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 Consent representative to discuss this application prior to lodgement?

☑ **Yes** ☐ **No**

If yes, who have you spoken with? Trish Routley, Liz Searle and Rachel Bate

## 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)
☐ **Other (please specify)**
☐ **Discharge**
☐ **Change of Consent Notice (s.221(3))**
☐ **Extension of time (s.125)**

**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:** Melissa Jane Perrin, Peter Dylan Kriz

**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:** As above in applicant details

**Email:**

**Phone number:** Work Home

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

Postcode

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

Email for all official communications. I am available via FNDC Teams for quick queries (Melissa Perrin).

## 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:** Melissa Jane Perrin and Peter Dylan Kriz

Property address/ location: 127 Rangitane Road, Lot 3 Dp 616409

Postcode 0294

## 8. Application site details

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

**Name/s:** Melissa Jane Perrin and Peter Dylan Kriz

**Site address/ location:** 127 Rangitane Road, Lot 3 DP 616409

Postcode 0294

**Legal description:** Lot 3, DP 616409 **Val Number:**

**Certificate of title:** 1265351

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.

## 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.

Before applying for building consent we need resource consent for controlled activity for visual amenity clause.

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**

◯ **Changing the use of a piece of land**

◯ **Disturbing, removing or sampling soil**

◯ **Removing or replacing a fuel storage system**

## 13. Assessment of environmental effects:

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

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

## 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)** Melissa Jane Perrin

**Email:** [redacted]

**Phone number:**

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

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

## *15. Billing details* continued...

**Declaration concerning Payment of Fees**

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

**Name:** (please write in full) Melissa Jane Perrin

**Signature:** [redacted] Date 13-Mar-2026

(signature of bill payer)

**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) Melissa Jane Perrin

**Signature** [redacted] Date 13-Mar-2026

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

*See overleaf for a checklist of your information...*

## Checklist

***Please tick if information is provided***

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

# Resource Consent Application

**Far North District Council**

## 1. Applicant Details

**Applicants:** Peter Dylan Kriz and Melissa Jane Perrin and
**Address for Service:** 29 Opito Bay Road, Kerikeri
**Phone / Email:** lissyperrin@gmail.com PH: 021 0700 143
**Legal Owners:** Yes – applicants are the registered proprietors of the land.

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## 2. Site Description

- **Site Address:** 127 Rangitane Road, Kerikeri
- **Legal Description:** Lot 3, DP 616409
- **Certificate of Title:** 1265351 (Appendix A)
- **Site Area:** Approximately 4.5012 hectares
- **Zoning:** General Coastal Zone (Operative), Rural Production (Proposed)
- **Overlays:** None identified

The site is currently vacant rural land accessed via an existing legal driveway approximately 950 metres off of Rangitane Road. The land is predominantly grazed farmland, with two covenanted bush areas. There is no view of the section from the coast or public land.

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## 3. Proposal Description

The proposal is to construct **one residential dwelling** and associated site works, including:

- Earthworks to form the building platform
- Construction of a metal parking/maneuvering area
- Use of existing legal access
- On-site servicing for water supply, wastewater, and stormwater

The dwelling will be the only residential unit on the site. No further dwellings are proposed.

Development will occur entirely within the established building envelope on a single paddock already fenced off. No works are proposed within the covenanted vegetation areas, and all existing vegetation will be retained.

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## 4. Relevant District Plan Rules & Activity Status

The proposal has been assessed against the General Coastal Zone rules. The construction of a residential dwelling of 144.4m2 exceeds the permitted activity thresholds for habitable building floor area (50 m²) and does not comply with the permitted activity standard in Rule 10.6.5.1.1 (Visual Amenity), therefore

requiring resource consent.

The Operative District Plan provides a controlled activity pathway where an activity complies with all permitted activity standards except Rule 10.6.5.1.1 (Visual Amenity) and complies with Rule 10.6.5.2.2 (Visual Amenity) and the relevant district wide standards. The proposed dwelling complies with all other permitted activity standards and the relevant provisions of Part 3 (District Wide Provisions) and has been assessed against Rule 10.6.5.2.2.

The dwelling is located entirely within the approved building envelope established by the subdivision consent, which confirmed that development within the envelope would maintain existing amenity values. The proposal is sited below surrounding ridgelines and is in a valley, avoids skyline effects, and incorporates recessive materials and colours, non-reflective glazing, and substantial separation from public roads and neighbouring properties, which is further supported by existing vegetation screening.

On this basis, the proposal meets the criteria for a controlled activity under the General Coastal Zone, with control appropriately limited to visual amenity matters. No other rule breaches have been identified.

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## 5. Plans and Technical Information

The following information has been prepared and accompanies this application:

- Architectural Drawings (site plan, floor plans, elevations, sections, septic and wastewater) (Appendix B)
- Stormwater Management Plan (on-site disposal) (Appendix C)
- Geotechnical Report (Appendix D)
- Traffic and Access established under the approved subdivision consent

A landscape plan and flood assessment are not provided, as the proposal is not located within a flood prone area and no vegetation clearance or landscape modification is proposed beyond the building platform.

A separate Assessment of Environmental Effects is attached.

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## 6. Earthworks and Impermeable Surfaces

**Impermeable Surfaces:**

- Existing driveway: 441.0 m²
- Proposed metal driveway: 364.0 m²
- Proposed dwelling: 144.4m² (Roof 181m2)
- Future shed: 90.0 m²
- **Total proposed impermeable area:** 1,076.7 m²

*Any future shed would be subject to separate assessment and/or permitted activity standards at the time of construction.*

**Earthworks:**

- Driveway cut: 36.0 m³
- Fill: 36.0 m³
- Total cut/fill: 72.0 m³

The geotechnical report confirms land stability for the proposed building platform; no retaining walls are proposed.

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## 7. Access and Servicing

- **Vehicle Access:** Existing, formed access approved as part of the subdivision
- **Water Supply:** Rainwater collection
- **Wastewater:** On-site wastewater system (TP58 compliant)
- **Stormwater:** On-site disposal

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## 8. Natural Hazards and Environmental Considerations

The site is not known to be subject to flooding, coastal hazards, erosion, or land instability. The proposed development area is well separated from covenanted wetland and native bush areas, which will remain untouched.

The proposal avoids any adverse effects on natural features and maintains the existing rural and coastal character of the wider area.

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## 9. Assessment of Environmental Effects (AEE)

### An AEE document is attached to this application

**Summary of Visual Amenity Effects:**
The building envelope location established at subdivision stage, as intended, lends this proposal to minimal visual effects, integrating easily with the surrounding rural coastal landscape. The dwelling will be located entirely withing the building envelope in a natural valley setting that is visually recessive and a significant distance from public roads and neighbouring dwellings as well as not being visible from any public land. The site is approximately 950 meters from Rangitane Road, and no dwellings on that shared driveway are in view or have view of this section. The proposal is consistent with the current neighbouring use.

Existing landform and the covenanted vegetation provide a high level of natural screening. The established native vegetation (see Z and W below) mitigates views from two sides of the building platform (see T below), while the remaining aspects are screened by surrounding hills. As a result, the dwelling will not be visible from public land or visually prominent for neighbouring properties.


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## 10. Consultation and Affected Parties

There are three dwellings on the shared driveway. None are located in close proximity to the proposed building site.

No neighbours are affected by shading, access, or loss of privacy. Given the distance, screening, and limited effects, no affected persons are identified.

No iwi consultation has been undertaken, as no sites of significance are identified, earthworks are limited, and effects were addressed at subdivision stage.

## 11. Notification Assessment

In accordance with sections 95A–95E of the Resource Management Act 1991, the proposal will have no more than minor adverse effects. There are no affected persons, and no special circumstances apply.

It is therefore requested that the application be processed on a **non-notified basis**.

## 12. Conclusion

The proposal represents a low impact residential development that respects the coastal rural character of the area. Effects on visual amenity, traffic, servicing, ecology, and neighbouring properties are less than minor.

The application is consistent with the objectives and policies of the General Coastal Zone and Part 2 of the Resource Management Act 1991. Conditions relating to external materials, colour reflectance values, and non-reflective glazing are accepted if required to ensure visual amenity outcomes are maintained. Resource consent should be granted subject to standard conditions.

Thank you for your time and consideration.

## Appendix:

A – Certificate of Title
B – Assessment of Environmental Effects
C – Architectural Drawings (site plan, floor plans, elevations, sections, septic and wastewater design)
D – Stormwater Management Plan
E – Geotechnical Report

A

# RECORD OF TITLE
# UNDER LAND TRANSFER ACT 2017
# FREEHOLD

**Search Copy**

R.W. Muir
Registrar-General
of Land

| | |
|---|---|
| **Identifier** | **1265351** |
| **Land Registration District** | **North Auckland** |
| **Date Issued** | 25 November 2025 |

**Prior References**
1228270

| | |
|---|---|
| **Estate** | Fee Simple |
| **Area** | 4.5012 hectares more or less |
| **Legal Description** | Lot 3 Deposited Plan 616409 |

**Registered Owners**

Melissa Jane Perrin as to a 1/2 share

Peter Dylan Kriz as to a 1/2 share

**Interests**

Subject to Section 59 Land Act 1948

Appurtenant hereto is a right to transmit electricity created by Easement Instrument 7526769.2 - 3.9.2007 at 9:00 am

12034360.2 Consent Notice pursuant to Section 221 Resource Management Act 1991 - 1.3.2021 at 3:44 pm

Subject to a right to convey electricity over parts marked L & P on DP 616409 created by Easement Instrument 12034360.3 - 1.3.2021 at 3:44 pm

Land Covenant in Covenant Instrument 12034360.4 - 1.3.2021 at 3:44 pm

Land Covenant in Covenant Instrument 12034360.5 - 1.3.2021 at 3:44 pm

Subject to a right to convey electricity over parts marked P & Q on DP 616409 created by Easement Instrument 13183940.1 - 26.2.2025 at 11:11 am

13369679.3 Consent Notice pursuant to Section 221 Resource Management Act 1991 - 4.9.2025 at 11:02 am

Subject to a right to convey electricity over parts marked L & P on DP 616409 created by Easement Instrument 13369679.4 - 4.9.2025 at 11:02 am

Appurtenant hereto is a right of way and a right to convey water, electricity and telecommunications created by Easement Instrument 13369679.4 - 4.9.2025 at 11:02 am

The easements created by Easement Instrument 13369679.4 are subject to Section 243 (a) Resource Management Act 1991

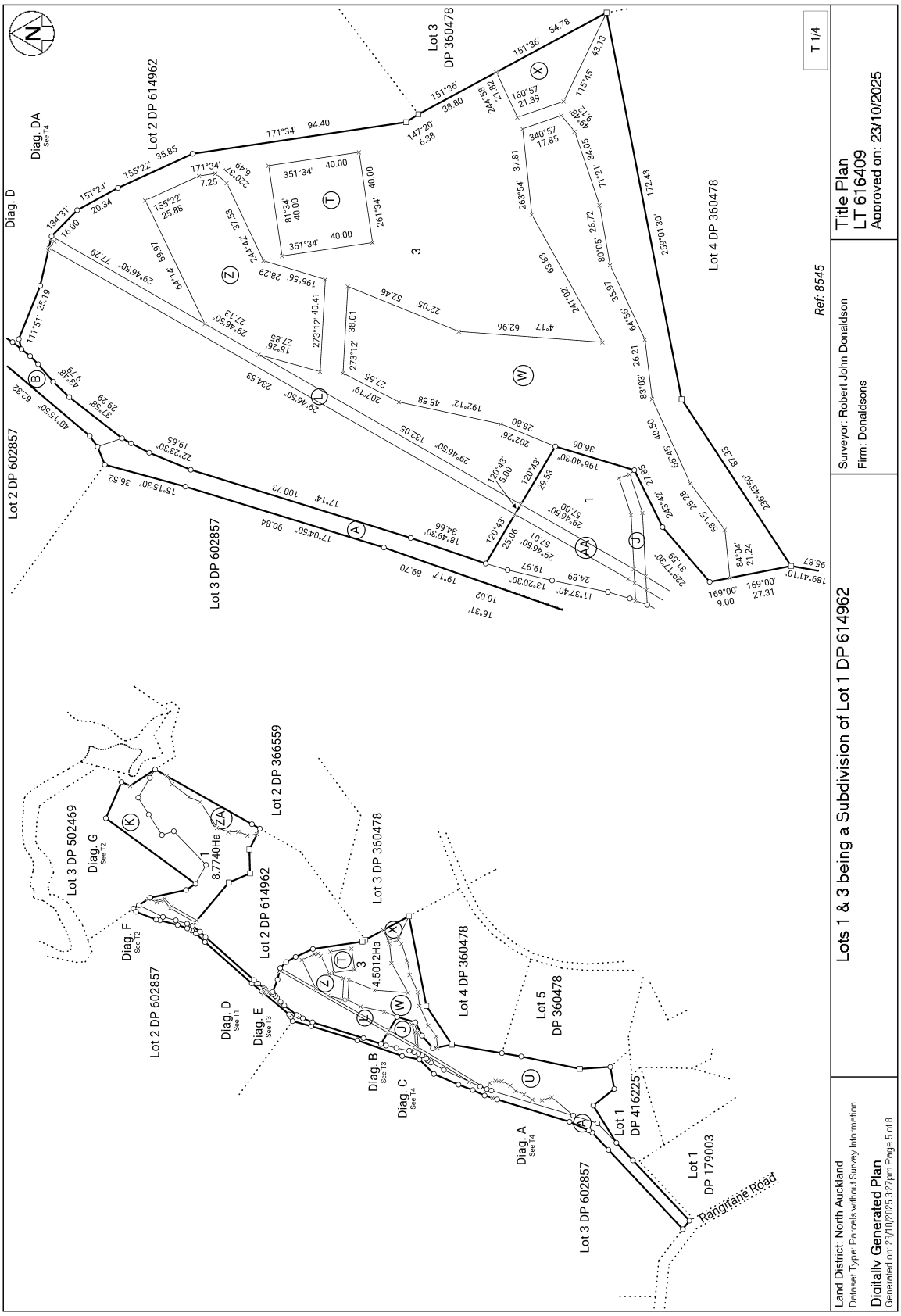
13446654.2 Consent Notice pursuant to Section 221 Resource Management Act 1991 - 25.11.2025 at 4:12 pm

Subject to a right to convey electricity over parts marked L & P on DP 616409 created by Easement Instrument 13446654.3 - 25.11.2025 at 4:12 pm

Appurtenant hereto is a right of way and a right to convey water, electricity and telecommunications created by Easement Instrument 13446654.3 - 25.11.2025 at 4:12 pm

The easements created by Easement Instrument 13446654.3 are subject to Section 243 (a) Resource Management Act 1991

13512388.4 Mortgage to ASB Bank Limited - 4.2.2026 at 5:00 pm


Lots 1 & 3 being a Subdivision of Lot 1 DP 614962
Title Plan
LT 616409
Approved on: 23/10/2025
Surveyor: Robert John Donaldson
Firm: Donaldsons
Ref: 8545
T 1/4
Land District: North Auckland
Dataset Type: Parcels without Survey Information
Digitally Generated Plan
Generated on: 23/10/2025 3:27pm Page 5 of 8
Lot 2 DP 602857
Lot 3 DP 602857
Lot 2 DP 614962
Lot 3 DP 360478
Lot 4 DP 360478
Lot 5 DP 360478
Lot 2 DP 366559
Lot 3 DP 502469
Lot 1 DP 416225
Lot 1 DP 179003
Rangitane Road
Diag. A
Diag. B
Diag. C
Diag. D
Diag. E
Diag. F
Diag. G
Diag. DA
8.7740Ha
4.5012Ha

B

# APPLICATION FOR RESOURCE CONSENT - AEE

**Application for Resource Consent – Visual Amenity**

**Far North District Council**

**Applicants:** Peter Dylan Kriz and Melissa Jane Perrin
**Address for Service:** 29 Opito Bay Road, Kerikeri
**Email:** lissyperrin@gmail.com
**Phone:** 021 0700 143
**Legal Owners:** Yes – applicants are the registered proprietors of the land

## Contents

# ASSESSMENT OF ENVIRONMENTAL EFFECTS

**Application for Resource Consent – Visual Amenity**

**Far North District Council**

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## 1.0 Executive Summary

This Assessment of Environmental Effects (AEE) accompanies an application for resource consent to Far North District Council for the construction of a single residential dwelling on Lot 3 DP 616409, 127 Rangitane Road, Kerikeri.

The site is zoned General Coastal under the Operative Far North District Plan and Rural Production under the Proposed District Plan.

Resource consent is required solely due to a non-compliance with the permitted habitable building floor area standard under Rule 10.6.5.1.1 (Visual Amenity) of the Operative District Plan, as the proposed dwelling exceeds 50m².

All other permitted activity standards within the General Coastal Zone are complied with. The proposal therefore qualifies as a Controlled Activity pursuant to Rule 10.6.5.2.2 (Visual Amenity), with Council's discretion limited to visual amenity matters.

The dwelling will be located entirely within an approved building envelope established at subdivision stage, is sited below surrounding ridgelines, and incorporates recessive materials, low-reflectance colours, and non-reflective glazing. The site is not visible from the coast or public land, and overall visual effects are assessed as less than minor.

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## 2.0 Proposal

The proposal involves the construction of **one residential dwelling** and associated site works on Lot 3 DP 616409, including:

• Formation of a building platform within the approved building envelope;

• Construction of a metal parking and manoeuvring area;

• Use of the existing legal access; and

• Provision of on-site water supply, wastewater disposal, and stormwater management.

No additional dwellings are proposed. Development is confined to a single paddock area that has already been fenced off. No works are proposed within the covenanted bush areas, which will remain undisturbed.

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## 3.0 Site Description

The site is located at 127 Rangitane Road, Kerikeri and is legally described as Lot 3 DP 616409, with an area of approximately 4.5012 hectares.

The land is predominantly grazed rural farmland and contains two areas of covenanted native bush. Legal access is provided via an existing driveway approximately 950 metres from Rangitane Road.

The approved building envelope is situated within a natural valley landform, below surrounding ridgelines. The site is not visible from the coast, the coastal marine area, or public land, and benefits from separation from neighbouring dwellings through landform, distance, and vegetation.

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## 4.0 Far North District Plan Assessment

### 4.1 Operative Far North District Plan – Activity Status

Under the Operative Far North District Plan, the site is zoned **General Coastal Zone**.

**Rule 10.6.5.1.1 – Visual Amenity (Permitted Activities)** permits residential buildings where the **habitable building floor area does not exceed 50m²**.

The proposed dwelling has a habitable floor area of **144.4m²** and therefore does not comply with Rule 10.6.5.1.1.

However, **Rule 10.6.5.2.2 – Visual Amenity (Controlled Activities)** provides for residential buildings that comply with all permitted activity standards **except** Rule 10.6.5.1.1, subject to assessment of visual amenity matters.

As the proposal complies with all other relevant standards, the activity is classified as **Controlled**, with control restricted to visual amenity considerations only.

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### 4.2 Operative District Plan – Compliance with Other Standards

In addition to the visual amenity assessment under Rule 10.6.5.2.2, the proposal has been assessed against all other relevant General Coastal Zone standards and applicable district-wide matters. The proposal is found to comply, as outlined via the tables below:

#### General Coastal Zone – Key Standards

| Standard / rule | Complies? | Notes (summary) |
|---|---|---|
| **Residential Intensity (Rule 10.6.4.1)** | YES | One dwelling on a large rural allotment. |
| **Scale of Activities (Rule 10.6.4.2)** | YES | Typical rural residential scale; no additional dwellings. |
| **Building Height (Rule 10.6.4.3)** | YES | Sited below ridgelines; avoids skyline effects. |
| **Sunlight (Rule 10.6.4.4)** | YES | Separation distances mean no material shading effects. |
| **Stormwater / Impermeable Surfaces (Rule 10.6.4.6)** | YES | Managed on site as part of servicing/stormwater approach. |

| | | |
|---|---|---|
| **Yards / Setbacks (Rule 10.6.4.7)** | YES | Development contained within approved building envelope; setbacks met. |
| **Transportation / Access (Rule 12)** | YES | Existing legal access; typical residential traffic volumes. |
| **Earthworks (Rule 10.6.4.8)** | YES | Approx. 72m³ cut/fill; localised and temporary. |

No additional rule breaches are identified.

### District Wide Provisions

| District-wide matter | Relevance | Where addressed / basis |
|---|---|---|
| **Transportation / Access** | Yes | Table 4.2A; 6.0 Traffic and Access. |
| **Earthworks** | Yes | Table 4.2A; 6.0 Earthworks (approx. 72m³). |
| **Stormwater / servicing** | Yes | Table 4.2A; 2.0 Proposal; 6.0 Servicing (incl. TP58). |
| **Natural hazards / land stability** | Not triggered (info provided) | Landform/siting in 3.0; supporting geotech if supplied. |
| **Noise** | Not triggered | Standard single-dwelling activity; no atypical sources proposed. |
| **Lighting** | Not triggered | Standard residential lighting anticipated. |
| **Signs** | No | No signage proposed. |
| **Heritage / archaeology** | Not triggered (info provided) | Minor earthworks within approved envelope; no items identified in information provided. |
| **Ecology / vegetation clearance** | Yes (bush covenants present) | 2.0 and 6.0 Ecology; no clearance; covenants retained. |
| **Water / wastewater** | Yes | 2.0 Proposal; 6.0 Servicing (TP58). |

*Note: This checklist is provided to assist Council's completeness review and reporting. I can add District wide rule numbering if specifically required.*

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### 4.3 Operative District Plan – Objectives and Policies

The proposal has been assessed against the relevant objectives and policies of the General Coastal Zone in the Operative Far North District Plan, which seek to enable rural residential development while avoiding, remedying, or mitigating adverse effects on coastal landscapes and visual amenity.

In particular, the proposal is consistent with the following policy directions:

• **Enabling appropriate rural residential use** – The construction of a single dwelling within an approved building envelope is consistent with the anticipated use of rural coastal land where effects are appropriately managed.

• **Protection of coastal visual amenity and landscape values** – The dwelling is sited below surrounding ridgelines, avoids skyline effects, and is not visible from the coast or coastal marine area, thereby maintaining the visual qualities of the coastal environment.

• **Use of landform, siting, and design to reduce visual dominance** – The proposal utilises natural landform, separation distances, and recessive design responses to integrate development into the surrounding landscape.

• **Retention of natural character and vegetation** – No vegetation clearance is proposed and covenanted native bush areas are retained and protected.

Overall, the proposal gives effect to the intent of the General Coastal Zone objectives and policies by enabling low-intensity residential development while maintaining coastal visual amenity and natural character values.

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### 4.4 Proposed Far North District Plan

Under the Proposed District Plan, the site is zoned **Rural Production**.

Residential development of this scale is anticipated within this zone, and no equivalent habitable floor area restriction applies. The proposal aligns with the anticipated character and outcomes of the proposed zoning.

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### 5.0 Assessment of Visual Amenity Effects (Rule 10.6.5.2.2)

The receiving environment is a rural coastal landscape characterised by large allotments, grazing land, and significant separation between dwellings.

In accordance with **Rule 10.6.5.2.2**, the following visual amenity matters are addressed:

**(i) the size, bulk, and height of the building in relation to ridgelines and natural features;**

The proposed 144.4m², single storey dwelling with a height well under the maximum permitted and is a consistent style with dwellings on neighbouring properties. The dwelling is located on an area of the property that is a natural valley and below all ridgelines. The proposal will be visually resessive and only as small portion of farm grazing land will be used for the house site and parking.

**(ii) the colour and reflectivity of the building.**

The majority of the exterior cladding will be a Linea Oblique with a small portion of the front façade around the ranch slider being a vertical cedar cladding which will blend well with the native bush that screens the front façade from neighbouring properties. All exterior colours and materials will be LRV of 30% or less and non-reflective.

**(iii) the extent to which planting can mitigate visual effects.**

Existing covenanted planting will mitigate visual effects to a large degree, the plants are well established and will continue to grow. This screens the proposed dwelling from multiple angles. There is also planting required as part of the wastewater plan (TP58 attached with application) which will be shallow native plantings.

**(iv) any earthworks and/or vegetation clearance associated with the building.**

There will be no vegetation clearance in this proposal, the effected area is cattle grazing grass only. Earthworks for a small extension of the driveway and the foundations will be required but the effects are only so much that is required for adequate manoeuvring of vehicles and the house build.

**(v) the location and design of associated vehicle access, maneuvering and parking areas.**

The driveway down to the house site is established already, there will only be a small extension to allow reasonable access, parking and maneuvering.

**(vi) the extent to which the building and any associated overhead utility lines will be visually obtrusive.**

The dwelling has a floor area of 144.4m² with a height of 4.2m, well under the 8m maximum permitted. The dwelling is not expected to be visually obtrusive due to its location and small size on a 45,012m², planted and grazed lot.

Existing and proposed plantings will further reduce any visual effects.

**(vii) the cumulative visual effects of all the buildings on the site.**

The proposed dwelling will be the only building on site, there are no existing structures.

**(viii) the degree to which the landscape will retain the qualities that give it its naturalness, visual and amenity values.**

The residential dwelling on a large site with grazing paddocks is consistent will all neighbouring properties.

**(ix) the extent to which private open space can be provided for future uses.**

There is ample available area providing private open space on the property for future use.

**(x) the extent to which the siting, setback and design of building(s) avoid visual dominance on landscapes, adjacent sites and the surrounding environment.**

The proposed dwelling is within the building envelope which is in an area of the property that is visually screened by existing vegetation. The dwelling will be visually recessive when viewed within the broader landscape context due to separation distances, landform containment, and scale relative to the surrounding rural environment. The dwelling will not be visible from the coast, the coastal marine area, or any public land.

**(xi) the extent to which non-compliance affects the privacy, outlook and enjoyment of private open spaces on adjacent sites.**

The privacy, outlook, and enjoyment of private open spaces on adjacent sites is expected to be minimal due to existing vegetation.

**Summary**
Overall, the visual effects of the proposal are assessed as **less than minor**.

---

## 6.0 Other Environmental Effects

### Traffic and Access

No additional access points are proposed. Traffic effects are negligible and consistent with those anticipated at the time of subdivision approval.

### Earthworks

Earthworks are limited in scale and confined to the building platform and driveway area. Effects will be appropriately managed in accordance with the geotechnical recommendations. No retaining walls are proposed.

### Servicing

All services will be provided on site and designed in accordance with Council standards. As a result, no adverse effects beyond the site boundary are anticipated.

### Ecology

No vegetation clearance is proposed as part of the development. The covenanted native bush areas on the site are substantial and permanently protected and will remain in their existing state. These areas are well separated from the building envelope, they are fenced off and will not be disturbed by the proposed works.

---

## 7.0 Consultation and Affected Parties

There are three dwellings on the shared driveway. None are located in close proximity to the proposed building site.

No neighbours are affected by shading, access, or loss of privacy. Given the distance, screening, and limited effects, no affected persons are identified.

No iwi consultation has been undertaken, as no sites of significance are identified, earthworks are limited, and effects were addressed at subdivision stage.

---

## 8.0 Notification Assessment

Pursuant to Sections 95A–95E of the Resource Management Act 1991, the proposal will result in no more than minor adverse effects. No affected persons are identified, and no special circumstances apply.

It is therefore requested that the application be processed on a **non-notified basis**.

---

## 9.0 Assessment under Section 104 of the Resource Management Act 1991

### 9.1 Section 104(1)(a) – Actual and Potential Effects

The actual and potential effects of the proposal have been assessed in Sections 5.0 and 6.0 of this AEE. Visual amenity effects are assessed as less than minor, with the dwelling located within an approved building envelope, below surrounding ridgelines, and not visible from the coast or public land. Other environmental effects (including traffic, earthworks, servicing, and ecology) are minor or negligible.

### 9.2 Section 104(1)(b) – Relevant Statutory Planning Documents

The proposal has been assessed against the relevant provisions of the Operative Far North District Plan in Sections 4.1–4.3 of this AEE, including activity status, compliance with standards, and alignment with zone objectives and policies. The Proposed Far North District Plan has been considered for consistency in Section 4.4.

### 9.3 Section 104(1)(c) – Other Matters

No other matters are considered relevant and reasonably necessary to determine the application.

### 9.4 Overall Section 104 Assessment

Having regard to the matters set out in **section 104** of the Resource Management Act 1991, and noting the activity is **controlled** with discretion limited to visual amenity matters, it is considered the proposal is appropriate and resource consent should be granted, subject to any reasonable conditions relating to visual amenity.

---

## 10.0 Conclusion

The proposal represents a low impact residential development that respects the coastal rural character of the area and complies with all relevant standards except for habitable building floor area, for which a controlled activity pathway is expressly provided.

Effects on visual amenity, traffic, servicing, ecology, and neighbouring properties are less than minor, the proposal aligns with both the Operative and Proposed District Plans, and resource consent should be granted subject to standard visual amenity conditions, if considered necessary.

