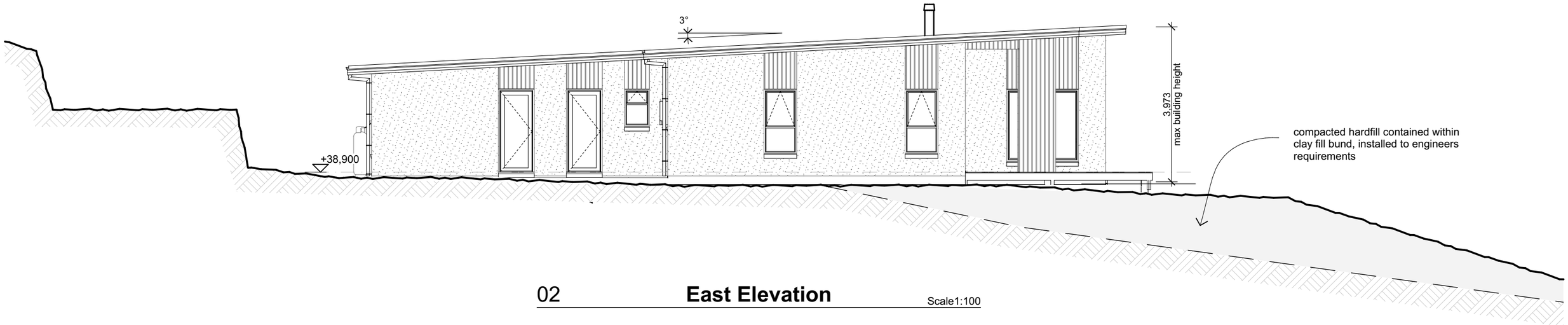


ELEVATION KEY

Job Title: **Proposed New Home for T. & R. Ashby** At **184 Roma Road Ahipara**	Project Status: **RC PLANS**	Drawing Title: **Floor Plan**	Drawing Number: **R02**
		Scale: **1:100** @ A3 · Plot Date: 17/10/2024 · Project No.: **2024-0653**	Revision: **RC-01**
	CORE ARCHITECTURAL DESIGN LTD PO Box 1006, Kerikeri 0245 Northland, New Zealand Phone: +64 9 407 5999 email: info@cadl.co.nz	D:\Core Architectural Design Ltd\CADL - Documents\000 Projects\2024\2024-0653 Ashby\0653 Roma Road.pln	



01 **North Elevation** Scale1:100



02 **East Elevation** Scale1:100

Job Title
Proposed New Home for T. & R. Ashby
At
184 Roma Road
Ahipara

Project Status
RC PLANS

CORE ARCHITECTURAL DESIGN LTD
PO Box 1006, Kerikeri 0245
Northland, New Zealand
Phone: +64 9 407 5999
email: info@cadl.co.nz

Drawing Title
Elevations

Scale **1:100** @ A3
Plot Date 17/10/2024
Project No. **2024-0653**
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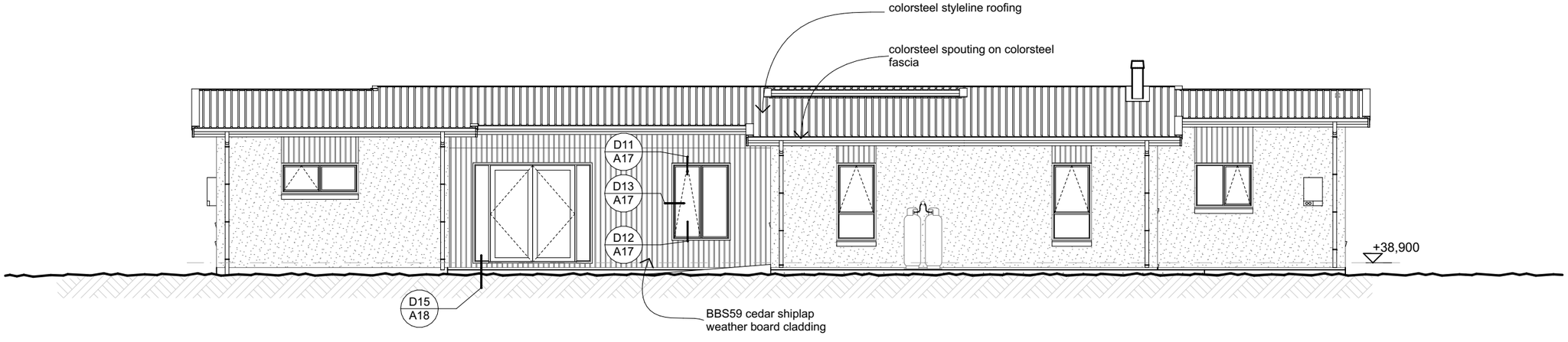
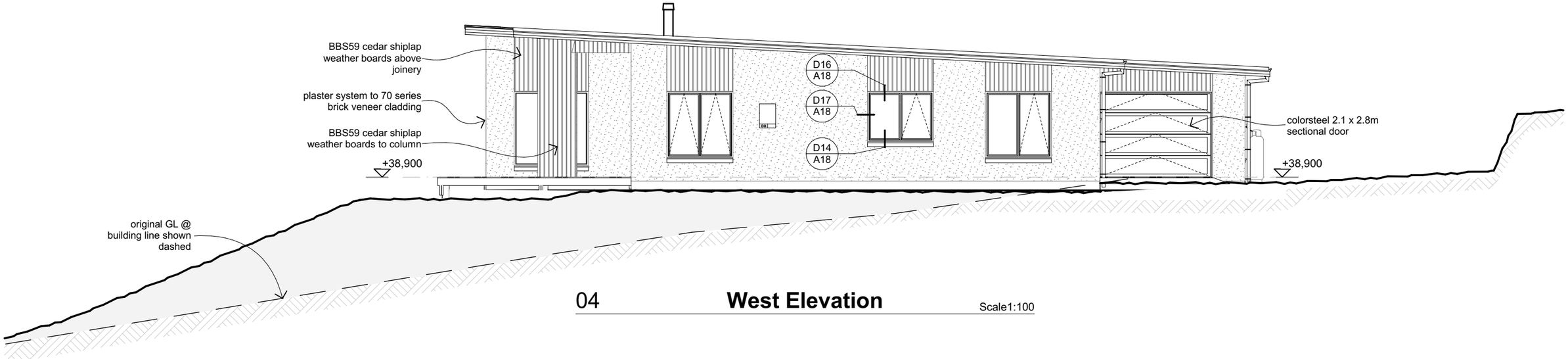
Drawing Number **R03**
Revision **RC-01**



03 **South Elevation** Scale1:100



04 **West Elevation** Scale1:100

Job Title **Proposed New Home for T. & R. Ashby** At **184 Roma Road** **Ahipara**	Project Status **RC PLANS**	Drawing Title **Elevations**	Drawing Number **R04**
		Scale **1:100** @ A3 / Plot Date 17/10/2024 / Project No. **2024-0653**	Revision **RC-01**
	CORE ARCHITECTURAL DESIGN LTD PO Box 1006, Kerikeri 0245 Northland, New Zealand Phone: +64 9 407 5999 email: info@cadl.co.nz	D:\Core Architectural Design Ltd\CADL - Documents\000 Projects\2024\2024-0653 Ashby\0653 Roma Road.pln	

PK ENGINEERING
CHARTERED PROFESSIONAL ENGINEERS

SITE SUITABILITY REPORT

FOR

PROPOSED NEW DWELLING

AT

AHIPARA A8A1A BLOCK ML599808

184 ROMA ROAD

AHIPARA

FOR

TIA & RAYMON ASHBY

Job No: 21-154 (Superseded by job no 21-154E)
Date: February 2022
This report:
Revision 1: 13th September 2024:

Level 1 ANZ Bank Building 90 Kerikeri Road, Kerikeri, New Zealand

Telephone: 09 407 3255 Email: teampk@pkengin.co.nz

Revision 1 Overview – We have been engaged by the owner of the proposed development of 184 Roma road- Tia and Raymon Ashby (our client) to provide an update to our existing site suitability report dated February 2022 (for Kevin Garton). Since the original report the site has been subdivided and the proposed dwelling now sits within a smaller lot - ML599808 A8AIA.
The owners Architect (Core Architectural Ltd) has provided updated site plans to support the revision to our documents for the proposed dwelling. This revision requires re-design and updates the Wastewater and Stormwater for the proposed dwelling. The brief for this update by the client has been to update the Wastewater and Stormwater sections and any other information required to support RC and BC consents.

Also noteworthy is the Architect has provided as-built earthworks contours for the building platform which we understand has been certified by another engineer.

The following updates to our report have been made:

Updated Client Name, across all documents and the following revisions:

Section 2: Revised the general description to fit with the as-built earthworks as seen on the architects and plans and our site measurements.
Section 5.3: We have provided 2 soakage tests and a shallow auger hole in order to revise our TP58.
Section 6: This foundation section has been updated to include the relevance of a rib-raft foundation type for the proposed dwelling.
Section 10: This section has been updated to include revised site coverage stormwater attenuation design using the proposed 3 water tanks.
Section 11: This section has been updated to include a new TP58 design for the proposed dwelling incorporating ETS beds.

Also Updated is Appendix A and includes- Auger log AH5 added and Revised Drawings and TP58 (Appendix E)

PK ENGINEERING
CHARTERED PROFESSIONAL ENGINEERS

1. INTRODUCTION

This report was requested by Tia & Raymon Ashby and has been prepared to assess the suitability of Ahipara A8A1A Block ML 599808, 184 Roma Road, Ahipara for the proposed new dwelling.

This report assesses the AHIPARA A8A1 BLOCK regarding land stability, foundation requirements, ground retention requirements, wastewater treatment and disposal and stormwater flows and has been prepared for the sole use of our client. It shall not be used, reproduced, or copied in any manner or form without the permission of PK Engineering Limited.

2. GENERAL SITE DESCRIPTION

Ahipara A8A1A encompasses an area of approximately 3974m² and is located at 184 Roma Road. The lot is covered in pasture used for grazing. A level building platform has been excavated resulting in an engineered embankment below the building platform sloping at ~ 14.5^0 to the northwest. The proposed new dwelling is located as indicated on the Location Plan Sheet SG1, Appendix A.

Locations of features and dimensions discussed in this report are taken from the site plan provided by Core Architectural limited and measurements taken on-site.

The subsurface conditions discussed in this report have been determined at very specific locations and will not identify any variations in ground strength or composition at other locations on the site. During construction should ground conditions be found to vary significantly from those described in this report, PK Engineering is to be notified immediately to confirm the applicability of the recommendations.

3. NATURAL HAZARDS

The Northland Regional Council, Hazard Maps indicate no Natural Hazards for this site.

4. GEOLOGY

Soil type, Kohumaru mottled loamy clay, which is a part of the Kohumaru soil suites, this soil is alluvial formed from a variety of volcanic and sedimentary parent material deposited by water. The basement rock type is an Interbedded sandstone and mudstone: grey quartz feldspar sandstone and grey mudstone, locally baked by interbedded basalt: moderately hard to hard, weathered inland to light coloured clay to depths of 10m. *NZMS 290, Sheet Q04/05, Ahipara- Herekino soil and rock maps.*

5. SITE INVESTIGATIONS

5.1 VISUAL INSPECTION

A thorough walkover of the proposed building site and surrounding slopes was undertaken and geotechnical features relating to site stability, wastewater disposal and stormwater flows were noted.

5.2 SUBSURFACE INVESTIGATIONS

Four subsurface exploratory auger holes were drilled at the locations shown on the attached plan as AH1 - AH4. In situ undrained shear strength readings were taken at regular intervals in each hole. These holes were drilled to a target depth of 3.0m or refusal due to impenetrability. Scala penetrometer tests were then undertaken from the base of the auger holes to a target depth of 5.0m below existing ground level or to termination where impenetrable ground was discovered.

Auger holes AH1 – AH4 all encountered variable, undisturbed silty clays with in-situ undrained shear strength varying from 58~203+kPa. All auger holes share similar soil characteristics, stiff yellow clay which is the product of weathering the underlain parent rock. The presence of grey laminations within AH4 and AH3 indicate possible water table presence although the water table was not encountered. Scala penetrometer tests were taken from the base of each auger hole (PT1 – PT4). All penetrometer test results indicate good ground at increasing depth between the base of the auger hole to termination depth. However, it must be noted that there are weak lenses of soil encountered in AH2- AH4.

Table 1 Data Summary

Borehole	Auger Depth (m)	Scala Depth (m)	Weak Layer (m)	Rock Intercept (m)	GWL (m)
AH1	2.2	2.8	2.4	-	N/A
AH2	1.8	4.2	1.8-2.8	4.2	N/A
AH3	1.2	2.75	0.9-1.75, 2-2.2	2.55	N/A
AH4	1.6	2.8	-	2.8	N/A

All depth measurements are beneath existing ground level. Groundwater table was not encountered.

Cross sections A – A & B – B shown on Sheet SG3 & SG4 in Appendix A give an illustration of the inferred sub-soil profile. The groundwater table was not intercepted during field investigations. The logs of these auger holes (AH) and Scala Penetrometer tests (PT) are given in Appendix A.

5.3 SOAKAGE TESTS & SOIL PROFILE BORE

2 soakage tests were conducted in the area of the revised proposed wastewater disposal field as per TP58 guidelines. One auger hole AH5 was bored to a depth of 1.8m, below existing ground level, in the area to establish the soil profile. Soakage tests and auger hole locations are shown on sheet SG2. We have classified the soil as a category 4 soil as per TP58 guidelines.

6. EXPANSIVITY / FOUNDATIONS

The soils that exist on this site are moderately to highly expansive in nature. Due to the nature of the expansive clays on this site, it cannot be classified as "good ground" as per NZS3604:2011.
All timber pile foundations should be founded a minimum of 1.0 metre into the stiff natural clay to avoid any susceptibility to expansive behaviours.

Alternatively, a rib-raft foundation structure may be employed, seated on top of a minimum of 150mm compacted GAP 20/40 Hardfill.

7. SITE STABILITY

The sub soils on this site vary, with strong bedrock located at 2.8~4.0m beneath existing ground level. AH1 & AH4 both encountered firm soil with shear vane readings all in excess of 100kPa to 2.2m and 1.6m below existing ground level respectively. Scala penetrometer readings for both holes encountered a small weak lens at 2.2~2.4m below existing ground level before encountering good ground. In AH1 encountered rock at 2.8m below existing ground level. AH2 encountered weak soil at 1.5~2.95m below existing ground level. Good ground was found in excess of 3.0m depth. AH3 encountered poor ground at 0.9~1.75m and 2.0~2.2m below existing ground level.

Careful consideration must be given to foundation designs and all soft lenses must be considered - i.e., foundations should be designed by a Chartered Professional engineer familiar with these geotechnical hazards.

7.2 BUILDING FOUNDATIONS

The following parameters should be utilized for the design of footings and piled foundations:

IN STIFF CLAY:

Bulk Density	= 18 kN/m^3
Ultimate Bearing Capacity	= 300kPa
Allowable Bearing Capacity (F.O.S = 3)	= 100kPa
Dependable Bearing Capacity (ϕ = 0.5)	= 150kPa

IN WEAK CLAY:

Bulk Density	= 18 kN/m^3
Ultimate Bearing Capacity	= 150kPa
Allowable Bearing Capacity (F.O.S = 3)	= 50kPa
Dependable Bearing Capacity (ϕ = 0.5)	= 75kPa

IN SEMI-WEATHERED BASALTIC ROCK:

Bulk Density	= 25 kN/m^3
Ultimate Bearing Capacity	= 6MPa
Allowable Bearing Capacity (F.O.S = 3)	= 2MPa
Dependable Bearing Capacity (ϕ = 0.5)	= 3MPa

7.3 CUT BATTER SLOPES

No cut batter on this site should be left either unretained or unvegetated to minimise the risk of soil instability. Ground cover must be maximised to maintain the upper clay layer in its natural state of moisture content.

