THOMSON SURVEY LIMITED

SURVEYORS AND RESOURCE PLANNERS

Our Reference: 10623.1 (FNDC)

21 January 2026

Resource Consents Department
Far North District Council
JB Centre
KERIKERI

Dear Sir/Madam

RE: Proposed subdivision at 286 Mangakaretu Road – G & G Blunden

I am pleased to submit application on behalf of G & G Blunden, for a proposed three lot subdivision (two additional) on land at Mangakaretu Road, zoned Rural Production. The application is a restricted discretionary activity.

The application fee of $3,044 has been paid separately via direct credit.

Regards

Lynley Newport
Senior Planner
THOMSON SURVEY LTD

315 Kerikeri Road, Kerikeri
P.O. Box 372, Kerikeri 0245, New Zealand.
Email: Kerikeri@tsurvey.co.nz
denis@tsurvey.co.nz, sam@tsurvey.co.nz

Telephone: **09 4077360**
Facsimile: **09 4077322**
After Hours: Director: Denis Thomson 09 4071372
After Hours: Office Manager: Sam Lee 021 1370060

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 Form 9). Prior to, and during, completion of this application form, please refer to Resource Consent Guidance Notes and Schedule of Fees and Charges — both available on the Council's web page.

1. Pre-Lodgement Meeting

Have you met with a council Resource Covnsent 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?

Who else have you consulted with?

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

5. Applicant details

Name/s: Greg & Gay Blunden

Email: [redacted]

Phone number:

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

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

If yes, please provide details.

6. Address for correspondence

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

Name/s: Lynley Newport

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: Gay and Greg Blunden

Property address/
location: 286 Mangakaretu Road
WAIPAPA
Postcode 295

8. Application site details

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

Name/s: Gay and Greg Blunden

Site address/ location: 286 Mangakaretu Road
Waipapa
Postcode 295

Legal description: Pt subdivision 13, OLC 60 **Val Number:** 00229-21300-A

Certificate of title: NA75B/411

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.

The road gate is locked when no-one is at home. Please phone 09 407 9701 or 021 710 441 befor visiting. Dog is a small house dog

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.

Subdivision of land zoned Rural Production, to create two additional lots, as a restricted discretionary activity.

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

10. Would you like to request public notification?

○ **Yes** ☑ **No**

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

(more than one circle can be ticked):

○ **Building Consent** Enter BC ref # 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**
- ◯ **Disturbing, removing or sampling soil**
- ◯ **Changing the use of a piece of land**
- ◯ **Removing or replacing a fuel storage system**

13. Assessment of environmental effects:

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

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

14. Draft conditions:

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

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

15. Billing Details:

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

Name/s: (please write in full) Greg Blunden

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.

15. Billing details continued...

Declaration concerning Payment of Fees

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

Name: (please write in full) Greg Blunden

Signature: (signature of bill payer) [redacted] Date 19-Jan-2026

MANDATORY

16. Important Information:

Note to applicant

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

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

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

Fast-track application

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

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

Privacy Information:

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

17. Declaration

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

Name (please write in full) Greg Blunden

Signature [redacted] Date 19-Jan-2026

A sig[redacted]e by electronic means

See overleaf for a checklist of your information...

Checklist

Please tick if information is provided

- [x] 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
- [x] Applicant / Agent / Property Owner / Bill Payer details provided
- [ ] Location of property and description of proposal
- [ ] Assessment of Environmental Effects
- [ ] Written Approvals / correspondence from consulted parties
- [ ] Reports from technical experts (if required)
- [ ] Copies of other relevant consents associated with this application
- [ ] Location and Site plans (land use) AND/OR
- [ ] Location and Scheme Plan (subdivision)
- [ ] Elevations / Floor plans
- [ ] Topographical / contour plans

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

G & G Blunden

Far North District Plan

PROPOSED SUBDIVISION

286 Mangakaretu Road, Waipapa

PLANNING REPORT AND ASSESSMENT OF ENVIRONMENTAL EFFECTS

Thomson Survey Ltd
Kerikeri

1.0 INTRODUCTION

1.1 The Proposal

The applicants propose to carry out a subdivision of their property on Mangakaretu Road, to create three lots (two additional). Lot 1 is proposed to be 2.2ha in area; Lot 2 (containing the existing dwelling and built development within the site) is to be 21.14ha; and Lot 3 (vacant land) is proposed to be 28.84ha in area. An existing area already subject to a QEII Open Space Covenant will be entirely within new Lot 3 (not split between any new lots).

It is proposed that Lots 2 & 3 will be served by the property's existing entrance and driveway off Mangakaretu Road. Lot 1, physically separate and encompassing a plateau area near Mangakaretu Road, is to have its own entrance, immediately adjacent to the existing crossing.

Refer to Appendix 1 for copies of the Scheme Plans.

1.2 Scope of this Report

This assessment and report accompanies the Resource Consent Application and is provided in accordance with Section 88 and Schedule 4 of the Resource Management Act 1991. The application seeks consent under the District Plan for a subdivision as a restricted discretionary activity. The name and address of the owner of the property is contained in the Form 9 Application form.

2.0 PROPERTY DETAILS

Location:	286 Mangakaretu Road, Waipapa. Location Plan is attached in Appendix 2.
Legal description:	Pt OLC 60
CT:	NA75B/411, with an area of 53.7143ha, dated 1989 (copy attached in Appendix 3).

3.0 SITE DESCRIPTION

3.1 Physical characteristics.

The property is on the north side of Mangakaretu Road. It is irregular in shape. Topographically, the high point of the site is the Mangakaretu Road frontage and small plateau that will accommodate proposed Lot 1. The site has steep to gentle slopes sloping down towards the northern aspect of the site. The eastern reaches of proposed Lot 3, adjacent to the river, are flat.

The site is predominantly in open grassed paddock with areas of mature native trees, most notably along the banks of the river and within the existing bush covenant area. The river boundary is fenced.

The built environment consists of the existing dwelling and its ancillary buildings, all to be within Lot 2. There is existing driveway and a farm access track network providing for access to various parts of the property.

The site is underlain by Kerikeri Volcanic Group Late Miocene basalt. The flats adjacent to the river contain LUC class 3 soils, all to be within Lot 3, with the balance of the property having either LUC class 4 or 6 soils.

The property is zoned Rural Production in both the Operative and Proposed District Plans. No high or outstanding landscape or natural features are identified within the site. The property is not within the coastal environment.

The site had an area planted in pines, but these have since been harvested and not replanted.

The site contains no mapped heritage or cultural or archaeological sites. The site is within a kiwi present area.

Looking northeast down and across proposed Lot 3

Looking southwest across Lot 2 with existing dwelling at left of picture against the skyline

The land is not mapped as erosion prone and is not mapped as a HAIL site. It is not mapped as being susceptible to river flood hazard.

The site is not serviced by Council 3 waters services.

Refer to the Subdivision Site Suitability Report in Appendix 4 for additional site information.

3.2 Legal Interests

The Title is not subject to any legal interests other than the QEII Open Space covenant referred to earlier.

3.3 Consent History

The property files show the following:

BC-2008-1818, issued in 2012 for a two-level barn with accommodation;

BC-2013-460, issued in 2012 for a storage shed;

BC-2013-668, issued in 2013 for extensions and alterations to existing dwelling with new verandah; and

EBC-2020-11551, issued in 2020 for the extension of building under existing first floor overhang.

4.0 SCHEDULE 4 – INFORMATION REQUIRED IN AN APPLICATION

Clauses 2 & 3: Information required in all applications

(1) An application for a resource consent for an activity must include the following:	
(a) a description of the activity: .	Refer Sections 1 and 5 of this Planning Report.
(b) an assessment of the actual or potential effect on the environment of the activity:	Refer to Section 6 of this Planning Report.
(b) a description of the site at which the activity is to occur:	Refer to Section 3 of this Planning Report.
(c) the full name and address of each owner or occupier of the site:	This information is contained in the Form 9 attached to the application.
(d) a description of any other activities that are part of the proposal to which the application relates:	Refer to Sections 3 and 5 of this Planning Report for existing activities within the site. The application is for subdivision.
(e) a description of any other resource consents required for the proposal to which the application relates:	No other consents are required other than that being applied for pursuant to the Far North Operative District Plan.
(f) an assessment of the activity against the matters set out in Part 2:	Refer to Section 7 of this Planning Report.
(g) an assessment of the activity against any relevant provisions of a document referred to in section 104(1)(b), including matters in Clause (2): (*a) any relevant objectives, policies, or*	Refer to Sections 5 & 7 of this Planning Report.

rules in a document; and *(b) any relevant requirements, conditions, or permissions in any rules in a document; and* *(c) any other relevant requirements in a document (for example, in a national environmental standard or other regulations).*	
(3) An application must also include any of the following that apply:	
(a) if any permitted activity is part of the proposal to which the application relates, a description of the permitted activity that demonstrates that it complies with the requirements, conditions, and permissions for the permitted activity (so that a resource consent is not required for that activity under section 87A(1)):	Refer sections 3 and 5. The site supports existing consented built development.
(b) if the application is affected by section 124 or 165ZH(1)(c) (which relate to existing resource consents), an assessment of the value of the investment of the existing consent holder (for the purposes of section 104(2A)):	There is no existing resource consent. Not applicable.
(c) if the activity is to occur in an area within the scope of a planning document prepared by a customary marine title group under section 85 of the Marine and Coastal Area (Takutai Moana) Act 2011, an assessment of the activity against any resource management matters set out in that planning document (for the purposes of section 104(2B)).	The site is not within an area subject to a customary marine title group. Not applicable.

Clause 4: Additional information required in application for subdivision consent

(4) An application for a subdivision consent must also include information that adequately defines the following:	
(a) the position of all new boundaries: *(b) the areas of all new allotments, unless the subdivision involves a cross lease, company lease, or unit plan:* *(c) the locations and areas of new reserves to be created, including any esplanade reserves and esplanade strips:* *(d) the locations and areas of any existing esplanade reserves, esplanade strips, and access strips:* *(e) the locations and areas of any part of the bed of a river or lake to be vested in a territorial authority under section 237A:* *(f) the locations and areas of any land*	Refer to Scheme Plans in Appendix 1.

within the coastal marine area (which is to become part of the common marine and coastal area under section 237A): (g) the locations and areas of land to be set aside as new roads.	

Clause 5: Additional information required for application for reclamation – not applicable.

Clause 6: Information required in assessment of environmental effects

(1) An assessment of the activity's effects on the environment must include the following information:	
(a) if it is likely that the activity will result in any significant adverse effect on the environment, a description of any possible alternative locations or methods for undertaking the activity:	Refer to Section 6 of this planning report. The activity will not result in any significant adverse effect on the environment.
(b) an assessment of the actual or potential effect on the environment of the activity:	Refer to Section 6 of this planning report.
(c) if the activity includes the use of hazardous installations, an assessment of any risks to the environment that are likely to arise from such use:	Not applicable as the application does not involve hazardous installations.
(d) if the activity includes the discharge of any contaminant, a description of— (i) the nature of the discharge and the sensitivity of the receiving environment to adverse effects; and (ii) any possible alternative methods of discharge, including discharge into any other receiving environment:	The subdivision does not involve any discharge of contaminant.
(e) a description of the mitigation measures (including safeguards and contingency plans where relevant) to be undertaken to help prevent or reduce the actual or potential effect:	Refer to Section 6 of this planning report.
(f) identification of the persons affected by the activity, any consultation undertaken, and any response to the views of any person consulted:	Refer to Section 8 of this planning report. No affected persons are identified.
g) if the scale and significance of the activity's effects are such that monitoring is required, a description of how and by whom the effects will be monitored if the activity is approved:	No monitoring is required as the scale and significance of effects does not warrant any.
(h) if the activity will, or is likely to, have adverse effects that are more than	No protected customary right is affected.

minor on the exercise of a protected customary right, a description of possible alternative locations or methods for the exercise of the activity (unless written approval for the activity is given by the protected customary rights group).	

Clause 7: Matters that must be addressed by assessment of environmental effects (RMA)

(1) An assessment of the activity's effects on the environment must address the following matters:	
(a) any effect on those in the neighbourhood and, where relevant, the wider community, including any social, economic, or cultural effects:	Refer to Sections 6 and 8 of this planning report and also to the assessment of objectives and policies in Section 7.
(b) any physical effect on the locality, including any landscape and visual effects:	Refer to Section 6. The proposed activity will have no adverse, effects on the physical environment and landscape and visual amenity values.
(c) any effect on ecosystems, including effects on plants or animals and any physical disturbance of habitats in the vicinity:	Refer to Section 6.0. The proposal will not result in adverse effects in regard to habitat and ecosystems.
(d) any effect on natural and physical resources having aesthetic, recreational, scientific, historical, spiritual, or cultural value, or other special value, for present or future generations:	Refer to Section 6, and above comments
(e) any discharge of contaminants into the environment, including any unreasonable emission of noise, and options for the treatment and disposal of contaminants:	The subdivision will not result in the discharge of contaminants, nor any unreasonable emission of noise.
(f) any risk to the neighbourhood, the wider community, or the environment through natural hazards or hazardous installations.	The subdivision site is not subject to natural hazards and does not involve hazardous installations.

5.0 COMPLIANCE ASSESSMENT

5.1 Weighting of the Plans

The proposal is subject to the Proposed District Plan (PDP) process, whereby the PDP was publicly notified on 27th July 2022. The site is zoned Rural Production under the PDP. When the PDP was first notified there were a number of rules which were identified as having immediate legal effect. As such, an assessment of the relevant rules and related objectives and policies of the PDP form part of this application.

In regard to the weighting of the Plans, hearings have now been completed. Decisions on submissions have yet to be notified. I have not identified any rules in the PDP, relevant to this proposal that had immediate legal effect from July 2022, and as such this application gives no weight to any PDP rules.

5.2 Operative District Plan Zoning

The property is zoned Rural Production. No Resource features apply. The subdivision standards applying in the zone are contained in Table 13.7.2.1 as shown below.

TABLE 13.7.2.1: MINIMUM LOT SIZES

(i) RURAL PRODUCTION ZONE

Controlled Activity Status (Refer also to 13.7.3)	**Restricted Discretionary Activity Status (Refer also to 13.8)**	**Discretionary Activity Status (Refer also to 13.9)**
The minimum lot size is 20ha.	1. Subdivision that complies with the controlled activity standard, but is within 100m of the boundary of the Minerals Zone; 2. The minimum lot size is 12ha; or 3. A maximum of 3 lots in any subdivision, provided that the minimum lot size is 4,000m2 and there is at least 1 lot in the subdivision with a minimum lot size of 4ha, and provided further that the subdivision is of sites which existed at or prior to 28 April 2000, or which are amalgamated from titles existing at or prior to 28 April 2000; or **4. A maximum of 5 lots in a subdivision (including the parent lot) where the minimum size of the lots is 2ha, and where the subdivision is created from a site that existed at or prior to 28 April 2000;**	1. The minimum lot size is 4ha; or 2. A maximum of 3 lots in any subdivision, provided that the minimum lot size is 2,000m² and there is at least 1 lot in the subdivision with a minimum size of 4ha, and provided further that the subdivision is of sites which existed at or prior to 28 April 2000, or which are amalgamated from titles existing at or prior to 28 April 2000; or 3. A subdivision in terms of a management plan as per Rule 13.9.2 may be approved. ....

The proposal creates three lots all greater than 2ha, where the title is older than April 2000. Therefore the application is a restricted discretionary subdivision activity pursuant to option 4 above (in bold).

Zone Rules:

I have not identified any zone rule breaches.

District Wide Rules:

The site is not subject to chapters 12.1 or 12.2 (landscape and indigenous vegetation).

In regard to Chapter 12.3 Soils and Minerals, the total volume of excavation/filling for the upgrading of access and construction of an additional crossing, will not exceed the permitted activity thresholds specified in Chapter 12.3.

Chapter 12.4 (Natural Hazards) is not relevant in regard to coastal hazards given the site is not located on the coast. Rule 12.4.6.1.2 Fire Risk to Residential Units is met in that the required 20m separation distance can be achieved between a future residential unit and bush line of any area of trees.

The proposal is not subject to Chapter 12.5 (Heritage) as there are no heritage or cultural resources mapped for the site, nor Chapter 12.7 (Waterbodies) as buildings and other impermeable surfaces can be set well back from any qualifying waterbodies from which setback is required. No works is proposed in any indigenous wetland.

An assessment of the proposal against Chapter 15.1.6C.1.1 to 11 has been carried out, with no breaches identified.

No other district wide rules in the ODP are applicable.

5.2 Proposed District Plan (PDP) Assessment

There are certain rules that have been identified in the PDP as having immediate legal effect and that may affect the category of activity under the Act. These include:

Rules HS-R2, R5, R6 and R9 in regard to hazardous substances on scheduled sites or areas of significance to Maori, significant natural areas or a scheduled heritage resource.

There are no scheduled sites or areas of significance to Maori, significant natural areas or any scheduled heritage resource on the site, therefore these rules are not relevant to the proposal.

Heritage Area Overlays – N/A as none apply to the application site.

Historic Heritage rules and Schedule 2 – N/A as the site does not have any identified (scheduled) historic heritage values.

Notable Trees – N/A – no notable trees on the site.

Sites and Areas of Significance to Maori – N/A – the site does not contain any site or area of significance to Maori.

Ecosystems and Indigenous Biodiversity – Rules IB-R1 to R5 inclusive.
No indigenous vegetation clearance is proposed.

Subdivision (specific parts) – only subdivision provisions relating to land containing Significant Natural Area or Heritage Resources have immediate legal effect. The site contains no scheduled or mapped Significant Natural Areas or Heritage Resources.

Activities on the surface of water – N/A as no such activities are proposed.

Earthworks – Only some rules and standards have legal effect. These are Rules EW-R12 and R13 and related standards EW-S3 and ES-S5 respectively. EW-R12 and associated EW-S3 relate to the requirement to abide by Accidental Discovery Protocol if carrying out earthworks and artefacts are discovered. EW-R13 and associated EW-S5 refer to operating under appropriate Erosion and Sediment Control measures. Earthworks will be required to give effect to the subdivision is the formation of access and crossings. This can be carried out in compliance with the above referenced rules/standards.

Signs – N/A – signage does not form part of this application.

Orongo Bay Zone – N/A as the site is not in Oronga Bay Zone.

There are no zone rules in the PDP with immediate legal effect that affect the proposal's activity status.

6.0 ASSESSMENT OF ENVIRONMENTAL EFFECTS

The assessment of environmental effects below includes such detail as corresponds with the scale and significance of the effects that the activity may have on the environment, as required by Clause 2(3)(c) of Schedule 4 of the Act.

A restricted discretionary activity is described in s87A of the Act, clause (3).

If an activity is described in this Act, regulations (including any national environmental standard), a plan, or a proposed plan as a restricted discretionary activity, a resource consent is required for the activity and—

*(a)**the consent authority's power to decline a consent, or to grant a consent and to impose conditions on the consent, is restricted to the matters over which discretion is restricted** (whether in its plan or proposed plan, a national environmental standard, or otherwise); and*

(b)if granted, the activity must comply with the requirements, conditions, and permissions, if any, specified in the Act, regulations, plan, or proposed plan.

It is also subject to s104C of the Act:

*(1) When considering an application for a resource consent for a restricted discretionary activity, a consent authority must consider **only** those matters over which-*
(a) A discretion is restricted in national environmental standards or other regulations;
(b) It has restricted the exercise of its discretion in its plan or proposed plan; …..
*(3) ……. if it grants the application, the consent authority may impose conditions under section 108 **only** for those matters over which –*
(a) A discretion is restricted in national environmental standards or other regulations;
(b) It has restricted the exercise of its discretion in its plan or proposed plan.

The subdivision meets the restricted discretionary number/size of lots specified in Table 13.7.2.1. Far North District Plan lays out in 13.8.1, the matters to which it restricts its discretion in determining whether to grant consent to a restricted discretionary activity, and then lays out the matters to which it will restrict its discretion when considering whether to impose conditions.

13.8.1 SUBDIVISION WITHIN THE RURAL PRODUCTION ZONE

*……. In considering **whether or not to grant consent** on applications for restricted discretionary subdivision activities, the Council will restrict the exercise of its discretion to the following matters:*

(i) for applications under 13.8.1(a):

- *effects on the natural character of the coastal environment for proposed lots which are in the coastal environment.*

(ii) for applications under 13.8.1(b) or (c):

- *effects on the natural character of the coastal environment for proposed lots which are in the coastal environment;*
- *effects of the subdivision under (b) and (c) above within 500m of land administered by the Department of Conservation upon the ability of the Department to manage and administer its land;*
- *effects on areas of significant indigenous flora and significant habitats of indigenous fauna;*
- *the mitigation of fire hazards for health and safety of residents.*

In considering ***whether or not to impose conditions*** *on applications for restricted discretionary subdivision activities the Council will restrict the exercise of its discretion to the following matters:*
(1) the matters listed in 13.7.3;
(2) the matters listed in (i) and (ii) above

In the case of this application, the application is lodged pursuant to 13.8.1(c), and therefore clause (ii) applies:

- *effects on the natural character of the coastal environment for proposed lots which are in the coastal environment;*

The property is not within the coastal environment.

- *effects of the subdivision under (b) and (c) above within 500m of land administered by the Department of Conservation upon the ability of the Department to manage and administer its land;*

There is a marginal strip (Crown Land Reserved from Sale) along the stream on the property to the west – this ceases at the application site's boundary. Technically this means there is land administered by the Department of Conservation within 500m of the application site. The proposal has no adverse effect on the Department's ability to manage or administer the Marginal Strip.

- *effects on areas of significant indigenous flora and significant habitats of indigenous fauna;*

The only area of significant indigenous flora or significant habitat of indigenous fauna within the application site is already protected by way of a QEII Open Space Covenant.

- *the mitigation of fire hazards for health and safety of residents.*

There are no areas of bush from which separation distance is required.

In summary, there are no grounds for the Council to refuse consent.

In determining conditions of consent, the following AEE is offered.

6.1 Allotment Sizes and Dimensions

All lots are in excess of 2ha, and have been shown to be able to provide for future residential development. They are all of an appropriate size and dimension for such development, easily accommodating a 30m x 30m square building envelope complying with setback requirements.

6.2 Property Access

It is proposed to utilise the existing entrance and access for Lots 2 & 3.

This crossing has excellent visibility in both directions.

Location of new crossing into Lot 1, immediately adjacent to existing.

Lot 1 will have its own independent crossing, adjacent to the existing (within road reserve), then directly into new Lot 1.

The existing driveway continues into the site, straight for the duration of the plateau area, before winding down slope to the existing dwelling and farm beyond.

The existing driveway is in good order, mostly metal surface, with portions in concrete due to slope. The Subdivision Site Suitability Report in Appendix 4 addresses access in its section 9. The report considers the existing access driveway to be adequate to serve Lots 2 & 3. A new 50m section of private accessway diversion is proposed around the eastern side of an existing shed building within Lot 2. This will be formed to the appropriate standard.

Existing driveway along the southern boundary of Lot 1, looking west

Existing driveway coming down the slope to the buildings within Lot 2, looking east

6.3 Natural and Other Hazards

Refer to the Subdivision Site Suitability Report (SSSR) in Appendix 4. This includes a Natural Hazards Assessment in its Section 10. Two potential natural hazards are identified and mitigation proposed in both instances so that effects are less than minor. These are erosion – where mitigation can be provided by means of stormwater dispersion control and erosion and sediment control measures; and overland flow paths, flooding and inundation – where mitigation can be provided by means of flood control attenuation.

Risk from landslip, rockfall, alluvion, avulsion, unconsolidated fill, soil contamination, subsidence, fire hazard and sea level rise is non existent with no mitigation required.

In summary there is no reason under s106 of the Act, to decline the application.

The property is not listed as a HAIL site by Northland Regional Council [*source*: NRC online maps], or on Far North Maps.

6.4 Water Supply

There is no Council reticulated water supply available to the property and future potable supply will be reliant on roof runoff water tanks with appropriate filtration. The Council can impose its standard requirement in regard to potable and fire fighting water supply for Lots 1 and 3. It is not considered necessary for Lot 2 given it is a balance lot with existing residential living.

6.5 Stormwater Disposal

Refer to the SSSR in Appendix 4, specifically Section 6 of that report. The SSSR concludes that all lots can accommodate impermeable surfaces easily complying with the zone's permitted activity coverage thresholds. The report outlines the existing stormwater management system working on Lot 2 and makes no further recommendations.

The report looks at probable future development on Lots 1 & 3. Overflow roof rainwater from tank by controlled discharge from level spreader is proposed as appropriate stormwater management for Lots 1 & 3. Attenuation requirements have been calculated.

In summary the proposal, and future development of lots, will not create adverse stormwater runoff effects.

6.6 Sanitary Sewage Disposal

Refer to Section 5 of the SSSR in Appendix 4. The existing private wastewater sewer system has been identified within the Lot 2 boundaries. The wastewater field is some 160m from the house, but remains well within Lot 2 boundaries.

For Lots 1 & 3 concept design for onsite wastewater, the SSSR takes a conservative approach and models off a 5 bedroom dwelling. Each lot can provide for an onsite system with secondary treatment, in compliance with the Regional Plan's permitted activity standards, and may also be able to meet permitted standards with primary treatment. The final design and capacity of any system is best determined at building consent stage.

6.7 Energy Supply & Telecommunications

Energy supply and telecommunications are not a requirement of rural subdivisions. The Council can impose its standard consent notice as follows:

Electricity supply is not a condition of this consent and power has not been reticulated to the boundary of the lot. The lot owner is responsible for the provision of a power supply to operate the on-site aerobic wastewater treatment plant and any other device which requires electrical power to operate.

6.8 Easements for any purpose

The scheme plan(s) attached in Appendix 1 shows a Memorandum of Easements referring to easement A, over Lot 2 in favour of the proposed vacant Lot 3 – for access and services. The final alignment of that easement is yet to be determined for its entire length.

Lot 1 has road frontage and no need for any appurtenant easement.

6.9 Preservation and enhancement of heritage resources (including cultural), vegetation, fauna and landscape, and land set aside for conservation purposes

The ODP states:

Where any proposed allotment contains one or more of the following:
(a) a Notable Tree as listed in Appendix 1D;
(b) an Historic Site, Building or Object as listed in Appendix 1E;
(c) a Site of Cultural Significance to Maori as listed in Appendix 1F;
(d) an Outstanding Natural Feature as listed in Appendix 1A;
(e) an Outstanding Landscape Feature as listed in Appendix 1B;
(f) an archaeological site as listed in Appendix 1G;
(g) an area of significant indigenous vegetation or significant habitats of indigenous fauna, as defined in Method 12.2.5.6.

The continued preservation of that resource, area or feature shall be an ongoing condition for approval to the subdivision consent.

The application contains none of (a) through (f) of the above. As such there is no such resource, area or feature requiring protection or preservation. The site does contain an area of vegetation historically identified as part of a PNA. This area is identified on the Scheme Plan as area B. It is an existing Open Space Covenant (QEII National Trust) and as such there is no need for any condition of consent requiring the area to be protected. It already is, and outside of any Council processes. In other words the Council has no involvement and cannot require bush protection as a condition of consent.

The application site is within a kiwi present area and the norm for sites in a kiwi present area is to include a requirement that any dogs or cats kept on the lots must be kept inside and/or securely kennelled or enclosed (dogs) at night in order to reduce the risk of predation on kiwi.