C

# Proposed Dwelling

Pete Kriz & Lissy Perrin
127 Rangitane Road
Kerikeri
Lot 3 DP 616409

| Sheet Index | | |
|---|---|---|
| Sheet No. | Sheet Title | Rev |
| A01a | Site Location Plan | G |
| A01b | Site Plan | G |
| A01c | Site Plan | G |
| A01d | Wastewater Details | G |
| A02 | Floor Plan | G |
| A03 | Elevations | G |
| | | |
| Revisions | | |
| - | - | - |

Concept Drawings
Date: 13 March 2026
Job Number: 4294
Drawn by:

O'BRIEN DESIGN CONSULTING
T 09 407 5208 | martin@obrienconsulting.co.nz


Northland REGIONAL COUNCIL

Site Location Plan


Verify all dimensions on site before commencing work & do not scale from drawings. Refer any discrepancies to O'Brien Design Consulting Ltd.

All work to be done in accordance with NZS 3604: 2011 and the NZ Building Code unless specifically designed.



O'BRIEN DESIGN CONSULTING

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**Project Title**

Pete Kriz & Lissy Perrin
127 Rangitane Road
Kerikeri
Lot 3 DP 616409

**Sheet Title**

Site Location Plan

**Drawn** 13 March 2026

**Project No** 4294

**Rev** G

**Sheet** A01a

**Scale ( A3 Original )** 1: 1250

12.5 6.25 0 12.5 25 m

Lot 3 DP 616409
Lot area: 45,012m²
Roof pitch: 3°
Cladding weight: Light
Corrosion zone: C
Wind zone: High
General Costal Zone

District plan compliance:

Residential intensity: Complies

Visual amenity: Does not comply, RC Required

Stormwater Management

(Impermeable surfaces):

| | |
|---|---|
| Existing driveway: | 441.0m² |
| Proposed metal driveway: | 364.0m² |
| Proposed dwelling: | 181.7m² |
| Future shed: | 90.0m² |
| Total proposed: | 1,076.7m² |

Total permitted = 10% of gross site area = 4,501.2m²
Total proposed = 1,076.7m² = 2.4% Complies

Setbacks to boundaries: 10m min. Complies

Building height:
Permitted: 8m max
Proposed: 3.6m Complies

Sunlight rule: Complies

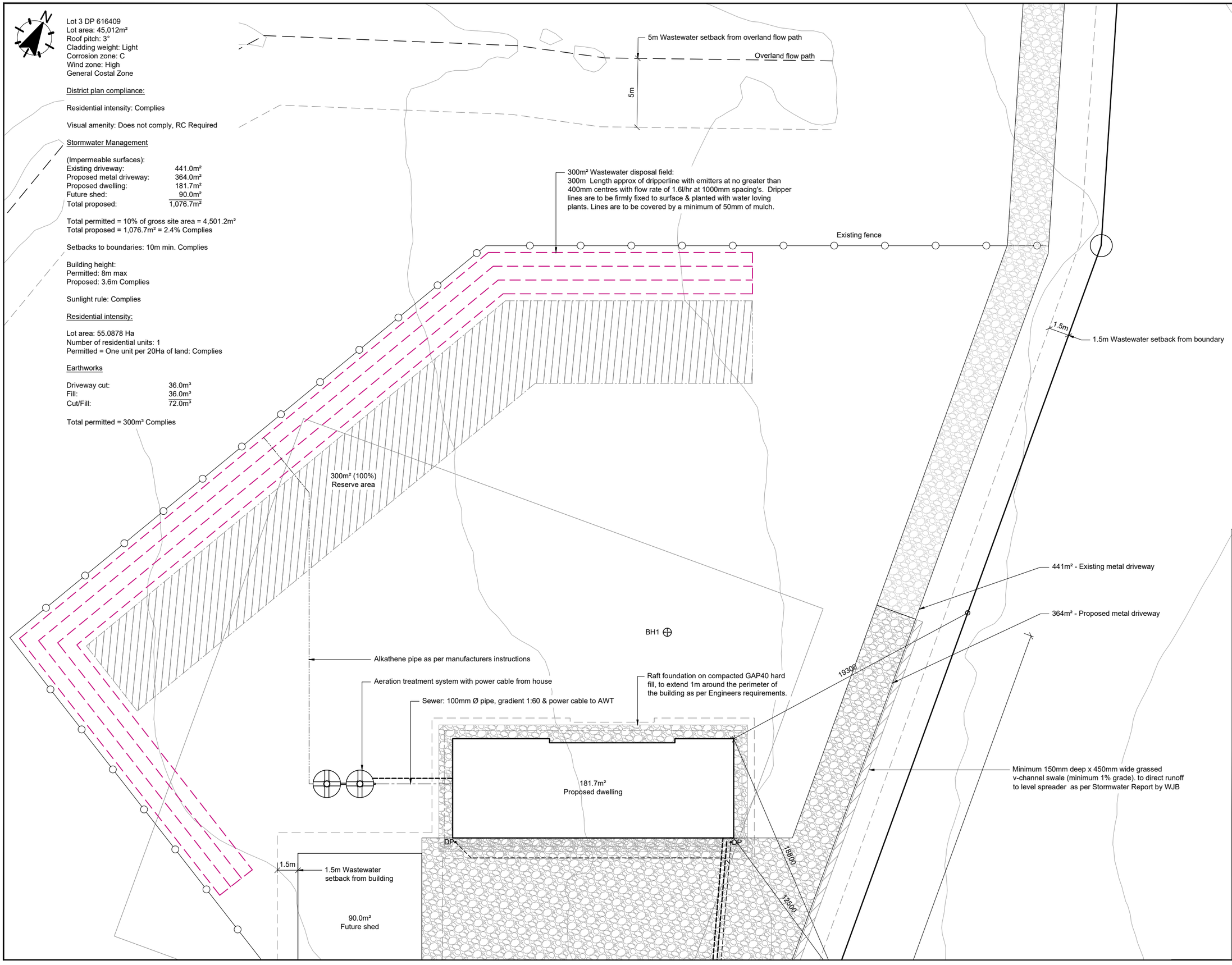
Residential intensity:

Lot area: 55.0878 Ha
Number of residential units: 1
Permitted = One unit per 20Ha of land: Complies

Earthworks

| | |
|---|---|
| Driveway cut: | 36.0m³ |
| Fill: | 36.0m³ |
| Cut/Fill: | 72.0m³ |

Total permitted = 300m³ Complies




NOTES

1. Contour lines at 1m increments, sourced from NRC.
2. All drainage to comply with AS/NZS3500 & NZBC G13/AS1. All drainage is diagrammatical, drainlayer to determine on site drainage layout and provide asbuilt plan when complete.
3. Length of dripper lines to be no more than 100m between feed points.
4. Dripper lines to follow contour lines
5. Dripper lines to be setback:
   - 1.5m from buildings
   - 1.5m from property boundaries
   - 5m from any intermittent storm water flow path such as a drain or overland flow path down slope of the field
6. Overflow from water tanks to be directed well away from the proposed wastewater disposal field.
7. Interconnected Smoke alarms to be installed to NZS4514:2021 located in all bedrooms, living spaces, hallways, and landings within the building spaces. Where a kitchen is separated from the living spaces with a door a suitable kitchen smoke alarm shall be installed. This may be a heat alarm to avoid nuisance activations.
8. The works which are being proposed will comply with Earthworks EW-S3 Accidental Discovery Protocol and Earthworks EW-S5 Erosion and Sediment Control - Auckland Council Guideline Document GD005 GD05 Erosion and Sediment Control.pdf (aucklanddesignmanual.co.nz)



O'BRIEN DESIGN CONSULTING
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**Project Title**
Pete Kriz & Lissy Perrin
127 Rangitane Road
Kerikeri
Lot 3 DP 616409

**Sheet Title**
Site Plan

**Drawn** 13 March 2026

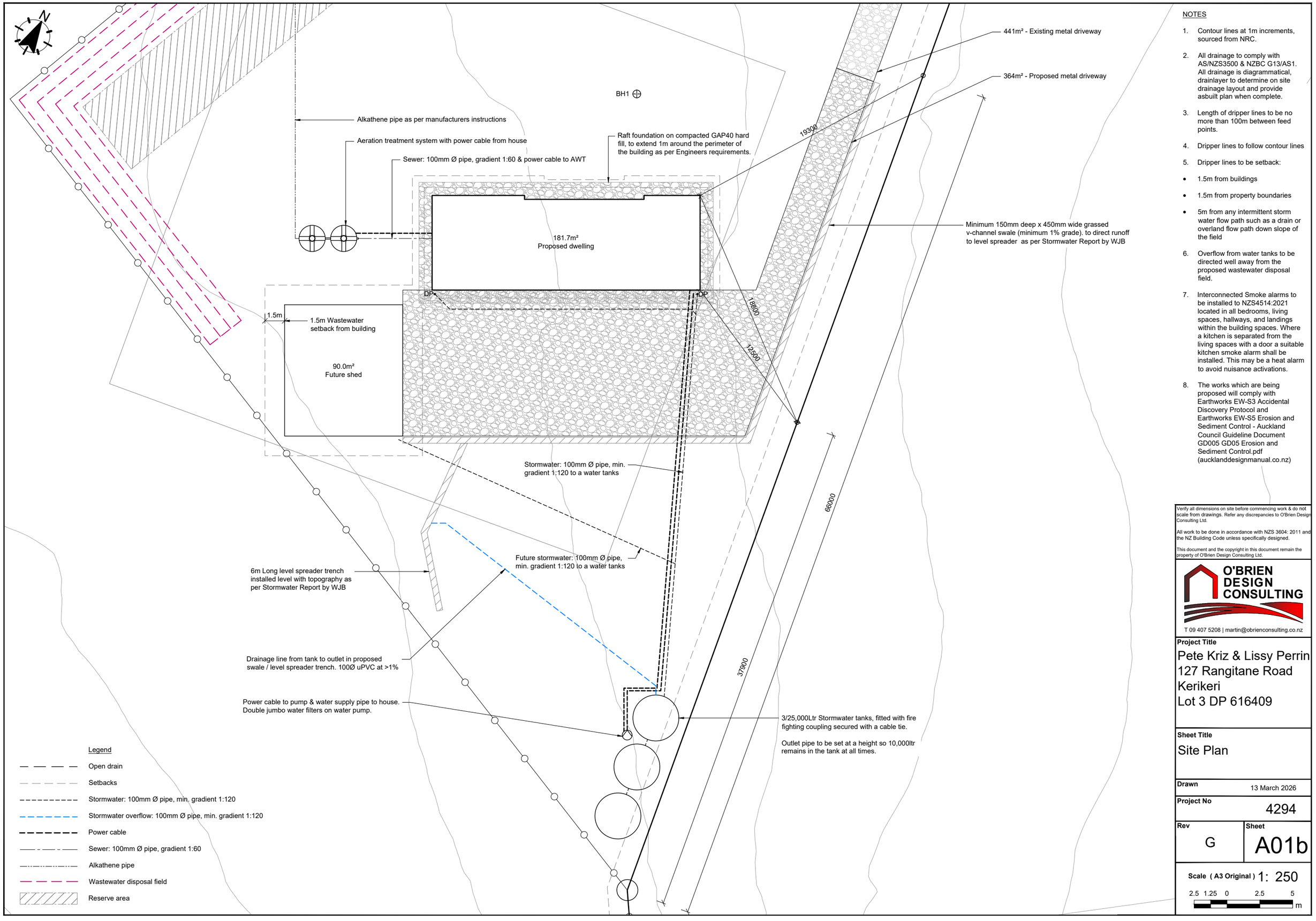
**Project No** 4294

**Rev** G

**Sheet** A01b

**Scale ( A3 Original )** 1: 250

2.5 1.25 0 2.5 5 m




Legend

- Open drain
- Setbacks
- Stormwater: 100mm Ø pipe, min. gradient 1:120
- Stormwater overflow: 100mm Ø pipe, min. gradient 1:120
- Power cable
- Sewer: 100mm Ø pipe, gradient 1:60
- Alkathene pipe
- Wastewater disposal field
- Reserve area

NOTES

1. Contour lines at 1m increments, sourced from NRC.
2. All drainage to comply with AS/NZS3500 & NZBC G13/AS1. All drainage is diagrammatical, drainlayer to determine on site drainage layout and provide asbuilt plan when complete.
3. Length of dripper lines to be no more than 100m between feed points.
4. Dripper lines to follow contour lines
5. Dripper lines to be setback:
   - 1.5m from buildings
   - 1.5m from property boundaries
   - 5m from any intermittent storm water flow path such as a drain or overland flow path down slope of the field
6. Overflow from water tanks to be directed well away from the proposed wastewater disposal field.
7. Interconnected Smoke alarms to be installed to NZS4514:2021 located in all bedrooms, living spaces, hallways, and landings within the building spaces. Where a kitchen is separated from the living spaces with a door a suitable kitchen smoke alarm shall be installed. This may be a heat alarm to avoid nuisance activations.
8. The works which are being proposed will comply with Earthworks EW-S3 Accidental Discovery Protocol and Earthworks EW-S5 Erosion and Sediment Control - Auckland Council Guideline Document GD005 GD05 Erosion and Sediment Control.pdf (aucklanddesignmanual.co.nz)



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**Project Title**
Pete Kriz & Lissy Perrin
127 Rangitane Road
Kerikeri
Lot 3 DP 616409

**Sheet Title**
Site Plan

**Drawn** 13 March 2026

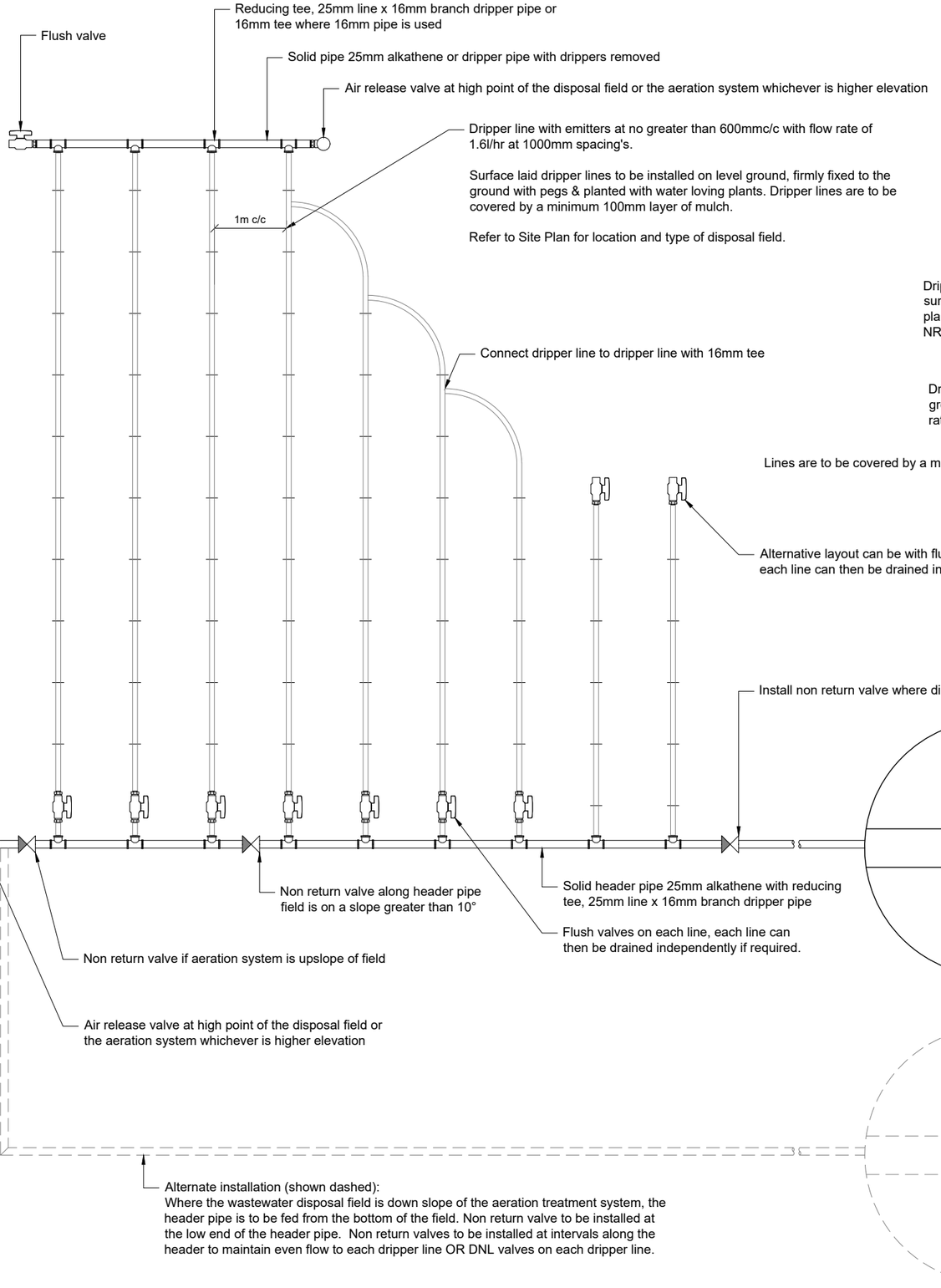
**Project No** 4294

**Rev** G

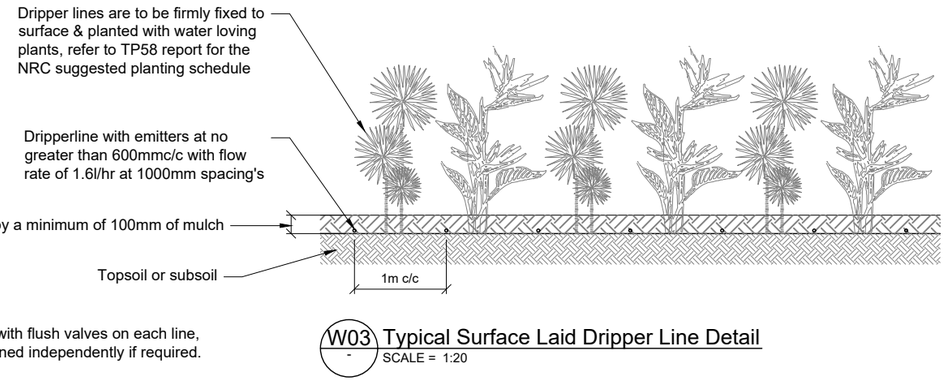
**Sheet** A01b

**Scale ( A3 Original )** 1: 250

2.5 1.25 0 2.5 5 m




W01 Typical Wastewater Disposal Field Plan
SCALE = 1:20




W03 Typical Surface Laid Dripper Line Detail
SCALE = 1:20

NOTES

1. All drainage is diagrammatical, do not scale from drawing.
2. Length of dripper lines to be no more than 100m between feed points.
3. Dripper lines to follow contour lines.
4. Dripper lines to laid on even ground, laying dripper lines on gully's or humps in the ground can cause ponding.
5. Air release valve to be at the high point in the disposal field or at the system if that is a higher elevation, locations shown on detail are indicative.
6. The works which are being proposed will comply with Earthworks EW-S3 Accidental Discovery Protocol and Earthworks EW-S5 Erosion and Sediment Control - Auckland Council Guideline Document GD005 GD05 Erosion and Sedimen Control.pdf (aucklanddesignmanual.co.nz)



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**Project Title**
Pete Kriz & Lissy Perrin
127 Rangitane Road
Kerikeri
Lot 3 DP 616409

**Sheet Title**
Wastewater Details

**Drawn** 13 March 2026

**Project No** 4294

**Rev** G

**Sheet** A01d

**Scale ( A3 Original )** 1: 20

0.2 0.1 0 0.2 0.4 m

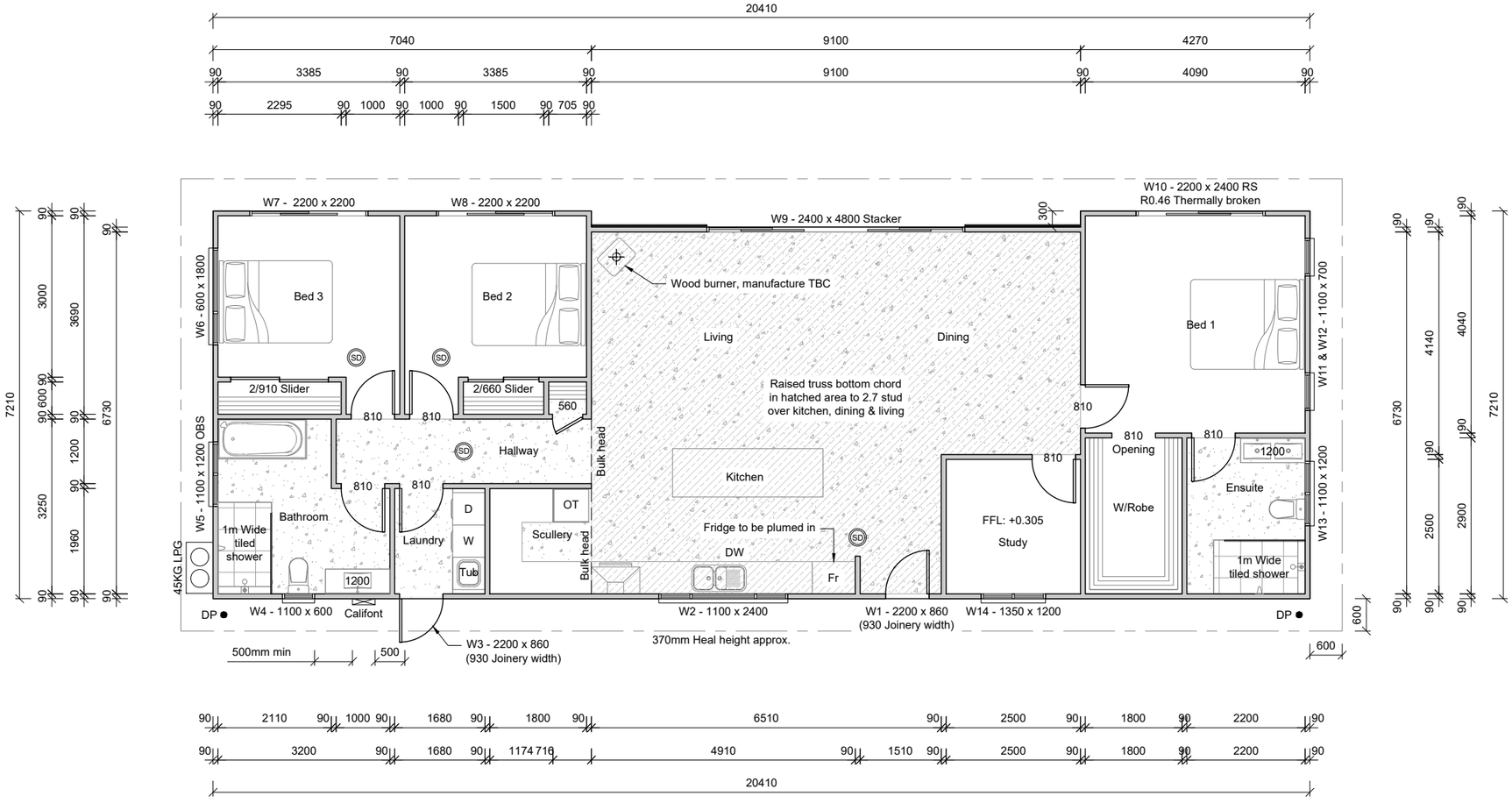
C
B D
A

SPECIFICATION:

- High wind zone
- Exposure zone C
- Concrete raft foundations
- 2.4m & 2.7m Stud height
- 2.2m Lintel height
- 200mm x 16mm Linea Oblique cladding
- Trapezoidal roofing
- 3° Roof pitch
- 10mm GIB wall lining
- 13mm GIB ceiling lining
- Hardieflex soffit lining
- Continuous external rainwater system & fascia with 80Ø downpipe, unless noted.
- All windows and doors double glazed (low Xcel)
- Grade A safety glazing in bathroom window and all full height ranch sliders inline with NZS 4223.

H1 SPECIFICATION:

| | | |
|---|---|---|
| - | Foundation: Poly Raft | *R1.5* |
| - | Walls: Pink batts | *R2.8* |
| - | Ceiling: Pink batts | *R7.0* |
| - | Double glazing Solux-E | *R0.37* |
| - | Double glazing Solux-E *(Thermally broken glazing)* | *R0.46* |




BUILDING AREA:

Floor Area: 144.4m²
Roof Area: 181.7m²

NOTE:

1. All dimensions taken from the outside of pre-cut, please check all dimensions before construction commences.
2. Refer to Section for lintel dimensions, stud spacing & external door offsets.
3. Additional nogs to be installed at framing stage to allow for fixed shelves, wall mounted extractors, heat pump & A/C units where required.
4. Refer to attached sheet for cladding & roofing notes & details.
5. All wall framing typically H1.2 treated unless specifically stated.
6. All external linings to be installed to manufacturers instructions, refer to separate detail sheet for cladding details & notes.
7. Waterproof membrane under the tiles (or similar) is to extend 1.5m from bathroom & kitchen sanitary fixtures to comply with E3/AS1 3.0
8. Grade A safety glazing in shower screens inline with NZS 4223
9. Artificial lighting to be provided inline with NZS 6703:1984 & G8/AS1.
10. Interconnected Smoke alarms to be installed to NZS4514:2021 located in all bedrooms, living spaces, hallways, and landings within the building spaces. Where a kitchen is separated from the living spaces with a door a suitable kitchen smoke alarm shall be installed. This may be a heat alarm to avoid nuisance activations.

FIXINGS:

Exposure Zone: C
Durability of fixings to comply with NZS 3604:2011 Section 4 & NZBC B2/AS1

LEGEND

- Smoke Detector
- Roof Line
- 90 x 45 SG8 H1.2 Timber framing walls
- Polished concrete floors
- Selected tiles on selected tile underlay to all wet areas installed to manufacturers specifications & Branz tiling good practice guide
- Rinnai Infinity VT26 water heater installed to manufacturers instructions
- 45KG LPG Bottles, top of bottle to be 500mm min. from ignition source refer to LPG Association Code of Practice for clearances and seismic restraints.