7.4 FILL

AH4 has encountered a large layer of topsoil/clay mixture 0-0.9m below existing ground level. This layer is considered unsuitable fill and prior to construction must be removed.

Suitable clay fill may be placed around the building site to create the building platform provided that no foundations are supported onto this fill. This material should be rolled with a sheepsfoot roller to a minimum shear strength of 100kPa. Silty and sandy fill should not be placed around the building platform as such fill is highly erodible. All fill material under any slab or concrete foundation should be well compacted GAP 40 hardfill, verified by an engineer. This hardfill should extend a minimum of 1m past the edge of any concrete slab or footing. Fill batter slopes are to be a maximum of 1 in 2.5 gradient.

All bare exposed slopes, fill or cut batter, to be planted with suitable vegetation as soon as possible.

7.5 TOPSOIL AND UNSUITABLE SOILS

All topsoil, organics, vegetation, unapproved fill, and any soft layers/ lenses within the subsoils are to be stripped from any future building envelope and surrounding areas designated to be impermeable surfaces. All unsuitable materials where not recycled on site are to be carted to waste.

7.6 RETAINING WALLS

Any retaining of greater than 1.0m height or subject to surcharge loading (buildings, driveways or backslope exceeding 15°) should be designed by a suitably experienced Chartered Professional Engineer. Where applicable retaining walls are to provide support to cut faces.

8. LIQUEFACTION

Due to the known soil characteristics of Kohumaru mottled loamy clay and our site investigations, the risk of liquefaction is low. The low risk of liquefaction is due to the clay layer being very unlikely to have adequate saturation to be in a position to be prone to liquefaction. The topographic features of this site ensure rapid run off thus the occurrence of a perched ground water table is extremely unlikely.
The building envelope on Ahipara A8A1 meets the criteria for Section 71 of the Building Act 2004.

9. EROSION

Due to the gentle sloping nature of the site and stable ground conditions there is no evidence of erosion. There is no evidence of voids or cliff features. Underlying settlement and geological subsidence are unlikely. The proposed building envelope is sufficiently elevated, and setback form open water sources and is not subject to either fluvial or tidal erosion and as such has minimal impact as per Section 71 of the Building Act 2004.

10. STORMWATER

The careful management of stormwater runoff is vital to the continued stability of the proposed building platform. All stormwater flows should be piped away from any proposed building platform and steep slopes.

This site is zoned as Rural Production Zone under the Far North District Plan. In order to constitute a permitted activity, a maximum of 15% of the total site may be used for impermeable surfaces (roofs. driveway & sealed areas). The proposed dwelling roof area is 393m^2, driveway area 680m^2, future shed 108m^2, future pool 90 m^2 giving total impermeable surfaces of 1271m^2 – 32% of the total site area. This site therefore is outside of the permitted level of impermeable surfaces.
15% of the total site area is 596m^2. Proposed impermeable surfaces for this site amount to 1271m^2 We propose to attenuate stormwater flows from 675m^2

utilising flows from the proposed dwelling and future shed roof for both a 10yr ARI and a 100yr ARI.

To accomplish the required attenuation the three proposed water storage tanks need to be linked in series. The last tank in the series to have a 10yr orifice of 47mm diameter set at 1.2m below the overflow invert and a 100yr. orifice of 58mm diameter set at 1.2m below the overflow invert. Refer Table 1 Attenuation Parameters below and accompanying drawing Sheet SG6 Appendix A. Both orifice to discharge to the 150mm diameter overflow pipe. The overflow pipe to discharge to the existing driveway swale. We have used NIWA HIRDS V4 data RCP6 for the period 2081-2100 and coefficients of 0.96 post-development and 0.65 pre-development.

Table 1. Attenuation parameters

	Orifice diameter	**Orifice invert location**
ARI 10	**47 mm**	**1250 mm** below overflow invert
ARI 100	**58 mm**	**600 mm** below overflow invert
Tank Size	**3 x**	**25,000 litres @ 3.75mDia.**
ARI 10	**21,794.3 litres**	
ARI 100	**27,304.5 litres**	
Reuse	**47,695.5 litres**	

The careful management of stormwater runoff is vital to minimise downstream effects from the proposed development. During construction, silt fences and silt socks should be erected around the downhill perimeter of the construction site before any groundwork takes place to prevent silt migration off site or into waterways. No water is to be discharged on open cut slopes around the building envelope during construction.

Overflow from the water tanks to be discharged via a 150mm uPVC pipe to the existing driveway swale and thence to the Roma Road roadside swale via the easement area as indicated on the Location Plan, Sheet SG1, Appendix A.

11. WASTEWATER.

The soils that exist on this site exhibit moderate drainage characteristics. It has been classified as a category 4 type of earth as per the recommendations set by Technical Publication No. TP58. According to the minimum setback for a primary treated system under the TP58 guidelines, the following setback distances are to be used.

- 1.5m from the property boundary
- 3.0m from buildings
- 20.0m from surface water and openings
- 1.2m above the groundwater table
- 3.0m from the retaining walls
- 5.0m minimum from identified stormwater flow path downslope

A primary treatment system is suitable for this site.

We recommend using a dual chamber septic tank with outlet filter discharging, via a distribution box, to 4 evapotranspiration seepage beds (ETS Beds).

The ETS beds are to consist of 4 x 12.0m long x 0.5m wide x 0.45m deep with 1 m spacing between beds dug along contour see detail Sheet SG5 Appendix A. This design is based on a 4-bedroom dwelling with 6 person occupants using 180 litres per person/day giving a total wastewater production of 1080ltrs/day and a loading rate of 15ltrs/m²/day. The total enclosed area available for disposal is 72m². All construction should be undertaken by a licensed drainlayer. The total area of the disposal field to be planted with suitable plant species to provide Evapo-transpiration assistance see Appendix A, Plant Species List. All levels on site must be carefully checked to ensure that the pipe layout can be achieved prior to construction.

Refer Sheet SG5 and SG6 Appendix A for ETS beds layout and details.

12. WATER SUPPLY

Potable water supply will be provided by 3 x 25,000 litre water tanks either plastic or concrete partially buried catching rainwater from the dwelling roof. Overflow for the water tanks will be discharged via a 150mm uPVC pipe to the driveway swale drain. All works to comply with the Far North District Council Engineering Standards and Guidelines and the New Zealand Building Code G12: Water Supplies.

13. ACCESS

Access to the site is to be provided by a new accessway from Roma Road. The vehicle crossing is to be constructed as per the Far North District Council Engineering Standards and the Far North District Plan Clause 15.1.6C - Access. Sightlines from the proposed new entrance are 99m in both

directions see Site Plan Appendix A. The driveway must comply with the maximum gradient set out in the Far North District Council Engineering Standards (2009) of 1 in 4 if sealed or 1 in 5 if unsealed. We recommend to seal the driveway due to the gradient and to minimise sediment runoff into the nearby stream on the. The driveway is to have a concrete swale drain constructed along the length of the driveway. The swale drains to discharge to the grass lined water channel along Roma Road. As illustrated on Site Plan Sheet SG2. Parking for the new dwelling must comply with the FNDC Standards which is a minimum of 2 parking spaces per residential dwelling unit.

14. RECOMMENDATIONS

I recommend that:

- Foundations to be designed by a suitably experienced Chartered Professional Engineer
- No foundations are to be supported onto any clay fill
- Any ground retaining required over 1.0m retained height or subject to surcharge loading (buildings, driveways or backslope exceeding 15°) to be designed by a suitably experienced Chartered Professional Engineer
- All earthworks are to be inspected and approved by an engineer. All hardfill over 600mm depth is to be inspected, tested, and approved by an engineer.
- Stormwater management to be as per section 10 of this report
- Wastewater treatment and disposal as per section 11 of this report.

10. CONCLUSION

This site is suitable for the proposed developments and a stable building platform can be made available provided that the recommendations in this report are followed diligently.

All foundation designs and retaining wall designs should be carried out by a Chartered Professional Engineer.

All Earthworks will need to be inspected and approved by a Chartered Professional Engineer.

Pradeep Kumar.
B.E hons, NZCE, MIPENZ,
IntPE, CP Eng.
(Structural, Geotechnical)
Chartered Professional Engineer.

APPENDIX A

- AUGER HOLE LOGS
- SCALA PENETROMETER LOGS
- SOAKAGE HOLE TESTS
- PS1 WASTEWATER
- TP58 APPENDIX E
- LOCALITY PLAN 'SG1'
- SITE PLAN 'SG2'
- CROSS SECTION A-A 'SG3'
- CROSS SECTION B-B 'SG4'
- ETS BED LAYOUT 'SG5'
- ETS BED DETAIL ‘SG6
- ATTENUATION TANKS DETAIL 'SG7'
- SUITABLE PLANTS LIST

APPENDIX A

BOREHOLE LOG AH1

Project: Proposed New Dwelling
Client: Tia & Ramon Ashby
Job No: 21-154

PK ENGINEERING
CHARTERED PROFESSIONAL ENGINEERS

Graphic Symbol	@@@	#####	%%%	ØØØ	‡‡‡‡‡		ÐÐÐÐÐ	In situ shear vane reading
								Remoulded shear vane reading
	FILL	CLAY	SILT	SAND	GRAVEL	TOP SOIL	Organic Soil	Scale Penetrometer

Depth (mm)	Graphical Log	GWL	Soil Type	Field Description	Undrained Shear Strength (kPa)	Scale Penetrometer (blows/300mm)
		Ground Water Level not Intercepted	Kohumaru Mottled Loamy Clay	Dry Brown Silty Topsoil		
300	#####			Moist Yellow Clay	200, 58, 157, 44, 129	
600	#####					
900	#####					
1200	#####			Orange Silty Clay with Grey Laminations	200, 200	
1500	#####			Lighter Silty Clay	200	
1800	#####			Moist Silty Clay, Silt Content Increasing	30, 115	
2100	#####					
2400				End of bore at 2.2m See scala penetrometer test		
2700						
3000						
3300						
3600						
3900						
4200						
4500						
4800						
5100						
5400						

Drill Methods	50-100 mm hand auger	**Note:**
Test Location	Refer to site plan	1. The subsurface data described above has been determined at a specific borehole location. The data will not identify any variations away from the location.
Test Date	23/12/2021	
Inspector	RD	2. UTP - Unable to penetrate.

Level 1 ANZ Bank Building 90 Kerikeri Road, Kerikeri New Zealand
Telephone: 09 407 3255 Fax: 09 407 3256 Email: TeamPK@pkengin.co.nz

BOREHOLE LOG AH2

Project: Proposed New Dwelling
Client: Tia & Ramon Ashby
Job No: 21-154

PK ENGINEERING
CHARTERED PROFESSIONAL ENGINEERS

Graphic Symbol	@@@	#####	%%%	ØØØ	‡‡‡‡‡		ÐÐÐÐÐ	In situ shear vane reading
								Remoulded shear vane reading
	FILL	CLAY	SILT	SAND	GRAVEL	TOP SOIL	Organic Soil	Scale Penetrometer

Depth (mm)	Graphical Log	GWL	Soil Type	Field Description	Undrained Shear Strength (kPa)	Scale Penetrometer (blows/300mm)
		Ground Water Level not Intercepted	Kohumaru Mottled Loamy Clay	Topsoil	58 172	
300	#####			Topsoil Transit to Clay		
	#####				58 157	
	#####			Moist Stiff Yellow Clay		
600	#####				58 115	
	#####					
	#####				73 109	
900	#####					
	#####					
	#####				44 87	
1200	#####			Moist Stiff Yellow Silty Clay		
	#####					
	#####					
1500	#####				44 78	
	#####			Soft Yellow Silty Clay		
	#####					
1800	#####			End of bore at 1.8m		
				See scala penetrometer test		
2100						
2400						
2700						
3000						
3300						
3600						
3900						
4200						
4500						
4800						
5100						
5400						

Drill Methods	50-100 mm hand auger	**Note:**
Test Location	Refer to site plan	1. The subsurface data described above has been determined at a specific borehole location. The data
Test Date	23/12/2021	will not identify any variations away from the location.
Inspector	RD	2. UTP - Unable to penetrate.

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BOREHOLE LOG AH3

Project: Proposed New Dwelling
Client: Tia & Ramon Ashby
Job No: 21-154

PK ENGINEERING
CHARTERED PROFESSIONAL ENGINEERS

Graphic Symbol	@@@	#####	%%%	ØØØ	‡‡‡‡‡		ÐÐÐÐÐ	In situ shear vane reading
								Remoulded shear vane reading
	FILL	CLAY	SILT	SAND	GRAVEL	TOP SOIL	Organic Soil	Scale Penetrometer

Depth (mm)	Graphical Log	GWL	Soil Type	Field Description	Undrained Shear Strength (kPa)	Scale Penetrometer (blows/300mm)
		Ground Water Level not Intercepted	Kohumaru Mottled Loamy Clay	Dry Brown Topsoil		
	#####			Dry Crumbly Yellow Clay	44 188	
300	#####					
	#####			Moist Stiff Yellow Clay	44 101	
	#####					
600	#####				30 58	
	#####					
	#####					
900	#####			Moist Stiff Yellow Clay with Grey/Orange Laminations	50 87	
	#####					
	#####					
1200	#####			End of bore at 1.2 m		
				See scala penetrometer test		
1500						
1800						
2100						
2400						
2700						
3000						
3300						
3600						
3900						
4200						
4500						
4800						
5100						
5400						

Drill Methods	50-100 mm hand auger	**Note:**
Test Location	Refer to site plan	1. The subsurface data described above has been determined at a specific borehole location. The data
Test Date	23/12/2021	will not identify any variations away from the location.
Inspector	RD	2. UTP - Unable to penetrate.

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BOREHOLE LOG AH4

Project: Proposed New Dwelling
Client: Tia & Ramon Ashby
Job No: 21-154

PK ENGINEERING
CHARTERED PROFESSIONAL ENGINEERS

Graphic Symbol	@@@	#####	%%%	ØØØ	‡‡‡‡‡		ÐÐÐÐÐ	In situ shear vane reading
								Remoulded shear vane reading
	FILL	CLAY	SILT	SAND	GRAVEL	TOP SOIL	Organic Soil	Scale Penetrometer

Depth (mm)	Graphical Log	GWL	Soil Type	Field Description	Undrained Shear Strength (kPa)	Scale Penetrometer (blows/300mm)
0		Ground Water Level not Intercepted	Kohumaru Mottled Loamy Clay	Brown Silty Topsoil	30 73	
300				Topsoil and Clay Mixture, Slightly Moist	36 104	
600				Topsoil and Clay Mixture with Minor Organics, Slightly Moist	30 186	
900	#####			Moist Yellow Silty Clay	44 172	
1200	%%%%			Moist Orange Clayey Silt		
	%%%%			Moist Crumbly Soft Clayey Silt	200	
1500	#####			Moist Light Grey Silty Clay		
	%%%%			Moist Crumbly Orange Silt		
1800				End of bore at 1.6 m		
2100				See scala penetrometer test		
2400						
2700						
3000						
3300						
3600						
3900						
4200						
4500						
4800						
5100						
5400						

Drill Methods	50-100 mm hand auger
Test Location	Refer to site plan
Test Date	23/12/2021
Inspector	RD

Note:

1. The subsurface data described above has been determined at a specific borehole location. The data will not identify any variations away from the location.
2. UTP - Unable to penetrate.