6.10 Access to Reserves and waterways

There is no lot of greater than 4ha adjoining any qualifying waterbody. As such there is no requirement for esplanade reserve/strip. Development can be well away from, and sympathetic to, the river boundary such that there will be no adverse effects on water quality.

6.11 Land use compatibility (reverse sensitivity)

There is an area of land zoned Minerals, but not developed for mining or quarrying, approximately 320m east of the application site's entrance. The area in question is open pasture. The Minerals Zoning has carried forward into the Proposed District Plan as an Overlay rather than a specific zone.

Distance and topography result in their being little likelihood of any reverse sensitivity issues arising if or when the area 'mapped' for Minerals is ever utilised for quarrying or mining activities. No part of the application site is within 100m of the area 'mapped' for Minerals.

The property supports existing residential use. The proposal is very low density. The area is characterised by a mixture of rural and residential land uses, not unusual in the district's Rural Production Zone.

In summary, I do not believe providing for further intensification (as a restricted discretionary activity under the ODP) will create adverse reverse sensitivity effects in regard to residential living in a 'productive land' environment.

6.12 Proximity to Airports

The site is not near any airport.

7.0 STATUTORY ASSESSMENT

In accordance with Section 104(1)(b) of the Act, the following documents are considered relevant to the application.

7.1 National Policy Statements & Standards

The site contains one area of LUC Class 3 soils and as such the National Policy Statement for Highly Productive Land (NPS HPL) is relevant. However, the definition of highly productive land has been amended (as at 15/1/2026) such that any application for subdivision, use or development on LUC Class 3 land, for any activity other than rural lifestyle, does not need to address the NPS HPL. The only rural lifestyle lot created in this subdivision is Lot 1, containing no LUC Class 3 soils.

There are no natural inland wetlands and the lots bounding the river are in excess of 20ha in area providing plenty of scope to maintain generous setbacks from any water boundary. The site has not historically been used for any HAIL activity. There is existing protected bush and no intention or requirement to protect any more. The proposal is consistent with the National Policy Statement for Indigenous Biodiversity.

7.2 Regional Policy Statement for Northland (RPS)

I do not consider the proposal to be inconsistent with any relevant objectives and policies in the RPS for Northland. The proposed lots will result in additional built development, but the proposal does not result in any material loss in productivity and does not result in reverse sensitivity effects.

The site is not subject to hazard. The site is not coastal and has no high or outstanding natural character or landscape values, and no heritage/cultural values.

The proposal does not, in my opinion, create any undue reverse sensitivity effects.

7.3 District Plan Objectives and Policies

I consider the subdivision to be consistent with the subdivision objectives and policies in Chapter 13. In particular I consider the proposal to be consistent with Objective 13.3.1 which provides for (enables) subdivision in a way that promotes sustainable management of natural and physical resources; and Objective 13.3.2 and associated Policy 13.4.1, which seek to ensure that the subdivision of land is appropriate and carried out in a manner that does not compromise air, water, soil or ecosystems, and that avoids, remedies or mitigates any adverse effects.

The Rural Production zone is an enabling zone, providing for a variety of activities subject to avoiding, remedying or mitigating adverse effects and compatibility with the amenity values of rural areas and rural production activities. I consider the proposed subdivision to be consistent with the zone's objectives and policies.

OBJECTIVES

13.3.1 To provide for the subdivision of land in such a way as will be consistent with the purpose of the various zones in the Plan, and will promote the sustainable management of the natural and physical resources of the District, including airports and roads and the social, economic and cultural well being of people and communities.

13.3.2 To ensure that subdivision of land is appropriate and is carried out in a manner that does not compromise the life-supporting capacity of air, water, soil or ecosystems, and that any actual or potential adverse effects on the environment which result directly from subdivision, including reverse sensitivity effects and the creation or acceleration of natural hazards, are avoided, remedied or mitigated.

The subdivision is consistent with both the above objectives. It promotes sustainable management of the natural and physical resources of the District and provides for the applicants' social and economic well being. It is an appropriate subdivision that does not compromise the life-supporting capacity of air, water, soil or ecosystems, and adverse effects are minimal.

13.3.3 To ensure that the subdivision of land does not jeopardise the protection of outstanding landscapes or natural features in the coastal environment.

13.3.4 To ensure that subdivision does not adversely affect scheduled heritage resources through alienation of the resource from its immediate setting/context.

The property has no outstanding landscape values, and is not within the coastal environment. There are no 'scheduled heritage resources' identified in the District Plan on the property.

13.3.5 To ensure that all new subdivisions provide a reticulated water supply and/or on-site water storage and include storm water management sufficient to meet the needs of the activities that will establish all year round.

On-site water supply and on-site stormwater management can be achieved.

13.3.7 To ensure the relationship between Māori and their ancestral lands, water, sites, wahi tapu and other taonga is recognised and provided for and associated

Policy 13.4.11 That subdivision recognises and provides for the relationship of Māori and their culture and traditions, with their ancestral lands, water, sites, waahi tapu and other taonga and shall take into account the principles of the Treaty of Waitangi.

There are no 'scheduled' sites of significance to Māori affecting the property. The proposal is low density.

13.3.8 To ensure that all new subdivision provides an electricity supply sufficient to meet the needs of the activities that will establish on the new lots created.

13.3.9 To ensure, to the greatest extent possible, that all new subdivision supports energy efficient design through appropriate site layout and orientation in order to maximise the ability to provide light, heating, ventilation and cooling through passive design strategies for any buildings developed on the site(s).

13.3.10 To ensure that the design of all new subdivision promotes efficient provision of infrastructure, including access to alternative transport options, communications and local services.

Power supply is not a requirement of rural subdivision.

POLICIES

13.4.1 That the sizes, dimensions and distribution of allotments created through the subdivision process be determined with regard to the potential effects including cumulative effects, of the use of those allotments on: (a) natural character, particularly of the coastal environment; (b) ecological values; (c) landscape values; (d) amenity values; (e) cultural values; (f) heritage values; and (g) existing land uses.

I believe the subdivision has less than minor impact on the relevant matters listed in the above policy.

13.4.2 That standards be imposed upon the subdivision of land to require safe and effective vehicular and pedestrian access to new properties.

13.4.3 That natural and other hazards be taken into account in the design and location of any subdivision.

13.4.4 That in any subdivision where provision is made for connection to utility services, the potential adverse visual impacts of these services are avoided.

13.4.5 That access to, and servicing of, the new allotments be provided for in such a way as will avoid, remedy or mitigate any adverse effects on neighbouring property, public roads (including State Highways), and the natural and physical resources of the site caused by silt runoff, traffic, excavation and filling and removal of vegetation.

Access to the site is off Council maintained public road. Rights of way and crossings into each lot can be constructed to the required standard. The site is not subject to hazards.

13.4.6 That any subdivision proposal provides for the protection, restoration and enhancement of heritage resources, areas of significant indigenous vegetation and significant habitats of indigenous fauna, threatened species, the natural character of the coastal environment and riparian margins, and outstanding landscapes and natural features where appropriate.

Whilst there is indigenous bush on the property there is no need to provide for its protection, restoration or enhancement given that it is already the subject of a QEII Open Space Covenant. The site is located within a kiwi present area. Accordingly all dogs and cats will be kept inside at night. The property is not located within the coastal environment. No known heritage resources exist on or close to the application site. The site does not contain any outstanding natural landscape or features.

13.4.8 That the provision of water storage be taken into account in the design of any subdivision.

Future lots will be responsible for their own on-site water storage.

13.4.13 Subdivision, use and development shall preserve and where possible enhance, restore and rehabilitate the character of the applicable zone in regards to s6 matters.....

s6 matters are discussed elsewhere in this report. The subdivision does not adversely affect the character of the Rural Production Zone in regard to s6 matters, or any of those matters listed in 13.4.13.

13.4.14 That the objectives and policies of the applicable environment and zone and relevant parts of Part 3 of the Plan will be taken into account when considering the intensity, design and layout of any subdivision.

The Objectives and Policies of the Rural Production Zone have been considered in the design and layout of the subdivision and I consider the subdivision to be consistent with those objectives and policies.

8.6.3.1 To promote the sustainable management of natural and physical resources in the Rural Production Zone.

The proposal creates three lots all in excess of 2ha, in the Rural Production Zone, a scenario provided for in the District Plan. Two of the lots are in excess of 20ha in area. I believe that this proposal represents sustainable management for the 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 proposal provides for lot owners to enjoy and experience country living in reasonably close proximity to urban amenities.

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 does not adversely affect amenity values of the zone.

8.6.3.4 To promote the protection of significant natural values of the Rural Production Zone.

The property is subject to an existing A QEII Open Space Covenant.

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.

8.6.3.7 To avoid remedy or mitigate the adverse effects of incompatible use or development on natural and physical resources.

The proposal is not a land use activity. I have not identified any likely conflicting land uses that cannot be mitigated.

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.

This policy relates to land use activities, not subdivisions. N/A.

8.6.3.9 To enable rural production activities to be undertaken in the zone.

Rural production activities can continue to be undertaken following the subdivision.

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.

The site is in grazing. This use can continue on all lots, albeit only to a limited extent on the smaller Lot 1 (2.2ha). I do not see the proposal adversely impacting on the underlying site's productive capability.

8.6.4.2 That standards be imposed to ensure that the offsite effects of activities in the Rural Production Zone are avoided, remedied or mitigated.

Again, this policy is directed at land uses, not subdivisions.

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 proposed subdivision scale and intensity meets restricted discretionary subdivision standards and is consistent with the requirements and expectations of the District Plan.

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.

I believe the proposal represents efficient use and development of physical and natural resources.

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.

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.

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.

Refer to earlier comments in regard to reverse sensitivity. I believe any potential adverse effects can be readily avoided, remedied or mitigated. The proposal is not increasing the risk of reverse sensitivity issues to the local area. The proposal will not prevent existing lawfully established activities from continuing to operate.

7.4 Proposed District Plan Objectives and Policies

The property is zoned Rural Production under the PDP. An assessment of the proposal against the zone's Objectives and Policies follows:

RPROZ-O1
The Rural Production zone is managed to ensure its availability for primary production activities and its long-term protection for current and future generations.

The proposal does not impact unduly on the availability of land for primary production. The land contains some reasonable quality soils on the flatter, low lying portion of Lot 2 and this will all remain within one lot and not be fragmented. The balance land will remain available for grazing use.

RPROZ-O2
The Rural Production zone is used for primary production activities, ancillary activities that support primary production and other compatible activities that have a functional need to be in a rural environment.

This objective is in a zone chapter, not subdivision, and is aimed at 'activities'.

RPROZ-O3
Land use and subdivision in the Rural Production zone:

a. *protects highly productive land from sterilisation and enables it to be used for more productive forms of primary production;*
b. *protects primary production activities from reverse sensitivity effects that may constrain their effective and efficient operation;*
c. *does not compromise the use of land for farming activities, particularly on highly productive land;*
d. *does not exacerbate any natural hazards; and*
e. *is able to be serviced by on-site infrastructure.*

The only part of this application subject to the NPS HPL is the creation of Lot 1, containing no highly productive land. Any primary production activity within the site and on adjacent sites will not be unduly constrained as a result of the proposal. The site is not subject to hazards. New lots will be fully on site self serviced.

RPROZ-O4
The rural character and amenity associated with a rural working environment is maintained.

The subdivision will not adversely impact on rural character and amenity.

RPROZ-P1
Enable primary production activities, provided they internalise adverse effects onsite where practicable, while recognising that typical adverse effects associated with primary production should be anticipated and accepted within the Rural Production zone.

The proposal is not for a primary production activity. Not applicable.

RPROZ-P2
Ensure the Rural Production zone provides for activities that require a rural location by:

a. *enabling primary production activities as the predominant land use;*
b. *enabling a range of compatible activities that support primary production activities, including ancillary activities, rural produce manufacturing, rural produce retail, visitor accommodation and home businesses.*

Activity based policy. Not applicable.

RPROZ-P3
Manage the establishment, design and location of new sensitive activities and other non-productive activities in the Rural Production Zone to avoid where possible, or otherwise mitigate, reverse sensitivity effects on primary production activities.

Refer to earlier comments in regard to reverse sensitivity.

RPROZ-P4
Land use and subdivision activities are undertaken in a manner that maintains or enhances the rural character and amenity of the Rural Production zone, which includes:

a. *a predominance of primary production activities;*
b. *low density development with generally low site coverage of buildings or structures;*
c. *typical adverse effects such as odour, noise and dust associated with a rural working environment; and*
d. *a diverse range of rural environments, rural character and amenity values throughout the District.*

The subdivision is a low-density development, consistent with the level of density provided for by the ODP. The area is not dominated by high intensity agriculture or horticultural use – which are the type of uses that can generate reverse sensitivity issues if not managed. I believe the proposal will maintain the rural character and amenity of the area.

RPROZ-P5
Avoid land use that:....

N/A. Activity is not a land use.

RPROZ-P6
Avoid subdivision that:

a. *results in the loss of highly productive land for use by farming activities;*
b. *fragments land into parcel sizes that are no longer able to support farming activities, taking into account:*
    1. *the type of farming proposed; and*
    2. *whether smaller land parcels can support more productive forms of farming due to the presence of highly productive land.*
c. *provides for rural lifestyle living unless there is an environmental benefit.*

The subdivision will not result in the loss of highly productive land. The site does not possess any special habitat, landscape or natural values. Strictly speaking, however, the proposal cannot be consistent with part (c) of RPROZ-P6, as the creation of the 2.2ha Lot 1 does not provide for any 'environmental 'benefit'.

RPROZ-P7
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: …

The proposal does not require consent under the PDP's zone provisions and is not a land use activity in any event, so the policy is of limited relevance.

Subdivision objectives and policies:

SUB-O1
Subdivision results in the efficient use of land, which:

a. *achieves the objectives of each relevant zone, overlays and district wide provisions;*
b. *contributes to the local character and sense of place;*
c. *avoids reverse sensitivity issues that would prevent or adversely affect activities already established on land from continuing to operate;*
d. *avoids land use patterns which would prevent land from achieving the objectives and policies of the zone in which it is located;*
e. *does not increase risk from natural hazards or risks are mitigates and existing risks reduced; and*
f. *manages adverse effects on the environment.*

I believe that the proposed subdivision is more consistent than not with the zone's objectives and policies, and any relevant district wide objectives and policies. I believe it will result in the efficient use of land.

SUB-O2
Subdivision provides for the:

a. *Protection of highly productive land; and*
b. *Protection, restoration or enhancement of Outstanding Natural Features, Outstanding Natural Landscapes, Natural Character of the Coastal Environment, Areas of High Natural Character, Outstanding Natural Character, wetland, lake and river margins, Significant Natural Areas, Sites and Areas of Significance to Māori, and Historic Heritage.*

The subdivision provides for the protection of highly productive land. The site contains none of the resources/values listed in (b) above.

SUB-O3
Infrastructure is planned to service the proposed subdivision and development where:

a. *there is existing infrastructure connection, infrastructure should provided in an integrated, efficient, coordinated and future-proofed manner at the time of subdivision; and*
b. *where no existing connection is available infrastructure should be planned and consideration be given to connections with the wider infrastructure network.*

There is no planned infrastructure for the wider area. On-site infrastructure can be utilised for wastewater, stormwater and potable water supply.

SUB-O4
Subdivision is accessible, connected, and integrated with the surrounding environment and provides for:

a. *public open spaces;*
b. *esplanade where land adjoins the coastal marine area; and*
c. *esplanade where land adjoins other qualifying waterbodies.*

The site is rural and although having a river boundary, the lots with that boundary are in excess of 20ha. There is no requirement to provide esplanade and none is proposed.

SUB-P1
Enable boundary adjustments that:...

Not applicable.

SUB-P2
Enable subdivision for the purpose of public works, infrastructure, reserves or access.

Not applicable.

SUB-P3
Provide for subdivision where it results in allotments that:

a. *are consistent with the purpose, characteristics and qualities of the zone;*
b. *comply with the minimum allotment sizes for each zone;*
c. *have an adequate size and appropriate shape to contain a building platform; and*
d. *have legal and physical access.*

The subdivision is more consistent than not, with the purpose and qualities of the zone, largely because it is low overall density, maintains character, and the site's good soils will remain in one lot. Whilst the proposed lots do not 'comply' with the PDP's minimum lot sizes for the zone, the lots are nonetheless able to provide for building platforms. They have / can have legal and physical access.

SUB-P4
Manage subdivision of land as detailed in the district wide, natural environment values, historical and cultural values and hazard and risks sections of the plan

The subdivision does not adversely impact on natural environmental values, nor historical and cultural values. The site is not subject to hazards.

SUB-P5
Manage subdivision design and layout in the General Residential, Mixed Use and Settlement zone to .....

Not applicable.

SUB-P6
Require infrastructure to be provided in an integrated and comprehensive manner by:

a. *demonstrating that the subdivision will be appropriately serviced and integrated with existing and planned infrastructure if available; and*
b. *ensuring that the infrastructure is provided is in accordance the purpose, characteristics and qualities of the zone.*

This is a rural area with no planned infrastructure improvements on the part of the Council. Future lot owners will be responsible for on-site infrastructure of wastewater, stormwater and potable water.

SUB- P7
Require the vesting of esplanade reserves when subdividing land adjoining the coast or other qualifying waterbodies.

Not applicable.

SUB-P8
Avoid rural lifestyle subdivision in the Rural Production zone unless the subdivision:

a. *will protect a qualifying SNA in perpetuity and result in the SNA being added to the District Plan SNA schedule; and*
b. *will not result in the loss of versatile soils for primary production activities.*

Lot 1, at 2.2ha in area, would be regarded as 'lifestyle'. Lots 2 and 3, however, are not lifestyle lots. Part (a) cannot be met (by any development) because there are no 'qualifying SNA's'. Part (b) is readily met because there are no versatile soils to be lost in terms of the only 'lifestyle lot' being created.

SUB-P9
Avoid subdivision rural lifestyle subdivision in the Rural Production zone and Rural residential subdivision in the Rural Lifestyle zone unless the development achieves the environmental outcomes required in the management plan subdivision rule.

The subdivision is not a management plan subdivision.

SUB-P10
To protect amenity and character by avoiding the subdivision of minor residential units from principal residential units where resultant allotments do not comply with minimum allotment size and residential density.

Not applicable.

SUB-P11
Manage 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 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;*
d. *managing natural hazards;*
e. *Any adverse effects on areas with historic heritage and cultural values, natural features and landscapes, natural character or indigenous biodiversity values; and*
f. *any historical, spiritual, or cultural association held by tangata whenua, with regard to the matters set out in Policy TW-P6.*

The subdivision does not require consent under the PDP so the above policy is of limited relevance. Notwithstanding this, relevant matters in SUB-P11 have been considered.

8.0 NOTIFICATION ASSESSMENT & CONSULTATION

8.1 S95A Public Notification Assessment

A consent authority must follow the steps set out in s95A to determine whether to publicly notify an application for a resource consent. Step 1 specifies when public notification is mandatory in certain circumstances. None of these circumstances apply. Step 2 of s95A specifies the circumstances that preclude public notification. Neither circumstance exists therefore public notification is not precluded and Step 3 of s95A must be considered. This specifies that public notification is required in certain circumstances. The application is not subject to a rule or national environmental standard that requires public notification. This

report and AEE concludes that the activity will not have, nor is it likely to have, adverse effects on the environment that are more than minor. In summary public notification is not required pursuant to Step 3 of s95A.

8.2 S95B Limited Notification Assessment

A consent authority must follow the steps set out in s95B to determine whether to give limited notification of an application for a resource consent, if the application is not publicly notified pursuant to s95A. Step 1 identifies certain affected groups and affected persons that must be notified. No such group or persons exist in this case. Step 2 of s95B specifies the circumstances that preclude limited notification. Neither circumstance applies and Step 3 of s95B must be considered. This specifies that certain other affected persons must be notified, in this case being any identified pursuant to s95E. The s95E assessment below concludes that there are no affected persons to be notified.

8.3 S95D Level of Adverse Effects

The AEE in this report assesses effects on the environment and concludes that these will be no more than minor, therefore no public notification is required.

8.4 S95E Affected Persons

A person is an 'affected person' if the consent authority decides that the activity's adverse effects on the person are minor or more than minor (but are not less than minor). A person is not an affected person if they have provided written approval for the proposed activity.

The size and layout of the proposed lots is consistent with the zone's restricted discretionary activity threshold. I do not consider any adjacent properties to be affected by the creation of built development on two additional lots. I have not identified any affected persons in regard to adjacent properties.

There are no identified Sites of Significance to Māori within or in the vicinity of the property, and no archaeological sites. The site is not coastal. With less than minor effects on any habitat, including water bodies, and no impact on DOC's ability to manage its resources, it has not been considered necessary to consult with DOC.

9.0 PART 2 MATTERS

5 Purpose
(1)The purpose of this Act is to promote the sustainable management of natural and physical resources.

The proposal is considered to have had adequate regard to Part 2 matters. I believe the proposal fulfils the Purpose in s5.

6Matters of national importance
(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 Māori 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.

The site is not within the coastal environment and there are no known wetlands, lakes or rivers affected by the proposal. The site does not have any outstanding landscape values. There is indigenous bush on the property, already protected. No public access is required to any lake or river. There are no culturally significant areas on or near the application site, and no identified heritage values. There are no significant risks from natural hazards.

7 Other matters
(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.

In regard to "other matters" (s7), I see (c) the maintenance and enhancement of amenity values; (d) intrinsic values of ecosystems; and (f) maintenance and enhancement of the quality of the environment as having relevance. All lots are large enough to provide for house sites and on-site services. The proposal represents the efficient use and development of resources. It has minimal, if any, adverse effect on amenity values or the intrinsic values of ecosystems.

8 Treaty of Waitangi
In achieving the purpose of this Act, all persons exercising functions and powers under it, in relation to managing the use, development, and protection of natural and physical resources, shall take into account the principles of the Treaty of Waitangi (Te Tiriti o Waitangi).

I have not identified anything in the proposal that gives offence to, or is contrary to, s8.

10.0 CONCLUSION

The proposed subdivision is of a type and density considered consistent with the surrounding environment. The proposal is consistent with the intent of both the Operative and Proposed District Plans.

No significant adverse effects will arise from the activity. There has been no need to consider alternatives. All effects can be appropriately and adequately avoided, remedied or mitigated such that the proposal will result in less than minor effects on the environment. No affected persons have been identified and limited notification is not required.

The relevant provisions of Part 2 of the Act have been addressed. The proposal is considered consistent with the objectives and policies of relevant planning provisions in National Policy Statements and the Regional Policy Statement.

It is requested that the Council give favourable consideration to the application and grant approval, subject to appropriate conditions, under delegated authority.

Lynley Newport Dated 21st January 2026
Senior Planner
THOMSON SURVEY LTD

11.0 LIST OF APPENDICES

Appendix 1 Scheme Plan(s)

Appendix 2 Locality Plan

Appendix 3 Record of Title & Relevant Instruments

Appendix 4 Subdivision Site Suitability Engineering Report

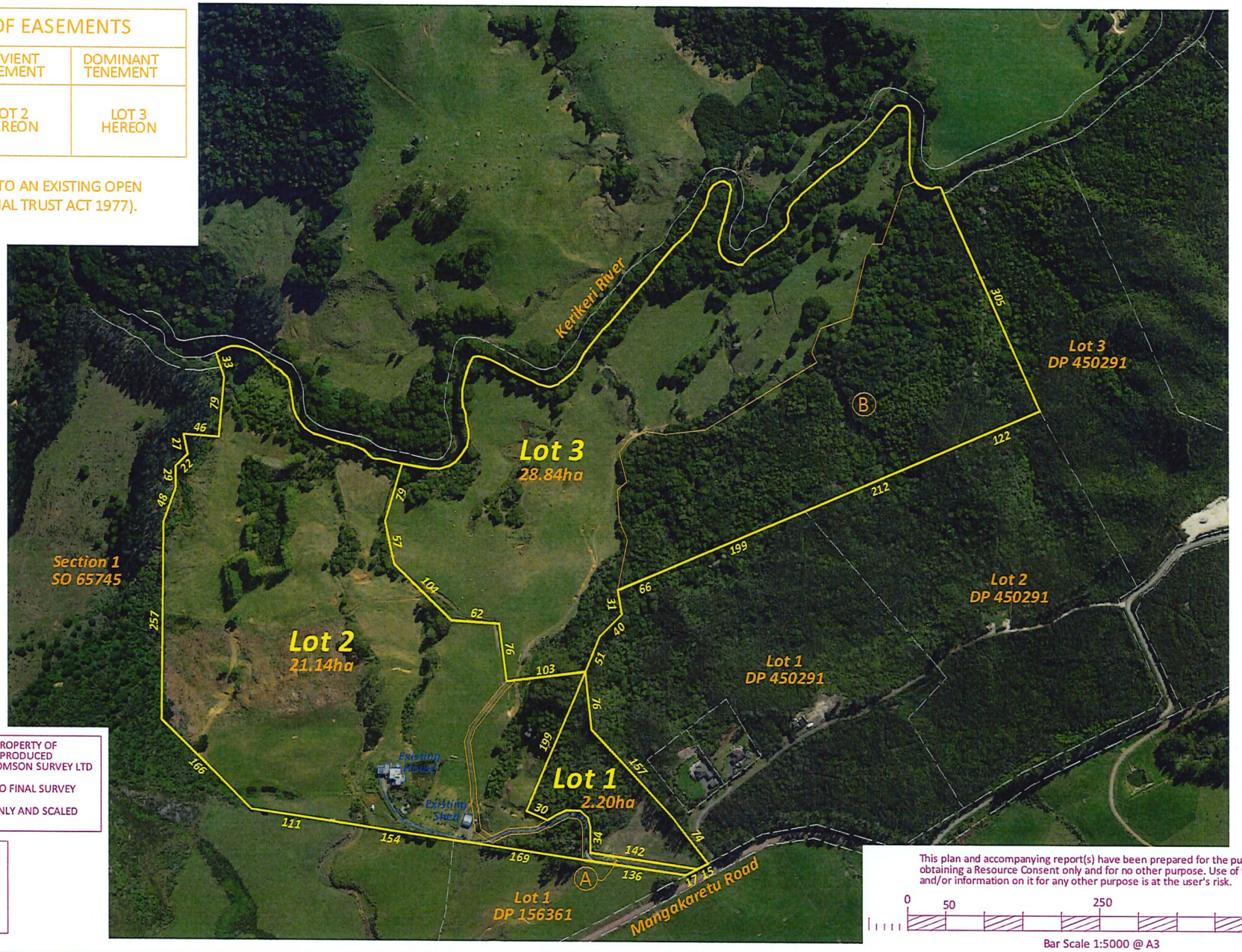
Appendix 1

Scheme Plan(s)

MEMORANDUM OF EASEMENTS

PURPOSE	SHOWN	SERVIENT TENEMENT	DOMINANT TENEMENT
RIGHT OF WAY, TELECOMMUNI-CATIONS, ELECTRICITY & WATER SUPPLY	(A)	LOT 2 HEREON	LOT 3 HEREON

AREA MARKED (B) IS SUBJECT TO AN EXISTING OPEN SPACE COVENANT (QE II NATIONAL TRUST ACT 1977). CREATED BY C495121.2



THIS DRAWING AND DESIGN REMAINS THE PROPERTY OF THOMSON SURVEY LTD AND MAY NOT BE REPRODUCED WITHOUT THE WRITTEN PERMISSION OF THOMSON SURVEY LTD

AREAS AND MEASUREMENTS ARE SUBJECT TO FINAL SURVEY

TOPOGRAPHICAL DETAIL IS APPROXIMATE ONLY AND SCALED FROM AERIAL PHOTOGRAPHY

Local Authority: Far North District Council
Comprised in: NA75B/411
Total Area: 53.7143ha
Zoning: Rural Production
Resource features: NIL

This plan and accompanying report(s) have been prepared for the purpose of obtaining a Resource Consent only and for no other purpose. Use of this plan and/or information on it for any other purpose is at the user's risk.