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**Project Title**
Pete Kriz & Lissy Perrin
127 Rangitane Road
Kerikeri
Lot 3 DP 616409

**Sheet Title**
Floor Plan

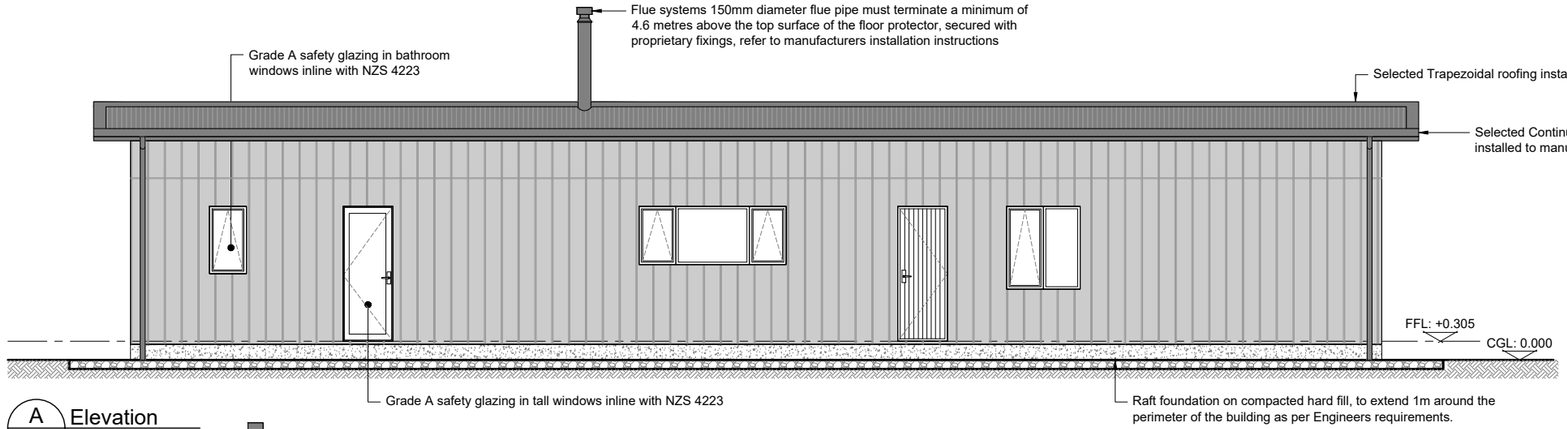
**Drawn** 13 March 2026

**Project No** 4294

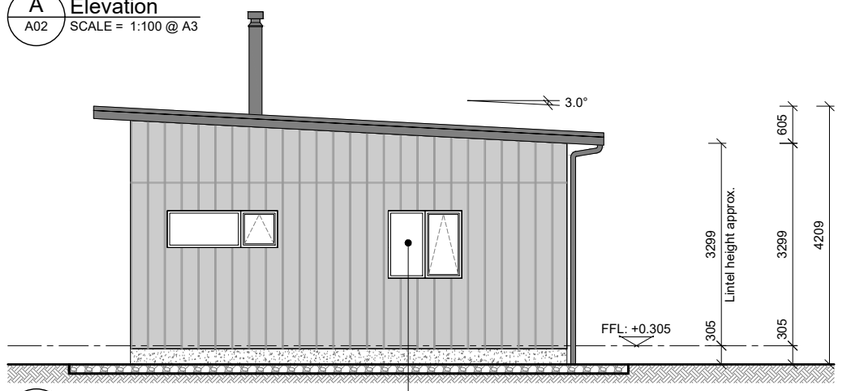
**Rev** G

**Sheet** A02

**Scale ( A3 Original )** 1: 100
1 0.5 0 1 2 m

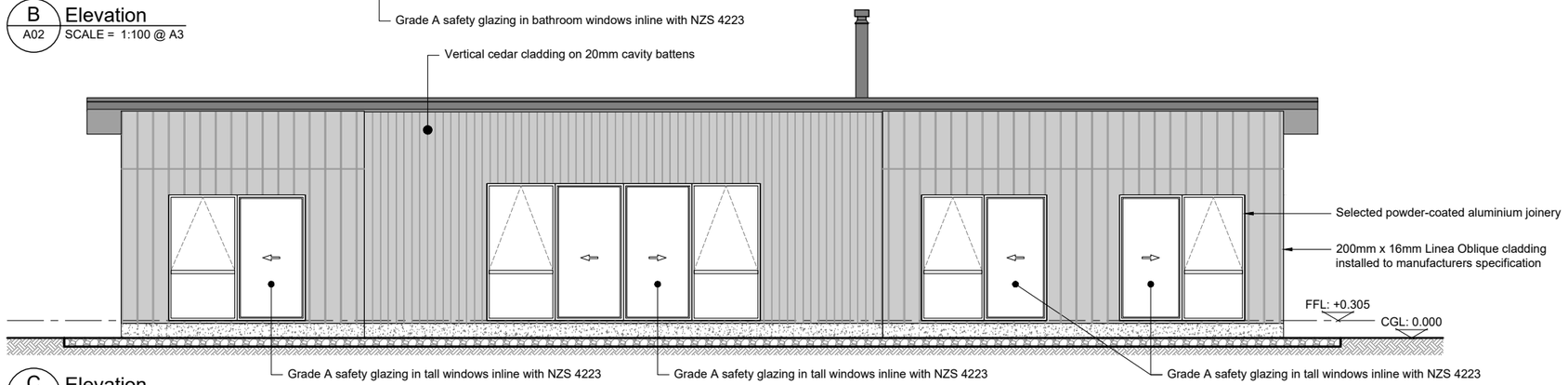



A Elevation
A02 SCALE = 1:100 @ A3

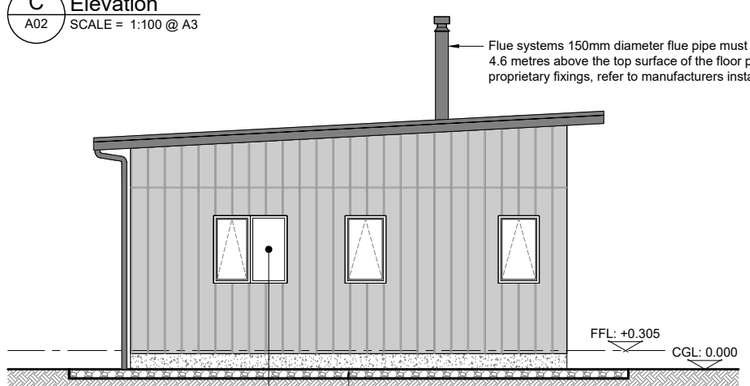



B Elevation
A02 SCALE = 1:100 @ A3

Grade A safety glazing in bathroom windows inline with NZS 4223




C Elevation
A02 SCALE = 1:100 @ A3




D Elevation
A02 SCALE = 1:100 @ A3

NOTE:

1. All heights shown are existing ground heights.
2. All external linings to be installed to manufacturers instructions, refer to separate detail sheet for cladding details & notes.
3. All windows and doors double glazed other than the garage joinery.
4. Grade A safety glazing in bathrooms & tall windows and sliders inline with NZS 4223.

FIXINGS:

Exposure Zone: C
Durability of fixings to comply with NZS 3604:2011 Section 4 & NZBC B2/AS1



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**Project Title**
Pete Kriz & Lissy Perrin
127 Rangitane Road
Kerikeri
Lot 3 DP 616409

**Sheet Title**
Elevations

**Drawn** 13 March 2026

**Project No** 4294

**Rev** G

**Sheet** A03

**Scale ( A3 Original )** 1: 100

1 0.5 0 1 2 m

D

Wilton Joubert Limited
09 527 0196
PO BOX 11-381
Ellerslie
Auckland 1524

| | |
|---|---|
| SITE | 127 Rangitane Road, Kerikeri |
| LEGAL DESCRIPTION | Lot 3 DP 616409 |
| PROJECT | Proposed Dwelling & Future Shed |
| CLIENT | Melissa & Peter Kriz |
| REFERENCE NO. | 145446 |
| DOCUMENT | Stormwater Mitigation Report |
| STATUS/REVISION No. | 01 |
| DATE OF ISSUE | 4th March 2026 |

| Report Prepared For | Email |
|---|---|
| Melissa & Peter Kriz | lissyperrin@gmail.com |



| | | | | |
|---|---|---|---|---|
| **Authored by** | **G.Brant** *(BE(Hons) Civil)* | Civil Engineer | Gustavo@wjl.co.nz |  |
| **Reviewed & Approved by** | **B. Steenkamp** *(CPEng, BEng Civil, CMEngNZ, BSc (Geology))* | Senior Civil Engineer | BenS@wjl.co.nz |  |

## 1. EXECUTIVE SUMMARY

The following table is intended to be a concise summary which must be read in conjunction with the relevant report sections as referenced herein.

| | |
|---|---|
| Legal Description: | Lot 3 DP 616409 |
| Site Area: | 45,012m² |
| Development Type: | Proposed Dwelling & Future Shed |
| Development Proposals Supplied: | Plan Set by O'Brien Design Consulting (Ref No: 4294, dated: 25.02.2026) |
| District Plan Zone: | General Coastal |
| Permitted Activity Coverage: | 10% |
| Impermeable Coverage: | **Post-Development Impermeable Areas**<br><br>Total Roof Areas 271.7m²<br>Total Hardstand Areas 805m²<br><br>Post-Development Total = 1,076.7m² or 2.4% of the site area<br>Total Increase in Impermeable Area = 635.7m² |
| Activity Status: | Permitted Activity |
| Roof Attenuation: | Attenuation is to be provided in accordance with the requirements outlined in Section 5 via the dual-purpose rainwater tanks.<br><br>**Proposed Tank** – 2 x 25,000 litre Rainwater Tanks (or similar)<br>**Dimensions** – 3600mmØ x 2600mm high (or greater)<br>**10% AEP Control Orifice** – 24mmØ orifice; located >790mm below the overflow outlet<br>**1% AEP Control Orifice** – 48mmØ orifice; located 590mm above the 10% Control Orifice<br>**Overflow** – 100mmØ at the top of the tank |
| Hardstand Mitigation: | It is recommended to shape the proposed driveway to shed runoff to a **minimum** 150mm deep x 450mm wide grassed v-channel swale (minimum 1% grade) along the eastern / southern side of the proposed driveway.<br><br>Where required, the existing metal driveway should be shaped to discharge via sheet flow to the existing swale or the overland flow path. |
| Point of Discharge: | Stormwater runoff resulting from the proposed potable water / detention tanks and driveway swale to be directed to a minimum 6m long level spreader installed level with topography. |

## 2. SCOPE OF WORK

Wilton Joubert Ltd. (WJL) was engaged by the client to produce an on-site stormwater mitigation assessment at the above site.

At the time of report writing, we have been supplied the following documents:

- Plan Set by O'Brien Design Consulting, including site plan, floor plan and elevations (Ref No: 4294, dated: 25.02.2026)

**Should any changes be made to the provided plans with stormwater management implications, WJL must be contacted for review.**

## 3. SITE DESCRIPTION

The proposed development will be constructed within the following property (the site), which is located off the northeastern side of Rangitane Road, accessed 1.3km east of the Redcliffs Road intersection:

- Lot 3 DP 616409, Rangitane Road, Kerikeri.


*Figure 1: Aerial snip from FNDC Maps showing site boundaries (cyan)*

The surface area of the irregular shaped property is approximately 4.5ha and is accessed at the northwestern boundary via a shared right-of-way (ROW), approximately 930m from Rangitane Road. An aggregate driveway trends from the property entrance along the northeastern boundary towards the proposed development area.

The site is vacant of structures and is largely covered in pasture. A north to south trending overland flow path (OLFP) traverses through the middle of the block and is planted in juvenile trees and bush. A cut-off drain has been formed upslope of the existing driveway, slightly beyond the boundary.

Topographically speaking, the property consists of two flanks that fall from the western and eastern boundaries down towards the noted flow path. The western flank is more inclined, generally sloping at gentle to moderate grades, whilst the eastern flank is broader in nature and slopes at gentler grades averaging less than 8°. The flow path leads to a watercourse along the southern boundary, ultimately discharging into a large pond beyond the southwestern boundary corner.

The Far North District Council (FNDC) online GIS Water Services Map indicates that public stormwater, wastewater or potable water connections are not available to the property.

## 4. DEVELOPMENT PROPOSALS

The development proposal, obtained from the client, is to construct a dwelling and metal driveway on-site as depicted in the plan set by O'Brien Design Consulting (Ref No: 4294, dated: 25.02.2026).

In addition to the above, the stormwater mitigation recommendations herein have be completed to include the future shed depicted in the plan set by O'Brien Design Consulting (Ref No: 4294, dated: 25.02.2026).

The principal objective of this assessment is to provide an indicative stormwater disposal design which will manage runoff generated from the increased impermeable areas associated with the proposed development.

## 5. ASSESSMENT CRITERIA

*Impermeable Areas*

The calculations for the stormwater system for the development are based on a gross site area of 45,012m² and the below areas *extracted from the supplied plans*:

| | Pre-Development | Post-Development | Total Change |
|---|---|---|---|
| **Total Roof Area** | **0 m²** | **271.7 m²** | 271.7 m² |
| Proposed Dwelling | 0 m² | 181.7 m² | |
| Future Shed | 0 m² | 90 m² | |
| **Total Hardstand Area** | **441 m²** | **805 m²** | 364 m² |
| Existing Metal Driveway | 441 m² | 441 m² | |
| Proposed Metal Driveway | 0 m² | 364 m² | |
| **Pervious** | 44,571 m² | 43,935.7 m² | -635.7 m² |

The total amount of impermeable area on-site, post-development, equates to 1,076.7m² or 2.4% of the site area. The total increase in impermeable area on-site, post-development, equates to 635.7m². Should any changes be made to the current proposal, the on-site stormwater mitigation design must be reviewed.

*District Plan Rules*

The site is zoned General Coastal. The following rules apply under the FNDC District Plan:

10.6.5.1.6 – **Permitted Activities – Stormwater Management** - The maximum proportion of the gross site area covered by buildings and other impermeable surfaces shall be 10%.

10.6.5.2.3 – **Controlled Activities – Stormwater Management** - The maximum proportion or amount of the gross site area covered by buildings and other impermeable surfaces shall be 15% or 4,000m², whichever is the lesser.

The total proposed impermeable areas on-site shall be less than 10% of the site area post-development. As such, the proposed development complies with Permitted Activity Rule 10.6.5.1.6, and a District Plan Assessment is not required.

*Design Requirements*

The site is under the jurisdiction of the Far North District Council. The design has been completed in accordance with the recommendations and requirements contained within the Far North District Council Engineering Standards, the Far North District Council District Plan, Clause E1 of the New Zealand Building Code and the following consent conditions:

| | |
|---|---|
| iii. | In conjunction with the construction of any dwelling, an attenuation device with an overflow limit run-off from the site to the pre-development levels is to be provided. Attenuation shall be provided for rainfall events up to the 10% AEP including a 20% allowance for climate change. Where downstream flooding exist flood protection for the 1% AEP event shall be provided. The consent holder is to provide the design details of the system to Council for approval prior to installation. The tank shall be installed prior to the Code of Compliance being issued for the proposed dwelling. |

*Figure 2: Snip of Consent Conditions*

In accordance with the above conditions, stormwater runoff resulting from the proposed roof areas and proposed metal driveway will be attenuated back to pre-development flow rates for the 10% AEP and 1% AEP storm events, adjusted for climate change.

The Type IA storm profile was utilised for attenuation calculations in accordance with TR-55. HydroCAD® software has been utilised in design for a 10% AEP rainfall value of 188mm with a 24-hour duration, and a 1% AEP rainfall value of 289mm with a 24-hour duration utilised for calculations. Rainfall data was obtained from HIRDS and increased by 20% to account for climate change.

### *Exclusion of Existing Gravel Driveway from Attenuation*

The existing long, narrow metal driveway is not proposed to be included in the attenuation calculations.

The existing gravel driveway is partially permeable and allows infiltration into the underlying subgrade. Runoff resulting from a gravel surface does not behave as fully impervious discharge comparable to roof or concrete surfaces. In addition, the driveway's linear geometry increases time of concentration and promotes dispersed sheet flow to adjacent vegetated pasture.
The site is located within the lower portion of a much larger rural catchment, and the incremental hydrological effect of the gravel driveway on downstream peak flows is negligible. Including it within the attenuation design would result in over-mitigation without providing meaningful downstream benefit.

Attenuation has therefore been focused on the effectively impervious roof and concentrated hardstand areas, where peak flow modification is materially relevant.

## 6. STORMWATER MITIGATION ASSESSMENT

To meet the requirements outlined in Section 5, the following must be provided:

### *Potable Water Supply*

It is recommended that rainwater tanks are utilised to provide the proposed dwelling with a potable water supply. The tank type is at the discretion of the client. A proprietary guttering system is required to collect roof runoff from the proposed / future roof areas. A first flush diverter and/or leaf filters may be installed in-line between the gutters and the tank inlet. The tank inlet level should be at least 600mm below the gutter inlet and any in-line filters. Any filters will require regular inspection and cleaning to ensure the effective operation of the system. The frequency of cleaning will depend on current and future plantings around the proposed roof area. Provision should be made by the homeowner for top-up of the tanks via water tankers in periods of low rainfall.

All potable water tanks must be constructed level and fitted with balancing pipes at the top and near the base of each tank to connect all potable water tanks to each other. Due to inadequate water quality concerns, runoff from hardstand areas should not be allowed to drain to the potable water tanks.

The upper section of the potable water tanks is to act as a detention volume to achieve stormwater neutrality for the proposed impermeable areas. One of the tanks is to be fitted with a 100mmØ overflow outlet with a flow attenuation outlet as specified below.

*Potable Tanks Detention Volume*

As per the attached design calculations, the design elements of the detention volume are as follows:

| | |
|---|---|
| Proposed Tank | 2 x 25,000L litre Rainwater Tanks (or approved equivalent) |
| Tank dimensions | 3600mmØ (or greater) x 2600mm high (or greater) |
| Outlet orifice (10% AEP Control) | **24mm diameter orifice**; located >790mm below the overflow outlet<br>- 586mm water elevation<br>- 11.9m³ storage |
| Outlet orifice (1% AEP Control) | **48mm diameter orifice**; located 590mm above the 10% Control Orifice<br>- 783mm water elevation<br>- 15.9m³ storage |
| Overflow Outlet | **100mm diameter**; located at the top of the tank |

Discharge from the potable water / detention tanks must be transported via sealed pipes to an outlet in the proposed grassed swale specified below. Refer to the appended Site Plan (145446-C200), Tank Detail (145446-C201) and calculation set for clarification.

The tanks must be installed in accordance with the tank suppliers' details and specifications. Levels are to be confirmed by the contractor on-site prior to construction. Adequate fall (minimum 1% grade) from the tank's outlet to the discharge point is required. If this is not achievable, WJL must be contacted for review of the design.

*Stormwater Mitigation – Hardstand*

Where required, it is recommended to shape the proposed driveway to shed runoff to a **minimum** 150mm deep x 450mm wide grassed v-channel swale (minimum 1% grade) along the eastern / southern side of the proposed driveway where runoff cannot be directed be safely directed to existing drainage features.

Where practicable, runoff from the driveway may instead be directed to the existing swale located along the neighbouring boundary, or to the natural overland flow path (OLFP), provided runoff occurs via even sheet flow and does not concentrate flows, cause erosion, or otherwise adversely affect the neighbouring property or any structures.

*Stormwater Mitigation – Disposal Point*

The proposed swale is to direct runoff to a minimum 6m long level spreader installed level with topography. A level spillover edge is to be formed level with parallel with topography via treated timber beams pinned with waratahs (or similar). The level spreader length is sized to allow for sheet flow (maximum 30mm flow depth) for the 1% AEP storm event, adjusted for climate change. The outfall is to be inspected and maintained regularly to ensure the efficacy of the system. Refer to the appended Site Plan (145446-C200), Level Spreader Detail (145446-C202) and calculation set for clarification.

Alternatively, to a level spreader, the existing swale drain can be reshaped to be at least 250mm deep and 750mm wide and rerouted towards the overland flow path to achieve an adequate offset to the proposed effluent field. This swale must then be lined with a non-woven geotextile lining and 6-inch riprap for erosion protection.

## 7. STORMWATER RUNOFF SUMMARY

Refer to the appended HydroCAD Calculation output.

*Pre-Development Peak Flows – 10% AEP & 1% AEP Storm Events + CCF*

| Surface | Area | Runoff CN | 10% AEP Peak Flow Rate | 1% AEP Peak Flow Rate |
|---|---|---|---|---|
| Pre-Development Proposed Impermeable Area | 635.7 m² | 74 | 4.87ℓ/s | 9.20ℓ/s |

*Post-Development Scenario – 10% AEP & 1% AEP Storm Events + CCF*

| Surface | Area | Runoff CN | 10% AEP Peak Flow Rate | 1% AEP Peak Flow Rate |
|---|---|---|---|---|
| Proposed / future roof areas via potable water / detention tanks | 271.7 m² | 98 | 4.81ℓ/s | 9.16ℓ/s |
| Proposed metal driveway to be 'over-mitigated' | 364 m² | 89 | | |

Given the design parameters, peak flows resulting from the proposed development will be attenuated back to pre-development flows for the 10% AEP and 1% AEP storm events, adjusted for climate change.

## 8. NOTES

If any of the design specifications mentioned in the previous sections are altered or found to be different than what is described in this report, Wilton Joubert Ltd will be required to review this report. Indicative system details have been provided in the appendices of this report (145446-C200, 145446-C201 & 145446-C202).

Care should be taken when constructing the discharge point to avoid any siphon or backflow effect within the stormwater system.

Subsequent to construction, a programme of regular inspection / maintenance of the system should be initiated by the Owner to ensure the continuance of effective function, and if necessary, the instigation of any maintenance required.

Wilton Joubert Ltd recommends that all contractors keep a photographic record of their work.

## 9. OPERATION & MAINTENANCE

The owner shall be responsible for the ongoing inspection and maintenance of the stormwater mitigation system to ensure it continues to operate as intended. This shall include periodic inspection and cleaning of roof gutters, leaf guards, first-flush devices, rainwater tanks, flow-control orifices and the swale to prevent blockage, sediment build-up, or erosion. The attenuation orifice shall be checked regularly to confirm it remains unobstructed, particularly following heavy rainfall events. Any damaged or eroded components shall be repaired promptly to maintain system performance and prevent adverse downstream effects.

## 10. LIMITATIONS

The recommendations and opinions contained in this report are based on information received and available from the client at the time of report writing.

This assignment only considers the primary stormwater system. The secondary stormwater system, Overland Flow Paths (OLFP), geotechnical requirements, vehicular access and the consideration of road/street water flooding is all assumed to be undertaken by a third party.

All drainage design is up to the connection point for each building face of any new structures/slabs; no internal building plumbing or layouts have been undertaken.

During construction, an engineer competent to judge whether the conditions are compatible with the assumptions made in this report should examine the site. In all circumstances, if variations occur which differ from that described or that are assumed to exist, then the matter should be referred to a suitably qualified and experienced engineer.

The performance behaviour outlined by this report is dependent on the construction activity and actions of the builder/contractor. Inappropriate actions during the construction phase may cause behaviour outside the limits given in this report.

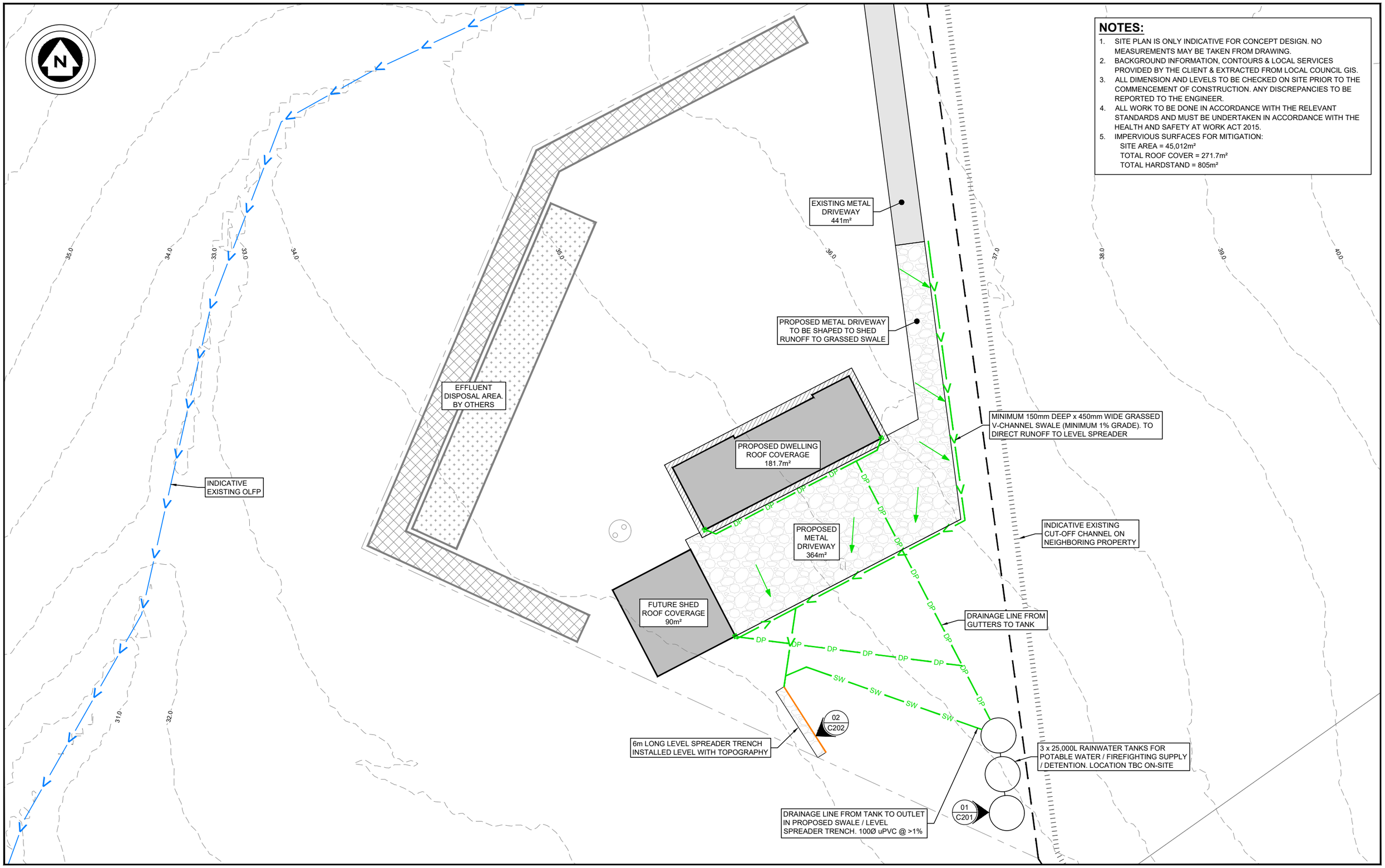
This report has been prepared for the particular project described to us and no responsibility is accepted for the use of any part of this report in any other context or for any other purpose.

Wilton Joubert Ltd.

Gustavo Brant
Civil Engineer
BE(Hons)

## REPORT ATTACHMENTS

- Site Plan - C200 (1 sheet)
- Tank Detail – C201 (1 sheet)
- Level Spreader Detail – C202 (1 sheet)
- Calculation Set




## NOTES:

1. SITE PLAN IS ONLY INDICATIVE FOR CONCEPT DESIGN. NO MEASUREMENTS MAY BE TAKEN FROM DRAWING.
2. BACKGROUND INFORMATION, CONTOURS & LOCAL SERVICES PROVIDED BY THE CLIENT & EXTRACTED FROM LOCAL COUNCIL GIS.
3. ALL DIMENSION AND LEVELS TO BE CHECKED ON SITE PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. ANY DISCREPANCIES TO BE REPORTED TO THE ENGINEER.
4. ALL WORK TO BE DONE IN ACCORDANCE WITH THE RELEVANT STANDARDS AND MUST BE UNDERTAKEN IN ACCORDANCE WITH THE HEALTH AND SAFETY AT WORK ACT 2015.
5. IMPERVIOUS SURFACES FOR MITIGATION:
   SITE AREA = 45,012m²
   TOTAL ROOF COVER = 271.7m²
   TOTAL HARDSTAND = 805m²

WILTON JOUBERT
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Christchurch: 021 824 063 Wanaka: 03 443 6209
www.wiltonjoubert.co.nz

**ISSUE / REVISION**

| No. | DATE | BY | DESCRIPTION |
|---|---|---|---|
| 01 | MAR '26 | GMB | STORMWATER MITIGATION REPORT |

DESIGNED BY: GMB
DRAWN BY: GMB
CHECKED BY: BGS
SURVEYED BY: N/A

**SERVICES NOTE**
WHERE EXISTING SERVICES ARE SHOWN, THEY ARE INDICATIVE ONLY AND MAY NOT INCLUDE ALL SITE SERVICES. WILTON JOUBERT LTD DOES NOT WARRANT THAT ALL, OR INDEED ANY SERVICES ARE SHOWN. IT IS THE CONTRACTORS RESPONSIBILITY TO LOCATE AND PROTECT ALL EXISTING SERVICES PRIOR TO AND FOR THE DURATION OF THE CONTRACT WORKS.

**BUILDING CONSENT**
DESIGN / DRAWING SUBJECT TO ENGINEER'S APPROVAL

DRAWING TITLE: **SITE PLAN**

PROJECT DESCRIPTION: **STORMWATER MITIGATION REPORT**

PROJECT TITLE: **LOT 3 DP 616409 127 RANGITANE ROAD KERIKERI NORTHLAND**

ORIGINAL DRAWING SIZE: A3
OFFICE: **OREWA**
DRAWING SCALE: **1:350**
CO-ORDINATE SYSTEM: NOT COORDINATED
DRAWING NUMBER: **145446-C200**
ISSUE: **01**

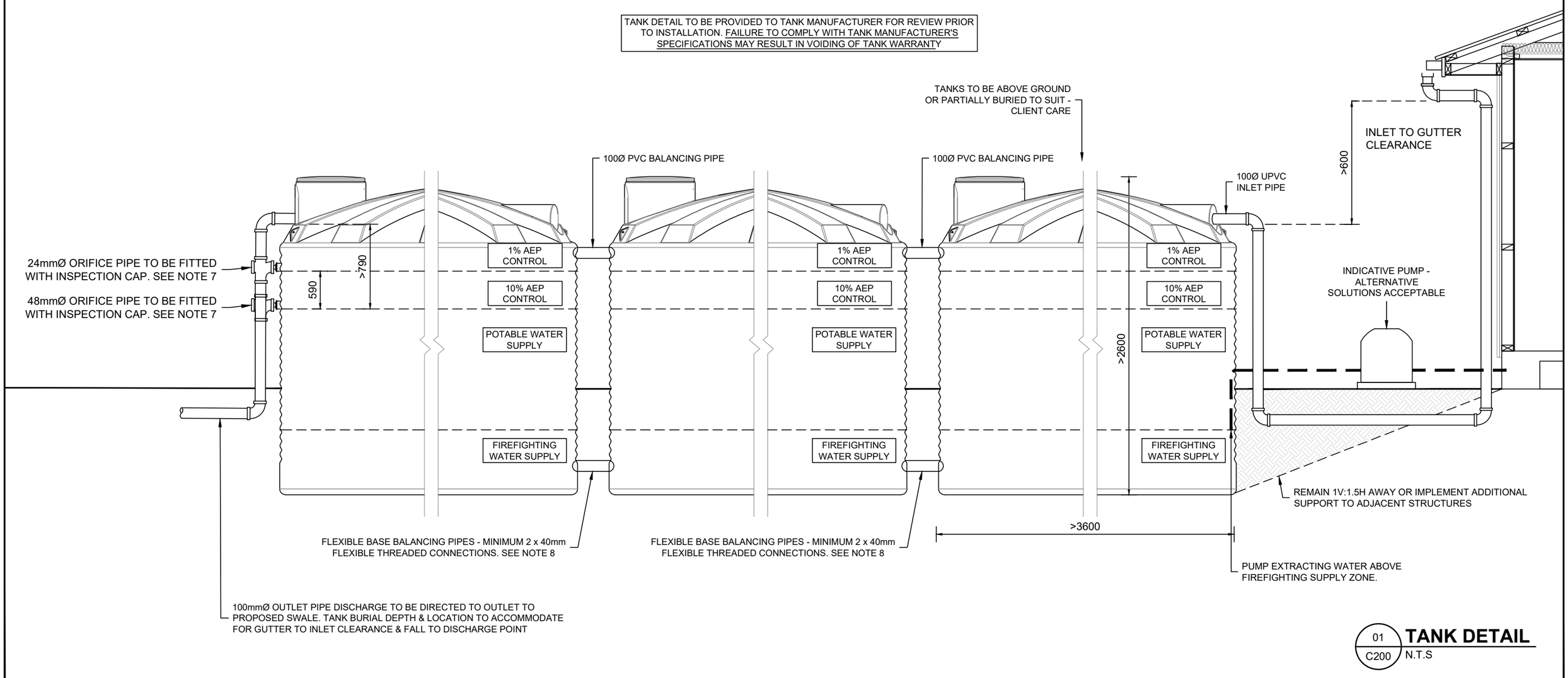
## NOTES:

1. NOT TO SCALE. DRAWN INDICATIVELY ONLY.
2. ALL LEVELS & DIMENSIONS TO BE CONFIRMED ON SITE & ANY DISCREPANCIES TO BE REPORTED TO THE ENGINEER PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.
3. TANK TO BE INSTALLED AS PER MANUFACTURERS SPECIFICATIONS & RELEVANT COUNCIL STANDARDS.
4. REGULAR INSPECTION & CLEANING IS REQUIRED TO ENSURE THE EFFECTIVE OPERATION OF THE SYSTEM.
5. ALL ORIFICE OUTLETS TO BE COVERED WITH STAINLESS STEEL OR NYLON MESH.
6. ASSUMED USE OF A 3 x 25,000 LITRE PLASTIC WATER TANKS OR SIMILARLY APPROVED.