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Telephone: 09 407 3255 Fax: 09 407 3256 Email: TeamPK@pkengin.co.nz

BOREHOLE LOG NO - **AH5**

Project: Soil Profile wastewater design **Client:** Tia & Ramon Ashby
Job No: 21-154E

PK ENGINEERING
CHARTERED PROFESSIONAL ENGINEERS

Graphic Symbol

FILL | CLAY | SILT | SAND | HARDFIL | TOP SOIL | Organic Soil

In situ shear vane reading
Remoulded shear vane reading
Scale Penetrometer

Depth (mm)	Soil /Rock Graphical Log	Soil/Rock type	GWL	Field Description	Undrained Shear Strength (kPa)	Scale Penetrometer (blows/50mm)
300		Kohumaru mottled loamy clay	Ground water level not intercepted	CLAY fill 250-300mm thick.	0 50 100 150 200 300: 153, 60 600: 105 900: 93 1200: 90 1800: 75, 15 3000: UTP	15 20 0 300 600 900 1200 1500 1800 2100 2400 2700 3000 3300 3600 3900 4200 4500 4800 5100 5400 5700
600				silty TOPSOIL, brown moist		
900				CLAY, minor silt, yellow, plastic, moist		
1200						
1500				CLAY, minor silt, yellow/white patches, moist, soft		
1800						
2100				**EOB @1.8m**		
2400						
2700						
3000						
3300						
3600						
3900						
4200						
4500						
4800						
5100						

Drill Methods		50 mm hand auger	**Note:** All field logging made as per NZGS Guideline "Soil and Rock Field Descriptions"
Test Location		Refer to site plan	1. The subsurface data described above has been determined at a specific borehole location. The data
Test Date		8/08/2024	will not identify any variations away from the location.
Inspector		RD	2. UTP - Unable to penetrate.

Level 1 ANZ Bank Building 90 Kerikeri Road, Kerikeri New Zealand

Telephone: 09 407 3255 Fax: 09 407 3256 Email: TeamPK@pkengin.co.nz

P K ENGINEERING LIMITED

90 KERIKERI RD Phone (09) 4073255 EMAIL pk.engin@xtra.co.nz

PENETROMETER HOLE No. 1 - 4

SHT. 1 of 1

Location: 184 Roma Road, Ahipara

Job No. 21-154

Driven by: RD

Date: 23/12/2021

R.L at Ground Level: n/a

GWL:

Depth	PT1	PT2	PT3	PT4	Depth	PT1	PT2	PT3	PT4	Depth	PT1	PT2	PT3	PT4	Depth	PT1	PT2	PT3	PT4
50					2550	6	1	6	6	5050					7550				
100					2600	5	2	6	12	5100					7600				
150					2650	6	2	6	6	5150					7650				
200					2700	6	1	12	6	5200					7700				
250					2750	6	1	12	12	5250					7750				
300					2800	6	1		18	5300					7800				
350					2850		2			5350					7850				
400					2900		2			5400					7900				
450					2950		3			5450					7950				
500					3000		3			5500					8000				
550					3050		3			5550					8050				
600					3100		3			5600					8100				
650					3150		3			5650					8150				
700					3200		3			5700					8200				
750					3250		3			5750					8250				
800					3300		3			5800					8300				
850					3350		3			5850					8350				
900					3400		3			5900					8400				
950					3450		3			5950					8450				
1000					3500		3			6000					8500				
1050					3550		4			6050					8550				
1100					3600		4			6100					8600				
1150					3650		4			6150					8650				
1200					3700		4			6200					8700				
1250			-		3750		4			6250					8750				
1300			0.5		3800		4			6300					8800				
1350			0.5		3850		4			6350					8850				
1400			0.5		3900		6			6400					8900				
1450			0.5		3950		6			6450					8950				
1500			1	-	4000		6			6500					9000				
1550			2	4	4050		6			6550					9050				
1600			2	4	4100		6			6600					9100				
1650			2	4	4150		6			6650					9150				
1700			2	4	4200		12			6700					9200				
1750		-	3	4	4250					6750					9250				
1800		1	3	4	4300					6800					9300				
1850		1	3	4	4350					6850					9350				
1900		1	4	4	4400					6900					9400				
1950		1	4	4	4450					6950					9450				
2000		1	2	6	4500					7000					9500				
2050		1	2	6	4550					7050					9550				
2100		1	2	6	4600					7100					9600				
2150		1	2	6	4650					7150					9650				
2200		1	2	4	4700					7200					9700				
2250		1	4	2	4750					7250					9750				
2300		1	6	2	4800					7300					9800				
2350	-	1	6	6	4850					7350					9850				
2400	2	1	6	6	4900					7400					9900				
2450	4	2	6	6	4950					7450					9950				
2500	5	1	6	6	5000					7500					10000				

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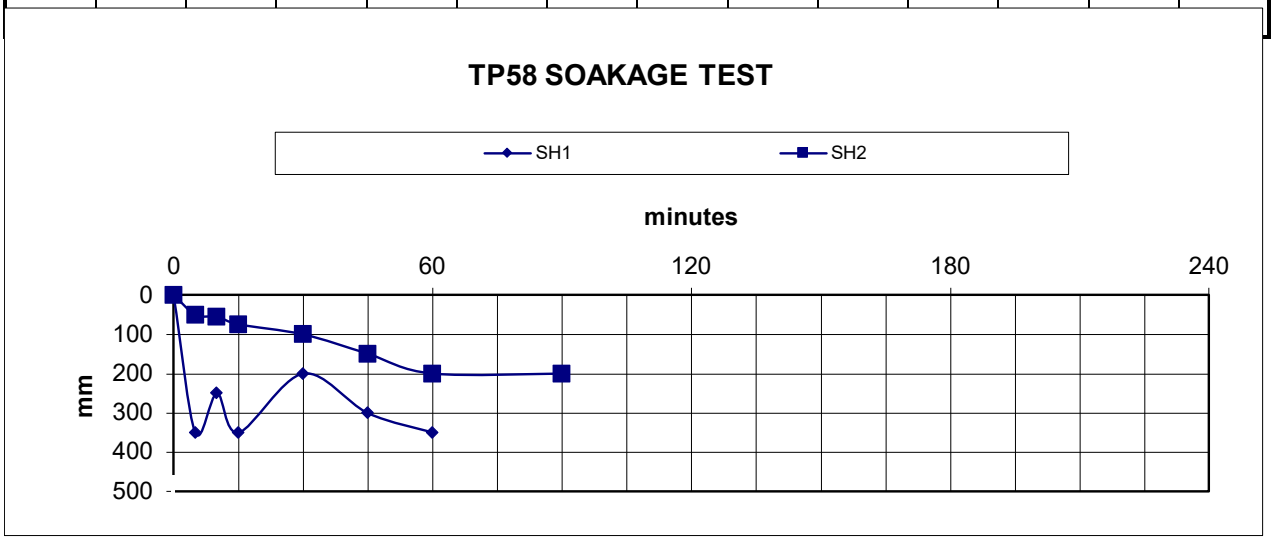
SOAKAGE TEST RESULTS

Location: 184 Roam Road
Client: Tia & Ramon Ashby
Job No: 21-154E | Tested by: RD
GWL: Not found | Date 8/08/2024

Soak hole No:	Start 0	(mins) 5	10	15	30	45	60	90	120	150	180	210	240
SH1	0	350	250	350	200	300	350						
SH2	0	50	55	75	100	150	200	200					
SH3	0												
SH4													
SH5													
SH6													



PRODUCER STATEMENT

DESIGN: ON-SITE EFFLUENT DISPOSAL SYSTEM (T.P.58)

ISSUED BY: PRADEEP KUMAR *(Approved qualified design professional)*

TO: Tia and Raymon Ashby *(Owner)*

TO BE SUPPLIED TO: FAR NORTH DISTRICT COUNCIL

PROPERTY LOCATION: 184 Roma Road Ahipara,
AHIPARA A8A1A BLOCK ML599808

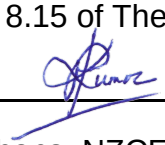
LOT: …… **DP:** ……

VALUATION NUMBER: ……

TO PROVIDE: Design an on-site effluent disposal system in accordance with Technical Publication 58 and provide a schedule to the owner for the system maintenance.

THE DESIGN: has been in accordance with G13 (Foul Water) G14 (Industrial Liquid Waste) B2 (durability 15 years) of the Building Regulations 1992.

As an independent approved design professional covered by a current policy of Professional Indemnity Insurance (Design) to a minimum value of $2000,000.00,
I BELIEVE ON REASONABLE GROUNDS that subject to:
(1) The site verification of the soil types.
(2) All proprietary products met the performance requirements.
The proposed design will meet the relevant provisions of the Building Code and 8.15 of The Far North District Council Engineering Standards.



_____ *(Signature of approved design professional)*

BE hons, NZCE, MIPENZ, IntPE, CPEng *(Professional Qualifications)*

IPENZ No. 203058 *(Licence Number or Professional Registration Number)*

Address: Level 1 ANZ Bank Building, 90 Kerikeri Road, Kerikeri,
New Zealand

Date: September 2024
Telephone: 09 407 3255
Email: teampk@pkengin.co.nz

Note: This form is to accompany every application for a Building Consent incorporating a T.P.58. Approval as a design professional is at councils discretion.

On-site Wastewater Disposal Site Evaluation Investigation Checklist

PART A: CONTACT DETAILS

1. Applicant Details:

Applicant Name	Tia & Raymon Ashby
Company Name	n/a

Property Owners Name(s)	Tia & Ramon Ashby

Nature of Applicant* Owner	

(* i.e. Owner, Lessee, Prospective Purchaser, Developer)

2. Consultant/Site Evaluator Details

Consultant/Agent Name	PK Engineering Ltd			
Site Evaluator Name				
Postal Address	P O Box 464, Kerikeri.			
Phone Number	Business	09 4073255	Private	
	Mobile		Fax	
Name of Contact Person	PK			
E-mail Address	teampk@pkengin.co.nz			

OFFICE USE ONLY

3. Are there any previous existing discharge consents relating to this proposal or other waste discharge/disposal on the site?

yes		**no**	

if yes, give reference numbers and description

4. List any other consents in relation to this proposal site and indicate whether or not they have been applied for or granted.
If so, specify application details and consent No:
(e.g. Land use, Water intake, Subdivision, Earthworks, or Stormwater Consents)

PART B: PROPERTY DETAILS

1. Property for which this application relates:

Physical Address of Property	184 Roma Road, Ahipara
Territorial Local Authority	FAR NORTH DISTRICT COUNCIL
Regional Council	NORTHLAND REGIONAL COUNCIL

Legal Status of Activity		**Permitted**		Controlled		Discretionary
Relevant Regional Rules						
(Note 1)						
Total Property Area (m^2)	**3,974**					
Map Grid Reference of Property						
if known						

2. Legal description of land (as shown on Certificate of Tittle)

Lot No.		DP No.		CT No.	
	Ahipara A8A1A Block ML 599808				
Other (specify) Ahipara A8A1					

Please ensure copy of Certificate of title is attached

PART C: SITE ASSESSMENT - SURFACE EVALUATION

(Refer TP58 - Sn 5.1 General Purpose of Site Evaluation and Sn 5.2.2(a) Site Surface Evaluation)
Note: Underlined terms defined in Table 1, attached

1. Has a relevant property history study been conducted?

yes		**no**	

if yes please specify the findings of the history study, and if not please specify why this was not considered necessary.

Previously undeveloped site

2. Has a Slope Stability Assessment been carried out on the property?

yes		**no**	

If No, why not?

The site for wastewater disposal is gently sloping to north west at 10-12 degrees
at the base of an engineered clay bund. Refer Auger hole log AH1 dated 8/08/2024

If yes, please give details of report (and if possible, please attach report):

Author	
Company/Agency	
Date of Report	

3. Site Characteristics (see table 1 attached):

Provide descriptive details below:	
Performance of Adjacent Systems:	Not established
Estimated Rainfall and Seasonal Variation:	Information available from N.I.W.A. MET RESEARCH
Annual Rainfall:1800-2000mm	Annual Potential Evapotranspiration: 1200mm
Typical sub-tropical climate - short duration intense Rainfalls	
Vegetation/Tree Cover:	Pasture grass

Slope Shape: (please provide diagrams)
Slope Angle: 8 - 10 degrees to the North-West in the area for wastewater disposal
Surface Water Drainage Characteristics:
No standing surface water near area allocated for disposal area

Flooding Potential:	yes		**no**	

If yes, specify relevant flood levels on appended site plan, i.e. 1 in 5 years and/or 20 year and/or 100 year
return period flood level, relative to disposal area.
Surface Water Separation:
30m+
Site Characteristics: or any other limitation influencing factors
NIL

4. Site Geology **Check Rock Maps**

Kohumaru Mottled Loamy Clay overlying interbedded sandstone and mudstone….	
geological map reference number	Department of Lands and Survey NZMS 290.

5. What Aspects does the proposed disposal system face?

North		West	
North-West		South-West	
North-East		South-East	
East		South	

6. Site Clearances, (Indicate on site plan where relevant) Check Council Requirements

Separation distance from	**Treatment Separation Distance**	**Disposal Field Separation Distance**
Boundaries	**1.5m minimum**	**1.5m minimum**
Surface Water, rivers,	**20m minimum**	**20m minimum**
creeks, drains etc.		
Groundwater		**1.2m Minimum**
Stands of Trees/Shrubs		
Wells, water bores	**N/A**	**N/A**
Embankments	**3m minimum**	**3m minimum**
/retaining walls		
Buildings	**3m minimum**	**3m minimum**
Other (specify)		
Identified stormwater flow path (including a formed road with kerb and channel) that is down-slope of the disposal area		**5m minimum**

PART D: SITE ASSESSMENT - SUBSOIL INVESTIGATION

(Refer TP58 - Sn 5.1General Purpose of Site Surface Evaluation, and Sn 5.2.2(a) Site Surface Evaluation and Sn 5.3 Subsurface Investigations)

Note: Underlined Terms Defined in Table 2, attached

1. Please identify the soil profile determination method:

Test Pit		Depth	m	No of test pits	
Bore Hole		Depth	**1.8** m	No of Bore Holes	**1**
Other (specify):					

Soil Report attached?

yes		no	

2. Was fill material intercepted during the subsoil investigation?

yes		no	

If yes, please specify the effect of the fill on wastewater disposal

Fill was intercepted in the area of the disposal field to a depth of 0.2m. The fill is remnants of the engineered clay berm and is not expected to have any effect on wastewater disposal i.e. fill is not covering the disposal area but rather in isolated patches

3. percolation testing (mandatory and site specific for trenches an soil type 4 to 7)

As per TP58 guidelines for percolation tests

test report attached?

yes		no	

4. are surface water interception/diversion drains required?

yes		no	

Shown on attached site plan

4a. Are subsurface drains required

yes		**no**	

Shown on attached site plan

5. Please state depth of the seasonal water table:

Winter	**1.8+m**	m
Summer	**2.0+**	m

Measured		Estimated	
Measured		**Estimated**	

6. Are there any potential stormwater short circuit paths?

yes		**no**	

If the answer is yes, please explain how these have been addressed

7. Based on the results of subsoil investigation above, please indicate the disposal field soil category (refer TP58 Table 5.1)

Is Topsoil Present?	**yes**	no		If so, Topsoil Depth?	**200**	mm

Soil Category	Description	Drainage
1	Gravel, Coarse sand	Rapid draining
2	Coarse to medium sand	Free draining
3	Medium-fine and loamy sand	Good drainage
4	**Sandy loam, loam and silt loam**	**Moderate drainage**
5	Sandy clay-loam, clay loam and silty clay loam	Moderate to slow drainage
6	Sandy clay, non-swelling clay and silty clay	Slow draining
7	Swelling clay, grey clay, hardpan	Poorly or non-draining

Reasons for placing in stated category results of bore holes and percolation tests.

