Far North District Council

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Kaikohe 0440, New Zealand
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Email: ask.us@fndc.govt.nz
Website: www.fndc.govt.nz

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

2. Type of Consent being applied for (more than one circle can be ticked):

⊗ Land Use O Fast Track Land Use* O Subdivision O Discharge

O Extension of time (s.125) O Change of conditions (s.127) O Change of Consent Notice (s.221(3))

O Consent under National Environmental Standard (e.g. Assessing and Managing Contaminants in Soil)

O Other (please specify) _____

***The fast track for simple land use consents is restricted to consents with a controlled activity status and requires you provide an electronic address for service.**

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

Yes / No

4. Applicant Details:

Name/s: Sarah-Lyn Day

Electronic Address for Service (E-mail): [redacted]

Phone Numbers:

Postal Address: (*or* alternative method of service under section 352 of the Act)

_____ Post Code: _____

5. Address for Correspondence: *Name and address for service and correspondence (if using an Agent write their details here).*

Name/s: Bay of Islands Planning

Electronic Address for Service (E-mail): [redacted]

Phone Numbers:

Postal Address: (*or* alternative method of service under section 352 of the Act)

_____ Post Code: _____

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

6. 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: Sarah-Lyn Day

Property Address/: Location 66 Reinga Rd, Kerikeri

7. Application Site Details:

Location and/or Property Street Address of the proposed activity:

Site Address/ Location: 7 The Lakes Drive
Waipapa

Legal Description: Lot 2 DP 544271 Val Number:

Certificate of Title: 921483

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

Site Visit Requirements:

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

Is there a dog on the property? Yes / No

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

Please contact the applicant prior to visiting the site

8. Description of the Proposal:

Please enter a brief description of the proposal here. Attach a detailed description of the proposed activity and drawings (to a recognized scale, e.g. 1:100) to illustrate your proposal. Please refer to Chapter 4 of the District Plan, and Guidance Notes, for further details of information requirements.

Residential unit

If this is an application for an Extension of Time (s.125); Change of Consent Conditions (s.127) or 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) or extension being sought, with reasons for requesting them.

9. Would you like to request Public Notification

Yes/No

10. Other Consent required/being applied for under different legislation (more than one circle can be ticked):

O Building Consent (BC ref # if known)

O Regional Council Consent (ref # if known)

O National Environmental Standard consent

O Other (please specify)

11. 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 (further information in regard to this NES is available on the Council's planning web pages):

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)

O yes Ⓧ no O don't know

Is the proposed activity an activity covered by the NES? (If the activity is any of the activities listed below, then you need to tick the 'yes' circle).

O yes Ⓧ no O don't know

O Subdividing land

O Changing the use of a piece of land

O Disturbing, removing or sampling soil

O Removing or replacing a fuel storage system

12. 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.

Please attach your AEE to this application.

13. 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 all names in full) _____

Email: _____

Postal Address: _____

_____

_____ Post Code: _____

Phone Numbers: Work: _____ Home: _____ Fax: _____

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

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

Name: _____ (please print)

Signature: _____ (signature of bill payer – **mandatory**) Date: _____

14. 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.

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

Name:_____(please print)

Signature:_____(signature) Date: _____

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

Checklist (please tick if information is provided)

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

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

Only one copy of an application is required, but please note for copying and scanning purposes, documentation should be:

UNBOUND **SINGLE SIDED** **NO LARGER THAN A3 in SIZE**

10. Other Consent required/being applied for under different legislation (more than one circle can be ticked):

O Building Consent (BC ref # if known)

O Regional Council Consent (ref # if known)

O National Environmental Standard consent

O Other (please specify)

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

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O yes ⊗ no O don't know

Is the proposed activity an activity covered by the NES? (If the activity is any of the activities listed below, then you need to tick the 'yes' circle).

O yes ⊗ no O don't know

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Please attach your AEE to this application.

13. 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 all names in full) Sarah-Lyn Day

Email: [redacted]

Postal Address: [redacted]

Phone Numbers: [redacted]

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

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Name: Sarah-Lyn Day (please print)

Signature: [redacted] (signature of bill payer – **mandatory**) Date: 10/07/24

BAY OF ISLANDS PLANNING (2022) LIMITED

Kerikeri House
Suite 3, 88 Kerikeri Road
Kerikeri

office@bayplan.co.nz Website - www.bayplan.co.nz

16 July 2024

Far North District Council
John Butler Centre
Kerikeri

Dear Team Leaders,

Re: Proposed dwelling – 7 The Lakes Drive, Kerikeri

Our client Sarah-Lyn Day is seeking a resource consent to build a dwelling on a vacant lot at 7 The Lakes Drive. The site is zoned Rural Living within the operative Far North District Plan (**ODP**), and Rural Residential under the Proposed Far North District Plan (**PDP**). Resource consent is required to accommodate the dwelling and access.

The application is a **discretionary activity** under the ODP and requires resource consent in respect of Stormwater Management. We attach information required to be included in this application by the relevant statutory documents as follows:

- Appendix A – Record of Titles & Relevant Instruments
- Appendix B – Application Plans & Elevations (Platinum Homes)
- Appendix C – Stormwater Mitigation Report (Wilton Joubert Consulting Engineers)
- Appendix D – 2190673 RMAVAR/A Subdivision Suitability Report
- Appendix E – Stormwater mitigation email

Please do not hesitate to contact me should you require any further information.

Yours sincerely,

Andrew McPhee
Consultant Planner

1. Introduction

The applicant is seeking a land use consent to construct a dwelling on their property at 7 The Lakes Drive in Kerikeri. The site is legally described as Lot 2 DP 544271 and comprises a land area of 3,000m^2. A copy of the relevant Records of Title is attached at **Appendix A.**

2. Site Description

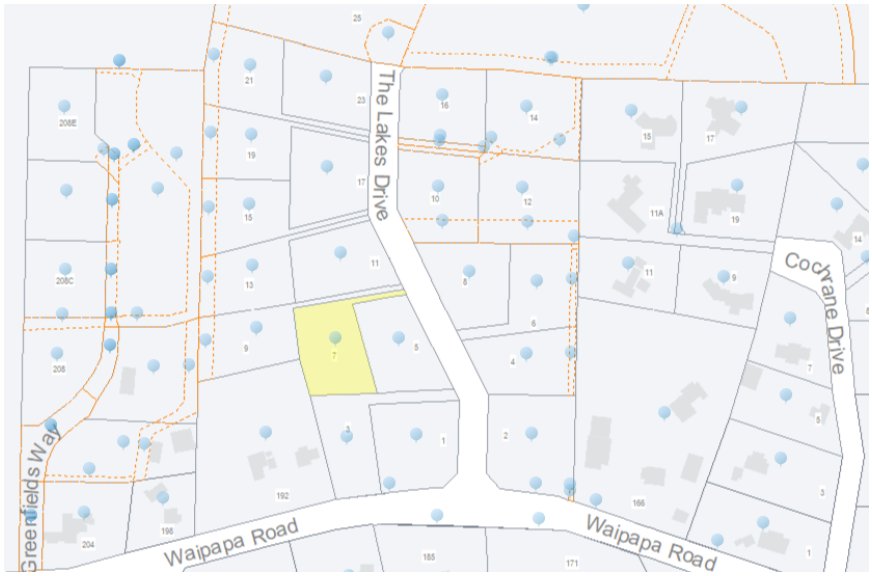


Figure 1 – Site (Source: Prover)

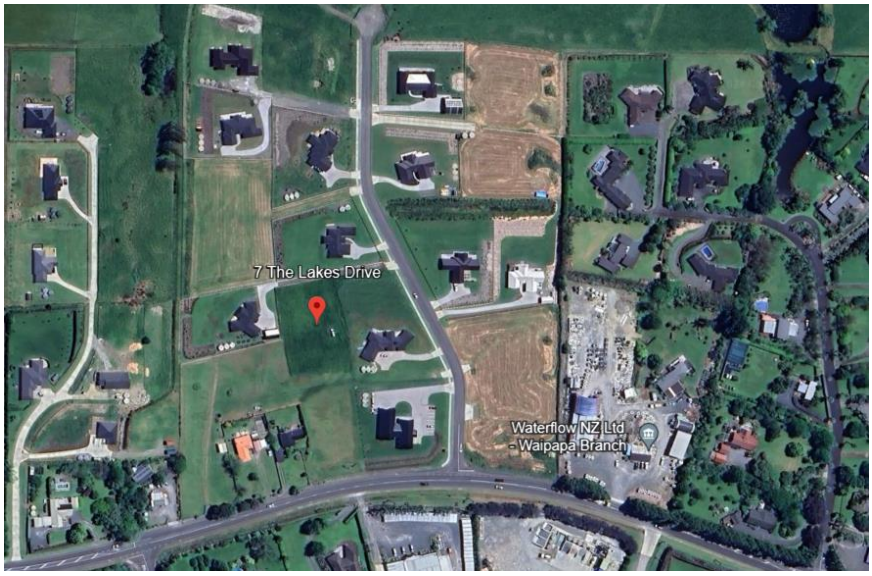


Figure 2 – Site Aerial (Source: Google Earth)

The site is located on the western side of The Lakes Drive, with the access approximately 140 metres north

of Waipapa Road. The site comprises a total land area of 3,000m^2, is vacant and can be described as level.

The site is grass covered, vacant and bordered by like sized properties that were part of a recent subdivision. A number of the properties subject to the subdivision have been constructed, as can be seen from the aerial in Figure 2.

The site is not considered a HAIL site and is described as High Producing Exotic Grassland in the Councils database. In any case, the recent subdivision that created this and the surrounding sites would have been subject to HAIL consideration and no consent notices have been applied to the titles.

The site is subject to River Flood Hazards (100 year ARI event). The extent of the flooding does not implicate any built development proposed via this application.

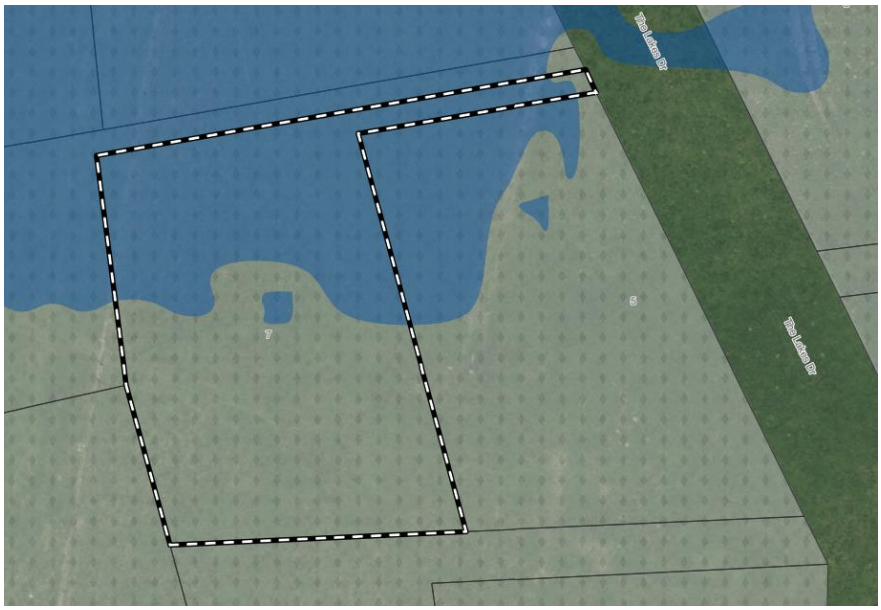


Figure 3 – River Flood Hazard (Source: PDP Maps)

Far North Maps indicates that soil types are of high versatile value (LUC 3s2), however the site was part of a wider subdivision application creating small lifestyle sites with the intension of more intensive development rather than rural production activities. The National Policy Statement for Highly Productive Land does not apply to the Rural Living zone.

3. Record of Title, Consent Notices and Land Covenants

The site Record of Title is attached at **Appendix A**. The following consent notices apply:

8327490.5

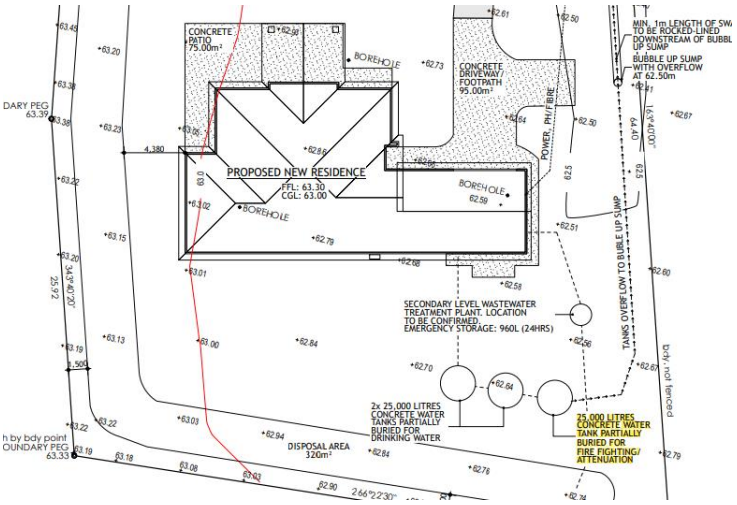
- Condition i. requires the provision of a formed double width sealed entrance to right of way easement 'A' complying with the Councils Engineering Standard FNDC/S/6C and in addition provide a formed

and metalled access on right of way 'A' to 5 metres finished carriageway width for a minimum distance of 30 metres from the road frontage boundary.
This condition applied to the former subdivision consent in respect of access from Waiapa Road. The Lakes Drive has since been created satisfying this condition of consent.

- Condition ii. States that wastewater treatment will be subject to a TP58 report submitted in conjunction with any Building Consent Application.
  A TP58 will be supplied with building consent addressing wastewater for the site.

12100861.3

- Condition ii. Requires in addition to water supply, a water collection system with sufficient supply for firefighting purposes by way of a tank or other approved means that is safely accessible for this purpose and in accordance with SNZ PAS 4509.
  The subject site will have a dedicated 25,000l tank for firefighting purpose.



- Condition iii. In accordance with the condition, it be addressed with the building consent application.
- Condition iv. Requires a stormwater management report prepared by a suitably qualified practitioner. While this condition can be addressed at building consent, a Stormwater Mitigation Report has been prepared to support this application in **Appendix C.** It is noted that the author of the Stormwater Mitigation Report does not consider that the design methodology used for the consent notice is one currently accepted by Council and has provided an alternative (see correspondence in **Appendix E**).
- Condition v. In accordance with the condition, it can be addressed with the building consent application.
- Condition vi. In accordance with the condition, it can be addressed at the time of development.

4. Description of the Proposal

The applicant proposes to construct a single storey four-bedroom dwelling on their vacant land. The proposed dwelling will be in accordance with the site layout, floor plan and elevations prepared by Platinum Homes and attached at **Appendix B**.

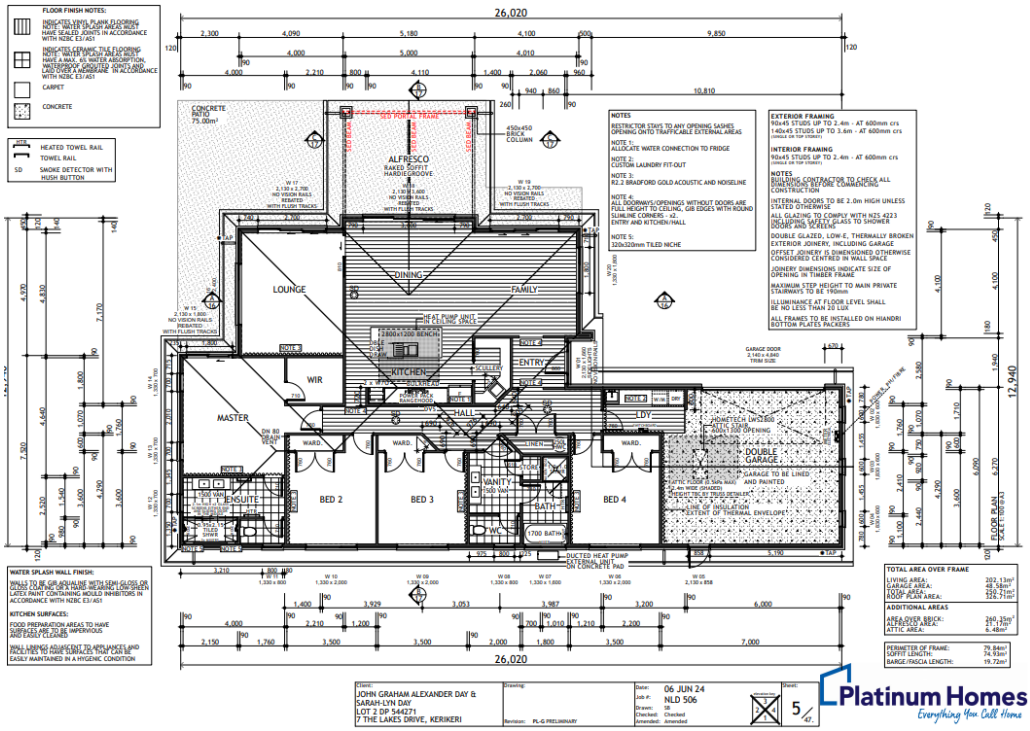


Figure 4 - Proposed floor plan (Source: Platinum Homes)

The total impermeable areas on the property would be 655.19m^2 or 21.8% of the site area. Total building coverage area would comprise 284.50m^2 or 9.48% of the site area.

A 207m^2 metal driveway and a 95m^2 concrete driveway/footpath will provide access to the proposed dwelling.

There are connections for electricity, telecommunications and internet at the boundary of the site.

Stormwater from the roof area will be directed to the three 25,000 litre water tanks located south of the proposed dwelling. Two of these water tanks will be utilised for drinking water, while the third tank will be used for firefighting purposes and attenuation.

The wastewater will be connected to a secondary level wastewater treatment plant. This is indicatively shown southeast of the proposed dwelling, with the disposal field bordering the southern and western boundaries. An effluent reserve area is also shown on the northern boundary. The precise location and details of the wastewater plant will be provided at the time of building consent.

Proposed earthworks include a cut/fill volume of 263m^3 which is within the permitted limits for this zone.

5. Reasons for Consent

1. The Far North District Plan zones the site **Rural Living Zone (RLZ)**. There are no other identified Resource

Features apart from being within a Kiwi 'Present' area.

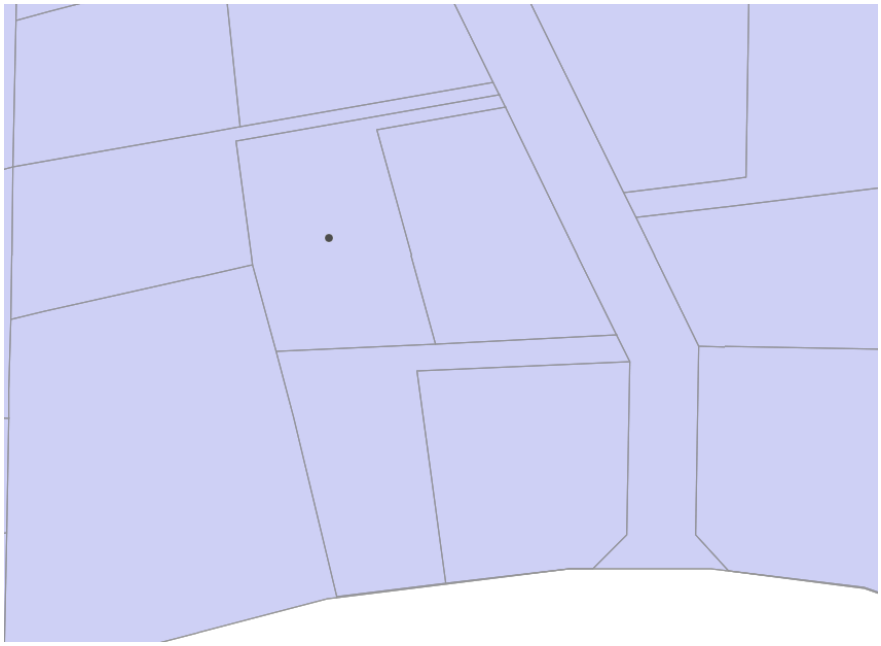


Figure 5 – ODP Map – Rural Living zone (Source: Far North Maps)

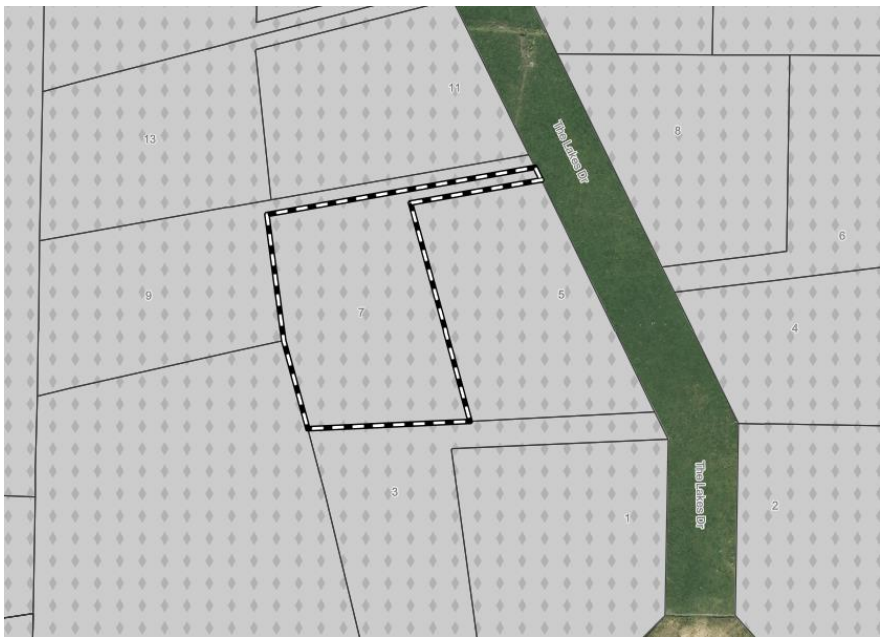


Figure 6 – PDP Map – Rural Residential zone (Source: PDP Maps)

The following tables set out the applicable permitted development standards for the RLZ and District Wide performance standards. Table 1 and 2 identifies the applicable rules and provides comment on compliance with those rules. An assessment against the PDP rules with immediate legal effect have also been provided (Table 3).

Table 1 – Rural Living Zone – Performance Standards

	RURAL LIVING ZONE STANDARDS	
Rule #	**PERMITTED STANDARDS**	**PERFORMANCE/COMMENTS**
8.7.5.1.1 Residential Intensity	One residential unit per site or 4,000m^2. Rule does not apply to sites created by subdivision, where all other standards for permitted activities are complied with.	The proposal is for one dwelling created on a site via subdivision but breaches the stormwater management permitted standard. ***Discretionary***
8.7.5.1.2 Scale of Activities	**Scale of Activities**: The total number of people engaged at any one period of time in activities on a site, including employees and persons making use of any facilities, but excluding people who normally reside on the site or are members of the household shall not exceed 1 person per 1,000m2 of net site area.	The proposal is for a dwelling, those residing on site are excluded from this rule. **Complies**
8.7.5.1.3	**Building Height**: Maximum height 9 metres.	The proposed single story dwelling will not exceed the permitted height standard. **Complies**
8.7.5.1.4 Sunlight	**Permitted** - No part of any building shall project beyond a 45-degree recession plane as measured inwards from any point 2m vertically above ground level on any site boundary.	The proposed dwelling will not be within the sunlight recession plane in relation to any of the boundaries. **Complies**
8.7.5.1.5 Stormwater Management	**Permitted** - Maximum of 12.5% of the total site area. **Controlled -** Maximum of 20% of the total site area.	Total Impermeable surfaces on the site will be 655.19m^2 or 21.8%. ***Discretionary***
8.7.5.1.6	**Setback from boundaries**: no building within 3m of boundary with various specified exceptions.	The proposed dwelling is not within 3m from any of the site boundaries. **Complies**
8.7.5.1.7	**Screening for Neighbours – Non-Residential Activities** **Permitted -** Except along boundaries adjoining a Commercial or Industrial zone, outdoor areas providing for activities such as parking, loading, outdoor storage and other outdoor activities associated with non-residential activities on the site shall be screened from adjoining sites by landscaping, wall/s, close boarded fence/s or trellis/es or a combination thereof. They shall be of a height sufficient to wholly or substantially separate these areas from the view of neighbouring properties. Structures shall be at least 1.8m in height, but no higher than 2.0m, along the length of the outdoor area. Where such screening is by way of landscaping it shall be a strip of vegetation which has or will attain a minimum height of 1.8m for a minimum depth of 2m	**N/A**

	RURAL LIVING ZONE STANDARDS	
Rule #	**PERMITTED STANDARDS**	**PERFORMANCE/COMMENTS**
8.7.5.1.9	**Hours of Operation - Non-Residential Activities** **Permitted –** (a) The maximum number of hours the activity shall be open to visitors, clients or deliveries shall be 50 hours per week; and (b) Hours of operation shall be limited to between the hours: 0700 - 2000 Monday to Friday 0800 - 2000 Saturday, Sunday and Public Holidays Provided that this rule does not apply: (i) where the entire activity is located within a building; and (ii) where each person engaged in the activity outside the above hours resides permanently on the site; and (iii) where there are no visitors, clients or deliveries to or from the site outside the above hours. Exemptions: This rule does not apply to activities that have a predominantly residential function such as lodges, motels and homestays.	**N/A**
8.7.5.1.10	**Keeping of Animals**	**N/A**
8.7.5.1.11	**Noise**: noise at or within boundary of any other site in the zone not to exceed specified limits.	Residential activity. **Complies**
8.7.5.1.12	**Helicopter Landings Area**	**N/A**
8.7.5.1.13	**Building Coverage:** **Permitted -** Any new building or alteration/addition to an existing building is a permitted activity if the total Building Coverage of a site does not exceed 10% or 2,400m2, whichever is the lesser, of the gross site area.	The proposed building coverage is 284.50m^2 or 9.48%. **Complies**

Table 2 – District Wide Performance Standards

	PART 3 – DISTRICT WIDE STANDARDS	
Rule #	**STANDARDS**	**PERFORMANCE/COMMENTS**
Chapter 12 – Natural and Physical Resources		
12.1 Landscape & Natural Features	**12.1.6.1.1 Protection of Outstanding Landscape Features** **12.1.6.1.2 Indigenous Vegetation Clearance in Outstanding landscapes** **12.1.6.1.3 Tree Planting in Outstanding Landscapes** **12.1.6.1.4 Excavation and/or filling within an outstanding landscape** **12.1.6.1.5 Buildings within outstanding landscapes** **12.1.6.1.6 Utility Services in Outstanding Landscapes**	**N/A**

	PART 3 – DISTRICT WIDE STANDARDS	
Rule #	**STANDARDS**	**PERFORMANCE/COMMENTS**
12.2 Indigenous Flora and Fauna	**12.2.6.1.1** Indigenous Vegetation Clearance Permitted Throughout the District **12.2.6.1.2** Indigenous Vegetation Clearance in the rural Production and Minerals Zones **12.2.6.1.3** Indigenous Vegetation Clearance in the General Coastal Zone **12.2.6.1.4** Indigenous Vegetation Clearance in Other Zones	**N\A**
12.3 Earthworks	**12.3.6.1.2 Excavation and/or filling, excluding mining and quarrying, on any site in the Rural Living, Coastal Living, South Kerikeri Inlet Zone, General Coastal, Recreational Activities, Conservation, Waimate North and Point Veronica Zones** **Permitted** – Maximum of 300m^3 within a 12-month period and cannot be higher than 1.5m cut or fill.	263m^3 of earthworks are required. Cut and Fill faces will be less than the permitted maximum. **Complies**
12.4 Natural Hazards	**12.4.6.1.1** Coastal Hazard 2 Area **12.4.6.1.2** Fire Risk to Residential Units	**N/A**
12.5 Heritage	**12.5.6.1.1** Notable Trees **12.5.6.1.2** Alterations to/and maintenance of historic sites, buildings and objects **12.5.6.1.3** Registered Archaeological Sites	**N/A**
12.5A Heritage Precincts	There are no Heritage Precincts that apply to the site.	**N/A**
12.6 Air	Not applicable	**N/A**
12.7 Lakes, Rivers, Wetlands and the Coastline	**12.7.6.1.1** Setback from lakes, rivers and the coastal marine area **12.7.6.1.2** Setback from smaller lakes, rivers and wetlands **Permitted =** for rivers minimum setback of 10 x the average width of the river where it passes through or past the site provided that the minimum setback is 10m and the maximum is no more than minimum required by R**ule 12.7.6.1.1** **12.7.6.1.3** Preservation of indigenous wetlands **12.7.6.1.4** Land Use Activities involving the Discharges of Human Sewage Effluent **12.7.6.1.5** Motorised Craft **12.7.6.1.6** Noise	**N/A** **N/A** **N/A** **N/A** **N/A** **N/A**
12.8 Hazardous Substances		**N/A**
12.9 Renewable Energy and Energy Efficiency		**N/A**
Chapter 15 – Traffic, Parking and Access		

	PART 3 – DISTRICT WIDE STANDARDS	
Rule #	**STANDARDS**	**PERFORMANCE/COMMENTS**
15.1.6A.2.1 Traffic Intensity	**15.1.6A Maximum Daily One Way Traffic Movements** **Rural Living** **Permitted** – 20	The first residential unit on a site is exempt from this rule **Complies**
15.1.6B Parking	**15.1.6B.1.1 On-site Car Parking Spaces:** **Permitted –** 2 per residential unit	The double garage and concrete driveway can accommodate more than 2 vehicles. **Complies**
15.1.6C.1.1 Vehicle Access	Private Accessway in all zones **Permitted –** 3m wide carriageway	The access off The Lakes Drive is 3.91m wide constructed in accordance with these standards. **Complies**
15.1.6C.1.5 Vehicle Crossing	Vehicle Crossing Standards in Rural and Coastal Zone	The existing crossing is constructed in accordance with these standards. **Complies**
15.1.6C.1.7 General Access Standards	General Access Standards	The existing access can meet the required standards. **Complies**

In terms of the ODP the application falls to be considered as a Discretionary Activity in accordance with Section 104A of the Resource Management Act 1991 (RMA).

Table 3 – PDP performance standards with immediate legal effect

Proposed District Plan				
Matter	**Rule/Std Ref**	**Relevance**	**Compliance**	**Evidence**
Hazardous Substances Majority of rules relates to development within a site that has heritage or cultural items scheduled and mapped however Rule HS-R6 applies to any development within an SNA – which is not mapped	Rule HS-R2 has immediate legal effect but only for a new significant hazardous facility located within a scheduled site and area of significance to Māori, significant natural area or a scheduled heritage resource HS-R5, HS-R6, HS-R9	N/A		Not relevant as no such substances proposed.
Heritage Area Overlays (Property specific) This chapter applies only to properties within identified heritage area overlays (e.g. in the	All rules have immediate legal effect (HA-R1 to HA-R14) All standards have immediate legal effect (HA-S1 to HA-S3)	N/A		Not indicated on Far North Proposed District Plan

operative plan they are called precincts for example)				
Historic Heritage (Property specific and applies to adjoining sites (if the boundary is within 20m of an identified heritage item)). Rule HH-R5 Earthworks within 20m of a scheduled heritage resource. Heritage resources are shown as a historic item on the maps) This chapter applies to scheduled heritage resources – which are called heritage items in the map legend	All rules have immediate legal effect (HH-R1 to HH-R10) Schedule 2 has immediate legal effect	N/A		Not indicated on Far North Proposed District Plan
Notable Trees (Property specific) Applied when a property is showing a scheduled notable tree in the map	All rules have immediate legal effect (NT-R1 to NT-R9) All standards have legal effect (NT-S1 to NT-S2) Schedule 1 has immediate legal effect	N/A		Not indicated on Far North Proposed District Plan
Sites and Areas of Significance to Māori (Property specific) Applied when a property is showing a site / area of significance to Maori in the map or within the Te Oneroa-a Tohe Beach Management Area (in the operative plan they are called site of cultural significance to Maori)	All rules have immediate legal effect (SASM-R1 to SASM-R7) Schedule 3 has immediate legal effect	N/A		Not indicated on Far North Proposed District Plan
Ecosystems and Indigenous Biodiversity SNA are not mapped – will need to determine if indigenous vegetation on the site for example	All rules have immediate legal effect (IB-R1 to IB-R5)	N/A		Not indicated on Far North Proposed District Plan. No vegetation clearance proposed.
Activities on the Surface of Water	All rules have immediate legal effect (ASW-R1 to ASW-R4)	N/A		Not indicated on Far North Proposed District Plan
Earthworks all earthworks (refer to new definition) need to comply with this	The following rules have immediate legal effect: EW-R12, EW-R13 The following standards	Yes	Complies	Proposed earthworks will be in accordance with the relevant standards

	have immediate legal effect: EW-S3, EW-S5			including GD-05 and will have an ADP applied.
Signs (Property specific) as rules only relate to situations where a sign is on a scheduled heritage resource (heritage item), or within the Kororareka Russell or Kerikeri Heritage Areas	The following rules have immediate legal effect: SIGN-R9, SIGN-R10 All standards have immediate legal effect but only for signs on or attached to a scheduled heritage resource or heritage area	N/A		Not indicated on Far North Proposed District Plan
Orongo Bay Zone (Property specific as rule relates to a zone only)	Rule OBZ-R14 has partial immediate legal effect because RD-1(5) relates to water	N/A		Not indicated on Far North Proposed District Plan
Comments:				
No consents are required under the PDP.				

Overall, the application would fall to be considered as a **Discretionary Activity**.

6. Statutory Considerations

Section 104B of the RMA governs the determination of applications for discretionary activities:

104B Determination of applications for discretionary or non-complying activities

After considering an application for a resource consent for a discretionary activity or non-complying activity, a consent authority—

(a) may grant or refuse the application; and

(b) if it grants the application, may impose conditions under section 108.

Council may grant or refuse an application for a Discretionary Activity. Where an application is granted consent, Council may impose conditions.

Section 104 of the RMA sets out matters to be considered when assessing an application for a resource consent.

104 Consideration of applications

(1) When considering an application for a resource consent and any submissions received, the consent authority must, subject to Part 2 and section 77M, have regard to–

(a) any actual and potential effects on the environment of allowing the activity; and

(ab) any measure proposed or agreed to by the applicant for the purpose of ensuring positive effects on the environment to offset or compensate for any adverse effects on the environment that will or may result from allowing the activity; and

(b) any relevant provisions of—

(i) a national environmental standard:

(ii) other regulations:

(iii) a national policy statement:

(iv) a New Zealand coastal policy statement:

(v) a regional policy statement or proposed regional policy statement:

(vi) a plan or proposed plan; and

(c) any other matter the consent authority considers relevant and reasonably necessary to determine the application.

In the determination of this application, those considerations include the actual and potential effects of an activity on the environment, the relevant provisions of the Northland Regional Policy Statement (or other relevant statutory document), the Far North District Plan and any other matter the consent authority considers relevant and reasonably necessary to determine the application.

The following assessment addresses all of the relevant considerations under s104 of the RMA.

Assessment of Effects on The Environment

The RMA (section 3) meaning of effect includes:

3 Meaning of effect

In this Act, unless the context otherwise requires, the term **effect** includes—

(a) any positive or adverse effect; and

(b) any temporary or permanent effect; and

(c) any past, present, or future effect; and

(d) any cumulative effect which arises over time or in combination with other effects—

regardless of the scale, intensity, duration, or frequency of the effect, and also includes—

(e) any potential effect of high probability; and

(f) any potential effect of low probability which has a high potential impact.

Section 104(2) of the RMA states that:

> *"when forming an opinion for the purposes of subsection (1)(a), a consent authority may disregard an adverse effect of the activity on the environment if a national environmental standard or the plan permits an activity with that effect."*

This is referred to as the "permitted baseline", which is based on the permitted performance standards and development controls that form part of a district plan. For an effects-based plan such as the Far North District Plan where specified activities are not regulated, determining the permitted baseline is a useful

tool for determining a threshold of effects that are enabled by the zone.

Ordinarily the placement of dwelling on a site created under the subdivision controls in the ODP is a permitted activity regardless of the size of the site under the residential intensity rule. Due to the size of the site, which was approved and granted through resource consent, the dwelling and access coverage cannot fit within the permitted threshold for stormwater management, which in turn makes the residential intensity breach a discretionary activity also.

The focus of this assessment is on addressing the matters directly related to the rules in the ODP regarding the single level dwelling placed on a legally established site in the RLZ, which in this instance is principally a breach to stormwater management. A brief overview of the degree to which this achieves the objectives and policies of the Northland Regional Policy Statement, ODP and PDP is also provided.

Positive effects

The applicant will benefit from the positive effects of being able to build a dwelling on their property which can be used for personal purposes or accommodation.

Residential Intensity effects

As identified earlier in the report, the residential intensity rule breach is due to the stormwater breach on the property. Ordinarily a dwelling can be located on a property that has been created via subdivision as permitted activity in the RLZ. Given the size of the site and the need to locate the dwelling outside of the flood affected area, impermeable surfaces breach the permitted and controlled thresholds in the ODP. A single-story dwelling is anticipated on the site, is commensurate with those surrounding the property and is not considered to incur any adverse effects in terms of residential intensity.

Stormwater Management effects

A comprehensive Stormwater Mitigation Report has been prepared by Wilton Joubert and supplied in **Appendix C**. The mitigation report has been prepared in accordance with:

- The Far North District Council Engineering Standards 2023
- The operative Far North District Council District Plan
- Clause E1 of the New Zealand Bvuilding Code

The report concludes, provided that the recommendations within this report are adhered to, the effects of stormwater runoff resulting from the unattenuated proposed / existing impermeable surfaces (375m^2 total) are considered to have **less than minor effects on the receiving environment**, equivalent to conditions that would result from development proposals falling within the Permitted Activity coverage threshold. An assessment of effects is provided in the Stormwater Mitigation report addressing matters (a) through (m) of Section 11.3 of the ODP.

NOTE: While a requirement at building consent stage, Condition iv of consent notice 12100861.3 requires any development requiring building consent to be accompanied by a Stormwater Management Report prepared in accordance with the 'Stormwater Management and Attenuation Report' provided in condition 3(a) of RC2190163. A copy of RC2190163 is not located within the property file. The report attached at

Appendix D *(Subdivision Suitability Report) was prepared to satisfy condition 3(a) referenced in the aforementioned consent notice. Commentary from the author of the Stormwater Mitigation Report in Appendix C states that the design methodology used in the report is not one accepted by FNDC (see* ***Appendix E****).*

Effects Conclusion

The site at 7 The Lakes Drive is 3,000m^2 and was created to accommodate a dwelling. The permitted standard for stormwater management on this site is 375m^2, which needs to accommodate all impervious surfaces, including the dwelling and access. A breach of this nature is not uncommon for sites approved under discretionary subdivision standards in the ODP. A stormwater mitigation report has been prepared to support the application (see **Appendix C**) and concludes that the effects will be less than minor. There are not considered to be effects in terms of residential intensity as the site anticipates a dwelling commensurate with that being proposed.

Statutory Plan Considerations

A National Policy Statement

There are no national policy statements that are directly relevant to this application.

National Environmental Standards

The site is not considered a HAIL site as it has not been used for activities associated with contamination. The HAIL assessment would have also been undertaken as part of the subdivision consent which created the site, therefore the National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health does not apply.

The National Environmental Standard for Freshwater does not apply to this proposal as there are no natural wetlands or other related features on or near this site.

New Zealand Coastal Policy Statement

The New Zealand Coastal Policy Statement is not relevant to this application.

A Regional Policy Statement

The subject site is within the Northland region and is subject to the governing objectives and policies of the operative Northland Regional Policy Statement (RPS), operative May 2016. Although the jurisdiction for land use and subdivision activities is governed by the Far North District Council and the policy framework for land use activities and the management of potential adverse effects is set out in the ODP.

The ODP is subject to the governing regional policy framework set out in the RPS. With respect to any identified features, the site is not within any area of 'High' or 'Outstanding' Natural Area, or the Coastal Environment boundary. Considering the above, the following table considers the relevant objectives and policies.

Table 4 – RPS Assessment

REGIONAL POLICY STATEMENT FOR NORTHLAND		PERFORMANCE OF PROPOSAL
OBJECTIVES & POLICIES		
3.1, 4.1-4.8	Integrated Catchment Management	The proposal considers the wider stormwater catchment and proposes appropriate mitigation measures from the increase of stormwater from the site.
3.2, 5.1-5.4	Region Wide Water Quality	Similar to the above, the proposal includes stormwater quality measures as outlined in the Stormwater Mitigation Report.
3.3	Ecological Flows	No water take is proposed as part of the application.
3.4	Indigenous Ecosystems and Biodiversity	The site is within a kiwi present area. The reclusion of cats and dogs is not considered relevant for this application and has not been provided as a consent condition for the wider subdivision.
3.5	Enabling Economic Wellbeing	The proposal provides for a dwelling on a site created for residential lifestyle purposes.
3.6	Economic Activities – Reverse Sensitivity and Sterilisation	The proposal provides for a dwelling on a site created for residential lifestyle purposes.
3.7	Regionally Significant Infrastructure	There is no such infrastructure being affected by the proposal.
3.8, 6.1	Efficient and Effective Infrastructure	The proposal is self-sufficient in this respect.
3.9	Security of Energy Supply	The proposal will require Top Energy power use.
3.10	Use and Allocation of Common Resources	No water takes, or other takes are required.
3.11	Regional Form	The proposal provides for a dwelling on a site created for residential lifestyle purposes.
3.12, 8.1-8.3	Tangata Whenua Role in Decision Making	No issues resulted from the underlying subdivision.
3.13, 7.1-7.2	Natural Hazard Risk	The proposed dwelling is located outside the area subject to River Flood Hazards (100 year ARI event). No other risks are relevant.

REGIONAL POLICY STATEMENT FOR NORTHLAND		PERFORMANCE OF PROPOSAL
3.14	Natural Character, ONF, ONL and Historic Heritage	No such features exist on the site.
3.15	Active Management	The proposal provides for a dwelling on a site created for residential lifestyle purposes.

Overall, it is considered that the development proposal would not be contrary to any RPS objective or policy and can be managed adequately by the ODP.

A Plan or Proposed Plan

The objectives and policies in the ODP that are relevant to this application are those related to the Rural Environment in general, and the RLZ. These are discussed as follows:

Table 5 Objectives and Policies for the Rural Environment

OBJECTIVE OR POLICY		PERFORMANCE OF PROPOSAL
OBJECTIVES		
8.3.1	To promote the sustainable management of natural and physical resources of the rural environment while enabling activities to establish in the rural environment.	The site is currently vacant as it was recently subdivided. The proposal is for a residential building, which is anticipated on the site. There are no productive rural activities within the immediate vicinity. The new site will contribute to social and economic well-being ensuing from the development and any adverse effects can be adequately managed, it is considered that sustainable management can be achieved.
8.3.2	To ensure that the life supporting capacity of soils is not compromised by inappropriate subdivision, use or development.	The site is the result of a recent subdivision in the RLZ. Therefore, the proposal is considered appropriate for this location. The life supporting capacity of the land for productive uses has already been marginalised by the existing lot sizes, approved subdivision, and the presence of surrounding residential lifestyle activities.
8.3.3	To avoid, remedy or mitigate adverse effects of activities on the rural environment.	There are no rural productive activities in the vicinity except further north of the site. The proposed dwelling will not adversely affect the existing environment given the locational characteristics of the site and the adjoining development.

OBJECTIVE OR POLICY		PERFORMANCE OF PROPOSAL
8.3.4	To protect areas of significant indigenous vegetation and significant habitats of indigenous fauna.	The site does not possess a significant vegetation/ habitat area.
8.3.5	To protect outstanding natural features and landscapes.	The area has not been classified as outstanding and does not possess any outstanding features.
8.3.6	To avoid actual and potential conflicts between land use activities in the rural environment.	The site is in an area where a mixture of land uses is occurring. Site sizes within the subdivision are smaller rural residential sized lots, the residential intensity of the proposed development is anticipated and considered to be appropriate within this location.
8.3.7	To promote the amenity values of the rural environment.	This application is within the RLZ which anticipates and provides for residential lifestyle development commensurate with that being proposed.
8.3.8	To facilitate the sustainable management of natural and physical resources in an integrated way to achieve superior outcomes to more traditional forms of subdivision, use and development through management plans and integrated development.	This proposal is not of a scale which would warrant use of such techniques.
POLICIES		
8.4.1	That activities which will contribute to the sustainable management of the natural and physical resources of the rural environment are enabled to locate in that environment.	Sustainable management of the resources of the site will be achieved as discussed under Objective 8.3.1.
8.4.2	That activities be allowed to establish within the rural environment to the extent that any adverse effects of these activities are able to be avoided, remedied or mitigated and as a result the life supporting capacity of soils and ecosystems is safeguarded.	The only potential adverse effects anticipated by the proposal are in relation to stormwater. These effects can be appropriately mitigated to a point where effects will be less than minor (see **Appendix C**).

OBJECTIVE OR POLICY		PERFORMANCE OF PROPOSAL
8.4.3	That any new infrastructure for development in rural areas be designed and operated in a way that safeguards the life supporting capacity of air, water, soil and ecosystems while protecting areas of significant indigenous vegetation and significant habitats of indigenous fauna, outstanding natural features and landscapes.	The proposed new infrastructure associated with the application has been designed to ensure safeguards for the life supporting capacity of air, water, soil, and ecosystems can be achieved.
8.4.4	That development which will maintain or enhance the amenity value of the rural environment and outstanding natural features and outstanding landscapes be enabled to locate in the rural environment.	There are no outstanding features or landscapes present on the site or in the vicinity. The amenity values of the local environment will not be diminished by the proposal. As previously mentioned, this location does not possess amenity values associated with a traditional rural environment as it has been subject to a range of development and the proposal is not out of character in this area.
8.4.5	That plan provisions encourage the avoidance of adverse effects from incompatible land uses, particularly new developments adversely affecting existing land-uses (including by constraining the existing land-uses on account of sensitivity by the new use to adverse effects from the existing use – i.e. reverse sensitivity).	The proposed dwelling is compatible with existing land uses.
8.4.6	That areas of significant indigenous vegetation and significant habitats of indigenous fauna habitat be protected as an integral part of managing the use, development and protection of the natural and physical resources of the rural environment.	These features are not identified on the property.

OBJECTIVE OR POLICY		PERFORMANCE OF PROPOSAL
8.4.7	That Plan provisions encourage the efficient use and development of natural and physical resources.	The proposal does constitute efficient use of the property in its location and zone. The proposed site is physically created and sits within a residential lifestyle zone.
8.4.8	That, when considering subdivision, use and development in the rural environment, the Council will have particular regard to ensuring that its intensity, scale and type is controlled to ensure that adverse effects on habitats (including freshwater habitats), outstanding natural features and landscapes, on the amenity value of the rural environment, and where appropriate on natural character of the coastal environment, are avoided, remedied or mitigated.	This policy is met by the proposal. The AEE has addressed these matters and has shown that the proposed scale and intensity of built development can be accommodated with less than minor adverse effects.

Table 6 Objectives and Policies for the RLZ

OBJECTIVE OR POLICY		PERFORMANCE OF PROPOSAL
OBJECTIVES		
8.7.3.1	To achieve a style of development on the urban periphery where the effects of the different types of development are compatible.	Residential lifestyle development is anticipated in the RLZ. The proposal is for a single-story dwelling on a vacant site.
8.7.3.2	To provide for low density residential development on the urban periphery, where more intense development would result in adverse effects on the rural and natural environment.	Low density residential development is being proposed by this application through the provision of a single-story dwelling on a vacant site.
8.7.3.3	To protect the special amenity values of the frontage to Kerikeri Road between SH10 and the urban edge of Kerikeri.	Not applicable.
POLICIES		

8.7.4.1	That a transition between residential and rural zones is achieved where the effects of activities in the different areas are managed to ensure compatibility.	The proposal is compatible as outlined above under objective 8.7.3.2.
8.7.4.2	That the Rural Living Zone be applied to areas where existing subdivision patterns have led to a semi-urban character but where more intensive subdivision would result in adverse effects on the rural and natural environment.	The site is commensurate with those surrounding the property and of those generally within the RLZ.
8.7.4.3	That residential activities have sufficient land associated with each household unit to provide for outdoor space, and where a reticulated sewerage system is not provided, sufficient land for onsite effluent disposal.	The site has sufficient land to provide for outdoor space.
8.7.4.4	That no limits be placed on the types of housing and forms of accommodation in the Rural Living Zone, in recognition of the diverse needs of the community.	The type of housing proposed fits the needs of the landowner.
8.7.4.5	That non-residential activities can be established within the Rural Living Zone subject to compatibility with the existing character of the environment.	Not applicable.
8.7.4.6	That home-based employment opportunities be allowed in the Rural Living Zone.	Not applicable.
8.7.4.7	That provision be made for ensuring that sites, and the buildings and activities which may locate on those sites, have adequate access to sunlight and daylight.	The proposal will not adversely affect access to sunlight and daylight on this property or those immediately adjoining.

8.7.4.8	That the scale and intensity of activities other than a single residential unit be commensurate with that which could be expected of a single residential unit.	A single residential unit is being proposed.
8.7.4.9	That activities with effects on amenity values greater than a single residential unit could be expected to have, be controlled so as to avoid, remedy or mitigate those adverse effects on adjacent activities.	A single residential unit is being proposed.
8.7.4.10	That provision be made to ensure a reasonable level of privacy for inhabitants of buildings on adjoining sites.	The proposed dwelling complies with the siting and design controls within the ODP.
8.7.4.11	That the built form of development allowed on sites with frontage to Kerikeri Road between its intersection with SH10 and Cannon Drive be maintained as small in scale, set back from the road, relatively inconspicuous and in harmony with landscape plantings and shelter belts.	Not applicable.
8.7.4.12	That the Council maintains discretion over new connections to a sewerage system to ensure treatment plant discharge quality standards are not compromised (refer to Rule 13.7.3.5).	The proposal will have on-site wastewater disposal.

Assessment of Objectives and Policies Conclusion

The proposal is consistent relevant objectives and policies considered above.

In terms of district wide matters such as those that affect biophysical elements and physical elements such as infrastructure and transport, the proposal is not impacted by biophysical characteristics that require any consideration, and from an infrastructure perspective the proposal can be serviced within its boundary with no resulting effects. The proposal is therefore consistent with the aims and intents of the ODP.