0 50 250 500m

Bar Scale 1:5000 @ A3

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

PROPOSED SUBDIVISION OF PT OLC 60

286 MANGAKARETU ROAD, WAIPAPA

PREPARED FOR: G & G BLUNDEN

	Name	Date
Survey		
Design		
Drawn	KY	03.09.25
Approved		
Rev	KY	21.01.26

10623 Scheme 20260121

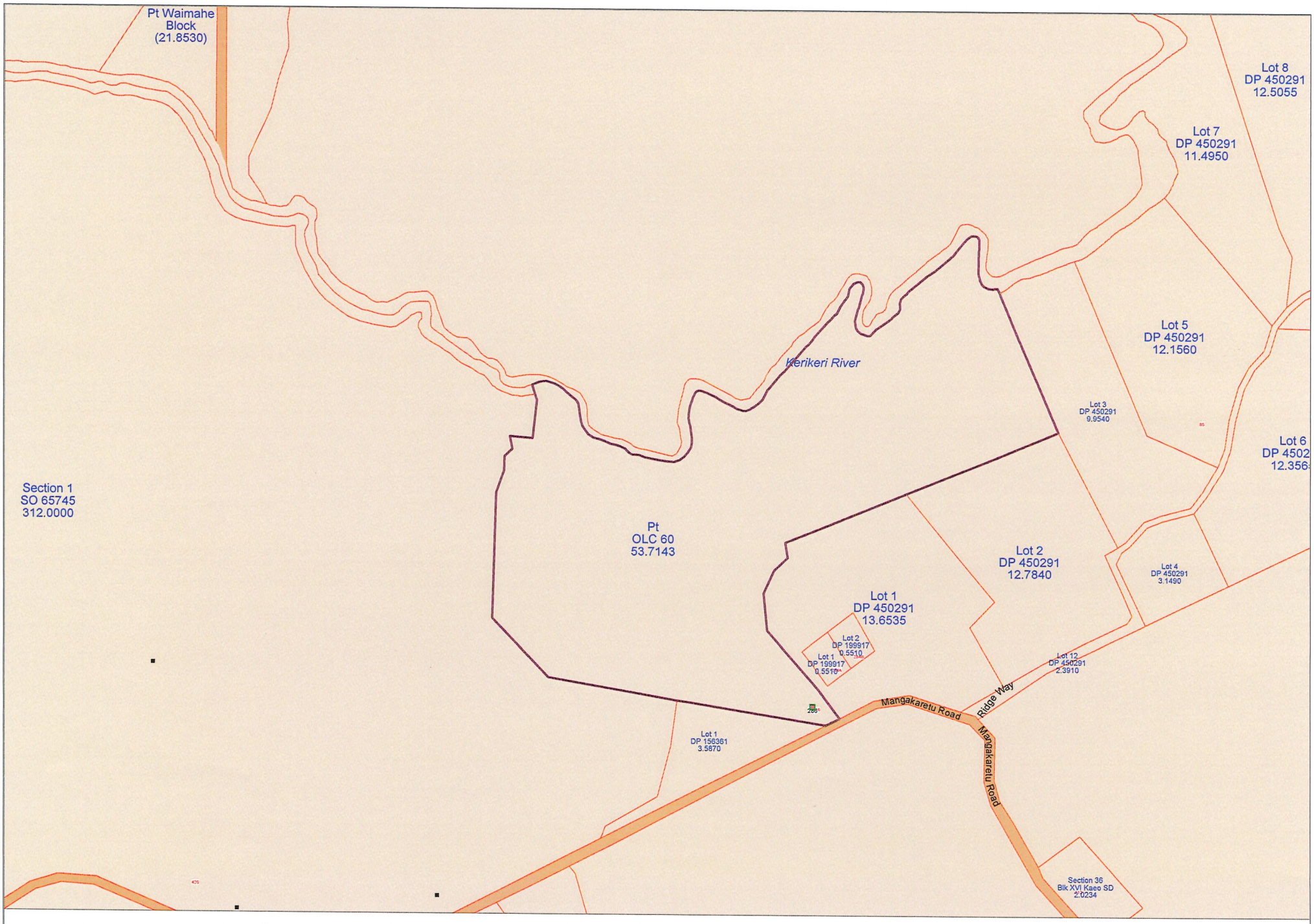
ORIGINAL
SCALE 1:5000
SHEET SIZE A3

Surveyors Ref. No: 10623

Sheet 1 of 1

Appendix 2

Locality Plan



QuickMap
Custom Software Ltd

Any person wishing to rely on the information shown on this map must independently verify the information

Scale 1:10000 Topographical and Cadastral map derived from LINZ data. Printed: 23-Jan-2026 11:40.

Appendix 3

Record of Title & Relevant Instruments

RECORD OF TITLE
UNDER LAND TRANSFER ACT 2017
FREEHOLD
Limited as to Parcels
Search Copy

R.W. Muir
Registrar-General
of Land

Identifier **NA75B/411**
Land Registration District **North Auckland**
Date Issued 28 July 1989

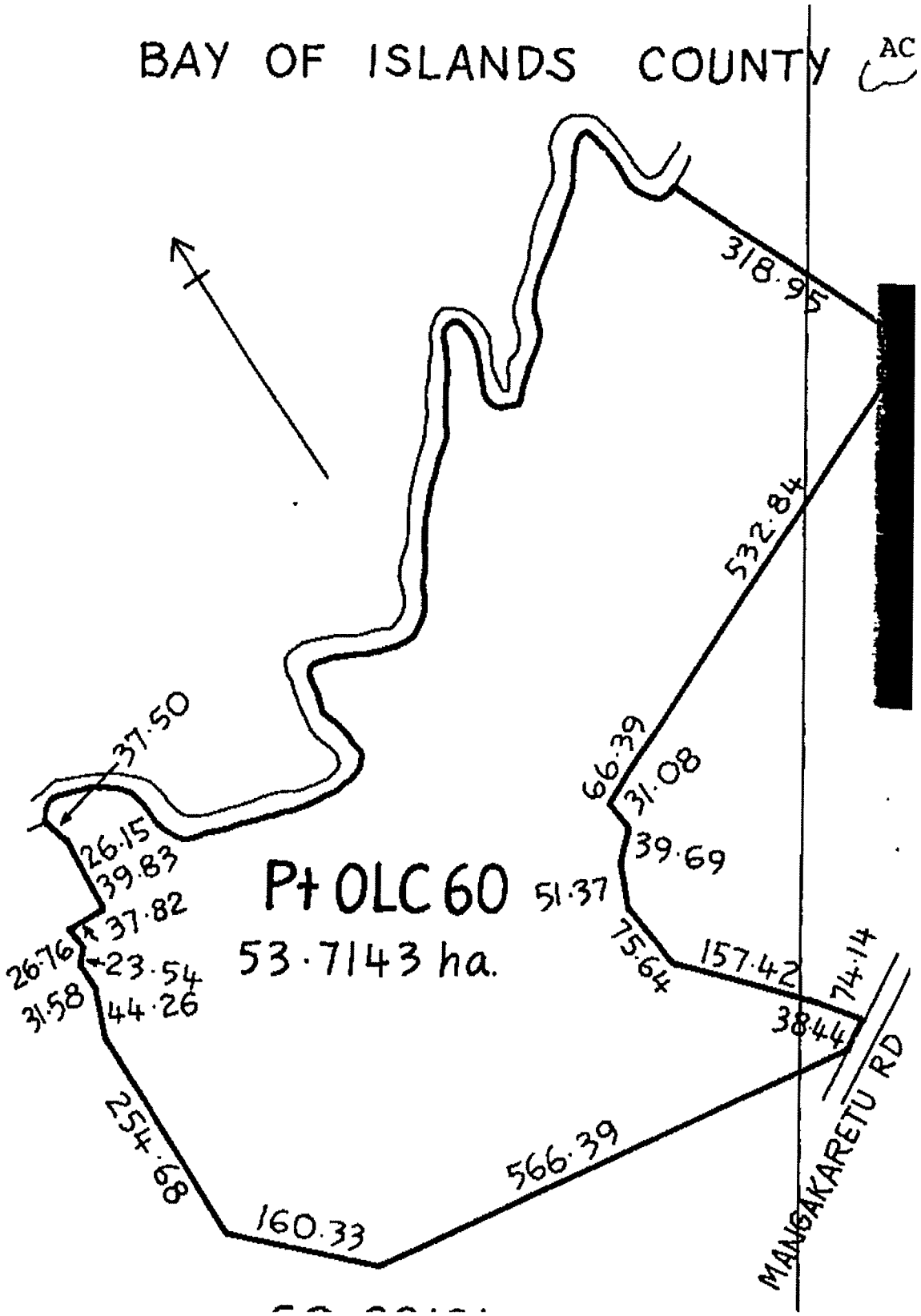
Prior References
NA500/214

Estate Fee Simple
Area 53.7143 hectares more or less
Legal Description Part Subdivision 13 Old Land Claim 60
Registered Owners
Gregory George Roy Blunden, Gay Eileen Blunden and Evelyn Fay Moll

---

Interests

C495121.2 Open Space Covenant pursuant to Section 22 Queen Elizabeth the Second National Trust Act 1977 - 5.7.1993 at 12:08 pm


BAY OF ISLANDS COUNTY
AC
318.95
532.84
66.39
31.08
39.69
51.37
75.64
157.42
74.14
38.44
MANGAKARETU RD
566.39
160.33
254.68
26.76
31.58
44.26
23.54
37.82
26.15
39.83
37.50
Pt OLC 60
53.7143 ha.

Approved by the Registrar-General of Land, Wellington, No. 609694.1/84

No. 5/2/177B

OPEN SPACE COVENANT

(Pursuant to Section 22 of the Queen Elizabeth the Second National Trust Act 1977)

WHEREAS **IAN DAVID WILSON** of OKAIHAU farmer and **JUNE MARGARET WILSON** his wife as tenants in common in equal shares.

(hereinafter called "the Covenantor") is/are registered as proprietors of an estate as set out in the Schedule of land hereto (hereinafter called "the land")

AND WHEREAS the QUEEN ELIZABETH THE SECOND NATIONAL TRUST established by the Queen Elizabeth the Second National Trust Act 1977 (hereinafter called "the Trust") is authorised by that Act to obtain open space covenants over any private land or any land under Crown Lease

AND WHEREAS the Covenantor has agreed to enter into an open space covenant with the Trust for the purpose set forth in the First Schedule hereto

NOW THEREFORE in consideration of the covenants and conditions hereinafter contained THESE PRESENTS WITNESS that in pursuance of the said agreement and by virtue of Section 22 of the Act the Covenantor and the Trust with the intent and so as to bind the land into whosoever hands the same may come MUTUALLY COVENANT at all times to observe and perform the respective duties and obligations imposed by the restrictions, stipulations and agreements contained in the SECOND Schedule hereto to the end and intent that the same shall bind the land in perpetuity or for the unexpired term thereof of the Covenantor's lease of the land and any renewal thereof as the case may be.

FIRST SCHEDULE

The Purpose of the within written open space covenant is to achieve the following open space objectives of the Covenantor and the Trust:

a) To protect and maintain open space values of the land.

b) To protect native flora and fauna on the land

c) To protect natural scenic values of the land especially as seen from Puketoi Road.

SECOND SCHEDULE

Interpretations, restrictions, stipulations and agreements

1. In the Deed unless the context otherwise requires:—
   "Act" means the Queen Elizabeth the Second National Trust Act 1977.
   "Board" means the Board of Directors of the Queen Elizabeth the Second National Trust.
   "Covenantor" means the "Owner" who entered into this covenant with the Trust.
   "General Manager" ~~Executive Officer~~ means the person appointed under Section 18 (4) of the Act.
   "Owner" means the person or persons who from time to time are registered as the proprietor(s) of "the land". "the land" means the property or part thereof defined as subject to this covenant and as shown on the plan annexed to this Deed.
2. No act or thing shall be done or placed or permitted to be done or remain upon the land which in the opinion of the Board materially alters the actual appearance or condition of the land or is prejudicial to the land as an area of open space as defined in the Act.
   In particular, on and in respect of the land, except with the prior written consent of the Board, the Owner shall not:
   (a) Fell, remove, burn or take any native trees, shrubs or plants of any kind.
   (b) Plant, sow or scatter any trees, shrubs or plants or the seed of any trees, shrubs or plants other than local native flora, or introduce any substance injurious to plant life except in the control of noxious plants.
   (c) Mark, paint, deface, blast, move or remove any rock or stone or in any way disturb the ground.
   (d) Construct, erect or allow to be erected, any new buildings or make exterior alterations to existing buildings.
   (e) Erect, display or permit to be erected or displayed, any sign, notice, hoarding or advertising matter of any kind.
   (f) Carry out any exploration for, or mining or quarrying of any minerals, petroleum, or other substance or deposit.
   (g) Dump, pile or otherwise store any rubbish or other materials, except in the course of maintenance or approved construction, provided however that after the completion of any such work all rubbish and materials not wanted for the time being are removed and the land left in a clean and tidy condition.
   (h) Effect a subdivision as defined in the Local Government Act 1974.
   (i) Allow cattle, sheep, horses or other livestock to enter, graze, feed or otherwise be present provided, however, that they may graze up to any approved fenceline on the perimeter of the land.

3. In considering any request by the Owner for an approval in terms of Clause 2 hereof, the Board will not unreasonably withhold its consent if it is satisfied that the proposed work is in accordance with the aim and purpose of the covenant as contained in the First Schedule.
4. Except with the prior written consent of the Board, no action shall be taken or thing done, either on the land or elsewhere, which will in any way cause deterioration in the natural flow, supply, quantity, or quality of any river, stream, lake , pond, marsh, or any other water resource affecting the land.
5. The Owner shall notify the Trust of any advice received from any power authority, mining company, or other body or person of the intention to erect utility transmission lines or carry out any mining or quarrying on the land and shall not signify any concurrence in relation to the proposed work without the written permission of the Board.

6(i) The Owner shall continue to comply with the provisions of the Noxious Plants Act 1978 and the Agricultural Pests Destruction Act 1967 and all amendments thereto provided, however, that the Owner may request assistance from the Trust in carrying out the aforementioned responsibility.

6(ii) That in keeping with the aims and purposes of this covenant the Owner shall continue to comply with the Wild Animal Control Act 1977 and shall take reasonable measures for the control of wild animals as defined in the Act.

7. The Owner shall keep all fences and gates on the boundary of the land in good order and condition and will accept responsibility for all minor repairs. Except as provided for in Clause 8 herein or in the Third Schedule hereto rebuilding or replacement of all such fences and gates will be the responsibility of the Owner, and the Trust equally between them as to the Owner's share of cost incurred.
8. The Trust shall repair and replace to its former condition any fence, gate or other improvement on the land which may have been damaged in the course of the Trust or any member of the public exercising any of the rights conferred by the covenant.
9. Subject to any conditions mutually agreed between the Trust and the Owner, members of the public shall have access to the land with the prior permission of the Owner.
10. The Owner may approve the use of firearms and traps by any person or persons for the eradication of noxious animals on the land.
11. The Trust, through its officers, agents or servants, may at all times enter upon the land for the purpose of viewing the state and condition thereof. In exercising this right, any officer, agent or servant of the Trust will notify the Owner in advance.
12. Any consent, approval, authorisation or notice to be given by the Trust shall be sufficient if given in writing signed by the [redacted]* of the Trust and delivered or sent by ordinary post to the last known residential or official address of the Owner or to the solicitor acting on behalf of the Owner.
13. The Owner or the Trust may at any time during the term of this covenant, by mutual agreement, carry out any works, improvements or take any action either jointly or individually or vary the terms of this covenant to ensure the more appropriate preservation of the land as an open space in terms of the Act provided, however, such agreement is not contrary to the aim and purpose of this covenant.
14. The Trust may, with the prior approval of the Minister of [redacted]**, revoke this covenant if all the members of the Board are satisfied that by reason of any change in the character of the land or of any other circumstances which the Board may deem sufficiently material, this covenant ought to be deemed obsolete, or that the continued existence thereof would impede the reasonable use of the land without securing any practical benefit consistent with the purpose of the Act.
15. Nothing in these presents hereinbefore contained shall be deemed to render the Covenantor personally liable for any breach of these covenants and conditions committed after the Covenantor shall have ceased to be the Owner.
16. The Owner shall notify the Trust of any change of ownership or control of all or any part of the land, and shall supply the Trust with the name and address of the new owner or lessee.
17. If at any time prior to registration hereof by the District Land Registrar the Owner desires to sell or otherwise dispose of all or any part of the land such sale or disposition shall be made expressly subject to the restrictions, stipulations and agreements contained in the Second Schedule hereto.

D.P.W.

D.P.W.

* General Manager
** Conservation

Queen Elizabeth II
National Trust
For open space in New Zealand

OPEN SPACE COVENANT

COVENANTOR(S): I D WILSON

J M WILSON

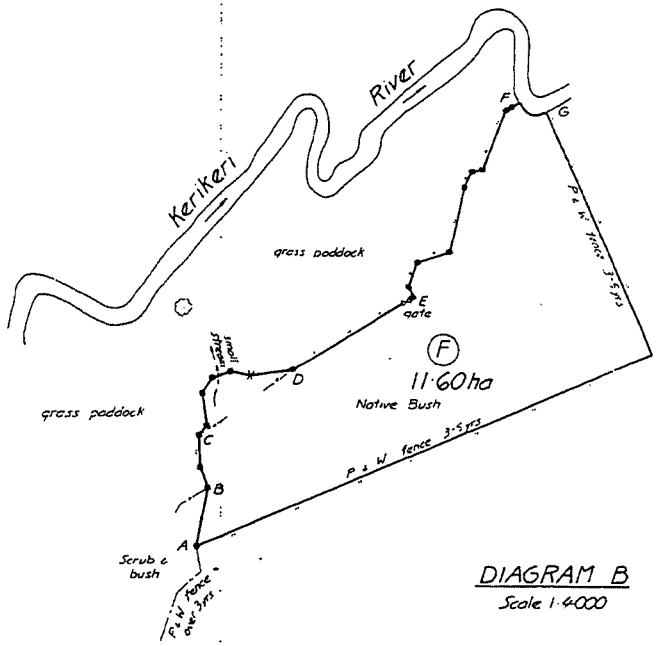
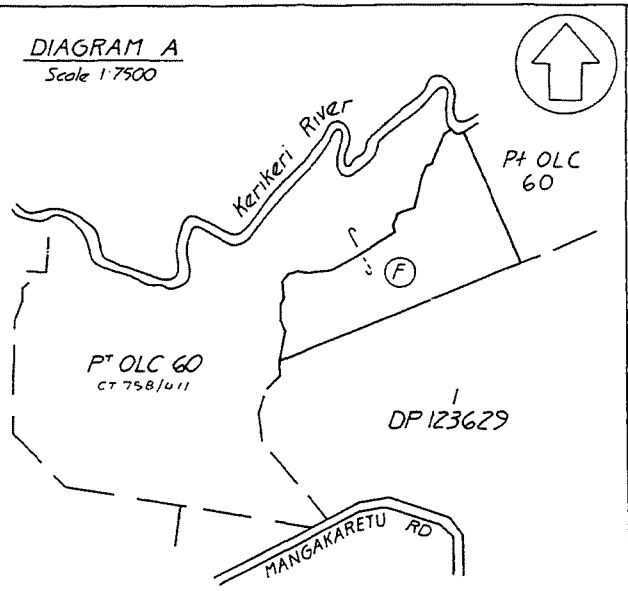


DIAGRAM B
Scale 1:4000



KEY

A-B	Not Fenced.
B-C	P & W Electric Fence over 5 yrs
C-D	Not Fenced. Line of proposed new fence, corners marked by posts or totara tree (as at March 1993)
D-E	P & W Electric Fence over 5 yrs
E-F	New P & W Fence.
F-G	South bank Kerikeri River
G-A	P & W fence (3-5yrs) on title boundary

LEGEND

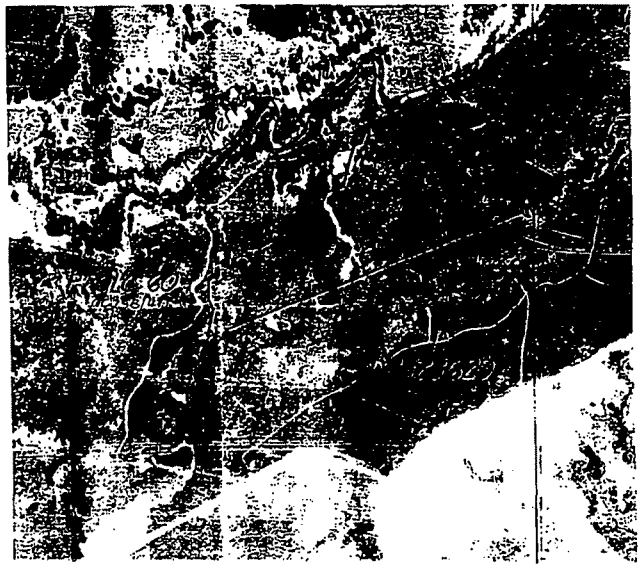
- Covenant Boundary
- Apellation Boundary
- Post & Wire Fence
- Totara Tree

AREA

(F) = 11·60 ha approx

Total Area = 11·60ha approx

Photograph : SN 5932 I/31
Flown : 3-10-81



Approvals

ID & JM Wilson
Registered Frameters

Field Inspection by R.E Crowsen on 27 1 93

Total Area 11·60 ha approx

Comprised in CT 758/41!

Registered Surveyor and holder of an annual practising certificate for who may act as a registered surveyor pursuant to section 25 of the Survey Act 1986) hereby certify that this plan has been made from surveys executed by me or under my directions, that both plan and survey are correct and have been made in accordance with the Survey Regulations 1972 or any regulations made in substitution thereof

Dated at ____ this ____ day of ____ 19 ____ Signature ____

Field Book ____ p ____ Traverse Book ____ p

Reference Plans ____

Examined ____ Correct ____

Approved ~~as to Survey~~ for open space covenant purposes only
24 / 5 / 93
Asst. Chief Surveyor

Deposited ~~this~~ ____ day of ____ 19

~~District Land Registrar~~

File 6275-OU-C5001
Received
Instructions 310702

LAND DISTRICT North Auckland
Survey Blk. & Dist. XVI Kaeo
NZMS 261 Sheet P05 Record Map No. 4·1

QUEEN ELIZABETH II NATIONAL TRUST
OPEN SPACE COVENANT
within
Pt OLC 60 BLOCK XVI KAEO SD

TERRITORIAL AUTHORITY Far North District
Surveyed by
Scale 1: 7500 approx Date January 1993

~~Kytt~~ DOSLI FORM 015

The National Bank
of New Zealand Limited

CERTIFICATE OF NON-REVOCATION OF DELEGATION OF POWER OF ATTORNEY

I, **ALISTAIR CLAUDE WRIGHT** Manager Branch Lending

of Auckland (Central/West/North Shore) Area Office, Auckland in New Zealand, **HEREBY CERTIFY** that:

1. By Deed dated 17th November 1992 deposited in the Lands and Deeds Registry Office at:

Auckland	as No.	C.437380.1	Hokitika	as No.	093356.1
Blenheim	as No.	166109.1	Invercargill	as No.	205198.1
Christchurch	as No.	A.033435.1	Napier	as No.	583965.1
Dunedin	as No.	821487.1	Nelson	as No.	322991.1
Gisborne	as No.	G.190113.1	New Plymouth	as No.	396792.1
Hamilton	as No.	B.116233.1	Wellington	as No.	B.273065.1

('the Power of Attorney'), the National Bank of New Zealand Limited ('the Bank') did constitute and appoint that person for the time being and from time to time appointed by the Bank to act as the Chief Executive of the Bank ('the Attorney') to be the attorney or agent of the Bank to represent and act for, and in the name of, the Bank for all the objects and purposes, and with the powers and authorities, set out in the Schedule to the Power of Attorney.

2. The Power of Attorney empowers the Attorney to delegate from time to time, either generally or specifically in writing, to any officer or employee of the Bank or of any other company in the Lloyds Bank Group for the time being, or any other person that the Attorney considers an appropriate delegate, all or any powers and authorities given to the Attorney under the provisions of paragraph 12 of the Schedule to the Power of Attorney (but not further or otherwise) so that that delegate will have, and be able to exercise, all those powers and authorities (but without power to delegate) as fully and effectually as the Attorney would have done.

3. By instrument dated 19 November 1992 deposited in the Lands and Deeds Registry Office at:

Auckland	as No.	C.437380.2	Hokitika	as No.	093356.2
Blenheim	as No.	166109.2	Invercargill	as No.	205198.2
Christchurch	as No.	A.033435.2	Napier	as No.	583965.2
Dunedin	as No.	821487.2	Nelson	as No.	322991.2
Gisborne	as No.	G.190113.2	New Plymouth	as No.	396792.2
Hamilton	as No.	B.116233.2	Wellington	as No.	B.273065.2

JOHN ANTHONY ANDERSON of Wellington, being the then Chief Executive of the Bank, delegated all of the powers and authorities given to him under the provisions of paragraph 12 of the Schedule to the Power of Attorney to me (among others).

4. At the date of this Certificate, I have not received any notice of the revocation of that delegation of powers and authorities to me or notice of the winding-up of the Bank or other revocation of the Power of Attorney.

DATED at Auckland this 18 day of June 1993

.....

HO 084B 2 93.

QUEEN ELIZABETH THE SECOND NATIONAL TRUST

OPEN SPACE COVENANT

COVENANTORS: IAN DAVID WILSON

JUNE MARGARET WILSON

THE NATIONAL BANK OF NEW ZEALAND LIMITED

as Mortgagee only of the land under Mortgage No: 834446.5 hereby consents to the registration of the within-written covenant but without prejudice to its rights, powers and remedies under the said mortgage and without undertaking or acknowledging any of the within-written restrictions, stipulations and agreements to be observed or performed.

Signed by
The National Bank of New Zealand Ltd
By its attorney ALISTAIR CLAUDE WRIGHT
In the presence of

The National Bank of
New Zealand Limited
By its Attorney

WITNESS:
ADDRESS: AUCKLAND

SCHEDULE OF LAND

Land Registry:	NORTH AUCKLAND
Estate:	fee simple
Area:	11.60 ha approx shown as area F on plan attached.
Lot & D.P. No. (other legal description):	Part subdivision 13 of Old Claim 60 Block XVI Kaeo Survey District
Certificate(s) of Title:	Part Volume 75B folio 411

IN WITNESS WHEREOF this memorandum has been executed this 21st day of October 1991

Signed by

IAN DAVID WILSON .....

JUNE MARGARET WILSON .....

as covenantors
in the presence of:

Witness ..... D L Clark .....

Occupation ..... FARM MANAGER .....

Address ..... PUKETI Rd .....

..... RD1 OKAIHAU .....

THE COMMON SEAL of the QUEEN ELIZABETH THE SECOND NATIONAL TRUST was hereto affixed in the presence of:

..... Chairman

..... Director

..... General Manager
Executive Officer

OPEN SPACE COVENANT

Pursuant to Section 22 of the Queen Elizabeth the Second National Trust Act 1977.