PART E: DISCHARGE DETAILS

1. Water supply source for the property:

Rainwater (roof collection)	**Yes**
Bore/well	
Public Supply	

2. Calculate the maximum daily volume of wastewater to be discharged, unless accurate water meter readings are available (Refer Table 6.1 & 6.2):

Number of Bedrooms	**4**	
Design Occupancy	**6**	(number of people)
Per capita Wastewater Production	**180**	(litres per person per day)
Other - Day Stuff working in the shed		
Total Daily Wastewater Production	**1080**	(litres per day)

3. Do you propose to install:

a) Full Water Conservation Devices?	Yes		**No**	
b) Water Recycling - what %?	%		**No**	

The disposal area is based on a 4 bedroom dwelling, total 6 persons (1080litres/day)
using roof water tank supply type B water source for Households with standard fixtures.

4. Is Daily Wastewater Discharge Volume more than 2000 Litres:

no

if answer to above is yes, an NRC wastewater discharge permit may be required

5. Gross Lot Area to Discharge Ratio:

Gross Lot Area	**3,974**	m^2
Total Daily Wastewater Production	**1080**	(Litres per Day)
Lot Area to Discharge Ratio	**3.68**	

7. Does this proposal comply with the Northland Regional Council Gross Lot Area to Discharge Ratio of Greater than 3

yes On advice from Alysha, duty planner at NRC this question is redundant 18/03/2021

8. Is a Northland Regional Council Discharge Consent Required?

No

PART F: PRIMARY TREATMENT (refer TP58 Section 7.2)

1. Please indicate below the no. and capacity (litres) of all septic tanks including type (single/dual chamber grease traps) to be installed or currently existing:
if not 4500 dual chambered explain why not

No. of Tanks	Type of Tank	Capacity of Tank (Litres)
1	Primary dual chamber septic tank	4,500 Litres
	Total Capacity	

2. Is a Septic Tank Outlet Filter to be Installed?

Yes	No

If Yes, please state the type

Orenco or similar

PART G: SECONDARY AND TERTIARY TREATMENT
(refer TP58 Section 7.3, 7.4, 7.5 & 7.6)

1. Please indicate the type of additional treatment, if any, proposed to be installed in the system:

Secondary Treatment		
Home Aeration Plant		
Commercial Aeration Plant		
Intermediate Sand Filter		
Recirculating Sand Filter		
Recirculating Textile Filter		
Clarification Tank		
Tertiary Treatment		
Ultraviolet Disinfection		
Chlorination		
Other	Specify	

PART H: LAND DISPOSAL METHOD (refer TP58 Section 8)

1.Please indicate the proposed loading disposal method:

Gravity
Dosing Siphon
Pump

2. Is a high water level alarm being installed in pump chambers?

yes	n/a	no	n/a

if not to be installed, explain why

3. If a pump is being used, please provide the following information:

Total Design Head	**NA**	(m)
Pump Chamber Volume	**NA**	(Litres)
Emergency Storage Volume	**NA**	(Litres)

4. Please identify the type(s) of land disposal method proposed for the site
(refer TP58 Sections 9 & 10)

Surface Dripper Irrigation	
Sub-surface Dripper Irrigation	
Standard Trench	
Deep Trench	
Mound	
ETS Beds	
Other (please specify)	

5. Please Identify the loading rate you propose for the option selected in part H, Section 4 above stating reasons for selecting this loading rate:

Loading Rate	Basal	**15** (Litres/m^2/day)
	Areal	(Litres/m^2/day)
Disposal Area	Design	**72** (m^2)

Reserve	**72** (m^2)

Explanation (Refer TP58 Sections 9 & 10)

Areal 15mm / day achievable for ETS beds with suitable closely spaced planting over
Conservative judgement with Catergory 4 soils
2.4m^3 storage volume available for prolonged wet periods / heavy loadings

6. What is the available reserve wastewater disposal area (Refer TP58 Table 5.3)

Reserve Disposal Area (m^2)	**72**
Percentage of Primary Disposal Area (%)	**100%**

7. Please provide a detailed description of the design and dimensions of the disposal field and attach a detailed plan of the field relative to the property site:

Description and Dimensions of Disposal Field:

4 x 12.0 long x 0.5m wide x 0.45m deep ETS beds with 1m spacing between beds.
Total enclosed area for disposal is 72m^2
Total storage capacity of the four beds is 2.4m^3.

Plan Attached Yes

if not explain why not

PART I: MAINTENANCE & MANAGEMENT (Refer TP58 section 12.2)

1. Has a maintenance agreement been made with the treatment and disposal system suppliers?

yes	**Not known**	no	Not known

Name of Suppliers	tbc

PART J: ASSESSMENT OF ENVIRONMENTAL EFFECTS

1. Is an assessment of environmental effects (AEE) included with this application?

(refer TP58 Section5. Ensure all issues concerning potential effects addressed)

yes		**no**	

If yes, list and explain possible effects

PART K: IS YOUR APPLICATION COMPLETE?

1. In order to provide a complete application you have to remember to:

Fully Complete this Assessment Form	Yes
Include a Location Plan and Site Plan (with scale bars)	Yes
Include a Property Tittle (Certificate of Tittle)	
Attach an Assessment of Environmental Effects (AEE)	

2. Declaration

I hereby certify that to the best of my knowledge and belief, the information given in this application is true and complete.

Name	Pradeep Kumar	Signature	
Position	Professional Chartered Engineer	Date	Sep-24

Note
Any alteration to the site plan or design after approval will result in non compliance.

PK ENGINEERING LIMITED

CHARTERED PROFESSIONAL ENGINEERS

PROJECT:

TIA & RAYMON ASHBY

PROJECT ADDRESS:

184 ROMA ROAD, AHIPARA

LEGAL DESCRIPTION

Ahipara A8A1A Block ML 599808

JOB NO:

21-154E

DATE:

SEPTEMBER 2024

REVISION: 1

SEPTEMBER 2024
Revised Layout Site plan in conjunction with updated Architectural plans.
Engineering Updates:

1. **Wastewater layout and type is ETS**
2. **Stormwater - Attenuation Revised**
3. **Updated GTE cross section with Rib-Raft foundation type.**

DRAWING INDEX:

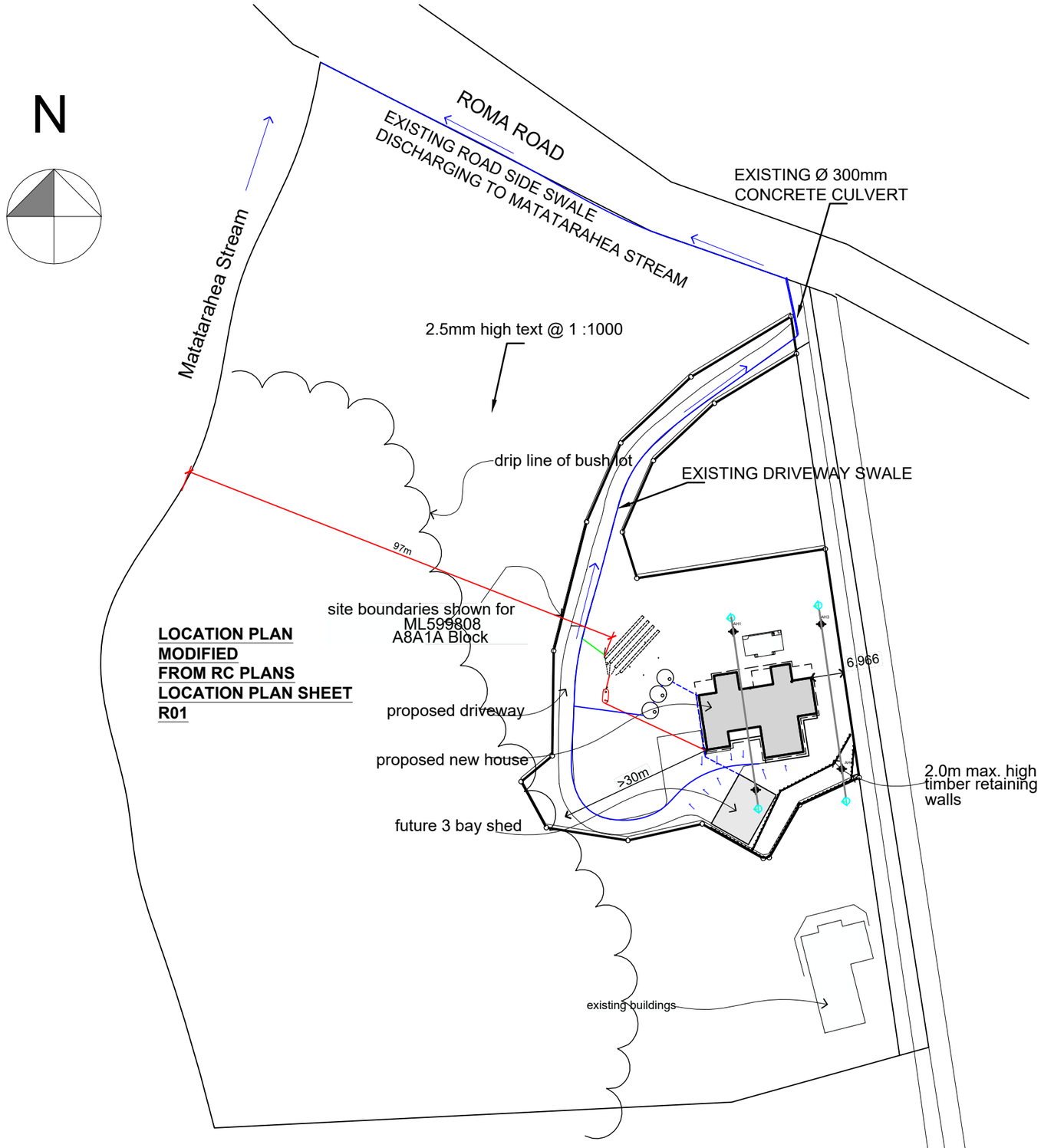
NOTES:

VERIFY ALL DIMENSIONS AND LEVELS ON SITE BEFORE COMMENCING WORK. USE WRITTEN DIMENSIONS IN PREFERENCE TO SCALING THESE DRAWINGS. READ IN CONJUNCTION WITH THE ARCHITECTS DRAWINGS, STRUCTURAL CALCULATIONS, FIRE REPORT & STRUCTURAL SPECIFICATIONS. BUILDING TO COMPLY WITH NZS3604. ENSURE TO HAVE THE ENGINEERING CALCULATIONS, STRUCTURAL SPECIFICATIONS, STRUCTURAL DRAWINGS & BUILDING PERMIT ON SITE EACH DAY BEFORE COMMENCING WORK. ALL PRODUCTS ARE TO BE STORED & INSTALLED TO MANUFACTURERS SPECIFICATIONS. ALL EXPOSED STRUCTURAL STEEL IS TO BE GALVANIZED AND FINISHED OFF AS PER THE STRUCTURAL STEEL SPECIFICATIONS.

A3

LEVEL 2
ANZ Bank Building
90 Kerikeri road,
P.O.Box 464
KERIKERI

Tel. (09) 4073255
Fax. (09) 4073256
E-mail. teampk@pkengin.co.nz



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REV:	DESCRIPTION:	BY:	DATE:
R1	Revised Site Location Plan to updated Architectural plans. New Boundaries and Lot Number.	RD	13/9/24

PK ENGINEERING LIMITED
DATE: 13 09 2024
CHECKED BY:
PRADEEP KUMAR
CHARTERED PROFESSIONAL ENGINEER
(STRUCTURAL, GEOTECHNICAL)
IntPE, CPEng, MIPENZ No. 203058

STATUS: ISSUED FOR CONSENT

PK ENGINEERING
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90 KERIKERI ROAD, KERIKERI
PO BOX 464, KERIKERI
Phone Number: 09 407 3255
Email: teampk@pkengin.co.nz

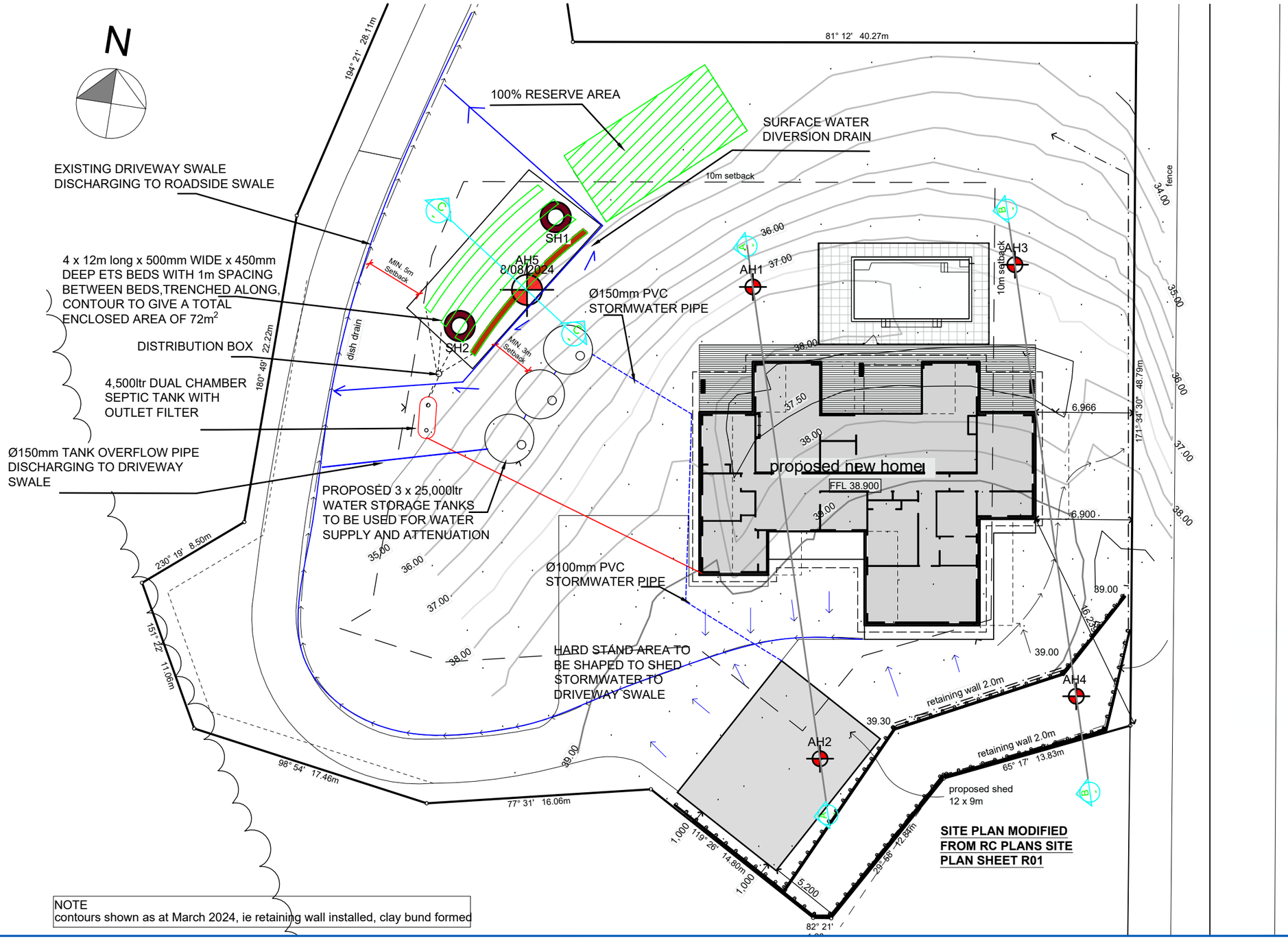
CLIENT: TIA & RAYMON ASHBY

SITE: 184 ROMA ROAD
AHIPARA

TITLE: LOCALITY PLAN

SCALE AT A3:	DATE:	DRAWN:	CHECKED:
1:1000	13/09/2024	RD	PK

PROJECT NO:	DRAWING NO:	REVISION:
21-154E	A3/SG1	1



NOTE
contours shown as at March 2024, ie retaining wall installed, clay bund formed