Table 7 Objectives and Policies for the Rural Residential zone (PDP)

Objectives	**Assessment**
RRZ-O1 - The Rural Residential zone is used predominantly for rural residential activities and small scale farming activities that are compatible with the rural character and amenity of the zone	The proposal is for a single dwelling on a vacant site to be used as a rural residential activity.
RRZ-O2 - The predominant character and amenity of the Rural Residential zone is maintained and enhanced, which includes: a. peri-urban scale residential activities; b. small-scale farming activities with limited buildings and structures; c. smaller lot sizes than anticipated in the Rural Production or Rural Lifestyle zones; and d. a diverse range of rural residential environments reflecting the character and amenity of the adjacent urban area.	The proposal is for a single dwelling on a vacant site to be used as a rural residential activity.
RRZ-O3 - The Rural Residential zone helps meet the demand for growth around urban centres while ensuring the ability of the land to be rezoned for urban development in the future is not compromised	The proposal is for a single dwelling on a vacant site to be used as a rural residential activity.
RRZ-O4 - Land use and subdivision in the Rural Residential zone: a. maintains rural residential character and amenity values; b. supports a range of rural residential and small-scale farming activities; and c. is managed to control any reverse sensitivity issues that may occur within the zone or at the zone interface.	The proposal is for a single dwelling on a vacant site to be used as a rural residential activity, which is anticipated and enabled by the zone. The site is surrounded by similar rural residential development, as such there are not considered to be any reverse sensitivity effects.
Policy	**Assessment**
RRZ-P1 - Enable activities that will not compromise the role, function and predominant character and amenity of the Rural Residential zone, while ensuring their design, scale and intensity is appropriate, including: a. rural residential activities; b. small-scale farming activities;	The proposal is for a single dwelling on a vacant site to be used as a rural residential activity.

c. home business activities; d. visitor accommodation; and e. small-scale education facilities.	
RRZ-P2 - Avoid activities that are incompatible with the role, function and predominant character and amenity of the Rural Residential zone including: a. activities that are contrary to the density anticipated for the Rural Residential zone; b. primary production activities, such as intensive indoor primary production or rural industry, that generate adverse amenity effects that are incompatible with rural residential activities; and c. commercial or industrial activities that are more appropriately located in an urban zone or a Settlement zone.	The proposal is for a single dwelling on a vacant site to be used as a rural residential activity which is anticipated and enabled within the zone.
RRZ-P3 - Avoid where possible, or otherwise mitigate, reverse sensitivity effects from sensitive and other non-productive activities on primary production activities in adjacent Rural Production zones and Horticulture zones.	The site is not considered to be close enough to rural production or horticulture activities to incur reverse sensitivity effects.
RRZ-P4 - Require all subdivision in the Rural Residential zone to provide the following reticulated services to the boundary: a. telecommunications: i. fibre where it is available; ii. copper where fibre is not available; iii. copper where the area is identified for future fibre deployment. b. local electricity distribution network.	Telecommunications and electricity are available at the boundary.
RRZ-P5 - Manage land use and subdivision to address the effects of the activity requiring resource consent, including (but not limited to) consideration of the following matters where relevant to the application: a. consistency with the scale and character of the rural residential environment; b. location, scale and design of buildings or structures; c. at zone interfaces: i. any setbacks, fencing, screening or landscaping required to address	The proposal is consistent with the scale and character anticipated within the RLZ. The scale and design of the building is commensurate with many four bedroom homes. The site is surrounded by Rural Residential zoned sites and complies with the zones siting and design controls. Stormwater management affects have been appropriately mitigated to ensure that any potential effects will be less than minor (see **Appendix C**).

potential conflicts; ii. the extent to which adverse effects on adjoining or surrounding sites are mitigated and internalised within the site as far as practicable; d. the capacity of the site to cater for on-site infrastructure associated with the proposed activity; e. the adequacy of roading infrastructure to service the proposed activity; f. managing natural hazards; g. any adverse effects on historic heritage and cultural values, natural features and landscapes or indigenous biodiversity; and h. any historical, spiritual, or cultural association held by tangata whenua, with regard to the matters set out in Policy TW-P6.	The proposal can cater for onsite infrastructure requirements. A single access is required and provided off The Lakes Drive. The dwelling is placed outside of the identified flooding hazard on the northern portion of the site.

Proposed Far North District Plan Objectives & Policies & Weighting

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

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

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

In my view the PDP has not gone through the sufficient process to allow a considered view of the objectives and policies for the Rural Residential Zone overlay, however this has still been provided.

The activity is considered to be consistent with the objectives and policies of both the ODP and PDP.

7. Notification Assessment (s95matters)

The Council will need to determine the basis on which the application will be processed. These include public notification, limited notification, or non-notification. Sections 95A and 95B provide a step-by-step process that Council must follow when determining whether to publicly or limited notify an application.

Public Notification (s95A)

Section 95A outlines the steps that must be followed to determine whether an application should be publicly notified.

Step 1 – Details requirements for mandatory public notification. None of these apply to the proposal.

Step 2 – Details situations where public notification is precluded (if not required under step 2). The application is for a residential activity but not a boundary activity, therefore public notification is not precluded under this step.

Step 3 – Details requirements for public notification in certain circumstances. This includes applications that are determined to be publicly notified under s95D. For this application, it is concluded that any potential adverse effects on the environment would not be more than minor.

Step 4 – Details requirements in special circumstances. It is considered that there are no special circumstances that would warrant notification.

Limited Notification (s95B)

S95B includes steps to be followed when deciding whether an application should be subject to limited notification.

Step 1 – relates to the consideration of certain affected groups and affected persons including any protected customary rights groups or affected marine title groups. There are no such groups affected by this application.

Step 2 – details requirements for limited notification where the application is for one or more activities that is precluded from limited notification by a rule or standard or is a controlled or prescribed activity. This step does not preclude this application from limited notification.

Step 3 – relates to boundary adjustments, where an owner of an infringed boundary is to be notified or a prescribed activity. Also relates to any other activity where it is required to determine if a person is an affected person in accordance with s95E. For the purpose of limited notifying an application, a person is an affected person if a consent authority decides that the activity's adverse effects on the person are minor or more than minor (but are not less than minor). It is assessed in this report that these two factors are not triggered by the application .

Step 4 – relates to requirements to notify where special circumstances exist. There are no special circumstances that would warrant limited notification of this application.

8. PART II – Resource Management Act 1991

Purpose of the RMA

The proposal can promote the sustainable management of natural and physical resources, as current and future owners and users of the land are able to provide for their social, cultural and economic wellbeing and their health and safety. The proposal will provide a single-story dwelling on a vacant site within the RLZ, which is wholly anticipated and enabled within the zone.

Development of this site will contribute to the local economy, community wellbeing, utilise local services and infrastructure for residential activities at a scale anticipated by Council. Any effects on the environment are not anticipated to be more than minor.

Matters of National Importance

The site is within a Kiwi present area. However, the proposal is not anticipated to adversely affect kiwi habit. Māori are not considered to be adversely affected by this proposal, nor is any historic heritage likely to be impacted.

Other Matters

The proposal will result in an efficient use of resources with the development occurring on the periphery the Kerikeri township within the RLZ where onsite servicing can be provided for. Amenity values will be maintained because the proposal is similar to existing activities on properties within this area. There will be no adverse impact on local ecosystems or overall.

Treaty of Waitangi

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

9. Conclusion

This application seeks a **Discretionary Activity** resource consent to undertake construction of a single-story dwelling on a vacant site within the RLZ. The assessment of effects on the environment concludes that for the reasons outlined in the application, the effects of undertaking this proposal will be less than

minor on the surrounding environment. There are considered to be no adversely affected persons.

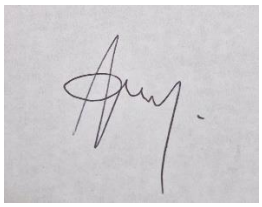
No currently gazetted National Environmental Standards or National Policy Statements including the New Zealand Coastal Policy Statement were considered to be relevant to this proposal.

The Regional Policy Statement for Northland was reviewed as part of this application. The proposal was considered to be consistent with the aims of this document.

In terms of the ODP and the PDP, the proposal was deemed to be consistent with the objectives and policies for the Rural Environment in general, the RLZ and the Rural Residential zone (PDP).

An assessment of Part II of the RMA has also been completed with the proposal able to satisfy this higher order document.

We look forward to receiving acknowledgment of the application and please advise if any additional information is required.



Andrew McPhee
Consultant Planner

RECORD OF TITLE
UNDER LAND TRANSFER ACT 2017
FREEHOLD

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

R.W. Muir
Registrar-General
of Land

Identifier **921483**

Land Registration District **North Auckland**

Date Issued 22 July 2021

Prior References
431236

Estate Fee Simple

Area 3000 square metres more or less

Legal Description Lot 2 Deposited Plan 544271

Registered Owners

John Graham Alexander Day and Sarah-Lyn Day

Interests

Appurtenant to part formerly Lot 6 DP 27219 is a right to drain water easement created by Easement Instrument 6658342.19 - 22.11.2005 at 9:00 am

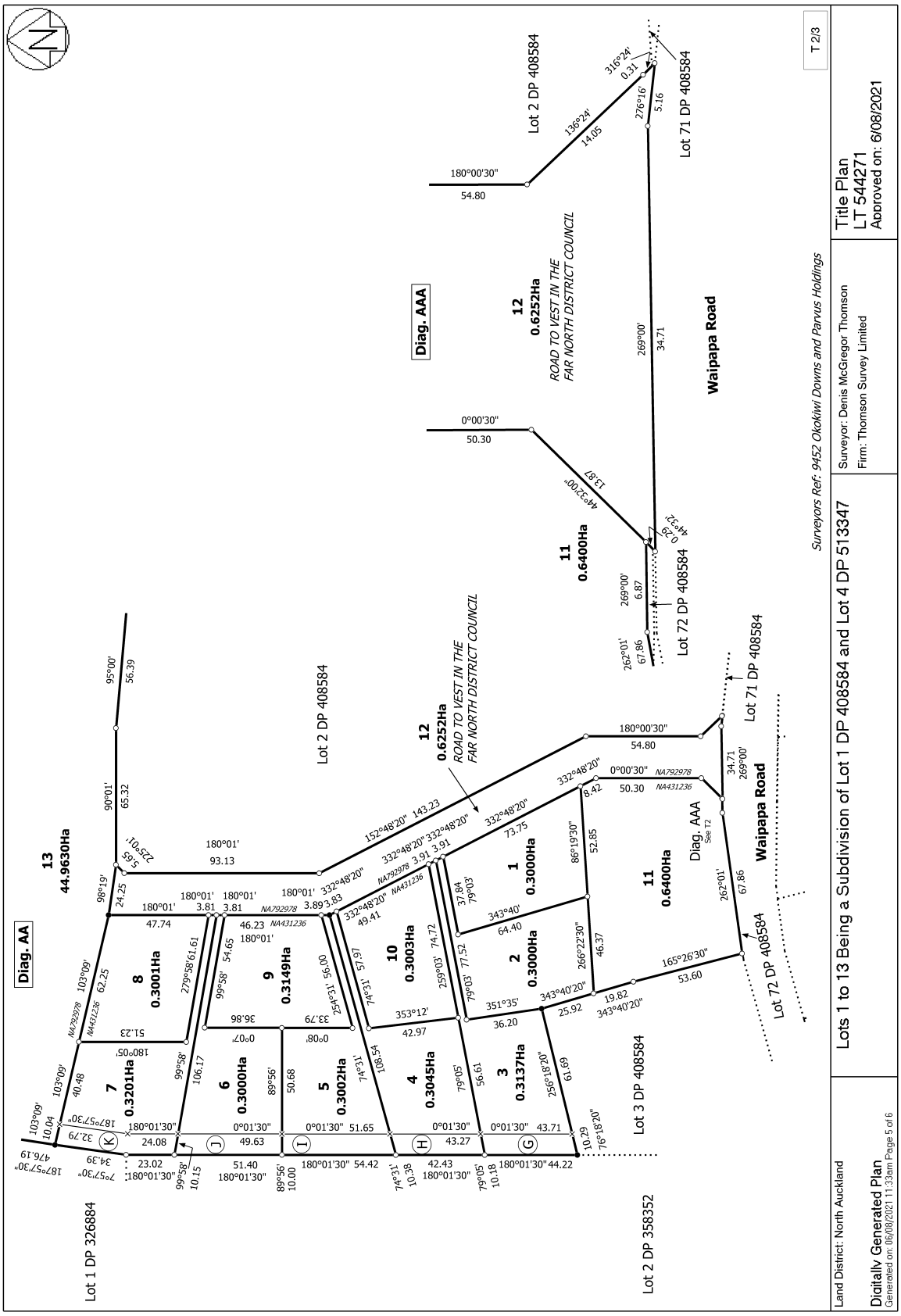
The easements created by Easement Instrument 6658342.19 are subject to Section 243 (a) Resource Management Act 1991

8327490.5 Consent Notice pursuant to Section 221 Resource Management Act 1991 - 9.12.2009 at 3:57 pm

12100861.3 Consent Notice pursuant to Section 221 Resource Management Act 1991 - 22.7.2021 at 11:53 am

Land Covenant in Covenant Instrument 12100861.4 - 22.7.2021 at 11:53 am

12856433.2 Mortgage to ANZ Bank New Zealand Limited - 31.10.2023 at 3:32 pm


Title Plan
LT 544271
Approved on: 6/08/2021
Lots 1 to 13 Being a Subdivision of Lot 1 DP 408584 and Lot 4 DP 513347
Surveyor: Denis McGregor Thomson
Firm: Thomson Survey Limited
Surveyors Ref: 9452 Okokiwi Downs and Parvus Holdings
Land District: North Auckland
Digitally Generated Plan
Generated on: 06/08/2021 11:33am Page 5 of 6
T 2/3
Waipapa Road
Diag. AA
Diag. AAA
Lot 1 DP 326884
Lot 2 DP 358352
Lot 3 DP 408584
Lot 2 DP 408584
Lot 71 DP 408584
Lot 72 DP 408584
ROAD TO VEST IN THE FAR NORTH DISTRICT COUNCIL

View Instrument Details

Instrument No	8327490.5
Status	Registered
Date & Time Lodged	09 December 2009 15:57
Lodged By	Waller, Sophia Louise
Instrument Type	Consent Notice under s221(4)(a) Resource Management Act 1991

Affected Computer Registers	Land District
431236	North Auckland
431237	North Auckland
431239	North Auckland

Annexure Schedule: Contains 1 Page.

Signature

Signed by Sophia Louise Waller as Territorial Authority Representative on 09/12/2009 02:56 PM

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

Far North District Council

Private Bag 752, Memorial Ave
Kaikohe 0400, New Zealand
Freephone: 0800 920 029
Phone: (09) 405 2750
Fax: (09) 401 2137
Email: ask.us@fndc.govt.nz
Website: www.fndc.govt.nz

THE RESOURCE MANAGEMENT ACT 1991

SECTION 221 : CONSENT NOTICE

REGARDING RC 2090021
the Subdivision of Lot 2 DP 326884 Lots 5 & 6 DP 27219 Sec 51 BLK XI Kerikeri SD
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 under each condition below.

SCHEDULE

Lots 1,2 & 4 DP 408584

i. Before any development is carried out, provide a formed double width sealed entrance to right of way easement "A" complying with the Council's Engineering Standard FNDC/S/6C and in addition provide a formed and metalled access on right of way "A" to 5 metres finished carriageway width for a minimum distance of 30 metres from the road frontage boundary."

ii. Wastewater Treatment will be subject to an Appendix E (TP58) report submitted in conjunction with any Building Consent Application

SIGNED: M A McDonald Mr M A McDonald
By the FAR NORTH DISTRICT COUNCIL
Under delegated authority:
PRINCIPAL PLANNER

DATED at **Kerikeri** this 25th day of May 2009.

View Instrument Details

Instrument No	12100861.3
Status	Registered
Date & Time Lodged	22 July 2021 11:53
Lodged By	Robb, Leah Rehutai
Instrument Type	Consent Notice under s221(4)(a) Resource Management Act 1991

Affected Records of Title	Land District
921482	North Auckland
921483	North Auckland
921484	North Auckland
921485	North Auckland
921486	North Auckland
921487	North Auckland
921488	North Auckland
921489	North Auckland
921490	North Auckland
921491	North Auckland
921492	North Auckland

Annexure Schedule Contains 2 Pages.

Signature

Signed by Emma Jane Thompson as Territorial Authority Representative on 16/08/2021 02:34 PM

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

Far North District Council

[illegible]

Te Kaunihera o Te Tai Tokerau Ki Te Raki

[illegible]

THE RESOURCE MANAGEMENT ACT 1991

SECTION 221: CONSENT NOTICE

REGARDING **RC-2190673-VAR/A**
Being the Subdivision of Lot 1 DP 408584
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 3-7 DP 544271

i. Without the prior approval of the Council, no building shall be erected, nor any earthworks be carried out which may pose an obstruction of the overland flow path located along the western boundary and as shown on the as-built drawings (attached).

Lots 1-11 DP 544271

ii. 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.

iii. Any building erected on the lot shall have foundations specifically designed by a Chartered Professional Engineer. The details of design shall be submitted in conjunction with the Building Consent application.

iv. Any development requiring building consent on the lot shall be accompanied by a Stormwater Management report prepared by a

Far North
District Council

Te Kaunihera o Tai Tokerau Ki Te Raki

suitably qualified practitioner in accordance with the 'Stormwater Management and Attenuation Report' provided in Condition 3(a) of RC2190163.

v. At time of building consent, the consent holder shall provide a landscape/ planting plan for the approval of Councils' Duly Delegated Officer. The purpose of the landscape/ planting plan is to provide amenity plantings to help mitigate the visual impact of the built development as viewed from the street and adjacent properties. Species used and location of plantings should not increase fire risk to the residential dwelling.

All approved plantings shall be implemented to the satisfaction of Councils Resource Consents Monitoring Officer or Duly Delegated Officer no later than the end of the planting season (May to September) immediately following enclosure of the building.

All approved planting shall be maintained on a continuing basis. In the event of plants failing, they shall be replaced no later than the end of the planting season (May to September) immediately following failure.

vi. Formation of individual driveways is not a condition of the subdivision consent. The formation of individual lot driveways will be the responsibility of the lot owner prior to, or at the time of development on the lots.

SIGNED: P.J. Killalea.

Mr Patrick John Killalea - Authorised Officer
By the FAR NORTH DISTRICT COUNCIL
Under delegated authority:
PRINCIPAL PLANNER – RESOURCE MANAGEMENT

DATED at **KERIKERI** this 16th day of July 2021

PROPOSED NEW RESIDENCE FOR:

JOHN GRAHAM ALEXANDER DAY & SARAH-LYN DAY
7 THE LAKES DRIVE, KERIKERI

JOB NUMBER: **NLD 506**

FRANCHISE: **PLATINUM HOMES**

NEW HOME CONSULTANT: **NIGEL TURNER**

PLAN SET INDEX **SHEET**

REVISIONS

PL-G 06 JUN 24
- AMENDMENTS FROM 19/5 ADDED

PL-F 05 JUN 24
- ISSUED FOR ENGINEER

PL-E 27 MAY 24
- ISSUED FOR TRUSS MANUFACTURER

PL-D 19 JAN 24
- AMENDMENTS AS PER RAVE COMMENTS AND ON 19/01/24

PL-C 18 JAN 24
- AMENDMENTS AS PER RAVE COMMENTS AND ON 17/01/24

PL-B 22 DEC 23
- CORRECTIONS AND AMENDMENTS AS PER RAVE COMMENTS AND EMAIL

PL-A 20 DEC 23
- ISSUED

ENGINEER DESIGNED ITEMS:

- FOUNDATION
- PFC PORTAL FRAME WITH FOUNDATION AND FIXINGS
- BEAMS 01, 02 & 03 WITH ALL THE FIXINGS

Platinum Homes
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timber fence on boundary
Datum Peg 62.80
79°03'00"
77.52
3.91
152°48'20"
waratah at bdy point
POWER BOX
Chorus Lid
The Lakes Drive
PROPOSED DISCHARGE POINT TO KERB OUTLET ON THE LAKES DRIVE. PIPE IL 62.09m
COUNCIL PERMISSION REQUIRED FOR WORKS OUTSIDE PROPERTY BOUNDARY
MIN. 1m LENGTH OF SWALE TO BE ROCKED-LINED DOWNSTREAM OF BUBBLE UP SUMP
BUBBLE UP SUMP WITH OVERFLOW
EFFLUENT RESERVE AREA 160m²
METAL DRIVEWAY 207.00m²
MIN. 200mm DEEP x 500mm WIDE GRASSED V-CHANNEL SWALE
MIN. 1m LENGTH OF SWALE TO BE ROCKED-LINED DOWNSTREAM OF BUBBLE UP SUMP
BUBBLE UP SUMP WITH OVERFLOW AT 62.50m
CONCRETE PATIO 75.00m²
BOREHOLE
CONCRETE DRIVEWAY/ FOOTPATH 95.00m²
POWER, PH/FIBRE
163°40'00"
44.04
BOUNDARY PEG 63.39
4,380
PROPOSED NEW RESIDENCE
FFL: 63.30
CGL: 63.00
BOREHOLE 62.59
BOREHOLE
TANKS OVERFLOW TO BUBLE UP SUMP
SECONDARY LEVEL WASTEWATER TREATMENT PLANT. LOCATION TO BE CONFIRMED.
EMERGENCY STORAGE: 960L (24HRS)
2x 25,000 LITRES CONCRETE WATER TANKS PARTIALLY BURIED FOR DRINKING WATER
25,000 LITRES CONCRETE WATER TANK PARTIALLY BURIED FOR FIRE FIGHTING/ ATTENUATION
DISPOSAL AREA 320m²
343°40'20"
25.92
36.20
351°35'
266°22'30"
46.37
1,500
bdy. not fenced
boundary not fenced
waratah by bdy point
BOUNDARY PEG 63.33
waratah by bdy point
SW GRATE
62.67
60.86 inv.

NORTH
SUN SET
SUN RISE
WINTER SUN
SUMMER SUN
W
E
S

LOT 2 DP 544271
3000m²

WIND ZONE	HIGH
EARTHQUAKE ZONE	1
CORROSION ZONE	C
SNOW LOADING	N/A (---m) (-.-kPa)
BUILDING COVERAGE AREA:	284.50m²
BUILDUING COVERAGE:	9.48% (10% MAX)
IMPERMEABLE AREA:	644.22m²
IMPERMEABLE COVERAGE:	21.47% (12.5% MAX)

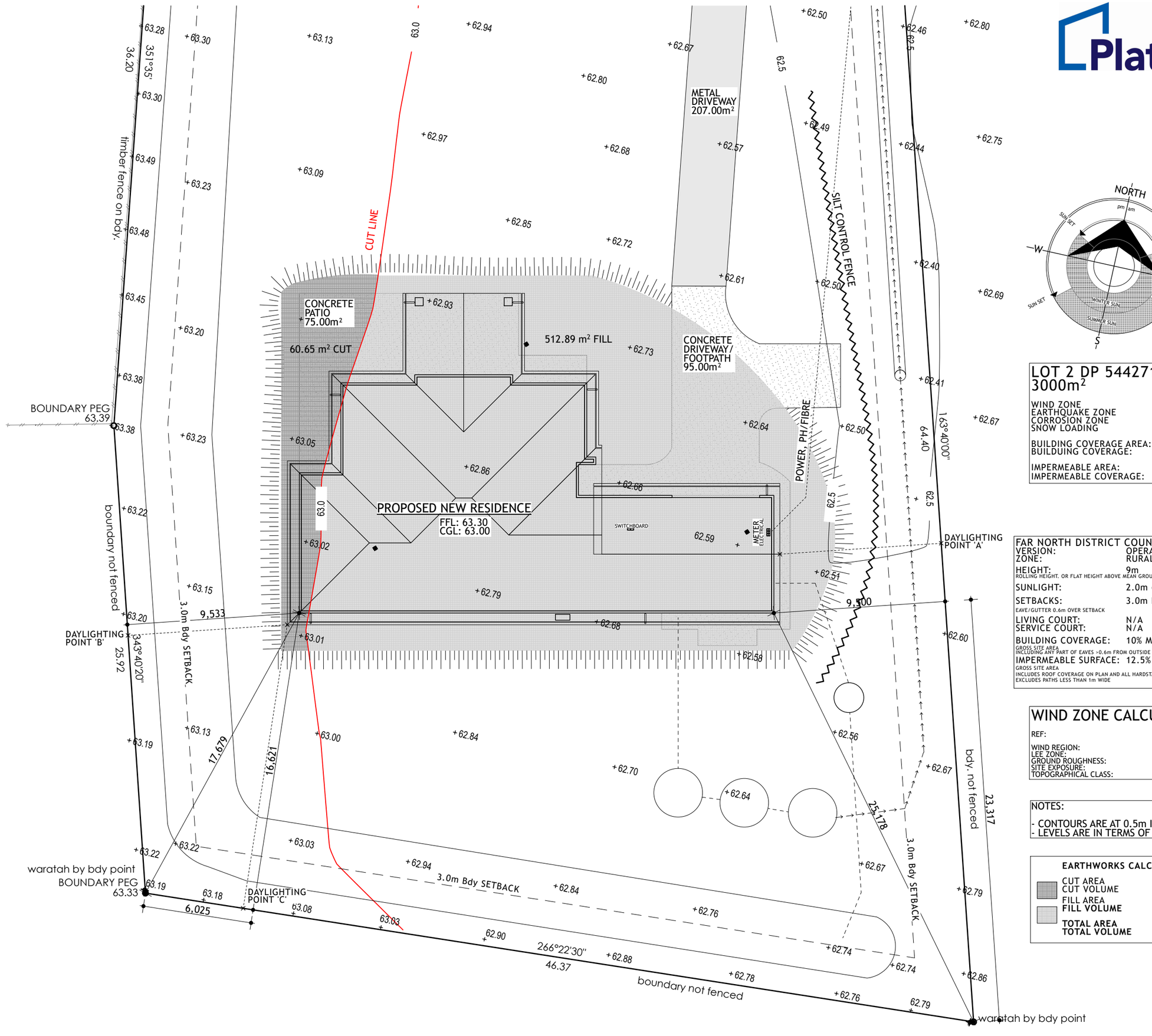
Client: JOHN GRAHAM ALEXANDER DAY & SARAH-LYN DAY
LOT 2 DP 544271
7 THE LAKES DRIVE, KERIKERI

Drawing: LOCATION PLAN
SCALE 1:250 @ A3
Revision: PL-G PRELIMINARY

elevation key

Date: 06 JUN 24
Job #: NLD 506
Drawn: SB
Checked:
Amended:

Sheet: 2/47.



Platinum Homes
Everything You Call Home

LOT 2 DP 544271
3000m²

WIND ZONE	HIGH
EARTHQUAKE ZONE	1
CORROSION ZONE	C
SNOW LOADING	N/A (---m) (-.-kPa)
BUILDING COVERAGE AREA:	284.50m²
BUILDUING COVERAGE:	9.48% (10% MAX)
IMPERMEABLE AREA:	644.22m²
IMPERMEABLE COVERAGE:	21.47% (12.5% MAX)

FAR NORTH DISTRICT COUNCIL

VERSION:	OPERATIVE DISTRICT PLAN
ZONE:	RURAL LIVING
HEIGHT: (ROLLING HEIGHT. OR FLAT HEIGHT ABOVE MEAN GROUND LEVEL AROUND PERIMETER AT 1m INTERVALS)	9m
SUNLIGHT:	2.0m @ 45°
SETBACKS: (EAVE/GUTTER 0.6m OVER SETBACK)	3.0m FROM ALL BOUNDARIES
LIVING COURT:	N/A
SERVICE COURT:	N/A
BUILDING COVERAGE: (GROSS SITE AREA INCLUDING ANY PART OF EAVES >0.6m FROM OUTSIDE WALL OR SUPPORTING STRUCTURE)	10% MAX OR 2,400m² (LESSER OF)
IMPERMEABLE SURFACE: (GROSS SITE AREA INCLUDES ROOF COVERAGE ON PLAN AND ALL HARDSTAND / GRAVEL BEYOND ROOF COVERAGE EXCLUDES PATHS LESS THAN 1m WIDE)	12.5% MAX OR 3,000m² (LESSER OF)

WIND ZONE CALCULATION

REF:	NZS3604: 2011 Cl.5.2
WIND REGION:	A
LEE ZONE:	NO
GROUND ROUGHNESS:	OPEN
SITE EXPOSURE:	EXPOSED
TOPOGRAPHICAL CLASS:	T1

NOTES:

- CONTOURS ARE AT 0.5m INTERVALS.
- LEVELS ARE IN TERMS OF FNDC GIS.

EARTHWORKS CALCULATION

CUT AREA	= 60.65m²
CUT VOLUME	= 4.00m³
FILL AREA	= 512.89m²
FILL VOLUME	= 263.00m³
TOTAL AREA	= 573.54m²
TOTAL VOLUME	= 263.00m³

Client: JOHN GRAHAM ALEXANDER DAY & SARAH-LYN DAY
LOT 2 DP 544271
7 THE LAKES DRIVE, KERIKERI

Drawing: SITE PLAN
SCALE 1:200 @ A3
Revision: PL-G PRELIMINARY

elevation key: 3 / 2 4 / 1

Date: 06 JUN 24
Job #: NLD 506
Drawn: SB
Checked: Checked
Amended: Amended

Sheet: 3/47.

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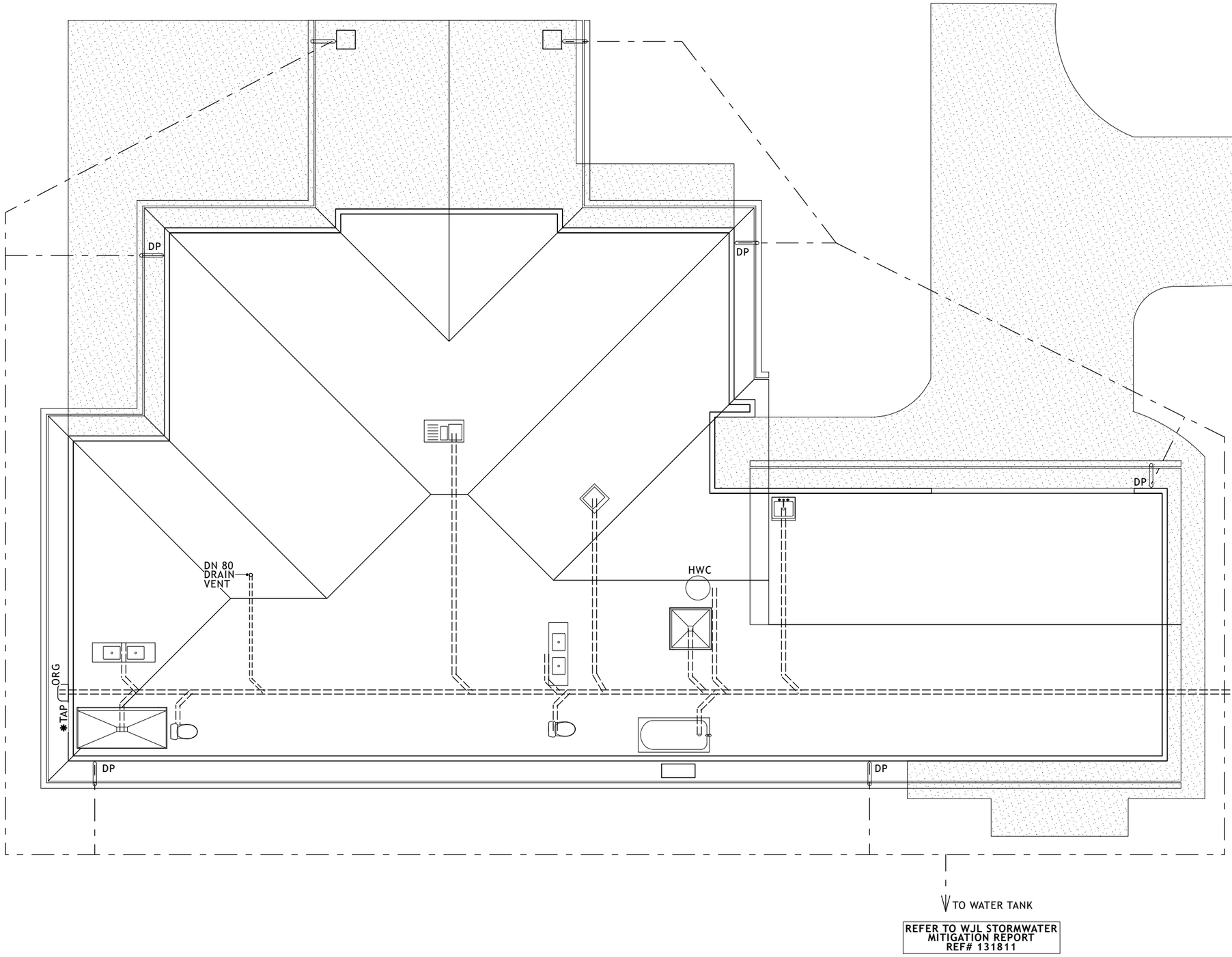


FIXTURES DISCHARGING TO GULLIES	DISCHARGE PIPE SIZE	GRADE
BASIN	DN 40	1:40
FIXTURES DISCHARGING TO UN-VENTED BRANCH DRAIN	**DISCHARGE PIPE SIZE**	**GRADE**
BATH	DN 40*	1:40
BASIN	DN 40*	1:40
SHOWER	DN 40*	1:40
LAUNDRY TUB + WM	DN 50*	1:40
KITCHEN SINK	DN 50*	1:40
WATER CLOSET	DN 100	1:60
VENT SIZES	**PIPE SIZE**	**GRADE**
DRAIN VENT	DN 80	N/A
SANITARY DRAINAGE	**PIPE SIZE**	**GRADE**
MAIN DRAIN	DN 100	1:60
STORMWATER DRAINAGE	**PIPE SIZE**	**GRADE**
STORMWATER LINES	100 Ø	1:60
DOWNPIPES	80 Ø	N/A

* = DISCHARGE PIPE DISCHARGES TO UN-VENTED DN65 BRANCH DRAIN AT FLOOR LEVEL

SANITARY SEWER PLUMBING AND DRAINAGE TO AS/NZS 3500.2:2021
STORMWATER DRAINAGE TO NZBC E1/AS1.

SANITARY SEWER AND STORMWATER DRAINS TO BE TESTED BY WAY OF AIR TEST IN ACCORDANCE WITH EITHER CLAUSE 12.3.2 OF AS/NZS 3500.2.2 OR PARAGRAPH 8.3 OF E1/VM1

PIPE SIZES, GRADES, AND LAYOUT, TO BE CONFIRMED BY A REGISTERED PLUMBER/DRAINLAYER.

REFER TO WJL STORMWATER MITIGATION REPORT REF# 131811

REFER TO WJL ON-SITE EFFLUENT TRATMENT AND DISPOSAL DESIGN REF# 130615

Client: JOHN GRAHAM ALEXANDER DAY & SARAH-LYN DAY
LOT 2 DP 544271
7 THE LAKES DRIVE, KERIKERI

Drawing: DRAINAGE PLAN
SCALE 1:100, 1:250 @ A3
Revision: PL-G PRELIMINARY

elevation key: 1 2 3 4

Date: 06 JUN 24
Job #: NLD 506
Drawn: SB
Checked:
Amended:

Sheet: 4/47.

FLOOR FINISH NOTES:

INDICATES VINYL PLANK FLOORING
NOTE: WATER SPLASH AREAS MUST HAVE SEALED JOINTS IN ACCORDANCE WITH NZBC E3/AS1

INDICATES CERAMIC TILE FLOORING
NOTE: WATER SPLASH AREAS MUST HAVE A MAX. 6% WATER ABSORPTION, WATERPROOF GROUTED JOINTS AND LAID OVER A MEMBRANE IN ACCORDANCE WITH NZBC E3/AS1

CARPET

CONCRETE

HTR HEATED TOWEL RAIL

TOWEL RAIL

SD SMOKE DETECTOR WITH HUSH BUTTON

NOTES

RESTRICTOR STAYS TO ANY OPENING SASHES OPENING ONTO TRAFFICABLE EXTERNAL AREAS

NOTE 1:
ALLOCATE WATER CONNECTION TO FRIDGE

NOTE 2:
CUSTOM LAUNDRY FIT-OUT

NOTE 3:
R2.2 BRADFORD GOLD ACOUSTIC AND NOISELINE

NOTE 4:
ALL DOORWAYS/OPENINGS WITHOUT DOORS ARE FULL HEIGHT TO CEILING, GIB EDGES WITH ROUND SLIMLINE CORNERS - x2.
ENTRY AND KITCHEN/HALL

NOTE 5:
320x320mm TILED NICHE

EXTERIOR FRAMING
90x45 STUDS UP TO 2.4m - AT 600mm crs
140x45 STUDS UP TO 3.6m - AT 600mm crs
(SINGLE OR TOP STOREY)

INTERIOR FRAMING
90x45 STUDS UP TO 2.4m - AT 600mm crs
(SINGLE OR TOP STOREY)

NOTES
BUILDING CONTRACTOR TO CHECK ALL DIMENSIONS BEFORE COMMENCING CONSTRUCTION

INTERNAL DOORS TO BE 2.0m HIGH UNLESS STATED OTHERWISE

ALL GLAZING TO COMPLY WITH NZS 4223 INCLUDING SAFETY GLASS TO SHOWER DOORS AND SCREENS

DOUBLE GLAZED, LOW-E, THERMALLY BROKEN EXTERIOR JOINERY, INCLUDING GARAGE

OFFSET JOINERY IS DIMENSIONED OTHERWISE CONSIDERED CENTRED IN WALL SPACE

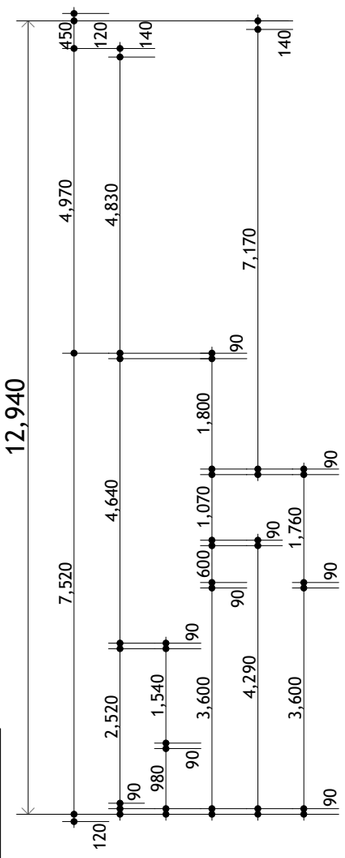
JOINERY DIMENSIONS INDICATE SIZE OF OPENING IN TIMBER FRAME

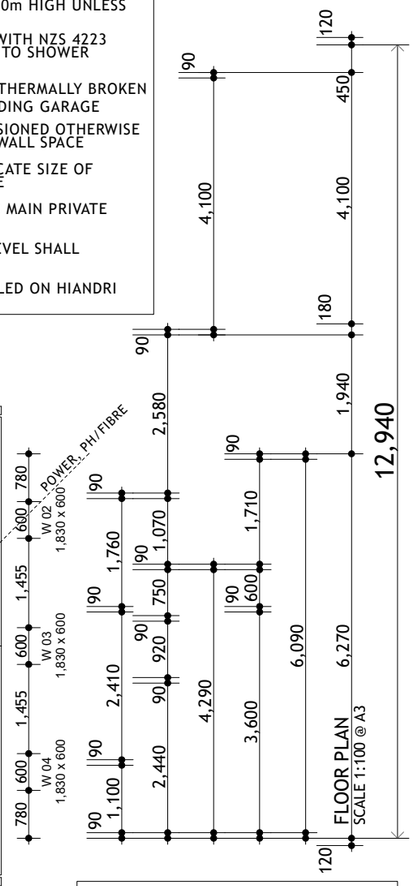
MAXIMUM STEP HEIGHT TO MAIN PRIVATE STAIRWAYS TO BE 190mm

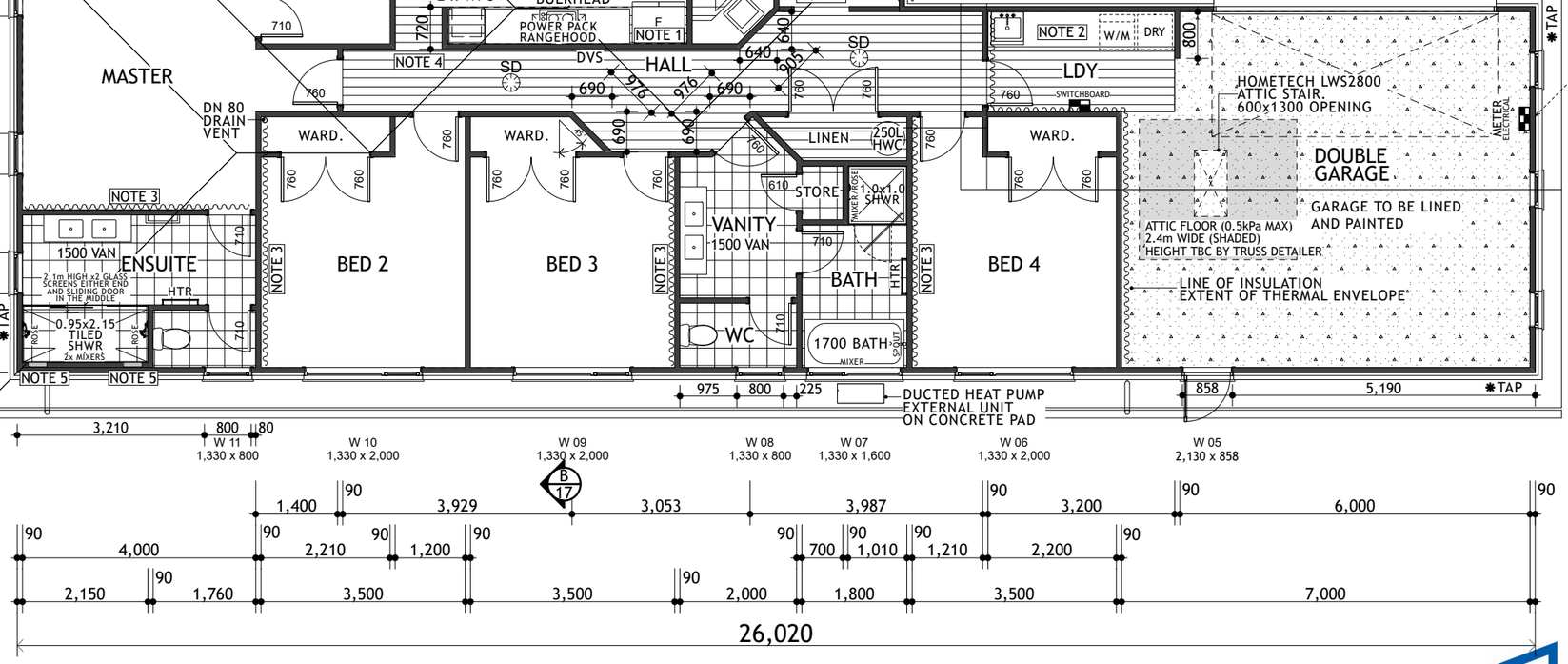
ILLUMINANCE AT FLOOR LEVEL SHALL BE NO LESS THAN 20 LUX

ALL FRAMES TO BE INSTALLED ON HIANDRI BOTTOM PLATES PACKERS

CONCRETE PATIO 75.00m²
SED PORTAL FRAME
SED BEAM
450x450 BRICK COLUMN
ALFRESCO
RAKED SOFFIT HARDIEGROOVE
W 17 2,130 x 2,700 NO VISION RAILS REBATED WITH FLUSH TRACKS
W 18 2,130 x 3,600 NO VISION RAILS REBATED WITH FLUSH TRACKS
W 19 2,130 x 2,700 NO VISION RAILS REBATED WITH FLUSH TRACKS
W 15 2,130 x 1,800 NO VISION RAILS REBATED WITH FLUSH TRACKS
W 20 1,330 x 1,800
LOUNGE
DINING
FAMILY
HEAT PUMP UNIT IN CEILING SPACE
2800x1200 BENCH
DBLE DISH DRAW
KITCHEN
SCULLERY
2 x W/O
BULKHEAD
POWER PACK RANGEHOOD
F NOTE 1
ENTRY
W 01 2,130 x 1,660 SIDELIGHTS NO VISION RAILS
GARAGE DOOR 2,140 x 4,840 TRIM SIZE
WIR
MASTER
HALL
DVS
DN 80 DRAIN VENT
LDY
SWITCHBOARD
W/M
DRY
HOMETECH LWS2800 ATTIC STAIR. 600x1300 OPENING
METER ELECTRICAL
DOUBLE GARAGE
GARAGE TO BE LINED AND PAINTED
ATTIC FLOOR (0.5kPa MAX) 2.4m WIDE (SHADED) HEIGHT TBC BY TRUSS DETAILER
LINE OF INSULATION EXTENT OF THERMAL ENVELOPE
WARD.
LINEN
250L HWC
STORE
1.0x1.0 SHWR
MIXER/ROSE
VANITY 1500 VAN
BATH
1700 BATH
MIXER
SPOUT
WC
BED 2
BED 3
BED 4
1500 VAN ENSUITE
2.1m HIGH x2 GLASS SCREENS EITHER END AND SLIDING DOOR IN THE MIDDLE
0.95x2.15 TILED SHWR
2x MIXERS
HTR
ROSE
TAP
SD
NOTE 2
NOTE 3
NOTE 4
NOTE 5
DUCTED HEAT PUMP EXTERNAL UNIT ON CONCRETE PAD







WATER SPLASH WALL FINISH:

WALLS TO BE GIB AQUALINE WITH SEMI-GLOSS OR GLOSS COATING OR A HARD-WEARING LOW-SHEEN LATEX PAINT CONTAINING MOULD INHIBITORS IN ACCORDANCE WITH NZBC E3/AS1

KITCHEN SURFACES:

FOOD PREPARATION AREAS TO HAVE SURFACES ARE TO BE IMPERVIOUS AND EASILY CLEANED

WALL LININGS ADJASCENT TO APPLIANCES AND FACILITIES TO HAVE SURFACES THAT CAN BE EASILY MAINTAINED IN A HYGENIC CONDITION

TOTAL AREA OVER FRAME	
LIVING AREA:	202.13m²
GARAGE AREA:	48.58m²
TOTAL AREA:	250.71m²
ROOF PLAN AREA:	326.71m²
ADDITIONAL AREAS	
AREA OVER BRICK:	260.35m²
ALFRESCO AREA:	21.17m²
ATTIC AREA:	6.48m²

PERIMETER OF FRAME:	79.84m²
SOFFIT LENGTH:	74.93m²
BARGE/FASCIA LENGTH:	19.72m²

Client:
JOHN GRAHAM ALEXANDER DAY &
SARAH-LYN DAY
LOT 2 DP 544271
7 THE LAKES DRIVE, KERIKERI

Drawing:

Revision: PL-G PRELIMINARY

Date: 06 JUN 24
Job #: NLD 506
Drawn: SB
Checked: Checked
Amended: Amended

elevation key

Sheet: 5/47.