I D WILSON
J M WILSON

.....
Covenantor

Correct for the purposes of the Land Transfer Act.

General Manager
~~Executive Officer~~
for the Trust
being a person authorised by the Trust to certify on its behalf.

AND

THE QUEEN ELIZABETH THE SECOND NATIONAL TRUST

12.08 05.JUL93 C 495121

NORTH AUCKLAND DISTRICT LAND REGISTRAR

Appendix 4

Subdivision Site Suitability Engineering Report

geologix
consulting engineers

SUBDIVISION SITE SUITABILITY ENGINEERING REPORT

286 MANGAKARETU ROAD, WAIPAPA

GREG BLUNDEN

C0713N-S-01
DECEMBER 2025
REVISION 1

geologix
consulting engineers

DOCUMENT MANAGEMENT

Document Title	Subdivision Site Suitability Engineering Report
Site Reference	286 Mangakaretu Road, Waipapa
Client	GREG BLUNDEN
Geologix Reference	C0713N-S-01
Issue Date	December 2025
Revision	01
Prepared	Fred Sennoga Civil Design Engineer, BScEng Civil, MEngNZ 
Reviewed	Sebastian Hicks Principal Civil Engineer, CPEng Reg. 1168062, CMEngNZ, IntPE(NZ) /APEC Engineer 
Approved	Edward Collings Managing Director, CEnvP Reg. 0861, CPEng Reg. 1033153, CMEngNZ
File Reference	*C0713N-S-01-R01 -draft FS - 02*

REVISION HISTORY

Date	Issue	Prepared	Reviewed	Approved
Dec 2025	First Issue	FS	SH	EC

geologix
consulting engineers

TABLE OF CONTENTS

FIGURES

TABLES

1 INTRODUCTION

This Site Suitability Engineering Report has been prepared by Geologix Consulting Engineers Ltd (Geologix) for Greg Blunden as our Client in accordance with our standard short form agreement and general terms and conditions of engagement.

Our scope of works has been undertaken to assist with the Resource Consent application in relation to the proposed subdivision of rural property PT OLC 60 situated at 286 Mangakaretu Road, Waipapa, the 'site', into two new rural residential lots with a balance rural residential lot.

Specifically, this assessment addresses engineering elements of natural hazards, wastewater, stormwater, water supply, firefighting, access and associated earthworks requirements to provide safe and stable building platforms with less than minor effects on the environment as a result of the proposed activities outlined in Section 1.1.

1.1 Proposal

A proposed scheme plan was presented to Geologix at the time of writing, prepared by Thomson Survey Ltd[1] and has been reproduced within Appendix A as Drawing No 100. It is understood from the scheme plan that there will be three separate lots comprising:

- Proposed Lot 1 & 3, which are proposed rural residential lots.
- Proposed Lot 2, which is the balance rural residential lot comprising the balance areas of section *PT OLC 60*.

The above is summarised in Table 1. Any amendments to the referenced scheme plan may require an update to the recommendations of this report which are based on conservative, typical rural residential development concepts.

The site is located in a Rural Production zone as per the FNDC Operative District Plan.

Table 1: Summary of Proposed Subdivision

Proposed Lot No.	Size	Purpose
1	2.20 ha	New rural residential
2	21.48ha	Balance Lot
3	28.50ha	New rural residential

Site access for the proposed lots will be provided from Mangakaretu Road located southeast of Lot 1 and through the proposed right of way that has an existing formed driveway that requires upgrading to satisfy local council standards. A specific Traffic Impact Assessment (TIA) is not within the scope of this report.

[1] *Thomson Survey, PROPOSED SUBDIVISION OF PT OLC 60*

2 DESKTOP APPRAISAL

The parent site is legally described as Pt Lot 13 OLC 60 and designated by the FNDC Operative District Plan as a "Rural Production" zone. The site is located along the northern aspect of Mangakaretu Road, Waipapa and is irregular in shape with a gross site area of approximately 53.7143ha. The balanced lot is in the southwest corner of the parent site whilst the two proposed lots are located towards the eastern aspect of the site. An existing driveway runs through the site from the southeast corner and provides access to the existing dwellings, structures and the proposed lots. The balanced lot, Lot 2, shares a northern boundary with the Kerikeri river. Two tributaries of the Kerikeri river flow in a northerly direction through the site on the eastern aspect of the parent site.

Topographically, from the elevated Mangakaretu road (around level 216m), the site area has steep to gentle slopes sloping down towards the northern aspect of the site to around elevation 120m. There is a localised high point, level 60m, within Lot 6 near in the northeastern region of the site. The overall slope of the terrain in Lot 1 (southeast corner of the site) is gentle sloping towards the northwest corner of the site (~4.2^0 slope). Maximum Slopes in the balance lot, Lot 2, and proposed Lot 3 range from (~11^0 to ~17^0 slope). The eastern reaches of Lot 3 that are south of the Kerikeri river are flat (~0.6^0 slope). The site setting is presented schematically below in figure 1 and 2.

Figure 1: Site Setting (parent site)

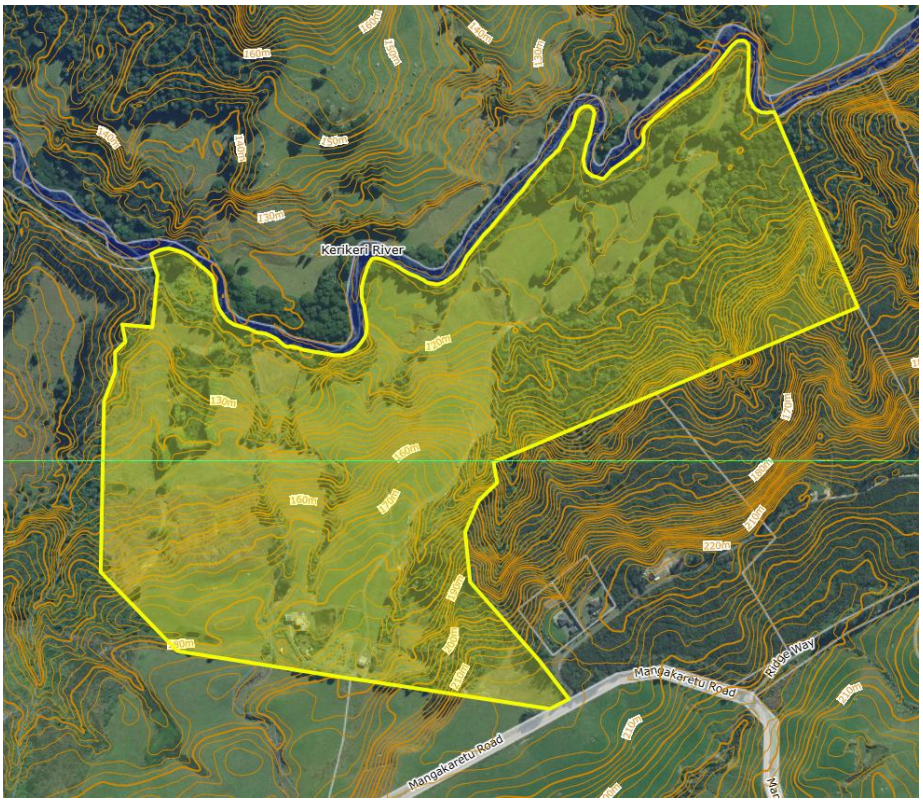
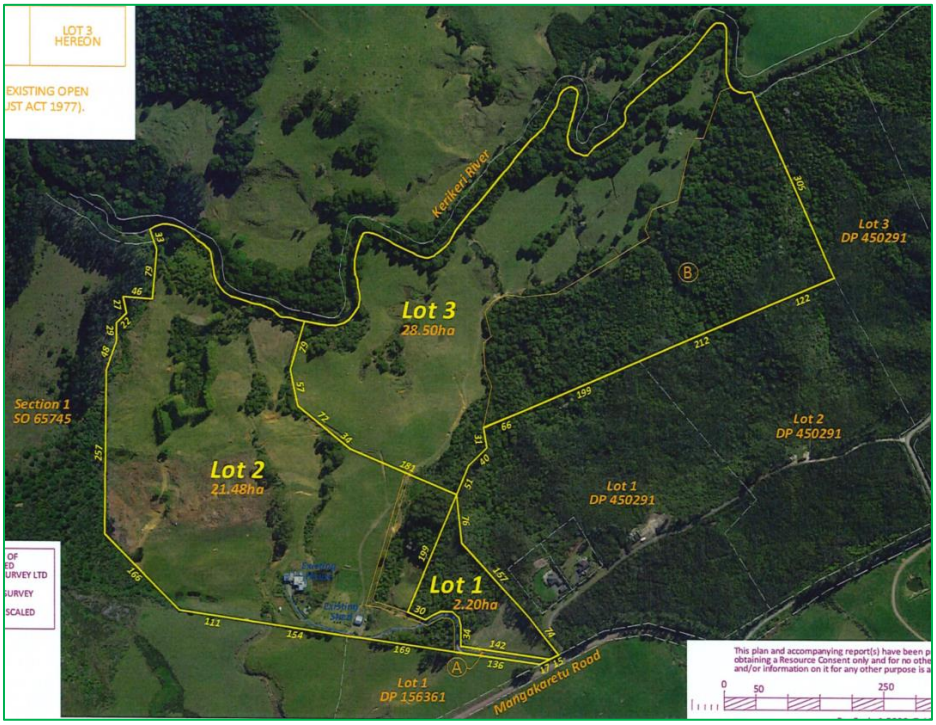


Figure 2: Site Setting (proposed lots)



The site area is currently predominantly open grassed paddock with some mature native trees near the banks of the Kerikeri river and its tributaries. There are existing dwelling structures and shed present within the site boundaries in the balance Lot 2 towards this lot's southern boundary. Several ponds are located across the parent lot.

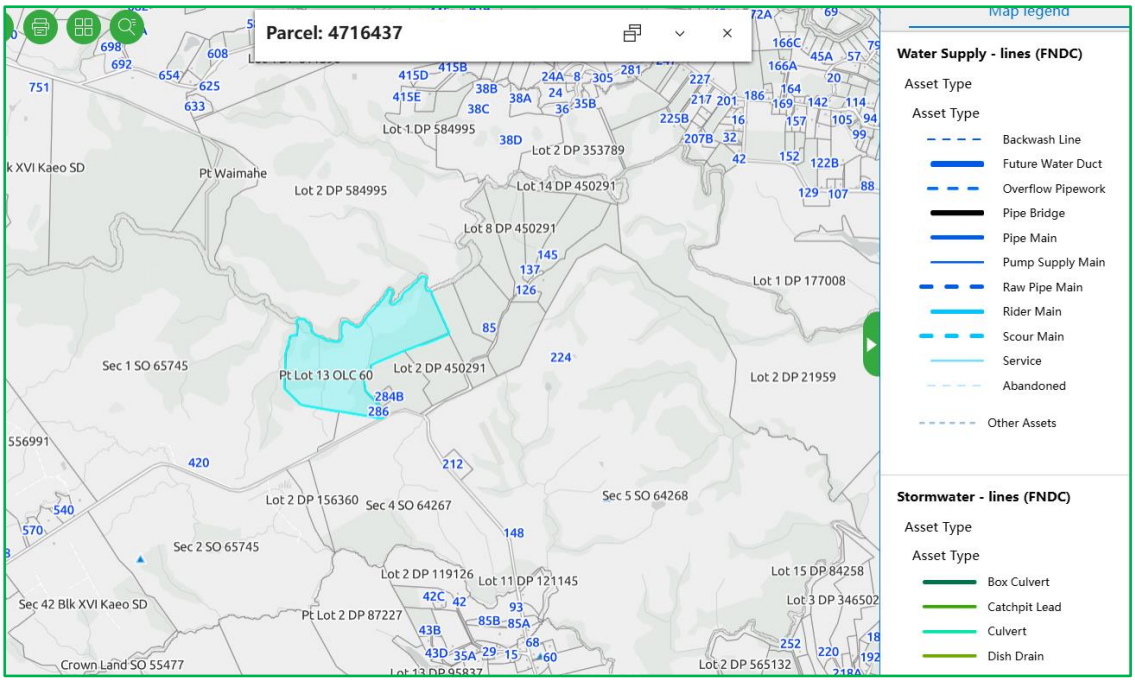
2.1 Existing Reticulated Networks

Far North District Council (FNDC) GIS mapping indicates (see figure 3) that existing public three waters infrastructure and reticulated networks are not present within 286 Mangakaretu Road.

An existing stormwater culvert drains run across and underneath the Mangakaretu Road north of the site entrance. A number of other culverts run across the existing private accessway that runs into the site and generally discharge water from south to north into wide gulley formations.

This report has been prepared with the goal of the subdivision and future development catering for onsite wastewater, onsite stormwater, and potable water supply with suitable firefighting requirements thereof.

Figure 3. Existing Site Layout and Services (FNDC GIS)

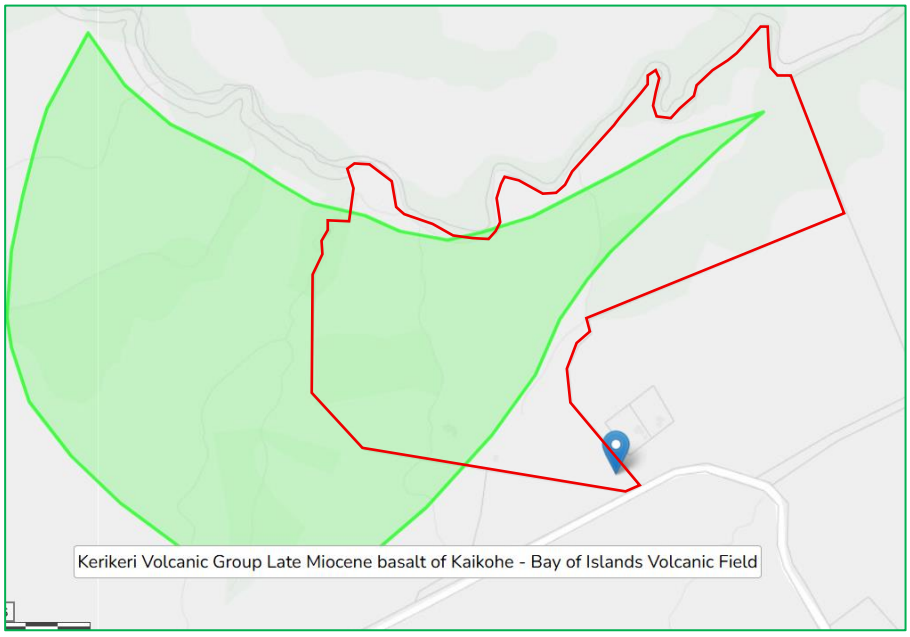


2.2 Geological Setting

Available geological mapping[2] indicates the site to be directly underlain by Kerikeri Volcanic Group Late Miocene basalt of Kaikohe - Bay of Islands Volcanic Field. These Neogene igneous rocks (basalt)can be expected to contain Basalt lava material, volcanic plugs and minor tuff material. The basaltic flows, described as older flows and flow remnants in this area are indicated to cover majority of the site (across Lot 2 and 3), giving rise to the rolling topography. Geology in the proposed Lot 1 area also presents Alkaline and peralkaline rhyolite domes and local obsidian rocks. The volcanic geology extends away from the site in the surrounding local area. Refer to Fig 4 below:

[2] *Geological & Nuclear Science, 1:250,000 scale Geological Map, Sheet 2, Whangarei, 2009.*

Figure 4: Geological Map on site boundaries.

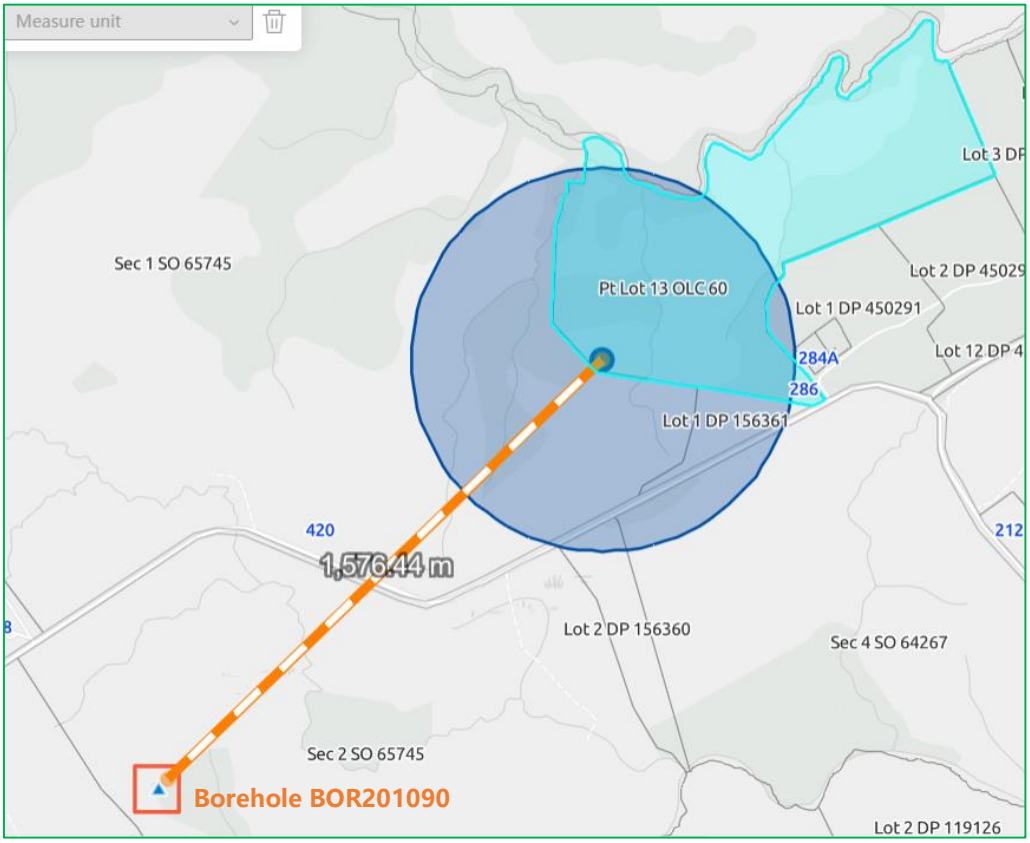


2.3 Existing Geotechnical Information

Existing ground investigations were not made available to Geologix at the time of writing. Furthermore, a review of available GIS databases, including the New Zealand Geotechnical Database,[3] did indicate that the latest borehole record was located more than 500 m southwest of the site. This active borehole (BOR201090) is approximately 1576m southwest of the site. The borehole is located upstream of the site with a ground contour height of approximately 255m (see figure 5 below).

[3] https://www.nzgd.org.nz/

Figure 5: Borehole location



3 SURFACE WATER FEATURES AND OVERLAND FLOWPATHS

During our site walkover and desktop appraisal of GIS topographic data, Geologix have developed an understanding of the surface water features and overland flow paths influencing the site. This is summarised in the following sections.

3.1 Surface Water Features

The site is at relatively higher elevations of the existing catchment with the Kerikeri River flowing immediately downstream of the site's northern boundaries.

Stormwater within Lot 1 will flow as sheet flow in a north westerly direction across the site towards the western boundary of the site. This overland flow appears to enter a tributary of the Kerikeri river located within the eastern aspect of Lot 2 which then flows downstream in a northerly direction towards the Kerikeri river. The balance of the overland flows across Lots 2 & 3 in a northerly direction across steep to mild slopes towards the banks of the Kerikeri river that has some flat areas located towards the northeastern aspects of Lot 3. Lot 1 and particularly Lot 3 have some ponds formed along the path of the tributaries that appear to capture slow down the discharge of water into the Kerikeri river (see Figure 6).

There is a mapped flood hazard (100year CC River Flood Regionwide Model) located around 365m northeast of the site, at around elevation 102m, near the Kerikeri river's banks. The nearest site corner boundary is at around elevation 110m. Refer Figure 7 below. Our determination is that the development of impervious area on this site can pose downstream flooding effects.

Figure 6: Location of observed ponds & wet areas

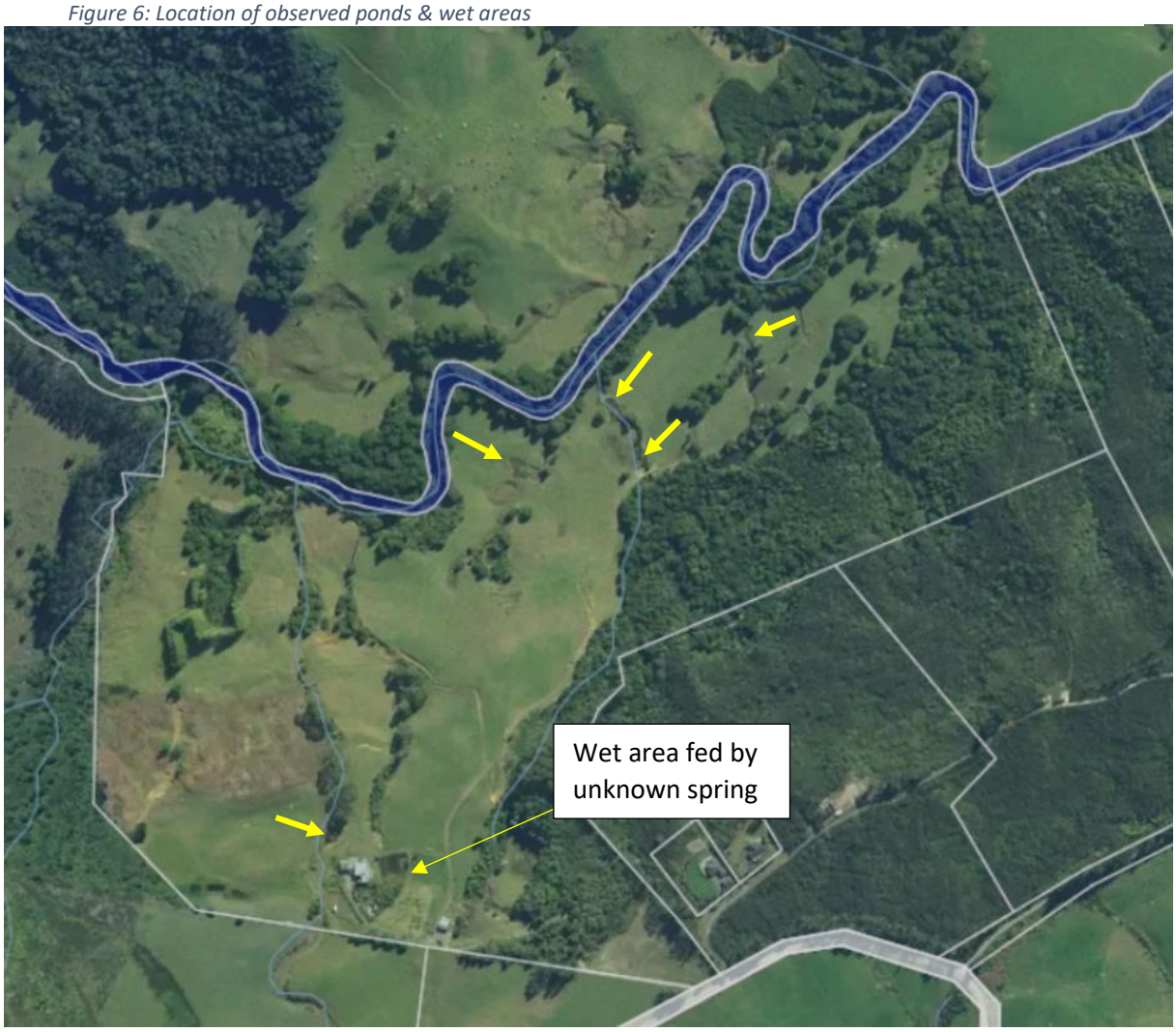
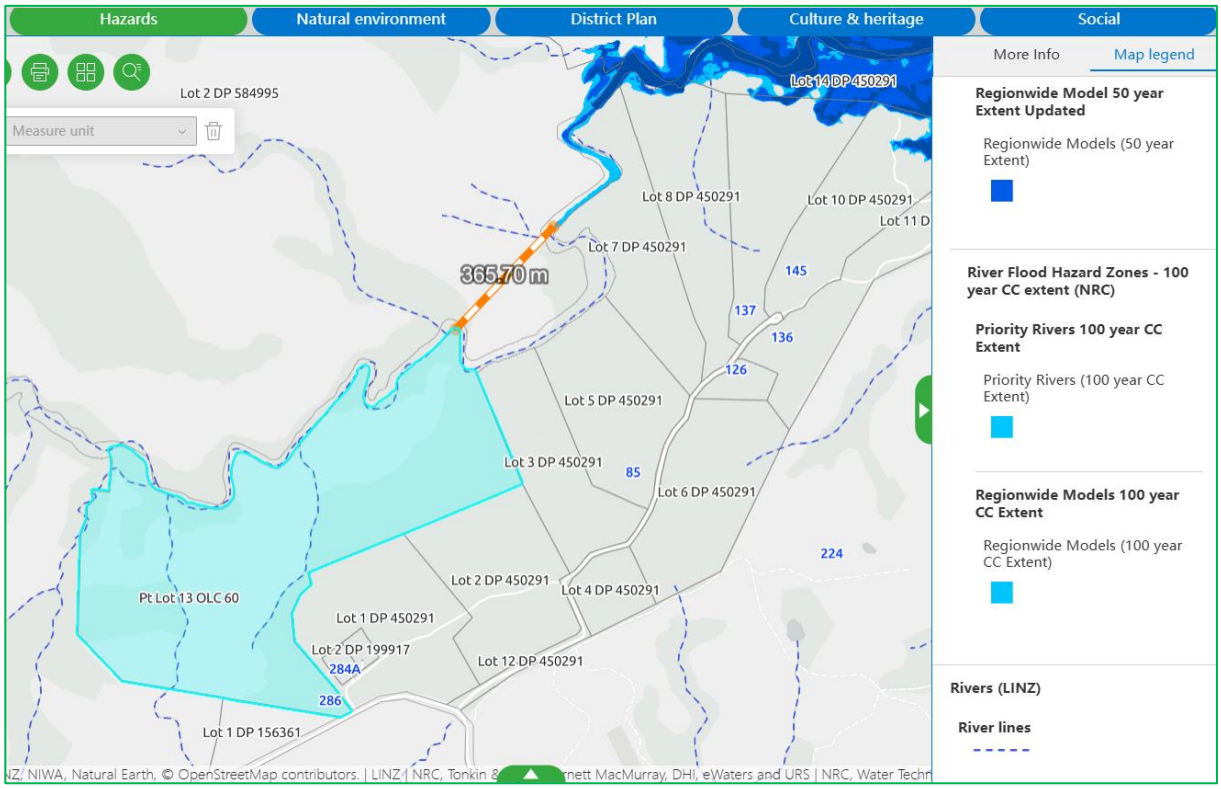


Figure 7: NRC River Hazard Extents Relative to Site



3.2 Sensitive Receptors

Based on GIS data, national topographic maps and survey data provided at the time of writing we do not understand there to be sensitive receptors such as wetlands at the site. However, we have not been engaged to provide an ecological assessment of the site or surface water features.