**PLASTIC TANKS NOTES**:

7. ALL OUTLETS / PENETRATIONS UNDER PRESSURE TO BE INSTALLED BY THE MANUFACTURER.
8. TANKS TO BE CONNECTED AT BASE VIA FLEXIBLE THREADED CONNECTIONS ONLY.

TANK DETAIL TO BE PROVIDED TO TANK MANUFACTURER FOR REVIEW PRIOR TO INSTALLATION. FAILURE TO COMPLY WITH TANK MANUFACTURER'S SPECIFICATIONS MAY RESULT IN VOIDING OF TANK WARRANTY




01 / C200 **TANK DETAIL** N.T.S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Christchurch: 021 824 063 Wanaka: 03 443 6209
www.wiltonjoubert.co.nz


| ISSUE / REVISION | | | |
|---|---|---|---|
| No. | DATE | BY | DESCRIPTION |
| 01 | MAR '26 | GMB | STORMWATER MITIGATION REPORT |

| | |
|---|---|
| DESIGNED BY: | GMB |
| DRAWN BY: | GMB |
| CHECKED BY: | BGS |
| SURVEYED BY: | N/A |

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**BUILDING CONSENT**

DESIGN / DRAWING SUBJECT TO ENGINEER'S APPROVAL

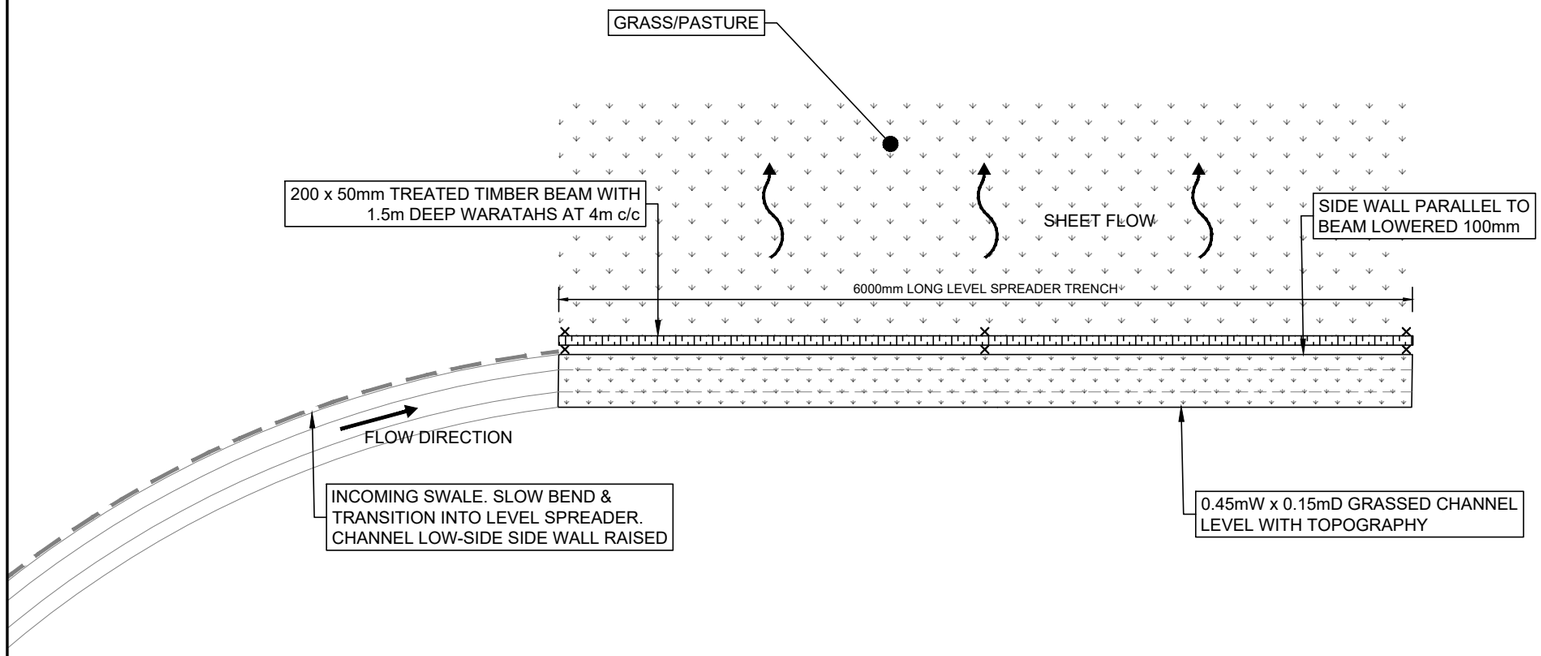
DRAWING TITLE: **TANK DETAIL**

PROJECT DESCRIPTION: **STORMWATER MITIGATION REPORT**

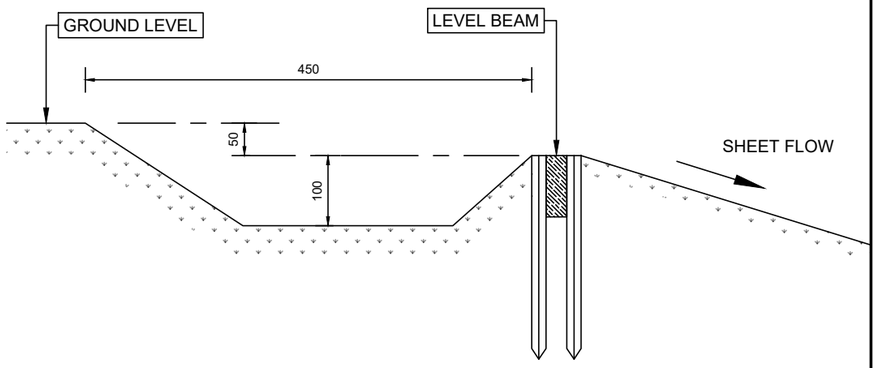
PROJECT TITLE: **LOT 3 DP 616409 127 RANGITANE ROAD KERIKERI NORTHLAND**

| | |
|---|---|
| ORIGINAL DRAWING SIZE: A3 | OFFICE: OREWA |
| DRAWING SCALE: N.T.S | CO-ORDINATE SYSTEM: NOT COORDINATED |
| DRAWING NUMBER: 145446-C201 | ISSUE: 01 |

**PLAN VIEW**




**SIDE ELEVATION**




02 / C200 **LEVEL SPREADER DETAIL**

N.T.S

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**ISSUE / REVISION**

| No. | DATE | BY | DESCRIPTION |
|---|---|---|---|
| 01 | MAR '26 | GMB | STORMWATER MITIGATION REPORT |

DESIGNED BY: GMB
DRAWN BY: GMB
CHECKED BY: BGS
SURVEYED BY: N/A

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**BUILDING CONSENT**

DESIGN / DRAWING SUBJECT TO ENGINEER'S APPROVAL

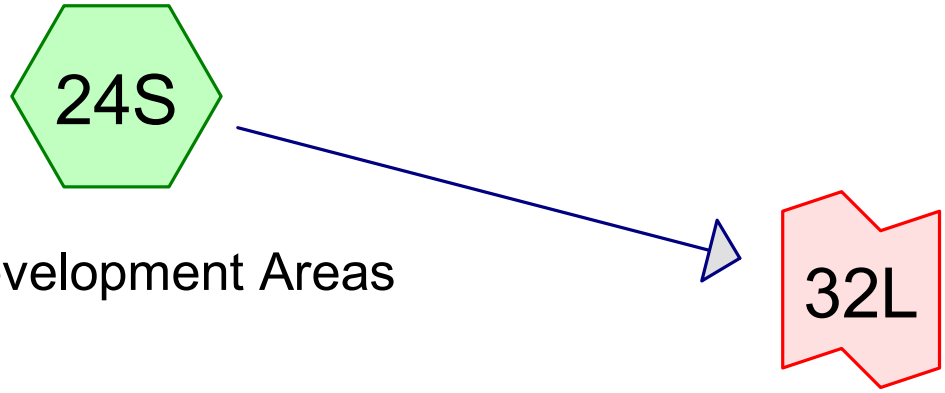
DRAWING TITLE: **LEVEL SPREADER DETAIL**

PROJECT DESCRIPTION: **STORMWATER MITIGATION REPORT**

PROJECT TITLE: **LOT 3 DP 616409 127 RANGITANE ROAD KERIKERI NORTHLAND**

ORIGINAL DRAWING SIZE: A3
OFFICE: **OREWA**
DRAWING SCALE: **N.T.S**
CO-ORDINATE SYSTEM: NOT COORDINATED
DRAWING NUMBER: **145446-C202**
ISSUE: **01**

# *Pre-Development*




Pre-Development Areas

Pre-Development Flows

Subcat Reach Pond Link

**Routing Diagram for 145446**
Prepared by Wilton Joubert Limited, Printed 3/03/2026

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

**Subcatchment 24S: Pre-Development** Runoff Area=635.7 m² 0.00% Impervious Runoff Depth>203 mm
Tc=10.0 min CN=74 Runoff=9.20 L/s 129.3 m³

**Link 32L: Pre-Development Flows** Inflow=9.20 L/s 129.3 m³
Primary=9.20 L/s 129.3 m³

## Summary for Subcatchment 24S: Pre-Development Areas

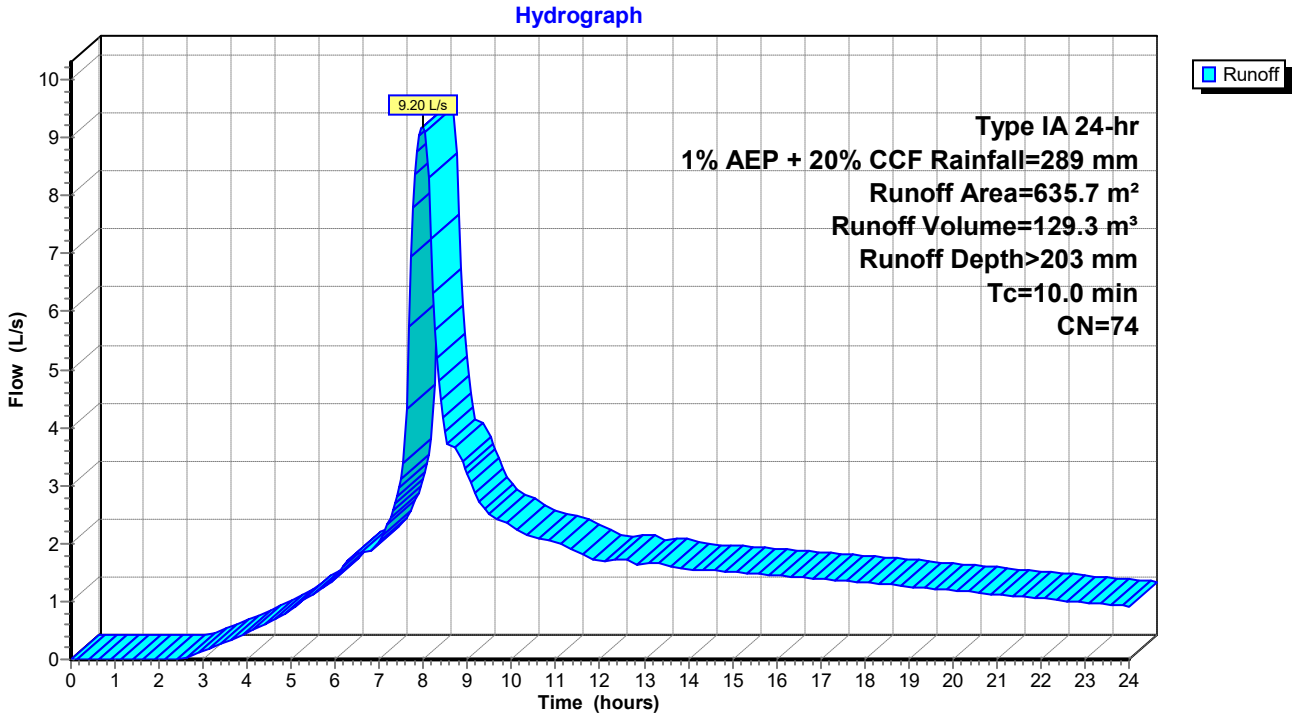
Runoff = 9.20 L/s @ 7.98 hrs, Volume= 129.3 m³, Depth> 203 mm

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type IA 24-hr 1% AEP + 20% CCF Rainfall=289 mm

| Area (m²) | CN | Description |
|---|---|---|
| 635.7 | 74 | >75% Grass cover, Good, HSG C |
| 635.7 | | 100.00% Pervious Area |

| Tc (min) | Length (meters) | Slope (m/m) | Velocity (m/sec) | Capacity (m³/s) | Description |
|---|---|---|---|---|---|
| 10.0 | | | | | **Direct Entry,** |

## Subcatchment 24S: Pre-Development Areas

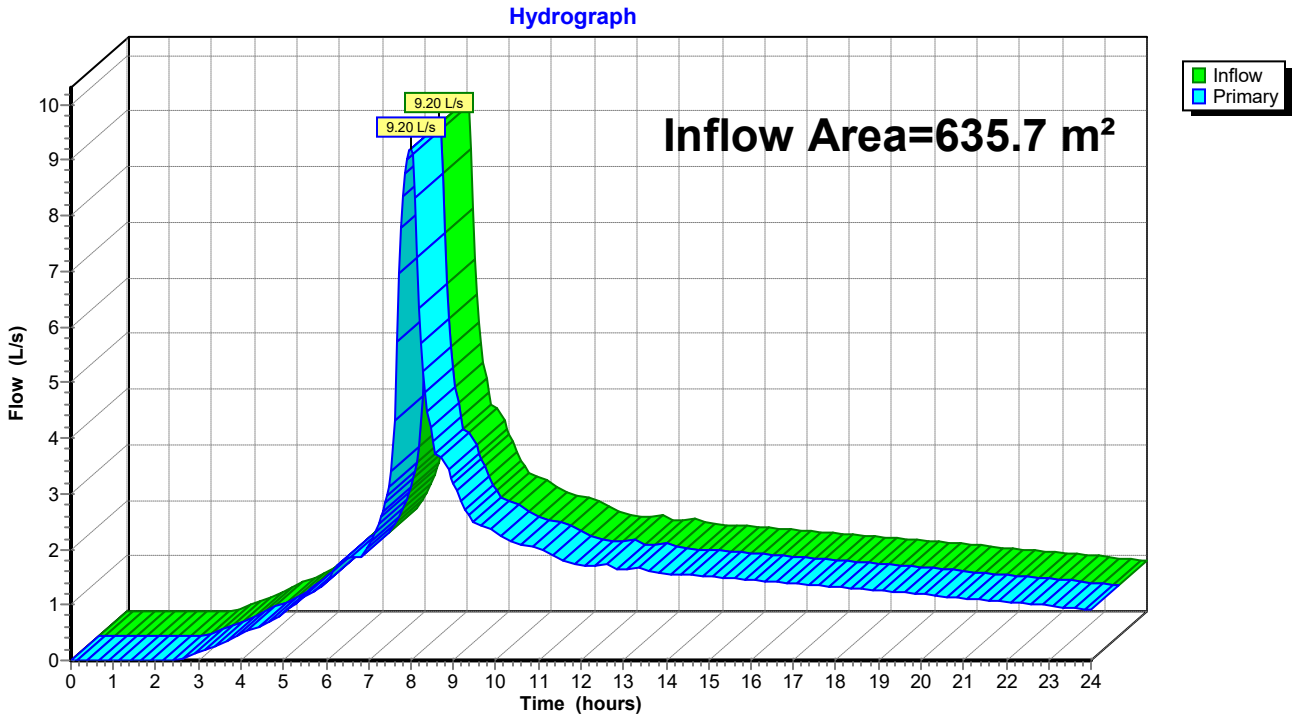


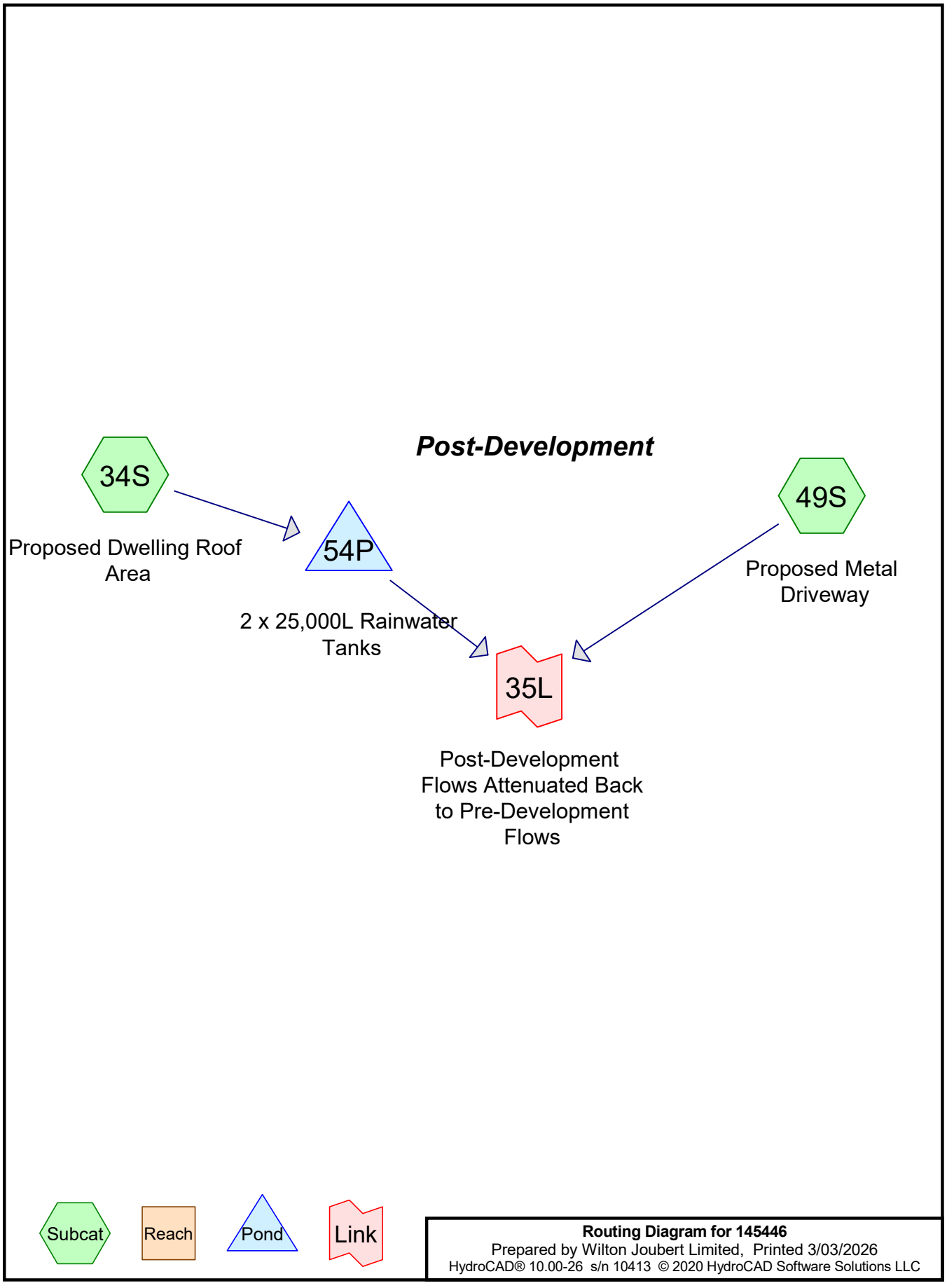
## Summary for Link 32L: Pre-Development Flows

Inflow Area = 635.7 m², 0.00% Impervious, Inflow Depth > 203 mm for 1% AEP + 20% CCF event
Inflow = 9.20 L/s @ 7.98 hrs, Volume= 129.3 m³
Primary = 9.20 L/s @ 7.98 hrs, Volume= 129.3 m³, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

## Link 32L: Pre-Development Flows




Post-Development
34S
Proposed Dwelling Roof Area
54P
2 x 25,000L Rainwater Tanks
49S
Proposed Metal Driveway
35L
Post-Development Flows Attenuated Back to Pre-Development Flows
Subcat
Reach
Pond
Link
Routing Diagram for 145446
Prepared by Wilton Joubert Limited, Printed 3/03/2026
HydroCAD® 10.00-26 s/n 10413 © 2020 HydroCAD Software Solutions LLC

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

**Subcatchment 34S: Proposed Dwelling** Runoff Area=271.7 m² 100.00% Impervious Runoff Depth>282 mm
Tc=10.0 min CN=98 Runoff=5.18 L/s 76.7 m³

**Subcatchment 49S: Proposed Metal** Runoff Area=364.0 m² 0.00% Impervious Runoff Depth>254 mm
Tc=10.0 min CN=89 Runoff=6.57 L/s 92.4 m³

**Pond 54P: 2 x 25,000L Rainwater Tanks** Peak Elev=0.783 m Storage=15.9 m³ Inflow=5.18 L/s 76.7 m³
Outflow=3.03 L/s 71.6 m³

**Link 35L: Post-Development Flows Attenuated Back to Pre-Development** Inflow=9.16 L/s 163.9 m³
Primary=9.16 L/s 163.9 m³

## Summary for Subcatchment 34S: Proposed Dwelling Roof Area

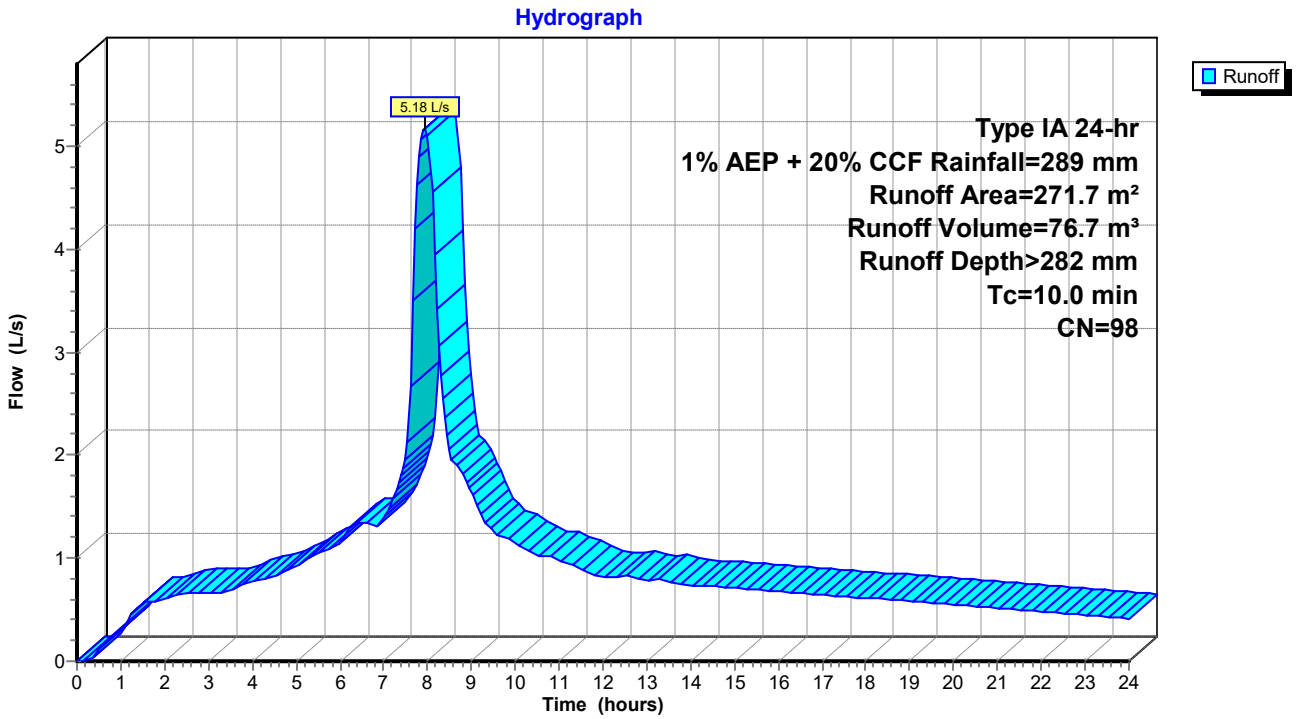
Runoff = 5.18 L/s @ 7.94 hrs, Volume= 76.7 m³, Depth> 282 mm

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type IA 24-hr 1% AEP + 20% CCF Rainfall=289 mm

| Area (m²) | CN | Description |
|---|---|---|
| 181.7 | 98 | Roofs, HSG C |
| 90.0 | 98 | Roofs, HSG C |
| 271.7 | 98 | Weighted Average |
| 271.7 | | 100.00% Impervious Area |

| Tc (min) | Length (meters) | Slope (m/m) | Velocity (m/sec) | Capacity (m³/s) | Description |
|---|---|---|---|---|---|
| 10.0 | | | | | **Direct Entry,** |

## Subcatchment 34S: Proposed Dwelling Roof Area



## Summary for Subcatchment 49S: Proposed Metal Driveway

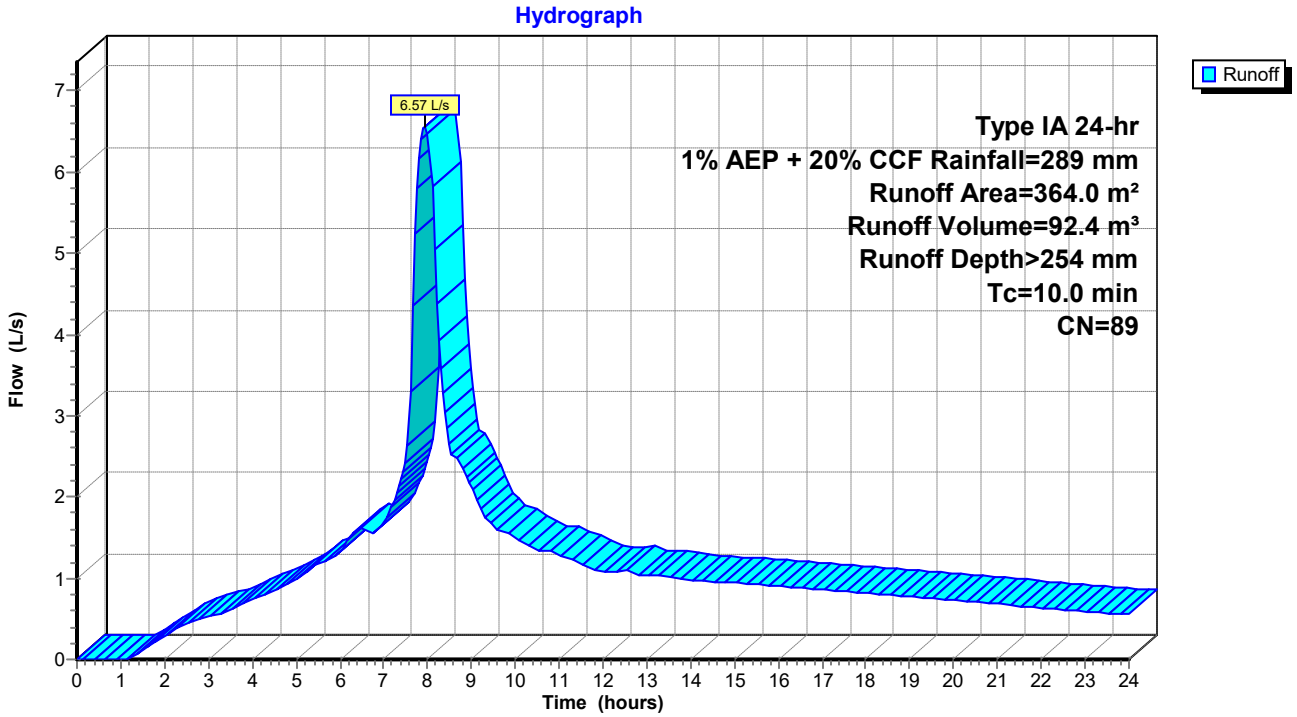
Runoff = 6.57 L/s @ 7.95 hrs, Volume= 92.4 m³, Depth> 254 mm