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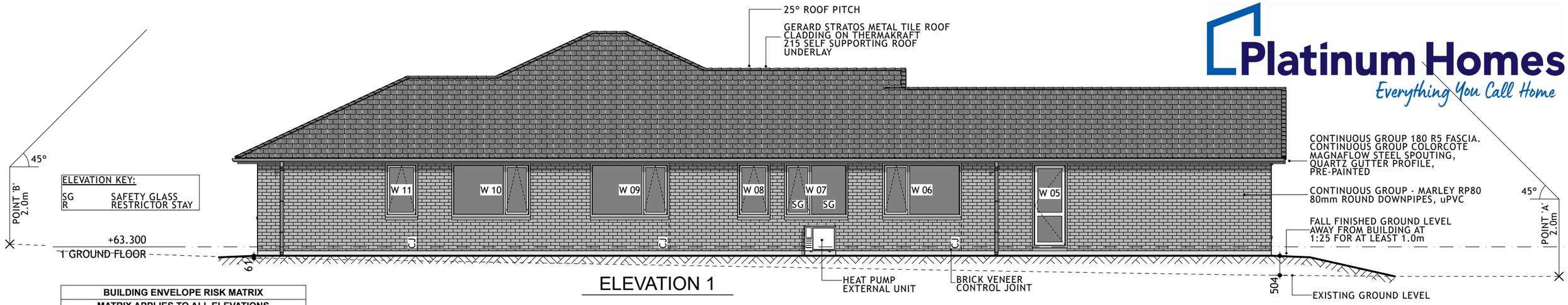
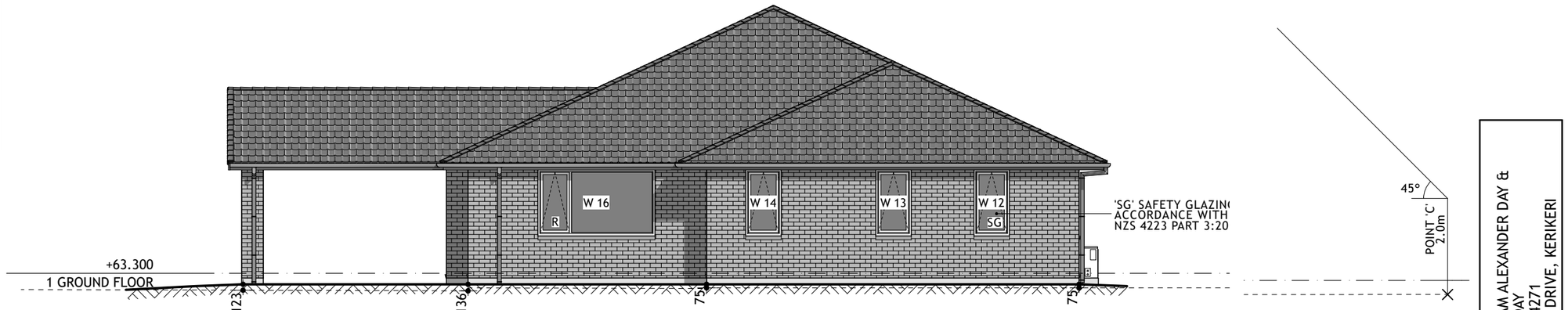
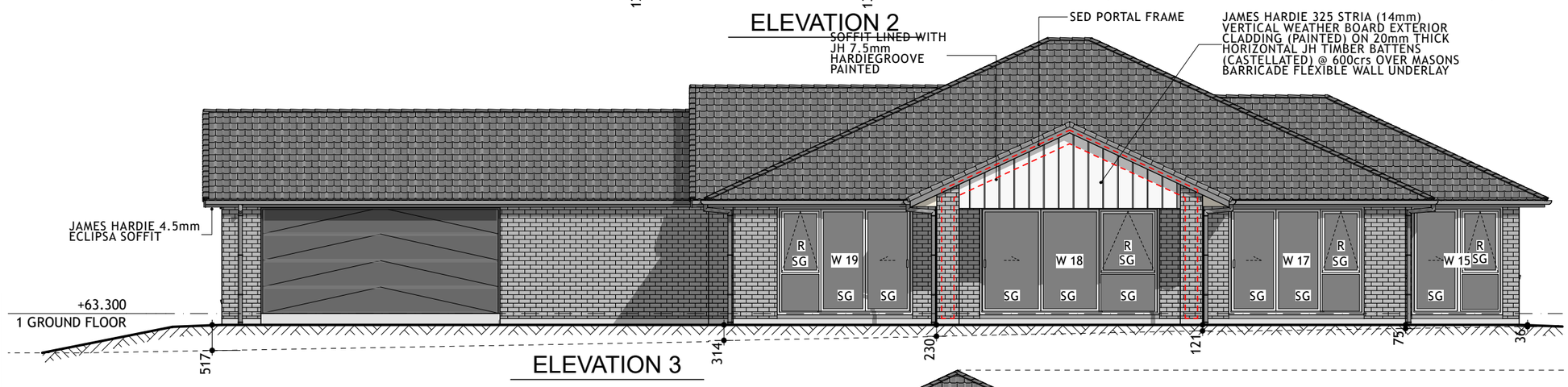


ELEVATION 1

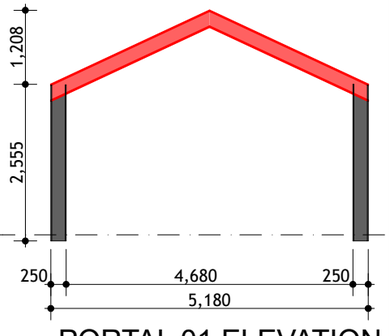
BUILDING ENVELOPE RISK MATRIX		
MATRIX APPLIES TO ALL ELEVATIONS		
Risk Factor	**Risk Severity**	**Risk Score**
Wind zone (per NZS 3604)	High risk	1
Number of storeys	Low risk	0
Roof/wall intersection design	Low risk	0
Eaves width	High risk	2
Envelope complexity	Medium risk	1
Deck design	Low risk	0
Total Risk Score:		**4**



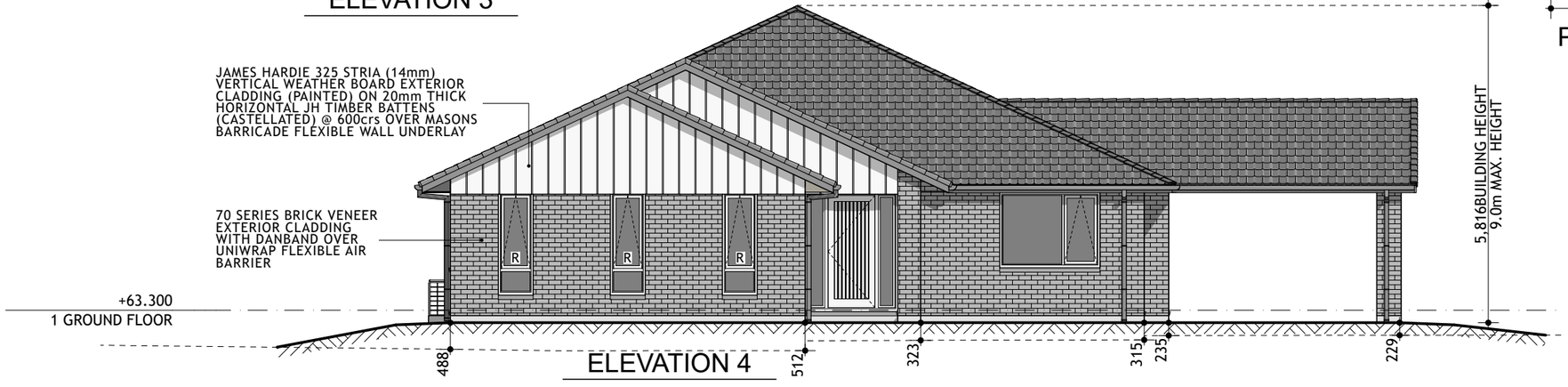
ELEVATION 2



ELEVATION 3



PORTAL 01 ELEVATION



ELEVATION 4

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Client: JOHN GRAHAM ALEXANDER DAY & SARAH-LYN DAY
LOT 2 DP 544271
7 THE LAKES DRIVE, KERIKERI

Drawing: ELEVATIONS
SCALE 1:100 @ A3

Revision: PL-G PRELIMINARY

Date: 06 JUN 24
Job #: NLD 506
Drawn: SB
Checked: Checked
Amended: Amended

Sheet: 6/47.

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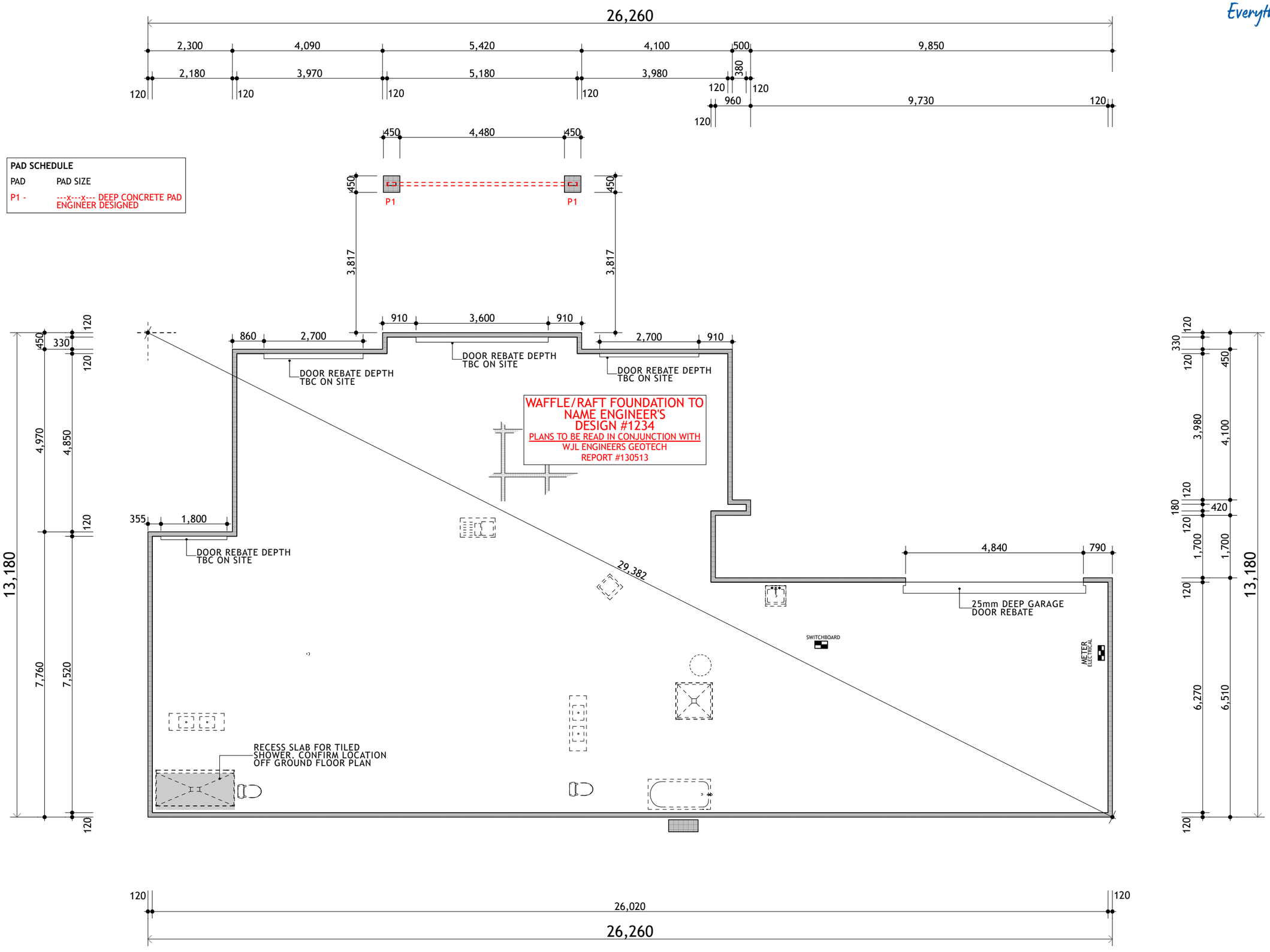
PAD SCHEDULE

PAD	PAD SIZE
P1 -	---x---x--- DEEP CONCRETE PAD ENGINEER DESIGNED



Client: JOHN GRAHAM ALEXANDER DAY & SARAH-LYN DAY
LOT 2 DP 544271
7 THE LAKES DRIVE, KERIKERI

Drawing: FOUNDATION PLAN
SCALE 1:100 @ A3
Revision: PL-G PRELIMINARY

elevation key: 1 2 3 4

Date: 06 JUN 24
Job #: NLD 506
Drawn: SB
Checked: Checked
Amended: Amended

Sheet: 7/47.

KEY

2/90x45 SG8 LINTEL SIZE / TYPE
TYPE G LUMBERLOK TYPE LINTEL FIXING

TYPE G — LUMBERLOK LINTEL /BEAM FIXING

STUD TO TOP PLATE INTERNAL LOAD BEARING WALL FIXING TYPE B (TO HATCHED AREA)

27mm x0.6 STRIP BRACE: DIAGONALLY OPPOSING PAIR OF ROOF PLANE BRACING WITH TENSIONERS

RANGEHOOD DUCTING VENTING OUT SOFFIT (50L/s)

EXTRACTOR FAN DUCTING VENTING OUT SOFFIT (25L/s IN BATHROOMS)

STUD TO TOP PLATE FIXINGS
ALL LOAD BEARING WALLS TO BE TYPE B STUD TO TOP PLATE FIXING

ROOF PITCH
25°

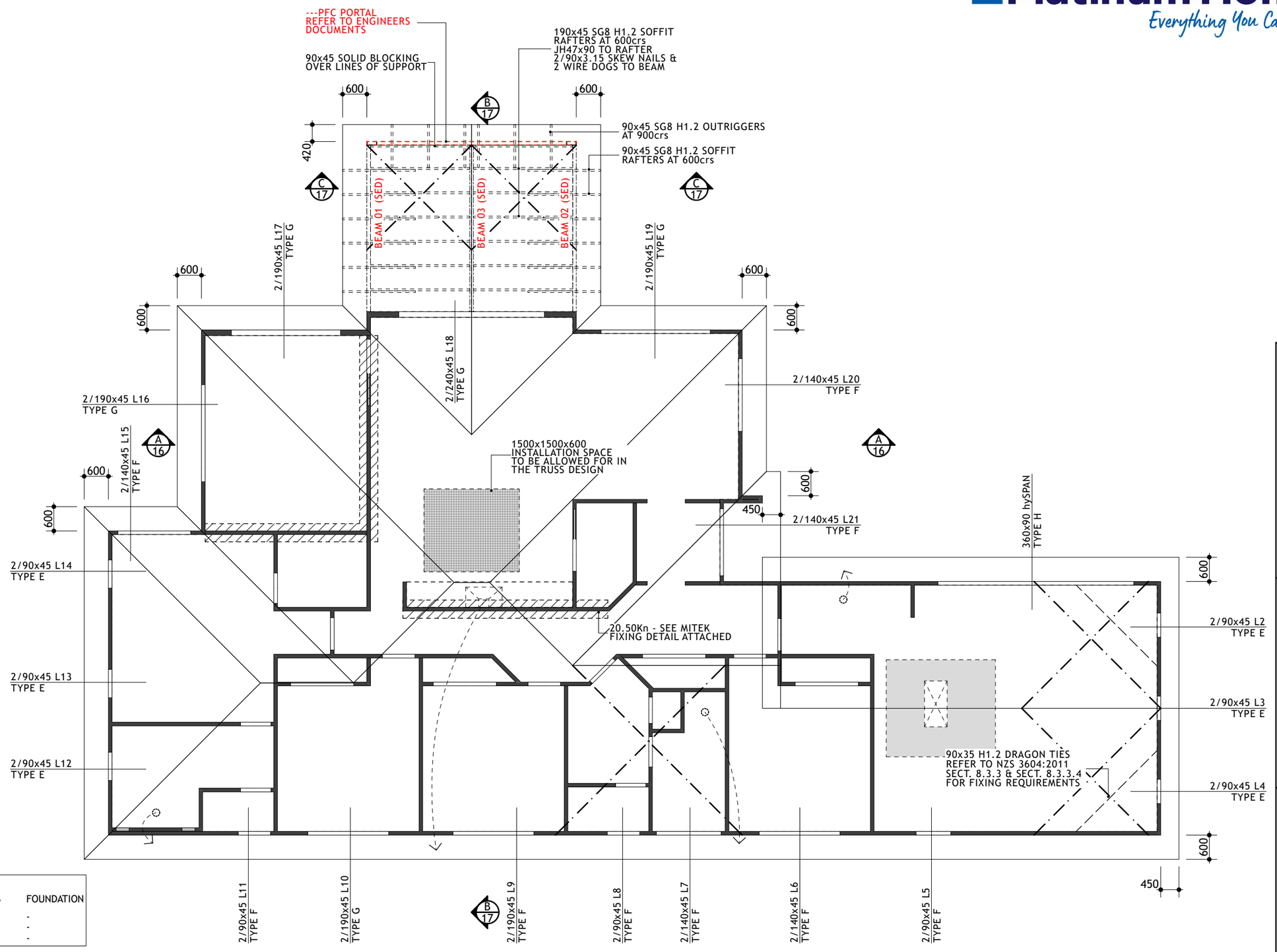
TRUSS FRAMING
GANGNAIL H1.2 ROOF TRUSSES AT 900crs TO ROOF MANUFACTURER'S DESIGN

NOTE
BEAM/LINTEL SIZES AND WALL FRAMING/STUDS CALCULATED TO NZS3604:2011. hy90 AND hyONE LVL BEAMS/LINTELS CALCULATED USING designIT SERIES 6

LINTEL AND STUD FIXINGS ARE TO MITEK LUMBERLOK SEPT 2020 & 08/2017. REFER TO DETAILS

ROOF FRAMING. REFER TO ATTACHED ROOF MANUFACTURER'S TRUSS FRAMING PLAN

ROOF BRACING TO BE IN ACCORDANCE WITH NZS 3604:2011 SECTION 10.3 AND 10.4



BEAM SCHEDULE

BEAM	BEAM SIZE	SPECIFIED	POSTS/COLUMNS	FOUNDATION
BEAM 01	-	ENGINEER	-	-
BEAM 02	-	ENGINEER	-	-
BEAM 03	-	ENGINEER	-	-

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Client: JOHN GRAHAM ALEXANDER DAY & SARAH-LYN DAY
LOT 2 DP 544271
7 THE LAKES DRIVE, KERIKERI

Drawing: ROOF/STUD FIXING/LINTEL FIXING PLAN
SCALE 1:100 @ A3
Revision: PL-G PRELIMINARY

elevation key

Date: 06 JUN 24
Job #: NLD 506
Drawn: SB
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Sheet: 8/47.

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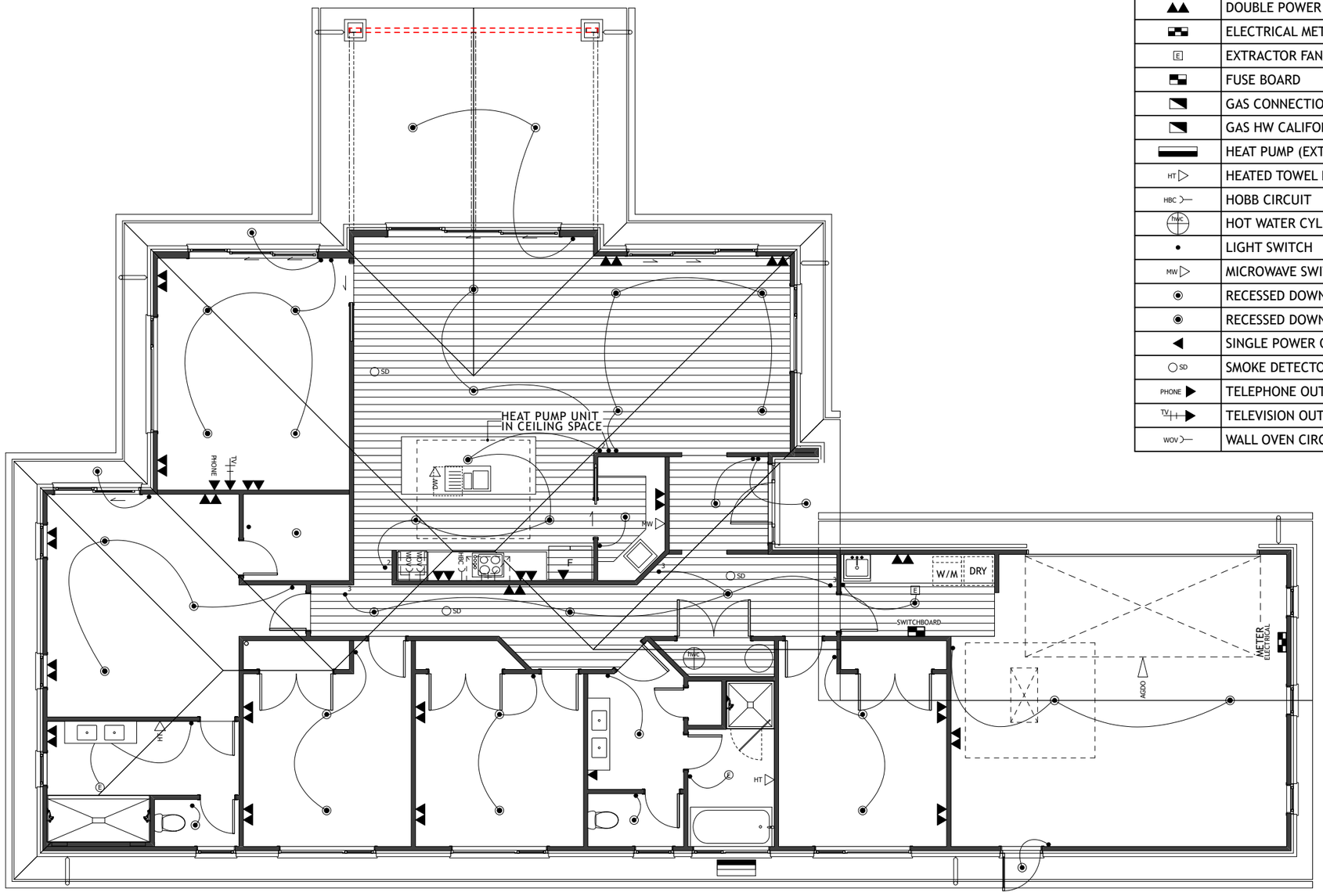

ELECTRICAL KEY		
SYMBOL	DESCRIPTION	No. OF
2	2-WAY LIGHT SWITCH	2
E	3 in 1 FAN LIGHT	2
3	3-WAY LIGHT SWITCH	3
AGDO	AUTO GARAGE DOOR OPENER	1
DW	DISHWASHER SWITCH	1
	DOUBLE POWER OUTLET	22
	ELECTRICAL METER BOARD	2
E	EXTRACTOR FAN	1
	FUSE BOARD	1
	GAS CONNECTION METER	1
	GAS HW CALIFONT	1
	HEAT PUMP (EXTERNAL UNIT)	1
HT	HEATED TOWEL RAIL	2
HBC	HOBB CIRCUIT	1
HWC	HOT WATER CYLINDER	1
	LIGHT SWITCH	22
MW	MICROWAVE SWITCH	1
	RECESSED DOWNLIGHT PRI	23
	RECESSED DOWNLIGHT SEC	18
	SINGLE POWER OUTLET	1
SD	SMOKE DETECTOR HUSH BUTTON	3
PHONE	TELEPHONE OUTLET	1
TV	TELEVISION OUTLET	1
WOV	WALL OVEN CIRCUIT	2

Client:
JOHN GRAHAM ALEXANDER DAY &
SARAH-LYN DAY
LOT 2 DP 544271
7 THE LAKES DRIVE, KERIKERI

Drawing:
ELECTRICAL PLAN
SCALE 1:100 @ A3

Revision: PL-G PRELIMINARY

3 4 2 1
elevation key

Date: 06 JUN 24
Job #: NLD 506
Drawn: SB
Checked: Checked
Amended: Amended

Sheet:
14/47.

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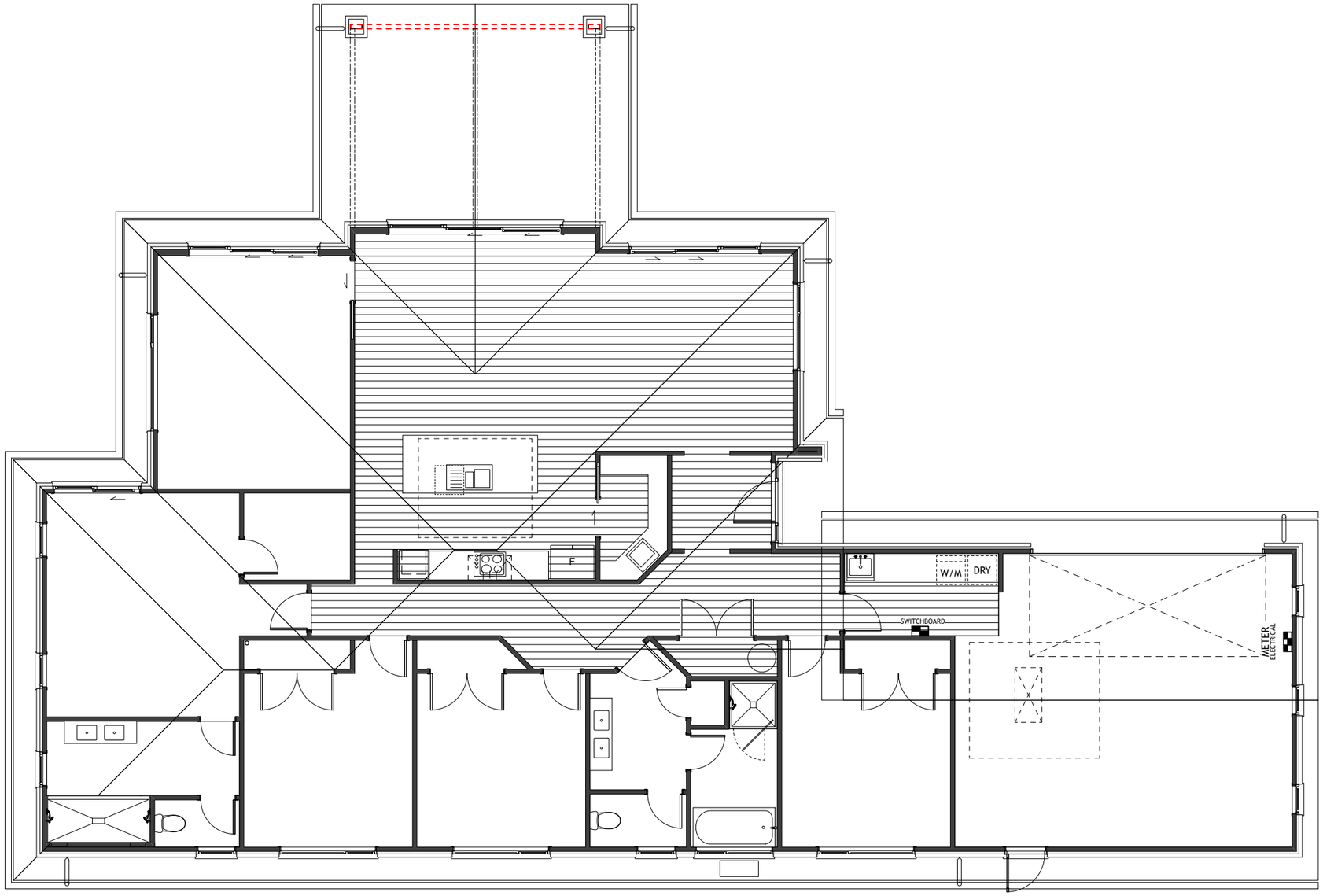

Client:
JOHN GRAHAM ALEXANDER DAY &
SARAH-LYN DAY
LOT 2 DP 544271
7 THE LAKES DRIVE, KERIKERI

Drawing:
BLANK ELECTRICAL PLAN
SCALE 1:100 @ A3

Revision: PL-G PRELIMINARY

3
2 4
1
elevation key

Date: 06 JUN 24
Job #: NLD 506
Drawn: SB
Checked:
Amended:

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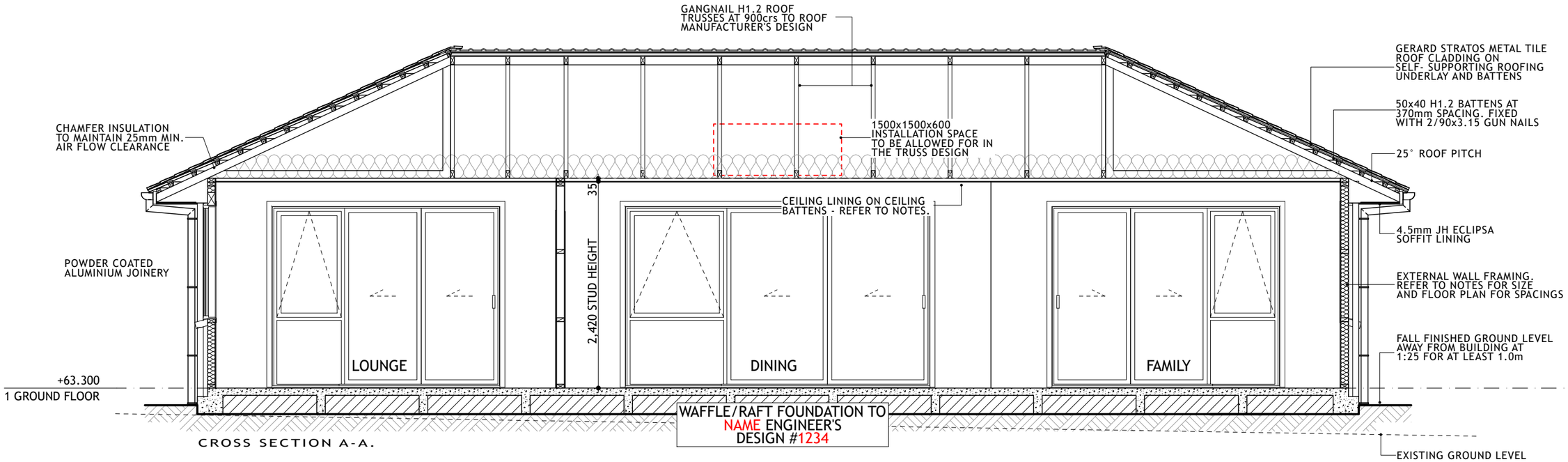
15/47.



CROSS SECTION A-A.

FRAMING SIZE AND TREATMENT
90x45 SG8 H1.2 WITH
90x45 SG8 H1.2 EXTRA TOP PLATE

2 ROWS OF NOGS GENERALLY

WALL LININGS

10mm GIB STANDARD PLASTER BOARD
10mm GIB AQUALINE TO BATHROOM / ENSUITE

CEILING LININGS

13mm GIB STANDARD PLASTER BOARD
13mm GIB AQUALINE TO BATHROOM / ENSUITE

CEILING BATTENS - CLIPPED

35mm METAL BATTENS AT 600crs GENERALLY

WHERE CEILING BATTENS ARE ON CLIPS, 90x45 SG8 BOTTOM CHORD RESTRAINTS SHALL BE AT 1800crs WITH 2/90x3.15 NAILS INTO BC OF TRUSS (SKEW NAILS IF RESTRAINT IS ON EDGE)

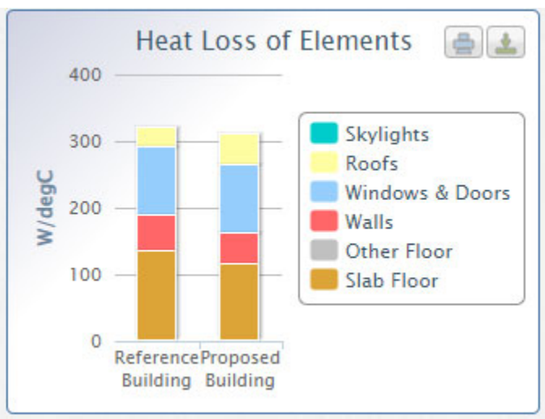
INSULATION NZBC H1 EDITION 5
H1 THERMAL ENVELOPE EXCLUDES GARAGE

R2.8	WALL INSULATION (LIVING EXTERNAL WALLS & GARAGE INTERNAL WALL)
R2.8	*WALL INSULATION TO GARAGE EXTERIOR WALLS*
R4.0	CEILING INSULATION EXCL. GARAGE
R3.6	*CEILING INSULATION TO GARAGE CEILING*
R3.6	CEILING PERIMETER INSULATION
R0.5	GLAZING - THERMALLY BROKEN LOW-E
R0.28	OPAQUE ENTRY DOOR
R0.34	HOLLOW CORE DOOR
R1.76	SLAB - 220/300 TUFF PODS

R2.2 BRADFORD GOLD ACOUSTIC AND NOISELINE AS PER PLANS NOTES

Maximum permitted Heat Loss	Proposed Building Heat Loss	
321 W/°C	312 W/°C	✓

The window and door area in the reference building is **30% of the proposed building's gross wall area (46.6m²)**.

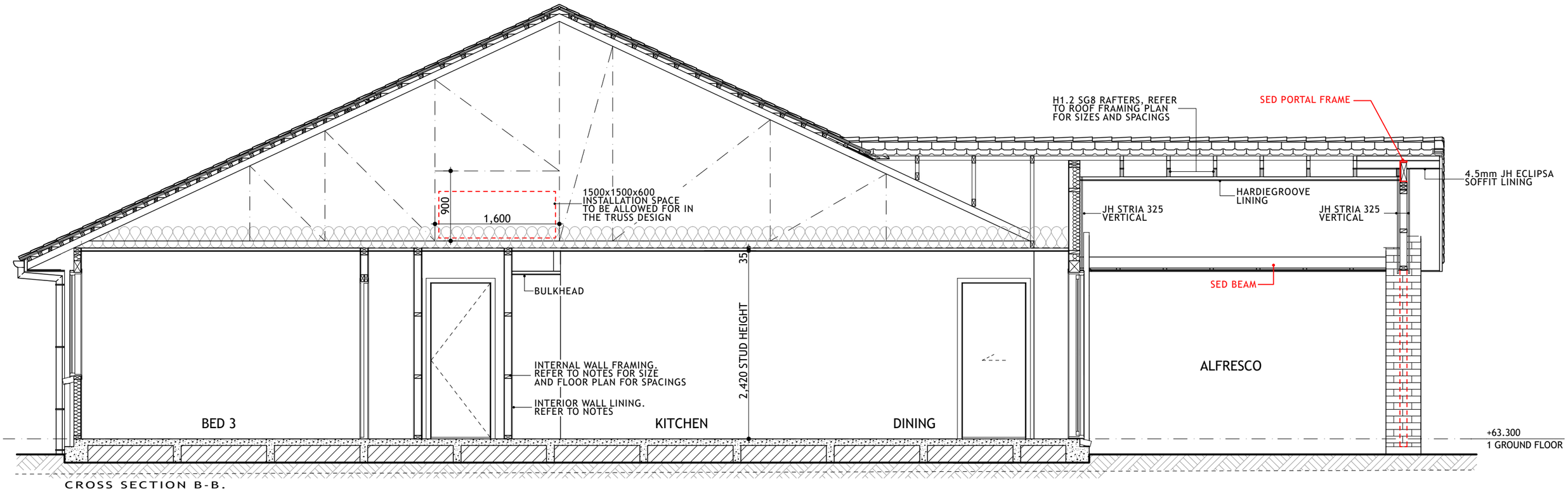


Client: JOHN GRAHAM ALEXANDER DAY & SARAH-LYN DAY
LOT 2 DP 544271
7 THE LAKES DRIVE, KERIKERI

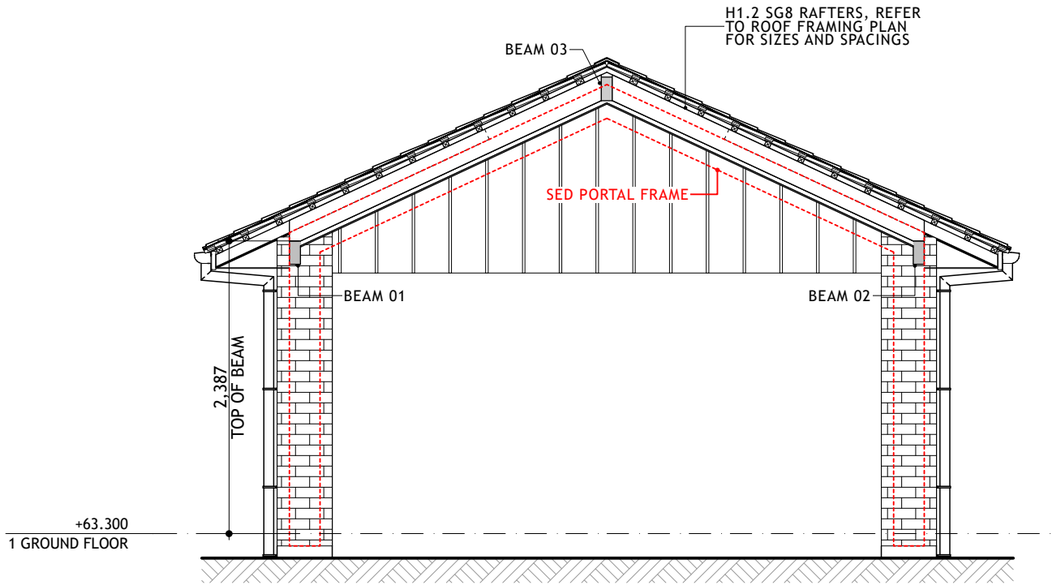
Drawing: CROSS SECTIONS
SCALE 1:50 @ A3
Revision: PL-G PRELIMINARY

Date: 06 JUN 24
Job #: NLD 506
Drawn: SB
Checked: Checked
Amended: Amended

Sheet: 16/47.



CROSS SECTION B-B.



CROSS SECTION C-C.

SED PORTAL 3D VIEW

SED PORTAL 3D VIEW

Client: JOHN GRAHAM ALEXANDER DAY & SARAH-LYN DAY LOT 2 DP 544271 7 THE LAKES DRIVE, KERIKERI	Drawing: CROSS SECTIONS SCALE 1:50 @ A3 Revision: PL-G PRELIMINARY	Date: 06 JUN 24 Job #: NLD 506 Drawn: SB Checked: Checked Amended: Amended elevation key: 3 2 4 1	Sheet: 17/47.

Platinum Homes
Everything You Call Home

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

SITE	7 The Lakes Drive, Kerikeri
LEGAL DESCRIPTION	Lot 2 DP 544271
PROJECT	Proposed Residential Dwelling
CLIENT	Platinum Homes
REFERENCE NO.	131811
DOCUMENT	Stormwater Mitigation Report
STATUS/REVISION No.	B
DATE OF ISSUE	6th March 2024

Report Prepared For	Attention	Email
Platinum Homes	Nigel Turner	Nigel.Turner@platinumhomes.co.nz

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 2 DP 544271
Site Area:	3,000m²
Development Type:	Proposed Residential Dwelling
Development Proposals Supplied:	Plan Set supplied by Platinum Homes (Ref No: NLD 506, dated: 19.01.2024)
District Plan Zone:	Rural Living
Permitted Activity Coverage:	12.5%
Impermeable Coverage:	**Post-Development Impermeable Areas** Proposed Roof Area 326.71m² Total Hardstand (uncovered) 328.48m² Total impermeable area = 655.19m² or 21.8% of the site area
Activity Status:	Discretionary Activity
Roof Attenuation:	Attenuation is to be provided in accordance with the requirements outlined in Section 5 via flow attenuated outlets in the proposed dwelling's rainwater tanks. **Recommended Tank** – 3 x 25,000 litre Rainwater Tanks **Dimensions** – 3600mm Ø x 2600mm high **10% AEP Control Orifice** – 43mmØ orifice; located >470mm below the Overflow Outlet **1% AEP Control Orifice** – 25mmØ orifice; located 300mm above the 10% AEP Control Orifice **Overflow** – 100mmØ at the top of the tank
Driveway Attenuation:	It is recommended to shape the proposed concrete and metal driveways to shed runoff to a **minimum** 200mm deep x 500mm wide grassed / rock-lined v-channel swale to the eastern side of the proposed driveway. The proposed swale is to have a bubble up sump at its lowest point which is to discharge directly to the discharge point. A minimum 1m length of 6-inch riprap lining is to be installed in the proposed swale downstream of the tank's outlet. The last 1m of the swale is to be lined with minimum 6-inch riprap for erosion protection before discharging to the proposed bubble up sump.
Point of Discharge:	It is recommended that the proposed bubble up sump be fitted with a 100mmØ outflow pipe draining to a kerb outlet along The Lakes Drive.

2. SCOPE OF WORK

Wilton Joubert Ltd. (WJL) was engaged by the client, **Platinum Homes**, 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 supplied by Platinum Homes including site plan, floor plan and elevations (Ref No: NLD 506, dated: 19.01.2024)

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

3. SITE DESCRIPTION

The ~3,000m² site is designated as Lot 2 DP 544271, which exists within a new subdivision 'The Lakes Drive'. The site is accessed off Waipapa Road approximately 900m east of the Waipapa Road-Kerikeri Bypass. The southern boundary is approximately 76m to the north of Waipapa Road. The site comprises a cleared, level grassed section generally not exceeding 3°.

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

Figure 1: Aerial Snip from FNDC Maps Showing Site Boundaries (cyan) and 1m Contours (yellow)

4. DEVELOPMENT PROPOSALS

The development proposal, obtained from the client, is to construct a residential dwelling, a concrete patio, a concrete driveway and a metal driveway on-site as depicted in the plan set provided by Platinum Homes (Ref No: NLD 506, dated: 19.01.2024).

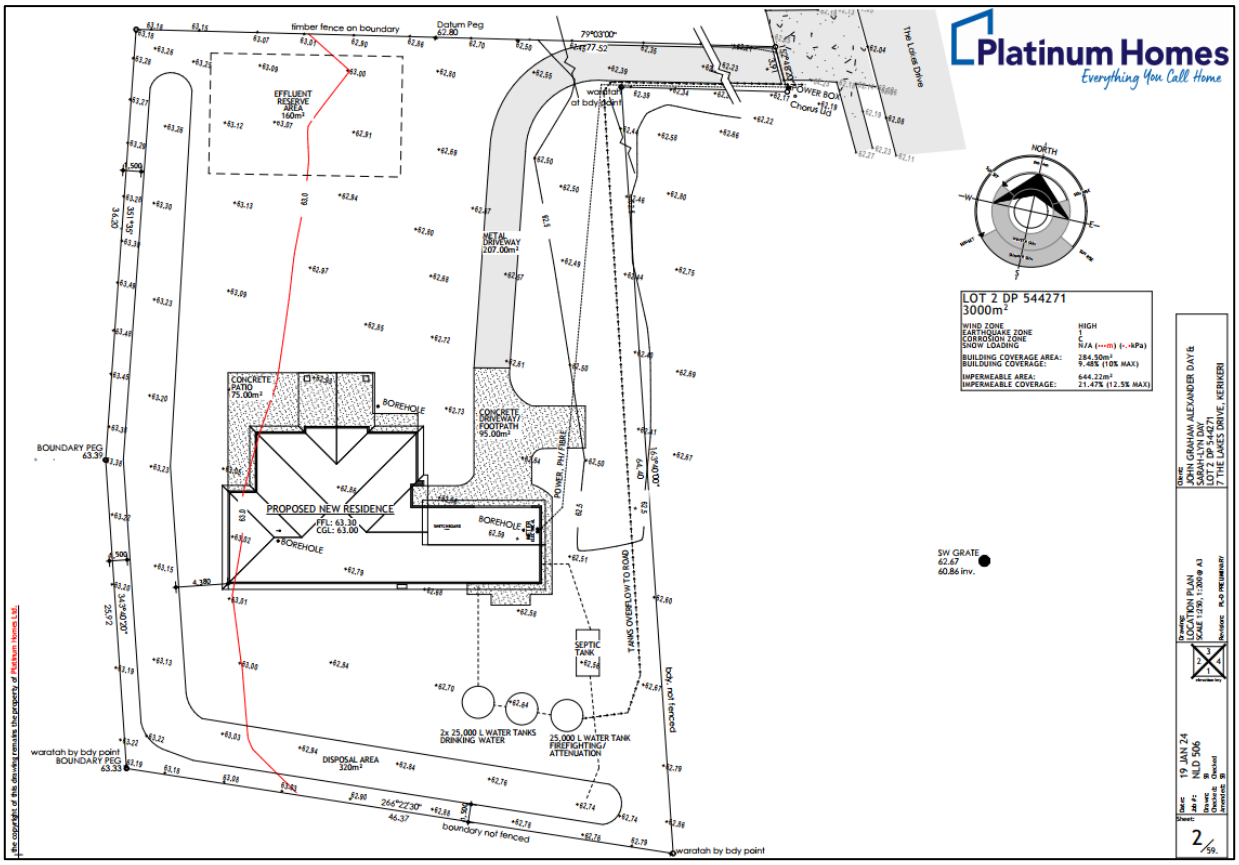


Figure 2: Snip of Proposed Site Plan Provided by Platinum Homes (Ref No: NLD 506, dated: 19.01.2024)

The principal objective of this assessment is to provide an indicative stormwater disposal design which will manage runoff generated from the proposed impermeable areas resulting from 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 3,000m² and the below areas *extracted from the supplied plans*:

	Pre-Development	Post-Development	Total Change
Dwelling Roof Area	0 m²	326.71 m²	326.71 m²
Total Hardstand (uncovered)	0 m²	328.48 m²	328.48 m²
Concrete Driveway	0 m²	82.18 m²	
Metalled Driveway	0 m²	207 m²	
Concrete Patio	0 m²	39.3 m²	
Pervious	3,000 m²	2,344.81 m²	-655.19 m²

The total amount of impermeable area on site, post-development, equates to 655.19m² or 21.8% of the site area. 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 Rural Living. The following rules apply under the FNDC District Plan:

8.7.5.1.5 – Permitted Activities – Stormwater Management - The maximum proportion or amount of the gross site area covered by buildings and other impermeable surfaces shall be 12.5% or 3,000m², whichever is the lesser.

8.7.5.2.2 – Controlled Activities – Stormwater Management - The maximum proportion or amount of the gross site area covered by buildings and other Impermeable Surfaces shall be 20% or 3300m², whichever is the lesser.

The total proposed impermeable area for the development exceeds 20% of the site area and does not comply with Permitted Activity Rule (8.7.5.1.5) nor Controlled Activity Rule (8.7.5.2.2). Therefore, the proposals are considered to be a Discretionary Activity. Additional considerations for stormwater management as outlined in the FNDC District Plan Section 11.3 are required. A District Plan Assessment has been included in Section 8 of this report.

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 and Clause E1 of the New Zealand Building Code.

The total impermeable area in exceedance of Permitted Activity Rule 8.6.5.1.3 is **280.19m²**. Stormwater attenuation for the 10% AEP and 1% AEP storm events with an adjustment for climate change will therefore be provided for this excess impermeable area.

Provided that the recommendations within this report are adhered to, the effects of stormwater runoff resulting from the unattenuated proposed / existing impermeable surfaces (375m² total) are considered to have less than minor effects on the receiving environment, equivalent to conditions that would result from development proposals falling within the Permitted Activity coverage threshold.

Stormwater Modelling Method

The attenuation calculations have been computed using HydroCAD modelling software. The model has been configured utilising the Rational Method (NZ Building Code E1). The rainfall intensity values for the 10% and 1% AEP storm events adjusted for climate change are as follows:

	Rainfall Intensity Values (RCP6.0 2081-2100)							
Time	10m	20m	30m	1h	2h	6h	12h	24h
10% AEP	119	86.4	71.6	51.5	36.3	19.6	12.7	7.90
1% AEP	179	130	108	78.0	55.2	30.1	19.5	12.2

The NIWA RCP6.0 rainfall data scenario for 2081-2100 has been used to account for climate change.

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 dwelling. 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 dwelling. Provision should be made by the homeowner for top-up of the tanks via water tankers in periods of low rainfall.

All potable 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 exceeding the Permitted Activity threshold. One of the tanks is to be fitted with a 100mmØ overflow outlet with flow attenuation outlets 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	3 x 25,000 litre Rainwater Tanks
Tank dimensions	3600mm Ø (or greater) x 2600mm high (or greater)
Outlet orifice (10% AEP control)	**43mm diameter orifice**; located >470mm below the overflow outlet - 293mm water elevation - 9.0m³ Storage
Outlet orifice (1% AEP control)	**25mm diameter orifice**; located 300mm above the 10% AEP control orifice - 467mm water elevation - 14.3m³ Storage
Overflow Outlet	**100mm diameter**; located at the top of the tank

Refer to the appended calculation set, Site Plan (131811-C200) and Tank Detail (131811-C201) for clarification. Discharge from the potable water / detention tanks must be transported via sealed pipes to an outlet in the proposed upstream bubble up sump for runoff conveyance to the proposed swale. A minimum 1m length of riprap lining is to be installed in the proposed swale downstream of the outlet.

The tank 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

It is recommended to shape the proposed concrete and metal driveways to shed runoff to a **minimum** 200mm deep x 500mm wide grassed / rock-lined v-channel swale toward the eastern side of the proposed driveway. The proposed swale is to have a bubble up sump at its lowest point which is to discharge directly to the discharge point specified below. Refer to the appended Site Plan (131811-C200) and calculation set for clarification.

A minimum 1m length of 6-inch riprap lining is to be installed in the proposed swale downstream of the tank's outlet. The last 1m of the swale is to be lined with minimum 6-inch riprap for erosion protection before discharging to the proposed downstream bubble up sump. Refer to the appended Site Plan (131811-C200).

The silt trap and drainage piping should be in accordance with E1 Surface Water of the NZBC. The silt trap must have a minimum 300mm sump for debris settlement to serve as a pre-treatment device prior to discharging to the discharge point.

Runoff resulting from smaller hardstand areas are to be shaped to shed to an equal or greater sized area of lower-lying lawn / planted areas for passive mitigation. Runoff passed through lawn / planted areas will be naturally filtered of entrained pollutants via filtration and evapotranspiration.

Discharge Point

It is recommended that the proposed downstream bubble up sump be fitted with a 100mmØ outflow pipe draining to a kerb outlet along The Lakes Drive.

Permission from Council should be sought for any works outside the property boundary.

7. STORMWATER RUNOFF SUMMARY

Refer to the appended HydroCAD Calculation output.

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

Surface	*Area*	*Runoff C*	*10% AEP Peak Flow Rate*	*1% AEP Flow Peak Rate*
Greenfields Impermeable Roof Area Exceeding Permitted Activity Threshold	280.19 m²	0.59	2.05ℓ/s	3.10ℓ/s

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

Surface	*Area*	*Runoff C*	*10% AEP Peak Flow Rate*	*1% AEP Flow Peak Rate*
Post-Development Roof Area Exceeding Permitted Activity Threshold via Detention Tank	280.19 m²	0.96	2.01ℓ/s	3.09ℓ/s

Given the design parameters, stormwater neutrality has been achieved for the 10% AEP and 1% AEP storm events across the proposed impermeable surfaces over the permitted activity threshold.

8. DISTRICT PLAN ASSESSMENT

As the proposed development is not compliant with Permitted Activity Rule 8.7.5.1.5, nor Controlled Activity Rule 8.7.5.2.2, it is therefore regarded as a Discretionary Activity.

In assessing an application under this provision, the Council will exercise its discretion to review the following matters below, (a) through (m) of FNDCDP Section 11.3.

In respect of matters (a) through (m), we provide the following comments:

(a) the extent to which building site coverage and Impermeable Surfaces contribute to total catchment impermeability and the provisions of any catchment or drainage plan for that catchment;	Impermeable surfaces resulting from the development increase site impermeability. Through tank attenuation, runoff is to be attenuated to pre-development conditions for the proposed impermeable coverage exceeding the Permitted Activity threshold.
(b) the extent to which Low Impact Design principles have been used to reduce site impermeability;	The impermeable areas in exceedance of Permitted Activity Rule 8.7.5.1.5 have been attenuated back to pre-development flow rates for the 10% AEP and 1% AEP storm events, adjusted for climate change. Low impact design principles have been implemented via specifications for erosion protection at the system outfall.
(c) any cumulative effects on total catchment impermeability;	Impervious coverage will increase by 655.19m².
(d) the extent to which building site coverage and Impermeable Surfaces will alter the natural contour or drainage patterns of the site or disturb the ground and alter its ability to absorb water;	Runoff from the proposed roof areas is to be collected and directed to the discharge point via sealed pipes. Ponding is not anticipated to occur provided the recommendations within this report are adhered to, mitigating interference with natural water absorption.
(e) the physical qualities of the soil type;	Kerikeri Volcanic Group. Moderate drainage.
(f) any adverse effects on the life supporting capacity of soils;	Stormwater runoff from the proposed impermeable roof areas is to be collected and directed to stormwater management devices via sealed pipes, runoff from the proposed driveway to be collected in grassed channel mitigating the potential for contamination of surrounding soils and harm to life supporting capacity of soils.
(g) the availability of land for the disposal of effluent and stormwater on the site without adverse effects on the water quantity and water quality of water bodies (including groundwater and aquifers) or on adjacent sites;	Runoff resulting from the proposed roof areas and hardstand area is to be collected and directed to the discharge point via grassed channel & sealed pipes, mitigating the potential for runoff to pass over / saturate surrounding soils. The site is large enough for on-site stormwater and effluent disposal (i.e setbacks between water sources and effluent disposal comply with Table 9 of the PRPN).
(h) the extent to which paved, Impermeable Surfaces are necessary for the proposed activity;	Proposed driveway necessary to provide the dwelling with access and is not considered excessive.

(i) the extent to which land scaping and vegetation may reduce adverse effects of run-off;	Existing vegetation and any plantings introduced by the homeowner during occupancy will aid in reducing surface water velocity and providing treatment. No specific landscaping scheme is proposed as part of the stormwater management system described herein.
(j) any recognised standards promulgated by industry groups;	Not applicable.
k) the means and effectiveness of mitigating stormwater runoff to that expected by permitted activity threshold;	The impermeable areas in exceedance of Permitted Activity Rule 8.7.5.1.5 have been attenuated back to pre-development flow rates for the 10% AEP and 1% AEP storm event, adjusted for climate change.
(l) the extent to which the proposal has considered and provided for climate change;	NIWA RCP6.0 rainfall data scenario for 2081-2100 has been used for the post-development flow scenario.
(m) the extent to which stormwater detention ponds and other engineering solutions are used to mitigate any adverse effects.	The impermeable areas in exceedance of Permitted Activity Rule 8.7.5.1.5 have been attenuated back to pre-development flow rates for the 10% AEP and 1% AEP storm event, adjusted for climate change.