3.3 Overland Flow Paths

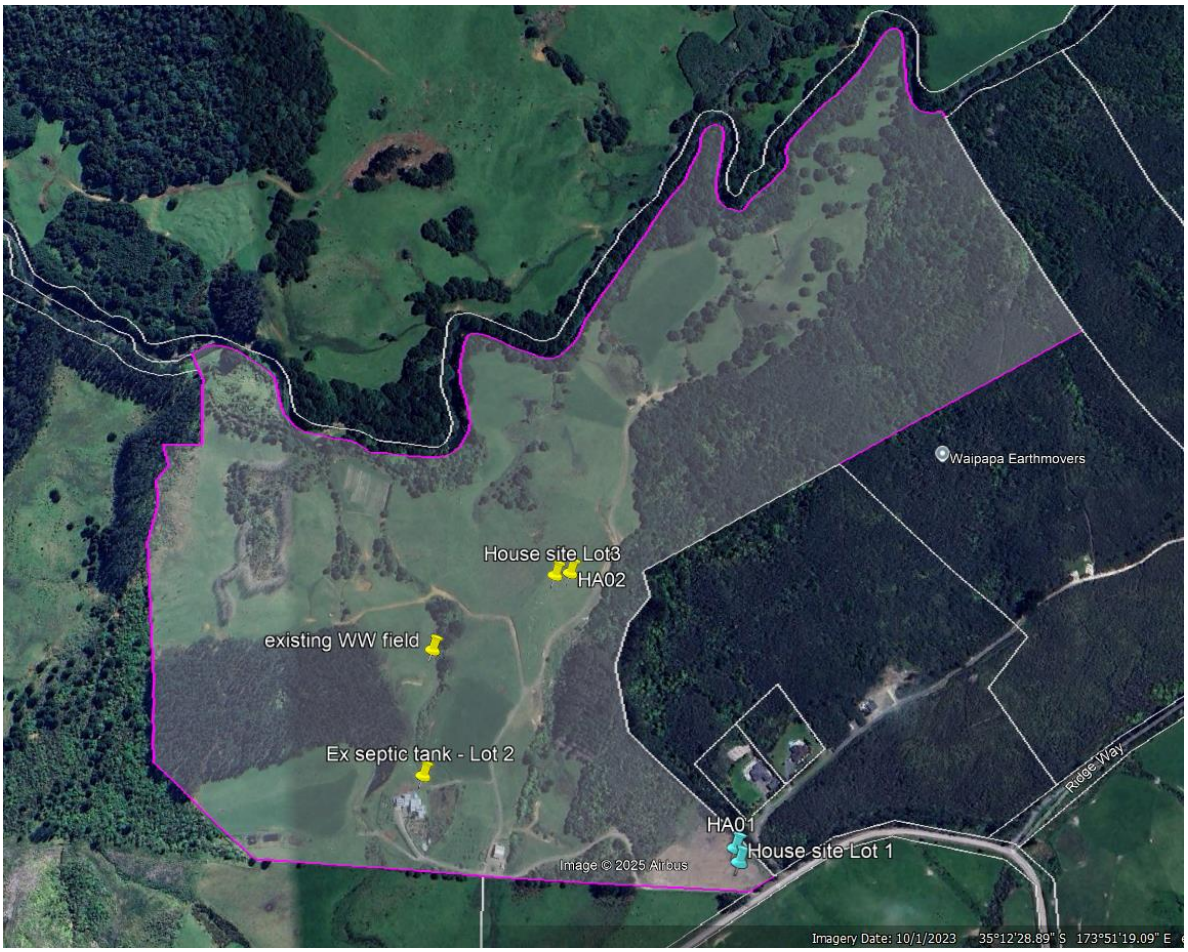
Overland flow paths evident within the site boundaries of the northerly sloping land constituted by the tributaries that feed into the Kerikeri river. It is anticipated that most surface water could move as sheet flow following the natural topography towards the northern boundaries of the site. There is a tree lined gulley OLFP that is located within Lot 2 between the two main tributaries that also flows northwards to the Kerikeri river.

4 SITE OBSERVATIONS

A site-specific walkover survey and intrusive ground investigation was undertaken by Geologix in November 2025. The ground investigation was scoped to confirm the findings of the above information and to provide parameters for wastewater assessment. The ground investigation comprised:

- Two hand augered boreholes designated HA01 & HA02 inclusive, were formed within suitable areas for wastewater disposal fields on each proposed residential lot with a target depth of 1.2m below ground level (bgl). See Figure 8 below for hand auger locations and other features.

Figure 8 Site observations sketch



4.1 Site Walkover Survey

The following notable observations from the visual walkover survey of the property are as follows :

- The topographical understanding of the site developed from our desktop study, as outlined in Section 2, is in general accordance with that observed on site.
- Suitable building envelopes[4] can be formed on sloping land < 10° in Lot 1 and 3.

[4] *Measuring 30m x 30m according to FNDC District Plan Rule 13.7.2.2.*

- The existing Mangakaretu Road provides access to the parent lot at the site's southeast entrance. This road traverses in an east west direction and has shallow wide swales to both sides of the carriageway.
- From Mangakaretu road, there is an existing 3m wide metal driveway that runs into the site, adjacent to Lot 1 and through to Lot 2 and Lot 3. The surfacing of this existing road changes from a metal road, in the initial gently sloping areas before changing to a concrete surface over its steeper slopes, then changing back to a metal access road that leads to existing metalled farm tracks that are near the future lots.
- Nearby land to the south of the site includes similar rural production properties with grassed paddocks and shrubbery. Recent intensification development was not evident on immediately adjacent lots. East and west of the site there are forested and shrubland areas.
- An existing single-story dwelling structure and a shed are located towards the southern area of the balance lot, Lot 2. (see)
- There are existing public SW culvert drains running near and underneath the Mangakaretu Road entrance to the site that discharges into a southern grassed paddock.
- Along the existing metal accessway into the site, there are various SW culverts that appear to drain concentrated water flows from the south to north, across the access carriageway (see figure 8 for their approximate locations). The concentrated flows through the culverts emanate from a southern neighbouring property Lot 1 DP 156361.
- No existing council water supply meter was found in the site. Water supply is via roof water tanks as seen at existing dwelling at Lot 2.
- The landowner indicated that a pond northwest of the dwelling was also used as a water supply source.
- No existing public or private sewer connections were found at the existing site. Evidence of onsite wastewater treatment was visible at the balanced lot, Lot 2 in the form of an underground septic tank system. This septic tank system further disperses its effluent into a wastewater field area located approximately 120m north of the dwelling, well away from any proposed boundary or ROW.

4.2 Ground Conditions

Arisings recovered from the exploratory boreholes were logged by a suitably qualified geotechnical engineering professional in general accordance with New Zealand Geotechnical Society guidelines[5]. Engineering borehole logs are presented as Appendix B to this report and approximate borehole positions recorded on Drawing No. 101 within Appendix A. Strata identified during the ground investigation can be summarised as follows:

[5] *New Zealand Geotechnical Society, Field Description of Soil and Rock, 2005.*

- **Topsoil encountered down to 0.2 m bgl.** Described as grassed topsoil containing organic silt, dark blackish brown and moist with low plasticity.

- **Kerikeri Volcanic Group Late Miocene basalt of Kaikohe - Bay of Islands Volcanic Field to depths ranging between 0.2 m to >1.2 m bgl.** Underlaying the topsoil, we have encountered Kerikeri volcanic residual soils which were typically clayey SILT, tending to be friable. The soils were found to be light brown and were found generally to be moist to wet.

A summary of ground investigation data is presented below as Table 2.

Table 2: Summary of Ground Investigation

Hole ID	Lot	Hole Depth	Topsoil Depth	Groundwater[2]	Wastewater Category[4]
HA01	1	1.2 m	0.2 m	NE	6 – slow draining
HA02	3	1.2 m	0.2 m	NE	6 – slow draining

1. *All depths recorded in m bgl unless stated.*
2. *Groundwater measurements taken on day of drilling.*
3. *NE – Not Encountered.*
4. *Wastewater category in accordance with Auckland Council TP58[6].*

5 WASTEWATER ASSESSMENT

The scope of this wastewater assessment comprised a ground investigation to ascertain a lot-specific wastewater disposal classification for concept design of suitable systems for a probable future rural residential development. Relevant design guideline documents adopted include:

- Auckland Council, Technical Publication 58, On-site Wastewater Systems: Design and Management Manual, 2004.

- NZS1547:2012, On-site Domestic Wastewater Management.

The concept rural residential developments within this report assume that the proposed new lot may comprise up to a five-bedroom dwelling with a peak occupancy of eight people[7]. This considers the uncertainty of potential future Building Consent designs. The number of usable bedrooms within a residential dwelling must consider that proposed offices, studies, gyms, or other similar spaces maybe considered a potential bedroom by the Consent Authority.

5.1 Existing Wastewater Systems, Reticulated Network

An existing private wastewater sewer system has been identified within the site boundaries at the balance lot, Lot 2. This system reticulates the generated effluent to a waste disposal field located approximately 160m north of the dwelling and 25m southwest of the proposed Lot 2 boundary (see Figure 9). The wastewater field is located well within the Lot 2 boundary.

[6] Auckland Council, Technical Publication 58, On-site Wastewater Systems: Design and Management Manual, 2004, Table 5.1.
[7] TP58 Table 6.1.

Figure 9: Schematic of Existing Wastewater System (GIS image courtesy of G.Blunden)

FNDC GIS infrastructure data maps indicate that the existing site is not directly serviced by public infrastructure as indicated in section 2.1 of this report.

5.2 Wastewater Proposal

The proposed wastewater infrastructure associated to the establishment of the subdivision includes the provision of onsite wastewater treatment. Refer Drawing Sheet 101 in Appendix A. This will involve appropriate sizing and positioning of wastewater disposal fields within each proposed lot as detailed in section 5.5.

5.3 Wastewater Generation Volume

In lieu of potable water infrastructure servicing the site, roof rainwater collection within on-lot tanks has been proposed for this assessment. The design water volume for roof water tank supply is estimated at 160 litres/ person/ day[8]. This assumes standard water saving fixtures[9] being installed within the proposed future developments. This should be reviewed for each proposed lot at the Building Consent stage. For the concept wastewater design this provides a total daily wastewater generation of 1,280litres/ day per proposed lot.

[8] *TP58 Table 6.2, AS/ NZS 1547:2012 Table H3.*

[9] *Low water consumption dishwashers and no garbage grinders.*

5.4 Treatment System

Selection of a wastewater treatment system will be provided by future developers at Building Consent stage. This will be a function of a refined design peak occupancy. It is recommended that to meet suitable minimum treated effluent output, secondary treatment systems are accounted for across the site. The concept solution is detailed further in the following sections.

In Building Consent design, considering final disposal field topography and proximity to controlling site feature, a higher treated effluent output standard such as UV disinfection to tertiary quality maybe required. Moreover, a primary treatment solution may also be considered for the Lot development, provided that the system complies with the proposed Northland Regional Plan. Specifically, controlling rules include:

- Rule C.6.1.3 (6), discharge of wastewater from primary systems is to slopes less than 10°.
- Rule C.6.1.3 (9.a), 100 % reserve disposal area where the wastewater has received primary treatment.
- Table 9, exclusion areas and setback distances for primary treated domestic type wastewater.

No specific treatment system design restrictions and manufacturers are currently in place. However, the developer will be required to specify the treatment system proposed at Building Consent.

5.5 Land Disposal System

To provide even distribution, evapotranspiration assistance and to minimise effluent runoff it is recommended that treated effluent is conveyed to land disposal via Pressure Compensating Dripper Irrigation (PCDI) systems, a commonplace method of wastewater disposal.

The proposed PCDI systems may be surface laid and covered with minimum 150 mm mulch and planted with specific evapotranspiration species with a minimum of 80 % species canopy cover or subsurface laid to topsoil with minimum 200 mm thickness and planted with lawn grass. Site-won topsoil during development from building and/ or driveways footprints may be used in the area of land disposal systems to increase minimum thicknesses. Specific requirements of the land disposal system include the following which have been compiled with for this report are shown in Table 3.

Table 3: Disposal Field Design Criteria (Lots 1,3)

Design Criteria	Site Conditions
Topography at the disposal areas shall not exceed 25°. Exceedances will require a Discharge Consent.	Concept design complies
On shallower slopes <25 ° but >10 °, compliance with Northland Regional Plan (NRP) rule C.6.1.3(6) is required.	Concept design complies, disposal fields can be sited on slopes of <10 °, cutoff drains not required.

On all terrain irrigation lines should be laid along contours.	Concept design complies
Disposal system situated no closer than 900 mm (vertically) from the winter groundwater table (secondary treated effluent).	Concept design complies
Separation from surface water features such as stormwater flow paths (including road and kerb channels), rivers, lakes, ponds, dams, and natural wetlands according to Table 9, Appendix B of the NRP.	Concept design complies. All overland flow paths separation distances to disposal areas are 15 m.
The effluent is treated and disposed of on-site such that each site has its own treatment and disposal system no part of which shall be located closer than 30m from the boundary of any river, lake, wetland, or the boundary of the coastal marine area. FNDC rule 12.7.6.1.4	Concept design complies.

- **Soil Loading Rate**

Based on the results of the ground investigation, conservatively the shallow soils are inferred to meet the drainage characteristics of TP58 Category 6, sandy clay, non-swelling clay, and silty clay – slowly draining. This correlates to NZS1547 Category 5, poorly drained described as light clays. For a typical PCDI system, a Soil Loading Rate (SLR) of 3 mm/ day is recommended within NZS1547 Table 5.2 and TP58 Table 9.2.

- **Disposal Areas**

The sizing of wastewater system disposal areas is a function of soil drainage, the loading rate and topographic relief. For each proposed lot a primary and reserve disposal field is required as follows. The recommendations below are presented on Drawing No. 101.

Primary Disposal Field. A minimum PCDI primary disposal field of 427 m^2 laid parallel to the natural contours.

Reserve Disposal Field. A minimum reserve disposal field equivalent to 30 % of the primary disposal field is required under NRP rule C.6.1.3(9)(b) for secondary or tertiary treatment systems. It is recommended each proposed lot provides a 128 m^2 reserve disposal area to be laid parallel to the natural contours.

Concept disposal field locations require the provision of surface water cut-off drains to meet the provisions of NRP rule C.6.1.3.

Disposal fields discharging secondary treated effluent are to be set at the 20-year ARI (5% AEP) flood inundation height to comply with the above NRP rule. Flood hazard potential has not been identified within the site boundaries and as such the site can provide freeboard above the 1 % AEP flood height to comply with this rule.

5.6 Summary of Concept Wastewater Design

Based on the above design assumptions a concept wastewater design is presented in Table 4 and presented schematically upon Drawing No. 101. It is recommended that each lot is subject to Building Consent specific review and design amendment according to final development plans.

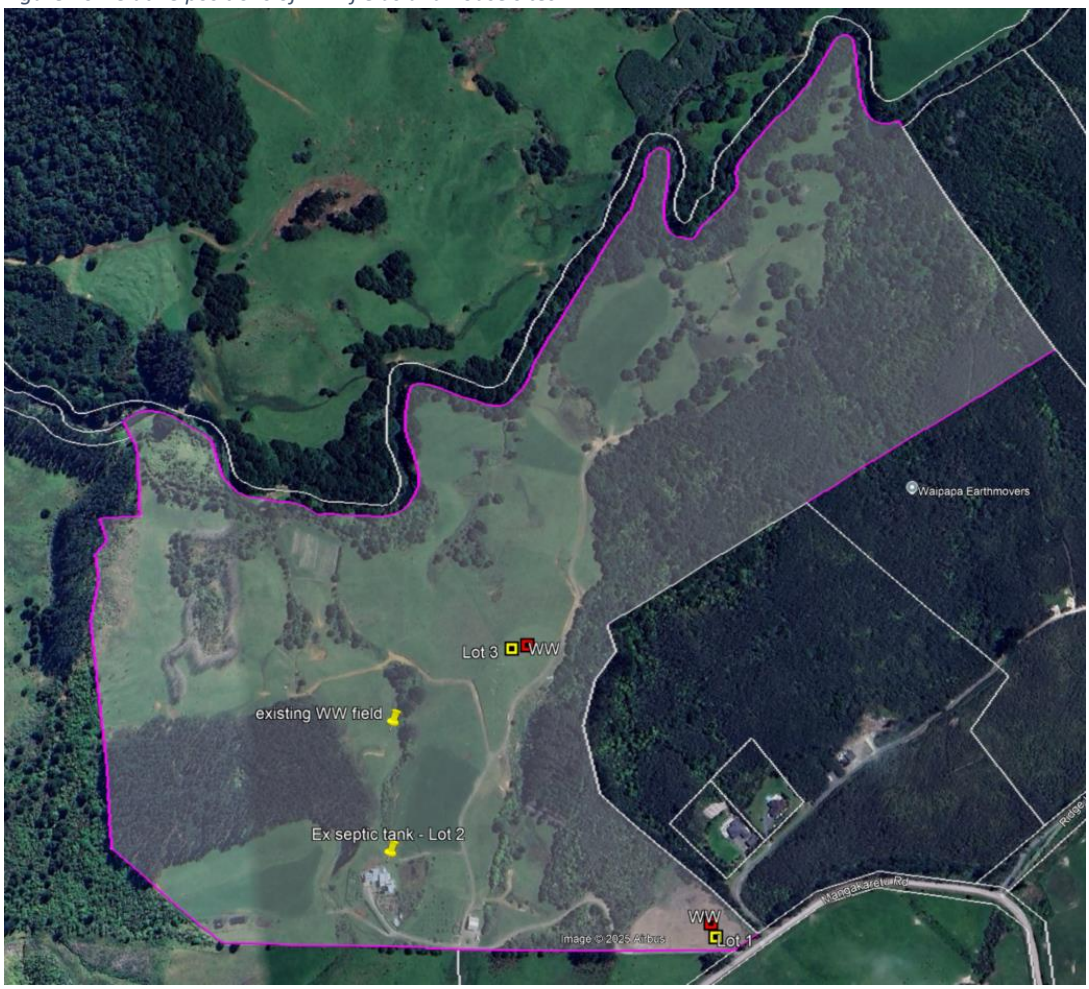
Table 4: Concept Wastewater Design Summary (Lots 1 & 3)

Design Element	Specification
Concept development	Five-bedroom, peak occupancy of 8 (per lot)
Design generation volume	160 litres/ person/ day
Water saving measures	Standard. Combined use of 11 litre flush cisterns, automatic washing machine & dishwasher, no garbage grinder[1]
Water meter required?	No
Min. Treatment Quality	Secondary
Soil Drainage Category	TP58 Category 6, NZS1547 Category 5
Soil Loading Rate	3 mm/ day
Primary disposal field	Surface/ subsurface laid PCDI, min. 427 m^2
Reserve disposal field	Surface/ subsurface laid PCDI, min. 30 % or 128 m^2
Dosing Method	Pump with high water level visual and audible alarm. Minimum 24-hour emergency storage volume.
Stormwater Control	Divert surface/ stormwater drains away from disposal fields. Cut off drains required for Lot 2.

1. Unless further water saving measures are included.

A schematic of the approximate relative locations of the WW disposal field is also shown in Figure 10 below. A detailed layout plan is further shown in Appendix A.

Figure 10: relative positions of WW fields and house sites



5.7 Assessment of Environmental Effects

An Assessment of Environmental Effects (AEE) is required to address two aspects of wastewater disposal. These include the effect of treated wastewater disposal for an individual lot and the cumulative or combined effect of multiple lots discharging treated wastewater to land as a result of subdivision.

The scale of final development is unknown at the time of writing and building areas, impervious areas including driveways, ancillary buildings, landscaped gardens, and swimming pools may reduce the overall area for on-site wastewater disposal.

For the purposes of confirming the feasibility of each proposed residential lot's development, as required by FNDC District Plan Rule 13.7.2.2, an indicative 30 x 30 m square building envelope has been positioned on each lot on the appended drawing sheet 101. This indicated building envelope is not necessarily where the final building envelope will be positioned. Similarly, the wastewater disposal fields are indicated on the plans to show feasibility only.

It is recommended that the AEE is reviewed at the time of Building Consent once specific development plans, final disposal field locations and treatment systems are established. The TP58 guideline document provides a detailed AEE for Building Consent application. Based on the proposed scheme, ground investigation, walkover inspection and Drawing No. 101, a site-specific AEE is presented as Appendix D to demonstrate that the proposed wastewater disposal concept will have a less than minor effect on the environment.

6 STORMWATER ASSESSMENT

Considering the nature of urban subdivision and residential development, increased storm water runoff occurs as pervious surfaces such as pasture are converted to impervious features such as roads or future on-lot buildings and driveways.

6.1 Impervious Surfaces and Activity Status

Pursuant to the FNDC District Operative Plan guidelines for Rural Production activities (Section 8.6) the existing and proposed impervious surfaces have been assessed as per Table 5 below.

We have considered the existing impervious surfaces in proposed Lot 2 (existing balance lot) as having a total impervious area of 1956 m². This represents **< 1% coverage** of the proposed Lot 2's site gross area and therefore meets the requirement of a **Permitted Activity**.

The assessment of the proposed impervious surfaces are detailed in Table 5 below.

Table 5: Summary of Impervious Surfaces

Surface	Lot 1		Lot 2 (balance lot)		Lot 3	
Existing Condition	**(0 m²)**		**(537,143m²)**		**(0 m²)**	
Ex. Roof/s dwellings(m²)	0 m²		116 m²		0 m²	
Ex. Sheds (m²)	0 m²		53 m²		0 m²	
Ex. Driveways/roads/parks(m²)	0 m²		1787 m²		0 m²	
Proposed ROW(m²)	0 m²		0 m²		0 m²	
Total impervious(m²)	0 m²		1956 m²	0.36%	0 m²	
Proposed Condition	**(22,000 m²)**		**(214,800 m²)**		**(285,000 m²)**	
Roof/s dwellings + sheds (m²)	300 m²	1.36%	169 m²	0.08%	300 m²	0.11%
Driveways/roads/parks(m²)	200m²	0.91%	1787m²	0.83%	200m²	0.07%
Proposed ROW(m²)	0 m²		0 m²		840 m²	0.29%
Total impervious(m²)	500 m²	2.27% (< PA = 15%)	1956 m²	0.91% (< PA = 15%)	1340 m²	0.47% (< PA = 15%)
Activity Status	**Permitted**		**Permitted**		**Permitted**	

6.2 Stormwater Management Concept

The proposed application includes subdivision formation only and not lot-specific residential development at this stage. However, a conservative model of probable future on-lot development has been developed for this assessment considering variation of scale in typical rural residential development. The stormwater management concept considered in this report has been prepared to meet the requirements of the local and regional consent authorities considering the design storm event. This concept is as follows:

- **Existing Structures (Lot 2).**

  The discharge from existing roof SW tanks and/or devices shall remain in Lot 2.

  Lot 2's discharge from its SW tanks overflow currently discharges into an existing wide tree lined gulley. This vegetated gulley flows northwards to the downstream Kerikeri river located approximately 400m north. SW of the existing roof shed is discharged to ground and flows into a shallow wet pond area located east of the existing shed. This shallow wet pond is located upstream of the local eastern tributary that flows northwards to Kerikeri river.

- **Probable Future Development (Lot 1 & 3).**

  The probable future on-lot development concept includes up to 300 m^2 potential roof area and up to 200 m^2 potential driveway or parking areas per lot.

  Generally, the stormwater discharge from each lot will be as follows:

- Lot 1: Overflow roof rainwater from tank by controlled discharge from level spreader directly towards the site's northwest corner.

- Lot 3: Overflow roof rainwater from tank by controlled discharge from level spreader directly northwards of the building platform and away from the site's proposed wastewater field location.

- **Subdivision Development.**

  Access to proposed lot 1 will be established by the construction of a vehicle crossing off Mangakaretu Road. This impervious surface will produce an insignificant increase in runoff, with less than minor adverse effect on environment, therefore requiring no attenuation.

  Access to Lot 3 will be via an existing unsealed metal track that intersects the existing parent site's accessway near the existing shed building. Topographically this metal track runs along a ridge line that sheds surface runoff either side of its length to lower lying areas of the site. There is currently no evidence of surface water erosion along the existing metal track therefore road side swale drains are not recommended as these would introduce concentrated flows that could raise erosion related issues.

A localised diversion of the accessway around the existing shed building is proposed – Refer further detail in Section 9.3. A stormwater culvert (150mm Ø) is proposed beneath this section of accessway to provide an outlet for the runoff from the shed roof and surrounding ground.

6.3 Design Storm Event

Relevant design rainfall intensity and depths have been ascertained for the site location from the NIWA HIRDS meteorological model[10]. The NIWA HIRDS rainfall data is presented in full within Appendix D. Provision for climate change has been adopted by means of applying a factor of 20 % to rainfall intensities, in accordance with FNDC Engineering Standards 2023.

Noting the risk of flood hazard downstream of the site as discussed in Section 3.1, this assessment has been modelled to provide stormwater attenuation up to and including 80 % of the pre-development condition for the 1 % AEP storm event which is recommended for the site including any future activities to comply with FNDC Engineering Standard Table 4-1.

Furthermore, the Table 4-1 stipulates that flow attenuation controls reduce the post-development peak discharge to 80 % of the pre-development condition for the 50 % and 20 % AEP storm event. This provides additional conservatism over the 10 % AEP pre-development requirement to comply with NRP Rule C6.4.2(2) and also with the Operative District Plan 13.7.3.4 (a).

To be compliant with the above rules, the attenuation modelling within this report has been undertaken for all of the above storm events. The results are summarised in Table 7 with calculations provided in full in Appendix C.

Outlet dispersion devices have been designed to manage the 10% AEP event to reduce scour and erosion at discharge locations. These are detailed further in Section 6.4.1 of this report.

6.4 Concept Stormwater Attenuation

Based on the design storm events indicated above and the corresponding modelling results (in Appendix) an attenuation concept to suit the maximum storage requirement has been provided. In this case the concept limits the post-development peak discharge to 80% of the pre-development condition for the 1% AEP storm event. This is achievable by installing specifically sized low-flow orifices into the attenuation devices.

The rational method has been adopted by Geologix with run-off coefficients as published by FNDC Engineering Standards[12] to provide a suitable concept attenuation design to limit post-development peak flows to 80% of pre-development conditions. The proposed devices with the concept design are listed below:

- Roof Runoff Tanks

[10] NIWA High Intensity Rainfall Data System, https://hirds.niwa.co.nz.
[12] FNDC Engineering Standards 2023, Version 0.6, Issued May 2023.

Conceptual storage and outlet requirements within the tanks are included in Appendix C and a typical schematic retention/ detention tank arrangement detail is presented as Drawing No. 401 within Appendix A.

Table 6: Summary of Concept Stormwater Attenuation

Item	Pre-development Impervious Area	Post-development Impervious Area	Proposed Concept Attenuation Method
Future Concept Development (Lot 1, 3)			
Potential buildings	0 m^2	300 m^2	Detention within roof water tanks
Potential driveways	0 m^2	200 m^2	Off-set detention in roof water tanks
Total	**0 m^2**	**500 m^2**	

Calculations to support the concept design are presented as Appendix C to this report. A summary of the probable future development attenuation concept design is presented as Table 7. As above, it is recommended that this concept design is refined at the Building Consent stage once final development plans are available.