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type IA 24-hr 1% AEP + 20% CCF Rainfall=289 mm

| Area (m²) | CN | Description |
|---|---|---|
| 364.0 | 89 | Gravel roads, HSG C |
| 364.0 | | 100.00% Pervious Area |

| Tc (min) | Length (meters) | Slope (m/m) | Velocity (m/sec) | Capacity (m³/s) | Description |
|---|---|---|---|---|---|
| 10.0 | | | | | **Direct Entry,** |

## Subcatchment 49S: Proposed Metal Driveway



## Summary for Pond 54P: 2 x 25,000L Rainwater Tanks

Inflow Area = 271.7 m²,100.00% Impervious, Inflow Depth > 282 mm for 1% AEP + 20% CCF event
Inflow = 5.18 L/s @ 7.94 hrs, Volume= 76.7 m³
Outflow = 3.03 L/s @ 8.26 hrs, Volume= 71.6 m³, Atten= 41%, Lag= 19.2 min
Primary = 3.03 L/s @ 8.26 hrs, Volume= 71.6 m³

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 0.783 m @ 8.26 hrs Surf.Area= 20.4 m² Storage= 15.9 m³

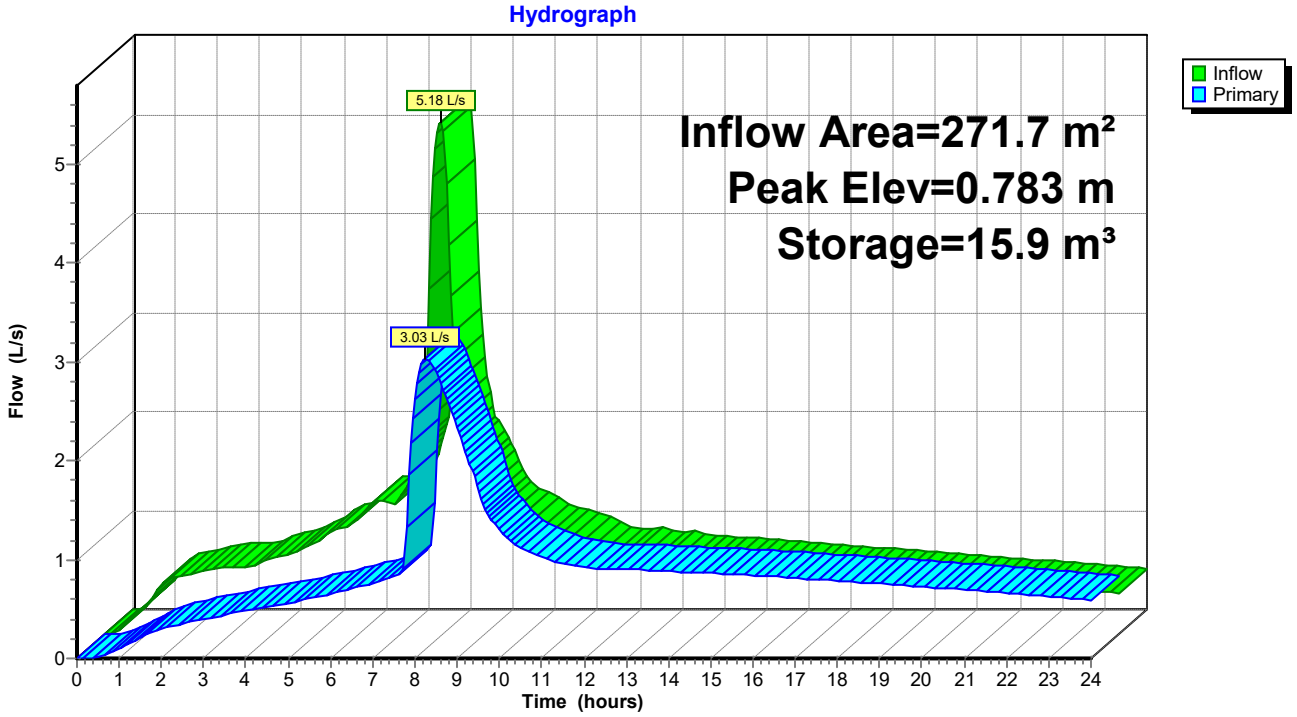
Plug-Flow detention time= 154.5 min calculated for 71.4 m³ (93% of inflow)
Center-of-Mass det. time= 104.5 min ( 749.1 - 644.6 )

| Volume | Invert | Avail.Storage | Storage Description |
|---|---|---|---|
| #1 | 0.000 m | 52.9 m³ | **3.60 mD x 2.60 mH Vertical Cone/Cylinder** x 2 |

| Device | Routing | Invert | Outlet Devices | |
|---|---|---|---|---|
| #1 | Primary | 0.000 m | **24 mm Vert. Orifice/Grate** | C= 0.600 |
| #2 | Primary | 0.590 m | **48 mm Vert. Orifice/Grate** | C= 0.600 |

**Primary OutFlow** Max=3.03 L/s @ 8.26 hrs HW=0.783 m (Free Discharge)
└**1=Orifice/Grate** (Orifice Controls 1.06 L/s @ 2.33 m/s)
└**2=Orifice/Grate** (Orifice Controls 1.97 L/s @ 1.09 m/s)

## Pond 54P: 2 x 25,000L Rainwater Tanks

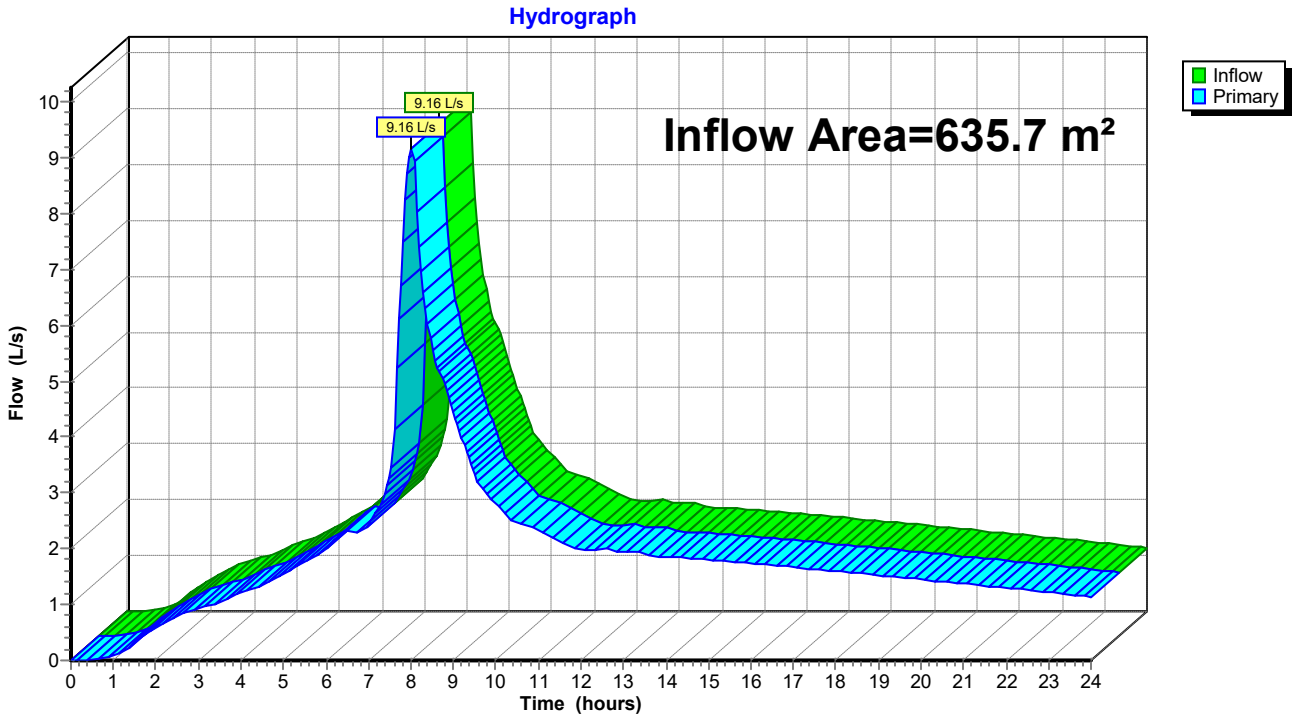


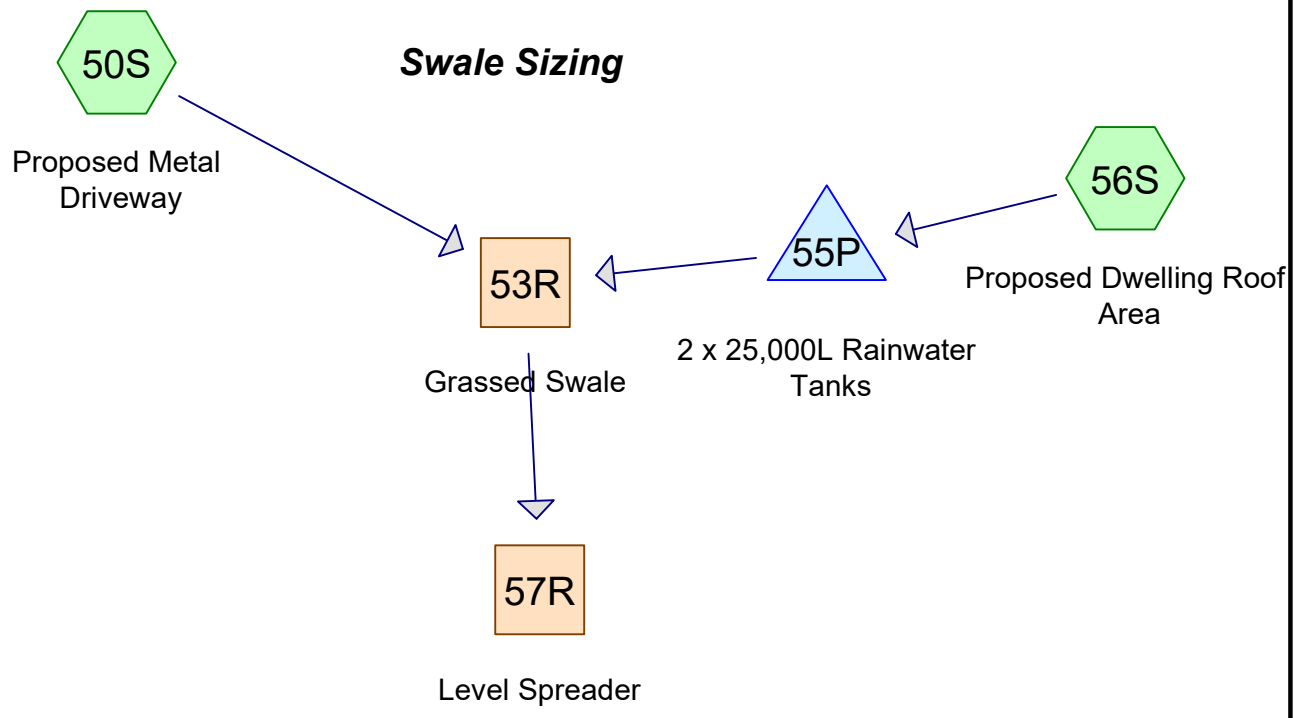
## Summary for Link 35L: Post-Development Flows Attenuated Back to Pre-Development Flows

Inflow Area = 635.7 m², 42.74% Impervious, Inflow Depth > 258 mm for 1% AEP + 20% CCF event
Inflow = 9.16 L/s @ 8.02 hrs, Volume= 163.9 m³
Primary = 9.16 L/s @ 8.02 hrs, Volume= 163.9 m³, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

### Link 35L: Post-Development Flows Attenuated Back to Pre-Development Flows






Subcat Reach Pond Link

**Routing Diagram for 145446**
Prepared by Wilton Joubert Limited, Printed 4/03/2026

Time span=0.00-24.00 hrs, dt=0.05 hrs, 481 points
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN
Reach routing by Stor-Ind method - Pond routing by Stor-Ind method

**Subcatchment 50S: Proposed Metal** Runoff Area=364.0 m² 0.00% Impervious Runoff Depth>254 mm
Tc=10.0 min CN=89 Runoff=6.57 L/s 92.4 m³

**Subcatchment 56S: Proposed Dwelling** Runoff Area=271.7 m² 100.00% Impervious Runoff Depth>282 mm
Tc=10.0 min CN=98 Runoff=5.18 L/s 76.7 m³

**Reach 53R: Grassed Swale** Avg. Flow Depth=0.11 m Max Vel=0.51 m/s Inflow=9.16 L/s 163.9 m³
n=0.025 L=10.00 m S=0.0100 m/m Capacity=21.24 L/s Outflow=9.18 L/s 163.9 m³

**Reach 57R: Level Spreader** Avg. Flow Depth=0.01 m Max Vel=0.26 m/s Inflow=9.18 L/s 163.9 m³
n=0.025 L=10.00 m S=0.0400 m/m Capacity=4,544.98 L/s Outflow=9.17 L/s 163.8 m³

**Pond 55P: 2 x 25,000L Rainwater Tanks** Peak Elev=0.783 m Storage=15.9 m³ Inflow=5.18 L/s 76.7 m³
Outflow=3.03 L/s 71.6 m³

## Summary for Subcatchment 50S: Proposed Metal Driveway

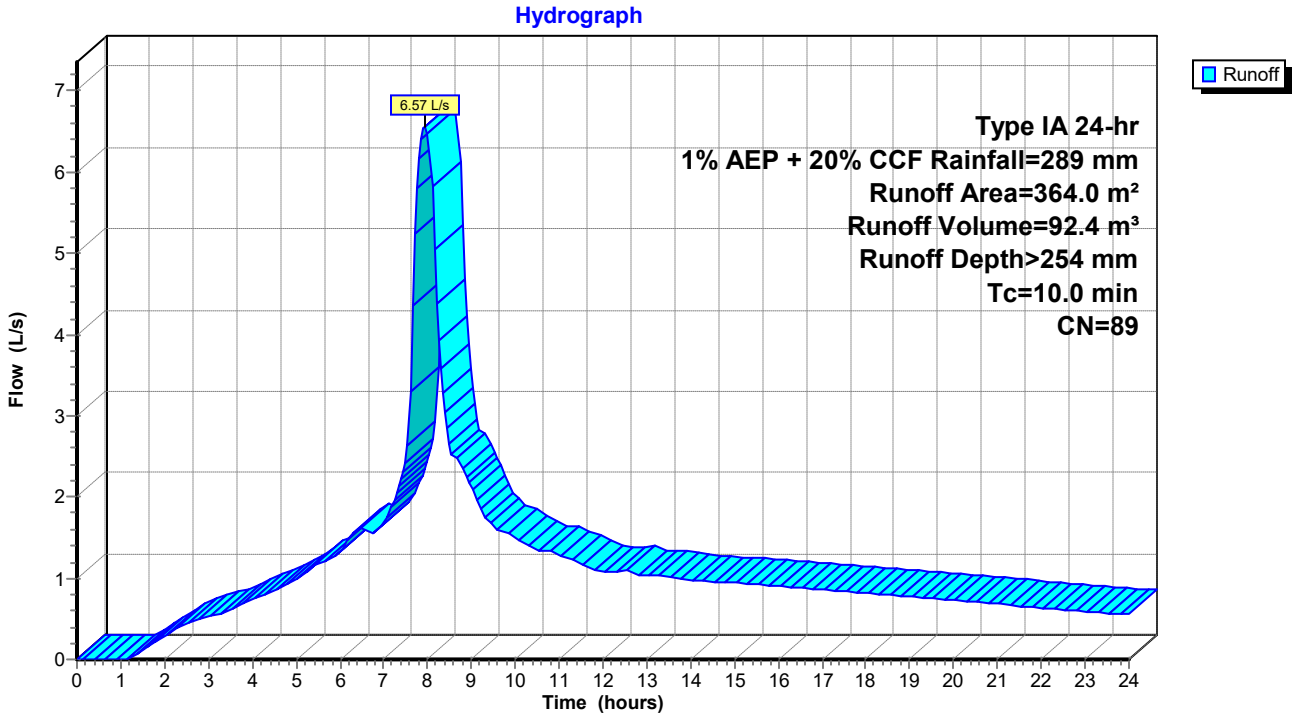
Runoff = 6.57 L/s @ 7.95 hrs, Volume= 92.4 m³, Depth> 254 mm

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type IA 24-hr 1% AEP + 20% CCF Rainfall=289 mm

| Area (m²) | CN | Description |
|---|---|---|
| 364.0 | 89 | Gravel roads, HSG C |
| 364.0 | | 100.00% Pervious Area |

| Tc (min) | Length (meters) | Slope (m/m) | Velocity (m/sec) | Capacity (m³/s) | Description |
|---|---|---|---|---|---|
| 10.0 | | | | | **Direct Entry,** |

## Subcatchment 50S: Proposed Metal Driveway



## Summary for Subcatchment 56S: Proposed Dwelling Roof Area

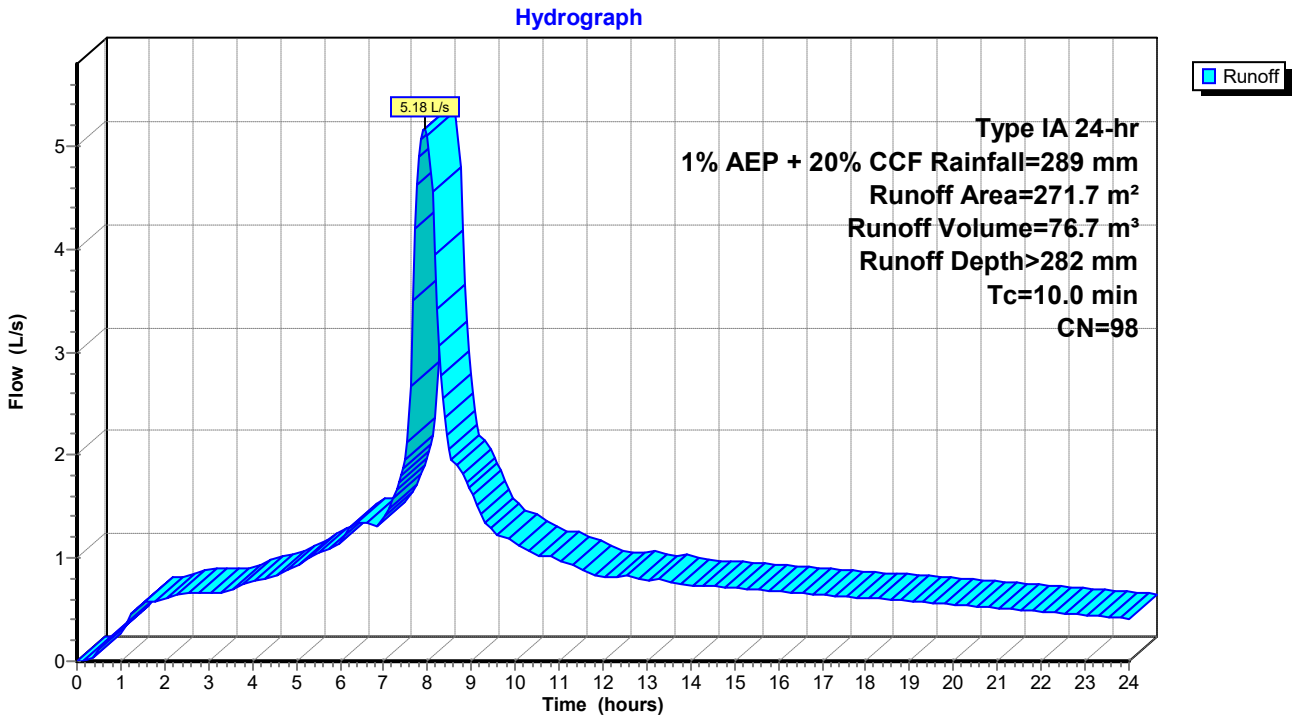
Runoff = 5.18 L/s @ 7.94 hrs, Volume= 76.7 m³, Depth> 282 mm

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type IA 24-hr 1% AEP + 20% CCF Rainfall=289 mm

| Area (m²) | CN | Description |
|---|---|---|
| 181.7 | 98 | Roofs, HSG C |
| 90.0 | 98 | Roofs, HSG C |
| 271.7 | 98 | Weighted Average |
| 271.7 | | 100.00% Impervious Area |

| Tc (min) | Length (meters) | Slope (m/m) | Velocity (m/sec) | Capacity (m³/s) | Description |
|---|---|---|---|---|---|
| 10.0 | | | | | **Direct Entry,** |

## Subcatchment 56S: Proposed Dwelling Roof Area



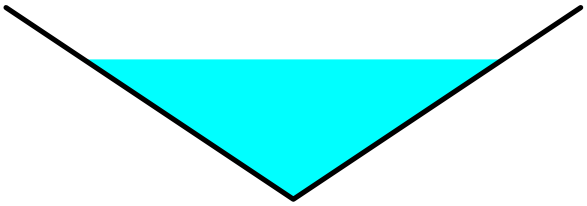
## Summary for Reach 53R: Grassed Swale

Inflow Area = 635.7 m², 42.74% Impervious, Inflow Depth > 258 mm for 1% AEP + 20% CCF event
Inflow = 9.16 L/s @ 8.02 hrs, Volume= 163.9 m³
Outflow = 9.18 L/s @ 8.03 hrs, Volume= 163.9 m³, Atten= 0%, Lag= 0.3 min

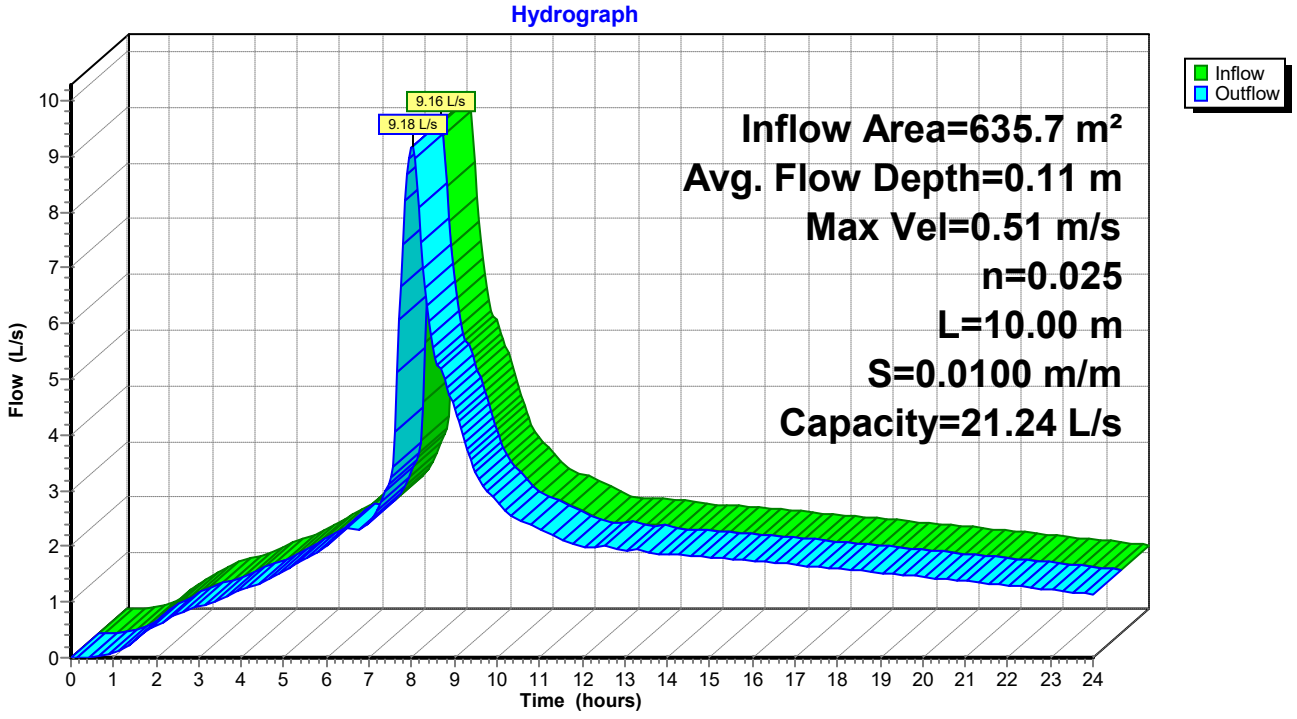
Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Max. Velocity= 0.51 m/s, Min. Travel Time= 0.3 min
Avg. Velocity = 0.33 m/s, Avg. Travel Time= 0.5 min

Peak Storage= 0.2 m³ @ 8.03 hrs
Average Depth at Peak Storage= 0.11 m
Bank-Full Depth= 0.15 m Flow Area= 0.03 m², Capacity= 21.24 L/s

0.00 m x 0.15 m deep channel, n= 0.025 Earth, clean & winding
Side Slope Z-value= 1.5 m/m Top Width= 0.45 m
Length= 10.00 m Slope= 0.0100 m/m
Inlet Invert= 0.000 m, Outlet Invert= -0.100 m



## Reach 53R: Grassed Swale



## Summary for Reach 57R: Level Spreader

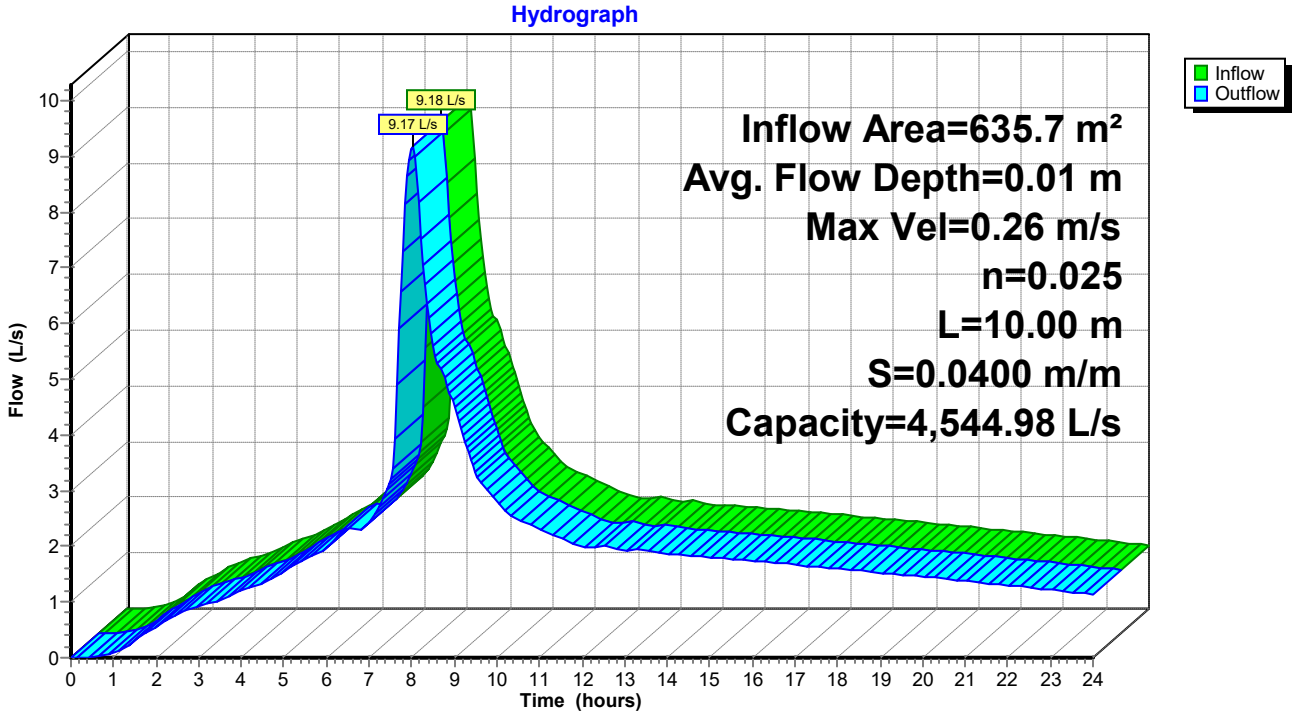
Inflow Area = 635.7 m², 42.74% Impervious, Inflow Depth > 258 mm for 1% AEP + 20% CCF event
Inflow = 9.18 L/s @ 8.03 hrs, Volume= 163.9 m³
Outflow = 9.17 L/s @ 8.03 hrs, Volume= 163.8 m³, Atten= 0%, Lag= 0.2 min

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Max. Velocity= 0.26 m/s, Min. Travel Time= 0.6 min
Avg. Velocity = 0.15 m/s, Avg. Travel Time= 1.1 min