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R1	Wastewater Updates: - New Soakage tests - Updated WWW field to ETS- with Setbacks Stormwater Updates: - Attenuation revised to new site coverage - Stormwater outflows flows marked as shown.	RD	13/9/24

SITE PLAN MODIFIED FROM RC PLANS SITE PLAN SHEET R01

PK ENGINEERING LIMITED
DATE: 13 09 2024
CHECKED BY:
PRADEEP KUMAR
CHARTERED PROFESSIONAL ENGINEER
(STRUCTURAL, GEOTECHNICAL)
IntPE, CPEng, MIPENZ No. 203058

REV:	DESCRIPTION:	BY:	DATE:

STATUS: ISSUED FOR CONSENT

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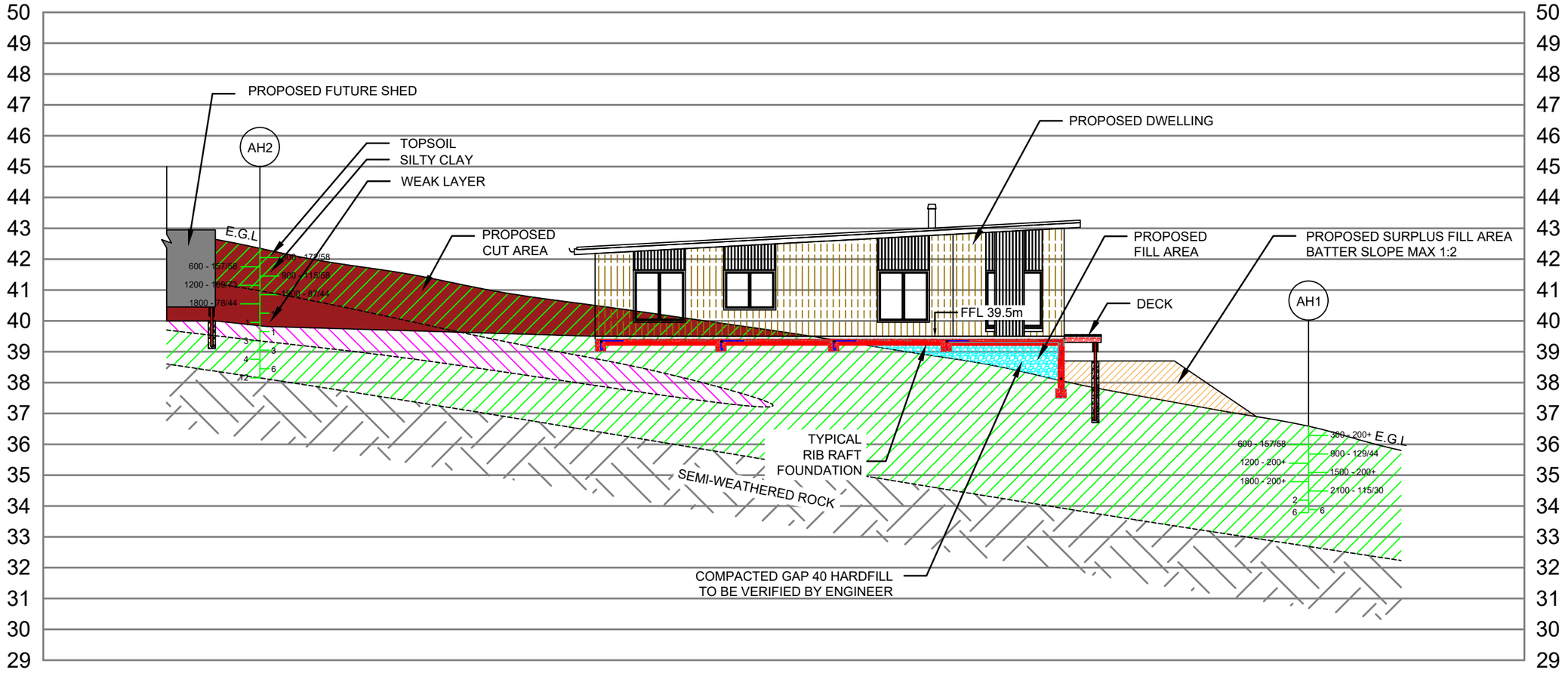
Phone Number: 09 407 3255
Email: teampk@pkengin.co.nz

CLIENT: TIA & RAYMON ASHBY

SITE: 184 ROMA ROAD AHIPARA

TITLE: SITE PLAN

SCALE AT A3:	DATE:	DRAWN:	CHECKED:
1:300	13/09/2024	RD	PK
PROJECT NO:	**DRAWING NO:**		**REVISION:**
21-154E	A3/SG2		1



CROSS SECTION A - A
SCALE 1 : 150 @A3

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REV:	DESCRIPTION:	BY:	DATE:
R1	Updated foundation layout to typical Rib Raft type	RD	13/9/24

PK ENGINEERING LIMITED
DATE: 13 09 2024
CHECKED BY:
PRADEEP KUMAR
CHARTERED PROFESSIONAL ENGINEER
(STRUCTURAL, GEOTECHNICAL)
IntPE, CPEng, MIPENZ No. 203058

STATUS: ISSUED FOR CONSENT

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Phone Number: 09 407 3255
Email: teampk@pkengin.co.nz

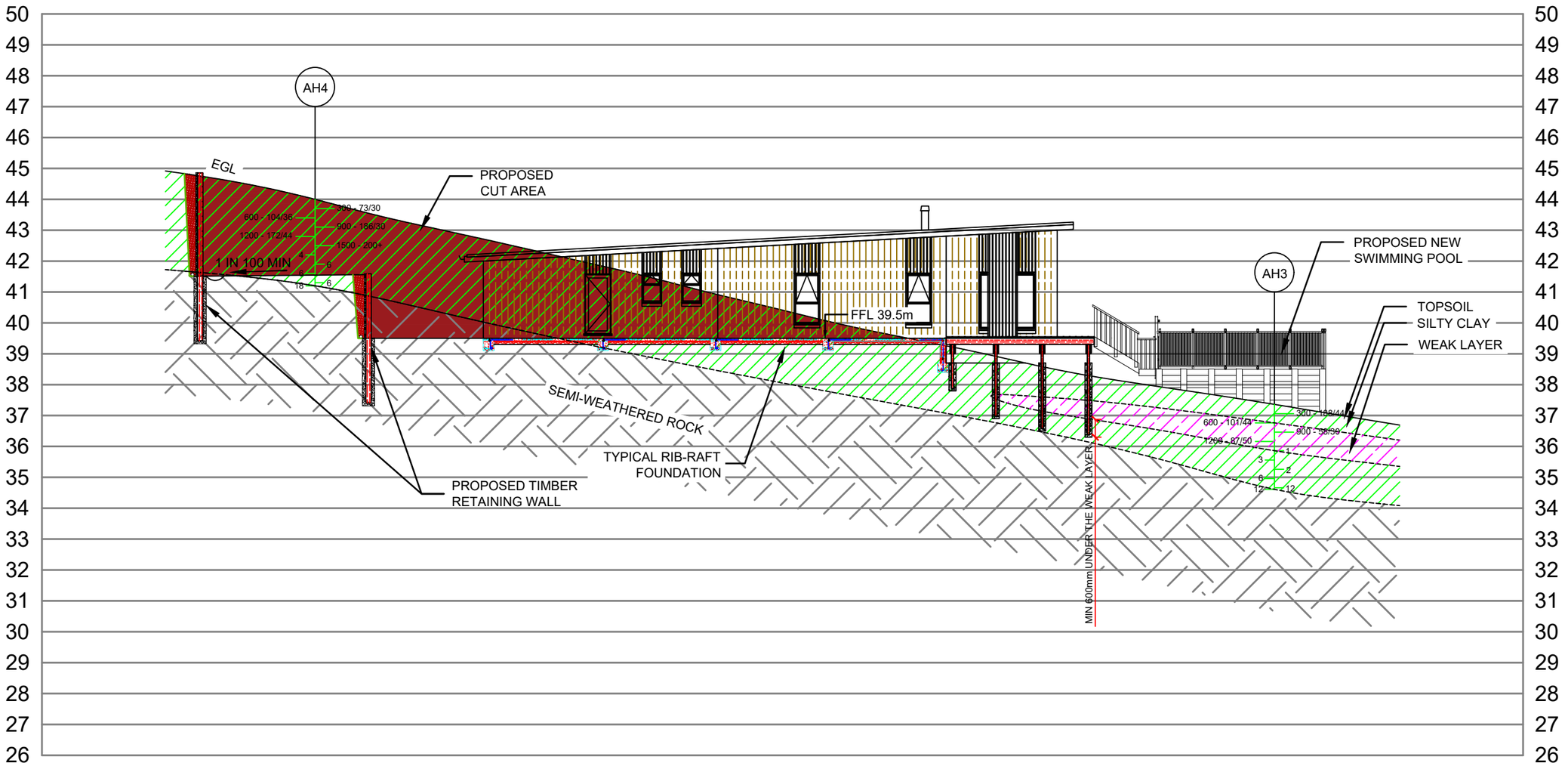
CLIENT: TIA & RAYMON ASHBY

SITE: 184 ROMA ROAD
AHIPARA

TITLE: CROSS SECTION A - A

SCALE AT A3:	DATE:	DRAWN:	CHECKED:
1:150	13/09/2024	TY	PK

PROJECT NO:	DRAWING NO:	REVISION:
21-154E	A3/SG3	1



CROSS SECTION B - B
SCALE 1 : 150 @A3

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REV:	DESCRIPTION:	BY:	DATE:
R1	Updated Foundation to typical rib-raft type.	RD	13/9/24

PK ENGINEERING LIMITED
DATE: 13 09 2024
CHECKED BY:
PRADEEP KUMAR
CHARTERED PROFESSIONAL ENGINEER
(STRUCTURAL, GEOTECHNICAL)
IntPE, CPEng, MIPENZ No. 203058

STATUS: ISSUED FOR CONSENT

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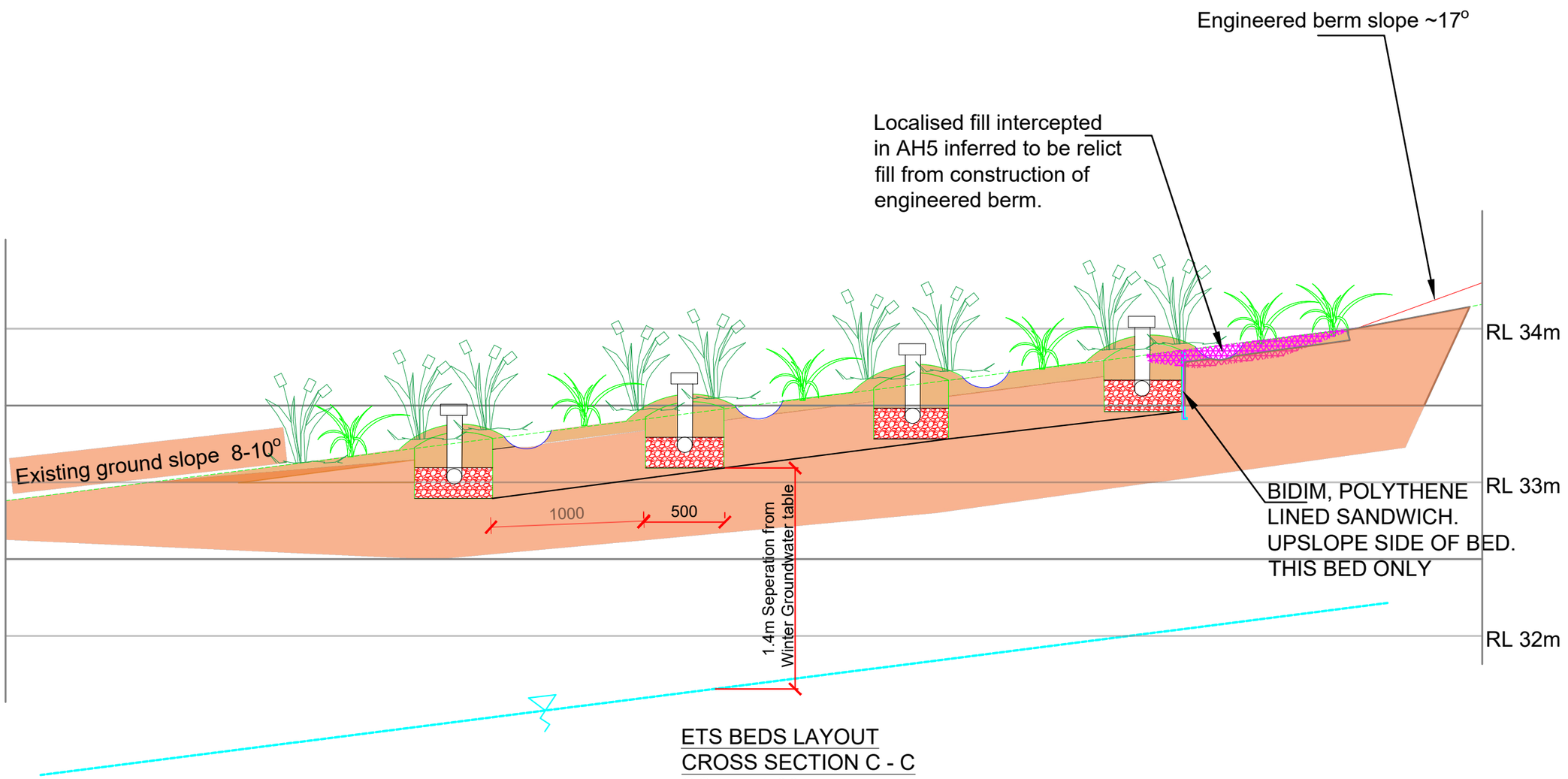
CLIENT: TIA & RAYMON ASHBY