9. 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 (131811-C200 & 131811-C201).

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.

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), 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.

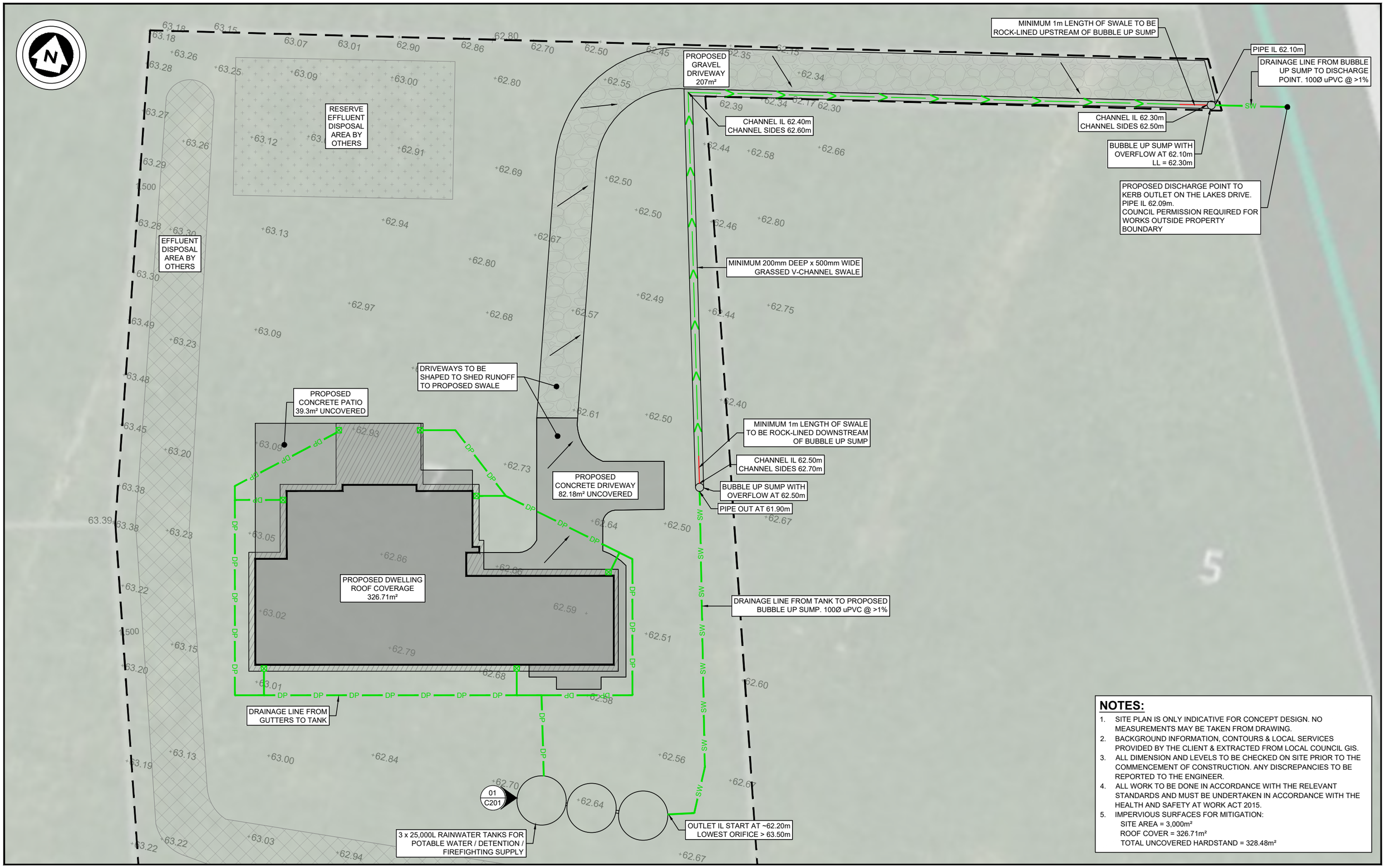
This report has been prepared for the particular project described to us and no responsibility is accepted for the use of any part of this report in any other context or for any other purpose.

Wilton Joubert Ltd.

Gustavo Brant
Civil Engineer
BE(Hons)

REPORT ATTACHMENTS

- Site Plan - C200 (1 sheet)
- Tank Detail - C201 (1 sheet)
- 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 = 3,000m²
   ROOF COVER = 326.71m²
   TOTAL UNCOVERED HARDSTAND = 328.48m²

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

ISSUE / REVISION

No.	DATE	BY	DESCRIPTION
A	FEB '24	GB	STORMWATER MITIGATION REPORT
B	MAR '24	GB	STORMWATER MITIGATION REPORT REV B

DESIGNED BY: GB
DRAWN BY: GB
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**

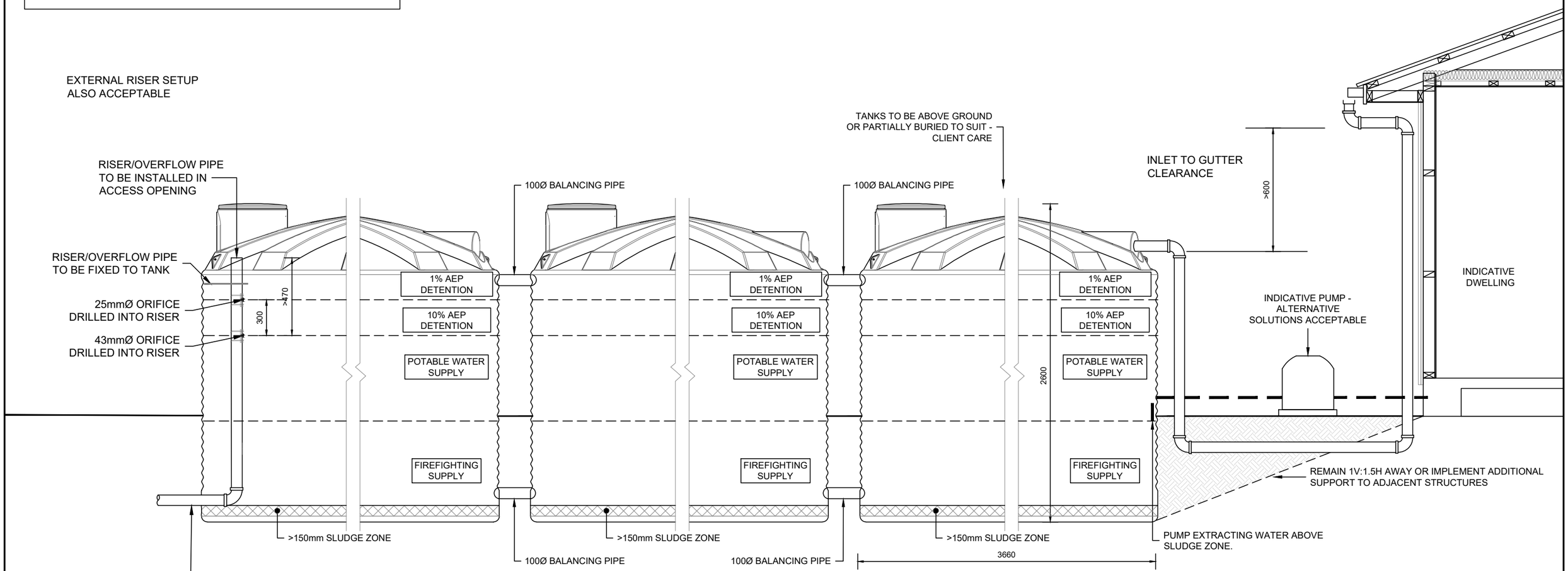
PROJECT TITLE: **LOT 2 DP 544271
7 THE LAKES DRIVE
KERIKERI
NORTHLAND**

ORIGINAL DRAWING SIZE: A3	OFFICE: OREWA
DRAWING SCALE: 1:250	CO-ORDINATE SYSTEM: NOT COORDINATED
DRAWING NUMBER: 131811-C200	ISSUE: B

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. MINIMUM SLUDGE ZONE OF 150mm TO BE KEPT.
6. ALL ORIFICE OUTLETS TO BE COVERED WITH STAINLESS STEEL OR NYLON MESH.
7. ASSUMED USE OF A 3 x 25,000 LITRE PROMAX WATER TANKS OR SIMILARLY APPROVED.

SUPERCEDED - REFER APPENDIX E



01 / C200 **TANK DETAIL**
N.T.S

WILTON JOUBERT
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ISSUE / REVISION

No.	DATE	BY	DESCRIPTION
A	FEB '24	GB	STORMWATER MITIGATION REPORT
B	MAR '24	GB	STORMWATER MITIGATION REPORT REV B

DESIGNED BY: GB
DRAWN BY: GB
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

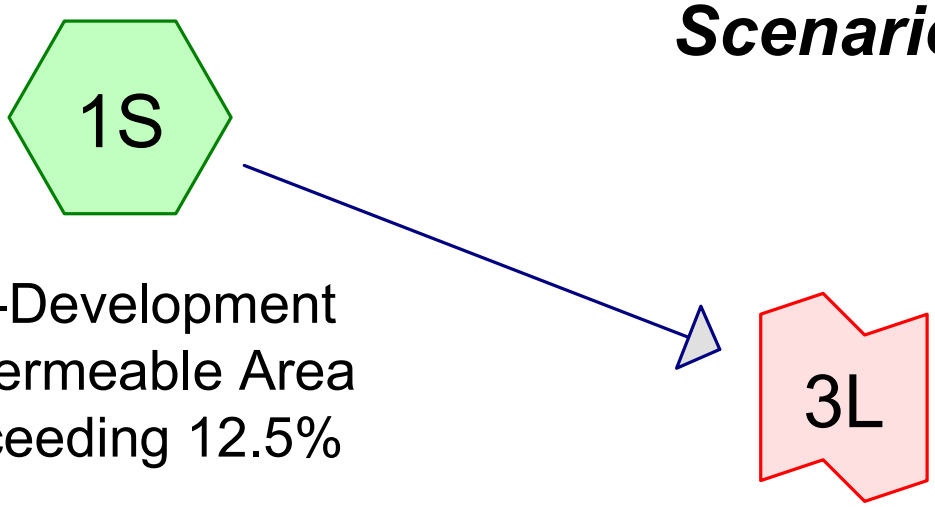
DRAWING TITLE: **TANK DETAIL**

PROJECT DESCRIPTION: **STORMWATER MITIGATION REPORT**

PROJECT TITLE: **LOT 2 DP 544271 7 THE LAKES DRIVE KERIKERI NORTHLAND**

ORIGINAL DRAWING SIZE:	OFFICE:
A3	OREWA
DRAWING SCALE:	CO-ORDINATE SYSTEM:
N.T.S	NOT COORDINATED
DRAWING NUMBER:	ISSUE:
131811-C201	B

Pre-Development Scenario



Pre-Development
Impermeable Area
Exceeding 12.5%

Pre-Development

Subcat Reach Pond Link

Routing Diagram for 131811
Prepared by Wilton Joubert Limited, Printed 9/02/2024

Time span=0.00-3.00 hrs, dt=0.01 hrs, 301 points
Runoff by Rational method, Rise/Fall=1.0/1.0 xTc
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Pre-Development Runoff Area=280.2 m² 0.00% Impervious Runoff Depth=35 mm
Tc=10.0 min C=0.59 Runoff=2.05 L/s 9.8 m³

Link 3L: Pre-Development Inflow=2.05 L/s 9.8 m³
Primary=2.05 L/s 9.8 m³

Summary for Subcatchment 1S: Pre-Development Impermeable Area Exceeding 12.5%

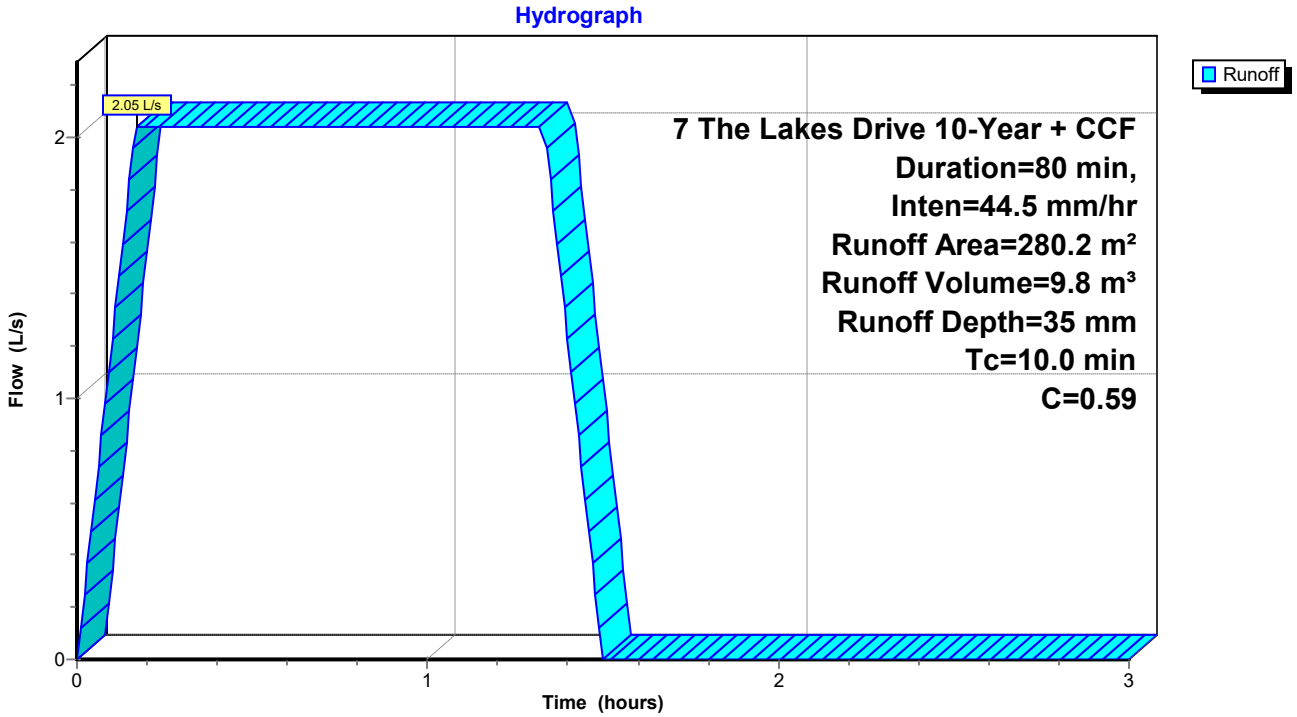
Runoff = 2.05 L/s @ 0.17 hrs, Volume= 9.8 m³, Depth= 35 mm

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
7 The Lakes Drive 10-Year + CCF Duration=80 min, Inten=44.5 mm/hr

Area (m²)	C	Description
280.2	0.59	Grass, short
280.2		100.00% Pervious Area

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

Subcatchment 1S: Pre-Development Impermeable Area Exceeding 12.5%

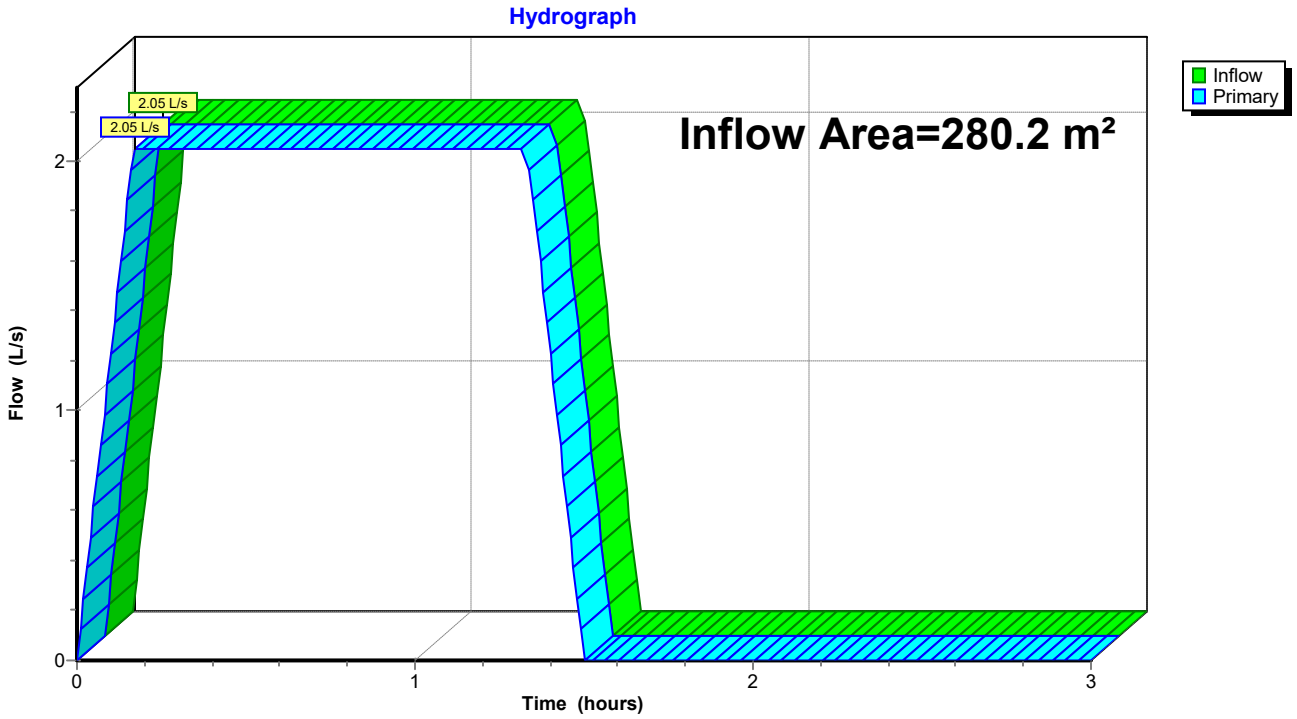


Summary for Link 3L: Pre-Development

Inflow Area = 280.2 m², 0.00% Impervious, Inflow Depth = 35 mm for 10-Year + CCF event
Inflow = 2.05 L/s @ 0.17 hrs, Volume= 9.8 m³
Primary = 2.05 L/s @ 0.17 hrs, Volume= 9.8 m³, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs

Link 3L: Pre-Development



Time span=0.00-3.00 hrs, dt=0.01 hrs, 301 points
Runoff by Rational method, Rise/Fall=1.0/1.0 xTc
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 1S: Pre-Development Runoff Area=280.2 m² 0.00% Impervious Runoff Depth=53 mm
Tc=10.0 min C=0.59 Runoff=3.10 L/s 14.9 m³

Link 3L: Pre-Development Inflow=3.10 L/s 14.9 m³
Primary=3.10 L/s 14.9 m³

Summary for Subcatchment 1S: Pre-Development Impermeable Area Exceeding 12.5%

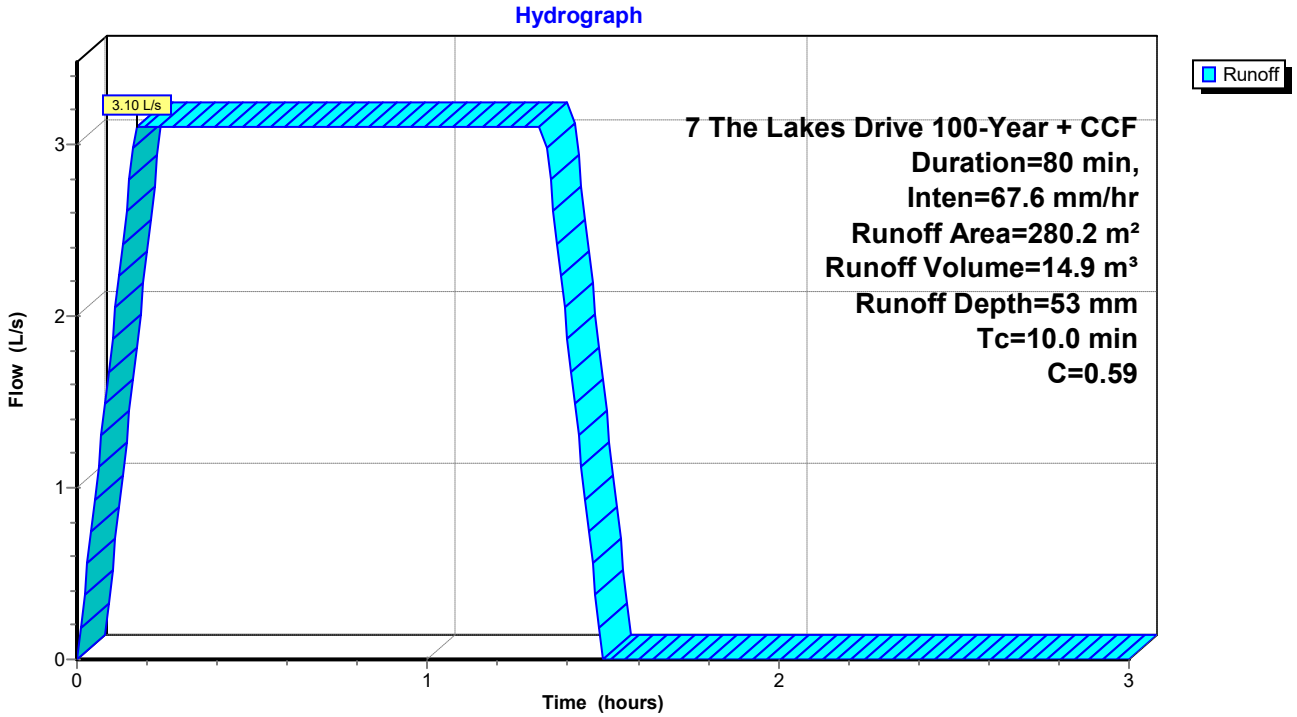
Runoff = 3.10 L/s @ 0.17 hrs, Volume= 14.9 m³, Depth= 53 mm

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
7 The Lakes Drive 100-Year + CCF Duration=80 min, Inten=67.6 mm/hr

Area (m²)	C	Description
280.2	0.59	Grass, short
280.2		100.00% Pervious Area

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

Subcatchment 1S: Pre-Development Impermeable Area Exceeding 12.5%

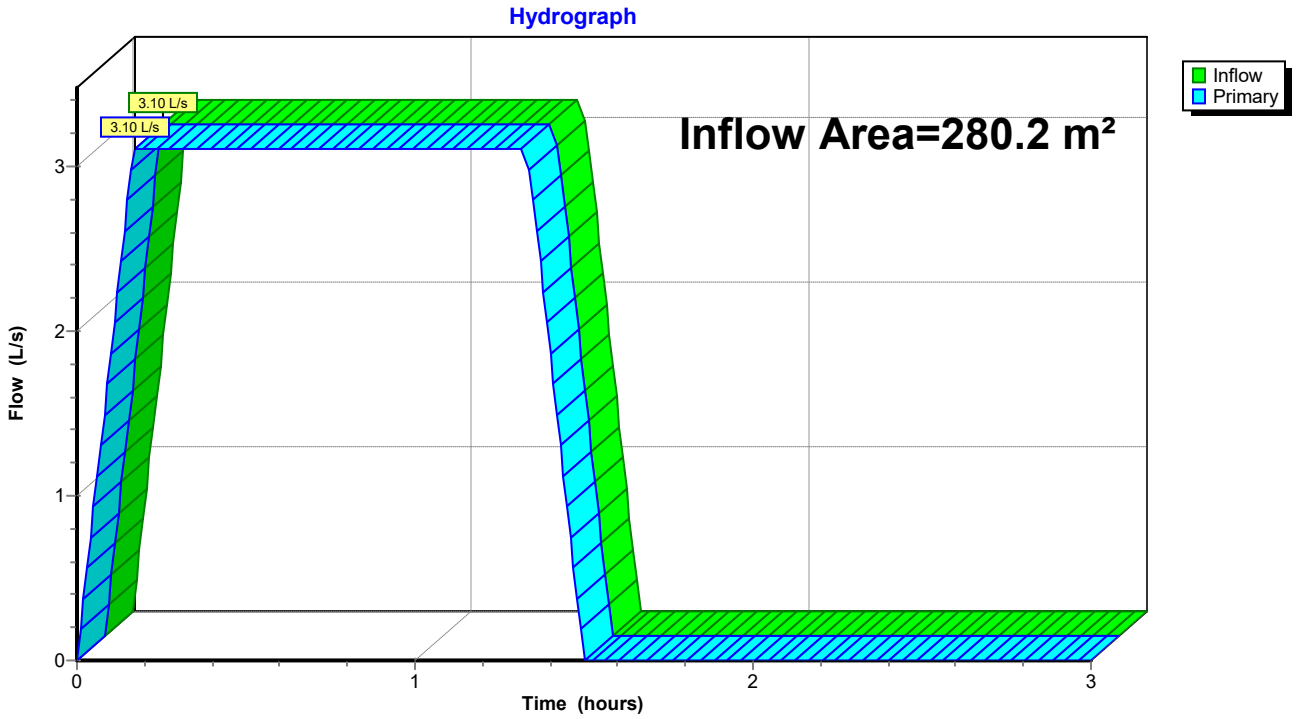


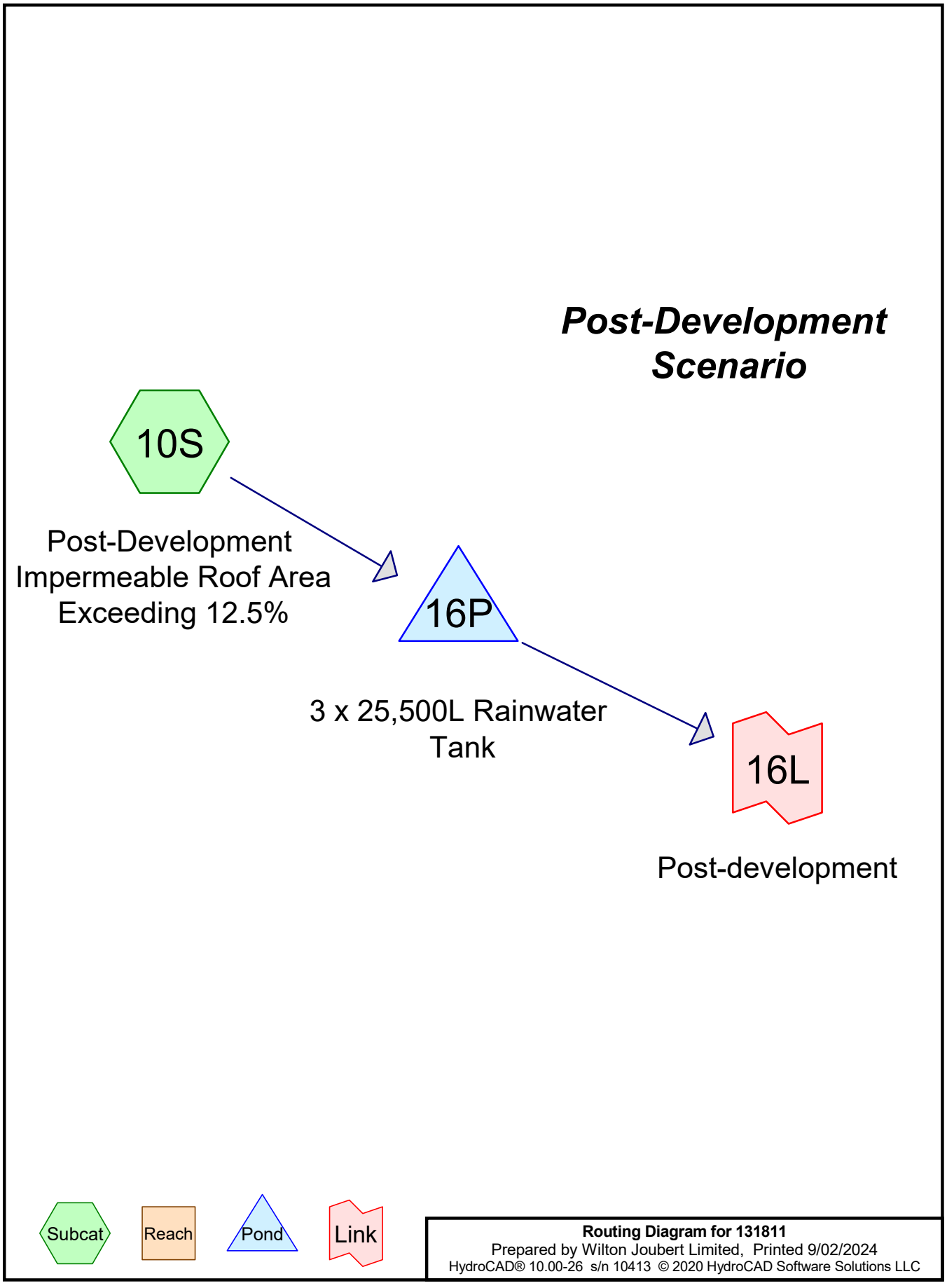
Summary for Link 3L: Pre-Development

Inflow Area = 280.2 m², 0.00% Impervious, Inflow Depth = 53 mm for 100-Year + CCF event
Inflow = 3.10 L/s @ 0.17 hrs, Volume= 14.9 m³
Primary = 3.10 L/s @ 0.17 hrs, Volume= 14.9 m³, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs

Link 3L: Pre-Development





Routing Diagram for 131811
Prepared by Wilton Joubert Limited, Printed 9/02/2024

Time span=0.00-3.00 hrs, dt=0.01 hrs, 301 points
Runoff by Rational method, Rise/Fall=1.0/1.0 xTc
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 10S: Post-Development Runoff Area=280.2 m² 100.00% Impervious Runoff Depth=57 mm
Tc=10.0 min C=0.96 Runoff=3.33 L/s 16.0 m³

Pond 16P: 3 x 25,500L Rainwater Tank Peak Elev=0.293 m Storage=9.0 m³ Inflow=3.33 L/s 16.0 m³
Outflow=2.01 L/s 14.5 m³

Link 16L: Post-development Inflow=2.01 L/s 14.5 m³
Primary=2.01 L/s 14.5 m³

Summary for Subcatchment 10S: Post-Development Impermeable Roof Area Exceeding 12.5%

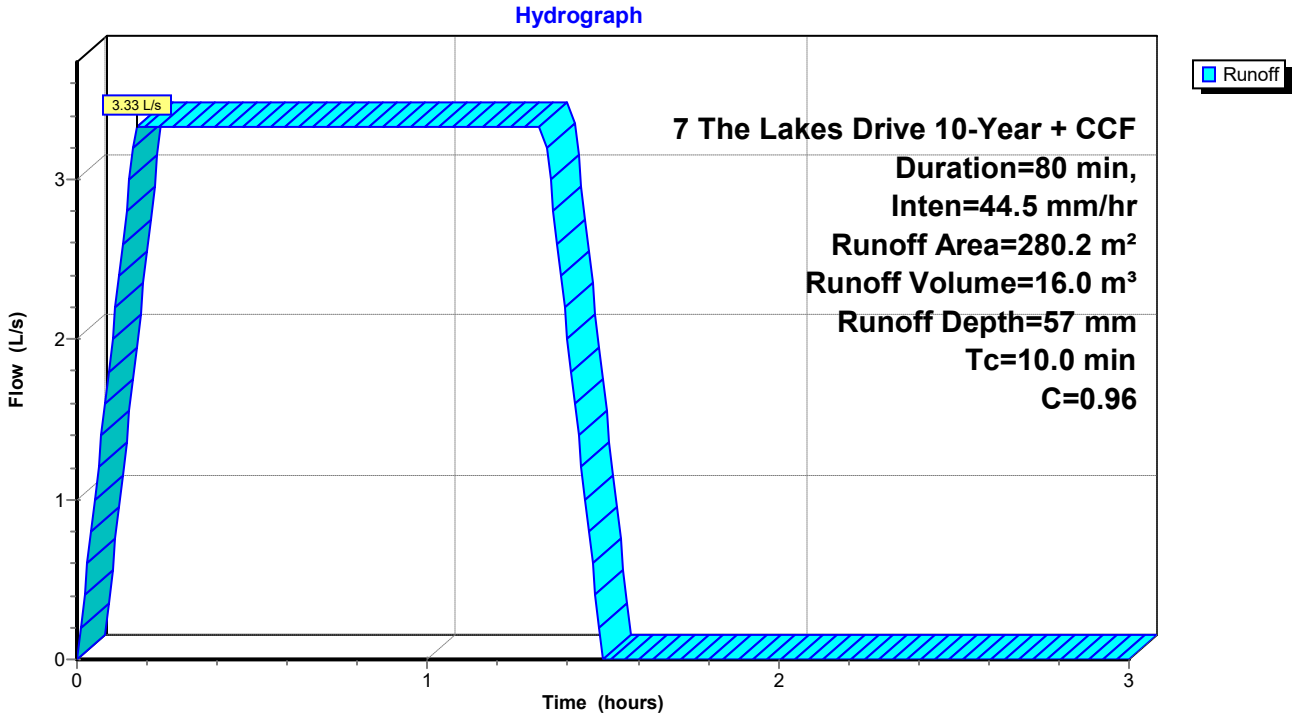
Runoff = 3.33 L/s @ 0.17 hrs, Volume= 16.0 m³, Depth= 57 mm

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
7 The Lakes Drive 10-Year + CCF Duration=80 min, Inten=44.5 mm/hr

Area (m²)	C	Description
280.2	0.96	Roof
280.2		100.00% Impervious Area

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

Subcatchment 10S: Post-Development Impermeable Roof Area Exceeding 12.5%



Summary for Pond 16P: 3 x 25,500L Rainwater Tank

Inflow Area = 280.2 m², 100.00% Impervious, Inflow Depth = 57 mm for 10-Year + CCF event
Inflow = 3.33 L/s @ 0.17 hrs, Volume= 16.0 m³
Outflow = 2.01 L/s @ 1.40 hrs, Volume= 14.5 m³, Atten= 40%, Lag= 73.8 min
Primary = 2.01 L/s @ 1.40 hrs, Volume= 14.5 m³

Routing by Stor-Ind method, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
Peak Elev= 0.293 m @ 1.40 hrs Surf.Area= 30.5 m² Storage= 9.0 m³

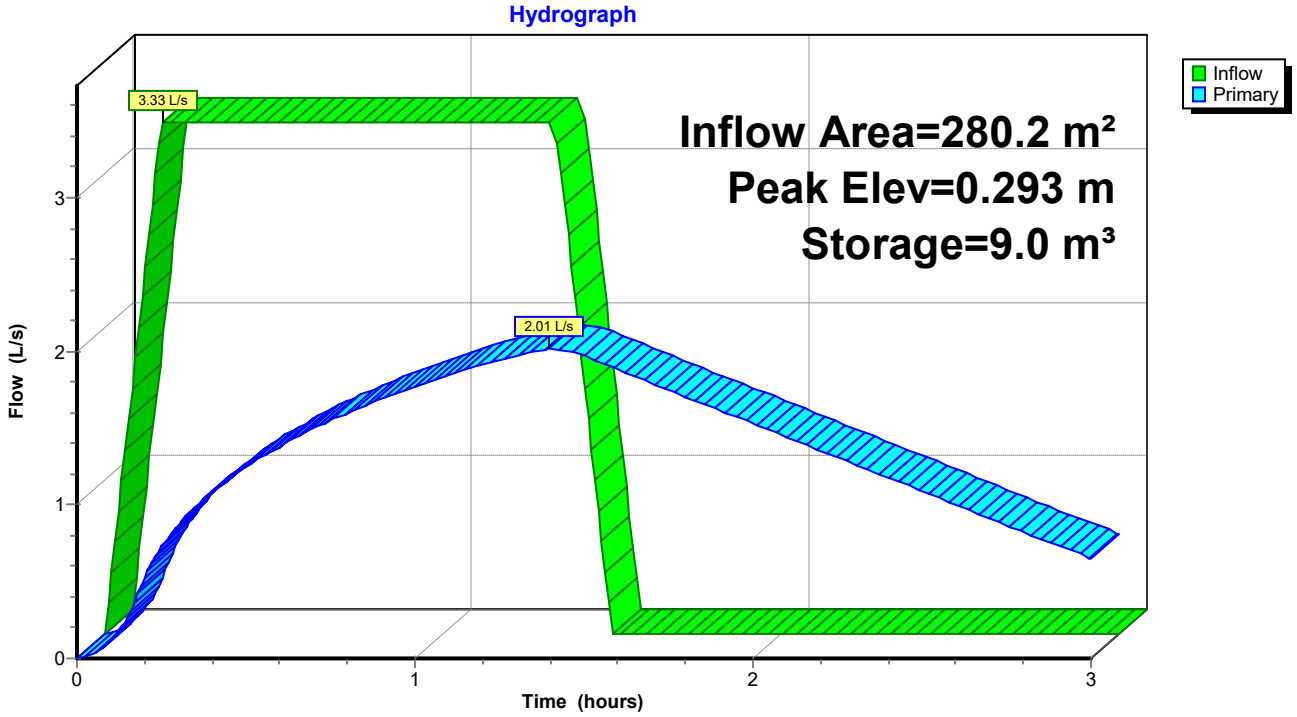
Plug-Flow detention time= 49.6 min calculated for 14.4 m³ (90% of inflow)
Center-of-Mass det. time= 45.9 min (90.9 - 45.0)

Volume	Invert	Avail.Storage	Storage Description
#1	0.000 m	79.4 m³	**3.60 mD x 2.60 mH Vertical Cone/Cylinder** x 3

Device	Routing	Invert	Outlet Devices	
#1	Primary	0.000 m	**43 mm Vert. Orifice/Grate**	C= 0.600
#2	Primary	0.300 m	**25 mm Vert. Orifice/Grate**	C= 0.600

Primary OutFlow Max=2.01 L/s @ 1.40 hrs HW=0.293 m (Free Discharge)
└**1=Orifice/Grate** (Orifice Controls 2.01 L/s @ 1.39 m/s)
└**2=Orifice/Grate** (Controls 0.00 L/s)

Pond 16P: 3 x 25,500L Rainwater Tank

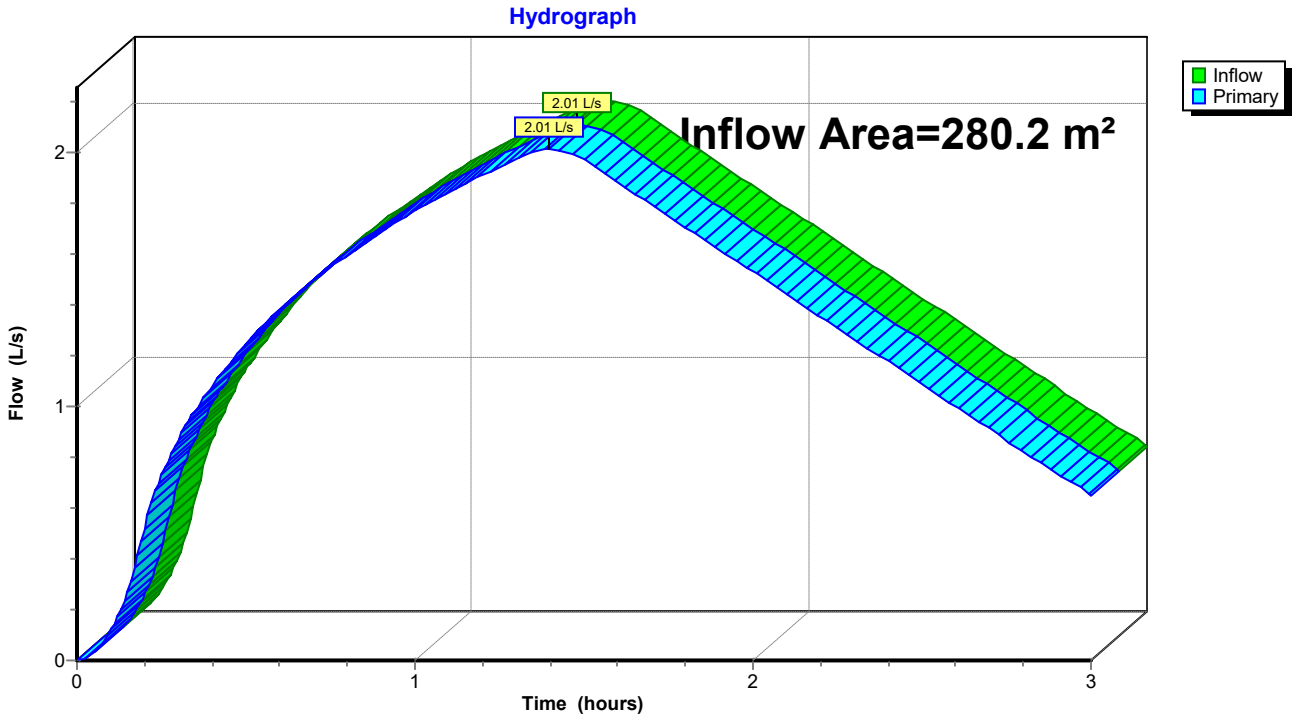


Summary for Link 16L: Post-development

Inflow Area = 280.2 m²,100.00% Impervious, Inflow Depth > 52 mm for 10-Year + CCF event
Inflow = 2.01 L/s @ 1.40 hrs, Volume= 14.5 m³
Primary = 2.01 L/s @ 1.40 hrs, Volume= 14.5 m³, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs

Link 16L: Post-development



Time span=0.00-3.00 hrs, dt=0.01 hrs, 301 points
Runoff by Rational method, Rise/Fall=1.0/1.0 xTc
Reach routing by Stor-Ind+Trans method - Pond routing by Stor-Ind method

Subcatchment 10S: Post-Development Runoff Area=280.2 m² 100.00% Impervious Runoff Depth=86 mm
Tc=10.0 min C=0.96 Runoff=5.05 L/s 24.2 m³

Pond 16P: 3 x 25,500L Rainwater Tank Peak Elev=0.467 m Storage=14.3 m³ Inflow=5.05 L/s 24.2 m³
Outflow=3.09 L/s 20.9 m³

Link 16L: Post-development Inflow=3.09 L/s 20.9 m³
Primary=3.09 L/s 20.9 m³

Summary for Subcatchment 10S: Post-Development Impermeable Roof Area Exceeding 12.5%

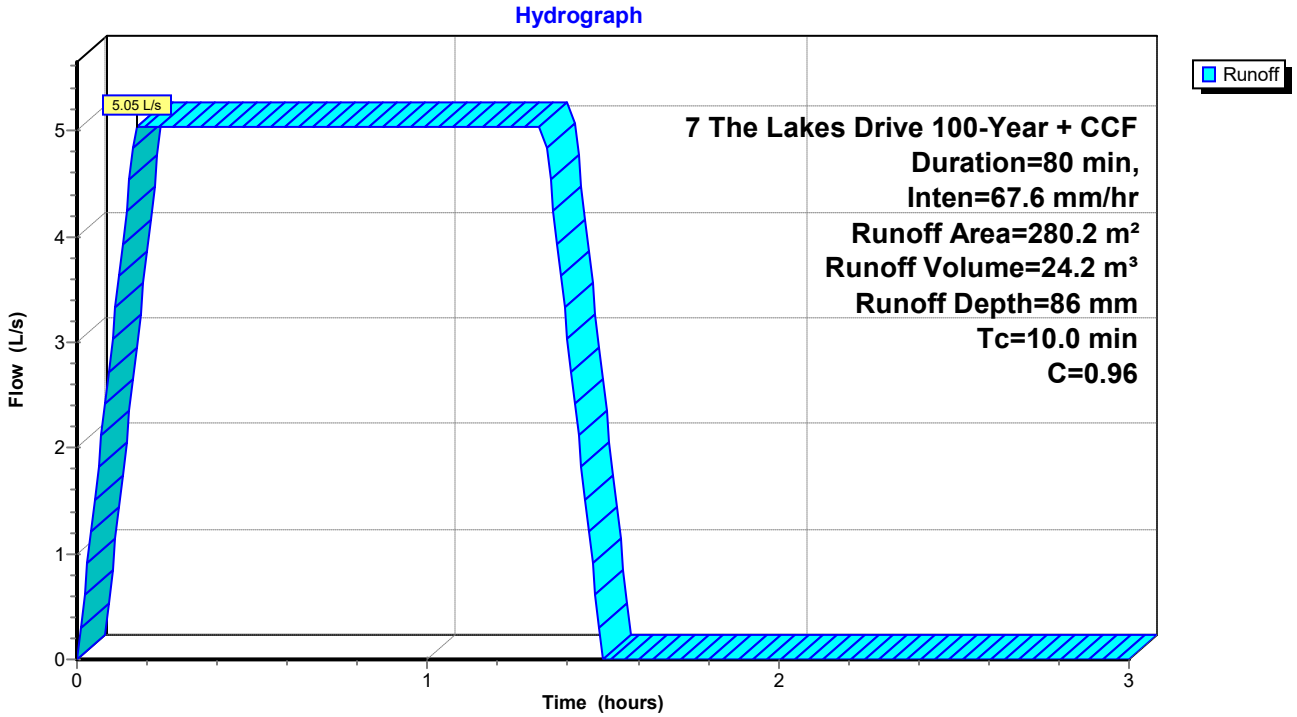
Runoff = 5.05 L/s @ 0.17 hrs, Volume= 24.2 m³, Depth= 86 mm

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
7 The Lakes Drive 100-Year + CCF Duration=80 min, Inten=67.6 mm/hr

Area (m²)	C	Description
280.2	0.96	Roof
280.2		100.00% Impervious Area

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

Subcatchment 10S: Post-Development Impermeable Roof Area Exceeding 12.5%



Summary for Pond 16P: 3 x 25,500L Rainwater Tank

Inflow Area = 280.2 m²,100.00% Impervious, Inflow Depth = 86 mm for 100-Year + CCF event
Inflow = 5.05 L/s @ 0.17 hrs, Volume= 24.2 m³
Outflow = 3.09 L/s @ 1.40 hrs, Volume= 20.9 m³, Atten= 39%, Lag= 73.7 min
Primary = 3.09 L/s @ 1.40 hrs, Volume= 20.9 m³

Routing by Stor-Ind method, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
Peak Elev= 0.467 m @ 1.40 hrs Surf.Area= 30.5 m² Storage= 14.3 m³

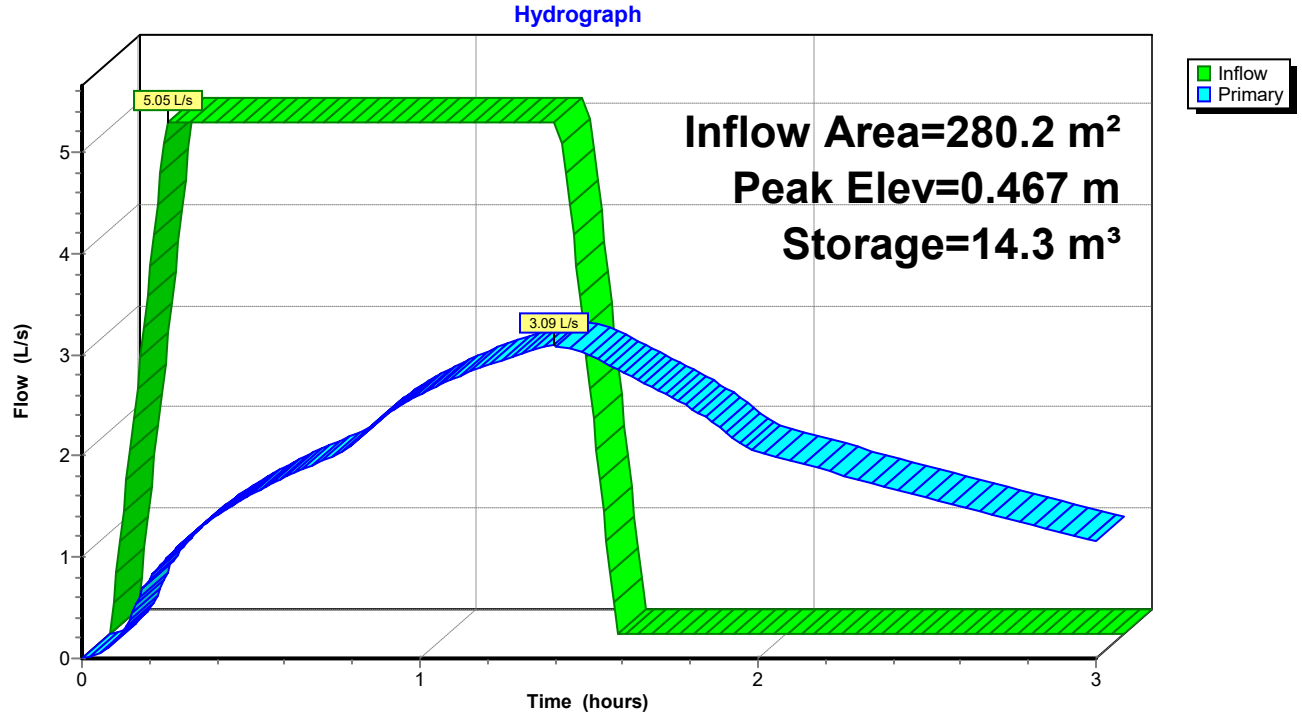
Plug-Flow detention time= 52.6 min calculated for 20.8 m³ (86% of inflow)
Center-of-Mass det. time= 47.2 min (92.2 - 45.0)

Volume	Invert	Avail.Storage	Storage Description
#1	0.000 m	79.4 m³	**3.60 mD x 2.60 mH Vertical Cone/Cylinder** x 3

Device	Routing	Invert	Outlet Devices	
#1	Primary	0.000 m	**43 mm Vert. Orifice/Grate**	C= 0.600
#2	Primary	0.300 m	**25 mm Vert. Orifice/Grate**	C= 0.600

Primary OutFlow Max=3.09 L/s @ 1.40 hrs HW=0.467 m (Free Discharge)
└**1=Orifice/Grate** (Orifice Controls 2.58 L/s @ 1.77 m/s)
└**2=Orifice/Grate** (Orifice Controls 0.51 L/s @ 1.04 m/s)