Peak Storage= 0.3 m³ @ 8.03 hrs
Average Depth at Peak Storage= 0.01 m
Bank-Full Depth= 0.25 m Flow Area= 1.51 m², Capacity= 4,544.98 L/s

6.00 m x 0.25 m deep channel, n= 0.025 Earth, clean & winding
Side Slope Z-value= 0.1 m/m Top Width= 6.05 m
Length= 10.00 m Slope= 0.0400 m/m
Inlet Invert= 0.300 m, Outlet Invert= -0.100 m

## Reach 57R: Level Spreader



## Summary for Pond 55P: 2 x 25,000L Rainwater Tanks

Inflow Area = 271.7 m²,100.00% Impervious, Inflow Depth > 282 mm for 1% AEP + 20% CCF event
Inflow = 5.18 L/s @ 7.94 hrs, Volume= 76.7 m³
Outflow = 3.03 L/s @ 8.26 hrs, Volume= 71.6 m³, Atten= 41%, Lag= 19.2 min
Primary = 3.03 L/s @ 8.26 hrs, Volume= 71.6 m³

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 0.783 m @ 8.26 hrs Surf.Area= 20.4 m² Storage= 15.9 m³

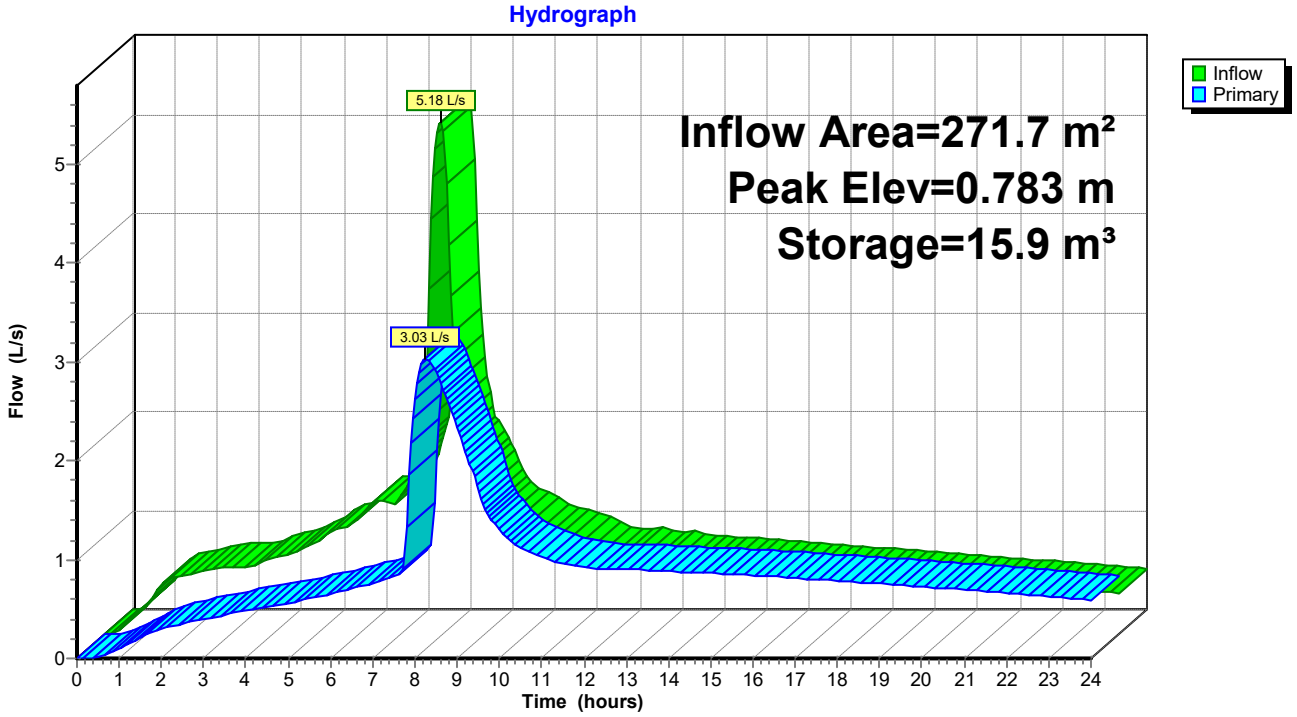
Plug-Flow detention time= 154.5 min calculated for 71.4 m³ (93% of inflow)
Center-of-Mass det. time= 104.5 min ( 749.1 - 644.6 )

| Volume | Invert | Avail.Storage | Storage Description |
|---|---|---|---|
| #1 | 0.000 m | 52.9 m³ | **3.60 mD x 2.60 mH Vertical Cone/Cylinder** x 2 |

| Device | Routing | Invert | Outlet Devices | |
|---|---|---|---|---|
| #1 | Primary | 0.000 m | **24 mm Vert. Orifice/Grate** | C= 0.600 |
| #2 | Primary | 0.590 m | **48 mm Vert. Orifice/Grate** | C= 0.600 |

**Primary OutFlow** Max=3.03 L/s @ 8.26 hrs HW=0.783 m (Free Discharge)
└**1=Orifice/Grate** (Orifice Controls 1.06 L/s @ 2.33 m/s)
└**2=Orifice/Grate** (Orifice Controls 1.97 L/s @ 1.09 m/s)

## Pond 55P: 2 x 25,000L Rainwater Tanks



Wilton Joubert Limited
185 Waipapa Road
Kerikeri 0230
Tel: (09) 527 0196

| | |
|---|---|
| **SITE** | **Rangitane Road, Kerikeri** |
| **LEGAL DESCRIPTION** | **Lot 3 DP 616409** |
| **PROJECT** | **Proposed Dwelling** |
| **CLIENTS** | **Melissa & Peter Kriz** |
| **REFERENCE NO.** | **145185** |
| **DOCUMENT** | **Site Assessment Report** |
| **STATUS/REVISION NO.** | **FINAL – A Geotechnical Review of Finalised Development Drawings is Required Prior to Submission for a Building Consent Application** |
| **DATE OF ISSUE** | **20 February 2026** |

| Report Prepared For | Email |
|---|---|
| **Melissa & Peter Kriz** | lissyperrin@gmail.com |



| | | | | |
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## 1. EXECUTIVE SUMMARY

The following table is intended to be a concise summary which must be read in conjunction with the relevant report sections as referenced herein.

| | |
|---|---|
| **Development Type:** | Residential dwelling. |
| **Development Proposals Supplied:** | No. |
| **NZS3604 Type Structure(s):** | Assumed to be. |
| **Maximum Fill Depth Proposed:** | Assumed to be minimal, associated with building platform preparations. |
| **Maximum Cut Depth Proposed:** | Assumed to be minimal, associated with building platform preparations. |
| **Geology Encountered:** | Waipapa Group. |
| **Topsoil Encountered:** | Surficial layers were encountered to depths ranging between 0.30m and 0.35m below present ground level. |
| **Overall Site Gradient in Proximity to Development:** | Gently inclined (averages less than 5°). |
| **Site Stability Risk:** | Low Risk of Instability at the proposed building site. |
| **Liquefaction Risk:** | Negligible risk of liquefaction susceptibility. |
| **Proposed Shallow Foundation Type(s):** | Reinforced, stiffened raft slab foundation system. |
| **Shallow Soil Bearing Capacity:** | Yes – Natural Soils and Engineered Hardfill Only.<br>Geotechnical Ultimate Bearing Capacity = 300kPa. |
| **NZBC B1 Expansive Soil Classification:** | Class H – Highly Expansive (ys = 78mm). |
| **NZS1170.5:2004 Site Subsoil Classification:** | Class C – Shallow Soil stratigraphy. |
| **Consent Application Report Suitable for:** | Building Consent, following a Geotechnical review of finalised development drawings. |

## 2. INTRODUCTION

### 2.1. SCOPE OF WORK

Wilton Joubert Limited (WJL) was engaged by **Melissa and Peter Kriz** (the Clients) to undertake a geotechnical assessment of ground conditions at the subject property, where we understand, it is proposed to construct a dwelling.

For the purposes of this report, we have assumed the development comprises of a lightweight building, designed and constructed generally in keeping with the requirements of NZS3604:2011.

### 2.2. SUPPLIED INFORMATION

At the time of preparing this report, we were only supplied with a mark-up Subdivision Scheme Plan depicting a Building Envelope location near the middle of the eastern boundary that the dwelling requires construction within.

**Due to the lack of proposals supplied, once Development Drawings have been finalised, they should be referred to us for review prior to submission for a Building Consent application.**

## 3. SITE DESCRIPTION

The proposed development will be constructed within the following property (the site), which is located off the northeastern side of Rangitane Road, accessed 1.3km east of the Redcliffs Road intersection:

- Lot 3 DP 616409, Rangitane Road, Kerikeri.

The site is shown on our appended Site Plan (Drawing No. 145185-G600) and in Figure 1 below.


***Figure 1: Aerial view with the subject property highlighted in cyan (from Far North District Council's online GIS database).***

The surface area of the irregular shaped property is approximately 4.5ha and is accessed at the northwestern boundary via a shared right-of-way (ROW), approximately 930m from Rangitane Road. An aggregate driveway trends from the property entrance along the northeastern boundary towards the proposed development area.

The site is vacant of structures and is largely covered in pasture. A north to south trending overland flow path traverses through the middle of the block and is planted in juvenile trees and bush. A cut-off drain has been formed upslope of the driveway, slightly beyond the boundary.

Topographically speaking, the property consists of two flanks that fall from the western and eastern boundaries down towards the noted flow path. The western flank is more inclined, generally sloping at gentle to moderate grades, whilst the eastern flank is broader in nature and slopes at gentler grades averaging less than 8°. The flow path leads to a watercourse along the southern boundary, ultimately discharging into a large pond beyond the southwestern boundary corner.

The Far North District Council (FNDC) online GIS Water Services Map indicates that public underground service connections are not available to the property.

## 4. DEVELOPMENT PROPOSALS

At the time of preparing this report, we were supplied with a mark-up Subdivision Scheme Plan depicting an approximate building platform envelope location near the middle of the eastern boundary as shown in Figure 2 below. However, the building site location was also pegged out on-site prior to our geotechnical investigation as shown on a site photo below in Figure 3 and indicated on our appended site plan (145185-G600).

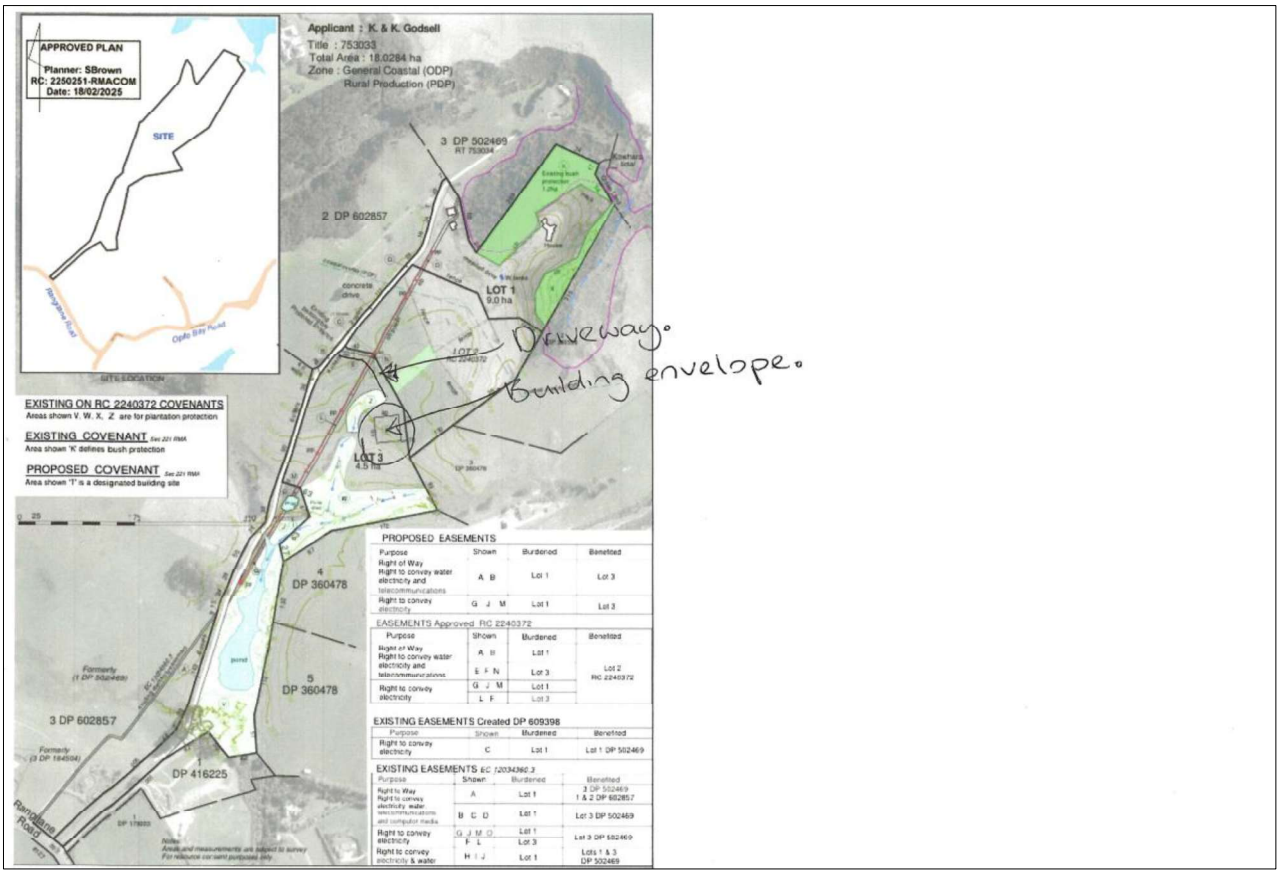



***Figure 2: Subdivision Scheme Plan mark-up (from client).***


***Figure 3: Site Photo showing the location of the proposed development (WJL).***

A client representative has advised that the dwelling will be single-level and founded on a reinforced, stiffened raft slab foundation system, supporting lightweight timber framing, cladding and roofing.

We anticipate that an engineered cut-fill earthworks operation will be carried out to form a level building platform. Based off LiDAR contour data, we generally assume that a crossfall up to approximately 1.5m is currently present across the proposed building platform location.

As a result, the principal objectives of our work were to investigate and assess the suitability of the foundation options for the site subsoils, not only primarily in terms of bearing capacity, but also for slope stability and differential foundation movement.

## 5. PUBLISHED GEOLOGY

Reference to the New Zealand Geology Web Map hosted by GNS Science indicates that the subject site and wider surrounding land is underlain by deposits of the **Waipapa Group Sandstone and Siltstone (Waipapa Composite Terrane)**.

These deposits are approximately 270 to 154 million years in age and described as; "*Massive to thin bedded, lithic volcaniclastic metasandstone and argillite, with tectonically enclosed basalt, chert and siliceous argillite.*"


***Figure 4: Screenshot from New Zealand Geology Web Map hosted by GNS Science.***

## 6. GEOTECHNICAL INVESTIGATION

### 6.1. FIELDWORK

Our fieldwork, as shown on our appended Site Plan, was undertaken on 17th February 2026 and involved drilling 2 (no.) 50mm diameter hand auger boreholes, both to a depth of 4.0m below present ground level (bpgl).

## 7. GEOTECHNICAL FINDINGS

The soil sample arisings from the boreholes were logged generally in accordance with the *"Field Description of Soil and Rock",* New Zealand Geotechnical Society (NZGS), December 2005.

The following is a summary of the ground conditions encountered in our investigation. Please refer to the appended logs for greater detail.

### 7.1. TOPSOIL

Surficial topsoil was encountered in both boreholes to depths ranging between 0.30m and 0.35m bpgl.

### 7.2. NATURAL GROUND

The underlying natural deposits encountered were consistent with our expectations of Waipapa Group deposits, essentially comprising of a very stiff crust of moderate to highly plastic silty CLAY, becoming stiff from approximately 2.4m to 3.2m bpgl.

Measured in-situ BS1377 adjusted peak Vane Shear Strengths within the natural ground ranged between 70kPa and greater than 195kPa, the latter being where soil strength was in excess of the shear vane capacity.

The ratio of peak to remoulded vane shear strength values measured within the boreholes ranged between 1.8 and 3.7, indicating the underlying subsoils are 'Moderately Sensitive' subgrade.

Sensitive soil sites require protecting the subgrade from rain, wind, etc., and to avoid (or minimise) construction traffic and vibrating plants.

### 7.3. GROUNDWATER

Groundwater was not encountered in either borehole on the day of our investigation.

### 7.4. SUMMARY TABLE

The following table summarises our inferred stratigraphic profiling.

***Table 1: Stratigraphic Summary Table***

| Investigation Hole ID | Termination Depth (m) | Depth to Base of Surficial Topsoil (m) | Vane Shear Strength Range within Natural Ground (kPa) | Groundwater Depth (m) |
|---|---|---|---|---|
| **HA01** | 4.0 | 0.30 | 70 - 189 | NE |
| **HA02** | 4.0 | 0.35 | 81 - 195+ | NE |

Table Note: NE= Not encountered

### 7.5. EXPANSIVE SOILS

Naturally occurring, seasonal moisture variations are a strong characteristic of most Upper North Island soils, which typically results in plastic soil masses swelling during winter months and then shrinking during summer months. Such volumetric changes in foundation soils (broadly termed 'Expansive Soils) vary according to clay mineralogy and geology and can be a significant risk to buildings.

In this instance, in the absence of laboratory testing, but instead adopting the visual-tactile method as per AS2870, considering the moderate to highly plastic nature of the underlying silty clay deposits, we have adopted a conservative primary classification estimate of the soils underlying the site as follows:

- NZBC B1 Expansive Soil Class H
- Upper Limit of Characteristic surface movement ($y_s$) 78mm

Effects of expansive soils for the construction type proposed here, will require mitigation by way of a specific engineering design (SED) reinforced, stiffened raft slab foundation system. Foundation design recommendations are given in the appropriate Conclusion and Recommendation sections below.

## 8. GEOTECHNICAL ASSESSMENTS

As appropriate to the site conditions, we have carried out the following geotechnical analyses:

- Qualitative slope stability, and
- Liquefaction susceptibility assessments.

### 8.1. QUALITATIVE SLOPE STABILITY

Due to the gentle topography of the proposed development area and surrounding influential land which averages less than 5°, land instability is not considered to be a constraint or risk to the proposed development.

### 8.2. LIQUEFACTION SUSCEPTIBILITY

Liquefaction is the loss of effective strength of a cohesionless soil (typically sand) due to pore-water pressures generated during a seismic event (earthquake). The partial or complete loss of effective strength of loose, saturated soils can result in vertical settlement and/or horizontal movement (lateral spreading) of the ground.

A commonly accepted definition is: "Areas susceptible to liquefaction generally correspond with geologically young deposits (less than 10,000 years) located in relatively flat areas close to active or abandoned waterways, in coastal or estuarine areas, and/or areas of uncompacted or poorly compacted fill." None of the above characteristics apply to the site.

We have carried out liquefaction susceptibility assessments in order to identify the risk of ground damage during a seismic event, based on the following items:

- The FNDC on-line GIS Hazard Map categorises the proposed building site as an '*Undetermined* Liquefaction Vulnerability area,
- Stiff to very stiff soils of the Waipapa Group encountered during our investigations,
- Groundwater was not encountered in either borehole on the day of our investigation,
- The proposed building site is situated on broad flank, set no less than approximately RL34m New Zealand Vertical Datum (NZVD), with good water-shedding characteristics down to the southwest,
- There are no known active faults traversing through or close to the site, and
- Soils of the Waipapa Group underlie the site (geological age +154 million years).

### 8.3. LIQUEFACTION ASSESSMENT CONCLUSION

Based on our susceptibility assessment, we conclude that the soils at the site have a negligible risk of liquefaction susceptibility, and therefore liquefaction induced ground damage is consequently unlikely.

### 8.4. ANALYSIS CONCLUSIONS

Based on our observations, site survey, record research, hand auger borehole investigation and in-situ testing as described herein, we confirm that we have considered both foundation and ground stability risks, and are of the Professional Opinion that the subject development as described above should not be exposed to unsatisfactory Geotechnical Risk, subject to the following requirements:

In the long-term, given that all the recommendations within this report, or subsequent revisions, are adhered to then we do not anticipate any significant risk of instability either within or immediately beyond the property boundaries.

With regard to the Building Act 2004; Sections 71-72, we believe on reasonable grounds that:

i. The current proposed site development and associated building work to which an application of Building Consent must be made to FNDC should not accelerate, worsen, or result in slippage or subsidence on the land on which the building work is to be carried out or any other property; and

ii. The land beneath the building footprint and surrounding immediate amenity area is neither subject nor likely to be subject to slippage or subsidence, provided the development is undertaken in accordance with the recommendations and guidance of this report.

## 9. CONCLUSIONS AND RECOMMENDATIONS

On the basis of our assessments as described herein, we confirm that we have considered both foundation and ground stability risks, and are of the Professional Opinion that the subject development as described above should not be exposed to unsatisfactory Geotechnical Risk, subject to the following requirements:

### 9.1. FOUNDATION DESIGN

A Client representative has advised that the dwelling will be single-level and founded on a reinforced, stiffened raft slab foundation system.

Shallow foundations will be suitable to support the proposed dwelling, provided they are designed to accommodate vertical movement of soil associated with Soil Reactivity **Class H – Highly Reactive**.

#### 9.1.1. SHALLOW FOUNDATION BEARING CAPACITY

The following bearing capacity values are considered to be appropriate for the design of shallow foundations, subject to founding directly on or within competent natural ground and/or engineered hardfill, for which careful geo-professional inspections of the subgrade should be undertaken to check that underlying ground conditions are in keeping with our expectations:

***Table 2: Bearing Capacity Values***

| Parameters | Waipapa Group Soils |
|---|---|
| **Geotechnical Ultimate Bearing Capacity** | 300 kPa |
| **ULS Dependable Bearing Capacity (Φ=0.5)** | 150 kPa |

When finalising the development proposals, it should be checked that all foundations lie outside 45° envelopes rising from 0.50m below the invert of service trenches, unless such foundation details are found by SED to be satisfactory. Deeper foundation embedment or bridging piles may be required for any surcharging foundations.

#### 9.1.2. SHALLOW FOUNDATIONS ON EXPANSIVE SOILS

As described earlier in this report, we have estimated the classification of the site subsoils as follows:

- NZBC B1 Expansive Soil Class H
- Upper Limit of Characteristic surface movement ($y_s$) 78mm

Given that the soils are not considered to lie within the definition of "*Good Ground*" in accordance with NZS3604:2011, the design of shallow foundations is no longer covered by NZS3604:2011. Care must be taken to mitigate against the potential seasonal shrinkage and swelling effects of expansive foundation soils on both superstructures and floors. We therefore recommend SED should be undertaken by a qualified engineer for the design of all proposed foundations.

Soil reactivity can be aided in mitigation for the raft slab foundation system by placing a layer of compacted hardfill that extends a minimum of 1.0m beyond the building line as per the following:

- Reinforced, stiffened Xpod raft slab on 100mm of engineered hardfill (*ys=78mm), or
- Reinforced, stiffened raft slab on 250mm of engineered hardfill (*ys=60mm).

### 9.2. NZS1170.5:2004 SITE SUBSOIL CLASSIFICATION

We consider the proposed building site to be underlain with a Class C – Shallow Soil stratigraphy.

### 9.3. SITE EARTHWORKS

Minimal cut and fill earthworks will be carried out to prepare levelled building platform for the site.

Some lesser-scope earthworks may be carried out to improve access to the proposed dwelling, however these works are likely to be minor and not unduly affect the landform.Earthworks should be undertaken in accordance with the following standards:

- NZS4431:2022 "Code of Practice for Earth Fill Residential Development",
- Section 2 "Earthworks & Geotechnical Requirements" of NZS4404:2010 "Land Development and Subdivision Infrastructure", and
- The FNDC Engineering Standards (Version 0.6, dated May 2023).

### 9.4. SITE CLEARANCE & PREPARATION

The competency of the exposed subgrade beneath the building platform should be confirmed by a Geo-Professional. In this regard, we recommend the stripping of all vegetation, topsoil and any non-engineered fill deposits encountered, prior to requesting Geo-Professional inspection(s) of the stripped ground to confirm that the underlying natural subgrade conditions are in keeping with the expectations of this report. Without such inspections being undertaken, a Chartered Professional Geotechnical Engineer is unable to issue a Producer Statement - PS4 – Design Review which could result in the failure to meet Building Consent requirements as set by Council as conditions of consent.

### 9.5. SUBGRADE PROTECTION

The subgrade beneath the building platform should not be exposed for any prolonged period but should be covered with a 100mm thick layer of granular fill, such as GAP40 basecourse, as soon as possible.

If subgrade degradation occurs by:

- Excessive drying out resulting in desiccation shrinkage cracking, it will be necessary to either re-hydrate the subgrade or undercut the degraded material and replace with compacted hardfill, or
- Excessive subgrade softening after a period of wet weather resulting in weakened soils, it will be necessary to undercut the degraded material and replace with compacted hardfill.

### 9.6. HARDFILL COMPACTION

Engineered, compacted hardfill should be utilised for all fills beneath the building footprint. The compaction of the hardfill should be undertaken using either a heavy plate compactor or a steel wheeled roller with low frequency dynamic compaction. Hardfill layers should not exceed 0.15m at a time, and where the total depths exceed 0.6m, there is likely to be a Building Consent condition for observation/testing of the hardfill by a Geo-Professional. We recommend achieving the following compacted target values, with equivalence testing using either a Clegg Impact Hammer or Dynamic Cone Penetrometer (DCP-Scala).

*Table 3: Compaction Criteria (for granular fill only)*

| Foundation Support Type | CBR | Equivalent Clegg Impact Value (CIV) | Equivalent DCP-Scala Penetrometer Blows |
|---|---|---|---|
| **Foundation Footings & Beams**<br>**(Over a depth of no less than twice the foundation width)** | ≥ 10% | Minimum 20<br>Average 25 | ≥5 blows/100mm<br>(NZS3604) |
| **Floor Slabs** | ≥ 7% | Minimum 18<br>Average 20 | ≥3.5 blows/100mm<br>(NZS3604) |

## 9.7. TEMPORARY & LONG-TERM EARTHWORK BATTERS

We recommend that earthworks only be undertaken during periods of fine weather.

During times of inclement weather, the earthworks site should be shaped to assist in stormwater run-off. Any batter excavations should be protected with a geotextile fabric, with the toe of the excavations shaped so as to avoid ponded water, as saturating site soils could result in a reduction of bearing capacities.

Any cuts should be limited to a height of 2.0m and batter grade no steeper than 1V:4H (14°). Any proposed cuts beyond these imposed limits should be referred to WJL for review.

Any fills should be limited to a height of 0.60m and batter grade no steeper than 1V:3H (18°). Any proposed fills beyond these imposed limits should be referred to WJL for review

All exposed batters should be covered with topsoil or geotextile, before being re-grassed and/or planted as soon as practicable to aid in stabilising the slopes.

The structural designer and building contractor should ensure that a satisfactory Factor of Safety (FoS) against ground instability is available at all stages of the development.

## 9.8. CUT/FILL LIMITATIONS

Generally speaking, fills greater than 0.60m in depth which have not been reviewed and approved herein, should be considered as being outside the constraints of NZS3604:2011, and hence should not be undertaken on this site unless reviewed and approved by a Geo-Professional familiar with the report contents herein. Filling in excess of this magnitude may, in certain circumstances, disturb existing stability conditions such as by overloading slopes and/or retaining walls, or inducing consolidation settlements of adjacent structures.

## 9.9. GENERAL SITE WORKS

We stress that any and all works should be undertaken in a careful and safe manner so that Health and Safety is not compromised, and that suitable erosion and sediment control measures should be put in place. Any stockpiles placed should be done so in an appropriate manner so that land stability and/or adjacent structures are not compromised.

Furthermore:

- All works must be undertaken in accordance with the Health and Safety at Work Act 2015,
- Any open excavations should be fenced off or covered, and/or access restricted as appropriate,
- The Contractor is responsible at all times for ensuring that all necessary precautions are taken to protect all aspects of the works, as well as adjacent properties, buildings and services, and

- Should the contractor require any site-specific assistance with safe construction methodologies, please contact WJL for further assistance.

### 9.10. LONG-TERM FOUNDATION CARE & MAINTENANCE

The recommendations given above to mitigate the risk of expansive soils, do not necessarily remove the risk of external influences affecting the moisture in the subgrade supporting the foundations.

All owners should also be aware of the detrimental effects that significant trees can have on building foundation soils, viz:

- Their presence can induce differential consolidation settlements beneath foundations through localised soil water deprivation, or conversely.
- Foundation construction too soon after their removal can result in soil swelling and raising foundations as the soils rehydrate.

To this end, care should be taken to avoid:

- Having significant trees positioned where their roots could migrate beneath the house foundations, and
- Constructing foundations on soils that have been differentially excessively desiccated by nearby trees, whether still existing, or recently removed.

We recommend that homeowners make themselves familiar with the appended Homeowners' Guide published by CSIRO, with particular emphasis on maintenance of drains, water pipes, gutters and downpipes.