Table 7: Probable Future Development Attenuation Concept - Tanks

Design Parameter	Flow Attenuation: 50 % AEP (80 % of pre dev)	Flow Attenuation: 20 % AEP (80 % of pre dev)	Flood Control: 10 % AEP	Flood Control: 1 % AEP (80 % of pre dev)
Proposed Lot 1 & 2				
Regulatory Compliance	FNDC Engineering Standards Table 4-1	FNDC Engineering Standards Table 4-1	NRC Proposed Regional Plan	FNDC Engineering Standards Table 4-1
Pre-development peak flow	6.78 l/s	8.77 l/s	10.24 l/s	15.17 l/s
80 % pre-development peak flow	5.43 l/s	7.01 l/s	NA	12.13 l/s
Post-development peak flow	11.03 l/s	14.26 l/s	16.65 l/s	24.67 l/s
Total Storage Volume Required	5,767 litres	7,516 litres	3,832 litres	13,392 litres
Concept Summary:	- Attenuation storage calculation accounts for offset flow from 200 m^2 driveway (not indicated explicitly indicated in summary above. Refer Appendix C for calcs in full) - Attenuation to 80 % of pre-development condition for 1 % AEP storm represents maximum storage requirement and is adopted for the concept design tank storage. - 2 x 25,000 litre tanks is sufficient for attenuation (13,192 l) + domestic water storage (33,174 l) - 1 % AEP attenuation (in isolation) requires a 51 mm orifice 0.63 m below overflow. However regulatory requirements are to consider an additional orifice/s to control the 50 %, 20 % and 1 % AEP events specifically. We note this may vary the concept orifice indicated above. This should be provided with detailed design for building consent approval.			

- Proposed new accessway (around shed)

The proposed new section of accessway (ROW) will have an area of approximately 150 m^2 which is < 0.1 % of the Lot 2 area. This will produce an insignificant uplift in peak runoff from

the site and it is therefore is determined as unnecessary to attenuate the new section of ROW.

6.4.1 On-Lot Discharge

The direct discharge of water tank overflow in a concentrated manner can cause scour and erosion in addition to excessive saturation of shallow soils. It is recommended that overflow from rainwater tanks is conveyed in sealed pipes to a designated discharge point downslope of proposed building footprints and any wastewater disposal fields. It is recommended that outlet dispersion devices be designed to manage the 10% AEP event to reduce scour and erosion at discharge locations.

A conceptual design accommodating a level spreader dispersion devices is presented within Appendix A on Drawing No 401. Calculations to derive this are presented within Appendix D.

Table 8: Summary of Concept Dispersion Devices

Concept Impervious Area to Tank	Velocity at single spreader orifices	Tank outlet pipe diameter	Spreader pipe diameter	Dispersion Pipe/ Trench Length	Spreader orifice size	Concept
Proposed Lots 3 and 1						
300 m^2	0.92 m/s	0.1 m	0.15 m	4 m	25mm, spaced at 150 mm intervals	Above ground dispersion device

6.5 Stormwater Quality

The proposed application is for a rural residential subdivision and future development. The key contaminant risks in this setting include:

- Sediments and minor contaminants washed from impervious surfaces.
- Leaf matter, grass, and other organic debris.

Stormwater treatment requirements are minor to maintain good quality stormwater discharge. Stormwater quality will be provided by:

- Leaf guards on roof guttering/ first flush devices on roof guttering and downpipes.
- Rainwater tank for potable use onsite only to be filled by roof runoff.
- Room for sedimentation (minimum 150 mm recommended as per Auckland Council GD01) within the base of the stormwater attenuation roof runoff tanks as dead storage volume.

The risk of other contaminants being discharged out of the site boundaries (hydrocarbons, metals etc.,) as a result of the proposed activities once stormwater has been processed through the above measures that will affect the downstream water quality is considered low.

7 POTABLE WATER & FIRE FIGHTING

In the absence of potable water infrastructure within the site or nearby, it is recommended that roof runoff water tanks are adopted for potable water supply with appropriate filtration and UV disinfection. The volume of potable water supply on each lot should consider the required stormwater detention volume identified within Table 7.

Furthermore, the absence of potable water infrastructure and fire hydrants nearby may require provision of on-lot tanks to be used for firefighting purposes. Alternatively, existing ponds on site could potentially be used as a water supply for firefighting purposes.

Specific analysis and calculations for firefighting is outside the scope of this report and may require specialist input. Supply for firefighting should be made in accordance with SNZ PAS4509:2008.

8 EARTHWORKS

The following earthworks provisions are anticipated for subdivision formation only:

- **ROW access to Lot 3.** Cut/ fill earthworks for the new section of ROW internal access way to current Council Engineering Standards to a width of 3m to service Lot 3. The approximate volumes = 50m x 3.5m x 0.3m = 53m^3 topsoil strip, plus 50m x 3.5m x 0.4m = 70m^3 import layerworks.
- **New Culvert pipe under new section of ROW.** Culvert pipe to drain surface water in vicinity of the eastern side of the existing shed. Maximum earthworks volume < 6m^3. Formed at subdivision formation.
- **Stormwater Culvert drainage within Lot 2**. Extension, or repositioning of existing culvert drain in vicinity of eastern side of the intersection of the proposed ROW and the existing accessway. Maximum earthworks volume < 10m^3. Formed at subdivision formation.

The above earthworks will be less than 140m^3 in total.

Proposed earthwork volumes are well within a 5,000 m^3 Permitted Activity volume limit outlined by FNDC District Plan Rule 12.3.6.1.1(a) and the maximum cut and fill height is <3 m to comply with 12.3.6.1.1(b).

Rule C.8.3.1, Table 15 of the Proposed Regional Plan outlines a Permitted Activity as 5,000 m^2 of exposed earth at any time for 'other areas'. Proposed earthwork areas to form the subdivision, are anticipated to comply with the Permitted Activity standard for other areas.

8.1 General Recommendations

Bulk fill with site-won earth can be moderately sensitive to disturbance when exposed to rain or runoff which may cause saturation or vehicle movements and trafficking during

earthworks. Accordingly, care should be taken during construction, including probable future developments to minimise degradation of any earth fill due to construction traffic and to minimise machinery on site.

Any areas of proposed bulk fill which are required to meet specific subgrade requirements within should be subject to a specific earthwork specification prepared by a professional Engineer such as Geologix.

Due to the scope of work and topography of the site, significant excavations are not anticipated. However, to reduce the risk of instability of excavations during construction, it is recommended that **temporary** unsupported excavations have a maximum vertical height of 0.5 m. Excavations >0.5 m should be battered at 1V:1H or 45°. Permanent batter slopes may require a shallower angle to maintain long term stability and if proposed these should be assessed at the Building Consent stage within a specific geotechnical investigation report.

Temporary batters should be covered with polythene sheets secured to the surface with pins or batons to prevent saturation. All works within close proximity to excavations should be undertaken in accordance with Occupational Safety and Health regulations.

All earthworks should be carried out in periods of fine weather within the typical October to April earthwork season. Consent conditions commonly prescribe working restrictions.

8.2 Erosion and Sediment Control

Specific erosion and sediment control measures are required to control sediment runoff from areas of proposed earthworks within the scope of this application. It is recommended that specific on-lot development is assessed at the time of Building Consent by the future developer. The proposed works are quite minor in area and volume, but it the following erosion and sediment control measures are recommended as a minimum requirement:

- Silt fence around the downslope face of the proposed new accessway (within ROW), vehicle crossing for Lot 1.

9 ROADING AND ACCESS

It should be noted that we are not traffic engineers, and no specific Traffic Impact Assessment is included within the scope of these works.

- Proposed Lots 2 and 3 shall be accessed via the existing vehicle crossing off Mangakaretu Road that currently services the site, and existing accessway with a minor new diversion.
- Proposed Lot 1 shall be accessed via a new vehicle crossing off Mangakaretu Road positioned within the 32m wide road frontage of the existing lot.

The above works shall be constructed at subdivision formation.

9.1 Mangakaretu Road Suitability

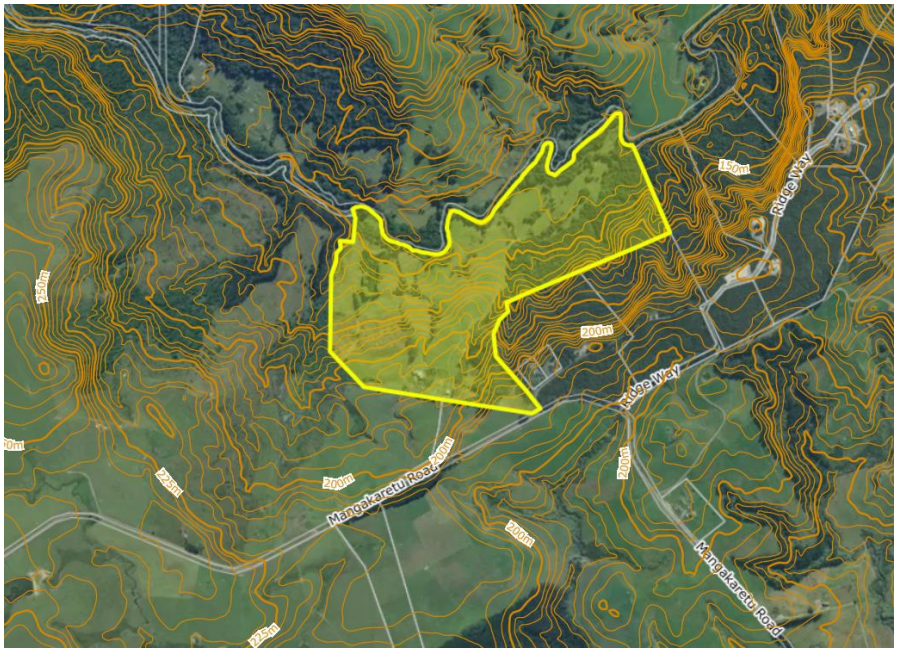
Mangakaretu Road is an existing public access road (see Figure 11 for locality plan). The legal road width (reserve) is approximately 16.5m. The existing carriageway width is approximately 7.5m. The road surface is unsealed.

With reference to Waka Kotahi One Network Road classification, Mangakaretu Road is designated as an *Access Road* having an estimated traffic volume (AADT) of about 104 vpd with an estimated heavy vehicle % of 9.6%.

The proposed subdivision will add two Household Equivalents to the road's service, for a total increase in traffic intensity of 20 traffic movements per day, or Traffic Intensity Factor (TIF) of 20.

The road layout and condition of Mangakaretu appears suitable to provide access to the proposed two rural residential lots.

Figure 11: Location of Mangakaretu Road in relation to proposed lot subdivision



9.2 Sight Distances

According to NZTA's National Speed Limit Register, Mangakaretu Road's posted speed limit, within this area is 60km/h. In terms of FNDC Engineering Standards Sheet 4 requirements for vehicle entrances, the minimum sight distance for a 60km/h Access type road is 85m.

Looking east of the intersection of the proposed Lot 1 vehicle crossing and easement A, the road joining onto Mangakaretu Road, a sight distance of approximately 85m was observed (see Figure 12 & Figure 13). Looking back west from the same intersection a sight distance greater than 85m was observed (see Figure 12 & Figure 14).

The sight line distances are acceptable for this intersection as they meet the minimum requirements.

Figure 12: Sight distances (also see fig 13 & fig 14)

Figure 13: Proposed ROW intersection (Easement A), Lot 1 frontage looking east (Approx. Sight distance = 85m)

Figure 14: Proposed ROW intersection (Easement A) looking west (Sight distance > 85m.)

9.3 Right of Way

An existing private accessway connecting to Mangakaretu Road provides access to the existing parent lot. A proposed ROW A will be formed to encompass the existing private accessway as it makes its way to Lot 3 whilst also giving access to the balance lot 2 (see Figure 15).

The proposed ROW will service two lots (2 and 3) as Lot 1 will have its own access at its frontage with Mangakaretu road. The number of Household Equivalents is 2 and as per the requirements of the standards specified in Appendix 3B-1 of the Operative District Plan only a 5m legal width with 3m carriageway width is required.

As mentioned in Section 4.1, the existing accessway has a carriageway of minimum 3m wide and is generally metalled in surface, but comprises a concrete section in part. There are some localised widenings along the existing concrete section of the accessway that provide passing opportunities. The existing accessway is considered suitable in its current condition to serve as the right of way to access Lot 2 and Lot 3, in accordance with the standards specified in Appendix 3B-1.

A new 50m section of private accessway diversion is proposed around the eastern side of the existing shed building within Lot 2. This is to promote less conflict between vehicles accessing Lot 3 and Lot 2. The accessway here shall be constructed to the standards specified in Appendix 3B-1. i.e. 3m wide with swale (see Table 9). It is recommended that a culvert pipe is installed under the accessway near the shed, to allow drainage from the roof to pass beneath.

Figure 15: Sketch of Proposed ROW A

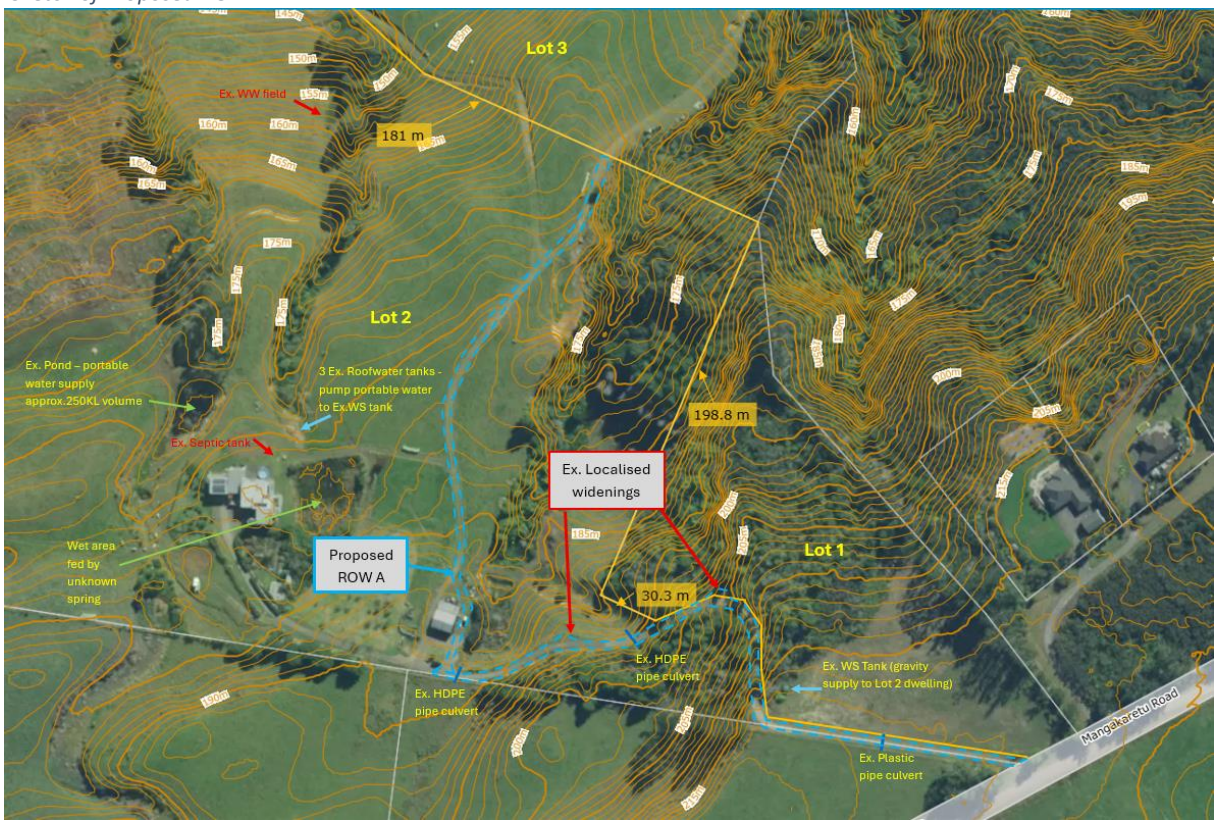


Table 9: Summary of Proposed ROW Specification

Location	Servicing Lots	H.E.	Standard	Min. Legal Width	Min. Carriageway Width	Maximum Gradient
ROW, Easement A (within Lot 2)	2, 3	2	Private access 2 HE, unsealed	5 m	3.0 m with swale	1:5

H.E – Household Equivalents

9.4 Vehicle Crossings

Vehicle crossings will be formed at subdivision stage. A summary of proposed vehicle crossings is presented as Table 10.

Table 10: Summary of Proposed Vehicle Crossings

Location	Type	Detail	Formation
Lot 1	FNDC Vehicle Crossing -Rural Type 1A-Light Vehicles [13]	Construct to typical detail with minimum 300mm dia. RCP culvert and 3 m width at boundary.	Subdivision

RCP – Reinforced Concrete Pipe

10 NATURAL HAZARD ASSESSMENT

To satisfy the Resource Management Act, 1991 the proposed subdivision must plan for and manage the risk from natural hazards to reduce the potential adverse effects to less than minor. Regulatory assessment of natural hazards at the site location are managed under the jurisdiction of the FNDC District Plan[14], Northland Regional Council (NRC) Proposed Regional Plan for Northland[15] and Regional Water and Soil Plan for Northland. Following our ground investigation and considering the measures presented in this report, a summary of the proposed activities against defined natural hazards is presented as Table 11.

Table 11: Summary of Natural Hazards

Natural Hazard	Applicability	Mitigation & Effect on Environment
Erosion	Yes	Risk of erosion particularly during earthworks activities is created. Mitigation provided by means of stormwater dispersion control and erosion and sediment control measures; resultant effects are less than minor.
Overland flow paths, flooding, inundation	Yes	Risk of concentrated flows through overland flow paths is created. Mitigation provided by means of flood control attenuation; resultant effects are less than minor.
Landslip	NA	No mitigation required, less than minor.
Rockfall	NA	No mitigation required, less than minor.
Alluvion	NA	No mitigation required, less than minor.
Avulsion	NA	No mitigation required, less than minor.
Unconsolidated fill	NA	No mitigation required, less than minor.
Soil contamination	NA	No mitigation required, less than minor.
Subsidence	NA	No mitigation required, less than minor.
Fire hazard	NA	No mitigation required, less than minor.
Sea level rise	NA	No mitigation required, less than minor.

[13] *Far North District Council Engineering Standards, May 2023, Drawing Sheets 20-21*

[14] *Operative District Plan Rule 13.7.3.2.*

[15] *Proposed Regional Plan for Northland, Appeals Version, July 2021, Chapter D.6.*

11 LIMITATIONS

This report has been prepared for Greg Blunden as our Client. It may be relied upon by our Client and their appointed Consultants, Contractors and for the purpose of Consent as outlined by the specific objectives in this report. This report and associated recommendations, conclusions or intellectual property is not to be relied upon by any other party for any purpose unless agreed in writing by Geologix Consulting Engineers Ltd and our Client. In any case the reliance by any other party for any other purpose shall be at such parties' sole risk and no reliability is provided by Geologix Consulting Engineers Ltd.

The opinions and recommendations of this report are based on plans, specifications and reports provided to us at the time of writing, as referenced. Any changes, additions or amendments to the project scope and referenced documents may require an amendment to this report and Geologix Consulting Engineers should be consulted. Geologix Consulting Engineers Ltd reserve the right to review this report and accompanying plans.

The recommendations and opinions in this report are based on arisings extracted from exploratory boreholes at discrete locations and any available existing borehole records. The nature and continuity of subsurface conditions, interpretation of ground condition and models away from these specific ground investigation locations are inferred. It must be appreciated that the actual conditions may vary from the assumed ground model. Differences from the encountered ground conditions during subdivision construction may require an amendment to the recommendations of this report.

APPENDIX A

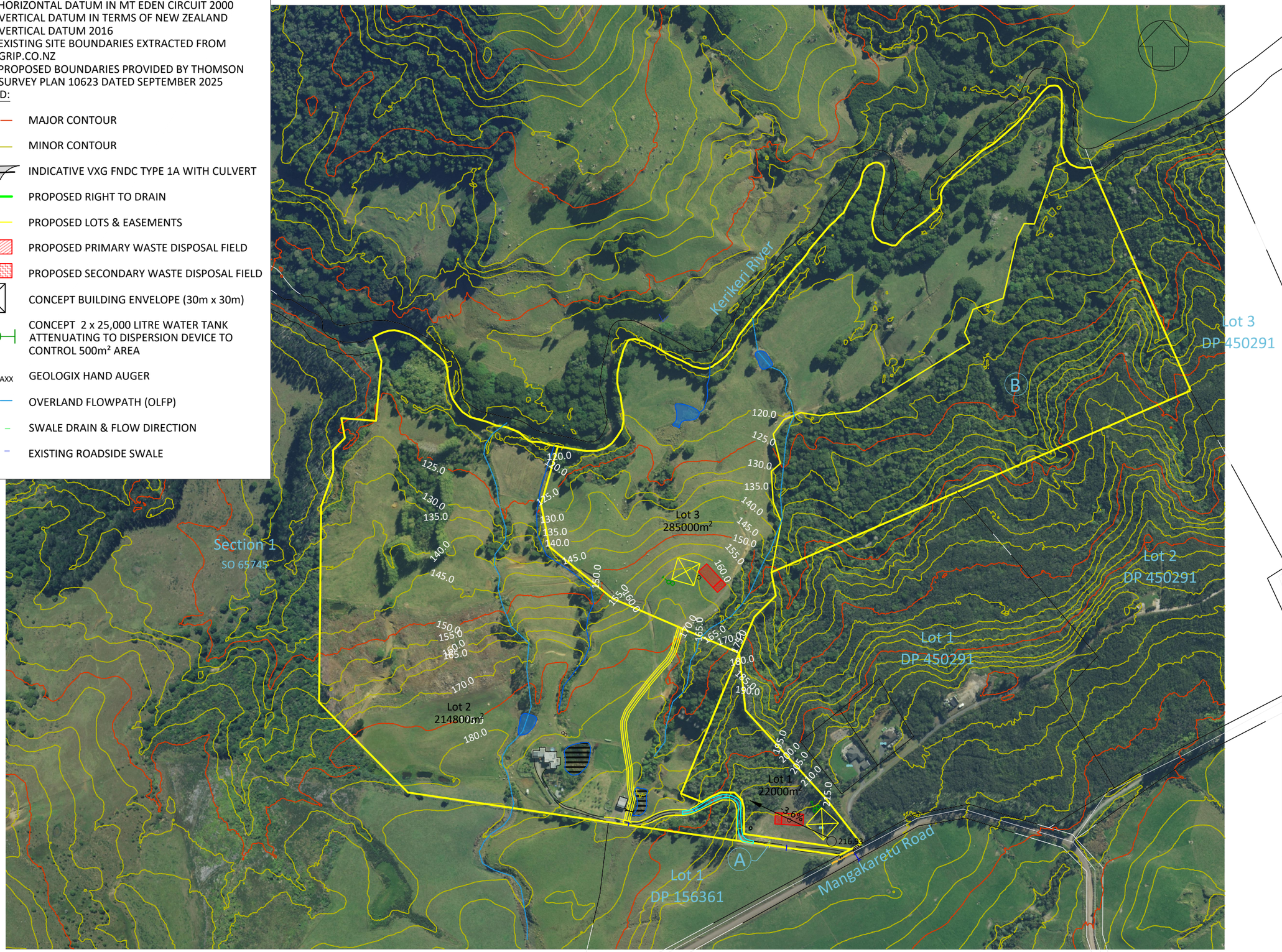
Drawings

NOTES:

- CONTOUR INTERVAL IS 20 m MAJOR, 5 m MINOR EXTRACTED FROM LINZ
- AERIAL PHOTOGRAPH, EXTRACTED FROM LINZ
- HORIZONTAL DATUM IN MT EDEN CIRCUIT 2000
- VERTICAL DATUM IN TERMS OF NEW ZEALAND VERTICAL DATUM 2016
- EXISTING SITE BOUNDARIES EXTRACTED FROM GRIP.CO.NZ
- PROPOSED BOUNDARIES PROVIDED BY THOMSON SURVEY PLAN 10623 DATED SEPTEMBER 2025

LEGEND:

- 75.0 — MAJOR CONTOUR
- MINOR CONTOUR
- INDICATIVE VXG FNDC TYPE 1A WITH CULVERT
- PROPOSED RIGHT TO DRAIN
- PROPOSED LOTS & EASEMENTS
- PROPOSED PRIMARY WASTE DISPOSAL FIELD
- PROPOSED SECONDARY WASTE DISPOSAL FIELD
- CONCEPT BUILDING ENVELOPE (30m x 30m)
- CONCEPT 2 x 25,000 LITRE WATER TANK ATTENUATING TO DISPERSION DEVICE TO CONTROL 500m² AREA
- HAXX GEOLOGIX HAND AUGER
- OVERLAND FLOWPATH (OLFP)
- SW SWALE DRAIN & FLOW DIRECTION
- SW EXISTING ROADSIDE SWALE



GENERAL NOTES

1. DRAWING REPRODUCED FROM THOMSON SURVEY PROPOSED SCHEME PLAN REF. 10623, DATED SEPTEMBER 2025.
3. HORIZONTAL CO ORDINATE SYSTEM = NZTM.
4. VERTICAL DATUM = NZVD.
5. MAJOR INTERVALS 20.0 m.
6. MINOR INTERVALS 5.0 m.
7. FOR INDICATION ONLY, NOT FOR CONSTRUCTION.

CONCEPT WASTEWATER DESIGN

CONCEPT DEVELOPMENT	5 BEDROOM
CONCEPT NO. OF OCCUPANTS	8 PERSONS
DAILY WASTEWATER GEN.	160 LITRES/PERSON/ DAY
TOTAL WASTEWATER GEN.	1,280 LITRES/ DAY
SOIL CATEGORY (TP58)	CATEGORY 6
SOIL CATEGORY (NZS1547)	CATEGORY 5
SOIL LOADING RATE	3.0 mm/ DAY
TREATMENT SYSTEM	NO - SUBJECT TO BUILDING CONSENT DESIGN
PRIMARY DISPOSAL AREA	427 m²
RESERVE DISPOSAL AREA	129 m² (30 %)

Meters
80 0 80 160
1: 5000

Revision	Issue	Date
A	FOR CONSENT	17/12/25

geologix
consulting engineers
AUCKLAND | NORTHLAND

Project Name and Address

C0713N
286 MANGAKARETU ROAD
WAIPAPA
PROPOSED SUBDIVISON OF PT OLC 60

Project	Drawn By
C0713	BN/FS

Client

GREG BLUNDEN

Sheet Title

ENGINEERING LAYOUT - A

Sheet

100

FILE PATH: Z:\Projects\C0700-C0799\C0713N - 286 Mangakaretu Road, Waipapa\07 - Technical & Drawings\Drawings\C0713N-S-100- 401-FS 3.5.dwg[C0713N-S-100- 401-FS 3.5.dwg

PLOTTED: 03/04/2022

NOTES:

- CONTOUR INTERVAL IS 20 m MAJOR, 5 m MINOR EXTRACTED FROM LINZ
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- HAXX — GEOLOGIX HAND AUGER
- OVERLAND FLOWPATH (OLFP)
- SW — SWALE DRAIN & FLOW DIRECTION
- SW — EXISTING ROADSIDE SWALE

Ex. Ponds

Lot 3
285000m²

Ex. WW field
approx. location

HA02

Lot 2
214800m²

ROW A to access Lot 3.