SITE: 184 ROMA ROAD
AHIPARA

TITLE: CROSS SECTION B - B

SCALE AT A3:	DATE:	DRAWN:	CHECKED:
1:150	13/09/2024	TY	PK

PROJECT NO:	DRAWING NO:	REVISION:
21-154E	A3/SG4	1



ETS BEDS LAYOUT
CROSS SECTION C - C
SCALE 1:30

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REV:	DESCRIPTION:	BY:	DATE:
R1	Updated WW Discharge to ETS as shown	RD	13/9/24

PK ENGINEERING LIMITED
DATE: 13 09 2024
CHECKED BY:
PRADEEP KUMAR
CHARTERED PROFESSIONAL ENGINEER
(STRUCTURAL, GEOTECHNICAL)
IntPE, CPEng, MIPENZ No. 203058

STATUS: ISSUED FOR CONSENT

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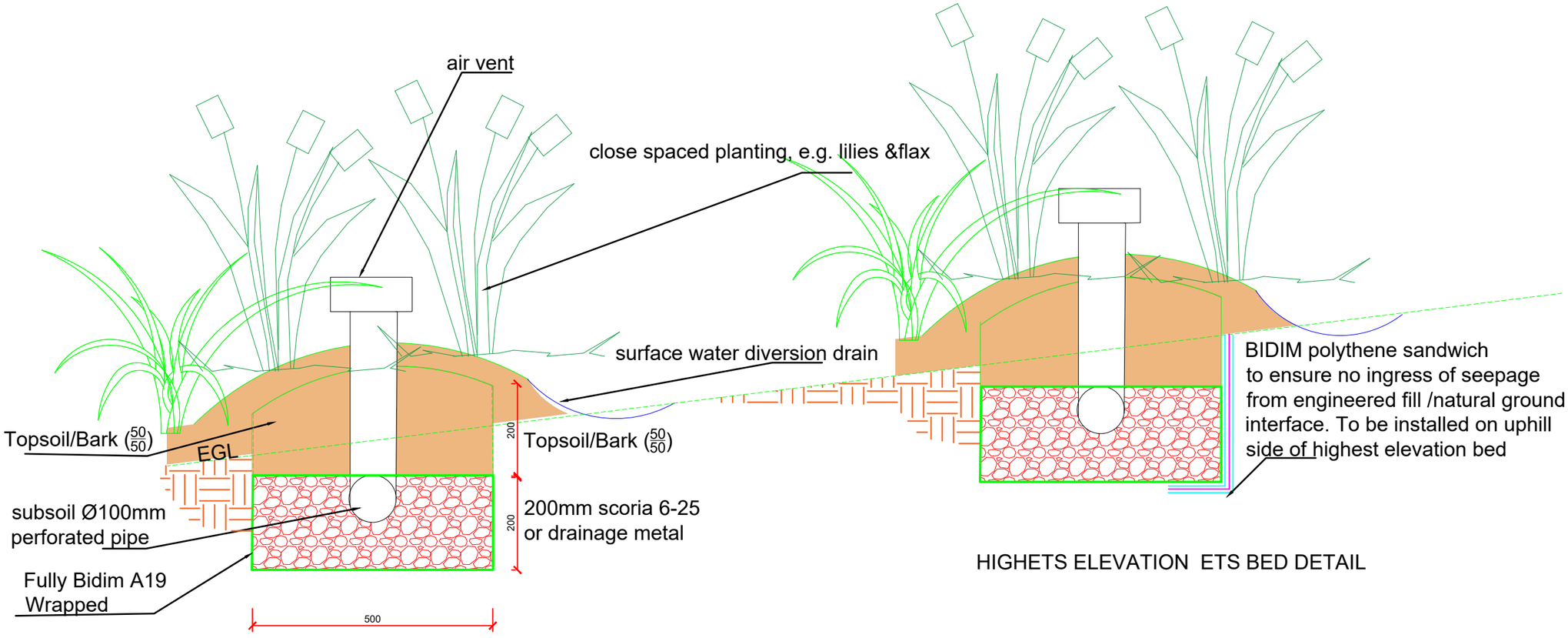
CLIENT: TIA & RAYMON ASHBY

SITE: 184 ROMA ROAD
AHIPARA

TITLE: ETS BEDS LAYOUT

SCALE AT A3:	DATE:	DRAWN:	CHECKED:
1:30	13/09/2024	RD	PK

PROJECT NO:	DRAWING NO:	REVISION:
21-154E	A3/SG5	1



ETS BED DETAIL

HIGHETS ELEVATION ETS BED DETAIL

ETS BEDS DETAIL
SCALE 1:10

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REV:	DESCRIPTION:	BY:	DATE:
R1	Updated WW discharge to as shown details.	RD	13/9/24

PK ENGINEERING LIMITED
DATE: 13 09 2024
CHECKED BY:
PRADEEP KUMAR
CHARTERED PROFESSIONAL ENGINEER
(STRUCTURAL, GEOTECHNICAL)
IntPE, CPEng, MIPENZ No. 203058

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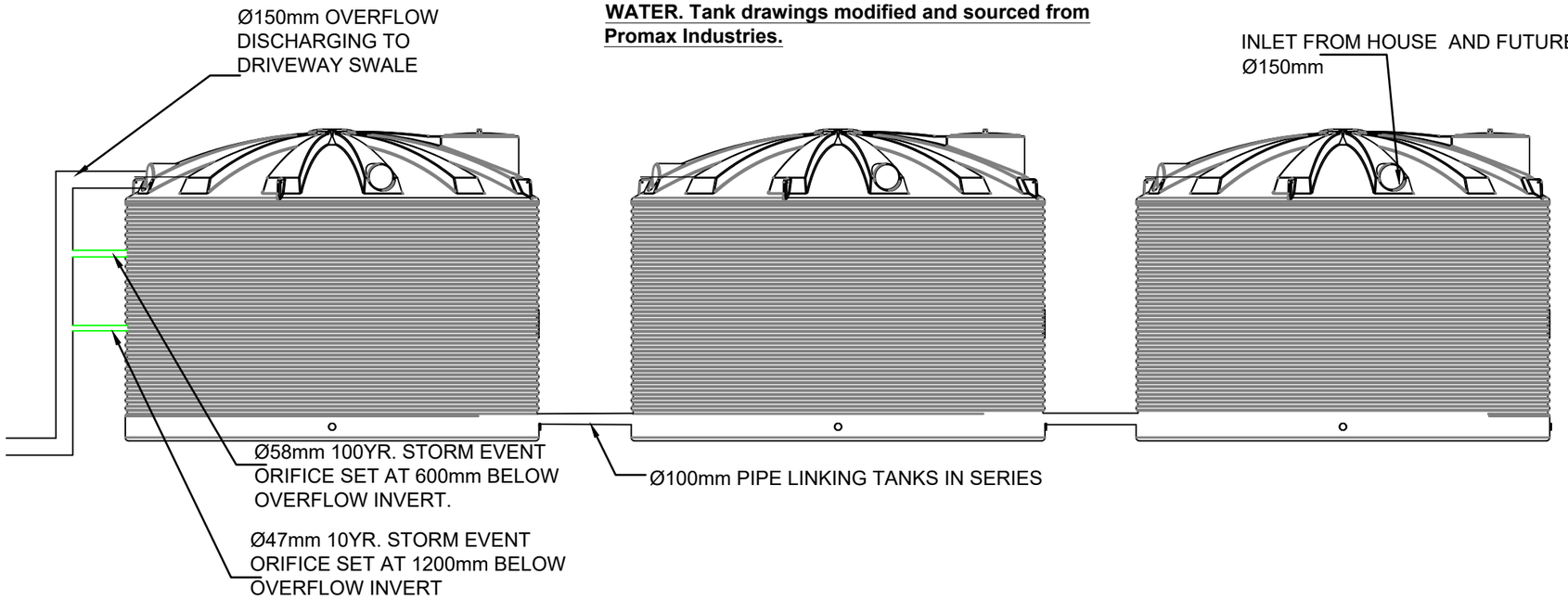
CLIENT: TIA & RAYMON ASHBY

SITE: 184 ROMA ROAD
AHIPARA

TITLE: ETS BEDS DETAILS

SCALE AT A3:	DATE:	DRAWN:	CHECKED:
1:10	13/09/2024	RD	PK
PROJECT NO:	DRAWING NO:		REVISION:
21-154E	A3/SG6		1

3 X 25,000ltr WATER STORAGE TANKS FOR STORMWATER ATTENUATION AND POTABLE WATER. Tank drawings modified and sourced from Promax Industries.



SCHEMATIC OF STORMWATER ATTENUATION TANKS

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REV:	DESCRIPTION:	BY:	DATE:
R1	Stormwater Attenuation revised to new site coverage Details provided as shown.	RD	13/9/24

PK ENGINEERING LIMITED
DATE: 13 09 2024
CHECKED BY:
PRADEEP KUMAR
CHARTERED PROFESSIONAL ENGINEER
(STRUCTURAL, GEOTECHNICAL)
IntPE, CPEng, MIPENZ No. 203058

STATUS: ISSUED FOR CONSENT

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Phone Number: 09 407 3255
Email: teampk@pkengin.co.nz

CLIENT: TIA & RAYMON ASHBY

SITE: 184 ROMA ROAD
AHIPARA

TITLE: ATTENUATION TANKS DETAIL

SCALE AT A3:	DATE:	DRAWN:	CHECKED:
1:50	13/09/2024	RD	PK

PROJECT NO:	DRAWING NO:	REVISION:
21-154E	A3/SG7	1

Plant Species

Astelia grandis

Wide olive green leaves with a silvery sheen beneath and reddish purple midribs, the clump can be up to 2m high. It is an inhabitant of swampy ground from lowland to montane altitudes throughout the North Island and to Southern Canterbury. Preferring a damp soil, it is able to withstand permanently wet feet.

1.5-2m

Alocasia nigrescens (Black Taro)

Large black green blunt arrow shaped leaves on dark purple stalks from loose clumps in damp part shaded areas.

0.5/0.5m

Apodasmia similis (Oioi)

An extremely elegant native reed with blueish green foliage with browny bract at the joins. Grows up to 1m and has a creeping rhizome. Thrives in marshlands and estuaries. Will grow in most conditions. Is very hardy.

1.5/2.0m

Arthropodium Cirratum (Rengarenga Lily)

An attractive perennial plant, known as the Rengarenga Lily. A clump forming plant with drooping fleshy strap leaves. Masses of white starry flower heads throughout summer. It can grow in a wide range of conditions, including coastal and shade. Will not tolerate severe frosting.

1.0/1.0m

Blechnum Novae Zealandiae

An attractive creeping fern with drooping fronds. New growth is always reddish. An easy to grow fern which looks most attractive when grown on a bank, or as a ground cover, provided there is ample moisture.

0.8-1m

Carex Dispacea

This sedge is densely tufted. The narrow leaves are light green and make an attractive contrast to darker foliage. In the garden it should have a sunny or semi-shaded site. Prefers damp conditions.

0.7/0.6m

Carex dissita

An attractive sedge with an arching habit. The ribbed leaves are a fresh bright green and contrast with the very dark seed heads that are carried on the stems. It can be grown in quite shady areas, such as under trees, or in an open situation, but it requires a moist soil.

0.7/0.7m

Carex maorica

This sedge grows into upright clumps with ribbed light green leaves. The foliage is fragile and can snap easily making it an unattractive garden specimen. It is best suited to environmental plantings.

0.7/0.6m

Carex secta

This is a common plant of swampy areas throughout New Zealand. It forms large tussocks with weeping yellowish green leaves. At its best beside water, it will grow in any moist soil in sun or semi-shade. Old specimens in moist to wet sites often form thick sturdy trunks from the matted roots and old stem bases.

1.0/0.6m

Carex tenuiculmis

This species is a common plant of swampy areas it is of a reddish bronze colour and is at its best beside water. It will grow in any moist soil in the sun or semi-shade. This species does not form a trunk.

0.7/0.6m

Carex virgata

A vigorous sedge that has narrow arching bright green leaves. It is a useful species for waterside planting and very damp soils but will also grow on dry sites and in sun or semi-shade.

0.7/0.6m

Carpodetus serratus (Marble leaf)

An attractive tree with upright spreading branches, found throughout New Zealand on forest margins and stream banks. The juvenile form has tangled growth.

3-5m

Cordyline australis (Cabbage Tree)

One of NZs best known and most distinctive plants. The young tree has long narrow, mid green leaves which arise directly from a single trunk, having aneffect similar to ornamental grasses. The creamy and fragrant flowers are a stunningfeature, appearing in large densely packed panicles during late spring and summer.An excellent plant for landscaping, being suitable for group and specimen planting.

7.5/2.0m

Cordyline Midnight Star

A variety of the red or maroon Cabbage Tree. A good selection for a visual impact within the garden.

7.5/2.0m

Cortaderia fulvida (Toi toi)

This is one of the smaller toetoe, with a height of 1.5 – 2.5m when flowering. The blueish green leaves ae shiny beneath and up to 4 cm wide and 2m long. Its golden flower plumes sometimes have a pinkish tinge.

2.0/2.0m

Coprosma Rugosa

A tough colourful and interesting alpine shrub with very tangled bright orange new growth. Bears berries attractive to birds. Can be clipped into an interesting hedge or allowed to grow freely will become a medium sized shrub.

1.5-3m

Coprosma Grandfolia

It is a good coloniser or shelter species tolerating a wide range of soils, and shade to full sun. Its clusters of orange/red fruits are attractive to birds, though to have fruits you may need to grow several, as coprosma plants bear flowers of only one sex. Flowers appear in late autumn and winter, and are pale but quite conspicuous.

up to 6m

Cyperus ustulus

This is a plant of damper areas. It is very vigorous, growing into a clump with deep olive-green, very sharp edged leaves. The flowering stems are up to 1.2 m or more, with a ruff of leafy bracts below the spikelets. A useful plant for revegetation in wet areas, but it is generally considered to vigorous for most garden situations.

0.8/1.2m

Dianella King Alfred

An attractive form of Dianella. This selected form has an ability to survive a wide range of conditions. It has a small flax like appearance.

0.8/0.6m

Dianella nigra

This is a hardy tufted plant resembling a small fine leaved flax. It grows to about 60cm high and bears insignificant flowers from late spring to summer. These are followed by the plants most ornamental feature, its berries. In the best form these are a glossy dark blue, but can vary to quite pale colours. Grows in sun or semi-shade and in a range of soil conditions. Looks good planted as a ground cover.

0.6/0.6m

Elatostema Rugosum

Naturally inhabiting damp shady streamsides and gullies; it has dark stems with pinnate leaves that are rough and wrinkled and have serrated margins.
The leaves are dark bronzy green with purple tonings. An intereting foliage plant that makes a very good groundcover for a wet shady position.

0.5-1m

Fuchsia Excorticate

The largest *Fuchsia* in the world. A small tree with stunning orange-brown papery bark and interesting twisted shape. Purple-red flowers early spring to summer. The edible fleshy Konini fruit from January to March is sweet and tasty. It was made into jams and desserts by early settlers. Attractive to bees. Prefers a moist soil. Deciduous. Hardy.

5m

Hebe Stricta

Hebe stricta is an open branching shrub found throughout New Zealand. Its long narrow leaves are deep green and glossy. The white mauve-tinged flowers appear on 7-15cm spikes during summer. Pruning is important to maintain a good shape. It is also a hardy landscape plant. Depth of colour and handsome foliage places this hebe in a class of its own.

1-3m

Juncus Gregiflorus

A rush of swampy areas throughout New Zealand. It grows into a tight clump 1-2m tall with bright green stems. It is ideal for revegetation of wetlands and riparian areas and is useful for damp landscaping areas.