## 10. STORMWATER & SURFACE WATER CONTROL

Uncontrolled stormwater flows from new development areas must not be allowed to run onto or over site slopes, or to saturate the ground, so as to adversely affect foundation conditions.

All stormwater run-off from roof and paved areas should be collected in sealed pipes and be discharged to a Council approved stormwater system.

Under no circumstances should concentrated overflows from any source discharge into or onto the ground in an uncontrolled fashion.

## 11. ON-SITE WASTEWATER DISPOSAL

No reticulated sanitary sewer is available for the site; therefore, an on-site wastewater treatment and disposal system will be required to service the proposed development.

We recommend that all designs for on-site wastewater system should be carried out by a suitably qualified professional experienced in on-site wastewater disposal.

## 12. UNDERGROUND SERVICES

The FNDC online GIS Water Services Map indicates that public underground service connections are not available to the property. Other underground services, public or private, mapped, or unmapped, of any type may be present.

A thorough service-search should be carried out prior to commencement of any excavations to locate the exact locations of the underground services.

## 13. DRAWING REVIEW

Once development plans for the proposed development have been finalised, the drawings should be referred to us for review to verify that the recommendations contained in this report have been incorporated into the design.

## 14. FUTURE CONSTRUCTION MONITORING

The foregoing statements are Professional Opinion, based on a limited collection of information, some of which is factual, and some of which is inferred. Because soils are not a homogeneous, manufactured building component, there always exists a level of risk that inferences about soil conditions across the greater site, which have been drawn from isolated "pinprick" locations, may be subject to localized variations. Generally, any investigation is deemed less complete until the applicability of its inferences and the Professional Opinions arising out of those are checked and confirmed during the construction phase, to an appropriate level.

It is increasingly common for the Building Consent Authorities (BCA) to require a Producer Statement – Construction (PS4) which is an important document. The purpose of the PS4 is to confirm the Engineers' Professional Opinion to the BCA that specific elements of construction, such as the verification of design assumptions and soil parameters (NZBC clause B1/VM4 2.0.8), are in accordance with the approved Building Consent and its related documents, which should include the subject Geotechnical Report. Where site works will involve the placement of fill, the PS4 should reference NZBC clause B1/VM1 10.1.

For WJL to issue a PS4 to meet the above clauses of the NZBC, we will need to carry out the site inspections in accordance with the Building Consent and Council requirements. We require at least 48 hours' notice for site inspections.

Site inspections should be undertaken by a Chartered Professional Geotechnical Engineer or their Agent who is familiar with both this site and the contents of this Geotechnical Report.

Prior to works commencement, the above Engineer should be contacted to confirm the construction methodologies, inspection, and testing frequency.

The primary purpose of the site inspections is to check that the conditions encountered are consistent with those expected from the investigations and adopted for the design as discussed herein. If anomalies or uncertainties are identified, then further Professional advice should be sought from the Geo-Professional, which will allow the timely provision of solutions and recommendations should any engineering problems arise.

Upon satisfactory completion of the above work aspects, WJL would then be in a position to issue the PS4 as required by Council.

At this time, the following Geotechnical Site Inspections and Testing should include, but are not limited to:

- Site cut, and
- Hardfill compaction testing.

## 15. LIMITATIONS

We anticipate that this report is to be submitted to Council in support of a Building Consent application.

This report has been commissioned solely for the benefit of our Clients, **Melissa and Peter Kriz,** in relation to the project as described herein, and to the limits of our engagement, with the exception that the local Territorial Authority may rely on it to the extent of its appropriateness, conditions and limitations, when issuing the subject consent. Any variations from the development proposals as described herein as forming the basis of our appraisal should be referred to us for further evaluation.

Copyright of Intellectual Property remains with WJL, and this report may NOT be used by any other entity, or for any other proposals, without our written consent. Therefore, no liability is accepted by this firm or any of its directors, servants, or agents, in respect of any other geotechnical aspects of this site, nor for its use by any other person or entity, and any other person or entity who relies upon any information contained herein does so entirely at their own risk. Where other parties may wish to rely on it, whether for the same or different proposals, this permission may be extended, subject to our satisfactory review of their interpretation of the report.

Although this report may be submitted to a local authority in connection with an application for a consent, permission, approval, or pursuant to any other requirement of law, this disclaimer shall still apply and require all other parties to use due diligence where necessary and does not remove the necessity for the normal inspection of site conditions and the design of foundations as would be made under all normal circumstances.

Thank you for the opportunity to provide our service on this project, and if we can be of further assistance, please do not hesitate to contact us.

Yours faithfully,

**WILTON JOUBERT LIMITED**

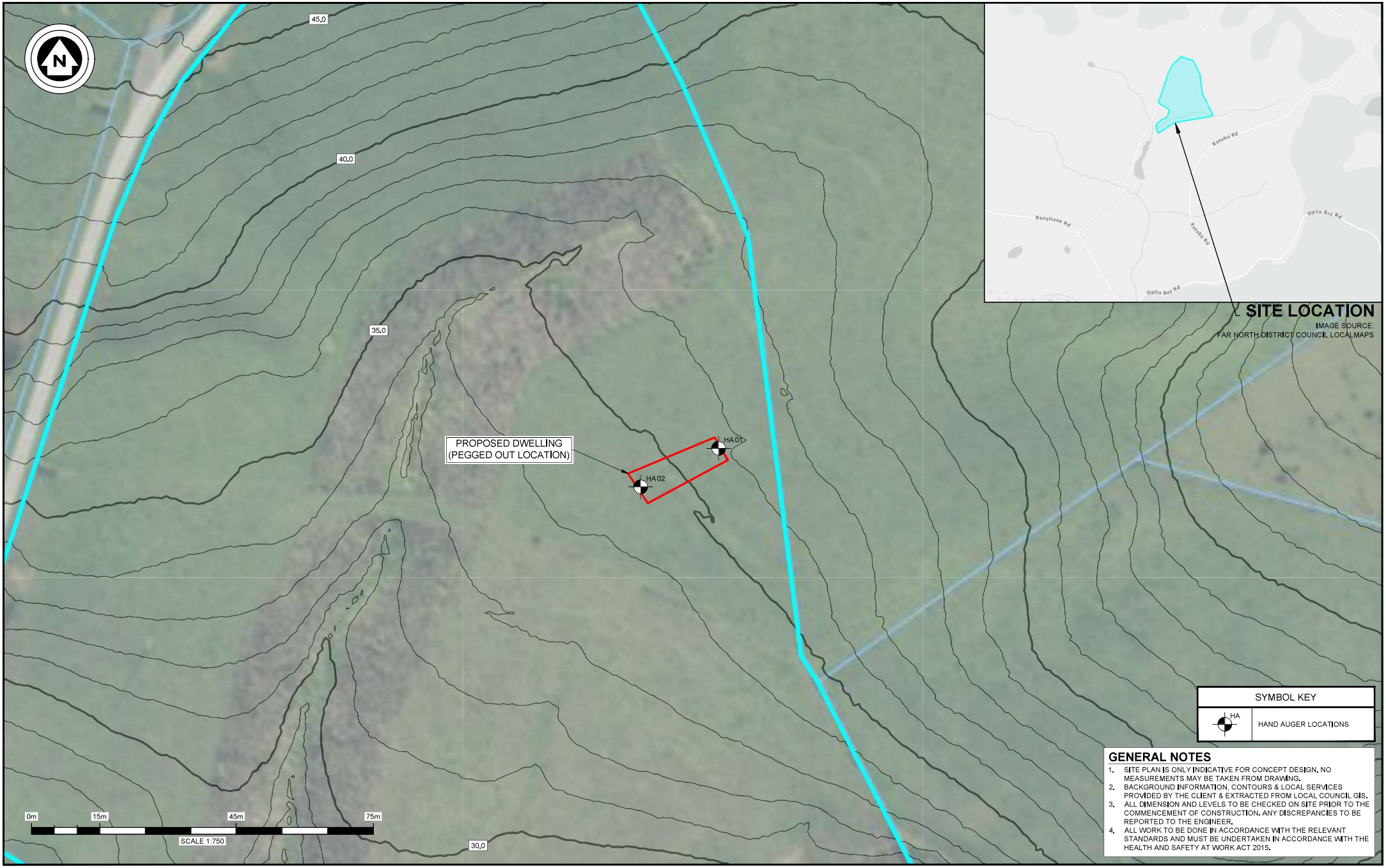
Appendices:

Site Plan (1 sheet)

Hand Auger Borehole Records (2 sheets)

'*Foundation Maintenance and Footing Performance*' homeowner's guide, published by CSIRO (4 sheets)

WJL's Construction Monitoring Information (1 sheet)




## GENERAL NOTES

1. SITE PLAN IS ONLY INDICATIVE FOR CONCEPT DESIGN. NO MEASUREMENTS MAY BE TAKEN FROM DRAWING.
2. BACKGROUND INFORMATION, CONTOURS & LOCAL SERVICES PROVIDED BY THE CLIENT & EXTRACTED FROM LOCAL COUNCIL GIS.
3. ALL DIMENSION AND LEVELS TO BE CHECKED ON SITE PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. ANY DISCREPANCIES TO BE REPORTED TO THE ENGINEER.
4. ALL WORK TO BE DONE IN ACCORDANCE WITH THE RELEVANT STANDARDS AND MUST BE UNDERTAKEN IN ACCORDANCE WITH THE HEALTH AND SAFETY AT WORK ACT 2015.

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| ISSUE / REVISION | | | |
|---|---|---|---|
| No. | DATE | BY | DESCRIPTION |
| A | FEB 2026 | A.B | ISSUED WITH GEOTECHNICAL REPORT |

DESIGNED BY:
DRAWN BY: A.B
CHECKED BY:
SURVEYED BY:

**SERVICES NOTE**
WHERE EXISTING SERVICES ARE SHOWN, THEY ARE INDICATIVE ONLY AND MAY NOT INCLUDE ALL SITE SERVICES. WILTON JOUBERT LTD DOES NOT WARRANT THAT ALL, OR INDEED ANY SERVICES ARE SHOWN. IT IS THE CONTRACTORS RESPONSIBILITY TO LOCATE AND PROTECT ALL EXISTING SERVICES PRIOR TO AND FOR THE DURATION OF THE CONTRACT WORKS.

**GEOTECHNICAL**
DESIGN / DRAWING SUBJECT TO ENGINEER'S APPROVAL

DRAWING TITLE: **SITE PLAN**

PROJECT DESCRIPTION: **PROPOSED DWELLING**

PROJECT TITLE: **LOT 3 DP 616409 RANGITANE ROAD KERIKERI NORTHLAND**

| | |
|---|---|
| ORIGINAL DRAWING SIZE: A3 | OFFICE: WHANGAREI |
| DRAWING SCALE: 1:750 | CO-ORDINATE SYSTEM: NOT COORDINATED |
| DRAWING NUMBER: 145185-G600 | ISSUE: A |

# HAND AUGER : HA01

**CLIENT:** Melissa & Peter Kriz
**PROJECT:** New Dwelling
**SITE LOCATION:** Lot 3 DP 616409 Rangitane Road, Kerikeri

**JOB NO.:** 145185 **SHEET:** 1 OF 1
**START DATE:** 17/02/2026 **NORTHING:** **GRID:**
**DIAMETER:** 50mm **EASTING:**
**SV DIAL:** DR4802 **ELEVATION:** Ground
**FACTOR:** 1.39 **DATUM:**

| STRATIGRAPHY | SOIL DESCRIPTION | LEGEND | DEPTH (m) | WATER | SHEAR VANE PEAK STRENGTH (kPa) | SHEAR VANE REMOULD STRENGTH (kPa) | SHEAR VANE SENSITIVITY | DCP - SCALA (Blows / mm) | COMMENTS, SAMPLES, OTHER TESTS |
|---|---|---|---|---|---|---|---|---|---|
| Topsoil | TOPSOIL, dark brown, dry to moist. | TS | 0.2 | | | | | | |
| Waipapa Group | NATURAL: Silty CLAY, orangey brown with greyish brown mottles, very stiff, dry to moist, moderate to high plasticity. | | 0.4 | Groundwater Not Encountered | 183 | 53 | 3.5 | | |
| | | | 0.6 | | | | | | |
| | | | 0.8 | | 175 | 58 | 3.0 | | |
| | 1.1m: Yellowish brown with whitish grey mottles, moist. | | 1.0 | | | | | | |
| | | | 1.2 | | 189 | 75 | 2.5 | | |
| | | | 1.4 | | | | | | |
| | | | 1.6 | | 145 | 70 | 2.1 | | |
| | | | 1.8 | | | | | | |
| | | | 2.0 | | 120 | 58 | 2.1 | | |
| | | | 2.2 | | | | | | |
| | 2.4m: Stiff, moist to wet. | | 2.4 | | 97 | 61 | 1.6 | | |
| | 2.5m: Occasional red mottles. | | 2.6 | | | | | | |
| | 2.8m: Yellowish brown and whitish grey with orangey brown mottles, occasional brown clast inclusions, moderate plasticity. | | 2.8 | | 78 | 28 | 2.8 | | |
| | | | 3.0 | | | | | | |
| | | | 3.2 | | 75 | 22 | 3.4 | | |
| | | | 3.4 | | | | | | |
| | | | 3.6 | | 70 | 19 | 3.7 | | |
| | 3.8m: Wet. | | 3.8 | | | | | | |
| | EOH: 4.00m - Target Depth | | 4.0 | | 78 | 22 | 3.5 | | |
| | | | 4.2 | | | | | | |
| | | | 4.4 | | | | | | |

TOPSOIL FILL CLAY SILT SAND GRAVEL PEAT ROCK

**REMARKS**
End of borehole @ 4.00m (Target Depth: 4.00m)

NZGS Definition of Relative Density for Coarse Grain soils: VL - Very Loose; L - Loose; MD - Medium Dense; D - Dense; VD - Very Dense

**LOGGED BY:** SJP
**CHECKED BY:** CSH

▼ Standing groundwater level
▽ GW while drilling

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# HAND AUGER : HA02

**CLIENT:** Melissa & Peter Kriz
**PROJECT:** New Dwelling
**SITE LOCATION:** Lot 3 DP 616409 Rangitane Road, Kerikeri

**JOB NO.:** 145185 **SHEET:** 1 OF 1
**START DATE:** 17/02/2026 **NORTHING:** **GRID:**
**DIAMETER:** 50mm **EASTING:**
**SV DIAL:** DR4802 **ELEVATION:** Ground
**FACTOR:** 1.39 **DATUM:**

| STRATIGRAPHY | SOIL DESCRIPTION | DEPTH (m) | WATER | SHEAR VANE PEAK STRENGTH (kPa) | SHEAR VANE REMOULD STRENGTH (kPa) | SHEAR VANE SENSITIVITY | DCP - SCALA (Blows / mm) | COMMENTS, SAMPLES, OTHER TESTS |
|---|---|---|---|---|---|---|---|---|
| Topsoil | TOPSOIL, dark brown, dry to moist. | 0.2 | | | | | | |
| Waipapa Group | NATURAL: Silty CLAY, orangey brown with greyish brown mottles, very stiff, dry to moist, moderate to high plasticity. | 0.4 | Groundwater Not Encountered | 195+ | | | | |
| | | 0.6 | | | | | | |
| | | 0.8 | | 164 | 50 | 3.3 | | |
| | 1.0m: Yellowish brown with whitish grey mottles, moist. | 1.0 | | | | | | |
| | | 1.2 | | 120 | 64 | 1.9 | | |
| | | 1.4 | | | | | | |
| | 1.6m: Whitish grey with yellowish brown mottles. | 1.6 | | 147 | 75 | 2.0 | | |
| | | 1.8 | | | | | | |
| | 2.0m: Stiff. | 2.0 | | 95 | 50 | 1.9 | | |
| | 2.1m: 100mm lense of yellowish brown with whitish grey mottles. | 2.2 | | | | | | |
| | 2.4m: Very stiff. | 2.4 | | 139 | 70 | 2.0 | | |
| | | 2.6 | | | | | | |
| | 2.7m: Occasional orangey brown mottles. | 2.8 | | 122 | 61 | 2.0 | | |
| | | 3.0 | | | | | | |
| | 3.2m: Stiff. | 3.2 | | 97 | 53 | 1.8 | | |
| | | 3.4 | | | | | | |
| | | 3.6 | | 81 | 39 | 2.1 | | |
| | 3.8m: Orangey brown, yellowish brown and whitish grey, moist to wet, moderate plasticity. | 3.8 | | | | | | |
| | EOH: 4.00m - Target Depth | 4.0 | | 89 | 47 | 1.9 | | |
| | | 4.2 | | | | | | |
| | | 4.4 | | | | | | |

**REMARKS**
End of borehole @ 4.00m (Target Depth: 4.00m)

NZGS Definition of Relative Density for Coarse Grain soils: VL - Very Loose; L - Loose; MD - Medium Dense; D - Dense; VD - Very Dense

**LOGGED BY:** SJP
**CHECKED BY:** CSH

▼ Standing groundwater level
▽ GW while drilling

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# FOUNDATION MAINTENANCE AND FOOTING PERFORMANCE

## Preventing soil-related building movement

**This Building Technology Resource is designed as a homeowner's guide on the causes of soil-related building movement, and suggested methods to prevent resultant cracking.**

Buildings can and often do move. This movement can be up, down, lateral or rotational. The fundamental cause of movement in buildings can usually be related to one or more problems in the foundation soil. It is important for the home owner to identify the soil type in order to ascertain the measures that should be put in place in order to ensure that problems in the foundation soil can be prevented, thus protecting against building movement. Generally soil classification is provided by a geotechnical report.

## SOIL TYPES

The types of soils usually present under the topsoil in land zoned for residential buildings can be split into two approximate groups – granular and clay. Quite often, foundation soil is a mixture of both types. The general problems associated with soils having granular content are usually caused by erosion. Clay soils are subject to saturation and swell/shrink problems.

As most buildings suffering movement problems are founded on clay soils, there is an emphasis on classification of soils according to the amount of swell and shrinkage they experience with variations of water content. Table 1 below is a reproduction of Table 2.1 from Australian Standard AS 2870-2011, Residential slabs and footings.

## CAUSES OF MOVEMENT

### SETTLEMENT DUE TO CONSTRUCTION

There are two types of settlement that occur as a result of construction:

- Immediate settlement occurs when a building is first placed on its foundation soil, as a result of compaction of the soil under the weight of the structure. The cohesive quality of clay soil mitigates against this, but granular (particularly sandy) soil is susceptible.
- Consolidation settlement is a feature of clay soil and may take place because of the expulsion of moisture from the soil or because of the soil's lack of resistance to local compressive or shear stresses. This will usually take place during the first few months after construction but has been known to take many years in exceptional cases.

These problems may be the province of the builder and should be taken into consideration as part of the preparation of the site for construction.

### EROSION

All soils are prone to erosion, but sandy soil is particularly susceptible to being washed away. Even clay with a sand component of say 10% or more can suffer from erosion.

### SATURATION

This is particularly a problem in clay soils. Saturation creates a bog-like suspension of the soil that causes it to lose virtually all of its bearing capacity. To a lesser degree, sand is affected by saturation because saturated sand may undergo a reduction in volume, particularly imported sand fill for bedding and blinding layers. However, this usually occurs as immediate settlement and should normally be the province of the builder.

### SEASONAL SWELLING AND SHRINKAGE OF SOIL

All clays react to the presence of water by slowly absorbing it, making the soil increase in volume (see table below, from AS 2870). The degree of increase varies considerably between different clays, as does the degree of decrease during the subsequent drying out caused by fair weather periods. Because of the low absorption and expulsion rate, this phenomenon will not usually be noticeable unless there are prolonged rainy or dry periods, usually of weeks or months, depending on the land and soil characteristics.

The swelling of soil creates an upward force on the footings of the building, and shrinkage creates subsidence that takes away the support needed by the footing to retain equilibrium.

### SHEAR FAILURE

This phenomenon occurs when the foundation soil does not have sufficient strength to support the weight of the footing. There are two major post-construction causes:

- Significant load increase.
- Reduction of lateral support of the soil under the footing due to erosion or excavation.

In clay soil, shear failure can be caused by saturation of the soil adjacent to or under the footing.

### TREE ROOT GROWTH

Trees and shrubs that are allowed to grow in the vicinity of footings can cause foundation soil movement in two ways:

- Roots that grow under footings may increase in cross-sectional size, exerting upward pressure on footings.

**TABLE 1. GENERAL DEFINITIONS OF SITE CLASSES.**

| Class | Foundation |
|---|---|
| A | Most sand and rock sites with little or no ground movement from moisture changes |
| S | Slightly reactive clay sites, which may experience only slight ground movement from moisture changes |
| M | Moderately reactive clay or silt sites, which may experience moderate ground movement from moisture changes |
| H1 | Highly reactive clay sites, which may experience high ground movement from moisture changes |
| H2 | Highly reactive clay sites, which may experience very high ground movement from moisture changes |
| E | Extremely reactive sites, which may experience extreme ground movement from moisture changes |

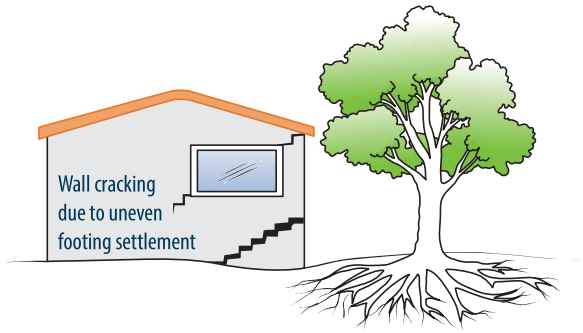



**FIGURE 1** Trees can cause shrinkage and damage.

- Roots in the vicinity of footings will absorb much of the moisture in the foundation soil, causing shrinkage or subsidence.

## UNEVENNESS OF MOVEMENT

The types of ground movement described above usually occur unevenly throughout the building's foundation soil. Settlement due to construction tends to be uneven because of:

- Differing compaction of foundation soil prior to construction.
- Differing moisture content of foundation soil prior to construction.

Movement due to non-construction causes is usually more uneven still. Erosion can undermine a footing that traverses the flow or can create the conditions for shear failure by eroding soil adjacent to a footing that runs in the same direction as the flow.

Saturation of clay foundation soil may occur where subfloor walls create a dam that makes water pond. It can also occur wherever there is a source of water near footings in clay soil. This leads to a severe reduction in the strength of the soil which may create local shear failure.

Seasonal swelling and shrinkage of clay soil affects the perimeter of the building first, then gradually spreads to the interior through absorption. The swelling process will usually begin at the uphill extreme of the building, or on the weather side where the land is flat. Shrinkage usually begins on the side of the building where the sun's heat is greatest.

## EFFECTS OF UNEVEN SOIL MOVEMENT ON STRUCTURES

### EROSION AND SATURATION

Erosion removes the support from under footings, tending to create subsidence of the part of the structure under which it occurs. Brickwork walls will resist the stress created by this removal of support by bridging the gap or cantilevering until the bricks or the mortar bedding fail. Older masonry has little resistance. Evidence of failure varies according to circumstances and symptoms may include:

- Step cracking in the mortar beds in the body of the wall or above/below openings such as doors or windows.
- Vertical cracking in the bricks (usually but not necessarily in line with the vertical beds or perpends).

Isolated piers affected by erosion or saturation of foundations will eventually lose contact with the bearers they support and may tilt or fall over. The floors that have lost this support will become bouncy, sometimes rattling ornaments etc.

### SEASONAL SWELLING/SHRINKAGE IN CLAY

Swelling foundation soil due to rainy periods first lifts the most exposed extremities of the footing system, then the remainder of the perimeter footings while gradually permeating inside the building footprint to lift internal footings. This swelling first tends to create a dish effect, because the external footings are pushed higher than the internal ones.

The first noticeable symptom may be that the floor appears slightly dished. This is often accompanied by some doors binding on the floor or the door head, together with some cracking of cornice mitres. In buildings with timber flooring supported by bearers and joists, the floor can be bouncy. Externally there may be visible dishing of the hip or ridge lines.

As the moisture absorption process completes its journey to the innermost areas of the building, the internal footings will rise. If the spread of moisture is roughly even, it may be that the symptoms will temporarily disappear, but it is more likely that swelling will be uneven, creating a difference rather than a disappearance in symptoms. In buildings with timber flooring supported by bearers and joists, the isolated piers will rise more easily than the strip footings or piers under walls, creating noticeable doming of flooring.

As the weather pattern changes and the soil begins to dry out, the external footings will be first affected, beginning with the locations where the sun's effect is strongest. This has the effect of lowering the external footings. The doming is accentuated, and cracking reduces or disappears where it occurred because of dishing, but other cracks open up. The roof lines may become convex.

Doming and dishing are also affected by weather in other ways. In areas where warm, wet summers and cooler dry winters prevail, water migration tends to be toward the interior and doming will be accentuated, whereas where summers are dry, and winters are cold and wet, migration tends to be toward the exterior and the underlying propensity is toward dishing.

### MOVEMENT CAUSED BY TREE ROOTS

In general, growing roots will exert an upward pressure on footings, whereas soil subject to drying because of tree or shrub roots will tend to remove support from under footings by inducing shrinkage.

### COMPLICATIONS CAUSED BY THE STRUCTURE ITSELF

Most forces that the soil causes to be exerted on structures are vertical – i.e. either up or down. However, because these forces are seldom spread evenly around the footings, and because the building resists uneven movement because of its rigidity, forces are exerted from one part of the building to another. The net result of all these forces is usually rotational. This resultant force often complicates the diagnosis because the visible symptoms do not simply reflect the original cause. A common symptom is binding of doors on the vertical member of the frame.

### EFFECTS ON FULL MASONRY STRUCTURES

Brickwork will resist cracking where it can. It will attempt to span areas that lose support because of subsided foundations or raised points. It is therefore usual to see cracking at weak points, such as openings for windows or doors.

In the event of construction settlement, cracking will usually remain unchanged after the process of settlement has ceased.

With local shear or erosion, cracking will usually continue to develop until the original cause has been remedied, or until the subsidence has completely neutralised the affected portion of footing and the structure has stabilised on other footings that remain effective.

In the case of swell/shrink effects, the brickwork will in some cases return to its original position after completion of a cycle, however it is more likely that the rotational effect will not be exactly reversed, and it is also usual that brickwork will settle in its new position and will resist the forces trying to return it to its original position. This means that in a case where swelling takes place after construction and cracking occurs, the cracking is likely to at least partly remain after the shrink segment of the cycle is complete. Thus, each time the cycle is repeated, the likelihood is that the cracking will become wider until the sections of brickwork become virtually independent.

With repeated cycles, once the cracking is established, if there is no other complication, it is normal for the incidence of cracking to stabilise, as the building has the articulation it needs to cope with the problem. This is by no means always the case, however, and monitoring of cracks in walls and floors should always be treated seriously.

Upheaval caused by growth of tree roots under footings is not a simple vertical shear stress. There is a tendency for the root to also

exert lateral forces that attempt to separate sections of brickwork after initial cracking has occurred.

The normal structural arrangement is that the inner leaf of brickwork in the external walls and at least some of the internal walls (depending on the roof type) comprise the load-bearing structure on which any upper floors, ceilings and the roof are supported. In these cases, it is internally visible cracking that should be the main focus of attention, however there are a few examples of dwellings whose external leaf of masonry plays some supporting role, so this should be checked if there is any doubt. In any case, externally visible cracking is important as a guide to stresses on the structure generally, and it should also be remembered that the external walls must be capable of supporting themselves.

### EFFECTS ON FRAMED STRUCTURES

Timber or steel framed buildings are less likely to exhibit cracking due to swell/shrink than masonry buildings because of their flexibility. Also, the doming/dishing effects tend to be lower because of the lighter weight of walls. The main risks to framed buildings are encountered because of the isolated pier footings used under walls. Where erosion or saturation causes a footing to fall away, this can double the span which a wall must bridge. This additional stress can create cracking in wall linings, particularly where there is a weak point in the structure caused by a door or window opening. It is, however, unlikely that framed structures will be so stressed as to suffer serious damage without first exhibiting some or all of the above symptoms for a considerable period. The same warning period should apply in the case of upheaval. It should be noted, however, that where framed buildings are supported by strip footings there is only one leaf of brickwork and therefore the externally visible walls are the supporting structure for the building. In this case, the subfloor masonry walls can be expected to behave as full brickwork walls.

### EFFECTS ON BRICK VENEER STRUCTURES

Because the load-bearing structure of a brick veneer building is the frame that makes up the interior leaf of the external walls plus perhaps the internal walls, depending on the type of roof, the building can be expected to behave as a framed structure, except that the external masonry will behave in a similar way to the external leaf of a full masonry structure.

## WATER SERVICE AND DRAINAGE

Where a water service pipe, a sewer or stormwater drainage pipe is in the vicinity of a building, a water leak can cause erosion, swelling or saturation of susceptible soil. Even a minuscule leak can be enough to saturate a clay foundation. A leaking tap near a building can have the same effect. In addition, trenches containing pipes can become watercourses even though backfilled, particularly where broken rubble is used as fill. Water that runs along these trenches can be responsible for serious erosion, interstrata seepage into subfloor areas and saturation.