Ex. Pond

Ex. Wet
Area 01

Ex. WW septic Tank
approx. location

Ex. concrete
Accessway
(3.2m wide)

Ex. Wet
Area 02

Lot 1
22000m²

Ex. Metal Accessway
(3m wide)

HA01

New accessway
(approx. 50m length)
within proposed ROW

Prop.Culvert

Ex. Metal Accessway
(3m wide)

Ex.SW Culvert
drain (HDPE)

Ex.SW Culvert drain (HDPE)
to be upgraded to suit new
ROW intersection

ROW A to access Lot 3.

Ex.SW field drain
(plastic pipe)

Ex. Road RC Culvert

Prop. Double VX
(min. 6m wide)
to Lot 1

Mangakaretu Road

DP 4

DP 156361

Meters
40 0 40 80
1:2500

GENERAL NOTES

1. DRAWING REPRODUCED FROM THOMSON SURVEY PROPOSED SCHEME PLAN REF. 10623, DATED SEPTEMBER 2025.
3. HORIZONTAL CO ORDINATE SYSTEM = NZTM.
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CONCEPT WASTEWATER DESIGN

CONCEPT DEVELOPMENT	5 BEDROOM
CONCEPT NO. OF OCCUPANTS	8 PERSONS
DAILY WASTEWATER GEN.	160 LITRES/PERSON/ DAY
TOTAL WASTEWATER GEN.	1,280 LITRES/ DAY
SOIL CATEGORY (TP58)	CATEGORY 6
SOIL CATEGORY (NZS1547)	CATEGORY 5
SOIL LOADING RATE	3.0 mm/ DAY
TREATMENT SYSTEM	NO - SUBJECT TO BUILDING CONSENT DESIGN
PRIMARY DISPOSAL AREA	427 m²
RESERVE DISPOSAL AREA	129 m² (30 %)

Revision	Issue	Date
A	FOR CONSENT	17/12/25

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AUCKLAND | NORTHLAND

Project Name and Address

C0713N
286 MANGAKARETU ROAD
WAIPAPA
PROPOSED SUBDIVISON OF PT OLC 60

Project	Drawn By
C0713	BN/FS

Client

GREG BLUNDEN

Sheet Title

ENGINEERING LAYOUT - B

Sheet

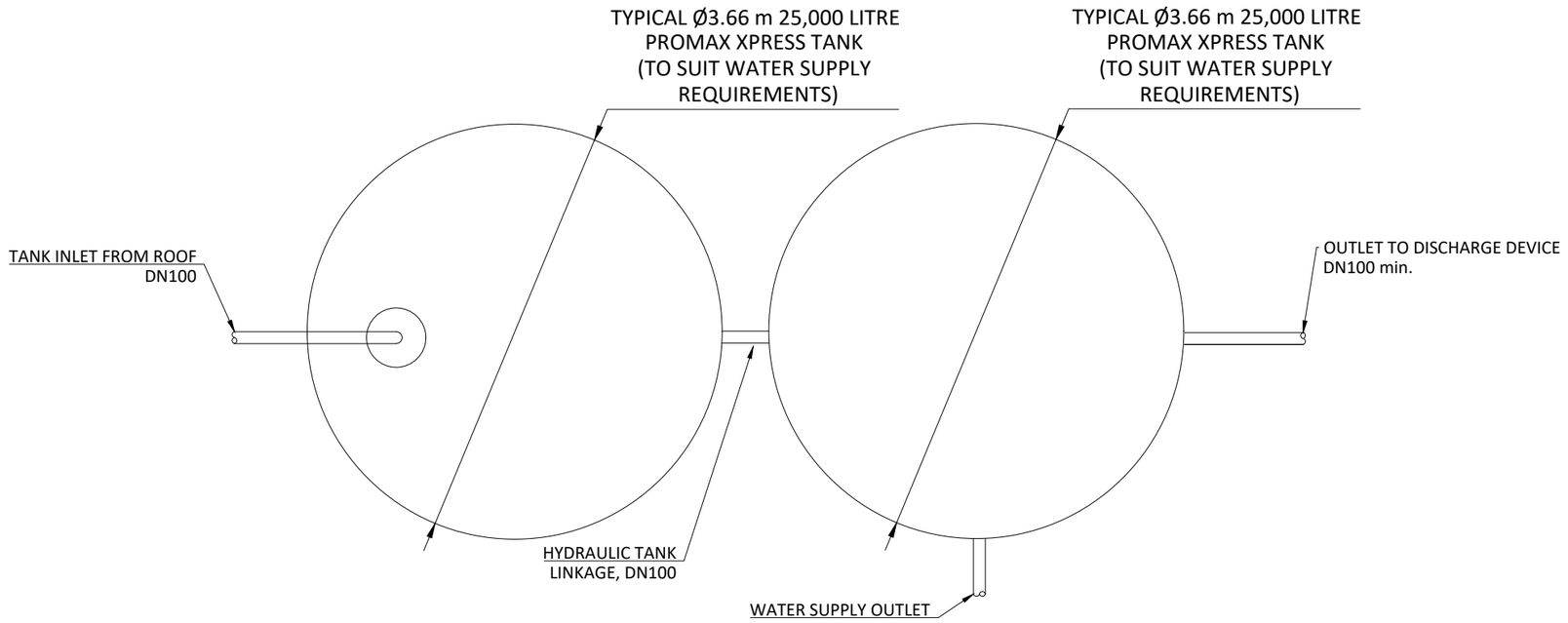
101

FILE PATH: Z:\Projects\C0700-C0799\C0713N - 286 Mangakaretu Road, Waipapa\07 - Technical & Drawings\Drawings\C0713N-S-100- 401-FS 3.5.dwg\C0713N-S-100- 401-FS 3.5.dwg

PLOTTED: 03/04/2022

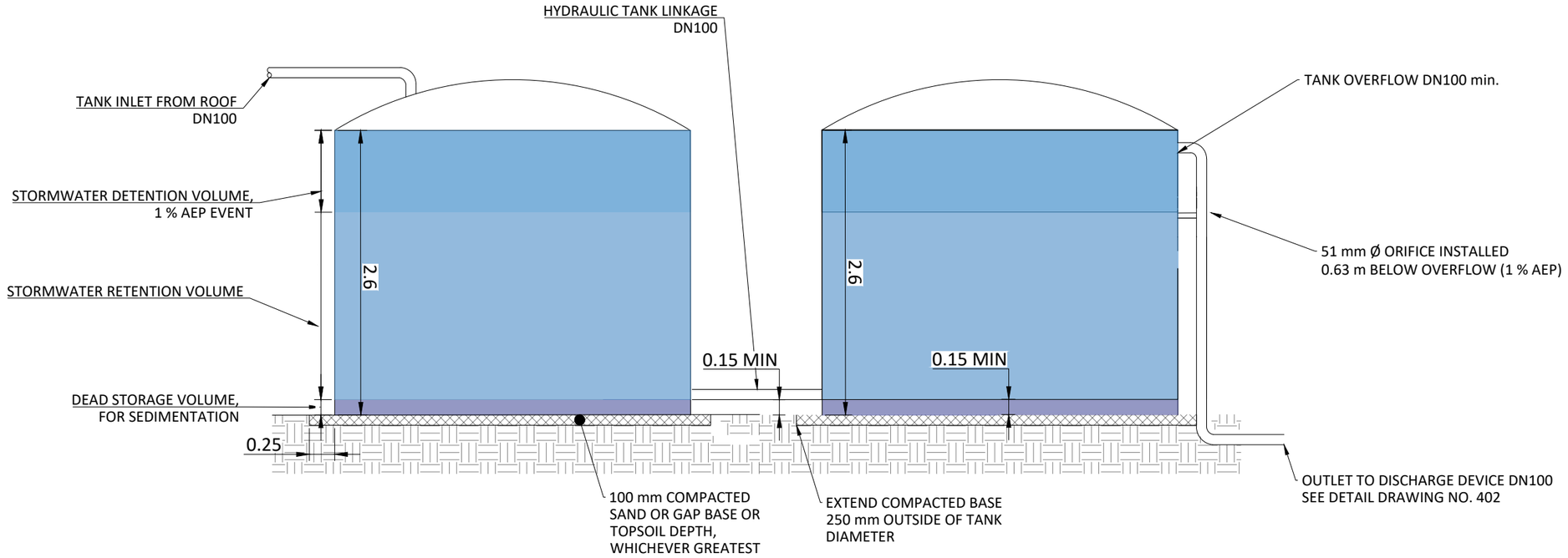
PROPOSED TANK PLAN VIEW

1:50, A3

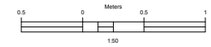


PROPOSED TANK SIDE VIEW

1:50, A3



GENERAL NOTES



A	FOR CONSENT	17/12/25
Revision	Issue	Date

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Project Name and Address

C0713N
286 MANGAKARETU ROAD
WAIPAPA
PROPOSED SUBDIVISON OF PT OLC 60

Project	Drawn By
C0713	BN/FS

Client

GREG BLUNDEN

Sheet Title

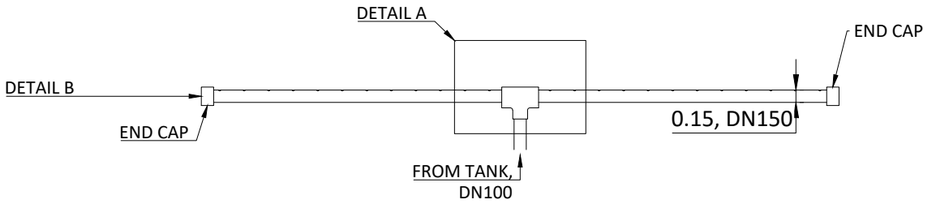
STORMWATER TANK DETAILS

Sheet

400

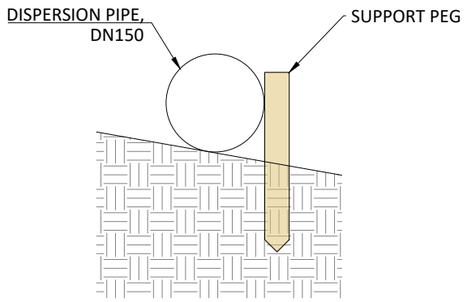
OPTION 1: DISPERSION VIA ABOVE GROUND PIPE

NOT TO SCALE



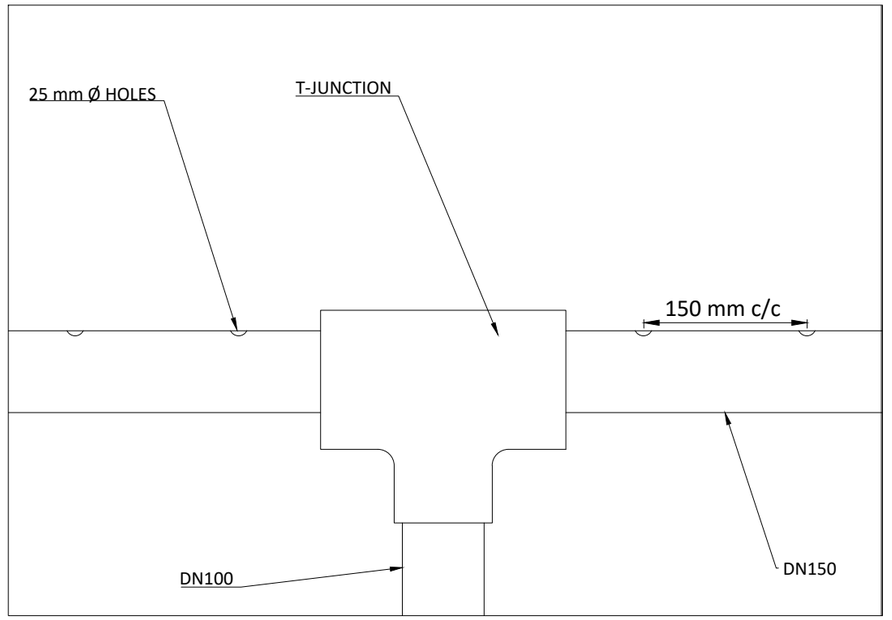
DETAIL B - SIDE VIEW

NOT TO SCALE



DETAIL A - T JUNCTION AND PERFORATIONS

NOT TO SCALE



GENERAL NOTES

A	FOR CONSENT	17/12/25
Revision	Issue	Date

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Project Name and Address

C0713N
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PROPOSED SUBDIVISON OF PT OLC 60

Project	Drawn By
C0713	BN/FS

Client

GREG BLUNDEN

Sheet Title

STORMWATER DETAILS

Sheet

401

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PLOTTED: 09/04/2022

APPENDIX B

Engineering Borehole Records

INVESTIGATION LOG: HA01

Project: 286 Mangakaretu Road, Waipapa | Project No.: C0713N

Site Address: 286 Mangakaretu Road, Waipapa | Client: Greg Blunder

Easting: | Northing: | Elevation:

Logged By: Christian Apondar | Reviewed By: AW | Investigation Date: 2025-11-11

LITHOLOGIC DESCRIPTION	DEPTH (M)	SYMBOL	VANE SHEAR STRENGTH (KPA) 90 130 170 210	SCALA PENETROMETER (BLOWS / 0MM) 5 10 15 20	WATER	DEPTH (M)
Clayey SILT, with trace rootlets; dark grey. Stiff; moist; low plasticity; [TOPSOIL]. 0.4 m	0					0
CLAY; brown. Very stiff; moist to wet; high plasticity; [KERIKERI VOLCANIC GROUP]. 0.6 m						
Clayey SILT; brown mottled light brown. Very stiff; moist to wet; low plasticity; [KERIKERI VOLCANIC GROUP]. 0.9 m	1					1
Clayey SILT; light brown mottled reddish pink. Very stiff; moist to wet; low plasticity; [KERIKERI VOLCANIC GROUP]. 1.2 m						
Terminated at 1.2 m	2					2
	3					3
	4					4
	5					5

geologix consulting engineers

Notes:
1. Hand Auger terminated at target depth.
2. Groundwater not encountered during drilling.

INVESTIGATION LOG: HA02

Project: 286 Mangakaretu Road, Waipapa | Project No.: C0713N

Site Address: 286 Mangakaretu Road, Waipapa | Client: Greg Blunder

Easting: | Northing: | Elevation:

Logged By: Christian Apondar | Reviewed By: AW | Investigation Date: 2025-11-12

LITHOLOGIC DESCRIPTION	DEPTH (M)	SYMBOL	VANE SHEAR STRENGTH (KPA) 90 130 170 210	SCALA PENETROMETER (BLOWS / 0MM) 5 10 15 20	WATER	DEPTH (M)
SILT, with trace rootlets; dark grey. Stiff; moist; friable; [TOPSOIL]. 0.3 m	0					0
Clayey SILT; brown. Stiff; moist to wet; high plasticity; [KERIKERI VOLCANIC GROUP]. 0.9 m	1					1
Silty CLAY; light brown. Stiff; moist to wet; high plasticity; [KERIKERI VOLCANIC GROUP]. 1.1 m						
Clayey SILT; reddish brown becoming yellowish brown. Stiff; moist to wet; high plasticity; [KERIKERI VOLCANIC GROUP]. 1.2 m						
Terminated at 1.2 m	2					2
	3					3
	4					4
	5					5

Notes:
1. Hand Auger terminated at target depth.
2. Groundwater not encountered during drilling.

APPENDIX C

Stormwater Calculations

Project Ref:	C0713N		**STORMWATER ROOF TANK DESIGN**	geologix consulting engineers
Project Address:	286 Mangakeratu, Waipapa			
Design Case:	CONCEPT-Roof Rainwater-Lot 1&3		**1 % AEP STORM EVENT, 80 % OF PRE DEVELOPMENT**	
Date:	11 November 2025	REV 1		

ATTENUATION DESIGN PROVIDED IN ACCORDANCE WITH NEW ZEALAND BUILDING CODE E1 FOR THE RATIONALE METHOD ACCOUNTING FOR THE EFFECTS OF CLIMATE CHANGE (20% FACTOR AS PER 2023 FNDC ENGINEERING STANDARDS).
PRE-DEVELOPMENT RUNOFF IS FACTORED BY 80%
RUNOFF COEFFICIENTS DETERMINED FROM FNDC ENGINEERING STANDARDS 2023 TABLE 4-3.

PRE DEVELOPMENT CATCHMENT PARAMETERS				**POST DEVELOPMENT CATCHMENT PARAMETERS**			
ITEM	AREA, A, m2	COEFFICIENT, C	DESCRIPTION	ITEM	AREA, A, m2	COEFFICIENT, C	DESCRIPTION
IMPERVIOUS A	0	0		TO TANK	300	0.96	ROOF
IMPERVIOUS B	0	0		OFFSET	200	0.83	DRIVEWAY - METAL
IMPERVIOUS C	0	0		PERVIOUS	0	0	
EX. PERVIOUS	500	0.67	PASTURE	EX. CONSENTED	0	0	
0	0	0		0	0	0	
TOTAL	**500**	TYPE D		**TOTAL**	**500**	TYPE D	

RAINFALL INTENSITY, 1% AEP, 10MIN DURATION

1 % AEP RAINFALL INTENSITY, 10 MIN, I, mm/hr	163.0	mm/hr
CLIMATE CHANGE FACTOR, 2.1 DEG, 10 MIN*	20	%
1 % AEP RAINFALL INTENSITY, 10 MIN WITH CC	195.6	mm/hr

* CLIMATE CHANGE FACTOR OF 20% APPLIED IN ACCORDANCE WITH FNDC ENGINEERING STANDARDS 4.3.9.1. NIWA HISTORIC RAINFALL INTENSITY DATA, 10MIN, IS MULTIPLIED BY CLIMATE CHANGE FACTOR.

PRE AND POST-DEVELOPMENT RUNOFF, 1%AEP, VARIOUS DURATIONS

DURATION, min	INTENSITY, mm/hr	CC FACTOR	INTENSITY WITH CC, mm/hr	POST DEV RUNOFF, Qpost, l/s	PRE DEV RUNOFF, Qpre, l/s	% of PRE DEV RUNOFF, Qpre(80%), l/s	COMMENTS
10	163.00	1.2	195.60	24.67	15.17	12.13	*Critical duration (time of concentration) for the catchments is 10min*
20	118.00	1.2	141.60	17.86	10.98	8.78	
30	97.90	1.2	117.48	14.82	9.11	7.29	
60	71.20	1.2	85.44	10.77	6.63	5.30	
120	51.40	1.2	61.68	7.78	4.78	3.83	*Pre-dev calculated on Intensity without CC factor*
360	29.60	1.2	35.52	4.48	2.75	2.20	
720	20.20	1.2	24.24	3.06	1.88	1.50	
1440	13.20	1.2	15.84	2.00	1.23	0.98	
2880	8.27	1.2	9.92	1.25	0.77	0.62	
4320	6.13	1.2	7.36	0.93	0.57	0.46	

ATTENUATION ANALYSIS, VARIOUS DURATIONS

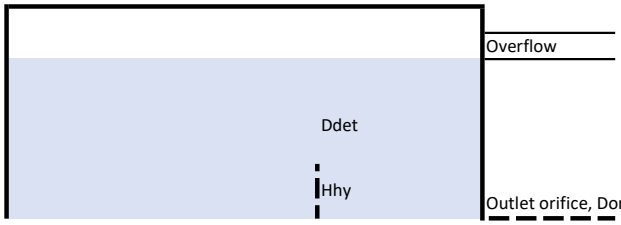
DURATION, min	OFFSET FLOW, Qoff, l/s	TANK INFLOW , Qin, l/s	ALLOWABLE TANK OUTFLOW, Qpre(80%) - Qoff, l/s	SELECTED TANK OUTFLOW, Qout, l/s	DIFFERENCE (Qin - Qout), l/s	Required Storage, litres	
10	9.02	15.65	3.12	3.12	12.53	7520	*Selected Tank Outflow is selected for critical duration (time of concentration).*
20	6.53	11.33	2.26	3.12	8.21	9855	
30	5.42	9.40	1.87	3.12	6.28	11310	
60	3.94	6.84	1.36	3.12	3.72	13392	
120	2.84	4.93	0.98	3.12	1.82	13099	*select largest required storage , regardless of duration, to avoid overflow for event of any duration*
360	1.64	2.84	0.57	3.12	No Att. Req.	0	
720	1.12	1.94	0.39	3.12	No Att. Req.	0	
1440	0.73	1.27	0.25	3.12	No Att. Req.	0	
2880	0.46	0.79	0.16	3.12	No Att. Req.	0	
4320	0.34	0.59	0.12	3.12	No Att. Req.	0	

ATTENUATION TANK DESIGN OUTPUT

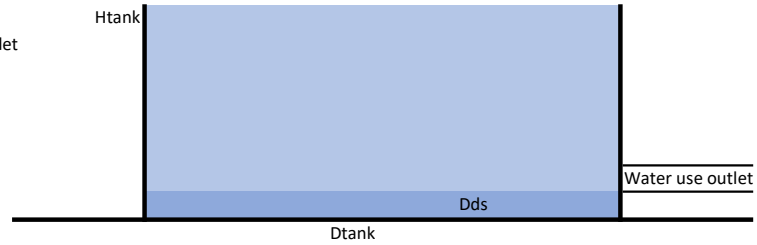
Concept sizing for 25,000 litre tank

Dead storage volume, min 150 mm recommended by GD01, Dds

Retention for potable use in residential development



Detention, 1 %
AEP storm event, Ddet



SPECIFICATION

TOTAL STORAGE REQUIRED	13.392	m3	Select largest storage as per analysis
TANK HEIGHT, Htank	2.345	m	Concept sizing for 25,000 litre tank
TANK DIAMETER, Dtank	3.675	m	No. of Tanks 2
TANK AREA, Atank	21.21	m2	Area of ONE tank
TANK MAX STORAGE VOLUME, Vtank	49748	litres	
REQUIRED STORAGE HEIGHT, Ddet	0.63	m	Below overflow
DEAD STORAGE VOLUME, Dds	0.15	m	GD01 recommended minimum
TOTAL WATER DEPTH REQUIRED	0.78	m	
SELECTED TANK OUTFLOW, Qout, l/s	0.00312	m3/s	Selected tank outflow
AVERAGE HYDRAULIC HEAD, Hhy	0.32	m	
AREA OF ORIFICE, Aorifice	2.02E-03	m2	
ORIFICE DIAMETER, Dorifice	51	mm	
VELOCITY AT ORIFICE	3.52	m/s	At max. head level
Retention height, Hret	1.56	m	(Htank-Ddet-Dds)
Retention Storage	33174	litres	for Potable use

Project Ref:	C0713N		**STORMWATER ROOF TANK DESIGN**	geologix consulting engineers
Project Address:	286 Mangakeratu, Waipapa			
Design Case:	CONCEPT-Roof Rainwater-Lot 1&3		**10 % AEP STORM EVENT, TO PRE-DEVELOPMENT FLOW**	
Date:	11 November 2025	REV 1		

ATTENUATION DESIGN PROVIDED IN ACCORDANCE WITH NEW ZEALAND BUILDING CODE E1 FOR THE RATIONALE METHOD ACCOUNTING FOR THE EFFECTS OF CLIMATE CHANGE (20% FACTOR AS PER 2023 FNDC ENGINEERING STANDARDS). THE 10% AEP SCENARIO IS PROVIDED TO SATISFY FNDC DISTRICT PLAN RULE 13.7.3.4 (FOR CONTROLLED ACTIVITY). PRE-DEVELOPMENT RUNOFF REMAINS UNFACTORED IN THIS SCENARIO.
RUNOFF COEFFICIENTS DETERMINED FROM FNDC ENGINEERING STANDARDS 2023 TABLE 4-3.

PRE DEVELOPMENT CATCHMENT PARAMETERS				**POST DEVELOPMENT CATCHMENT PARAMETERS**			
ITEM	AREA, A, m2	COEFFICIENT, C	DESCRIPTION	ITEM	AREA, A, m2	COEFFICIENT, C	DESCRIPTION
IMPERVIOUS A	0	0		TO TANK	300	0.96	ROOF
IMPERVIOUS B	0	0		OFFSET	200	0.83	DRIVEWAY - METAL
IMPERVIOUS C	0	0		PERVIOUS	0	0	
EX. PERVIOUS	500	0.67	PASTURE	EX. CONSENTED	0	0	
0	0	0		0	0	0	
TOTAL	**500**	TYPE D		**TOTAL**	**500**	TYPE D	

RAINFALL INTENSITY, 10% AEP, 10MIN DURATION

10 % AEP RAINFALL INTENSITY, 10 MIN, I, mm/hr	110.0	mm/hr
CLIMATE CHANGE FACTOR, 2.1 DEG, 10 MIN*	20	%
10 % AEP RAINFALL INTENSITY, 10 MIN WITH CC	132.0	mm/hr

* CLIMATE CHANGE FACTOR OF 20% APPLIED IN ACCORDANCE WITH FNDC ENGINEERING STANDARDS 4.3.9.1. NIWA HISTORIC RAINFALL INTENSITY DATA, 10MIN, IS MULTIPLIED BY CLIMATE CHANGE FACTOR.