Pond 16P: 3 x 25,500L Rainwater Tank

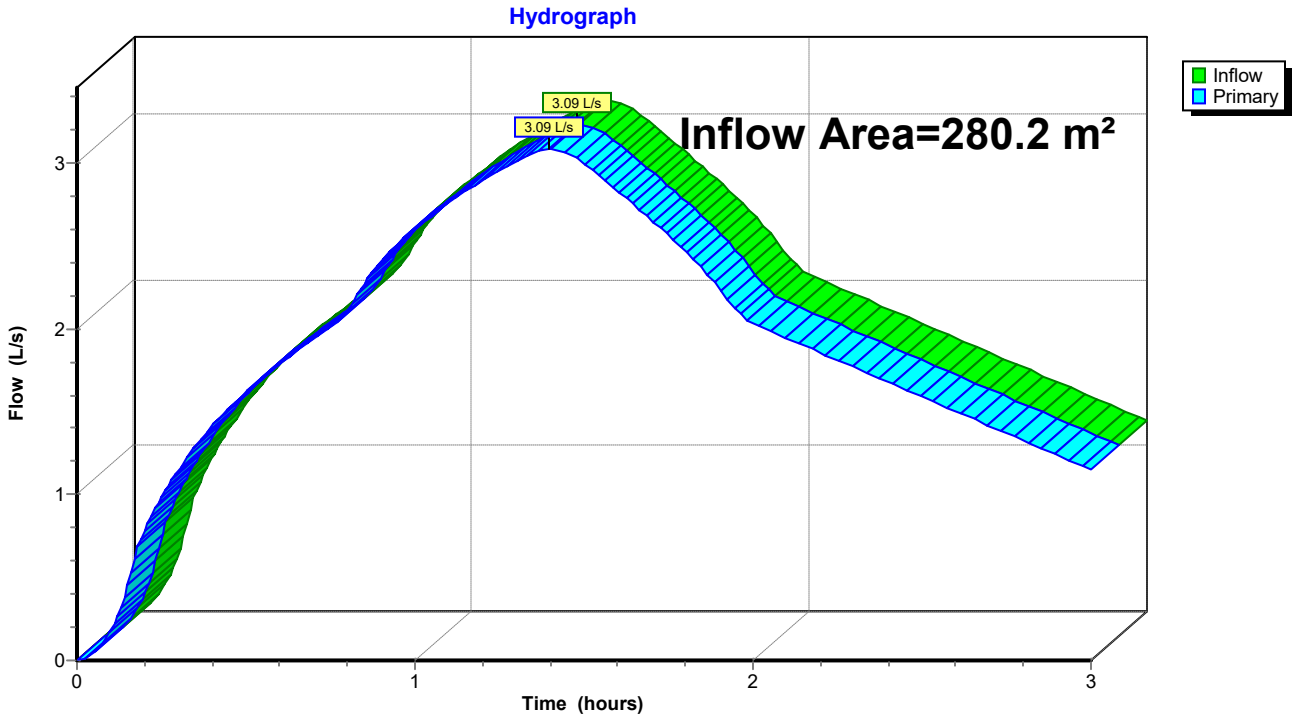


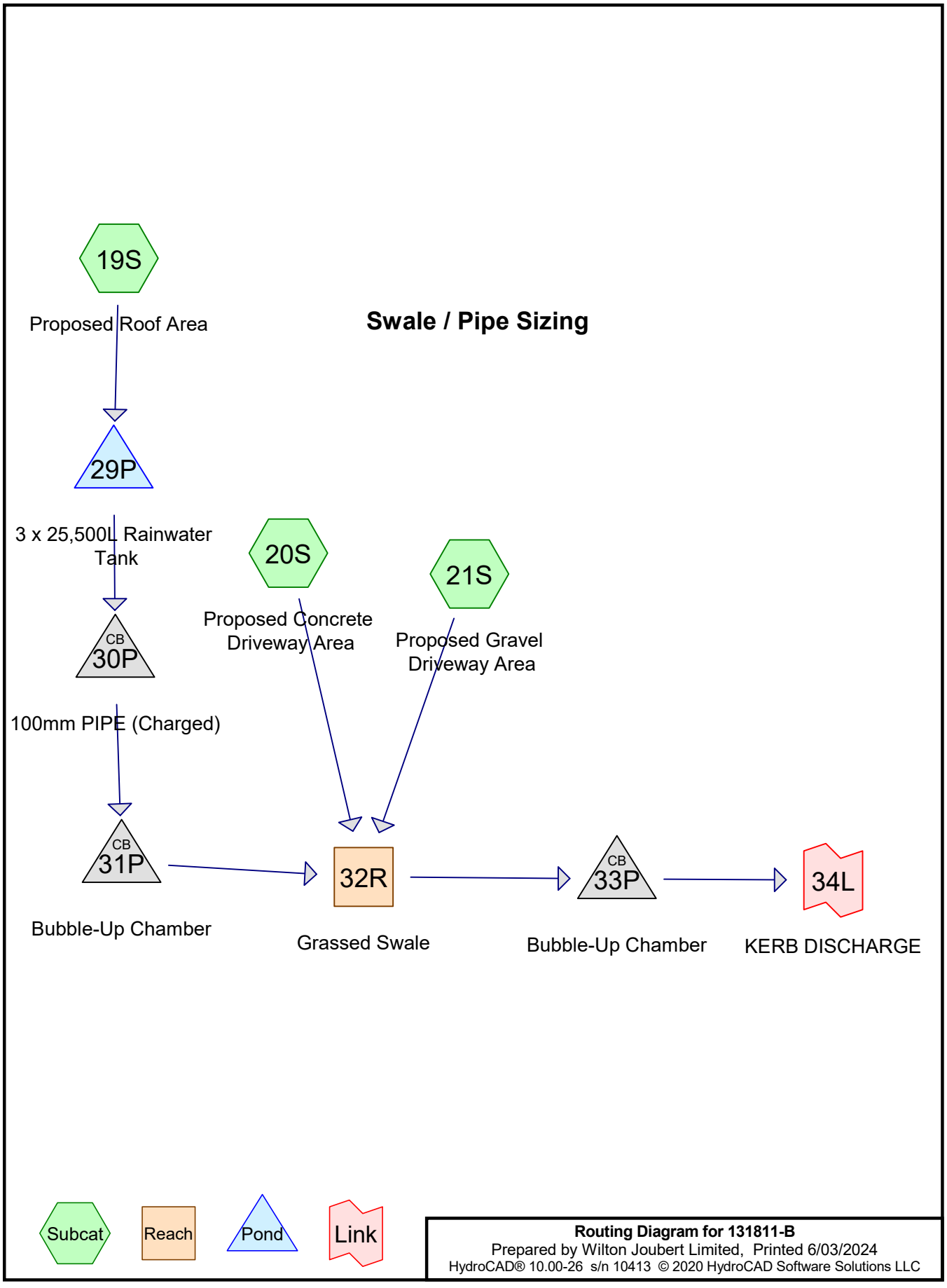
Summary for Link 16L: Post-development

Inflow Area = 280.2 m²,100.00% Impervious, Inflow Depth > 74 mm for 100-Year + CCF event
Inflow = 3.09 L/s @ 1.40 hrs, Volume= 20.9 m³
Primary = 3.09 L/s @ 1.40 hrs, Volume= 20.9 m³, Atten= 0%, Lag= 0.0 min

Primary outflow = Inflow, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs

Link 16L: Post-development




Swale / Pipe Sizing
19S
Proposed Roof Area
29P
3 x 25,500L Rainwater Tank
CB
30P
100mm PIPE (Charged)
CB
31P
Bubble-Up Chamber
20S
Proposed Concrete Driveway Area
21S
Proposed Gravel Driveway Area
32R
Grassed Swale
CB
33P
Bubble-Up Chamber
34L
KERB DISCHARGE
Subcat
Reach
Pond
Link
Routing Diagram for 131811-B
Prepared by Wilton Joubert Limited, Printed 6/03/2024
HydroCAD® 10.00-26 s/n 10413 © 2020 HydroCAD Software Solutions LLC

Time span=0.00-3.00 hrs, dt=0.01 hrs, 301 points
Runoff by Rational method, Rise/Fall=1.0/1.0 xTc
Reach routing by Sim-Route method - Pond routing by Sim-Route method

Subcatchment 19S: Proposed Roof Area Runoff Area=326.7 m² 100.00% Impervious Runoff Depth=86 mm
Tc=10.0 min C=0.96 Runoff=5.89 L/s 28.3 m³

Subcatchment 20S: Proposed Concrete Runoff Area=82.2 m² 100.00% Impervious Runoff Depth=86 mm
Tc=10.0 min C=0.96 Runoff=1.48 L/s 7.1 m³

Subcatchment 21S: Proposed Gravel Runoff Area=82.2 m² 0.00% Impervious Runoff Depth=72 mm
Tc=10.0 min C=0.80 Runoff=1.23 L/s 5.9 m³

Reach 32R: Grassed Swale Avg. Flow Depth=0.14 m Max Vel=0.26 m/s Inflow=6.12 L/s 36.8 m³
n=0.030 L=65.00 m S=0.0031 m/m Capacity=16.04 L/s Outflow=6.05 L/s 36.3 m³

Pond 29P: 3 x 25,500L Rainwater Tank Peak Elev=64.056 m Storage=17.0 m³ Inflow=5.89 L/s 28.3 m³
Outflow=3.46 L/s 23.9 m³

Pond 30P: 100mm PIPE (Charged) Peak Elev=62.773 m Inflow=3.46 L/s 23.8 m³
Outflow=3.46 L/s 23.8 m³

Pond 31P: Bubble-Up Chamber Peak Elev=62.666 m Inflow=3.46 L/s 23.8 m³
Outflow=3.46 L/s 23.8 m³

Pond 33P: Bubble-Up Chamber Peak Elev=62.292 m Inflow=6.05 L/s 36.2 m³
90 mm Round Culvert n=0.011 L=5.00 m S=0.0080 m/m Outflow=6.05 L/s 36.2 m³

Link 34L: KERB DISCHARGE Inflow=6.05 L/s 36.2 m³
Primary=6.05 L/s 36.2 m³

Summary for Subcatchment 19S: Proposed Roof Area

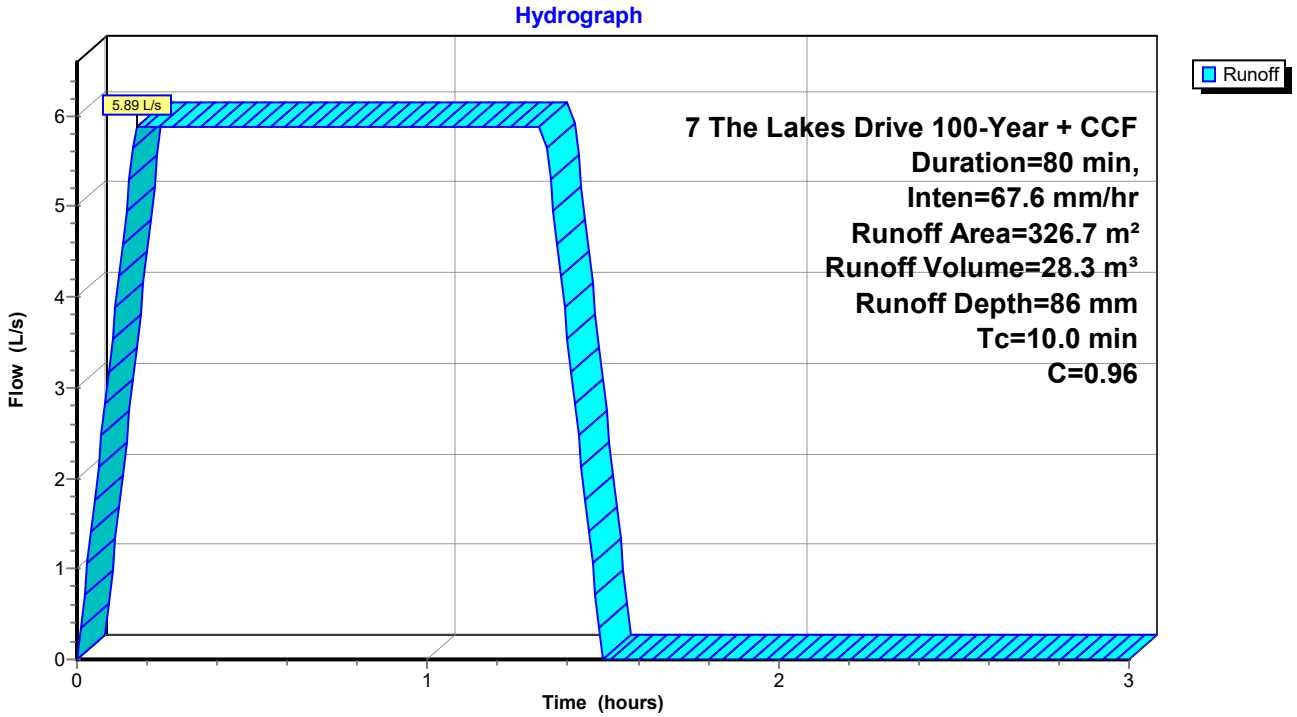
Runoff = 5.89 L/s @ 0.17 hrs, Volume= 28.3 m³, Depth= 86 mm

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
7 The Lakes Drive 100-Year + CCF Duration=80 min, Inten=67.6 mm/hr

Area (m²)	C	Description
326.7	0.96	Roof
326.7		100.00% Impervious Area

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

Subcatchment 19S: Proposed Roof Area



Summary for Subcatchment 20S: Proposed Concrete Driveway Area

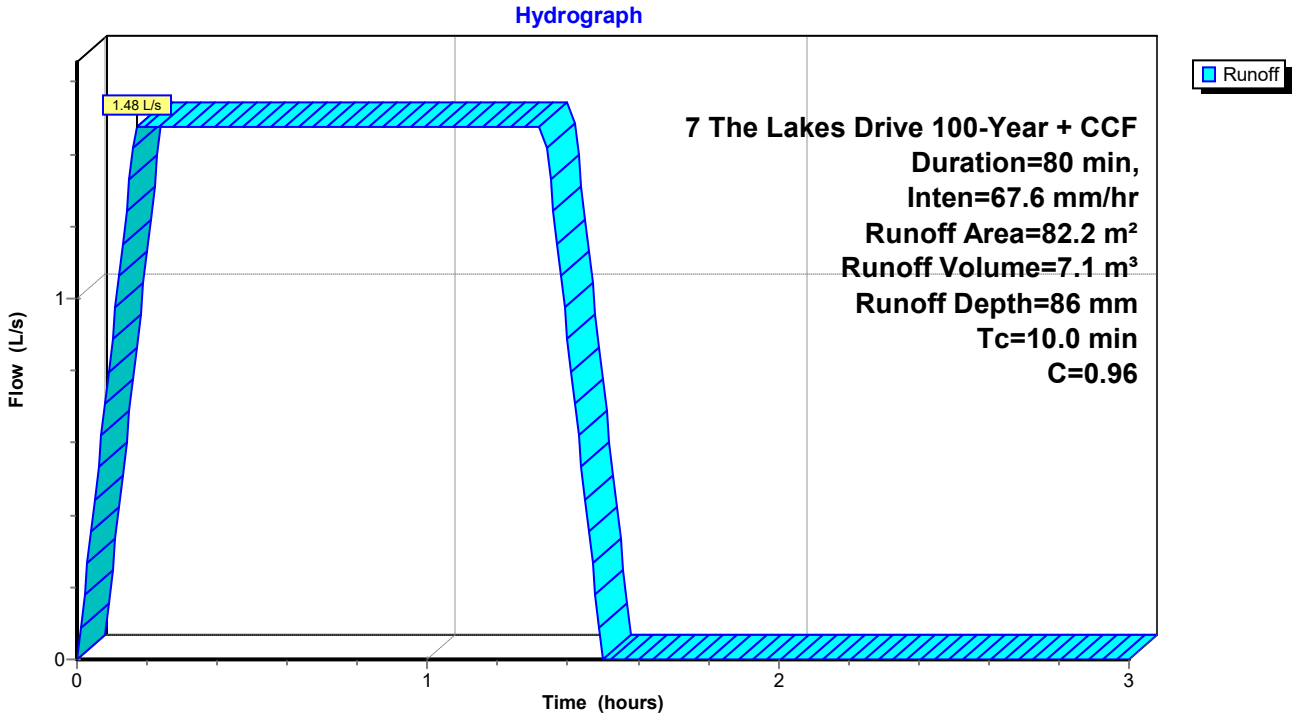
Runoff = 1.48 L/s @ 0.17 hrs, Volume= 7.1 m³, Depth= 86 mm

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
7 The Lakes Drive 100-Year + CCF Duration=80 min, Inten=67.6 mm/hr

Area (m²)	C	Description
82.2	0.96	Concrete
82.2		100.00% Impervious Area

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

Subcatchment 20S: Proposed Concrete Driveway Area



Summary for Subcatchment 21S: Proposed Gravel Driveway Area

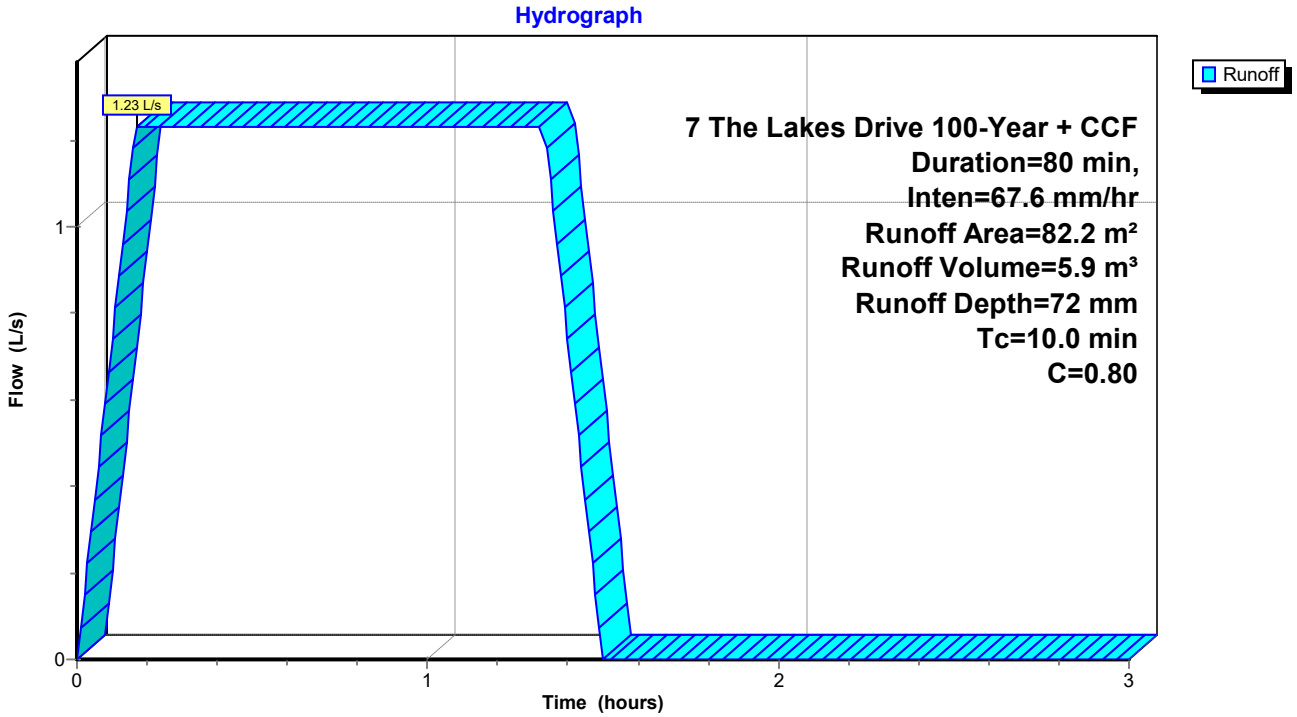
Runoff = 1.23 L/s @ 0.17 hrs, Volume= 5.9 m³, Depth= 72 mm

Runoff by Rational method, Rise/Fall=1.0/1.0 xTc, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
7 The Lakes Drive 100-Year + CCF Duration=80 min, Inten=67.6 mm/hr

Area (m²)	C	Description
82.2	0.80	Gravel
82.2		100.00% Pervious Area

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

Subcatchment 21S: Proposed Gravel Driveway Area



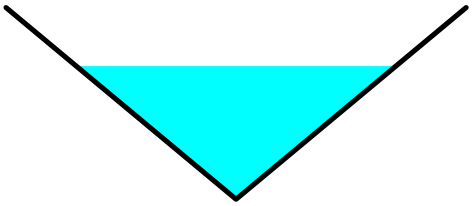
Summary for Reach 32R: Grassed Swale

Inflow Area = 491.1 m², 83.26% Impervious, Inflow Depth > 75 mm for 100-Year + CCF event
Inflow = 6.12 L/s @ 1.33 hrs, Volume= 36.8 m³
Outflow = 6.05 L/s @ 1.34 hrs, Volume= 36.3 m³, Atten= 1%, Lag= 0.9 min

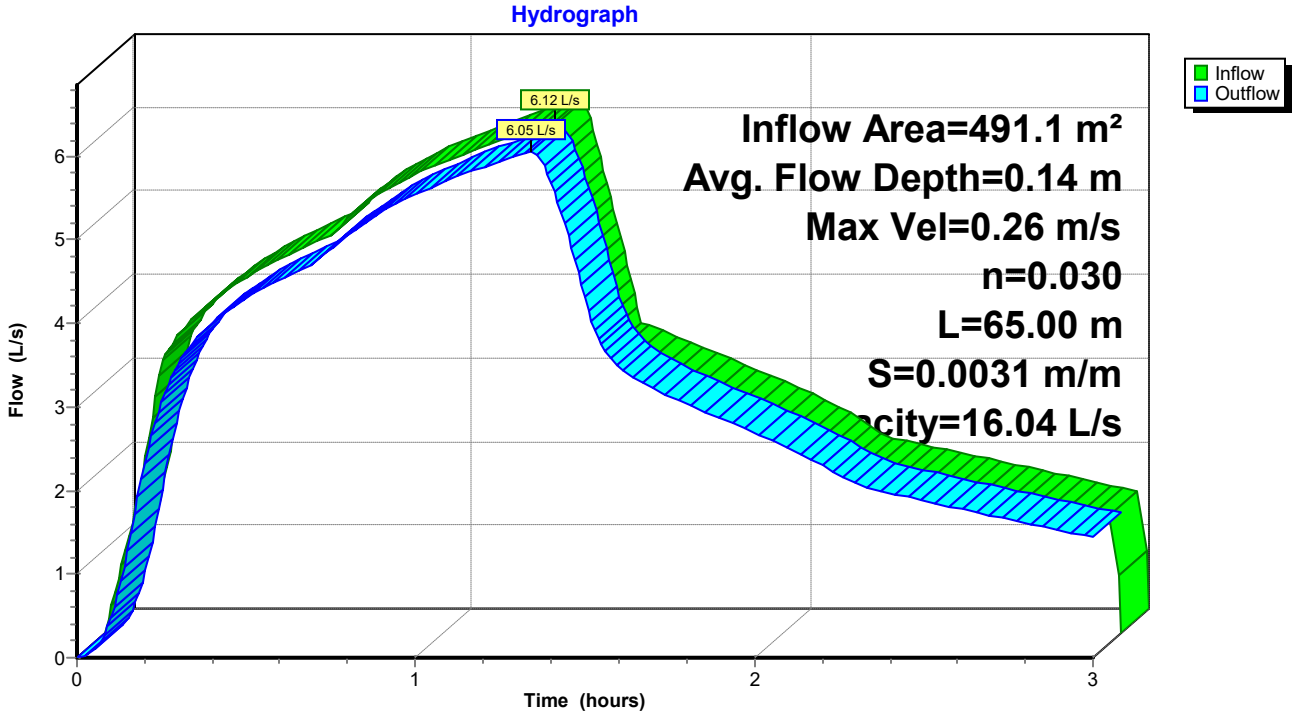
Routing by Sim-Route method, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
Max. Velocity= 0.26 m/s, Min. Travel Time= 4.1 min
Avg. Velocity = 0.22 m/s, Avg. Travel Time= 4.9 min

Peak Storage= 1.5 m³ @ 1.34 hrs
Average Depth at Peak Storage= 0.14 m
Bank-Full Depth= 0.20 m Flow Area= 0.05 m², Capacity= 16.04 L/s

0.00 m x 0.20 m deep channel, n= 0.030 Earth, grassed & winding
Side Slope Z-value= 1.2 m/m Top Width= 0.48 m
Length= 65.00 m Slope= 0.0031 m/m
Inlet Invert= 62.500 m, Outlet Invert= 62.300 m



Reach 32R: Grassed Swale



Summary for Pond 29P: 3 x 25,500L Rainwater Tank

Inflow Area = 326.7 m²,100.00% Impervious, Inflow Depth = 86 mm for 100-Year + CCF event
Inflow = 5.89 L/s @ 0.17 hrs, Volume= 28.3 m³
Outflow = 3.46 L/s @ 1.41 hrs, Volume= 23.9 m³, Atten= 41%, Lag= 74.2 min
Primary = 3.46 L/s @ 1.41 hrs, Volume= 23.9 m³

Routing by Sim-Route method, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
Peak Elev= 64.056 m @ 1.41 hrs Surf.Area= 30.5 m² Storage= 17.0 m³

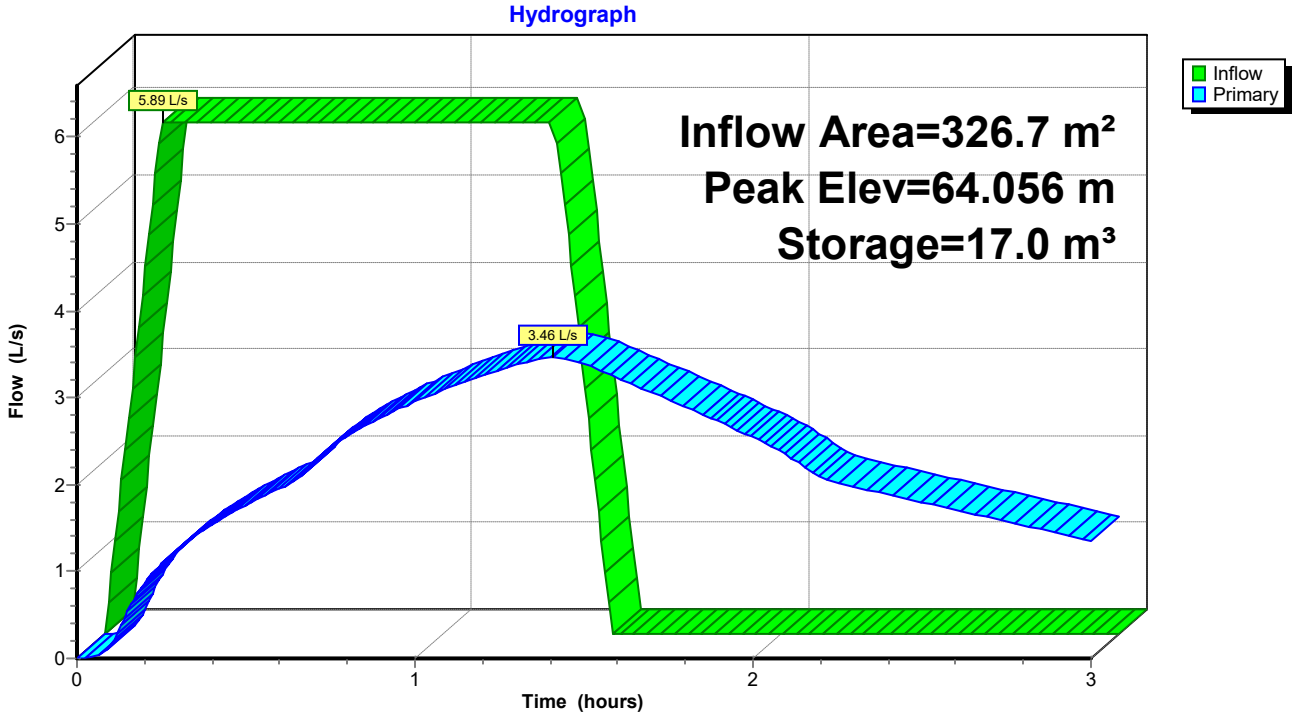
Plug-Flow detention time= 54.0 min calculated for 23.9 m³ (84% of inflow)
Center-of-Mass det. time= 47.7 min (92.7 - 45.0)

Volume	Invert	Avail.Storage	Storage Description
#1	63.500 m	79.4 m³	**3.60 mD x 2.60 mH Vertical Cone/Cylinder** x 3

Device	Routing	Invert	Outlet Devices	
#1	Primary	63.500 m	**43 mm Vert. Orifice/Grate**	C= 0.600
#2	Primary	63.800 m	**25 mm Vert. Orifice/Grate**	C= 0.600

Primary OutFlow Max=3.46 L/s @ 1.41 hrs HW=64.056 m TW=62.772 m (Dynamic Tailwater)
└─**1=Orifice/Grate** (Orifice Controls 2.82 L/s @ 1.94 m/s)
└─**2=Orifice/Grate** (Orifice Controls 0.64 L/s @ 1.31 m/s)

Pond 29P: 3 x 25,500L Rainwater Tank



Summary for Pond 30P: 100mm PIPE (Charged)

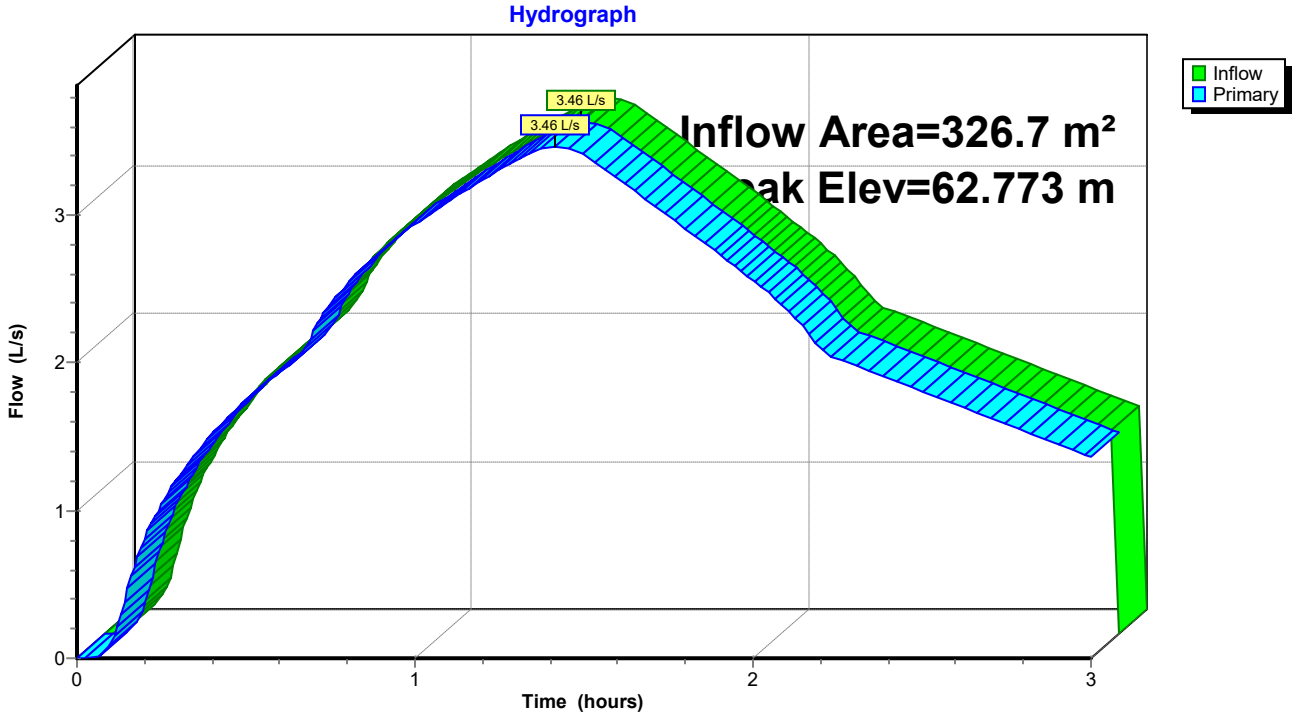
Inflow Area = 326.7 m²,100.00% Impervious, Inflow Depth > 73 mm for 100-Year + CCF event
Inflow = 3.46 L/s @ 1.41 hrs, Volume= 23.8 m³
Outflow = 3.46 L/s @ 1.42 hrs, Volume= 23.8 m³, Atten= 0%, Lag= 0.6 min
Primary = 3.46 L/s @ 1.42 hrs, Volume= 23.8 m³

Routing by Sim-Route method, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
Peak Elev= 62.773 m @ 1.38 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	62.200 m	**Tube/Siphon/Float Valve** 100.00 mm Diameter, C= 0.600 30.00 m Long Tube, Hazen-Williams C= 130 Inlet / Outlet Elev. = 62.200 m / 61.900 m

Primary OutFlow Max=3.48 L/s @ 1.42 hrs HW=62.771 m TW=62.662 m (Dynamic Tailwater)
↳**1=Tube/Siphon/Float Valve** (Tube Controls 3.48 L/s @ 0.44 m/s)

Pond 30P: 100mm PIPE (Charged)



Summary for Pond 31P: Bubble-Up Chamber

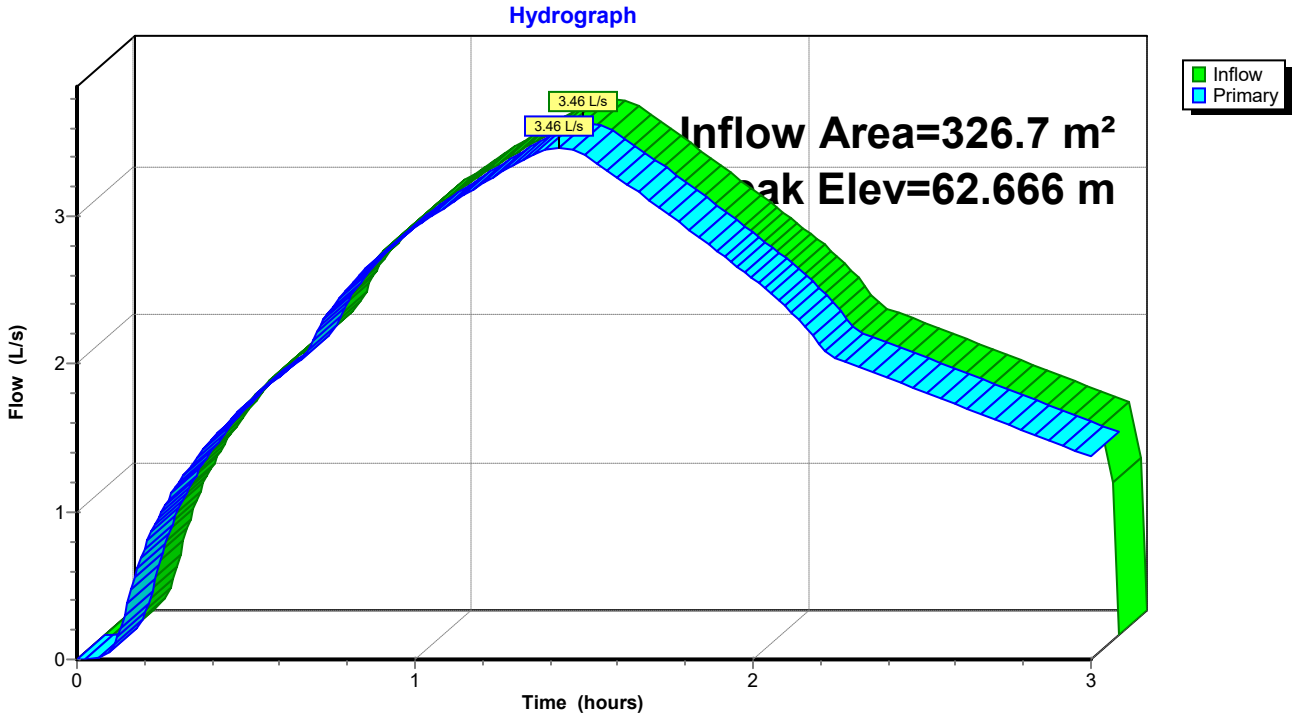
Inflow Area = 326.7 m²,100.00% Impervious, Inflow Depth > 73 mm for 100-Year + CCF event
Inflow = 3.46 L/s @ 1.42 hrs, Volume= 23.8 m³
Outflow = 3.46 L/s @ 1.43 hrs, Volume= 23.8 m³, Atten= 0%, Lag= 0.6 min
Primary = 3.46 L/s @ 1.43 hrs, Volume= 23.8 m³

Routing by Sim-Route method, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
Peak Elev= 62.666 m @ 1.36 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	62.500 m	**100 mm Vert. Orifice/Grate** C= 0.600

Primary OutFlow Max=3.54 L/s @ 1.43 hrs HW=62.661 m TW=62.633 m (Dynamic Tailwater)
↳**1=Orifice/Grate** (Orifice Controls 3.54 L/s @ 0.45 m/s)

Pond 31P: Bubble-Up Chamber



Summary for Pond 33P: Bubble-Up Chamber

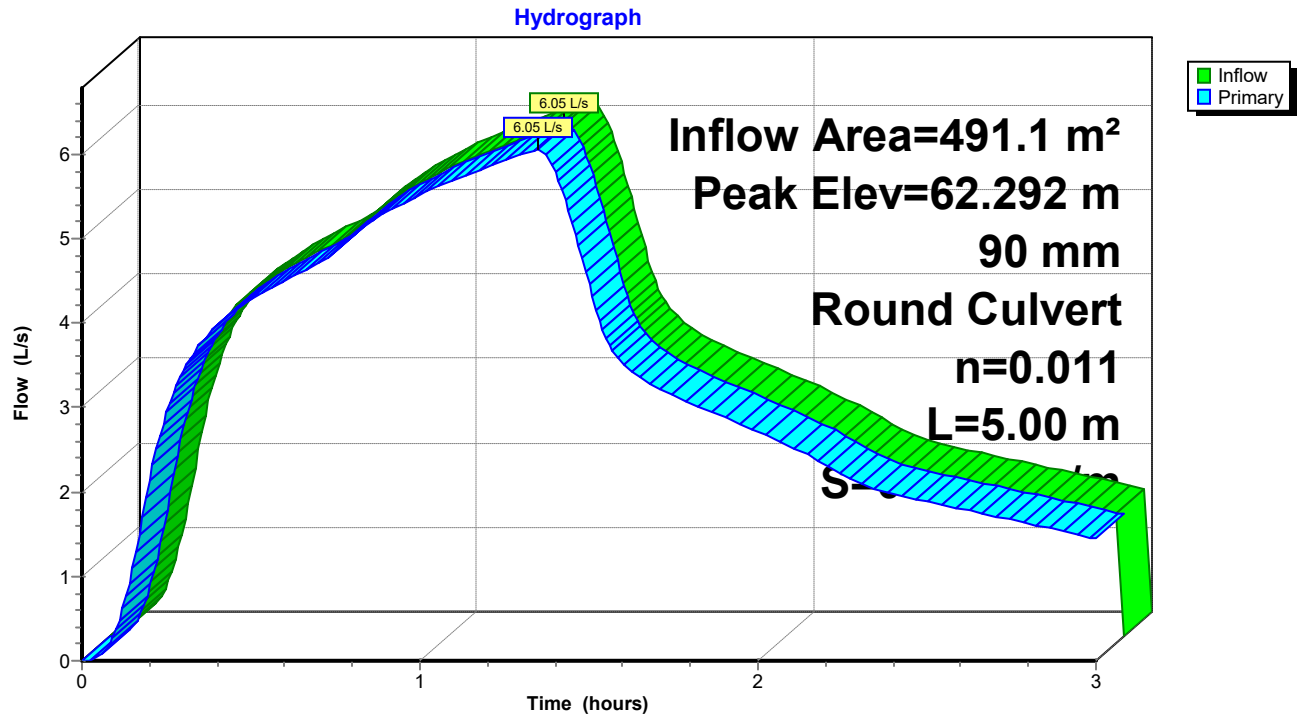
Inflow Area = 491.1 m², 83.26% Impervious, Inflow Depth > 74 mm for 100-Year + CCF event
Inflow = 6.05 L/s @ 1.34 hrs, Volume= 36.2 m³
Outflow = 6.05 L/s @ 1.35 hrs, Volume= 36.2 m³, Atten= 0%, Lag= 0.6 min
Primary = 6.05 L/s @ 1.35 hrs, Volume= 36.2 m³

Routing by Sim-Route method, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs
Peak Elev= 62.292 m @ 1.35 hrs

Device	Routing	Invert	Outlet Devices
#1	Primary	62.100 m	**90 mm Round Culvert** L= 5.00 m Box, headwall w/3 rounded edges, Ke= 0.200 Inlet / Outlet Invert= 62.100 m / 62.060 m S= 0.0080 m/m Cc= 0.900 n= 0.011, Flow Area= 0.006 m²

Primary OutFlow Max=6.05 L/s @ 1.35 hrs HW=62.292 m TW=0.000 m (Dynamic Tailwater)
↑—**1=Culvert** (Barrel Controls 6.05 L/s @ 0.95 m/s)

Pond 33P: Bubble-Up Chamber

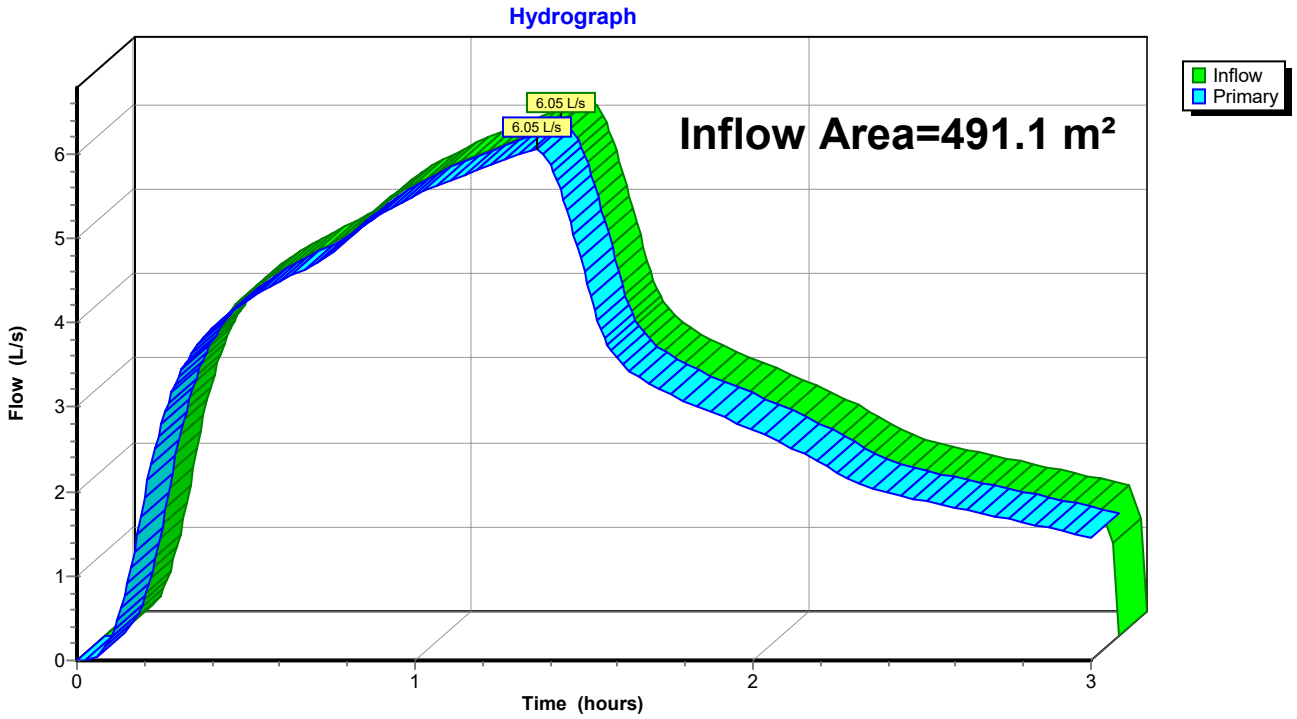


Summary for Link 34L: KERB DISCHARGE

Inflow Area = 491.1 m², 83.26% Impervious, Inflow Depth > 74 mm for 100-Year + CCF event
Inflow = 6.05 L/s @ 1.35 hrs, Volume= 36.2 m³
Primary = 6.05 L/s @ 1.36 hrs, Volume= 36.2 m³, Atten= 0%, Lag= 0.6 min

Primary outflow = Inflow, Time Span= 0.00-3.00 hrs, dt= 0.01 hrs

Link 34L: KERB DISCHARGE



THOMSON SURVEY LIMITED

SURVEYORS AND RESOURCE PLANNERS

10 February 2021

Our Reference: 9452.223

Development Consents Department
Far North District Council
Level 2
John Butler Centre
KERIKERI

To whom it may concern,

RE: OKOKIWI DOWNS LTD & PARVUS HOLDINGS, 190 WAIPAPA ROAD, KERIKERI
RC 219673-RMAVAR/A

We have lodged a 223 application with Council online for a 223 certificate. We have made an electronic payment of $256.00, using the RC number as reference.

Please find attached the survey plan.

All conditions have been complied with.

- For condition 3(a), please find a copy of 16607 Subdivision Suitability Report V2 2019-09-17 enclosed,
- For condition 3(b), please find copies of the Top Energy draft plan and engineering drawings enclosed,
- For condition 3(d), please find a copy of email correspondence for details covering (i), (ii) and (iii),
- For condition 3(d)(iv), please find a copy of the Works Access Permit, Conditions, and unattended site shoulder closure plan enclosed,
- For condition 3(e), please find a copy of the preferred road names enclosed.

Should you require any further information, please don't hesitate to contact the office.