Pipe leakage and trench water flows also encourage tree and shrub roots to the source of water, complicating and exacerbating the problem. Poor roof plumbing can result in large volumes of rainwater being concentrated in a small area of soil:

- Incorrect falls in roof guttering may result in overflows, as may gutters blocked with leaves etc.
- Corroded guttering or downpipes can spill water to ground.
- Downpipes not positively connected to a proper stormwater collection system will direct a concentration of water to soil that is directly adjacent to footings, sometimes causing large-scale problems such as erosion, saturation and migration of water under the building.

## SERIOUSNESS OF CRACKING

In general, most cracking found in masonry walls is a cosmetic nuisance only and can be kept in repair or even ignored. Table 2 below is a reproduction of Table C1 of AS 2870-2011.

AS 2870-2011 also publishes figures relating to cracking in concrete floors, however because wall cracking will usually reach the critical point significantly earlier than cracking in slabs, this table is not reproduced here.

## PREVENTION AND CURE

### PLUMBING

Where building movement is caused by water service, roof plumbing, sewer or stormwater failure, the remedy is to repair the problem. It is prudent, however, to consider also rerouting pipes away from the building where possible and relocating taps to positions where any leakage will not direct water to the building vicinity. Even where gully traps are present, there is sometimes sufficient spill to create erosion or saturation, particularly in modern installations using smaller diameter PVC fixtures. Indeed, some gully traps are not situated directly under the taps that are installed to charge them, with the result that water from the tap may enter the backfilled trench that houses the sewer piping. If the trench has been poorly backfilled, the water will either pond or flow along the bottom of the trench. As these trenches usually run alongside the footings and can be at a similar depth, it is not hard to see how any water that is thus directed into a trench can easily affect the foundation's ability to support footings or even gain entry to the subfloor area.

### GROUND DRAINAGE

In all soils there is the capacity for water to travel on the surface and below it. Surface water flows can be established by inspection during and after heavy or prolonged rain. If necessary, a grated drain system connected to the stormwater collection system is usually an easy solution.

It is, however, sometimes necessary when attempting to prevent water migration that testing be carried out to establish watertable height and subsoil water flows. This subject may be regarded as an area for an expert consultant.

### PROTECTION OF THE BUILDING PERIMETER

It is essential to remember that the soil that affects footings extends well beyond the actual building line. Watering of garden plants, shrubs and trees causes some of the most serious water problems.

For this reason, particularly where problems exist or are likely to occur, it is recommended that an apron of paving be installed around as much of the building perimeter as necessary. This paving should extend outwards a minimum of 900 mm (more in highly reactive soil) and should have a minimum fall away from the building of 1:60. The finished paving should be no less than 100 mm below brick vent bases.

It is prudent to relocate drainage pipes away from this paving, if possible, to avoid complications from future leakage. If this is not practical, earthenware pipes should be replaced by PVC and backfilling should be of the same soil type as the surrounding soil and compacted to the same density.

Except in areas where freezing of water is an issue, it is wise to remove taps in the building area and relocate them well away from the building – preferably not uphill.

It may be desirable to install a grated drain at the outside edge of the paving on the uphill side of the building. If subsoil drainage is needed this can be installed under the surface drain.

### CONDENSATION

In buildings with a subfloor void, such as where bearers and joists support flooring, insufficient ventilation creates ideal conditions for condensation, particularly where there is little clearance between the floor and the ground. Condensation adds to the moisture already present in the subfloor and significantly slows the process of drying out. Installation of an adequate subfloor ventilation system, either natural or mechanical, is desirable.

**TABLE 2. CLASSIFICATION OF DAMAGE WITH REFERENCE TO WALLS.**

| Description of typical damage and required repair | Approximate crack width limit | Damage category |
|---|---|---|
| Hairline cracks | <0.1 mm | 0 – Negligible |
| Fine cracks which do not need repair | <1 mm | 1 – Very Slight |
| Cracks noticeable but easily filled. Doors and windows stick slightly. | <5 mm | 2 – Slight |
| Cracks can be repaired and possibly a small amount of wall will need to be replaced. Doors and windows stick. Service pipes can fracture. Weathertightness often impaired. | 5–15 mm (or a number of cracks 3 mm or more in one group) | 3 – Moderate |
| Extensive repair work involving breaking-out and replacing sections of walls, especially over doors and windows. Window and door frames distort. Walls lean or bulge noticeably, some loss of bearing in beams. Service pipes disrupted. | 15–25 mm but also depends on number of cracks | 4 – Severe |

Source: Reproduced with the permission of Standards Australia Limited © 2011. Copyright in AS 2870-2011 Residential slabs and footings vests in Standards Australia Limited.

Warning: Although this Building Technology Resource deals with cracking in buildings, it should be said that subfloor moisture can result in the development of other problems, notably:

- Water that is transmitted into masonry, metal or timber building elements causes damage and/or decay to those elements.
- High subfloor humidity and moisture content create an ideal environment for various pests, including termites and spiders, and mould.
- Where high moisture levels are transmitted to the flooring and walls, an increase in the dust mite count can ensue within the living areas. Dust mites, as well as dampness in general, can be a health hazard to inhabitants, particularly those who are abnormally susceptible to respiratory ailments.

## THE GARDEN

The ideal vegetation layout is to have lawn or plants that require only light watering immediately adjacent to the drainage or paving edge, then more demanding plants, shrubs and trees spread out in that order.

Overwatering due to misuse of automatic watering systems is a common cause of saturation and water migration under footings. If it is necessary to use these systems, it is important to remove garden beds to a completely safe distance from buildings.

## EXISTING TREES

Existing trees may cause problems with the upheaval of footings by their roots, or shrinkage from soil drying. If the offending roots are subsidiary and their removal will not significantly damage the tree, they should be severed and a concrete or metal barrier placed vertically in the soil to prevent future root growth in the direction of the building. Soil drying is a more complex issue and professional advice may be required before considering the removal or relocation of the tree.

## INFORMATION ON TREES, PLANTS AND SHRUBS

State departments overseeing agriculture can give information regarding root patterns, volume of water needed and safe distance from buildings of most species. Botanic gardens are also sources of information.

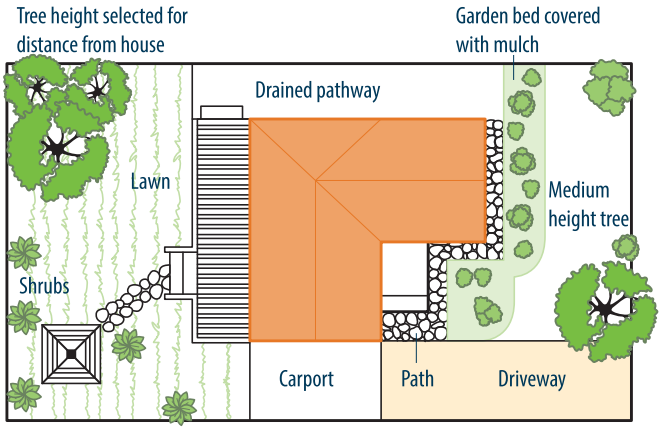



**FIGURE 2** Gardens for a reactive site.

## EXCAVATION

Excavation around footings must be properly engineered. Soil supporting footings can only be safely excavated at an angle that allows the soil under the footing to remain stable. This angle is called the angle of repose (or friction) and varies significantly between soil types and conditions. Removal of soil within the angle of repose will cause subsidence.

## REMEDIATION

Where erosion has occurred that has washed away soil adjacent to footings, soil of the same classification should be introduced and compacted to the same density. Where footings have been undermined, augmentation or other specialist work may be required. Remediation of footings and foundations is generally the realm of a specialist consultant.

Where isolated footings rise and fall because of swell/shrink effect, the home owner may be tempted to alleviate floor bounce by filling the gap that has appeared between the bearer and the pier with blocking. The danger here is that when the next swell segment of the cycle occurs, the extra blocking will push the floor up into an accentuated dome and may also cause local shear failure in the soil. If it is necessary to use blocking, it should be by a pair of fine wedges and monitoring should be carried out fortnightly.

WILTON JOUBERT
Consulting Engineers

# Construction Monitoring Services

## Northland, Auckland-Waikato, Canterbury, Southern Lakes

Need a PS4?

- Please read the conditions of your Building Consent to determine which section of the works Council wants an engineer to sign off on.
- Book an inspection with Wilton Joubert Ltd or with a suitable qualified engineer.
- Have the Consent documents on site at the time of the inspection
- Be sure to verify both the grounding conditions (soil parameters) as well as the structural elements of works in question
- If in doubt what to get inspected please clarify with Council.

Producer Statements 4 - Construction Review Documents (PS4's) relates to Building Consents (BC) only, not Resource Consents (RC), unless there is an element of the RC which requires a BC, e.g. a retaining wall needed to develop a subdivision.
In soils, RC's are usually verified with a "Statement of Professional Opinion as to Suitability for Building Development", or variations on that title.

## CONSTRUCTION MONITORING SERVICES

Construction monitoring refers to the physical inspection of selective components of the design or works as required by Council and as specified in the Consented documents. It is up to the Consent holder to read the special conditions set out by Council and arrange for the required inspections to be done. No PS4 can be issued without the physical inspection of works and sighting of Consented plans either by the design engineer, his representative, or another qualified engineer. (download PDF with more info via our website)

It is also important to note that, more often than not, there are two physical components that needs verification:

1. Geotechnical or grounding Conditions –referring to the strength or bearing capacity of the soil
2. Structural Components – verify that works are done as per design and in accordance with the consented plans.

To complicate matters there can be multiple engineers that might be engaged on the same site:

- Civil Engineer – To do storm water and wastewater designs
- Geotechnical Engineer – to do a Geotech report and specificity soil parameters as required
- Structural Engineer – to design structural components such as retaining walls, raft floors, beams and so on.

In cases where engineers from different companies are appointed it is important to make sure all the required boxes are ticked as not to complicate matters when it comes to the issuing of all the relevant PS4's.
Note: sites in the Auckland area might requires multiple PS4's for the same component (e.g. a raft floor requires a Geotechnical Engineer to verify the bearing capacity of the platform and a Structural engineer needs to verify the structural components are according to the design.
Not to mention a Council inspection is also required on the same floor to verify position, plumbing and so on.

In Summary:

- Read the conditions as laid out in the Consent documents to which elements of the design requires a PS4's from the design engineer.
- Have Consented plans on site during inspection time
- Book inspections ahead of time (a minimum of 48 hours in advanced)
- Ensure both grounding conditions as well as structural components are inspected. In some cases, this might mean two separate inspections if different engineers are involved.
- If you have any further questions, feel free to contact us at any time during business hours.

**Construction Monitoring Enquiries**
Email: *jobs@wjl.co.nz*
or scan QR code to visit our website

# RECORD OF TITLE
# UNDER LAND TRANSFER ACT 2017
# FREEHOLD

**Search Copy**

R.W. Muir
Registrar-General
of Land

**Identifier** **1265351**
**Land Registration District** **North Auckland**
**Date Issued** 25 November 2025

**Prior References**
1228270

---

**Estate** Fee Simple
**Area** 4.5012 hectares more or less
**Legal Description** Lot 3 Deposited Plan 616409
**Registered Owners**
Melissa Jane Perrin as to a 1/2 share
Peter Dylan Kriz as to a 1/2 share

---

**Interests**

Subject to Section 59 Land Act 1948

Appurtenant hereto is a right to transmit electricity created by Easement Instrument 7526769.2 - 3.9.2007 at 9:00 am

12034360.2 Consent Notice pursuant to Section 221 Resource Management Act 1991 - 1.3.2021 at 3:44 pm

Subject to a right to convey electricity over parts marked L & P on DP 616409 created by Easement Instrument 12034360.3 - 1.3.2021 at 3:44 pm

Land Covenant in Covenant Instrument 12034360.4 - 1.3.2021 at 3:44 pm

Land Covenant in Covenant Instrument 12034360.5 - 1.3.2021 at 3:44 pm

Subject to a right to convey electricity over parts marked P & Q on DP 616409 created by Easement Instrument 13183940.1 - 26.2.2025 at 11:11 am

13369679.3 Consent Notice pursuant to Section 221 Resource Management Act 1991 - 4.9.2025 at 11:02 am

Subject to a right to convey electricity over parts marked L & P on DP 616409 created by Easement Instrument 13369679.4 - 4.9.2025 at 11:02 am

Appurtenant hereto is a right of way and a right to convey water, electricity and telecommunications created by Easement Instrument 13369679.4 - 4.9.2025 at 11:02 am

The easements created by Easement Instrument 13369679.4 are subject to Section 243 (a) Resource Management Act 1991

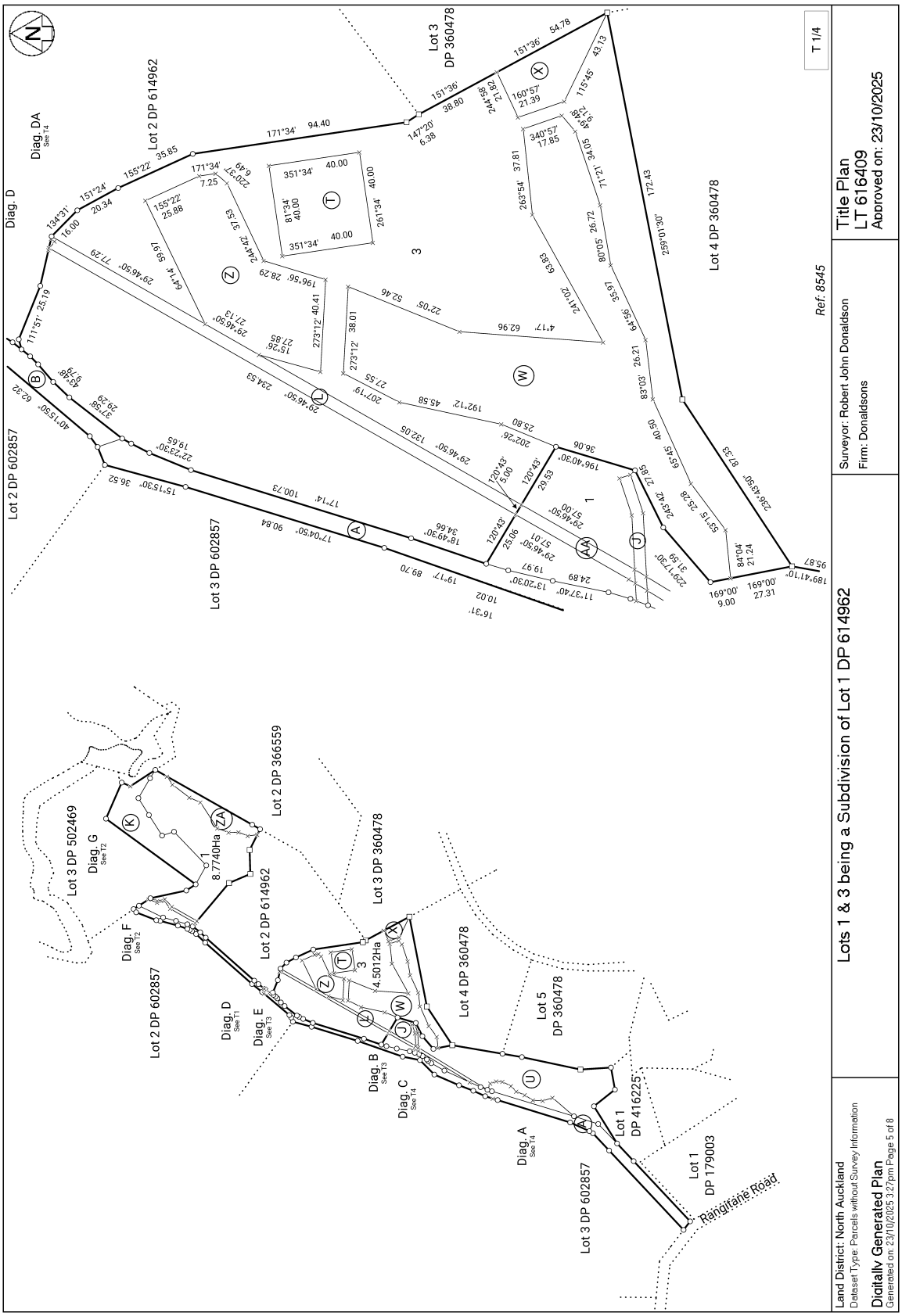
13446654.2 Consent Notice pursuant to Section 221 Resource Management Act 1991 - 25.11.2025 at 4:12 pm

Subject to a right to convey electricity over parts marked L & P on DP 616409 created by Easement Instrument 13446654.3 - 25.11.2025 at 4:12 pm

Appurtenant hereto is a right of way and a right to convey water, electricity and telecommunications created by Easement Instrument 13446654.3 - 25.11.2025 at 4:12 pm

The easements created by Easement Instrument 13446654.3 are subject to Section 243 (a) Resource Management Act 1991

13512388.4 Mortgage to ASB Bank Limited - 4.2.2026 at 5:00 pm


Lots 1 & 3 being a Subdivision of Lot 1 DP 614962
Title Plan
LT 616409
Approved on: 23/10/2025
Surveyor: Robert John Donaldson
Firm: Donaldsons
Ref: 8545
T 1/4
Land District: North Auckland
Dataset Type: Parcels without Survey Information
Digitally Generated Plan
Generated on: 23/10/2025 3:27pm Page 5 of 8
Lot 2 DP 602857
Lot 3 DP 602857
Lot 2 DP 614962
Lot 3 DP 360478
Lot 4 DP 360478
Lot 5 DP 360478
Lot 2 DP 366559
Lot 3 DP 502469
Lot 1 DP 416225
Lot 1 DP 179003
Rangitane Road
Diag. A
Diag. B
Diag. C
Diag. D
Diag. E
Diag. F
Diag. G
Diag. DA
8.7740Ha
4.5012Ha

# View Instrument Details

| | |
|---|---|
| **Instrument No** | 12034360.2 |
| **Status** | Registered |
| **Date & Time Lodged** | 01 March 2021 15:44 |
| **Lodged By** | Baker, Lisa Anne |
| **Instrument Type** | Consent Notice under s221(4)(a) Resource Management Act 1991 |

| Affected Records of Title | Land District |
|---|---|
| 753032 | North Auckland |
| 753033 | North Auckland |
| 753034 | North Auckland |

**Annexure Schedule** Contains 2 Pages.

**Signature**

Signed by Richard George Ashwell Palmer as Territorial Authority Representative on 15/01/2021 02:20 PM

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

Far North District Council

Private Bag 752, Memorial Ave
Kaitaia 0440, New Zealand
Freephone: 0800 920 029
Phone: (09) 401 5200
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Email: ard...@fndc.govt.nz
Website: www.fndc.govt.nz

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# THE RESOURCE MANAGEMENT ACT 1991

## SECTION 221: CONSENT NOTICE

REGARDING **RC 2120012**
Being the Subdivision of Lot 1 DP 165034
North Auckland Registry

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

## SCHEDULE

Lots 2 & 3 DP 502469

(i) The living indigenous vegetation defined within the Bush Protection Areas E & F shall not be cut down, damaged or destroyed without the prior written consent of the Council. Such consent may be given in the form of a resource consent application and decision. The owner shall be deemed to be not in breach of this prohibition if any such vegetation dies from natural causes which are not attributable to any act or default by or on behalf of the owner or for which the owner is responsible.

Lots 1 & 2 DP 502469

(ii) The landowner/occupier of the lot shall not keep or allow the introduction on the site of carnivorous or omnivorous animals (such as cats, dogs or ferrets, but excluding two working dogs used for the operation of farming activities) which have the potential to be kiwi predators. This prohibition includes the bringing of any such animals onto the site by visitors.

(iii) That upon construction of any habitable building it shall have a roof water collection system with a minimum tank storage of 45,000 litres. The tank(s) shall be positioned so that they are accessible (safely) for fire fighting purposes and fitted with an outlet compatible with rural fire service equipment. Where more than one tank is utilised they shall be coupled together and at least one tank fitted with an outlet compatible with rural fire service equipment. Alternatively, the dwelling can be fitted with a sprinkler system approved by Council.

Far North District Council

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Phone: (09) 401 5200
Fax: (09) 401 2137
Email: ask.us@fndc.govt.nz
Website: www.fndc.govt.nz

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Lot 3 DP 502469

(iv) No occupier of the land shall keep or introduce on to the site carnivorous or omnivorous exotic animals (such as ferrets, cats or dogs) which have the potential to be kiwi predators except for the existing pets which may be retained for its natural life and shall not be replaced.

SIGNED: P J Killalea Mr Patrick John Killalea
By the FAR NORTH DISTRICT COUNCIL
Under delegated authority:
PRINCIPAL PLANNER – RESOURCE MANAGEMENT

DATED at **KERIKERI** this 5th day of March 2018

# View Instrument Details

| | |
|---|---|
| **Instrument No** | 13369679.3 |
| **Status** | Registered |
| **Lodged By** | McGee, Carmen Sheila |
| **Date & Time Lodged** | 04 Sep 2025 11:02 |
| **Instrument Type** | Consent Notice under s221(4)(a) Resource Management Act 1991 |

| **Affected Records of Title** | **Land District** |
|---|---|
| 1228270 | North Auckland |
| 1228271 | North Auckland |

| | |
|---|---|
| **Annexure Schedule** | Contains 4 Pages |

**Signature**

Signed by Dennis John McBrearty as Territorial Authority Representative on 04/09/2025 09:55 AM

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

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# THE RESOURCE MANAGEMENT ACT 1991

SECTION 221: CONSENT NOTICE

REGARDING **CER-2240372-CER224/A**
Being the Subdivision of Lot 2 DP 502469
North Auckland Registry

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

## SCHEDULE

**Lots 1 & 2 DP 614962**

i) The lot owner shall preserve the living indigenous vegetation within the areas identified on the title plan DP 614962 as 'S', 'U', 'W', 'X', 'Y', 'Z' & 'ZA', and shall not without the prior written consent of the council, and in strict compliance with any conditions, cut down, damage, or destroy that habitat. Such consent shall be a resource consent. The lot owner shall exclude stock from entering the area. The owner shall not be in breach of this prohibition if any vegetation dies from natural causes.

**Lot 2 DP 614962**

ii) All buildings will require foundations specifically designed by a Chartered Professional Engineer in accordance with design parameters specified by a suitability qualified Geotechnical Engineer. The foundation design details shall be submitted in conjunction with the Building Consent application.

iii) In conjunction with the construction of any building requiring a wastewater disposal system, the lot owner shall obtain Building Consent and install a wastewater treatment and effluent disposal system. The design shall identify a suitable method of wastewater treatment for the proposed development along with an identified effluent disposal area plus a 100% reserve disposal area. The report shall confirm that all of the treatment & disposal system can be fully contained within the lot boundary and comply with the Northland Regional Plan Permitted Activity Standards, and shall reference the report prepared by Kerikeri drainage, dated 05 March 2024, and included within application documents of RC2240372.

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For on-site wastewater disposal system:

- The installation shall include an agreement with the system supplier or its authorised agent for the ongoing operation and maintenance of the wastewater treatment plant and the effluent disposal system.

- Following 12 months of operation of the wastewater treatment and effluent disposal system the lot owner shall provide certification to Council that the system is operating in accordance with its design criteria.

iv) No occupier of the lot, contractor and/or visitor shall keep or introduce on to the site carnivorous or omnivorous exotic animals (such as mustelids, cats or dogs).

v) All buildings and structures on the lot shall be located within the identified building envelope as identified on the title plan DP 614962 as 'V'.

vi) When building consent is sought for a dwelling or any building over 50m², the applicant must submit for approval of Council, a Building Development Landscape Plan which manages the landscaping and development of the curtilage of the building, i.e. the balance of the Building Envelope. The plan shall detail planting for the purpose of visual mitigation and integration of the built development and its access. The plan shall show details of re-vegetation of any exposed cut faces associated with works required for the building or access and follow the general guidelines within the Landscape and Visual Effects Assessment, prepared by Hawthorn Landscape Architects, referenced Proposed Subdivision 127a Rangitane Road Kerikeri and dated 30 October 2024, included within application documents of RC2240372-RMAVAR/A.

The plans shall contain the following information:

**Building Design Guidelines**

Building Form

- Building form shall flow with and follow the topography of the site and not protrude extensively above it unnecessarily.

- The form of large buildings shall be broken up or indented to provide visual interest and shadows.

- All built structures within covenant 'V' on Lot 2 shall be limited to a height of no greater than 6 meters above ground level.

Building Materials and Finishes

- Building colours from the A and B Group of the BS 5252 colour chart shall be used.

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- The light reflectance values for the exterior roof colours shall not exceed 30% and the exterior walls shall not exceed 40%.

Ancillary Structures

- All ancillary structures which are separate from the primary residence (such as guest quarters, garages, storage sheds) shall be designed to complement and integrate with the primary residence.

- The use of landscape plantings to connect these structures with the main residence is required.

Water tanks

- Water tanks, if not placed underground, shall be designed to integrate with the overall design of the main structures. Tanks that are placed above ground shall be screened by landscape amenity plantings.

Driveways and Parking Areas

- Parking areas shall be integrated with the overall design of the residence and landscaping.

- Kerbs should be avoided or use low profile kerbs formed with dark grey concrete oxide and use chip seal or loose road metal.

Earthworks

- Earthworks shall be graded gradually into adjacent contours. Earthworks that create sharp and large batters that are difficult to revegetate are to be avoided.

- Any retaining walls over 1m high shall be screened with planting.

The landscape plan shall incorporate:

- Foreground planting to provide a softening of the northern facing facade of a house when viewed from the water.

- Specimen Pohutukawa trees placed around the edges of the building site to provide vertical scale when viewed from the water to break up the view of any future house on this lot.

- Backdrop planting to provide a vegetated backdrop to the building site so that when viewed from the water and to the north any future built form will not be viewed on the skyline. This planting will also screen the building from view from the west, south and

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eastern aspect so that the surrounding neighbours are not looking at the back of the dwelling.

The approved Building Development Landscape Plan is to be implemented within 12 months following completion of the exterior of the building (approximately May-September) and maintained in perpetuity, with allowance made within the landscaping areas for the maintenance, trimming and replacement planting of trees as required. Any plants that are removed or damaged are to be replaced as soon as possible, or within the next planting season.

SIGNED:

Ms Nicola Cowley - Authorised Officer
By the FAR NORTH DISTRICT COUNCIL
Under delegated authority:
PRINCIPAL PLANNER – RESOURCE CONSENTS

DATED at **KERIKERI** this 26th day of May 2025

# View Instrument Details

| | |
|---|---|
| **Instrument No** | 13446654.2 |
| **Status** | Registered |
| **Lodged By** | McGee, Carmen Sheila |
| **Date & Time Lodged** | 25 Nov 2025 16:12 |
| **Instrument Type** | Consent Notice under s221(4)(a) Resource Management Act 1991 |

| **Affected Records of Title** | **Land District** |
|---|---|
| 1265351 | North Auckland |

| | |
|---|---|
| **Annexure Schedule** | Contains 2 Pages |

**Signature**

Signed by Dennis John McBrearty as Territorial Authority Representative on 05/12/2025 04:26 PM

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

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# THE RESOURCE MANAGEMENT ACT 1991

SECTION 221: CONSENT NOTICE

REGARDING **CER-2250251-CER224/A**
Being the Subdivision of Lot 1 DP 614962
North Auckland Registry

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

## SCHEDULE

**Lot 3 DP 616409**

i. The location and foundations of any building shall be certified by a suitably experienced Chartered Professional Engineer prior to the issue of any building consent noting the location of the instability and flood susceptible areas on Councils Geographic Information Systems (GIS) maps

ii. In conjunction with the construction of any building which includes a wastewater treatment & effluent disposal system, the Applicant shall submit for Council approval a TP58 Report prepared by a suitably qualified engineer or an approved TP58 Report Writer. The report shall identify a suitable method of wastewater treatment for the proposed development along with an identified effluent disposal area plus a reserve disposal area. The report shall confirm that all of the treatment & disposal system can be fully contained within the lot boundary and comply with the Northland Regional Council Regional Plan (or successor).

iii. In conjunction with the construction of any dwelling, an attenuation device with an overflow limit run-off from the site to the pre-development levels is to be provided. Attenuation shall be provided for rainfall events up to the 10% AEP including a 20% allowance for climate change. Where downstream flooding exist flood protection for the 1% AEP event shall be provided. The consent holder is to provide the design details of the system to Council for approval prior to installation. The tank shall be installed prior to the Code of Compliance being issued for the proposed dwelling.

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iv. In conjunction with the construction of any dwelling and in addition to a potable water supply, a water collection system with sufficient supply for firefighting purposes is to be provided by way of tank or other approved means and to be positioned so that it is safely accessible for this purpose. These provisions will be in accordance with the New Zealand Fire Fighting Water Supply Code of Practice SNZ PAS 4509.

v. All buildings and structures on the lot shall be located within the building envelope identified on the Survey Plan as area 'T'.

SIGNED:

Ms Nicola Cowley - Authorised Officer
By the FAR NORTH DISTRICT COUNCIL
Under delegated authority:
PRINCIPAL PLANNER – RESOURCE CONSENTS

DATED at **KERIKERI** this 30th day of October 2025