PRE AND POST-DEVELOPMENT RUNOFF, 10%AEP, VARIOUS DURATIONS

DURATION, min	INTENSITY, mm/hr	CC FACTOR	INTENSITY WITH CC, mm/hr	POST DEV RUNOFF, Qpost, l/s	PRE DEV RUNOFF, Qpre, l/s		COMMENTS
10	110.00	1.2	132.00	16.65	10.24		*Critical duration (time of concentration) for the catchments is 10min*
20	79.00	1.2	94.80	11.96	7.35		
30	65.40	1.2	78.48	9.90	6.09		
60	47.40	1.2	56.88	7.17	4.41		
120	34.10	1.2	40.92	5.16	3.17		*Pre-dev calculated on Intensity without CC factor*
360	19.50	1.2	23.40	2.95	1.81		
720	13.20	1.2	15.84	2.00	1.23		
1440	8.66	1.2	10.39	1.31	0.81		
2880	5.40	1.2	6.48	0.82	0.50		
4320	3.99	1.2	4.79	0.60	0.37		

ATTENUATION ANALYSIS, VARIOUS DURATIONS

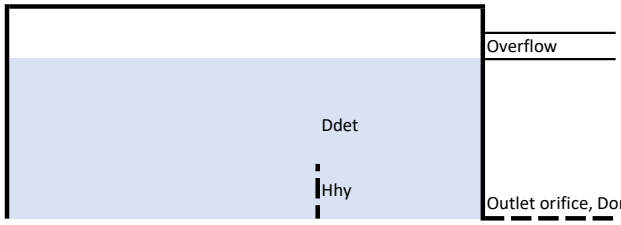
DURATION, min	OFFSET FLOW, Qoff, l/s	TANK INFLOW , Qin, l/s	ALLOWABLE TANK OUTFLOW, Qpre - Qoff, l/s	SELECTED TANK OUTFLOW, Qout, l/s	DIFFERENCE (Qin - Qout), l/s	Required Storage, litres	
10	6.09	10.56	4.15	4.15	6.41	3846	*Selected Tank Outflow is selected for critical duration (time of concentration).*
20	4.37	7.58	2.98	4.15	3.43	4121	
30	3.62	6.28	2.47	4.15	2.13	3832	
60	2.62	4.55	1.79	4.15	0.40	1443	
120	1.89	3.27	1.29	4.15	No Att. Req.	0	*select largest required storage , regardless of duration, to avoid overflow for event of any duration*
360	1.08	1.87	0.74	4.15	No Att. Req.	0	
720	0.73	1.27	0.50	4.15	No Att. Req.	0	
1440	0.48	0.83	0.33	4.15	No Att. Req.	0	
2880	0.30	0.52	0.20	4.15	No Att. Req.	0	
4320	0.22	0.38	0.15	4.15	No Att. Req.	0	

ATTENUATION TANK DESIGN OUTPUT

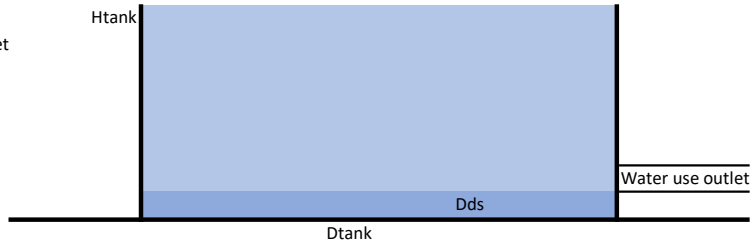
Concept sizing for 25,000 litre tank

Dead storage volume, min 150 mm recommended by GD01, Dds

Retention for potable use in residential development



Detention, 10 %
AEP storm event, Ddet



SPECIFICATION

TOTAL STORAGE REQUIRED	3.846	m3	Select largest storage as per analysis
TANK HEIGHT, Htank	2.345	m	Concept sizing for 25,000 litre tank
TANK DIAMETER, Dtank	3.675	m	No. of Tanks 2
TANK AREA, Atank	21.21	m2	Area of ONE tank
TANK MAX STORAGE VOLUME, Vtank	49748	litres	
REQUIRED STORAGE HEIGHT, Ddet	0.18	m	Below overflow
DEAD STORAGE VOLUME, Dds	0.15	m	GD01 recommended minimum
TOTAL WATER DEPTH REQUIRED	0.33	m	
SELECTED TANK OUTFLOW, Qout, l/s	0.00415	m3/s	Selected tank outflow
AVERAGE HYDRAULIC HEAD, Hhy	0.09	m	
AREA OF ORIFICE, Aorifice	5.02E-03	m2	
ORIFICE DIAMETER, Dorifice	80	mm	
VELOCITY AT ORIFICE	1.89	m/s	At max. head level
Retention height, Hret	2.01	m	(Htank-Ddet-Dds)
Retention Storage	42720	litres	for Potable use

Project Ref:	C0713N		**STORMWATER ROOF TANK DESIGN**	geologix consulting engineers
Project Address:	286 Mangakeratu, Waipapa			
Design Case:	CONCEPT-Roof Rainwater-Lot 1&3		**20 % AEP STORM EVENT, 80 % OF PRE DEVELOPMENT**	
Date:	11 November 2025	REV 1		

ATTENUATION DESIGN PROVIDED IN ACCORDANCE WITH NEW ZEALAND BUILDING CODE E1 FOR THE RATIONALE METHOD ACCOUNTING FOR THE EFFECTS OF CLIMATE CHANGE (20% FACTOR AS PER 2023 FNDC ENGINEERING STANDARDS).
PRE-DEVELOPMENT RUNOFF IS FACTORED BY 80%
RUNOFF COEFFICIENTS DETERMINED FROM FNDC ENGINEERING STANDARDS 2023 TABLE 4-3.

PRE DEVELOPMENT CATCHMENT PARAMETERS				**POST DEVELOPMENT CATCHMENT PARAMETERS**			
ITEM	AREA, A, m2	COEFFICIENT, C	DESCRIPTION	ITEM	AREA, A, m2	COEFFICIENT, C	DESCRIPTION
IMPERVIOUS A	0	0		TO TANK	300	0.96	ROOF
IMPERVIOUS B	0	0		OFFSET	200	0.83	DRIVEWAY - METAL
IMPERVIOUS C	0	0		PERVIOUS	0	0	
EX. PERVIOUS	500	0.67	PASTURE	EX. CONSENTED	0	0	
				0	0	0	
TOTAL	**500**	TYPE D		**TOTAL**	**500**	TYPE D	

RAINFALL INTENSITY, 20% AEP, 10MIN DURATION

20 % AEP RAINFALL INTENSITY, 10 MIN, I, mm/hr	94.2	mm/hr
CLIMATE CHANGE FACTOR, 2.1 DEG, 10 MIN*	20	%
20 % AEP RAINFALL INTENSITY, 10 MIN WITH CC	113.0	mm/hr

* CLIMATE CHANGE FACTOR OF 20% APPLIED IN ACCORDANCE WITH FNDC ENGINEERING STANDARDS 4.3.9.1. NIWA HISTORIC RAINFALL INTENSITY DATA, 10MIN, IS MULTIPLIED BY CLIMATE CHANGE FACTOR.

PRE AND POST-DEVELOPMENT RUNOFF, 20%AEP, VARIOUS DURATIONS

DURATION, min	INTENSITY, mm/hr	CC FACTOR	INTENSITY WITH CC, mm/hr	POST DEV RUNOFF, Qpost, l/s	PRE DEV RUNOFF, Qpre, l/s	% of PRE DEV RUNOFF, Qpre(80%), l/s	COMMENTS
10	94.20	1.2	113.04	14.26	8.77	7.01	*Critical duration (time of concentration) for the catchments is 10min*
20	67.70	1.2	81.24	10.25	6.30	5.04	
30	56.00	1.2	67.20	8.47	5.21	4.17	
60	40.50	1.2	48.60	6.13	3.77	3.02	
120	29.10	1.2	34.92	4.40	2.71	2.17	*Pre-dev calculated on Intensity without CC factor*
360	16.60	1.2	19.92	2.51	1.54	1.24	
720	11.30	1.2	13.56	1.71	1.05	0.84	
1440	7.36	1.2	8.83	1.11	0.68	0.55	
2880	4.59	1.2	5.51	0.69	0.43	0.34	
4320	3.39	1.2	4.07	0.51	0.32	0.25	

ATTENUATION ANALYSIS, VARIOUS DURATIONS

DURATION, min	OFFSET FLOW, Qoff, l/s	TANK INFLOW , Qin, l/s	ALLOWABLE TANK OUTFLOW, Qpre(80%) - Qoff, l/s	SELECTED TANK OUTFLOW, Qout, l/s	DIFFERENCE (Qin - Qout), l/s	Required Storage, litres	
10	5.21	9.04	1.80	1.80	7.24	4346	*Selected Tank Outflow is selected for critical duration (time of concentration).*
20	3.75	6.50	2.55	1.80	4.70	5639	
30	3.10	5.38	2.11	1.80	3.58	6436	
60	2.24	3.89	1.53	1.80	2.09	7516	
120	1.61	2.79	1.10	1.80	0.99	7152	*select largest required storage , regardless of duration, to avoid overflow for event of any duration*
360	0.92	1.59	0.63	1.80	No Att. Req.	0	
720	0.63	1.08	0.43	1.80	No Att. Req.	0	
1440	0.41	0.71	0.28	1.80	No Att. Req.	0	
2880	0.25	0.44	0.17	1.80	No Att. Req.	0	
4320	0.19	0.33	0.13	1.80	No Att. Req.	0	

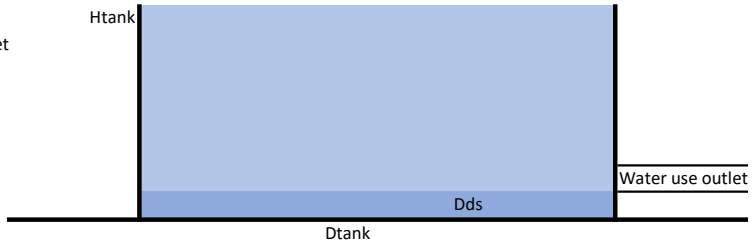
ATTENUATION TANK DESIGN OUTPUT

Concept sizing for 25,000 litre tank

Dead storage volume, min 150 mm recommended by GD01, Dds

Retention for potable use in residential development

Detention, 20 %
AEP storm event, Ddet



SPECIFICATION

TOTAL STORAGE REQUIRED	7.516	m3	Select largest storage as per analysis
TANK HEIGHT, Htank	2.345	m	Concept sizing for 25,000 litre tank
TANK DIAMETER, Dtank	3.675	m	No. of Tanks 2
TANK AREA, Atank	21.21	m2	Area of ONE tank
TANK MAX STORAGE VOLUME, Vtank	49748	litres	
REQUIRED STORAGE HEIGHT, Ddet	0.35	m	Below overflow
DEAD STORAGE VOLUME, Dds	0.15	m	GD01 recommended minimum
TOTAL WATER DEPTH REQUIRED	0.50	m	
SELECTED TANK OUTFLOW, Qout, l/s	0.00180	m3/s	Selected tank outflow
AVERAGE HYDRAULIC HEAD, Hhy	0.18	m	
AREA OF ORIFICE, Aorifice	1.56E-03	m2	
ORIFICE DIAMETER, Dorifice	45	mm	
VELOCITY AT ORIFICE	2.64	m/s	At max. head level
Retention height, Hret	1.84	m	(Htank-Ddet-Dds)
Retention Storage	39050	litres	for Potable use

Project Ref:	C0713N	**STORMWATER ROOF TANK DESIGN**	geologix consulting engineers
Project Address:	286 Mangakeratu, Waipapa		
Design Case:	CONCEPT-Roof Rainwater-Lot 1&3	**50 % AEP STORM EVENT, 80 % OF PRE DEVELOPMENT**	
Date:	11 November 2025 REV 1		

ATTENUATION DESIGN PROVIDED IN ACCORDANCE WITH NEW ZEALAND BUILDING CODE E1 FOR THE RATIONALE METHOD ACCOUNTING FOR THE EFFECTS OF CLIMATE CHANGE (20% FACTOR AS PER 2023 FNDC ENGINEERING STANDARDS).
PRE-DEVELOPMENT RUNOFF IS FACTORED BY 80%
RUNOFF COEFFICIENTS DETERMINED FROM FNDC ENGINEERING STANDARDS 2023 TABLE 4-3.

PRE DEVELOPMENT CATCHMENT PARAMETERS				**POST DEVELOPMENT CATCHMENT PARAMETERS**			
ITEM	AREA, A, m2	COEFFICIENT, C	DESCRIPTION	ITEM	AREA, A, m2	COEFFICIENT, C	DESCRIPTION
IMPERVIOUS A				TO TANK	300	0.96	ROOF
IMPERVIOUS B				OFFSET	200	0.83	DRIVEWAY - METAL
IMPERVIOUS C				PERVIOUS		0	
EX. PERVIOUS	500	0.67	PASTURE	EX. CONSENTED	0	0	
TOTAL	**500**	TYPE D		**TOTAL**	**500**	TYPE D	

RAINFALL INTENSITY, 50% AEP, 10MIN DURATION

50 % AEP RAINFALL INTENSITY, 10 MIN, I, mm/hr	72.9	mm/hr
CLIMATE CHANGE FACTOR, 2.1 DEG, 10 MIN*	20	%
50 % AEP RAINFALL INTENSITY, 10 MIN WITH CC	87.48	mm/hr

* CLIMATE CHANGE FACTOR OF 20% APPLIED IN ACCORDANCE WITH FNDC ENGINEERING STANDARDS 4.3.9.1. NIWA HISTORIC RAINFALL INTENSITY DATA, 10MIN, IS MULTIPLIED BY CLIMATE CHANGE FACTOR.

PRE AND POST-DEVELOPMENT RUNOFF, 50%AEP, VARIOUS DURATIONS

DURATION, min	INTENSITY, mm/hr	CC FACTOR	INTENSITY WITH CC, mm/hr	POST DEV RUNOFF, Qpost, l/s	PRE DEV RUNOFF, Qpre, l/s	% of PRE DEV RUNOFF, Qpre(80%), l/s	COMMENTS
10	72.90	1.2	87.48	11.03	6.78	5.43	*Critical duration (time of concentration) for the catchments is 10min*
20	52.30	1.2	62.76	7.91	4.87	3.89	
30	43.20	1.2	51.84	6.54	4.02	3.22	
60	31.20	1.2	37.44	4.72	2.90	2.32	
120	22.40	1.2	26.88	3.39	2.08	1.67	*Pre-dev calculated on Intensity without CC factor*
360	12.80	1.2	15.36	1.94	1.19	0.95	
720	8.64	1.2	10.37	1.31	0.80	0.64	
1440	5.63	1.2	6.76	0.85	0.52	0.42	
2880	3.50	1.2	4.20	0.53	0.33	0.26	
4320	2.58	1.2	3.10	0.39	0.24	0.19	

ATTENUATION ANALYSIS, VARIOUS DURATIONS

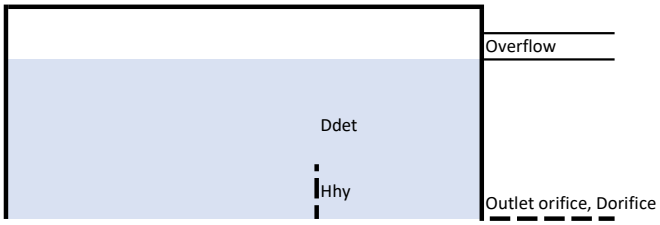
DURATION, min	OFFSET FLOW, Qoff, l/s	TANK INFLOW , Qin, l/s	ALLOWABLE TANK OUTFLOW, Qpre(80%) - Qoff, l/s	SELECTED TANK OUTFLOW, Qout, l/s	DIFFERENCE (Qin - Qout), l/s	Required Storage, litres	
10	4.03	7.00	1.39	1.39	5.61	3363	*Selected Tank Outflow is selected for critical duration (time of concentration).*
20	2.89	5.02	1.00	1.39	3.63	4353	
30	2.39	4.15	0.83	1.39	2.75	4957	
60	1.73	3.00	0.60	1.39	1.60	5767	
120	1.24	2.15	0.43	1.39	0.76	5452	*select largest required storage , regardless of duration, to avoid overflow for event of any duration*
360	0.71	1.23	0.24	1.39	No Att. Req.	0	
720	0.48	0.83	0.17	1.39	No Att. Req.	0	
1440	0.31	0.54	0.11	1.39	No Att. Req.	0	
2880	0.19	0.34	0.07	1.39	No Att. Req.	0	
4320	0.14	0.25	0.05	1.39	No Att. Req.	0	

ATTENUATION TANK DESIGN OUTPUT

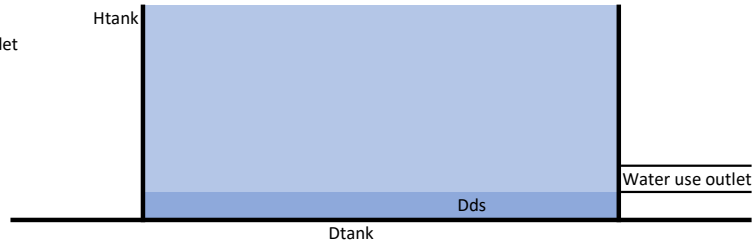
Concept sizing for 25,000 litre tank

Dead storage volume, min 150 mm recommended by GD01, Dds

Retention for potable use in residential development



Detention, 50 %
AEP storm event, Ddet



SPECIFICATION

TOTAL STORAGE REQUIRED	5.767	m3	Select largest storage as per analysis
TANK HEIGHT, Htank	2.345	m	Concept sizing for 25,000 litre tank
TANK DIAMETER, Dtank	3.675	m	No. of Tanks 2
TANK AREA, Atank	21.21	m2	Area of ONE tank
TANK MAX STORAGE VOLUME, Vtank	49748	litres	
REQUIRED STORAGE HEIGHT, Ddet	0.27	m	Below overflow
DEAD STORAGE VOLUME, Dds	0.15	m	GD01 recommended minimum
TOTAL WATER DEPTH REQUIRED	0.42	m	
SELECTED TANK OUTFLOW, Qout, l/s	0.00139	m3/s	Selected tank outflow
AVERAGE HYDRAULIC HEAD, Hhy	0.14	m	
AREA OF ORIFICE, Aorifice	1.38E-03	m2	
ORIFICE DIAMETER, Dorifice	42	mm	
VELOCITY AT ORIFICE	2.31	m/s	At max. head level
Retention height, Hret	1.92	m	(Htank-Ddet-Dds)
Retention Storage	40799	litres	for Potable use

HIRDS V4 Intensity-Duration-Frequency Results
Sitename: 286 Mangakaretu Waipapa
Coordinate system: WGS84
Longitude: 173.8652
Latitude: -35.2175
DDF Model

Parameters:	c	d	e	f	g	h	i
Values:	0.00213994	0.5272888	-0.00714294	-0.00437681	0.25121408	-0.01138566	3.35024786
Example:	Duration (hrs)	ARI (yrs)	x	y	Rainfall Rate (mm/hr)		
	24	100	3.17805383	4.600149227	13.21410187		

Rainfall intensities (mm/hr) :: Historical Data

ARI	AEP	10m	20m	30m	1h	2h	6h	12h	24h	48h	72h	96h	120h
1.58	0.633	66.6	47.8	39.5	28.5	20.4	11.6	7.88	5.13	3.19	2.35	1.87	1.56
2	0.5	72.9	52.3	43.2	31.2	22.4	12.8	8.64	5.63	3.5	2.58	2.06	1.71
5	0.2	94.2	67.7	56	40.5	29.1	16.6	11.3	7.36	4.59	3.39	2.7	2.25
10	0.1	110	79	65.4	47.4	34.1	19.5	13.2	8.66	5.4	3.99	3.18	2.65
20	0.05	126	90.5	75	54.4	39.2	22.5	15.3	9.99	6.23	4.61	3.68	3.06
30	0.033	135	97.4	80.7	58.6	42.2	24.2	16.5	10.8	6.73	4.98	3.98	3.31
40	0.025	142	102	84.8	61.6	44.4	25.5	17.3	11.4	7.1	5.25	4.19	3.49
50	0.02	147	106	88	63.9	46.1	26.5	18	11.8	7.38	5.46	4.36	3.63
60	0.017	151	109	90.6	65.8	47.5	27.3	18.6	12.2	7.61	5.64	4.5	3.75
80	0.013	158	114	94.7	68.8	49.7	28.6	19.5	12.8	7.98	5.91	4.72	3.93
100	0.01	163	118	97.9	71.2	51.4	29.6	20.2	13.2	8.27	6.13	4.89	4.08
250	0.004	185	133	111	80.6	58.3	33.7	23	15.1	9.44	7	5.59	4.66

Intensity standard error (mm/hr) :: Historical Data

ARI	AEP	10m	20m	30m	1h	2h	6h	12h	24h	48h	72h	96h	120h
1.58	0.633	5.5	3.5	2.6	1.9	1.3	0.79	0.6	0.42	0.25	0.2	0.16	0.13
2	0.5	5.8	3.8	2.8	2.1	1.5	0.86	0.66	0.46	0.28	0.22	0.17	0.15
5	0.2	8.2	5.9	4.5	3.1	2.2	1.2	0.94	0.65	0.4	0.3	0.24	0.2
10	0.1	11	8.4	6.5	4.4	3.1	1.7	1.3	0.81	0.51	0.38	0.31	0.25
20	0.05	15	12	9.3	6.2	4.4	2.4	1.7	1	0.64	0.47	0.39	0.31
30	0.033	19	14	11	7.5	5.3	2.9	2	1.2	0.73	0.53	0.44	0.36
40	0.025	21	16	13	8.6	6	3.3	2.3	1.3	0.8	0.58	0.48	0.39
50	0.02	23	18	14	9.5	6.7	3.7	2.5	1.4	0.86	0.62	0.52	0.42
60	0.017	25	19	15	10	7.3	4	2.8	1.4	0.91	0.66	0.55	0.44
80	0.013	28	22	18	12	8.2	4.6	3.1	1.6	1	0.72	0.61	0.49
100	0.01	31	24	19	13	9	5.1	3.4	1.7	1.1	0.77	0.65	0.52
250	0.004	45	34	28	19	13	7.5	5.1	2.2	1.4	1	0.86	0.69

Project Ref:	C0713N	**STORMWATER DISPERSION PIPE/ TRENCH**	geologix consulting engineers
Project Address:	286 Mangakeratu, Waipapa		
Design Case:	Lots 1&3 - On-Lot Roof Tank Dispersal	**DISCHARGE DEVICE - LEVEL SPREADER OR TRENCH**	
Date:	11 November 2025 REV 1		

DESIGN BASED ON REFERENCED DEVELOPMENT PLANS TO PROVIDE A MINIMUM LENGTH OF ABOVE OR BELOW GROUND STORMWATER TANK OVERFLOW DISCHARGE DISPERSION DEVICE. IN GENERAL ACCORDANCE WITH MODIFIED RATIONAL METHOD AND AUCKLAND COUNCIL TR2013/018.

DESIGN STORM EVENT **10%** AEP EVENT

SLOPE BETWEEN SOURCE & DISPERSION DEVICE

ELEVATION	h	CHAINAGE, x	Δ x	h bar	Δ A
m	m	m	m	m	m2
168	0	0	0	0	0
164	4	30.3	30.3	2	60.6
	TOTALS	30.3	30.3		60.6
	SLOPE, Sc	0.132	m/m		

MANNINGS PIPE FLOW - INCOMING PIPE

Dia, m	d/D	α, rad	P, m	A, m^2	R	1:S	n	V, m/s	Q, m^3/s	Q, l/s	
0.1	0.000	6.283	0.0000	0.0000	0.000	7.58	0.009	0.000	0.0000	0.000	**0 % full**
0.100	0.050	5.381	0.0451	0.0001	0.003	7.58	0.009	0.887	0.0001	0.130	
0.100	0.100	4.996	0.0644	0.0004	0.006	7.58	0.009	1.385	0.0006	0.566	
0.100	0.150	4.692	0.0795	0.0007	0.009	7.58	0.009	1.784	0.0013	1.318	
0.100	0.200	4.429	0.0927	0.0011	0.012	7.58	0.009	2.123	0.0024	2.374	
0.100	0.250	4.189	0.1047	0.0015	0.015	7.58	0.009	2.418	0.0037	3.713	
0.100	0.300	3.965	0.1159	0.0020	0.017	7.58	0.009	2.679	0.0053	5.309	
0.100	0.350	3.751	0.1266	0.0024	0.019	7.58	0.009	2.910	0.0071	7.128	
0.100	0.400	3.544	0.1369	0.0029	0.021	7.58	0.009	3.114	0.0091	9.135	
0.100	0.450	3.342	0.1471	0.0034	0.023	7.58	0.009	3.294	0.0113	11.292	
0.100	0.500	3.142	0.1571	0.0039	0.025	7.58	0.009	3.452	0.0136	13.555	**50 % full**
0.100	0.550	2.941	0.1671	0.0044	0.026	7.58	0.009	3.587	0.0159	15.878	
0.100	0.600	2.739	0.1772	0.0049	0.028	7.58	0.009	3.702	0.0182	18.213	
0.100	0.650	2.532	0.1875	0.0054	0.029	7.58	0.009	3.794	0.0205	20.506	
0.100	0.700	2.319	0.1982	0.0059	0.030	7.58	0.009	3.865	0.0227	22.697	
0.100	0.750	2.094	0.2094	0.0063	0.030	7.58	0.009	3.912	0.0247	24.720	
0.100	0.800	1.855	0.2214	0.0067	0.030	7.58	0.009	3.934	0.0265	26.498	
0.100	0.850	1.591	0.2346	0.0071	0.030	7.58	0.009	3.926	0.0279	27.934	
0.100	0.900	1.287	0.2498	0.0074	0.030	7.58	0.009	3.881	0.0289	28.893	
0.100	0.950	0.902	0.2691	0.0077	0.029	7.58	0.009	3.779	0.0291	29.129	
0.100	1.000	0.000	0.3142	0.0079	0.025	7.58	0.009	3.452	0.0271	27.109	**Flowing full**

DISPERSION SPECIFICATION

INCOMING PIPE PROPERTIES:

TANK OUTFLOW, 10 % AEP	10.56	l/s		
MAXIMUM PIPE FLOW	29.13	l/s		
SUFFICIENT CAPACITY IN PIPE	YES			
LONGITUDINAL SLOPE	0.132	m/m		
DESIGN VELOCITY, Dv	3.934	m/s		

LEVEL SPREADER SPECIFICATIONS:

PIPE DIAMETER, m	0.15	m		
MANNINGS PIPE ROUGHNESS	0.009			
NUMBER OF ORIFICES	28	No.		
DIA. OF ORIFICE, D	25	mm		
ORIFICE INTERVALS, C/C	150	mm		
DISPERSION PIPE LENGTH, L	**4.05**	**m**		

ORIFICE DESIGN FLOW CHECK:

AREA OF SINGLE ORIFICE, A	0.00049	m2		
FLOW OUT OF 1 ORIFICE	0.000452155	m3/s	0.45 l/s	
FLOW OUT OF ALL ORIFICES	0.01266034	m3/s	12.66 l/s	**DESIGN OK**
VELOCITY FROM SINGLE ORIFICE	0.92	m/s		

BROAD CRESTED WEIR DESIGN FLOW CHECK:

FLOW DEPTH, h	0.1125	m		
BASE WIDTH = L	4.05	m		
FLOW AREA	0.46	m2		
WEIR FLOW	0.01078	m3/s	10.78 l/s	**DESIGN OK**
WEIR VELOCITY	0.024	m/s		

INCOMING PIPE & SPREADER SUMARY:

Lots 1&3 - On-Lot Roof Tank Dispersal

INCOMING PIPE DIAMETER, m	0.100	m
SPREADER PIPE DIAMETER, m	0.150	m
MANNINGS PIPE ROUGHNESS	0.009	
NUMBER OF ORIFICES	28	No.
DIA. OF ORIFICE, D	25	mm
ORIFICE INTERVALS, C/C	150	mm
DISPERSION PIPE LENGTH, L	**4.05**	**m**

geologix
consulting engineers

APPENDIX D

Wastewater Assessment of Effects

Table 12: Wastewater Assessment of Environmental Effects

Item	NRC Separation Requirement[2]	FNDC Separation Requirement	Site Assessment[3]
Individual System Effects			
Flood Plains	Above 5 % AEP	NR	Complies, no nearby flood plains
Stormwater Flowpath[4]	5 m	NR	Complies, no nearby OLFP
Surface water feature[5]	15 m	30 m	Complies.
Coastal Marine Area	15 m	30 m	Complies, site is inland.
Existing water supply bore.	20 m	NR	Complies. None recorded within or within 20 m of the site boundaries.
Property boundary	1.5 m	1.5	Complies. Including proposed subdivision boundaries.
Winter groundwater table	0.6 m	0.6 m	Complies.
Topography			Ok – chosen disposal areas are gently sloped. Lot 1 < 5° slope; Lot 3 < 5° slope
Cut off drain required?			No.
Discharge Consent Required?			No.
	TP58	**NZS1547**	
Cumulative Effects			
Biological Oxygen Demand	≤20 g/m^3		Complies – secondary treatment.
Total Suspended Solids	≤30 g/m^3		Complies – secondary treatment.
Total Nitrogen	10 – 30 g/m^3	15 – 75 g/m^3	Complies – secondary treatment.
Phosphorous	NR	4 – 10 g/m^3	Complies – secondary treatment.
Ammonia	NR	Negligible	Complies – secondary treatment.
Nitrites/ Nitrates	NR	15 – 45 g/m^3	Complies – secondary treatment.
Conclusion: Effects are less than minor on the environment.			

1. AEE based on proposed secondary treated effluent.
2. Northland Regional Plan Table 9.
3. Based on the recommendations of this report and Drawing No. 100.
4. Including any formed road with kerb and channel, and water-table drain that is down-slope of the disposal area.
5. River, lake, stream, pond, dam, or natural wetland.

AEP Annual Exceedance Probability.
NR No Requirement.