Kind regards,

Jan Henry
Reception
Thomson Survey Ltd

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

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

Background picture represents a New Zealand surveying trig station, used to beacon control survey marks

Title Plan - LT 544271

Survey Number	LT 544271
Surveyor Reference	9452 Okokiwi Downs and Parvis Holdings
Surveyor	Denis McGregor Thomson
Survey Firm	Thomson Survey Limited
Surveyor Declaration	

Survey Details

Dataset Description	Lots 1 to13 Being a Subdivision of Lot 1 DP 408584 and Lot 4 DP 513347		
Status	Initiated		
Land District	North Auckland	**Survey Class**	Class B
Submitted Date		**Survey Approval Date**	
		Deposit Date	

Territorial Authorities

Far North District

Created Parcels

Parcels	Parcel Intent	Area	RT Reference
Lot 12 Deposited Plan 544271	Fee Simple Title	0.6252 Ha	921492
Lot 11 Deposited Plan 544271	Fee Simple Title	0.6400 Ha	921491
Lot 1 Deposited Plan 544271	Fee Simple Title	0.3000 Ha	921482
Lot 2 Deposited Plan 544271	Fee Simple Title	0.3000 Ha	921483
Lot 10 Deposited Plan 544271	Fee Simple Title	0.3003 Ha	921491
Lot 3 Deposited Plan 544271	Fee Simple Title	0.3137 Ha	921484
Lot 4 Deposited Plan 544271	Fee Simple Title	0.3045 Ha	921485
Lot 5 Deposited Plan 544271	Fee Simple Title	0.3002 Ha	921486
Lot 8 Deposited Plan 544271	Fee Simple Title	0.3001 Ha	921489
Lot 9 Deposited Plan 544271	Fee Simple Title	0.3149 Ha	921490
Area G Deposited Plan 544271	Easement		
Area H Deposited Plan 544271	Easement		
Area I Deposited Plan 544271	Easement		
Area J Deposited Plan 544271	Easement		
Area K Deposited Plan 544271	Easement		
Area D Deposited Plan 544271	Easement		
Lot 6 Deposited Plan 544271	Fee Simple Title	0.3000 Ha	921487
Lot 7 Deposited Plan 544271	Fee Simple Title	0.3201 Ha	921488
Area C Deposited Plan 544271	Easement		
Area E Deposited Plan 544271	Easement		
Area F Deposited Plan 544271	Easement		
Lot 13 Deposited Plan 544271	Fee Simple Title	44.9630 Ha	921493
Total Area		49.2820 Ha	

THOMSON SURVEY LIMITED
SURVEYORS AND RESOURCE PLANNERS

Plan Number

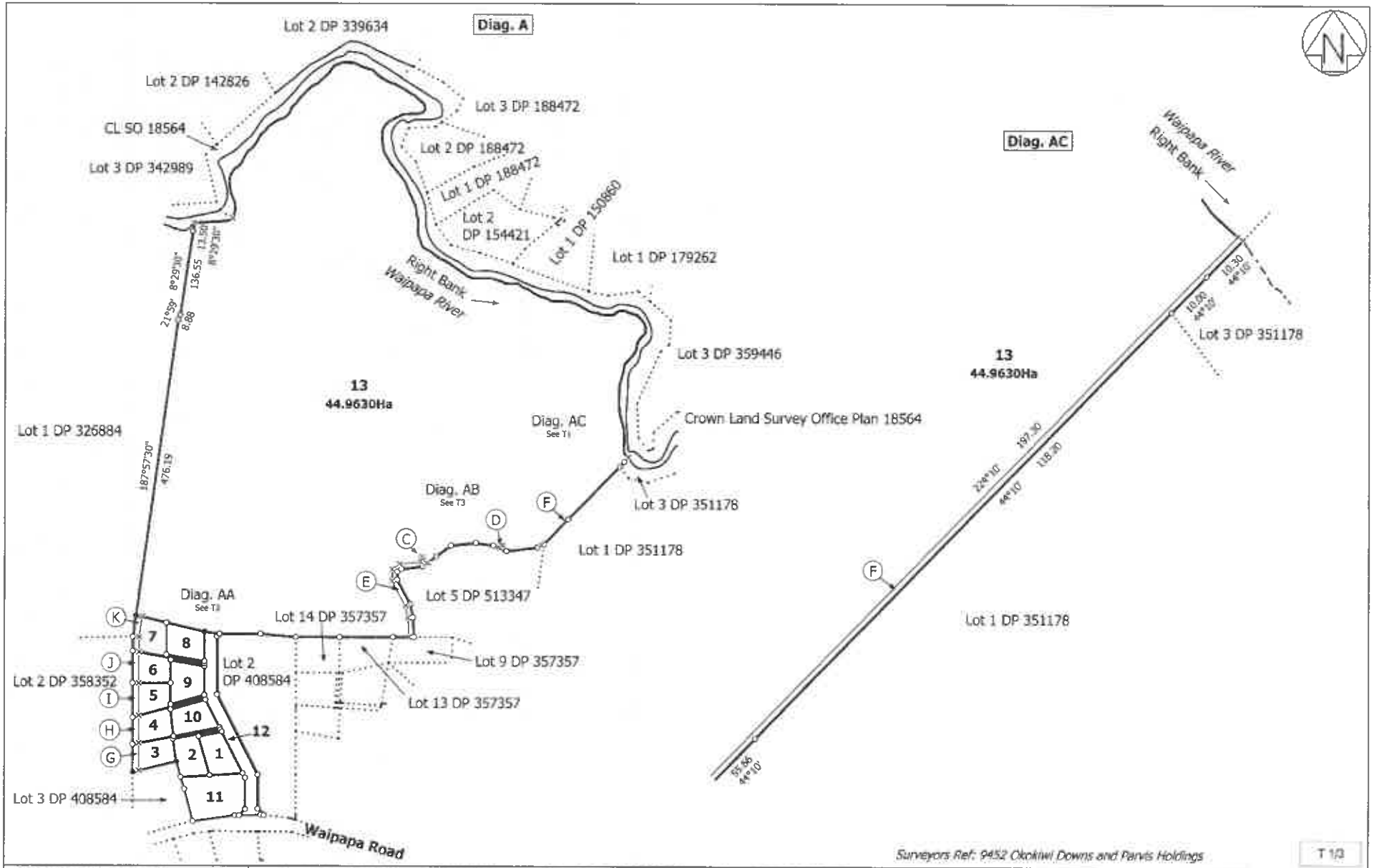
DP 544271

Memorandum of Easements in Gross			
Purpose	**Shown**	**Servient Tenement** (Burdened land)	**Grantee**
Right to drain stormwater.	G	Lot 3 hereon	Far North District Council
Right to drain stormwater.	H	Lot 4 hereon	Far North District Council
Right to drain stormwater.	I	Lot 5 hereon	Far North District Council
Right to drain stormwater.	J	Lot 6 hereon	Far North District Council
Right to drain stormwater.	K	Lot 7 hereon	Far North District Council

Schedule of Existing Easements			
Purpose	**Shown**	**Servient Tenement** (Burdened land)	**Created by**
Right of Way (Landscaping and maintenance)	E	Lot 13 Hereon	EI 11228503.1
Right to drain water	C & D	Lot 13 Hereon	EI 10912116.4
Right of way (Pedestrian)	F	Lot 13 Hereon	EI 11228503.2

Thomson Survey Ltd
315 Kerikeri Road, Kerikeri
P.O. Box 372, Kerikeri 0245, New Zealand.
Email: Kerikeri@tsurvey.co.nz

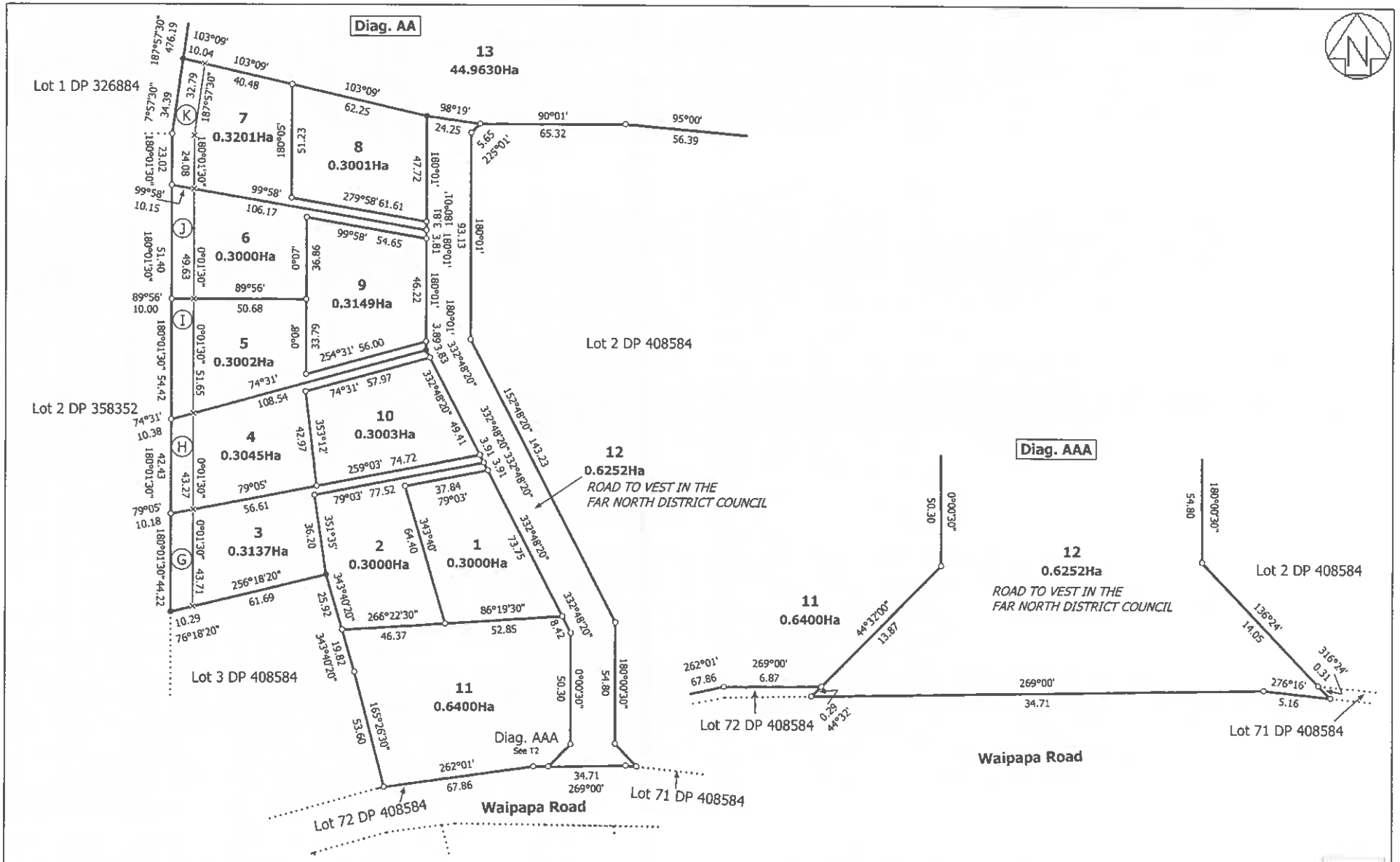
Telephone: **09 4077360**



Surveyors Ref: 9452 Okaiwi Downs and Parvis Holdings

T 1/3

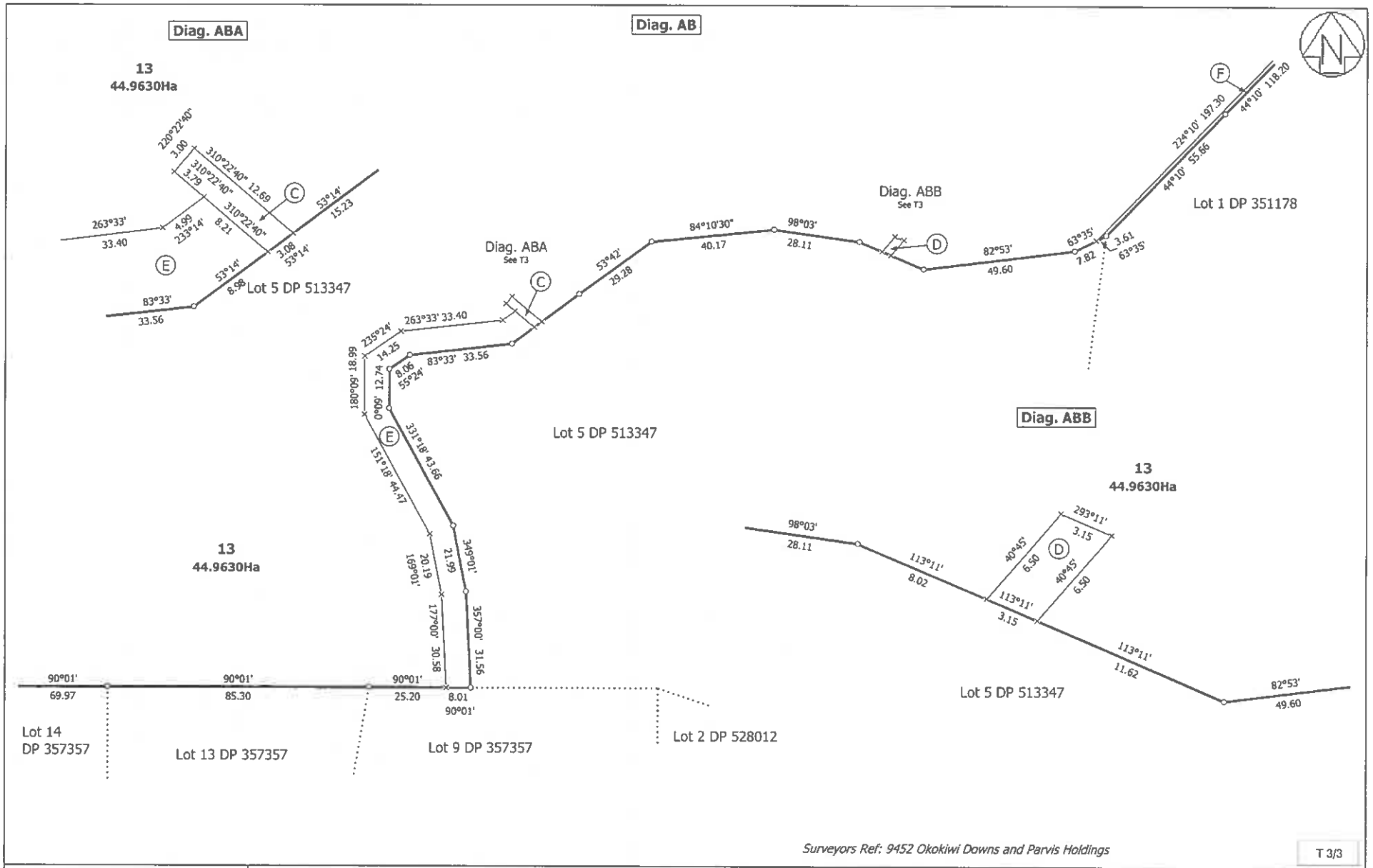
Land District: North Auckland Digitally Generated Plan Generated on: 28/01/2021 08:48am Page 3 of 5	Lots 1 to13 Being a Subdivision of Lot 1 DP 408584 and Lot 4 DP 513347	Surveyor: Denis McGregor Thomson Firm: Thomson Survey Limited	Title Plan LT 544271 DRAFT



Surveyors Ref: 9452 Okokiwi Downs and Parvis Holdings

T 2/3

Land District: North Auckland Digitally Generated Plan Generated on: 28/01/2021 08:48am Page 4 of 5	Lots 1 to13 Being a Subdivision of Lot 1 DP 408584 and Lot 4 DP 513347	Surveyor: Denis McGregor Thomson Firm: Thomson Survey Limited	Title Plan LT 544271 DRAFT



Surveyors Ref: 9452 Okokiwi Downs and Parvis Holdings

T 3/3

Land District: North Auckland Digitally Generated Plan Generated on: 28/01/2021 08:48am Page 5 of 5	Lots 1 to13 Being a Subdivision of Lot 1 DP 408584 and Lot 4 DP 513347	Surveyor: Denis McGregor Thomson Firm: Thomson Survey Limited	Title Plan LT 544271 DRAFT

SUBDIVISION SUITABILITY REPORT

190 Waipapa Road
Kerikeri

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

SUBDIVISION SUITABILITY REPORT

190 Waipapa Road

Kerikeri

Report prepared for: Okokiwi Down Parvus Holdings

Report prepared by: Matthew Jacobson

Report reviewed by: Steve Turner

Report reference: 16607

Date: 11 September 2019

THE TRUSTED ADVISOR
THE ASSOCIATION FOR CONSULTING AND ENGINEERING PROFESSIONALS
ACENZ

Issue	Details	Date
1	RC Issue	28 May 2019
2	Update Scheme	11 September 2019

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Appendices

A	Scheme Plan
B	Drawings
C	Field Investigations
D	Northland Regional Council Flood Model Information
E	Generic Stormwater Attenuation Design and Details

File: 16607
11 September 2019
Issue: 1

SUBDIVISION SUITABILITY REPORT

190 Waipapa Road, Kerikeri

1.0 Introduction

RS Eng Ltd has been engaged by Okokiwi Downs Parvus Holdings to investigate the suitability of their property (Lot 1 DP 408584) for residential subdivision. The client proposes to subdivide the property into 11 allotments. The client now proposed a variation to that consent still creating 11 allotments. A scheme plan is included in Appendix A.

This report has been prepared to support a variation application to the Far North District Council. Resource consent from the Northland Regional Council has been obtained.

2.0 Site Description

This property is located on the northern side of Waipapa Road, 80m west of its intersection with Rainbow Falls Road. The property slopes gently towards the north and east and is currently in pasture. An open drain bisects part of the property, discharging towards the east.

Figure 1: Site Photograph

3.0 Desk Study

3.1 Geology

The GNS 1:250,000 scale New Zealand Geology Web Map shows that the property is located within an area underlain by Kerikeri Volcanics, which is described as follows: *"Basalt lava, volcanic plugs and minor tuff."*

3.2 Historic Aerial Photography

A review of aerial photography from 1953 through to present has identified the following;

- The existing drainage in the centre of the property which falls towards the east appears to have been constructed to aid landuse.
- The property has not been subject to extensive earthworks / modification in the past.

Figure 2: 1953 Aerial Image. (Source: www.retrolens.nz)

3.3 Northland Regional Council Flood Modelling

The Northland Regional Council (NRC) has undertaken extensive modelling as part of the Priority Rivers Project to assess the flood susceptibility of the Kerikeri River. The Kerikeri River has been subject to extensive investigation, analysis and modelling, being calibrated against actual flood events. To enable an assessment of the flood susceptibility we have collected flow values from the NRC. This information is included in Appendix D.

4.0 Field Investigation

A Technician from this office visited the property on 29 March 2019 to undertake a walkover inspection, six hand augered boreholes and three Scala Penetrometer Tests. The walkover inspection did not observe any signs of concern across the property in relation to the proposal.

The boreholes were dug to a depth of 3.2m where they generally encountered clay SILTS and silt CLAYS being stiff, reducing in strength with depth. Pilcon Shear Vane readings were taken at regular intervals throughout the borehole. The In-situ Undrained Shear Strengths ranged between 57kPa and >200kPa. The Scala Penetrometer tests were undertaken at the base of Boreholes 1, 3 and 5. These tests extended to a maximum depth of 5.6m below ground level where no obvious signs of increased strength were observed.

On the 4 April 2019 four CPT tests were undertaken by Underground Investigations. These tests extended to a maximum depth of 25.0m. These tests inferred clays and clays silts continued to a depth of greater than 25m. Soil strengths varied with depth.

5.0 Subsurface Conditions

Investigations in this area by RS Eng Ltd have generally identified alluvial soils overlying Basaltic lava flows at shallow depths, however the strength of and depth to the Basaltic material is variable. The subsurface investigations generally confirmed the published geology, however overlain by varying depths of alluvial deposits.

6.0 Residential Building Suitability Assessment

6.1 Ground Settlement

The field investigations identified the risk of potential settlement due to surcharge loads imposed by building development due to the low strengths of the underlying alluvial deposits. To assess the potential settlements from residential building loads analysis was undertaken using a software program called CPT-IT V2.01. The analysis was based on the following assumptions:

- Waffle Raft type (Ridged Foundation) foundation providing uniformly distributed load (G+0.4Q) – 5.0kPa
- Building width and length – 20m

This analysis estimated settlements in the order of 2.5mm to 10mm. Differential settlements over a building width of 20m produce a slope less than 1:1000 which is considered acceptable for residential construction.

6.2 Expansive Soils

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

- Influence of garden watering and site drainage.
- The presence of large trees close to buildings.
- Initial soil moisture conditions during construction, especially during summer and more so during a drought. Building platforms that have dried out after initial excavation should be thoroughly wet prior to any floor slabs being poured.

Based on the visual characteristics of the subsoils encountered in the investigations at the building site, we consider that the soils are Class M (moderately reactive) as per AS2870.

6.3 Earthworks

To suitably develop building platforms on the lots we recommend as follows:

- No new fills shall be placed above existing ground level on any lot without further geotechnical investigation and assessment.
- Cuts are limited to a maximum 0.4m without further geotechnical investigation and assessment.
- Stockpiling of soil within 10m of foundations shall be avoided.

We also recommend that the following methodology be adopted for earthworks: Topsoil should be stripped from all cut and fill areas, stripping operations extending well beyond cut and fill extents to avoid peripheral (outer boundary) fill contamination. Stockpiles of topsoil and unsuitable material should be sited well clear of the works on suitable areas of natural ground. All sloping ground should be benched prior to the placement of any fills or drainage works and be inspected by a suitably qualified engineer. Once filling is completed it should be tested for its compaction by a suitably qualified engineer generally in accordance with NZS4431:1989 (Earthfill for Residential Development).

6.4 Foundations

Investigations encountered soils at the surface which provide Ultimate Bearing Strengths greater than 300kPa, however weaker soils at depth are susceptible to settlements as a result of surcharge loading and must be managed accordingly. To provide a suitable foundation for residential construction we make the following recommendations:

- The long-term average building and surcharge loads are less than 5.0kPa (light timber framed construction with light weight cladding and roofing) without further geotechnical investigation. Heavy type construction will likely be suitable however this should be subject to further engineering/geotechnical input.

- A waffle raft type foundation is utilised for habitable buildings
- Standard NZS3604 type foundations are considered suitable for none habitable unlined construction (self-contained garages/shed) to distribute building loads.
- Foundations shall be specifically designed by a Chartered Professional Engineer to account for moderately expansive soils and the underlying weak alluvial soils identified.

7.0 Flood Susceptibility Assessment

The Northland Regional Council has designated this property as being flood susceptible during both the 10% and 1% AEP rainfall events. The floodwaters overflow from the Kerikeri River, spilling over Waipapa Road and flowing overland through neighbouring properties before entering an existing channel on the western side of the property. This channel turns towards the north, running along the property's western boundary before discharging into two ponds on Lot 4 DP 513347. Due to the flat nature of the land and existing channel restrictions, overland flows break out and cross the property, before re-entering the water course (pond 2) northeast of the property, see Figure 4 below.

Figure 3: 10% AEP+CC (Dark Blue) & 1% AEP+CC (Light Blue) Flood Extents (Source: NRC GIS)

To reduce the effects/remove the potential risk of the overland flow from the property, three preliminary options have been investigated, as follows:

- Option 1: Form a defined swale/channel to carry the overland flow through Lot 1 DP 408584. This option would contain the flow, effectively reducing its width through the property. This would however concentrate the discharge into the neighbouring properties towards the east.
- Option 2: Form a bund along the western boundary of the property to increase the capacity of the existing channel. This would however cause increased flood levels on neighbouring properties towards the east.
- Option 3: Form a swale/channel along the western property boundary, discharging into the existing channel just upstream of pond 1. This option would cause increased flows within the water course and pond 1, downstream of the western neighbouring properties.

Due to the potential for adverse effects to neighbouring properties from Options 1 and 2, Option 3 is favoured. Modelling and design have been undertaken to determine the size of the channel required and if any modifications to the existing water course and or ponds are required. It should be noted that the owner of Lot 4 DP 513347 is in support of this proposal.

7.1 Modelling and Design

A simplified pre and post development model has been developed using HydroCAD, using peak flows provided by the NRC. The post development system will be designed based on the NRC flows with an additional allowance of 20% for future climate change. The modelling is summarised as follows with full calculations provided in Appendix E.

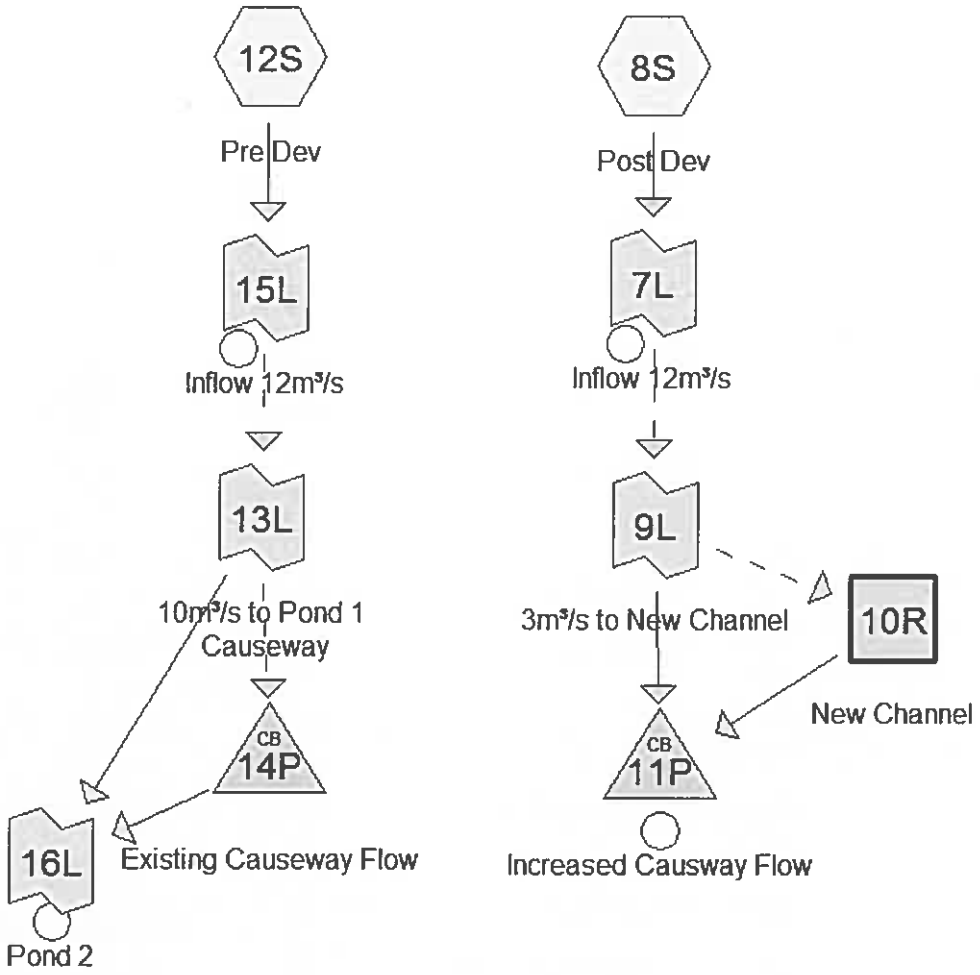


Figure 4: HydroCAD Routing Diagram

The NRC modelling determined a flow of 1% AEP 3m³/s passing overland through the property which is required to be diverted and contained by the proposed swale/channel. A trapezoidal grass lined channel with side slopes of 1:2.5, a 2m base width, being 0.6m deep has a capacity of 9.2m³/s which is ample to pass the 1% AEP (3m³/s) with an allowance for climate change.

As a result of the diversion, provisions for increased flow through the causeway is required. The existing causeway passes flood flows through two 990mmø culverts and a weir. Pre-development modelling shows a 1% AEP flood level of 59.9m (at Pond 1 Causeway). To maintain post development flood elevations at or less than pre-development, an additional culvert of equivalent capacity is required. Similar to that of pre-development the overland flows will then re-enter Pond 2, therefore total post development flow beyond Pond 2 is unchanged.

This proposal reduces the effects of flooding and overland flows on this and neighbouring properties, only having adverse effects on Lot 4 DP 513347, where the owner is in support of this proposal.

7.2 Safety and Erosion

The new channel will have 1% AEP flow of $3m^3/s$, given the cross-sectional area of $1.8m^2$, an average velocity of 1.6m/s is expected. The modified cross section will produce a flood depth of 0.5m, hence a velocity depth product of 0.8. This is not in compliance with the FNDC Engineering Standards and Guidelines 2004 which specifies a maximum requirement of 0.4, however as this channel/overland flow path is not required to be crossed for access to any dwelling or other part of the proposed properties. We consider this velocity depth product is acceptable.

The velocity of 1.6m/s has the potential to cause erosion of the channel. It is proposed to grass line the swale/channel immediately after earthworks. The Bay of Plenty Regional Council provides guidance (Stopbank Design and Construction Guidelines, dated November 2014) on the ability of varying surfaces to withstand sustained flood flows of varying velocities and duration. Using the average velocity, the guidelines indicate poor grass cover will resist erosion for the duration of a 1% AEP flood event.

7.3 Flood Control Consent

The proposed swale/channel will cause a diversion of floodwaters being classified as a discretionary activity by the Proposed Regional Plan under rule C4.1.7. Recourse consent from the Northland Regional Council is required. The following items discuss the relevant provisions of control and the proposals means of compliance:

1) There is no adverse flooding, erosion or over-drainage effects on other property.
The proposal will result in increased flooding on a single property (Lot 4 DP 513347). A letter of support will be attached with an application for resource consent.

2) The activity does not alter the course of a lake or continually or intermittently flowing river.
The proposal only alters the course of an overland flows path which operates during flood events greater than 2% AEP.

3) New land drainage does not occur within 50 metres of any natural wetland.
No natural wetlands are located nearby the proposal. Two existing ponds are located nearby, however these are both manmade.

4) Drainage does not cause any change to the seasonal or annual range in water level of a natural wetland to an extent that may adversely affect the wetland's natural ecosystem.
Permanent water levels with the existing ponds will be unaltered, being controlled by their existing outlets.

5) No vegetation, soil or other debris generated from the activity is placed in a position where it may be carried into a river or natural wetland, lake or the coastal marine area.
The proposed channel will be grass lined with outfall to the existing stream being RipRap lined to prevent scour and erosion.

6) There is no damage to a flood defence or any other authorised structure.
No existing flood defence structures are located nearby.

11) Any discharge of sediment associated with repair and maintenance activities does not occur for more than five consecutive days and must not occur for more than 12 hours on any one day.
During construction of the channel sediment erosion control measure will be in place until full revegetation is achieved. Refer to RS Eng Earthworks Management Plan.

8.0 Stormwater Attenuation

The variation removes the internal right of way and instead extends the road to vest the full length of the development. The proposed development is expected to create impervious surfaces of approximately 2500m² by way of the proposed road. Additionally, residential construction on each allotment may increase impervious surfaces in the order of between 550-700m²/lot. Impervious surfaces allow little or no infiltration of stormwater into the ground and therefore a greater volume of rainfall will run off the surface. As a result, attenuation of the stormwater runoff is required to ensure stormwater flows from the property are no more than pre-development. This minimises any adverse effects on downstream properties and council services.

To attenuate the proposed new road, there are several options which are under consideration, these include the following; attenuation pond in Lot 2 DP 408584, attenuation pit/s in the road reserve or beneath the carriageway, or alteration of the large pond in Lot 4 DP 513347. Attenuation of stormwater can be achieved using any of these options some being more economically viable than the other, however, due to pending development on the beforementioned properties, the method of attenuation will be finalised at the engineering plan stage to best suit the total development.

8.1 Generic Stormwater Attenuation Design

A new dwelling may have a total roof area of 400m² and driveway of approximately 150-300m². It is proposed to direct stormwater runoff from the roof of the new building into a attenuation tank with restricted outlets to reduce the peak flows to predevelopment levels. The attenuation tank restricts stormwater runoff from the roof sufficiently to compensate for the increased flows from the paved area.

The pre-development and post-development runoff was modelled with HydroCAD. The ARC TP108 method was adopted for calculating the run-off flow, using rainfall historic and RCP6 2081-2100 flows from HIRDS 4 (High Intensity Rainfall Design System, NIWA).

Table 1: Summary of Example Attenuation Calculations

	Pre-development		Post-development	
Permeable Area (m^2) Grassed	550		0	
Impervious Area (m^2) Roof Drive	0 0		400 300	
Peak flow l/s	10% AEP	1% AEP	10% AEP +CC	1% AEP +CC
From surfaces	**13.74**	**23.95**	22.21	34.37
Total attenuated flows			**12.85**	**22.65**
Tank storage required			14.5m^3	20.8m^3

This modelling concluded that 20.8m^3 is required for stormwater attenuation. To achieve this a 25,000L water tank is recommended (See detail in Appendix F):

Diameter of the Tank	3.6m
Primary outlet orifice	40mm diameter 2.05m below tank overflow.
Secondary outlet orifice	55mm diameter 1.4m above primary orifice.

The design will attenuate peak flows off the proposed dwelling to the pre-development level. See the calculations and indicative detail included in Appendix E.

Note that this is an example only to demonstrate compliance and that actual attenuation requirements will depend on the proposed impervious surface areas.

9.0 Servicing

9.1 On-site Wastewater Disposal

On-site effluent disposal will be required for individual lots. A typical design is noted as follows;

A four bedroom dwelling equates to a design occupancy of 6 persons/day. TP58 requires that for households with standard fixtures sourcing water from rainwater tanks, a flow of 180L/person/day be used, therefore the total design flow is 1080L/day. We have assessed the soil as category 6 as per TP58. Using a daily loading rate of 3.0mm/day for secondary treated effluent to pressure compensating drip irrigation line, a field of 360m² is required. Effluent disposal areas are shown on Sheet 3 in Appendix A are in compliance with the criteria of the proposed regional plan summarised in Table 3.

Table 3: NRC Permitted Discharge Compliance

Feature	Proposed Regional Plan	Achieved
Identified Stormwater Flow Path	5m	>5m
River, Lake, Pond, Stream, Dam or Wetland	15m	>15m
Existing Water Supply Bore	20m	>20m
Property Boundary	1.5m	>1.5m
Groundwater	0.6m	>1.2m
10m Buffer Zone	Slopes >10°	<10°
Floodplain Exclusion	5% AEP	>5% AEP
Reserve area	30%	>30%

It should also be appreciated that alternative methods of effluent disposal are available. All systems are to be being subject to specific design at the building consent stage RS Eng is satisfied that on-site wastewater disposal can be achieved on each lot incompliance with FNDC, NRC and TP58.

9.2 Stormwater Disposal

To dispose of stormwater from each property, the roadways, and negate the need for the existing central drainage channels (open drains), a stormwater reticulation is proposed. A preliminary design has been undertaken to determine pipe sizes required. A catchment analysis has been undertaken using the rational methods, described in the NZBC E1, using rainfall flows from HIRDS 4 (High Intensity Rainfall Design System, NIWA) using RCP6 2081-2100 to account for future climate change.

These preliminary calculations determined a pipe diameter of 450mmø, with a preliminary alignment shown Sheet 2 in Appendix B.

9.3 Water Supply / Fire-fighting

Reticulated water connections are not available to the proposed lots and therefore a rainwater storage tank(s) supply will be required for proposed lots. We recommend a minimum tank size of two 25,000L with all downpipes from future dwelling roofs connected to the storage tank(s).

The Standards New Zealand Publicly Available Specification (SNZPAS) 4509:2008 New Zealand Fire Service Firefighting Water Supplies Code of Practice states that buildings (FW2 Classification) require a minimum supply of 45m^3 of water within a 90m distance from the furthest point of a dwelling for fire-fighting purposes for a non-reticulated water supply. The Fire Service has previously advised that either 12-15m^3 of permanent storage must be available per lot, or a communal 25m^3 storage be made available to within 90m of any proposed house site. It is noted that a FFWS application form is filled out and sent to the Fire Emergency Department at Building Consent Stage if individual lot storage is required.

The required water storage for fire-fighting can best be achieved on-site by installing a water tank with domestic take above the permanent level. The tank will need to be shielded from the effects of radiated heat from a fire (plastic tanks should be setback a minimum of 6.0m from the dwelling). There should be unimpeded vehicle access to the water tank including the control of overgrown vegetation, hanging cables and building projections. A 100mmø fire service coupling is required to the base of the tank.

9.4 Access

To develop the subdivision, it is proposed to construct a roadway to be vested to the FNDC. All works will be in accordance with the relevant FNDC requirements.

10.0 Earthworks Consent

To construct the proposed swale/channel and form the access road, earthworks are required. A earthworks area of approximately 7000m^2 is required with volumes listed in Table 4 below.

Table 4: Estimated On-site Earthworks Volumes

Item	Cut (m^3)	Fill (m^3)
Swale/Channel	570	0
Road	500	750
Total	**1070**	**750**

These earthworks are not in breach of the NRC Regional Water and Soil Plan Rule 34.1.3, being classified as a Permitted Activity as within Riparian Management Zone (5m) volumes and area are less than 50m^3 and 200m^2 respectively. It should also be noted that the earthworks are a Permitted Activity under rule 33.1.3 (Earthworks less than 5000m^3).

The earthworks are however in breach of the Proposed Regional Plan Rule C.8.3, being classified as a Controlled Activity (Earthworks being <50^3 and > 1000m^3). Resource Consent is required from the Northland Regional Council. Refer to the earthworks management plan for further details.

11.0 Conclusions

It is the conclusion of RS Eng Ltd that the property is suitable for the proposed subdivision provided the recommendations and limitations stated within this report are adhered to. The proposed swale/channel has been granted resource consent by the NRC for earthworks within a flood plain and Riparian Management Zone.

We also conclude that in terms of Section 106 of the Resource Management Act 1991 and subject to the recommendations of this report that:

(a) the land in respect of which a consent is sought, or any structure on the land, is not or is not likely to be subject to material damage by subsidence, slippage or inundation from any source; and

(b) any subsequent use that is likely to be made of the land is not likely to accelerate, worsen, or result in material damage to the land, other land, or structure by subsidence, slippage or inundation from any source and,

(c) sufficient provision has been made for legal and physical access to each allotment to be created by the subdivision

12.0 Limitations

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

Recommendations and opinions in this report are based on data obtained as previously detailed. The nature and continuity of subsoil conditions away from the test locations are inferred and it should be appreciated that actual conditions could vary from those assumed.

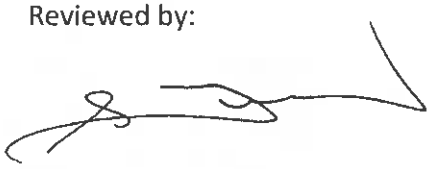
This report does not address matters relating to the National Environmental Standard for Contaminated Sites, and if applicable separate advice should be sought on this matter from a suitably qualified person.

If during the construction process, conditions are encountered that differ from the inferred conditions on which the report has been based, the site should be examined by a suitably qualified engineer to determine if any modification of the design based upon this report is required.

Prepared by:

Matthew Jacobson
Senior Engineering Technician
NZDE(Civil)

Reviewed by:

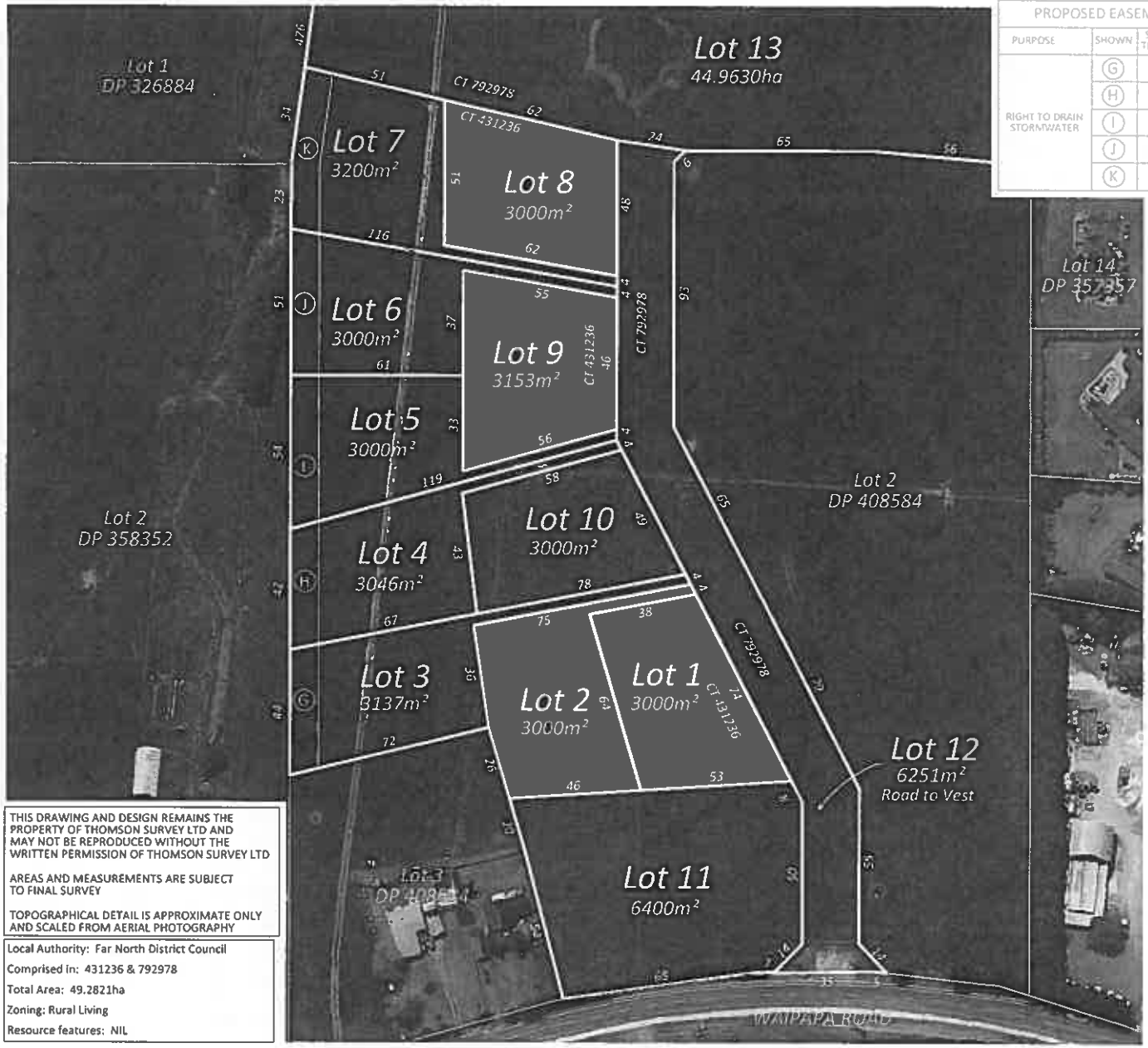


Steve Turner
Chartered Professional Engineer
NZCE(Civil), BE(Civil), CPEng, CMEngNZ, IntPE

RS Eng Ltd

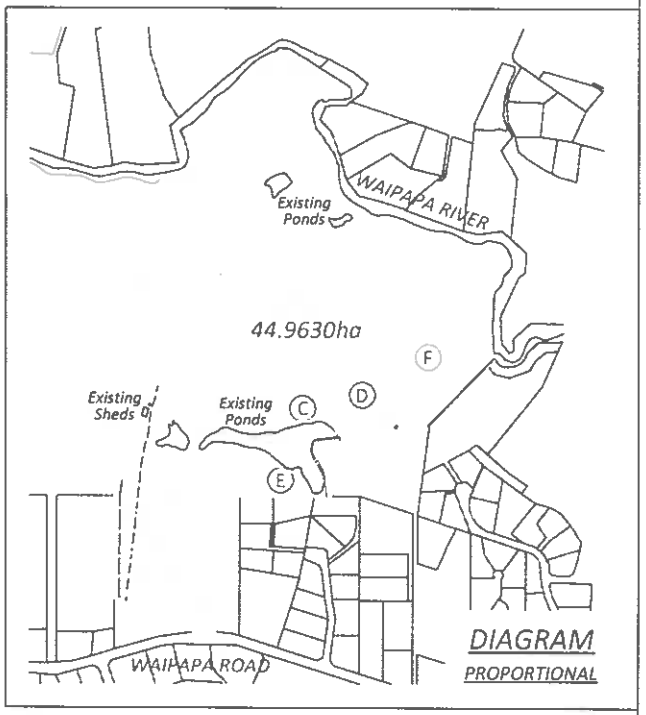
Appendix A

Scheme Plan



PROPOSED EASEMENT IN GROSS			
PURPOSE	SHOWN	SERVIENT TENEMENT	GRANTEE
RIGHT TO DRAIN STORMWATER	G	LOT 3 HEREON	FAR NORTH DISTRICT COUNCIL
	H	LOT 4 HEREON	
	I	LOT 5 HEREON	
	J	LOT 6 HEREON	
	K	LOT 7 HEREON	

EXISTING EASEMENTS			
PURPOSE	SHOWN	SERVIENT TENEMENT	CREATED BY
RIGHT TO DRAIN WATER	C D	LOT 13 HEREON	10912116.4
LANDSCAPING & MAINTENANCE RIGHT OF WAY	E		11228503.1
PEDESTRIAN RIGHT OF WAY	F		11228503.2



AREAS AND MEASUREMENTS ARE SUBJECT TO FINAL SURVEY

TOPOGRAPHICAL DETAIL IS APPROXIMATE ONLY AND SCALED FROM AERIAL PHOTOGRAPHY

Local Authority: Far North District Council
Comprised in: 431236 & 792978
Total Area: 49.2821ha
Zoning: Rural Living
Resource features: NIL

0 15 75 150m

Bar Scale 1:1500 @ A3

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

PROPOSED SUBDIVISION OF LOT 1 DP 408584 & LOT 4 DP 513347

WAIPAPA ROAD, KERIKERI

PREPARED FOR: S BILL

	Name	Date
Survey		
Design		
Drawn	KY	08.11.18
Approved		
Rev	KY	12.08.19

9452 Scheme 20190812b.lcd

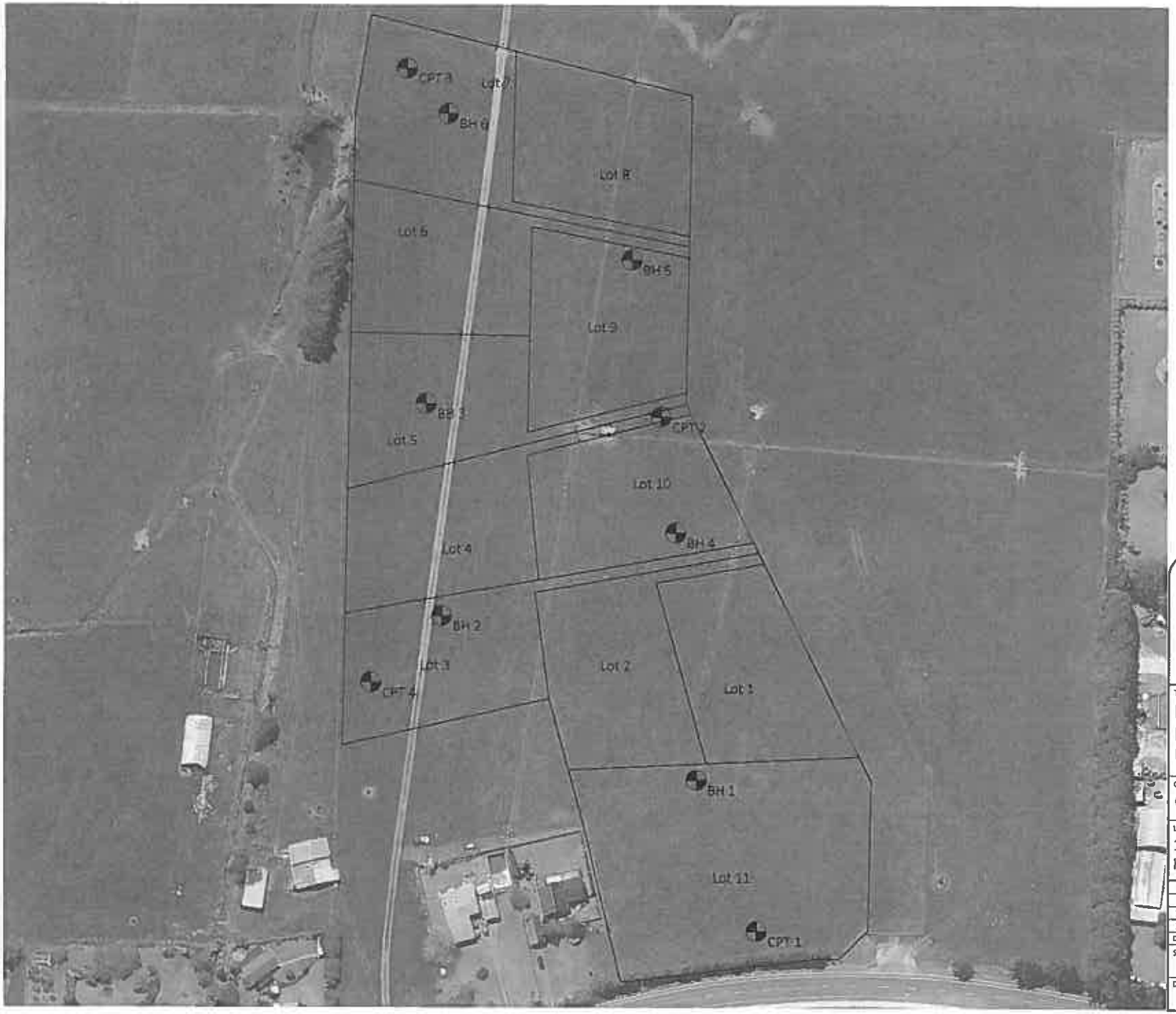
ORIGINAL
SCALE 1:1500
SHEET SIZE A3

Surveyors Ref. No: 9452

Sheet 1 of 1

Appendix B

Drawings



NOTES:

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RS Eng Ltd
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2 Seaview Road,
Whangarei 0110

Title
Investigations
Proposed Subdivision of
Lot 1 DP 408584

Client
Okokiwi Downs Parvus Holdings

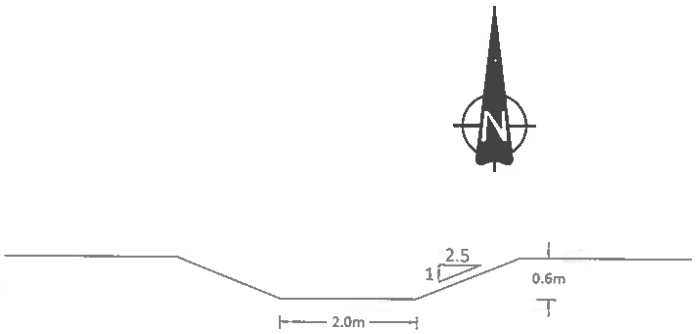
Location
190 Waipapa Road
Kerikeri

Date	Rev	Notes
11-9-19	B	Updated Scheme
10-5-19	A	Original Issue

Scale	Original	Rev
1:500	A3	

Drawn by	Approved by	File	Sheet
MJ		16607	1

Site Plan Scale 1:1250



Channel Typical Cross Section Scale 1:75

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Title
Flood Mitigation / Stormwater Layout
Lot 1 DP 408584

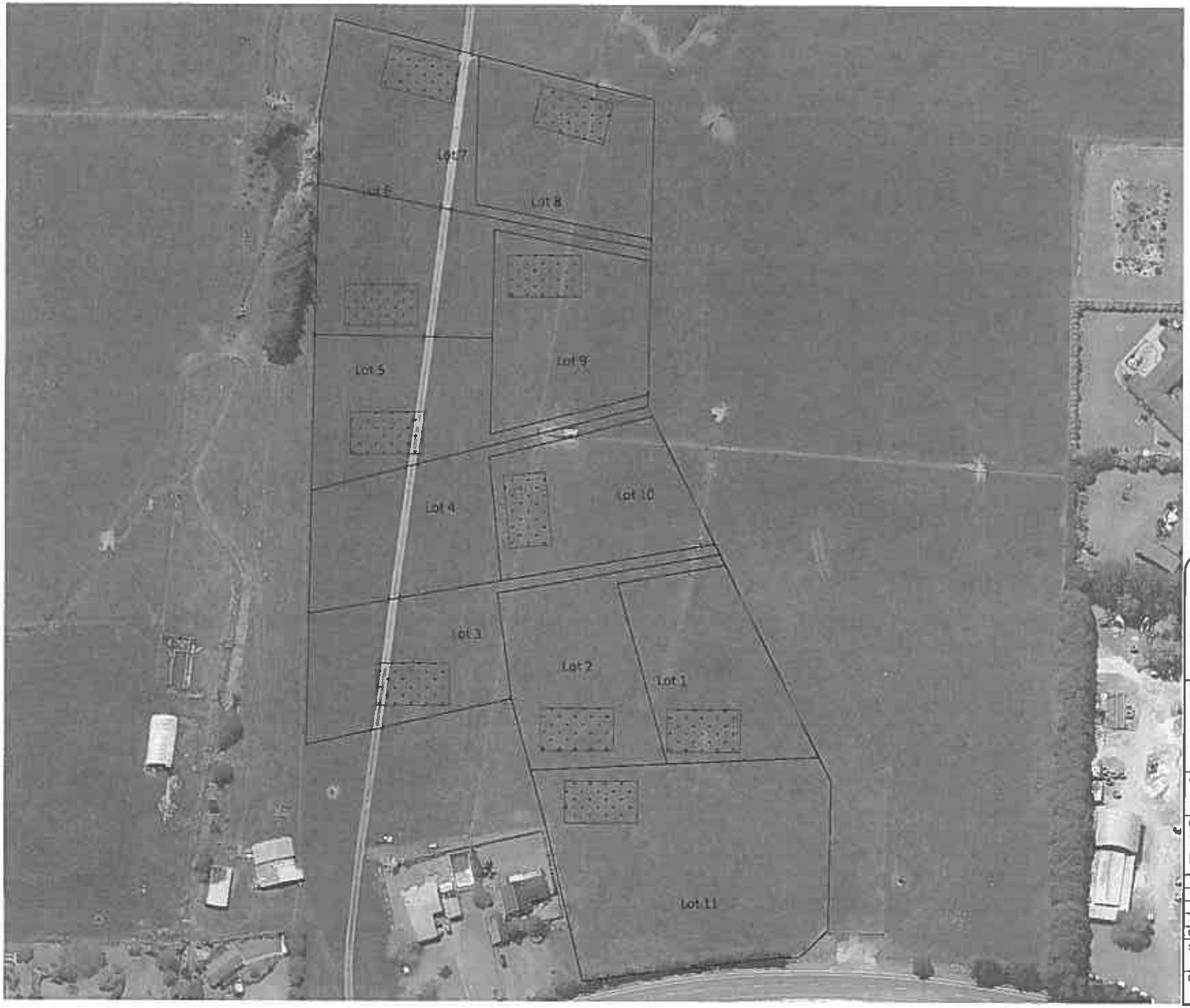
Client
Okokiwi Downs Parvus Holdings

Location
190 Waipapa Road
Kerikeri

Date	Rev	Notes
11-9-19	B	Updated Scheme
10-5-19	A	Original Issue

Scale	Original	Rev
1:500	A3	

Drawn by	Approved by	File	Sheet
MJ		16607	2



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Title
Suitable Wastewater Layout
Proposed Subdivision of
Lot 1 DP 408584

Client
Okokiwi Downs Parvus Holdings

Location
190 Waipapa Road
Kerikeri

Date	Rev	Notes
11-9-19	B	Updated Scheme
10-5-19	A	Original Issue

Scale	Original	Rev
1:500	A3	

Drawn by	Approved by	File	Sheet
MJ		16607	3

Appendix C

Field Investigations

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Whangarei 0110

Borehole Log BH 1

Project: Subdivision Suitability	Northing:	Job Number: 16607
	Easting:	Date: 29/03/19
Client: Okokiwi Downs Parvus Holdings	Shear Vane:	Logged By: BV
Borehole Location:	Slope:	Drill Method: Hand Auger
		Drill Size: 75mm