1-2m

Leptospermum Burgundy Queen (Flowering Ti Tree)

Exquisite double flowers of deep burgundy red late winter and spring,Dark reddish bronze foliage.

2.0/1.5m

Libertia Grandiflora

Larger flowered species found in damp situations. Brownish green linear leaves to90x1.5cm tapering to a point. Attractive white 3-5 cm flowers with olive or bronzekeel are carried on 90cm lightly branched stems in early summer, followed inautumn by decorative golden brown seed capsules.

0.9/0.7m

Leptospermum scoparium

It is a primary species which provides a natural habitat that allows other New Zealand native species to become established. It naturally dies out after 20-25 years. It is often found growing at the margins of a mature forest. Manuka has small narrow sharply pointed dark green leaves, and bears masses of small white or pale pink flowers from spring into early summer. It is tolerant of practically any conditions and is used in most revegetation projects nation wide.

4-8m

Libertia peregrinans

Simple but interesting plant. Sword like leavesto 25-2cm, brownish green or khakiwith well defined orange yellow midriff, tapering to a sharp point, arranged in fans.The plant is sustained by underground rhizomes from which new fans of leavesappear. Small white 3 peatlled flowers on short stems in spring, followed by bronzeyellow capsules.

0.3/1.0m

Melicytus Ramiflorus

The pointed oval leaves are a bright green, with fresh growth being quite soft and an even brighter green. The bark is grayish white and becomes attractively mottled with lichens. The tiny flowers are produced abundantly in spring and are followed by numerous purple black berries.

5m

Phormium Tenax

The foliage is khaki green coloured and up to 3m long. The nectar from the flowers, borne on tall slender flower stalks, is a great attractor to native birds such as Tui. Harakeke is abundant throughout New Zealand particularly in wetland areas. Perfect for revegetation, riparian plantings, and for landscaping.

2-3m

Phormium Surfer

Flax. An excellent compact dwarf clump forming perennial, producing olive green weeping leaves with bronze margins. Excellent all round garden specimen growing anywhere from dry to damp conditions. Withstands strong coastal winds and is frost hardy. Use in mass landscape with other natives.

0.5/0.5m

Schefflera Digitata

The large deep green, rather soft leaves are composed of up to 9 oval leaflets arising from a singe point. They get progressively bigger as they radiate outwards, with the biggest leaflet being up to 20cm. The margins are finely serrated and tinged with pinkish red, as are the veins and midribs. Large panicles of tiny greenish white flowers hang below the leaves in summer and are followed by white to purple berries. Pate should be given a shady and sheltered position in good moist soil. Could be used to good effect in a tropical planting or as a background plant.

Stormwater Attenuation Calculations

For

Proposed New Dwelling

For

Tia and Raymon Ashby

Job No: 21-154E
Date: 16/09/2023

Level 1 ANZ Bank Building 90 Kerikeri Road, Kerikeri, New Zealand
Telephone: 09 407 3255, Email: TeamPK@pkengin.co.nz

Building Code Clause(s) E1

PRODUCER STATEMENT – PS1 – DESIGN

(Guidance on use of Producer Statements (formerly page 2) is available at www.engineeringnz.org)

ISSUED BY: PK Engineering Ltd
(Design Firm)

TO: Tia and Raymon Ashby
(Owner/Developer)

TO BE SUPPLIED TO: Far North District Council
(Building Consent Authority)

IN RESPECT OF: Stormwater attenuation design.
(Description of Building Work)

AT: 184 Roma Rd
(Address)

Town/City: Ahipara **LOT** A8A1A BLOCK **DP** ML599808 **SO**
(Address)

We have been engaged by the owner/developer referred to above to provide:

1. Stormwater attenuation design.

(Extent of Engagement)

services in respect of the requirements of Clause(s) E1 of the Building Code for:

☐ All or ■ Part only (as specified in the attachment to this statement), of the proposed building work.

The design carried out by us has been prepared in accordance with:

■ Compliance Documents issued by the Ministry of Business, Innovation & Employment E1/VM1 or
(verification method/acceptable solution)

☐ Alternative solution as per the attached schedule

The proposed building work covered by this producer statement is described on the drawings titled:

Tia & Raymon Ashby and numbered SG1-SG7;
together with the specification, and other documents set out in the schedule attached to this statement.

On behalf of the Design Firm, and subject to:
(i) Site verification of the following design assumptions N/A
(ii) All proprietary products meeting their performance specification requirements;

I believe on reasonable grounds that a) the building, if constructed in accordance with the drawings, specifications, and other documents provided or listed in the attached schedule, will comply with the relevant provisions of the Building Code and that b), the persons who have undertaken the design have the necessary competency to do so. I also recommend the following level of construction monitoring/observation:

☐ CM1 ■ CM2 ☐ CM3 ☐ CM4 ☐ CM5 (Engineering Categories) or ☐ as per agreement with owner/developer (Architectural)

I, Pradeep Kumar am: ■ CPEng 203058 # ☐ Reg Arch #
(Name of Design Professional)

I am a member of: ■ Engineering New Zealand ☐ NZIA and hold the following qualifications: B.E. (Hons), IntPE, CPEng
The Design Firm issuing this statement holds a current policy of Professional Indemnity Insurance no less than $200,000*.
The Design Firm is a member of ACENZ: ☐

SIGNED BY Pradeep Kumar (Signature)
(Name of Design Professional)

ON BEHALF OF PK Engineering Ltd Date 16/09/2024
(Design Firm)

Note: This statement shall only be relied upon by the Building Consent Authority named above. Liability under this statement accrues to the Design Firm only. The total maximum amount of damages payable arising from this statement and all other statements provided to the Building Consent Authority in relation to this building work, whether in contract, tort or otherwise (including negligence), is limited to the sum of $200,000.*

This form is to accompany **Form 2 of the Building (Forms) Regulations 2004** for the application of a Building Consent.

GUIDANCE ON USE OF PRODUCER STATEMENTS

Producer statements were first introduced with the Building Act 1991. The producer statements were developed by a combined task committee consisting of members of the New Zealand Institute of Architects, Institution of Professional engineers New Zealand (now Engineering New Zealand), Association of Consulting Engineers New Zealand in consultation with the Building Officials Institute of New Zealand. The original suit of producer statements has been revised at the date of this form as a result of enactment of the Building Act (2004) by these organisations to ensure standard use within the industry.

The producer statement system is intended to provide Building Consent Authorities (BCAs) with reasonable grounds for the issue of a Building Consent or a Code Compliance Certificate, without having to duplicate design or construction checking undertaken by others.

PS1 Design Intended for use by a suitably qualified independent design professional in circumstances where the BCA accepts a producer statement for establishing reasonable grounds to issue a Building Consent;

PS2 Design Review Intended for use by a suitably qualified independent design professional where the BCA accepts an independent design professional's review as the basis for establishing reasonable grounds to issue a Building Consent;

PS3 Construction Forms commonly used as a certificate of completion of building work are Schedule 6 of NZS 3910:2013 or Schedules E1/E2 of NZIA's SCC 2011[2]

PS4 Construction Review Intended for use by a suitably qualified independent design professional who undertakes construction monitoring of the building works where the BCA requests a producer statement prior to issuing a Code Compliance Certificate.

This must be accompanied by a statement of completion of building work (Schedule 6).

The following guidelines are provided by ACENZ, Engineering NZ and NZIA to interpret the Producer Statement.

Competence of Design Professional

This statement is made by a Design Firm that has undertaken a contract of services for the services named, and is signed by a person authorised by that firm to verify the processes within the firm and competence of its designers.

A competent design professional will have a professional qualification and proven current competence through registration on a national competence based register, either as a Chartered Professional Engineer (CPEng) or a Registered Architect.

Membership of a professional body, such as Engineering New Zealand (formerly IPENZ) or the New Zealand Institute of Architects (NZIA), provides additional assurance of the designer's standing within the profession. If the design firm is a member of the Association of Consulting Engineers New Zealand (ACENZ), this provides additional assurance about the standing of the firm.

Persons or firms meeting these criteria satisfy the term "suitably qualified independent design professional".

*Professional Indemnity Insurance

As part of membership requirements, ACENZ requires all member firms to hold Professional Indemnity Insurance to a minimum level.

The PI Insurance minimum stated on the front of this form reflects standard, small projects. If the parties deem this inappropriate for large projects the minimum may be up to $500,000.

Professional Services during Construction Phase

There are several levels of service which a Design Firm may provide during the construction phase of a project (CM1-CM5 for Engineers[3]). The Building Consent Authority is encouraged to require that the service to be provided by the Design Firm is appropriate for the project concerned.

Requirement to provide Producer Statement PS4

Building Consent Authorities should ensure that the applicant is aware of any requirement for producer statements for the construction phase of building work at the time the building consent is issued as no design professional should be expected to provide a producer statement unless such a requirement forms part of the Design firm's engagement.

Attached Particulars

Attached particulars referred to in this producer statement refer to supplementary information appended to the producer statement.

Refer Also:

1 Conditions of Contract for Building & Civil Engineering Construction NZS 3910: 2013

2 NZIA Standard Conditions of Contract SCC 2011

3 Guideline on the Briefing & Engagement for Consulting Engineering Services (ACENZ/IPENZ 2004)

4 PN Guidelines on Producer Statements

www.acenz.org.nz
www.engineeringnz.org
www.nzia.co.nz

1 — **Rational method** — 48hr

Pre – Development water flow

(Original water flow) Total area.	Area (m^2)	Roof & decks 1 (m^2)	Concrete & smooth seal 2 (m^2)	Metaled area Or rough seal 3 (m^2)	Other Impervious 4 (m^2)	Vegetation 5 (m^2)	Bush 6 (m^2)
	674.90	0	0	0	0	674.9	0
Runoff coefficent		Ci (coefficient)	Ci (coefficient)	Ci (coefficient)	Ci (coefficient)	Ci (coefficient)	Ci (coefficient)
Use "C" values from FNDC TR55 chart		FALSE	FALSE	FALSE	FALSE	0.59	FALSE
Generally do not use slope adjustment Ci factor if using TR55		0.96	0.96	0.8	0.65	0.59	0.59
Rainfall intensity		I (mm/hr)	I (mm/hr)	I (mm/hr)	I (mm/hr)	I (mm/hr)	I (mm/hr)
Rainfall Data from NIWA. Hirds 4, RCP6, 2081-2100		3.20	3.20	3.20	3.20	3.20	3.20
Use an appropiate event for the situation							
Flow rate of surface water		Qc (m^3/sec)	Qc (m^3/sec)	Qc (m^3/sec)	Qc (m^3/sec)	Qc (m^3/sec)	Qc (m^3/sec)
		0.000	0.000	0.000	0.000	0.000	0.000

Pre – development flow of developed area	Qp (m^3/sec)	Qp (L/sec)
	0.0004	0.35

Post – Development water flow

Any area where there is a change in the impermiablity values

Total area.	Area (m^2)	Roof & decks 1 (m^2)	Concrete & smooth seal 2 (m^2)	Metaled area Or rough seal 3 (m^2)	Vegetation 4 (m^2)
	674.90	674.9			
OK					
Use "C" values from FNDC TR55 chart		Ci (coefficient) 0.96	Ci (coefficient) FALSE	Ci (coefficient) FALSE	Ci (coefficient) FALSE
Generally do not use slope adjustment Ci factor if using TR5		0.96	0.96	0.8	0.59
Rainfall intensity rat		I (mm/hr)	I (mm/hr)	I (mm/hr)	I (mm/hr)
Rainfall Data from NIWA. Hirds 4, RCP6, 2081-210		3.57	3.57	3.57	3.57
Use an appropiate event for the situatic					
Flow rate of surface wate		Qc (m^3/sec)	Qc (m^3/sec)	Qc (m^3/sec)	Qc (m^3/sec)
		0.001	0.000	0.000	0.000
		Qc (L/sec)	Qc (L/sec)	Qc (L/sec)	Qc (L/sec)
		0.64	0.00	0.00	0.00

Pre-development area where there is a change in impermeable surfaces but not collected in atenuation system

Concrete & smooth seal 5 (m^2)	Metaled area or vegetation 6 (m^2)
0	0
Ci (coefficient) 0.2	Ci (coefficient) 0.3
"C" value difference between Pre & Pos	
Maximum value 0.2 (at the moment)	
I (mm/hr) 3.20	I (mm/hr) 3.20
Qc (m^3/sec) 0.000	Qc (m^3/sec) 0.000
Qc (L/sec) 0.00	Qc (L/sec) 0.00

Any area where there to the impermiablity v

Metaled area or seal 7 (m^2)
0
Ci (coefficient) FALSE
0.96
I (mm/hr) 3.20
Qc (m^3/sec) 0.000
Qc (L/sec) 0.00

Total included in attenuation system calc post – development flow	Qa (m^3/sec)	Qa (L/sec)
	0.000	0.29

Total impermeable excluded from attenuation system collectio	Qby (m^3/sec)	Qby (L/sec)
	0.000	0.00

Total no change, excl attenuation system ca

Qby (m^3/sec)
0.000

Post – Pre development flow	Qtpp (m^3/sec)	Qtpp (L/sec)
	0.0003	0.29

Total post development flow Developed flow + undeveloped flow 0 to 10min	Qatt (m^3/sec)	Qatt (L/sec)
	0.0006	0.64

1b — **Rational method** — 48hr

Total catchment pre-development flow

Total area.	Area (m^2)	Roof & decks 1 (m^2)	Concrete & smooth seal 2 (m^2)	Metaled area Or rough seal 3 (m^2)	Other Impervious 4 (m^2)	Vegetation 5 (m^2)	Bush 6 (m^2)
	674.90	0	0	0	0	674.9	0
Runoff coefficent		Ci (coefficient)	Ci (coefficient)	Ci (coefficient)	Ci (coefficient)	Ci (coefficient)	Ci (coefficient)
Use "C" values from FNDC TR55 chart		FALSE	FALSE	FALSE	FALSE	0.53	FALSE
Generally do not use slope adjustment Ci factor if using TR55		0.96	0.96	0.89	0.8	0.53	0.59
Rainfall intensity		I (mm/hr)	I (mm/hr)	I (mm/hr)	I (mm/hr)	I (mm/hr)	I (mm/hr)
Rainfall Data from NIWA. Hirds 4, RCP6, 2081-2100		3.20	3.20	3.20	3.20	3.20	3.20
Use an appropiate event for the situation							
Flow rate of surface water		Qc (m^3/sec)	Qc (m^3/sec)	Qc (m^3/sec)	Qc (m^3/sec)	Qc (m^3/sec)	Qc (m^3/sec)
		0.000	0.000	0.000	0.000	0.000	0.000

Catchment area pre – development flow	Qcap (m^3/sec)	Qcap (L/sec)
	0.0003	0.32

312.1019108

2

	Round	Square		Calculation (initial) Total tank area	Calculation (initial) Total tank volume	Calculation (initial) usable height hmax (m)	Calculation (final) Additional area
Select 1 for type of tank/area, 0 for other	1	0		m^2	m^3	0.65	Nil
Estimate storage volume			Tank radius	33.13	21.54	OK	Total area
Adjust to match max Vstored	Num. Of tanks		r (m)		Initial calculation	OK	Same as initial
Round area	3		1.875	33.13	hstor max.	0.658	Final volume
	Num. Of tanks	Width	Length	m^2	Vstored max.	21.79	Same as initial
Square/rectangular area				0.00	Vstored min.	0.101	
					0.05 to3.5% left @ 48hr	0.47	
Short tube, 0.76	Orifice type "u"	g				OK	Same as initial
Thin sharp, 0.62	0.76	9.8067			Graph, 24hr Vstored 2520m	0.282	Not used
					Max.10% left @ 24hr from initial calc.	1.29	1.29
					or add extra volume		

	48hr	24hr	12hr	6hr	2hr	60	30
Pre – development flow	C20	L20	U20	A320	AM20	AV20	BE20
3 of developed area	0.00035	0.00060	0.00099	0.00157	0.00302	0.00437	0.00609

Pre–development flow matches 2hr 40min. Intensity	Qp (m^3/sec)	Qp (L/sec)		Qin max.			Slope factor adjustment at
Uses (80min.crossover O126) as a source value	0.0026	2.6129		0.00930		48hr program	Min.crossover
Do not change	OK					Min.crossover	Chart point (min.)
For calculation purposes this section changes	Dia check	Dia	Area	Qout 1520 (L/sec)	Qout (m^3/sec)	Chart point (min.)	0.91
the dia only and thereby the area	0.0351	0.03501	0.0010	2.552	0.00255	1520	peak flow
The information is not used for anything else		35.01		0		1520	Chart point (max.)
		If additional storage is required use the original/inital orifice size and calc. height					0.15

4

Calculate maximum storage volume

Chart intensity hr values	Chart intensity accumulated minute steps	Storm duration- THR (hr)	Storm duration- Event data, TMINS mins	Attenuation calc. tota Direct to Atten. Qa (L/sec)	Catchment pre-devel. plus orifice flow out Qtin (L/sec)	For period 2081-2100 CC (RCP6) Intensity. Post-devel I, (mm/hr) 10 yr	Ahipara Current(0 deg) Pre-devl I, (mm/hr) 10 yr
steps used							
48	720	12.00	720	0.29	0.50	3.57	3.2
24	1080	6.00	360	0.5	1.0	6.16	5.45
12	1260	3.00	180	0.9	1.5	10.3	8.94
6	1380	2.00	120	1.4	2.3	16.7	14.2
2	1410	0.50	30	2.9	4.0	32.9	27.3
1	1425	0.25	15	4.3	5.5	47.9	39.5
30	1430	0.08	5	5.9	7.3	66.8	55.1
20	1435	0.08	5	7.1	8.4	79.9	65.8
10	1440	0.08	5	9.3	10.6	105	86.8
10	1445	0.08	5	9.3	10.6	105	86.8
20	1450	0.08	5	7.1	9.0	79.9	65.8
30	1455	0.08	5	5.9	8.0	66.8	55.1
	1470	0.25	15	4.3	6.5	47.9	39.5
2	1500	0.50	30	2.9	5.3	32.9	27.3
6	1620	2.00	120	1.4	3.6	16.7	14.2
12	1800	3.00	180	0.9	2.2	10.3	8.94
24	2160	6.00	360	0.5	1.0	6.16	5.45
48	2880	12.00	720	0.3	0.5	3.57	3.2

Catchment flow Qpat (cell MAX(P109:P130) Catchment flow = orifice flow out + catchment	Qcap max.	Qp (m^3/sec)	Qp (L/sec)	Qout max. (m^3/sec)	Qout max. (L/sec)	Vstored max. Vol. stored, (m^3)
	4.770	0.0048	4.8	0.00480	4.80	21.799
						OK
						OK

For calculation purposes this section changes	Dia check	Dia	Area
the dia only and thereby the area	0.0474	0.04731	0.0018
The information is not used for anything else		47.31	

Use this orifice size for final design

1 — **Rational method** — 48hr

Pre – Development water flow

(Original water flow)	Roof & decks	Concrete & smooth seal	Metaled area Or rough seal	Other Impervious	Vegetation	Bush
Total area. Area (m^2)	1 (m^2)	2 (m^2)	3 (m^2)	4 (m^2)	5 (m^2)	6 (m^2)
674.90	0	0	0	0	674.9	0
Runoff coefficient	Ci (coefficient)	Ci (coefficient)	Ci (coefficient)	Ci (coefficient)	Ci (coefficient)	Ci (coefficient)
Use "C" values from FNDC TR55 chart	FALSE	FALSE	FALSE	FALSE	0.65	FALSE
Generally do not use slope adjustment Ci factor if using TR55	0.96	0.96	0.89	0.65	0.65	0.59
Rainfall intensity	I (mm/hr)	I (mm/hr)	I (mm/hr)	I (mm/hr)	I (mm/hr)	I (mm/hr)
Rainfall Data from NIWA. Hirds 4, RCP6, 2081-2100	4.96	4.96	4.96	4.96	4.96	4.96
Use an appropiate event for the situation						
Flow rate of surface water	Qc (m^3/sec)	Qc (m^3/sec)	Qc (m^3/sec)	Qc (m^3/sec)	Qc (m^3/sec)	Qc (m^3/sec)
	0.000	0.000	0.000	0.000	0.001	0.000

Pre – development flow	Qp (m^3/sec)	Qp (L/sec)
of developed area	0.0006	0.60

Post – Development water flow

Any area where there is a change in the impermiablity values

	Roof & decks	Concrete & smooth seal	Tanks Or rough seal	Vegetation
Total area. Area (m^2)	1 (m^2)	2 (m^2)	3 (m^2)	4 (m^2)
674.90	674.9			
OK				
	Ci (coefficient)	Ci (coefficient)	Ci (coefficient)	Ci (coefficient)
Use "C" values from FNDC TR55 chart	0.96	FALSE	FALSE	FALSE
Generally do not use slope adjustment Ci factor if using TR5	0.96	0.96	0.9	0.65
Rainfall intensity rate	I (mm/hr)	I (mm/hr)	I (mm/hr)	I (mm/hr)
Rainfall Data from NIWA. Hirds 4, RCP6, 2081-210	5.57	5.57	5.57	5.57
Use an appropiate event for the situatic				
Flow rate of surface water	Qc (m^3/sec)	Qc (m^3/sec)	Qc (m^3/sec)	Qc (m^3/sec)
	0.001	0.000	0.000	0.000
	Qc (L/sec)	Qc (L/sec)	Qc (L/sec)	Qc (L/sec)
	1.00	0.00	0.00	0.00

Pre-development area where there is a change in impermeable surfaces but not collected in atenuation system

	Concrete & smooth seal	Metaled area or vegetation
	5 (m^2)	6 (m^2)
	0	0
	Ci (coefficient)	Ci (coefficient)
	0.2	0.3
C value difference between Pre & Pos		
Maximum value 0.2 (at the moment		
	I (mm/hr)	I (mm/hr)
	4.96	4.96
	Qc (m^3/sec)	Qc (m^3/sec)
	0.000	0.000
	Qc (L/sec)	Qc (L/sec)
	0.00	0.00

Any area where there to the impermiablity v

Metaled area or seal
7 (m^2)
0
Ci (coefficient)
0.96
I (mm/hr)
4.96
Qc (m^3/sec)
0.000
Qc (L/sec)
0.00

Total included in attenuation system calc	Qa (m^3/sec)	Qa (L/sec)
post – development flow	0.000	0.40

Post – Pre development flow	Qtpp (m^3/sec)	Qtpp (L/sec)
	0.0004	0.40

Total post development flow	Qatt (m^3/sec)	Qatt (L/sec)
Developed flow + undeveloped flow	0.0010	1.00
0 to 10min		

Total impermeable excluded from attenuation system collectio	Qby (m^3/sec)	Qby (L/sec)
	0.000	0.00

Total no change, exclu attenuation system ca	Qby (m^3/sec)
	0.000

1b — **Rational method** — 48hr

Total catchment pre-development flow

	Roof & decks	Concrete & smooth seal	Metaled area Or rough seal	Other Impervious	Vegetation	Bush
Total area. Area (m^2)	1 (m^2)	2 (m^2)	3 (m^2)	4 (m^2)	5 (m^2)	6 (m^2)
674.90	0	0	0	0	674.9	0
Runoff coefficient	Ci (coefficient)	Ci (coefficient)	Ci (coefficient)	Ci (coefficient)	Ci (coefficient)	Ci (coefficient)
Use "C" values from FNDC TR55 chart	FALSE	FALSE	FALSE	FALSE	0.65	FALSE
Generally do not use slope adjustment Ci factor if using TR55	0.96	0.96	0.89	0.8	0.65	0.59
Rainfall intensity	I (mm/hr)	I (mm/hr)	I (mm/hr)	I (mm/hr)	I (mm/hr)	I (mm/hr)
Rainfall Data from NIWA. Hirds 4, RCP6, 2081-2100	4.96	4.96	4.96	4.96	4.96	4.96
Use an appropiate event for the situation						
Flow rate of surface water	Qc (m^3/sec)	Qc (m^3/sec)	Qc (m^3/sec)	Qc (m^3/sec)	Qc (m^3/sec)	Qc (m^3/sec)
	0.000	0.000	0.000	0.000	0.001	0.000

Catchment area pre – development flow	Qcap (m^3/sec)	Qcap (L/sec)
	0.0006	0.60

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	Round	Square		Calculation (initial) Total tank area	Calculation (initial) Total tank volume	Calculation (initial) usable height hmax (m)	Calculation (final) Additional area
				m^2	m^3	1.25	Nil
Select 1 for type of tank/area, 0 for other	1	0					
Estimate storage volume			Tank radius	22.09	27.61	OK	Total area
Adjust to match max Vstored	Num. Of tanks		r (m)		Initial calculation	OK	Same as initial
Round area	2		1.875	22.09	hstor max.	1.236	Final volume
	Num. Of tanks	Width	Length	m^2	Vstored max.	27.30	Same as initial
Square/rectangular area				0.00	Vstored min.	0.103	
					0.05 to3.5% left @ 48hr	0.38	
Short tube, 0.76	Orifice type "u"	g				OK	Same as initial
Thin sharp, 0.62	0.76	9.8067			Graph, 24hr Vstored 2520m	0.285	Not used
					Max.10% left @ 24hr from initial calc. or add extra volume	1.04	1.04

	48hr	24hr	12hr	6hr	2hr	60	30
Pre – development flow	C20	L20	U20	AD20	AM20	AV20	BE20
3 of developed area	0.00060	0.00102	0.00168	0.00264	0.00508	0.00732	0.01019

Pre–development flow matches 2hr 40min. Intensity	Qp (m^3/sec)	Qp (L/sec)		Qin max.			Slope factor adjustment at
Uses (80min.crossover O126) as a source value	0.0040	4.0205		0.01283			Min.crossover
Do not change	0%					48hr program Min.crossover	Chart point (min.)
For calculation purposes this section changes	Dia check	Dia	Area	Qout 1520 (L/sec)	Qout (m^3/sec)	Chart point (min.)	0.91
the dia only and thereby the area	0.0369	0.03688	0.0011	3.823	0.00382	1520	peak flow
The information is not used for anything else		36.88		0		1520	Chart point (max.)
				If additional storage is required use the original/inital orifice size and calc. height			0.15

4

Calculate maximum storage volume

Chart intensity hr values	Chart intensity accumulated	Storm duration- THR	Storm duration- Event data, TMINS	Attenuation calc. tota Direct to Atten.	Catchment pre-devel. plus orifice flow out	For period 2081-2100 CC (RCP6) Intensity. Post-devel I, (mm/hr)	Kaitaia Current(0 deg) Pre-devl I, (mm/hr)
steps used	minute steps	(hr)	mins	Qa (L/sec)	Qtin (L/sec)	100 yr	100 yr
48	720	12.00	720	0.40	0.85	5.57	4.96
24	1080	6.00	360	0.7	1.6	9.59	8.41
12	1260	3.00	180	1.2	2.6	16	13.8
6	1380	2.00	120	2.0	3.9	25.8	21.7
2	1410	0.50	30	4.0	7.0	50.6	41.7
1	1425	0.25	15	5.9	9.7	73.4	60.1
30	1430	0.08	5	8.2	12.9	102	83.6
20	1435	0.08	5	9.8	15.0	122	99.7
10	1440	0.08	5	12.8	19.0	160	131
10	1445	0.08	5	12.8	19.0	160	131
20	1450	0.08	5	9.8	15.9	122	99.7
30	1455	0.08	5	8.2	14.0	102	83.6
	1470	0.25	15	5.9	11.3	73.4	60.1
2	1500	0.50	30	4.0	9.0	50.6	41.7
6	1620	2.00	120	2.0	5.7	25.8	21.7
12	1800	3.00	180	1.2	3.3	16	13.8
24	2160	6.00	360	0.7	1.6	9.59	8.41
48	2880	12.00	720	0.4	0.9	5.57	4.96

Catchment flow Qpat (cell MAX(P109:P130)	Qcap max.	Qp (m^3/sec)	Qp (L/sec)	Qout max. (m^3/sec)	Qout max. (L/sec)	Vstored max. Vol. stored, (m^3)
Catchment flow = orifice flow out + catchment	10.000	0.0100	10.0	0.00994	9.94	27.284
pre-development flow						OK
For calculation purposes this section changes	Dia check	Dia	Area			OK
the dia only and thereby the area	0.0582	0.05817	0.0027			
The information is not used for anything else		58.17				
		Use this orifice size for final design				

This will have further development at a later stage, including a 2yr orifice size & position (3 orifices in total).

	Fixed value	100yr	10yr	
u	g	Desc hrs	Desc hrs	
0.76	9.8067	0.055	1.8	**Adjust until orifices are closest to the values of tab 10yr & 100yr "cell D136"**

Change orifice factor "u" to suit, short tube 0.76 & thin sharp edge 0.62

	Va100yr	Qav	**ho100yr**	hav	Or100yr
100yr	27.30	0.1379	1.25	0.63	**0.2569**
100yr tab	***Cell H86***		***Cell H82***		**72.3**

	Va10yr	Qav	**ho10yr**	hav	**Or10yr**
10yr	21.79	0.0034	0.65	0.33	**0.0472**
10yr tab	***Cell H86***		***Cell H82***		**59.4**

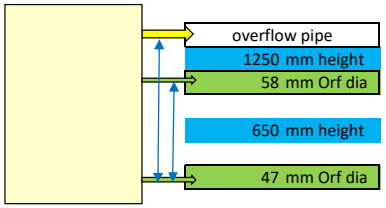
	Vdet	Qav	htop	hhalf	
100 - 10yr	5.51	0.0017	0.60	0.30	0.3000

	Vocomb	Qav	hchart	hav	OK	
10yr cor.	26.35	0.0041	0.95	0.48	0.0472	0.0018
	Adjust c21 until G20 get Ok					Area

	Vtop	Qav	htop	hav	**Ortop**
100-10yrcor	0.95	0.0048	0.6	0.3	0.0577

1.25	**ho100yr**	Total storage height required
0.047	**Or10yr**	Size of lower orifice (fitted 150mm above bottom/base if tank for attenuation only)
0.65	**ho10yr**	Storage height at which Ortop is fitted
0.058	**Ortop**	Size of second orifice (fitted at ho10yr above lower orifice Or10yr)

0.60 Height from overflow outlet invert to Ortop invert



Attenuation System Parameters

	Orifice diameter	**Orifice invert location**
ARI 10	**47 mm**	**1250 mm** below overflow invert
ARI 100	**58 mm**	**600 mm** below overflow invert
Tank Size	**3 x**	**25,000 litres @ 3.75mDia.**
ARI 10	**21,794.3 litres**	
ARI 100	**27,304.5 litres**	
Reuse	**47,695.5 litres**	