Terminated at: Target Depth ☒ Refusal ☐ Near Refusal ☐ Saturated ☐

SYMBOL	STRATA DESCRIPTION	DEPTH (mm)	GW LEVEL	Pilcon Shear Vane readings and comments (Su, Undisturbed; Rm, Remoulded)
	Topsoil	200		
	Clay SILT, Brown/Dark Grey, Stiff, Dry, Friable Intermixed Rock/Gravels/Some Organic Material @ 500, Becoming Orange/White Mottled	400 600 800		Su=182kPa Rm=22kPa
	Clay SILT, Sandy, Light Yellow/Orange, Stiff, Moist, Friable	1000 1200		Su=190+kPa
	Silt CLAY, Grey, Stiff, Moist, Low Plasticity Becoming Firm, Plastic with Depth	1400 1600 1800 2000 2200 2400 2600 2800 3000		Su=112kPa Rm=41kPa Su=125kPa Rm=41kPa Su=87kPa Rm=22kPa Su=57kPa Rm=39kPa
	Bore ends at 3.2m Groundwater not Encountered	3200 3400 3600 3800 4000		

UNDRAINED SHEAR STRENGTH (KPa): 20 40 60 80 100 120 140 160 180

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Whangarei 0110

Borehole Log BH 2

Project: Subdivision Suitability	Northing:	Job Number: 16607
Client: Okokiwi Downs Parvus Holdings	Easting:	Date: 29/03/19
Borehole Location:	Shear Vane:	Logged By: BV
	Slope:	Drill Method: Hand Auger
		Drill Size: 75mm

Terminated at:
- Target Depth ☒
- Refusal ☐
- Near Refusal ☐
- Saturated ☐

SYMBOL	STRATA DESCRIPTION	DEPTH (mm)	GW LEVEL	UNDRAINED SHEAR STRENGTH (KPa)	Pilcon Shear Vane readings and comments (Su, Undisturbed; Rm, Remoulded)
	Topsoil	200			
	Clay SILT, Brown/Dark Grey, Stiff, Dry, Friable Intermixed Rock/Gravels/Some Organic Material @ 500, Becoming Orange/White Mottled	400 600 800 1000			Su=200+kPa
	Clay SILT, Gravels, Light Brown, Firm-Stiff, Wet, Friable	1200 1400 1600 1800			Su=200+kPa Su=200+kPa
	Clay SILT, Blueish Grey, Firm, Wet (Ash) Intermixed Very Stiff Material	2000 2200			Su=102kPa Rm=22kPa
	Bore ends at 2.4m Groundwater not Encountered	2400 2600 2800 3000 3200 3400 3600 3800 4000			

UNDRAINED SHEAR STRENGTH (KPa): 20 40 60 80 100 120 140 160 180

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2 Seaview Road,
Whangarei 0110

Borehole Log BH 3

Project: Subdivision Suitability	Northing:	Job Number:	16607
Client: Okokiwi Downs Parvus Holdings	Easting:	Date:	29/03/19
Borehole Location:	Shear Vane:	Logged By:	BV
	Slope:	Drill Method:	Hand Auger
		Drill Size:	75mm

Terminated at:
Target Depth ☒
Refusal ☐
Near Refusal ☐
Saturated ☐

SYMBOL	STRATA DESCRIPTION	DEPTH (mm)	GW LEVEL	UNDRAINED SHEAR STRENGTH (KPa)	Pilcon Shear Vane readings and comments (Su, Undisturbed; Rm, Remoulded)
	Topsoil	200			
	Clay SILT, Brown/Dark Grey, Stiff, Dry, Friable Intermixed Rock/Gravels/Some Organic Material @ 500, Becoming Orange/White Mottled	400 600 800 1000 1200			Su=190+kPa Su=190+kPa
	Silt CLAY, Light Brown/Grey, Stiff, Mosit, Low Plasticity	1400			Su=152kPa Rm=22kPa
	Gravely SILT, Some Clay, Grey/Brown, Stiff, Wet, Friable	1600 1800 2000 2200			Su=190+kPa (indicative only - gravels)
	Clay SILT, Blueish Grey, Firm, Wet (Ash) Intermixed Very Stiff Material Weakening with Depth	2400 2600 2800 3000			Su=48kPa Rm=15kPa Su=190+kPa
	Bore ends at 3.2m Groundwater not Encountered	3200 3400 3600 3800 4000			

UNDRAINED SHEAR STRENGTH (KPa): 20 40 60 80 100 120 140 160 180

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Whangarei 0110

Borehole Log BH 4

Project: Subdivision Suitability	Northing:	Job Number: 16607
Client: Okokiwi Downs Parvus Holdings	Easting:	Date: 29/03/19
Borehole Location:	Shear Vane:	Logged By: BV
	Slope:	Drill Method: Hand Auger
		Drill Size: 75mm

Terminated at:
Target Depth ☒
Refusal ☐
Near Refusal ☐
Saturated ☐

SYMBOL	STRATA DESCRIPTION	DEPTH (mm)	GW LEVEL	Pilcon Shear Vane readings and comments (Su, Undisturbed; Rm, Remoulded)
	Topsoil	200		
	Clay SILT, Brown/Dark Grey, Stiff, Dry, Friable Intermixed Rock/Gravels/Some Organic Material @ 500, Becoming Orange/White Mottled	400 600 800 1000 1200 1400 1600		Su=145kPa Rm=7kPa Su=200+kPa Su=131kPa Rm=7kPa
	Clay SILT, Blueish Grey, Firm, Wet (Ash) Intermixed Very Stiff Material Weakening with Depth	1800 2000 2200 2400		 Su=116kPa Rm=15kPa
	Bore ends at 2.6m Groundwater not Encountered	2600 2800 3000 3200 3400 3600 3800 4000		Su=58kPa Rm=10kPa

UNDRAINED SHEAR STRENGTH (KPa)
20 40 60 80 100 120 140 160 180

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Whangarei 0110

Borehole Log BH 5

Project: Subdivision Suitability	Northing:	Job Number: 16607
	Easting:	Date: 29/03/19
Client: Okokiwi Downs Parvus Holdings	Shear Vane:	Logged By: BV
Borehole Location:	Slope:	Drill Method: Hand Auger
		Drill Size: 75mm

Terminated at:
Target Depth ☐
Refusal ☐
Near Refusal ☐
Saturated ☒

SYMBOL	STRATA DESCRIPTION	DEPTH (mm)	GW LEVEL	UNDRAINED SHEAR STRENGTH (KPa)	Pilcon Shear Vane readings and comments (Su, Undisturbed; Rm, Remoulded)
	Topsoil	200			
	Clay SILT, Brown/Dark Grey, Stiff, Dry, Friable Intermixed Rock/Gravels/Some Organic Material @ 500, Becoming Orange/White Mottled	400 600 800 1000			Su=181kPa Rm=30kPa Su=190+kPa
	Clay SILT, Gravels, Light Brown, Firm-Stiff, Wet, Friable	1200 1400 1600 1800			Su=190+kPa
	Clay SILT, Blueish Grey, Firm, Wet (Ash) Intermixed Very Stiff Material Weakening with Depth	2000 2200 2400 2600			Su=112kPa Rm=26kPa
	Bore ends at 2.7m Saturated	2800 3000 3200 3400 3600 3800 4000			

UNDRAINED SHEAR STRENGTH (KPa): 20 40 60 80 100 120 140 160 180

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

Borehole Log BH 6

Project: Subdivision Suitability	Northing:	Job Number: 16607
Client: Okokiwi Downs Parvus Holdings	Easting:	Date: 29/03/19
Borehole Location:	Shear Vane:	Logged By: BV
	Slope:	Drill Method: Hand Auger
		Drill Size: 75mm

Terminated at:
Target Depth ☒
Refusal ☐
Near Refusal ☐
Saturated ☐

SYMBOL	STRATA DESCRIPTION	DEPTH (mm)	GW LEVEL	Pilcon Shear Vane readings and comments (Su, Undisturbed; Rm, Remoulded)
	Topsoil	200		
	Clay SILT, Brown/Dark Grey, Stiff, Dry, Friable Intermixed Rock/Gravels/Some Organic Material @ 500, Becoming Orange/White Mottled	400 600 800 1000 1200 1400 1600		Su=145kPa Rm=7kPa Su=131kPa Rm=22kPa Su=145kPa Rm=22kPa
	Clay SILT, Blueish Grey, Firm, Wet (Ash) Intermixed Very Stiff Material Weakening with Depth	1800 2000 2200		Su=102kPa Rm=15kPa
	Bore ends at 2.3m Groundwater not Encountered	2400 2600 2800 3000 3200 3400 3600 3800 4000		

UNDRAINED SHEAR STRENGTH (KPa)
20 40 60 80 100 120 140 160 180

Appendix D

Northland Regional Council Flood Model Information

Northland REGIONAL COUNCIL

190 Waipapa Road
Imagery/newzealand
1:3000 (A3) All levels in m OTP
10yr, 50yr and 100yrCC Flood Extents

0 50 100 150 m

N

W:\Land\Mapt\riverworks\Projects\kerriwaipapi\Scheme Design\DHI Scheme Simulations v6.mxd
User: matthewj

Date Saved: 28/03/2019 1:21:34 PM

Matthew Jacobson

From: Matthew Jolly <matthewj@nrc.govt.nz>
Sent: Wednesday, 27 March 2019 11:17 a.m.
To: Matthew Jacobson
Subject: RE: Flooding Info, 190 Waipapa Road,
Attachments: 190 Waipapa Road model chainages.pdf; FINAL Flood map disclaimer Oct 2013 (A586686).pdf; 190 waipapa road Surveyed Flood Levels.pdf

Good Morning Matt,

See the attached map showing the chainages.
I have taken cross section 1 at chainage 320.17, cross section 2 at chainage 626.91, cross section 3 is shown on the map and cross section 4 is at chainage 1100.
The flows and levels are as follows:

10 Year
1 = 3 (1D-2D)
2 = 3 (1D)
3 = 0 - No flow No ponding
4 = 6.9 (1D)
Flood Level 55.64m OTP

50 Year
1= 3 (1D-2D)
2 = 4.10 (1D)
3 = 0 - No Flow, some ponding
4 = 7.17 (1D)
Flood Level 55.65m OTP

100 Year
1 = 11 (1D-2D)
2 = 9 (1D)
3 = 2-3
4 = 12 (1D)
Flood Level 55.70m OTP

The 1D discharge and flood levels were taken from the model from Mike 11.
The 2D discharge was taken from WaterRide.
Please see the attached Flood Map Disclaimer regarding this information.

I have also provided a map showing the surveyed flood levels from the March 2007, January 2011 and August 2014 events.

If you have any questions regarding this information, don't hesitate to contact me.

Ngā mihi

Matthew Jolly
Rivers and Natural Hazards Officer
DDI 09 470 1210 Ext. 9149
M 027 703 0201

Appendix E

Generic Stormwater Attenuation Design and Details

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

File No.	16246
Plan Ref. No.	
Calculated by.	MJ
Checked by.	
Date.	22/5/19

Client. Okokiwi Downs

Catchment. Reticulation Preliminary Sizing

Catchment Flow

Using The (from the Building Code)

R_c = C x I x A / 360

Where	C	=	0.3	From the Building Code for Pasture
	I	=	107	From HIRDS RCP6.0 2081-2100 for 10min Time of Concerntration
	A	=	3.25	ha

R_c = **0.29** **m^3/s**

Flow Through Culvert Try Culvert 0.450 øm

Using Mannings Formula => $Q = A\ 1/n\ R^{2/3}\ s^{1/2}$

n = 0.012 From New Zealand Building Code

A = 0.16

R = A / P
= 0.2 / 1.414
= 0.113

s = 1 in 90
= 0.011 m/m

Q = 0.15904 * 1/ 0.012 * $0.113^{2/3}$ * $0.01111^{1/2}$
= **0.326** m^3/s

0.290	<	0.326	Therefore there is adequate capacity for a Q_{10} storm.
Flow off catchment		**Flow through culvert**	

NOTES:

- Tank installation and footing to manufacturers instructions.
- All tank penetrations and pipe connections to manufacturers instructions.
- Leaf guard/debris protection to manufacturers instructions.
- All services should be located on-site prior to commencement of works.
- All works to be constructed to WDC Environmental Engineering Standards.
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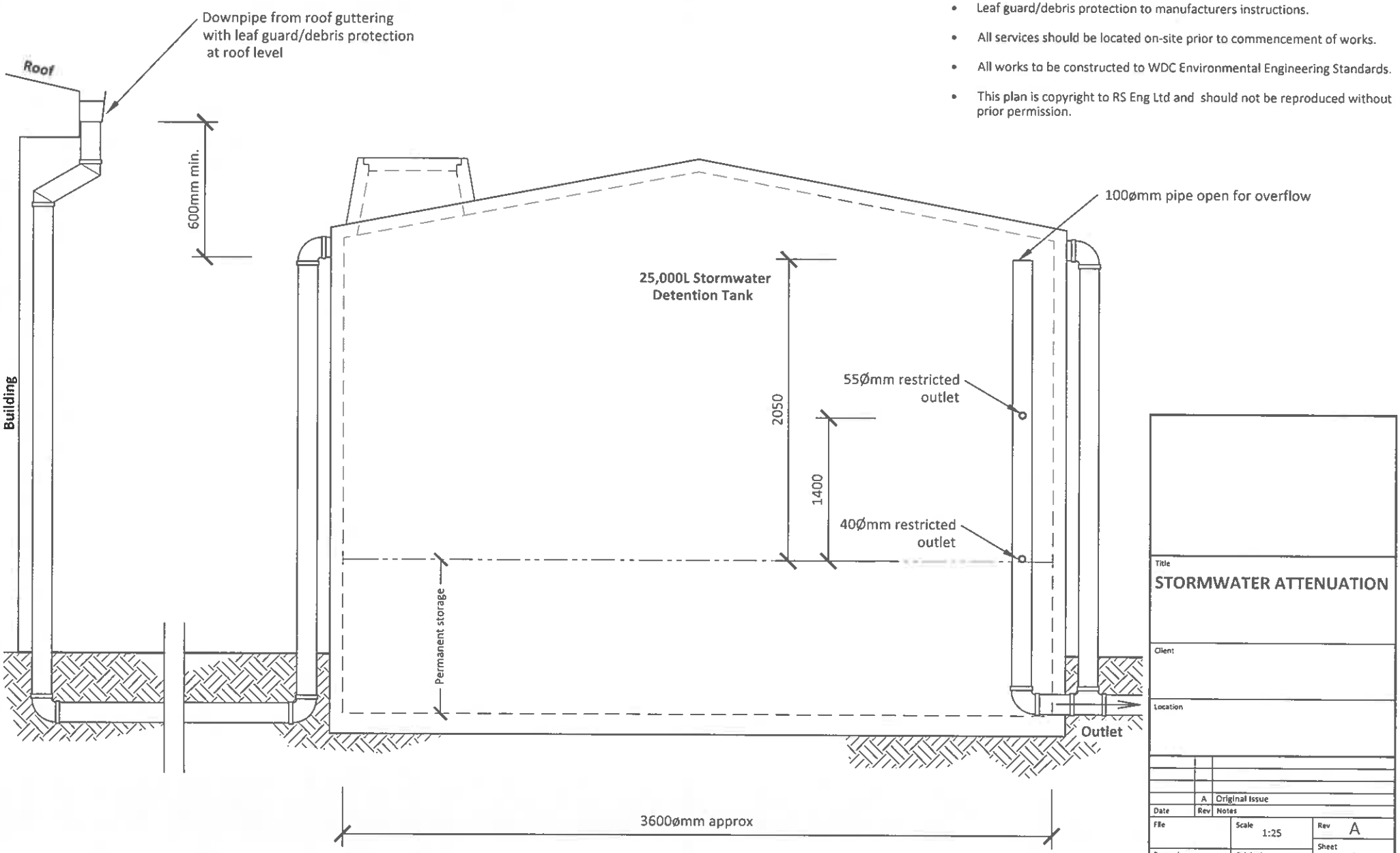

Title
STORMWATER ATTENUATION

Client

Location

Date	Rev	Notes
	A	Original issue

File	Scale	Rev
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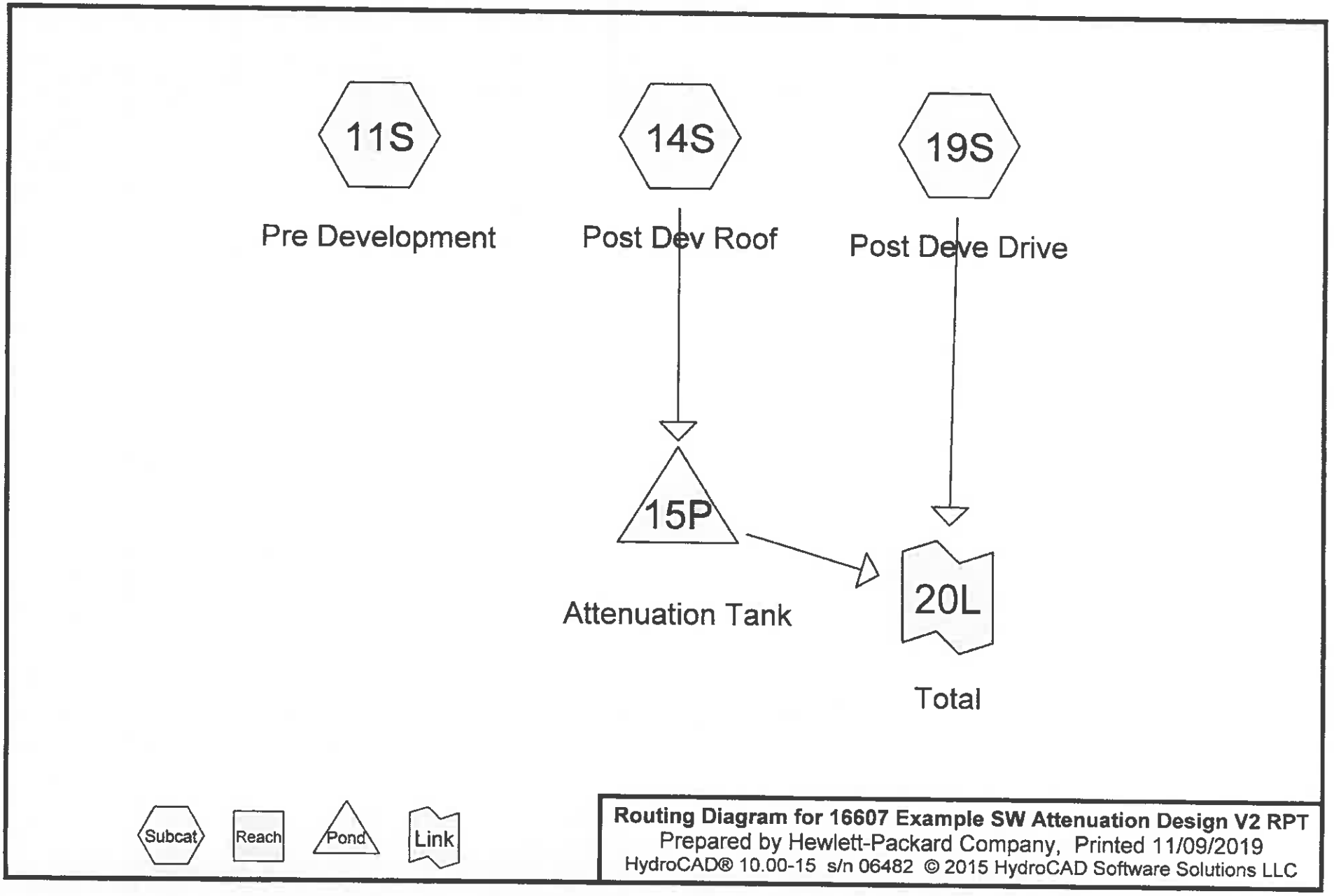
Drawn by	Original	Sheet
	A4	1



Routing Diagram for 16607 Example SW Attenuation Design V2 RPT
Prepared by Hewlett-Packard Company, Printed 11/09/2019

Summary for Subcatchment 11S: Pre Development

Runoff = 13.74 l/s @ 12.08 hrs, Volume= 75.7 m³, Depth> 108 mm

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
ARC TP 108 24 Hour 10% AEP Rainfall=167 mm, Ia/S=0.06

Area (m²)	CN	Description
700.0	76	Woods/grass comb., Fair, HSG C
700.0		100.00% Pervious Area

Tc (min)	Length (meters)	Slope (m/m)	Velocity (m/sec)	Capacity (m³/s)	Description
12.3	100.0	0.0800	0.13		**Sheet Flow,** Grass: Short n= 0.150 P2= 113 mm

Summary for Subcatchment 11S: Pre Development

Runoff = 23.95 l/s @ 12.08 hrs, Volume= 132.8 m³, Depth> 190 mm

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
ARC TP 108 24 Hour 1% AEP Rainfall=256 mm, Ia/S=0.06

Area (m²)	CN	Description
700.0	76	Woods/grass comb., Fair, HSG C
700.0		100.00% Pervious Area

Tc (min)	Length (meters)	Slope (m/m)	Velocity (m/sec)	Capacity (m³/s)	Description
12.3	100.0	0.0800	0.13		**Sheet Flow,** Grass: Short n= 0.150 P2= 113 mm

Summary for Subcatchment 14S: Post Dev Roof

Runoff = 12.69 l/s @ 12.05 hrs, Volume= 73.3 m³, Depth> 183 mm

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
ARC TP 108 24 Hour 10% AEP+CC Rainfall=189 mm, Ia/S=0.06

Area (m²)	CN	Description
400.0	98	Paved parking, HSG C
400.0		100.00% Impervious Area

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

Summary for Subcatchment 14S: Post Dev Roof

Runoff = 19.64 l/s @ 12.05 hrs, Volume= 114.4 m³, Depth> 286 mm

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
ARC TP 108 24 Hour 1% AEP+CC Rainfall=292 mm, Ia/S=0.06

Area (m²)	CN	Description
400.0	98	Paved parking, HSG C
400.0		100.00% Impervious Area

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

Summary for Subcatchment 19S: Post Deve Drive

Runoff = 9.52 l/s @ 12.05 hrs, Volume= 55.0 m³, Depth> 183 mm

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
ARC TP 108 24 Hour 10% AEP+CC Rainfall=189 mm, Ia/S=0.06

Area (m²)	CN	Description
300.0	98	Paved parking, HSG C
300.0		100.00% Impervious Area

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

Summary for Subcatchment 19S: Post Deve Drive

Runoff = 14.73 l/s @ 12.05 hrs, Volume= 85.8 m³, Depth> 286 mm

Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
ARC TP 108 24 Hour 1% AEP+CC Rainfall=292 mm, Ia/S=0.06

Area (m²)	CN	Description
300.0	98	Paved parking, HSG C
300.0		100.00% Impervious Area

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

Summary for Pond 15P: Attenuation Tank

Inflow Area = 400.0 m², 100.00% Impervious, Inflow Depth > 183 mm for 10% AEP+CC event
Inflow = 12.69 l/s @ 12.05 hrs, Volume= 73.3 m³
Outflow = 4.34 l/s @ 12.35 hrs, Volume= 73.0 m³, Atten= 66%, Lag= 18.4 min
Primary = 4.34 l/s @ 12.35 hrs, Volume= 73.0 m³

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 1.425 m @ 12.35 hrs Surf.Area= 10.2 m² Storage= 14.5 m³

Plug-Flow detention time= 32.2 min calculated for 72.8 m³ (99% of inflow)
Center-of-Mass det. time= 29.1 min (778.2 - 749.1)

Volume	Invert	Avail.Storage	Storage Description
#1	0.000 m	30.5 m³	**3.60 mD x 3.00 mH Vertical Cone/Cylinder**

Device	Routing	Invert	Outlet Devices
#1	Primary	0.000 m	**40 mm Vert. Orifice/Grate** C= 0.600
#2	Primary	1.400 m	**55 mm Vert. Orifice/Grate** C= 0.600

Primary OutFlow Max=4.26 l/s @ 12.35 hrs HW=1.425 m (Free Discharge)
↑**1=Orifice/Grate** (Orifice Controls 3.96 l/s @ 3.15 m/s)
└**2=Orifice/Grate** (Orifice Controls 0.31 l/s @ 0.30 m/s)

Summary for Pond 15P: Attenuation Tank

Inflow Area = 400.0 m², 100.00% Impervious, Inflow Depth > 286 mm for 1% AEP+CC event
Inflow = 19.64 l/s @ 12.05 hrs, Volume= 114.4 m³
Outflow = 9.73 l/s @ 12.23 hrs, Volume= 113.9 m³, Atten= 50%, Lag= 10.9 min
Primary = 9.73 l/s @ 12.23 hrs, Volume= 113.9 m³

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Peak Elev= 2.048 m @ 12.23 hrs Surf.Area= 10.2 m² Storage= 20.8 m³

Plug-Flow detention time= 32.4 min calculated for 113.9 m³ (100% of inflow)
Center-of-Mass det. time= 29.4 min (773.9 - 744.4)

Volume	Invert	Avail.Storage	Storage Description
#1	0.000 m	30.5 m³	**3.60 mD x 3.00 mH Vertical Cone/Cylinder**

Device	Routing	Invert	Outlet Devices	
#1	Primary	0.000 m	**40 mm Vert. Orifice/Grate**	C= 0.600
#2	Primary	1.400 m	**55 mm Vert. Orifice/Grate**	C= 0.600

Primary OutFlow Max=9.71 l/s @ 12.23 hrs HW=2.044 m (Free Discharge)
↑—**1=Orifice/Grate** (Orifice Controls 4.75 l/s @ 3.78 m/s)
└—**2=Orifice/Grate** (Orifice Controls 4.96 l/s @ 2.09 m/s)

Summary for Link 20L: Total

Inflow Area = 700.0 m², 100.00% Impervious, Inflow Depth > 183 mm for 10% AEP+CC event
Inflow = 12.85 l/s @ 12.06 hrs, Volume= 127.9 m³
Primary = 12.85 l/s @ 12.06 hrs, Volume= 127.9 m³, Atten= 0%, Lag= 0.0 min

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

Summary for Link 20L: Total

Inflow Area = 700.0 m², 100.00% Impervious, Inflow Depth > 285 mm for 1% AEP+CC event
Inflow = 22.65 l/s @ 12.07 hrs, Volume= 199.7 m³
Primary = 22.65 l/s @ 12.07 hrs, Volume= 199.7 m³, Atten= 0%, Lag= 0.0 min

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

CONSTRUCTION DETAILS

[TOP ENERGY RESPONSIBILITY]

Transfomer Upgrade - Upgrade existing 3-phase transformer site T00492 to 100kVA. Raise Transformer HV fuse arm and Hanger/LV fuse arms up pole to ensure clearances are compliant with ECP34. Extend LV cables/tails up pole as required.

Proposed LV UG (Road Reserve) - Install approx. 28m (trench length) of LV UG (4c/185mm/Al/XLPE) cable from transformer T00492 along/across Waipapa Road to site adjacent to pillar 810156. Disconnect existing LV cables at pillar 810156 and join to new cables at the location shown on the plan. Top Energy to provide trench/thrust and supply/install of 100mm Orange HD Duct within road reserve.

Proposed LV UG (Private Property) - Cut in new fused service connection pillar (ECO3) J1 at existing LV UG cables near proposed subdivision entrance. Install new fused service connection pillars (ECO3) J2, J3, J4, J5, J6, J7, J8 along the proposed access road at the locations shown on the plan. Install a total of 265m (trench length) of LV UG cable (4c/185mm/Al/XLPE) from pillar J1 - J8 to reticulate proposed subdivision. Customer to provide trench/thrust and supply/install of 100mm Orange HD Duct within private property.

[CUSTOMER RESPONSIBILITY]

Proposed LV Duct & Civil Works Within Private Property - Customer to arrange the required thrust/trench and supply/installation of 100mm Orange HD duct in accordance with the attached 'Trench Profile Drawing 10U0-0500-1 (C)' for LV Cable installation. Minimum 500mm cover.

Spare Duct for Future HV - Customer to arrange the required thrust/trench and supply/installation of 100mm Orange HD Duct in accordance with the attached 'Trench Profile Drawing 10U0-0500-1 (C)' for HV Cable installation. Minimum 900mm cover.

NOTES:

1) Cost of existing 50kVA 11/415-230V transformer to be deducted from upgrade costs.

[EASEMENTS]

AGE/EIG required over proposed access Lot 12.

[REFERENCE DRAWINGS]

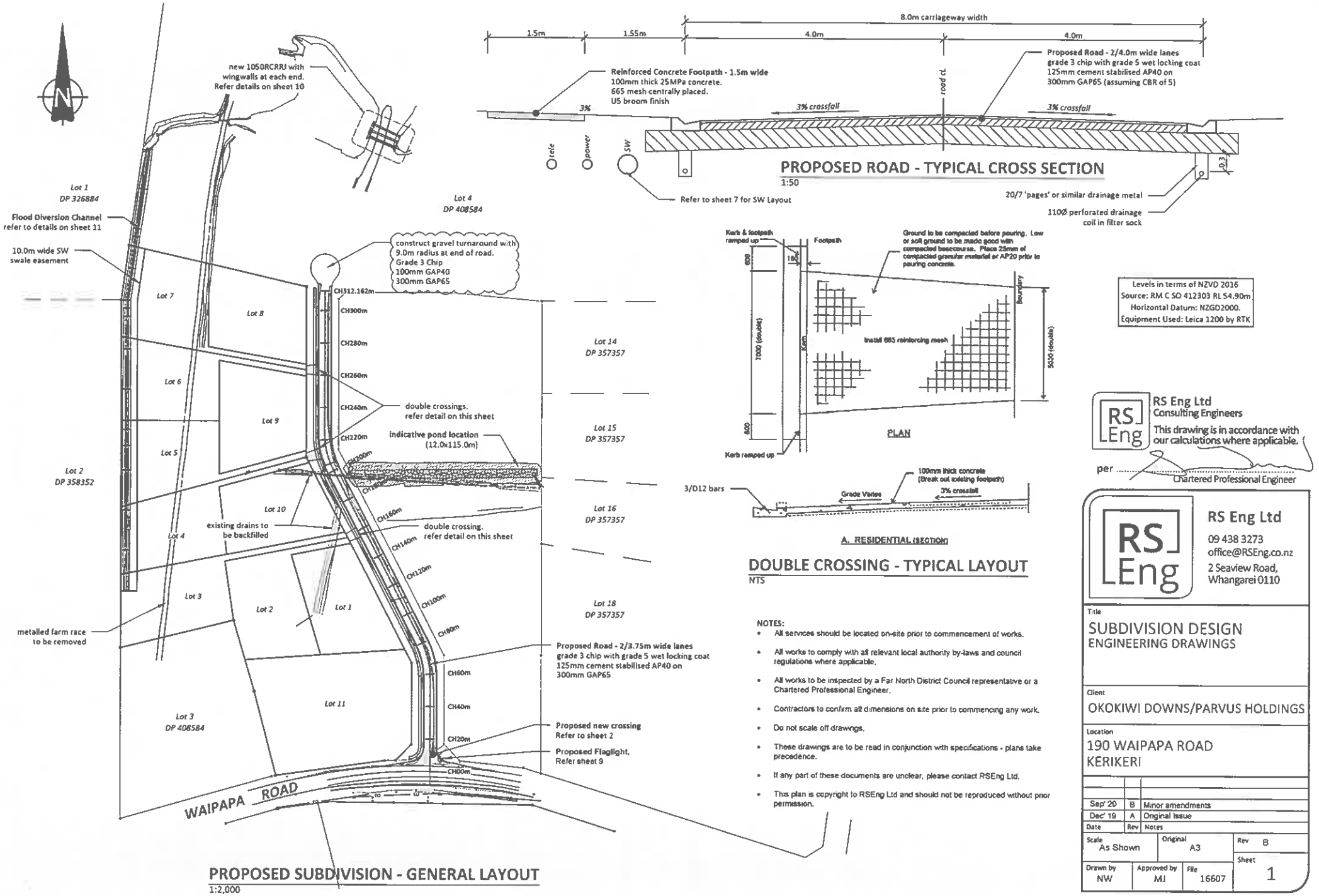
10T1-0420-1 Transformer Structure
10U0-0500-1 Trench Profile

REV	DESCRIPTION	DRAWN BY	DRAWN DATE	CHECKED BY	CHECKED DATE	APPROVED BY	APPROVED DATE
A	INITIAL PROPOSAL	SB	17/10				

Top Energy
TePuna Hihiko
Level 2 John Butler Centre
60 Kerikeri Road, Kerikeri
Ph: 09 401 5440
Fax: 09 401 5605

DRAWN: SB	DRAWN DATE: 17/10
SHEET 1 OF 1	
PROJECT:	SUBDIVISION RETICULATION
SUBSTATION:	WAIPAPA
FEEDER:	0406
DRAWING TITLE:	OKOKIWI DOWNS & PARVUS HOLDINGS 190 WAIPAPA ROAD, KERIKERI
DRAWING NUMBER	40058562
REV	A
SERVICE FUSING	2-PHASE 30AMP (PER LOT)

Work Pack Ref:



PROPOSED ROAD - TYPICAL CROSS SECTION
1:50

PROPOSED SUBDIVISION - GENERAL LAYOUT
1:2,000

A. RESIDENTIAL (SECTION)

DOUBLE CROSSING - TYPICAL LAYOUT
NTS

Levels in terms of NZVD 2016
Source: RM C SO 412303 RL 54.90m
Horizontal Datum: NZGD2000.
Equipment Used: Leica 1200 by RTK

NOTES:
- All services should be located on-site prior to commencement of works.
- All works to comply with all relevant local authority by-laws and council regulations where applicable.
- All works to be inspected by a Far North District Council representative or a Chartered Professional Engineer.
- Contractors to confirm all dimensions on site prior to commencing any work.
- Do not scale off drawings.
- These drawings are to be read in conjunction with specifications - plans take precedence.
- If any part of these documents are unclear, please contact RSEng Ltd.
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RS Eng Ltd
Consulting Engineers
This drawing is in accordance with our calculations where applicable.
per .....
Chartered Professional Engineer

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

Title
SUBDIVISION DESIGN
ENGINEERING DRAWINGS

Client
OKOKIWI DOWNS/PARVUS HOLDINGS

Location
190 WAIPAPA ROAD
KERIKERI

Date	Rev	Notes
Sep' 20	B	Minor amendments
Dec' 19	A	Original Issue

Scale	Original	Rev
As Shown	A3	B

Drawn by	Approved by	File	Sheet
NW	MJ	16607	1

NOTES:

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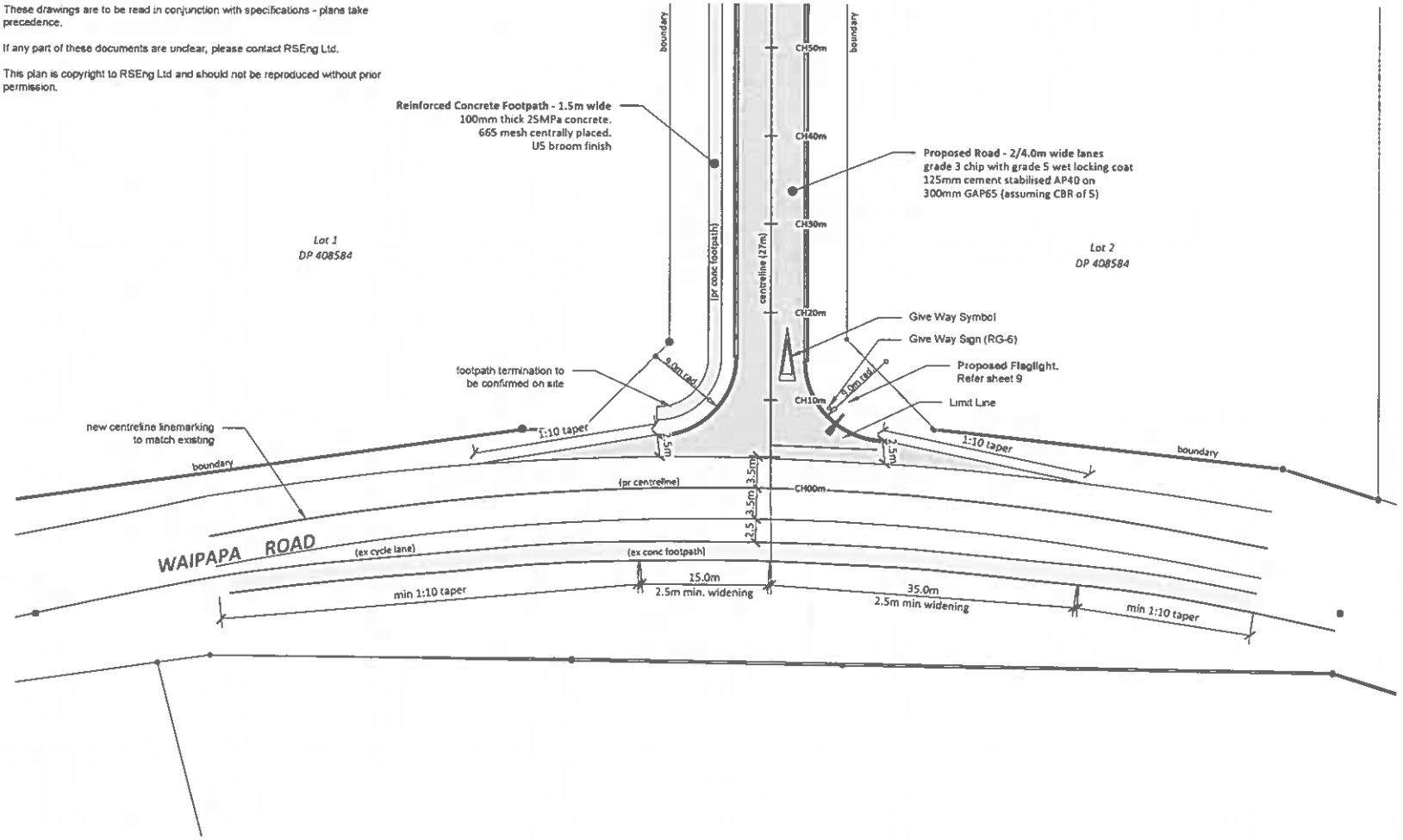

SUBDIVISION ACCESS - CROSSING PLAN

1:500

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office@RSEng.co.nz
2 Seaview Road,
Whangarei 0110

Title
SUBDIVISION DESIGN
ENGINEERING DRAWINGS

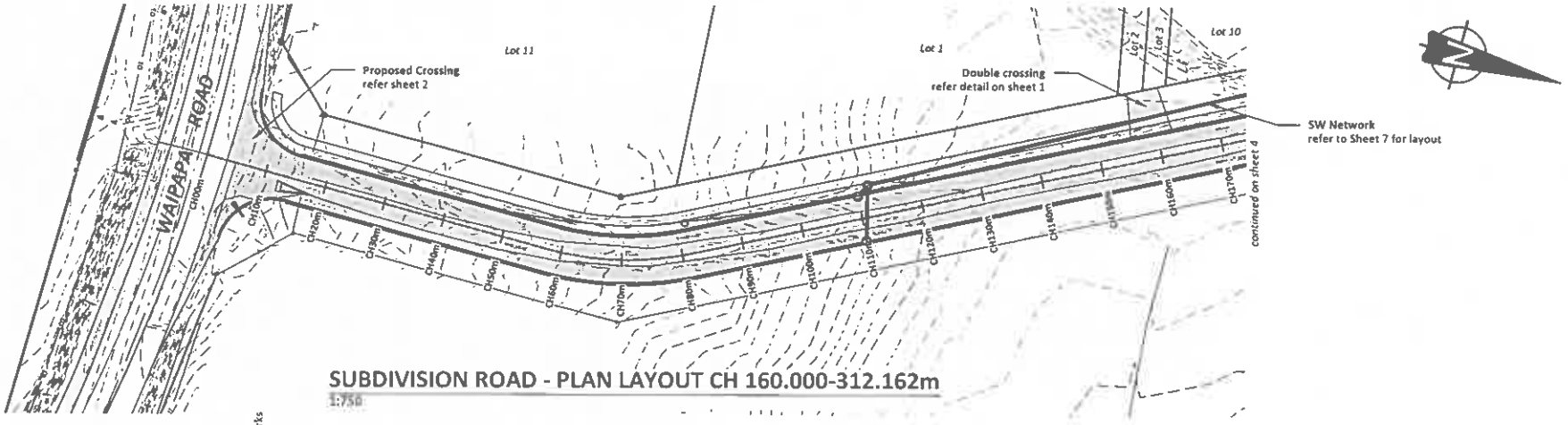
Client
OKOKIWI DOWNS/PARVUS HOLDINGS

Location
190 WAIPAPA ROAD
KERIKERI

Date	Rev	Notes
Sep' 20	B	Minor amendments
Dec' 19	A	Original Issue

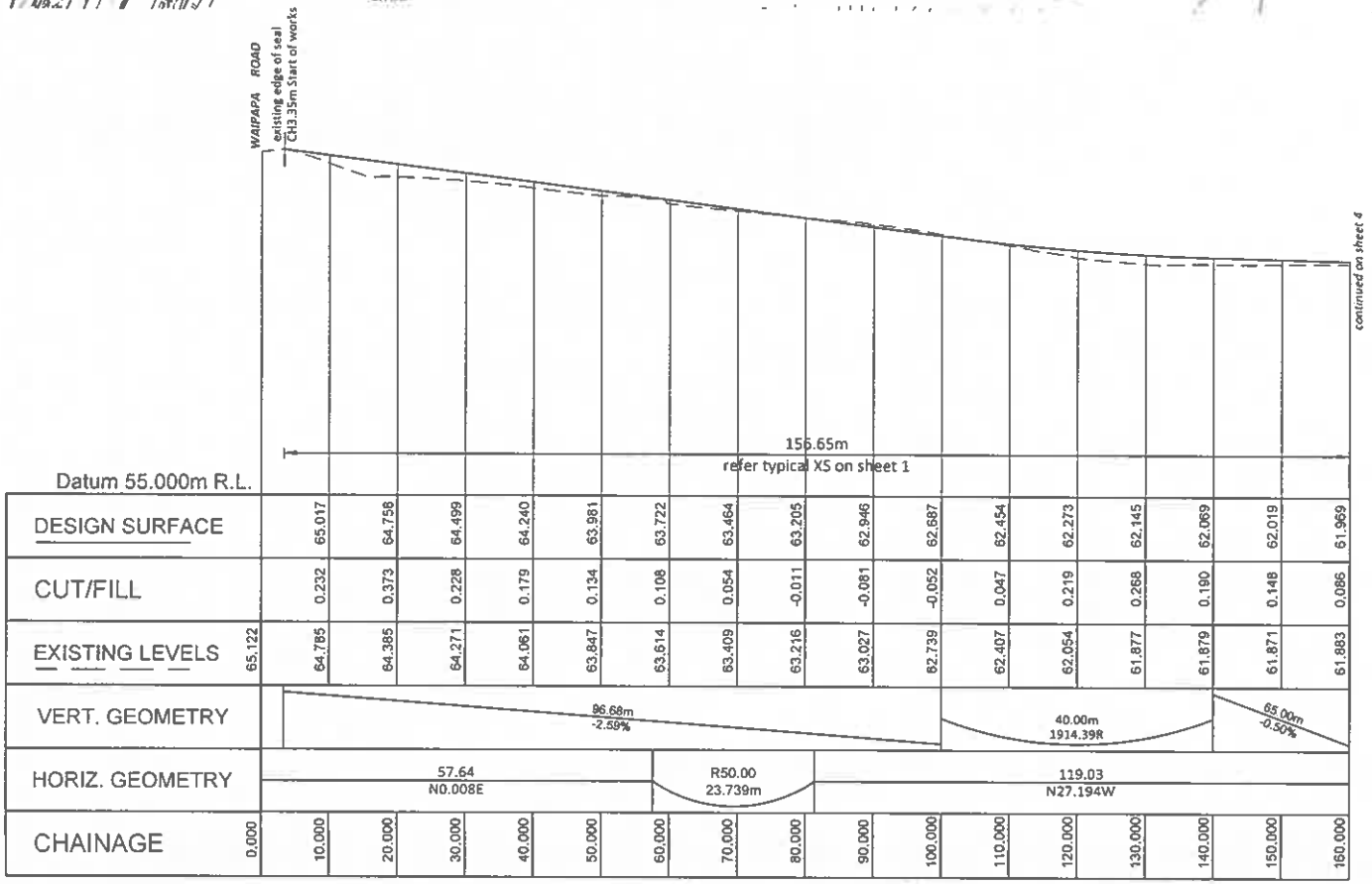
Scale	Original	Rev	Sheet
1:500	A3	B	2

Drawn by	Approved by	File
NW	MJ	16607



SUBDIVISION ROAD - PLAN LAYOUT CH 160.000-312.162m

1:750



SUBDIVISION ROAD - LONG SECTION CH0.000-160.000m

1:750H
1:150V

NOTES:

- All services should be located on-site prior to commencement of works.
- All works to comply with all relevant local authority by-laws and council regulations where applicable.
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Title
SUBDIVISION DESIGN
ENGINEERING DRAWINGS

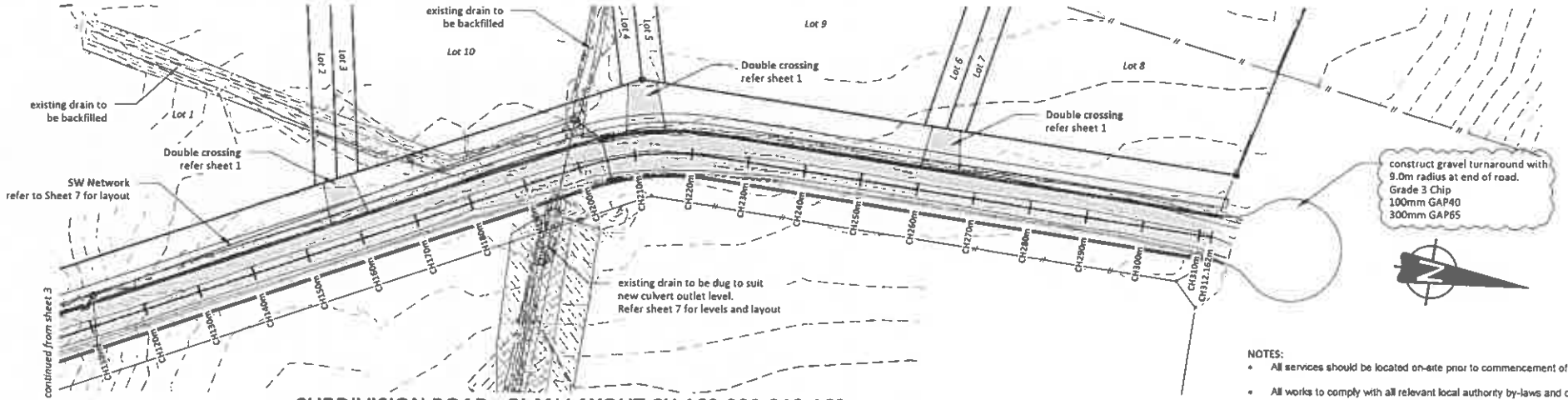
Client
OKOKIWI DOWNS/PARVUS HOLDINGS

Location
190 WAIPAPA ROAD
KERIKERI

Date	Rev	Notes
Sep' 20	B	Minor amendments
Dec' 19	A	Original Issue

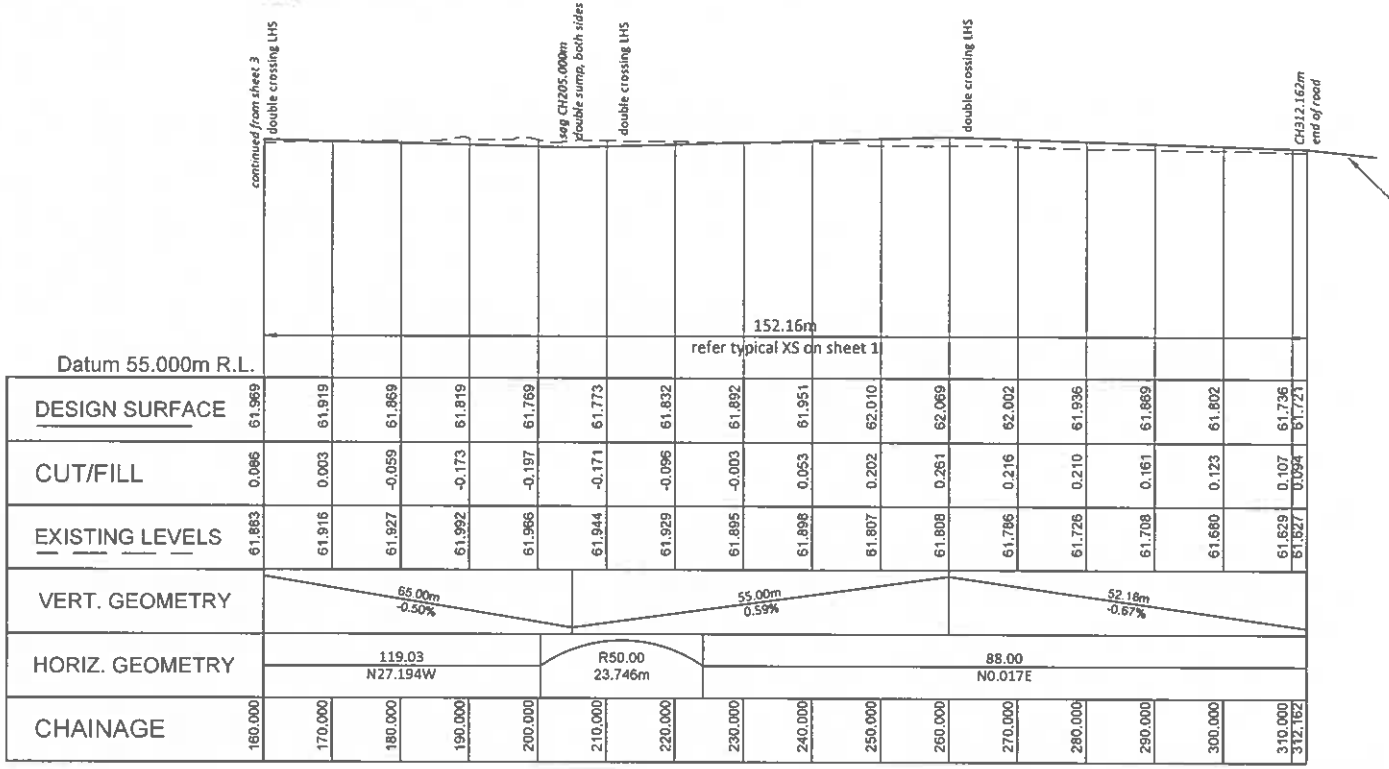
Scale	Original	Rev
As Shown	A3	B

Drawn by	Approved by	File	Sheet
NW	MJ	16607	3



SUBDIVISION ROAD - PLAN LAYOUT CH 160.000-312.162m

1:750



SUBDIVISION ROAD - LONG SECTION CH 160.000-312.162m

1:750H
1:150V

NOTES:

- All services should be located on-site prior to commencement of works.
- All works to comply with all relevant local authority by-laws and council regulations where applicable.
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construct gravel turnaround with 9.0m radius at end of road

RS Eng Ltd
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2 Seaview Road,
Whangarei 0110

Title
SUBDIVISION DESIGN
ENGINEERING DRAWINGS

Client
OKOKIWI DOWNS/PARVUS HOLDINGS

Location
190 WAIPAPA ROAD
KERIKERI

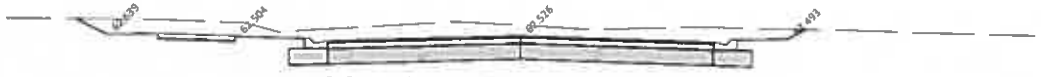
Date	Rev	Notes
Sep' 20	B	Minor amendments
Dec' 19	A	Original issue

Scale	Original	Rev
As Shown	A3	B

Drawn by	Approved by	File	Sheet
NW	MJ	16607	4

ROAD CROSS SECTION - CH140.0m
1:100

ROAD CROSS SECTION - CH120.0m
1:100



ROAD CROSS SECTION - CH100.0m
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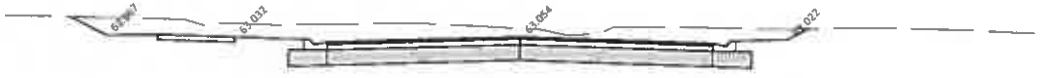

ROAD CROSS SECTION - CH80.0m
1:100

ROAD CROSS SECTION - CH60.0m
1:100

ROAD CROSS SECTION - CH40.0m
1:100

ROAD CROSS SECTION - CH20.0m
1:100

NOTES:

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-

RS Eng Ltd
09 438 3273
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2 Seaview Road,
Whangarei 0110

Title
SUBDIVISION DESIGN
ENGINEERING DRAWINGS

Client
OKOKIWI DOWNS/PARVUS HOLDINGS

Location
190 WAIPAPA ROAD
KERIKERI

Date	Rev	Notes
Sep' 20	B	Minor amendments
Dec' 19	A	Original issue

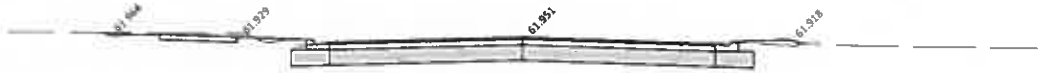
Scale	Original	Rev	Sheet
As Shown	A3	B	5

Drawn by	Approved by	File
NW	MJ	16607

ROAD CROSS SECTION - CH300.0m
1:100

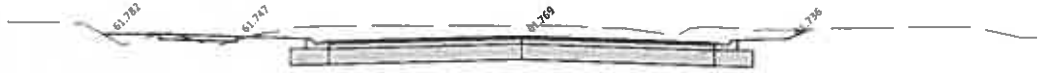
ROAD CROSS SECTION - CH280.0m
1:100

ROAD CROSS SECTION - CH260.0m
1:100



ROAD CROSS SECTION - CH240.0m
1:100

ROAD CROSS SECTION - CH220.0m
1:100



ROAD CROSS SECTION - CH200.0m
1:100

ROAD CROSS SECTION - CH180.0m
1:100

ROAD CROSS SECTION - CH160.0m
1:100

NOTES:

- All services should be located on-site prior to commencement of works.
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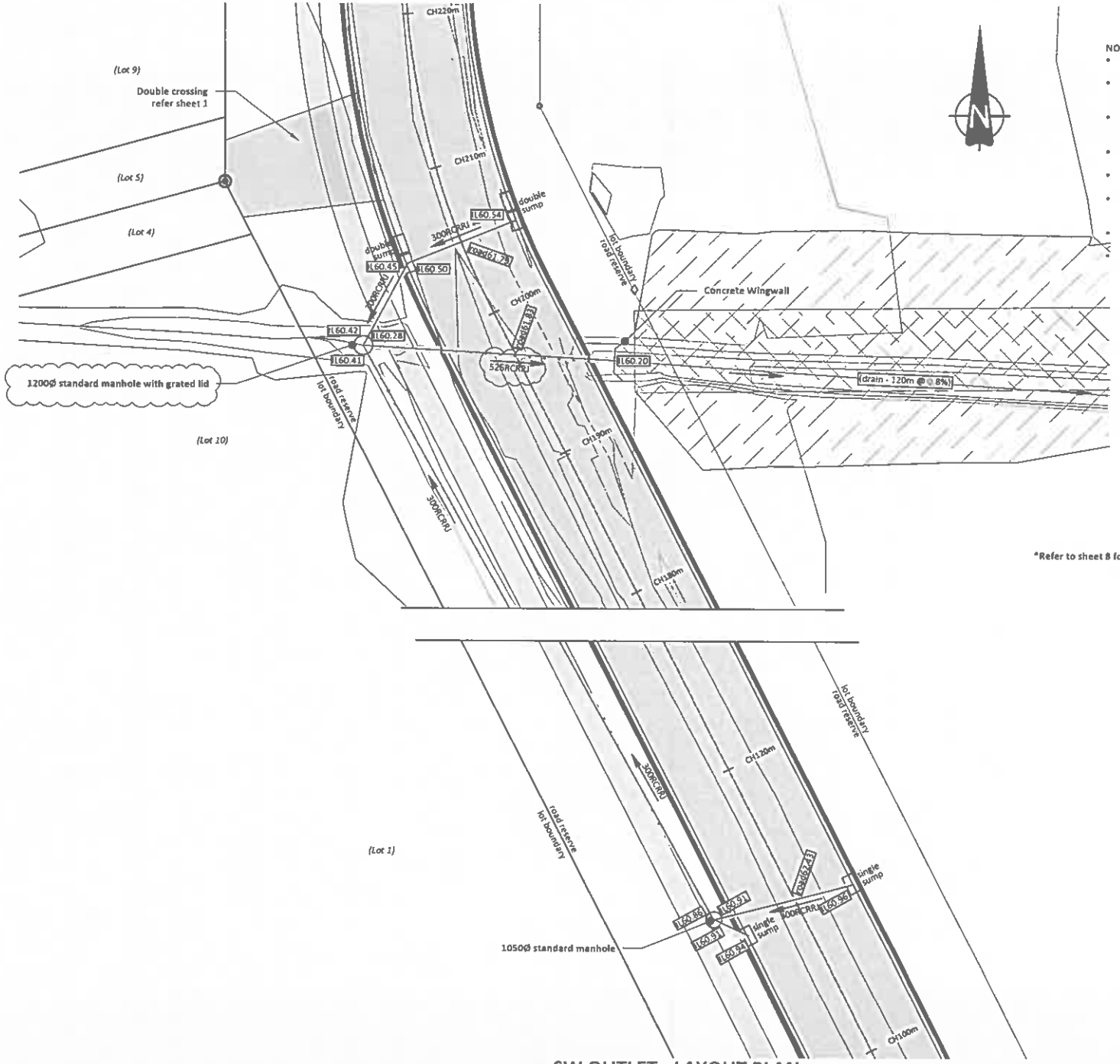
NW	MJ	16607	6



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*Refer to sheet 8 for main stormwater Long Section

SW OUTLET - LAYOUT PLAN

1:250

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Scale	Original	Rev
1:250	A3	B

Drawn by	Approved by	File	Sheet
NW	MJ	16607	7

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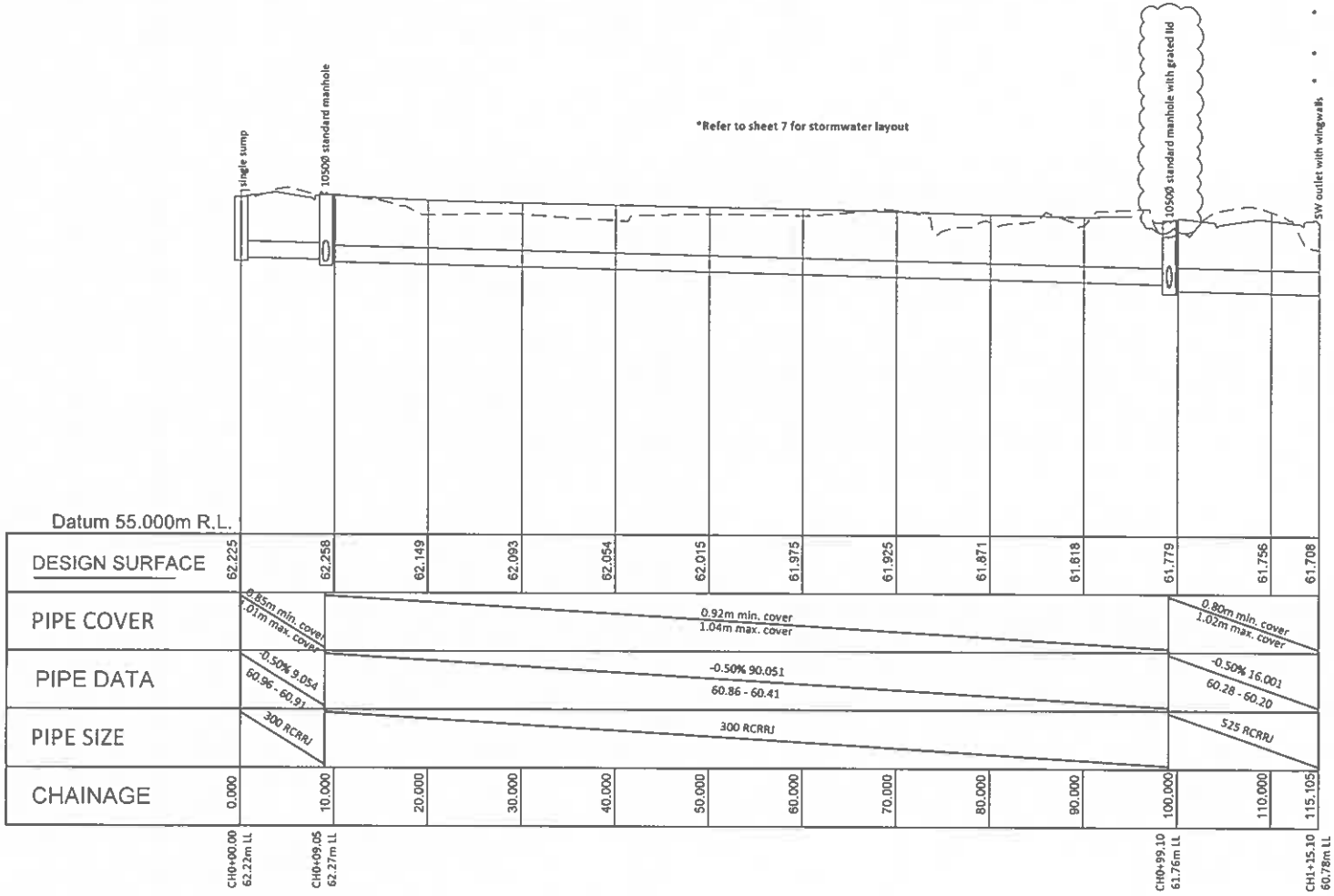

SW RCP LINE - LONG SECTION

1:500H
1:100V

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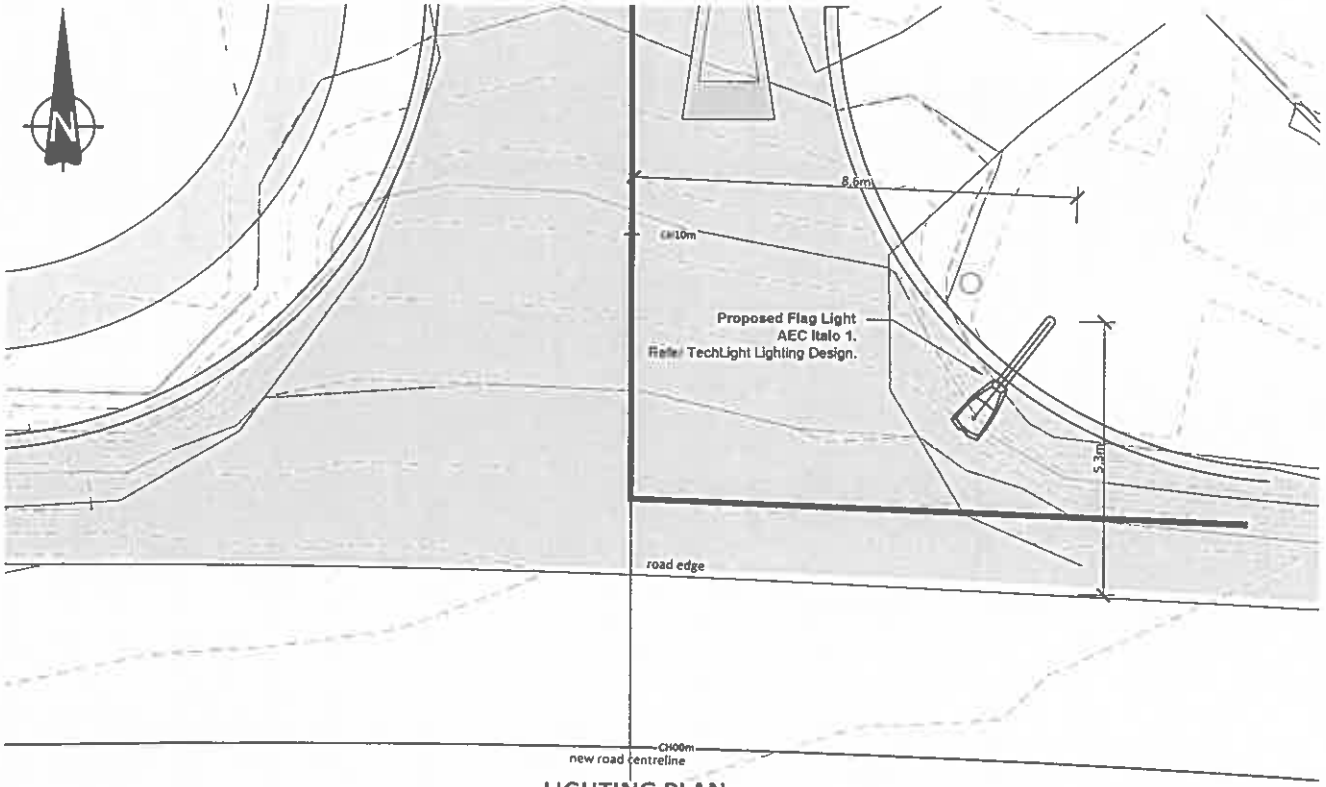
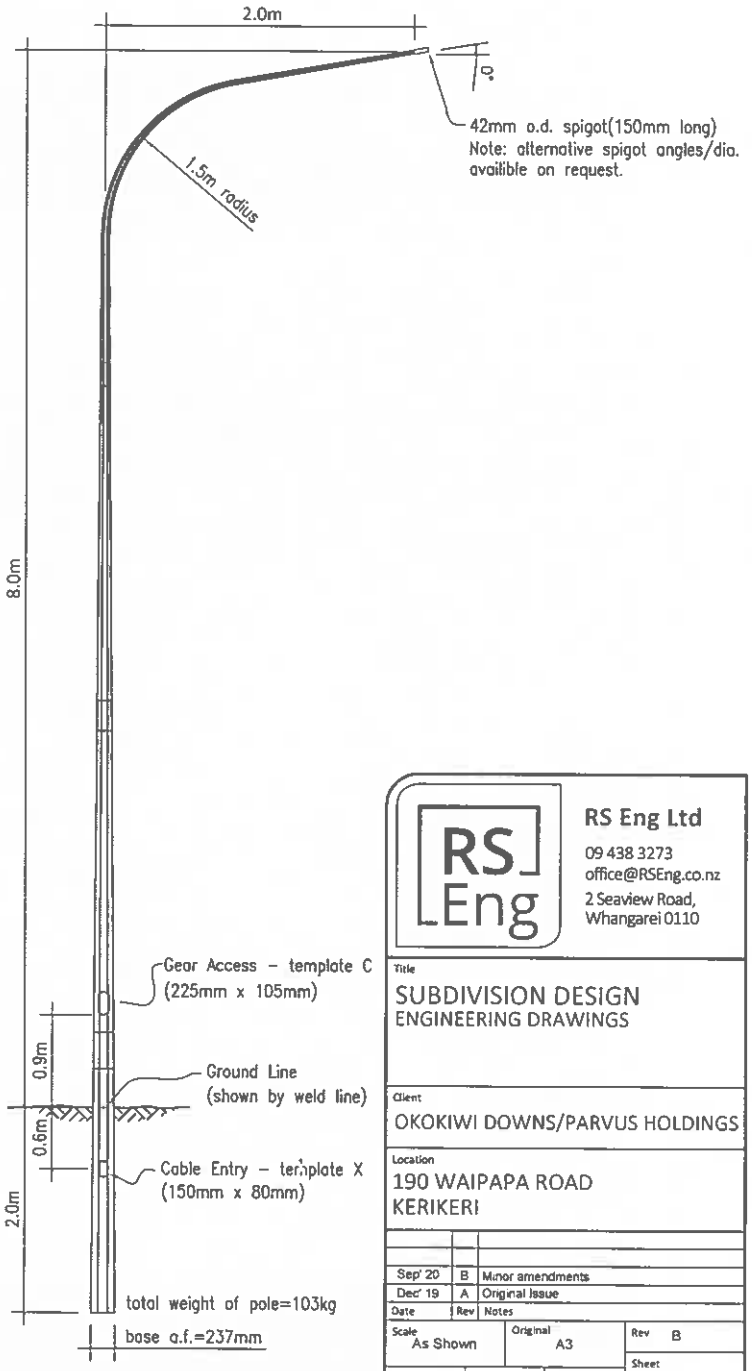
As Shown	A3	B	8

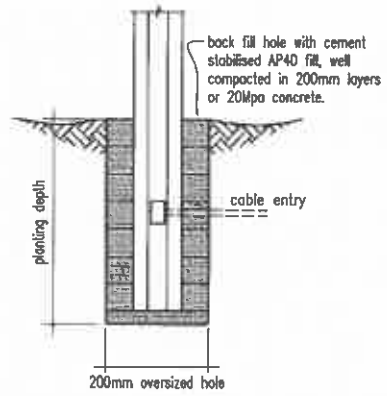
Drawn by	Approved by	File
NW	MJ	16607



LIGHTING PLAN
1:100



13 LIGHTING POLE - TYPICAL DETAIL
1:50



14 TYPICAL GROUND PLANTED FOUNDATION
1:10

Structural Notes
- Minimum allowable soil bearing pressure shall be 100 kPa.
- Client to provide orientation and location.
- Contractor to check location of all services before commencing work.
- Provide conduit for cable entry as required.
- Only approved light fittings may be used, no additional attachments can be placed on pole without Spunlite's approval. (maximum light size=0.2m² with a cd=1.0, maximum light weight=15kg)
- Back fill hole with cement stabilised AP40 fill well compacted in 200mm layers or concrete.
- All dimensions shown are nominal.

NOTE: Foundation design information is supplied as a guide only. Other solutions may be more appropriate for specific situations. Due to variations in site conditions and installation procedures, Spunlite does not accept legal liability for the use of this information.

If requested Spunlite will design specific foundations for each project. Alternatively Spunlite recommends the engagement of a registered consulting engineer where upon Spunlite will supply all loadings.

A site evaluation by a qualified Structural/Geotechnical Engineer is advisable.

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As Shown	A3	B

Drawn by	Approved by	File	Sheet
NW	MJ	16607	9

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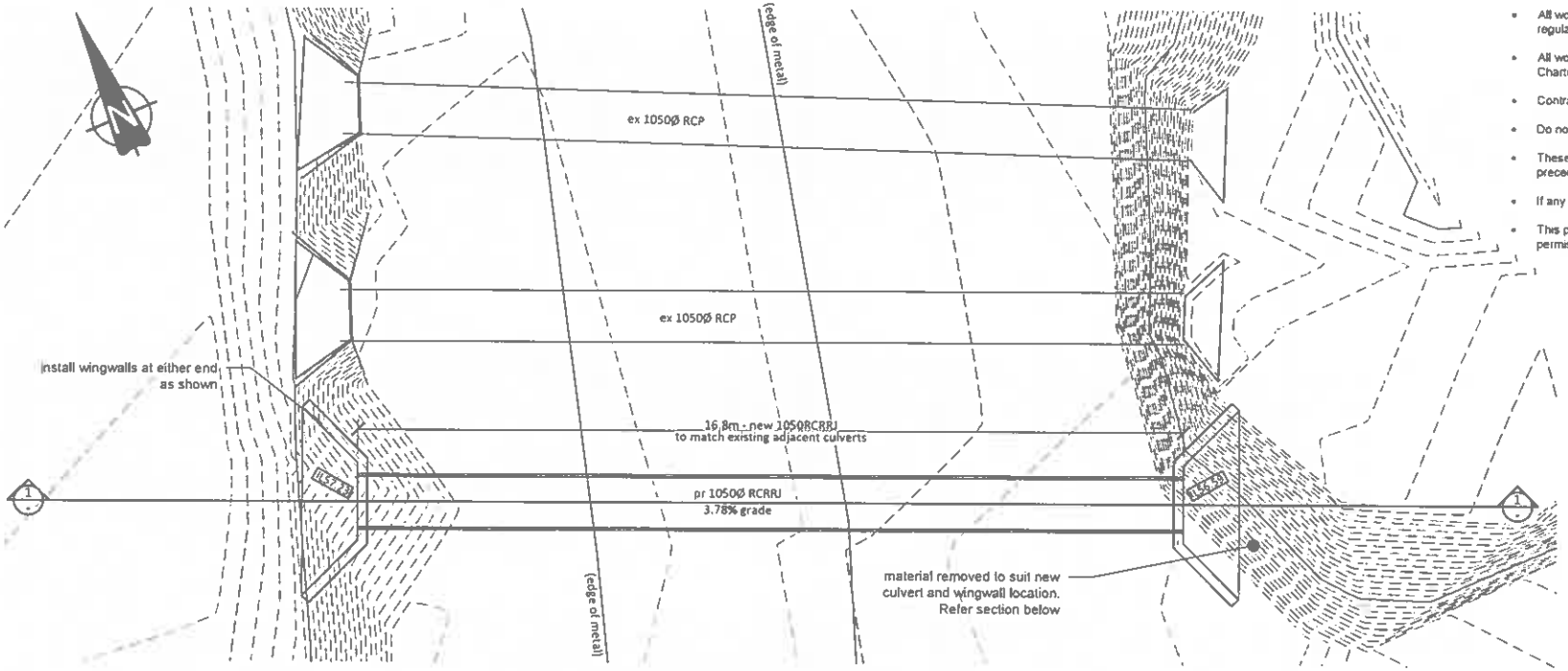
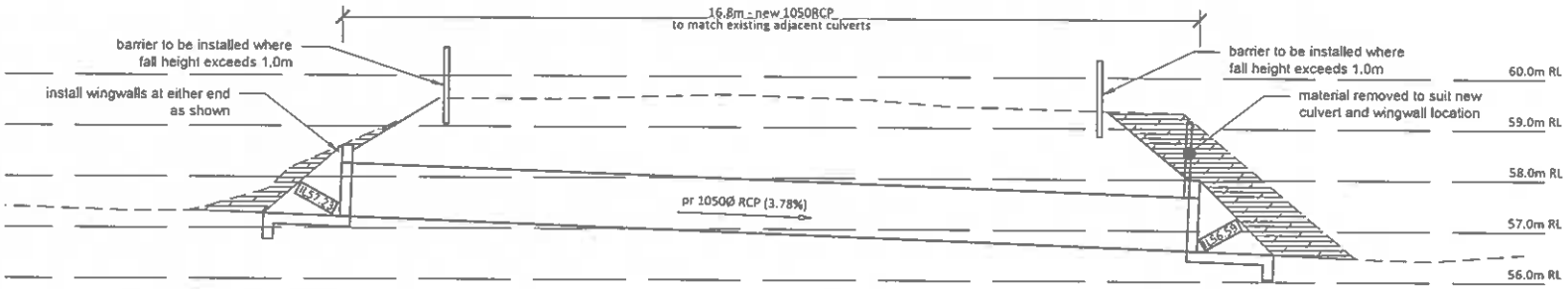


NEW CULVERT - PLAN

1:100



1 NEW CULVERT - LONG SECTION

1:100

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Drawn by	Approved by	File	Sheet
NW	MJ	16607	10

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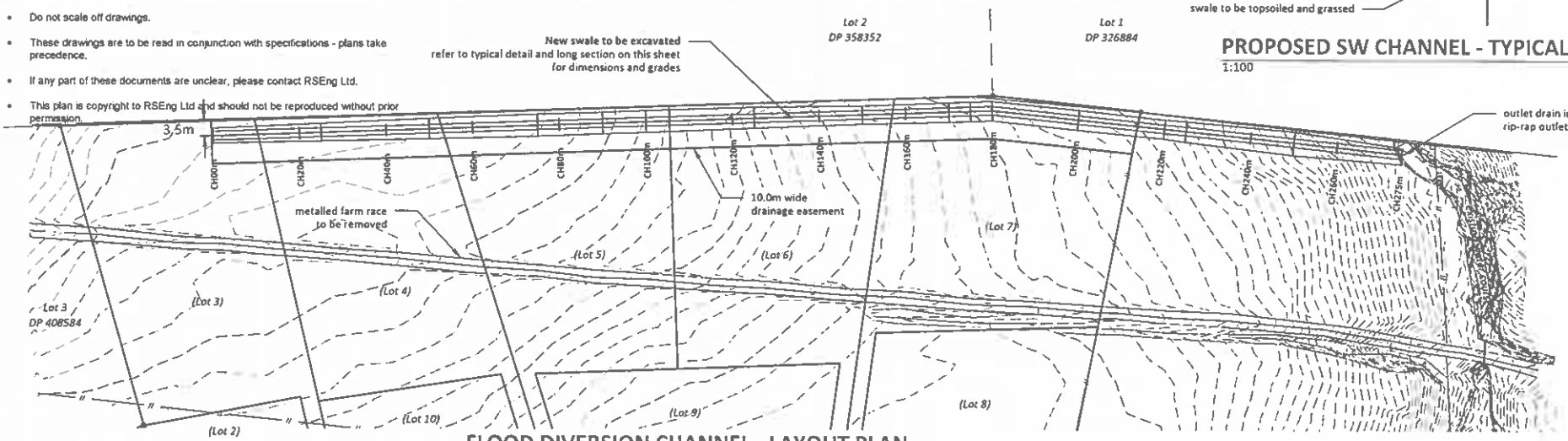
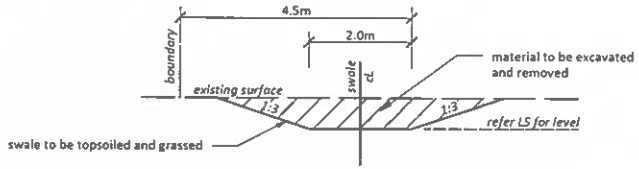


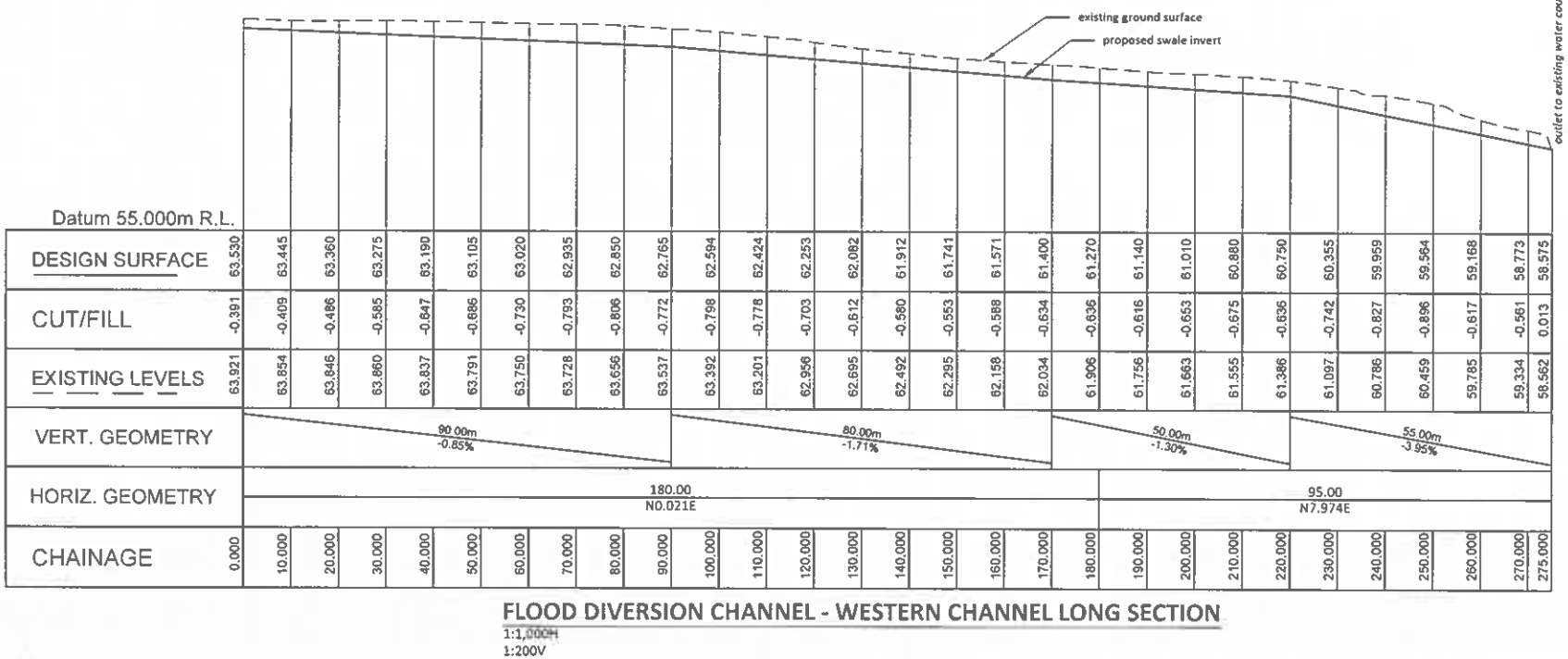
FLOOD DIVERSION CHANNEL - LAYOUT PLAN

1:1,000



PROPOSED SW CHANNEL - TYPICAL CROSS SECTION

1:100



FLOOD DIVERSION CHANNEL - WESTERN CHANNEL LONG SECTION

1:1,000H
1:200V

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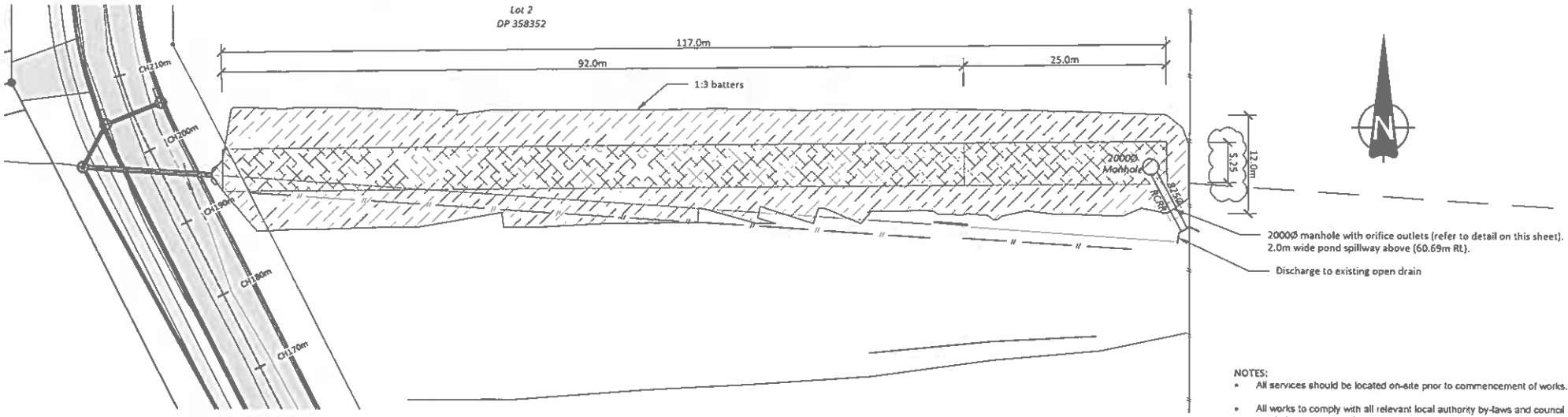
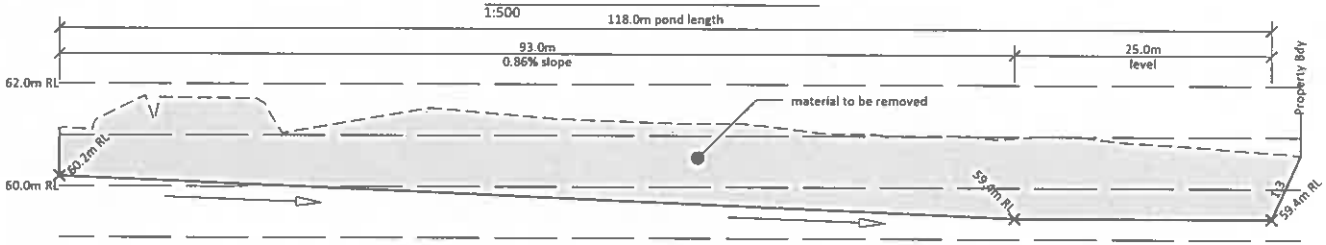
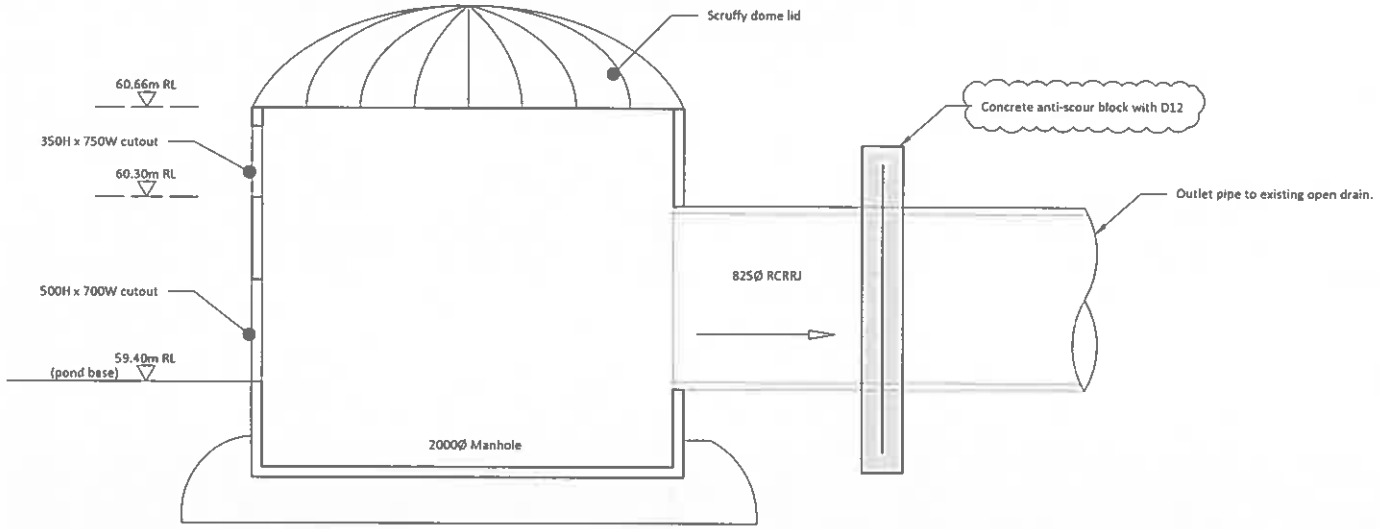
Scale: As Shown | Original: A3 | Rev: B
Drawn by: NW | Approved by: MJ | File: 16607 | Sheet: 11



ATTENUATION POND - PLAN
1:500



ATTENUATION POND - LONG SECTION
1:500



ATTENUATION POND - OUTLET DETAIL
1:25

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Drawn by	Approved by	File	Sheet
NW	MJ	16607	12

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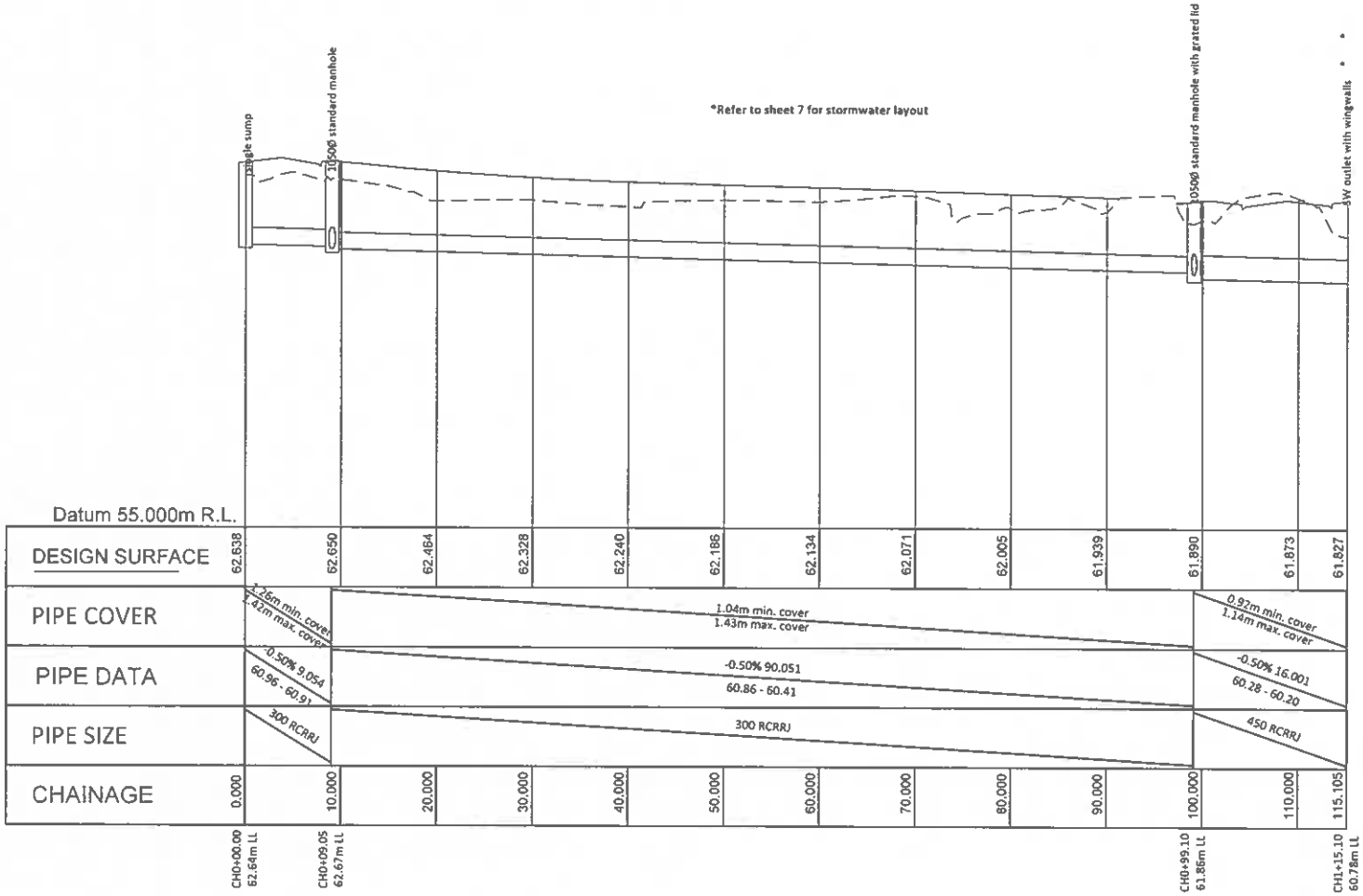

SW RCP LINE - LONG SECTION

1:500H
1:100V

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As Shown	A3	C	8

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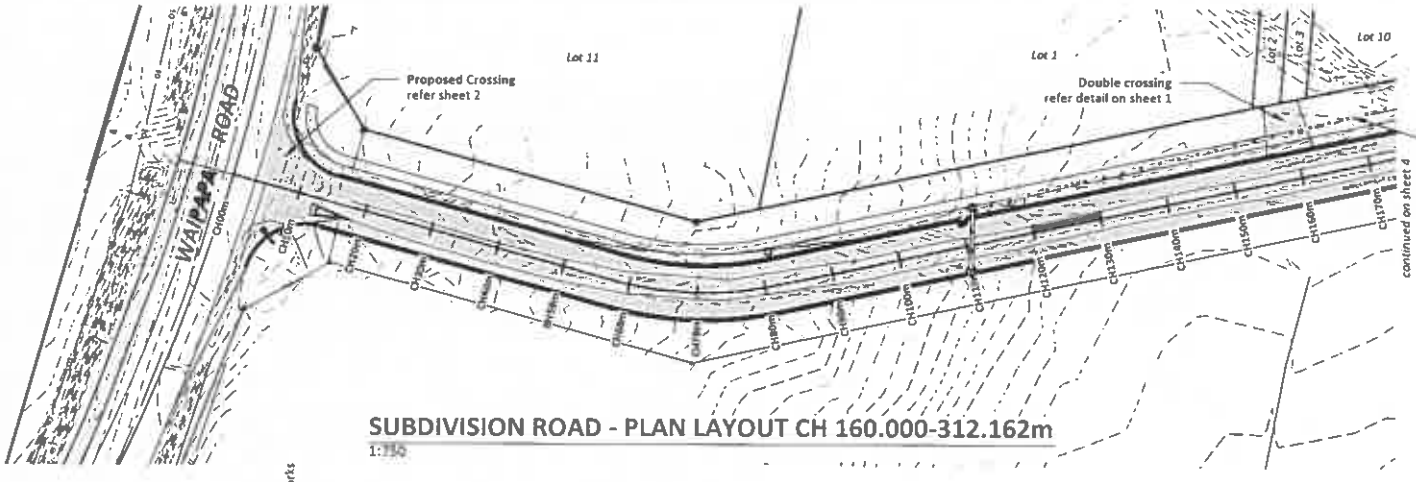
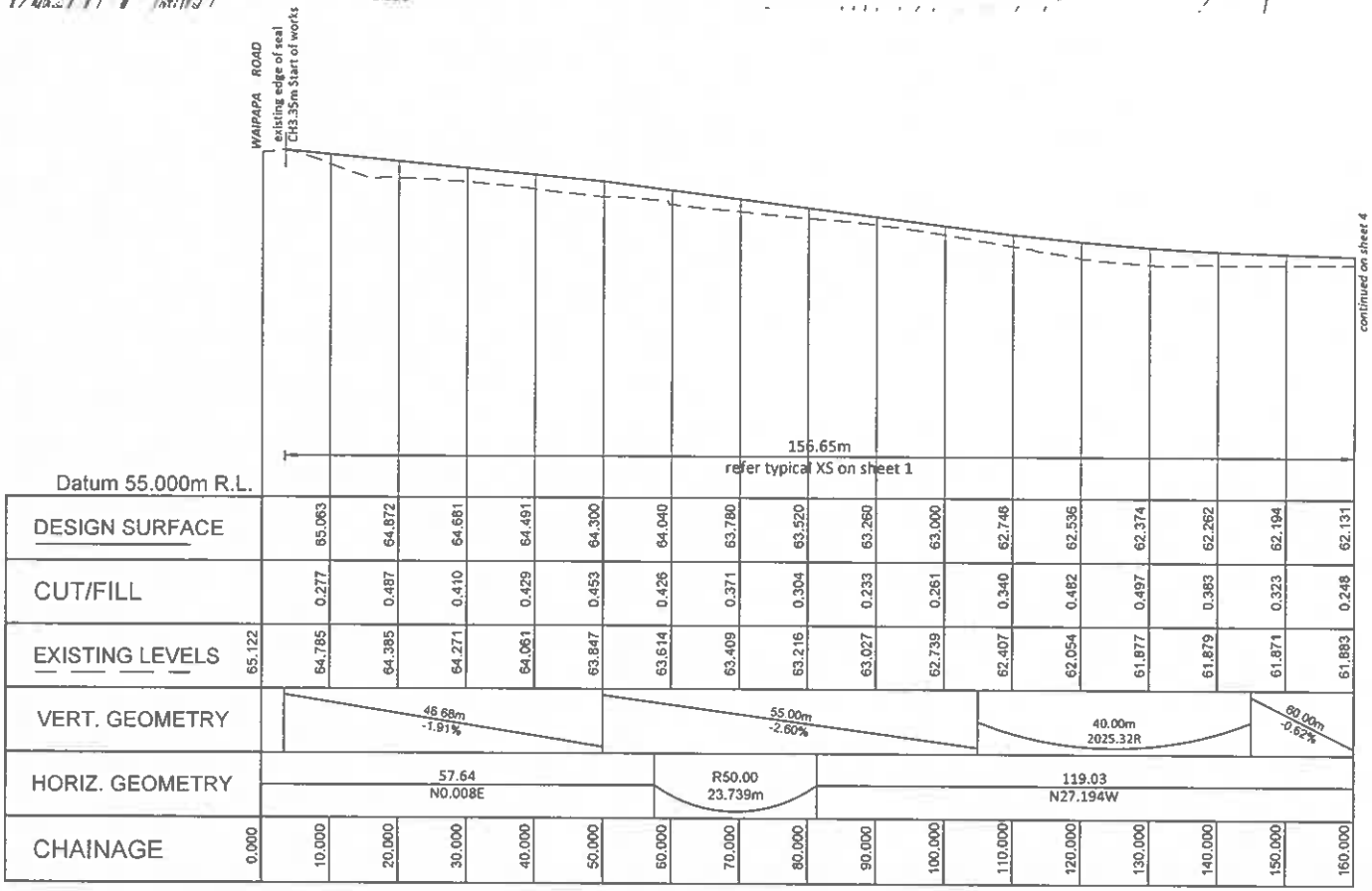
NW	MJ	16607



SUBDIVISION ROAD - PLAN LAYOUT CH 160.000-312.162m

1:750



SUBDIVISION ROAD - LONG SECTION CH0.000-160.000m

1:750H
1:150V

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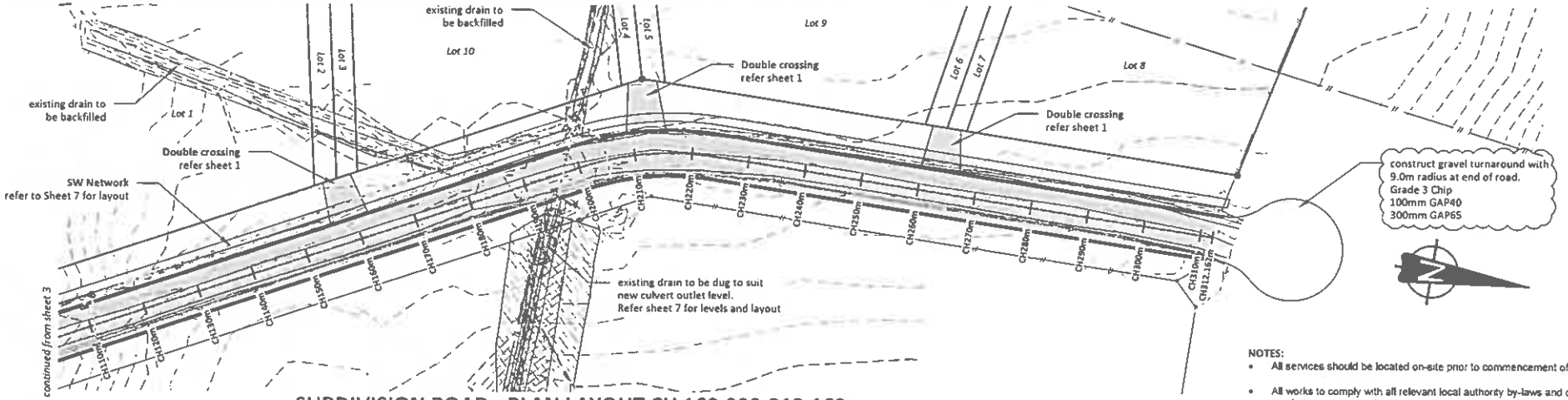
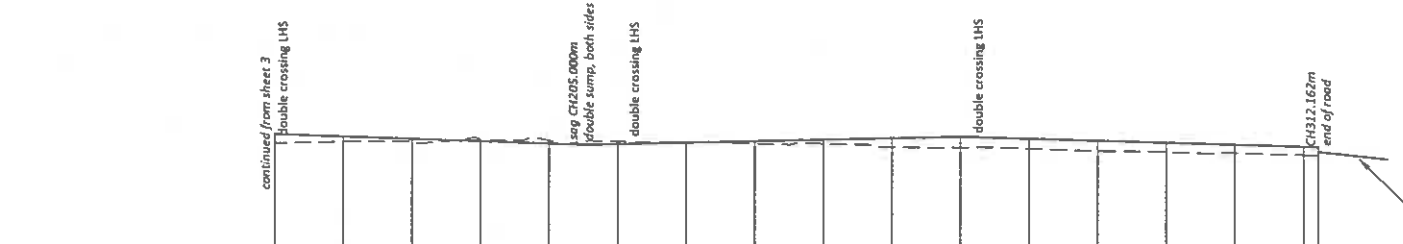


SUBDIVISION ROAD - PLAN LAYOUT CH 160.000-312.162m

1:750



Datum 55.000m R.L.

DESIGN SURFACE	62.131	62.069	62.006	61.944	61.881	61.875	61.924	61.973	62.022	62.071	62.120	62.070	62.020	61.970	61.921	61.871	61.860
CUT/FILL	0.248	0.153	0.079	-0.048	-0.085	-0.070	-0.005	0.078	0.124	0.263	0.312	0.284	0.294	0.262	0.241	0.242	0.233
EXISTING LEVELS	61.883	61.916	61.927	61.992	61.966	61.944	61.929	61.895	61.898	61.807	61.808	61.786	61.726	61.708	61.680	61.629	61.627
VERT. GEOMETRY		60.00m -0.62%					55.00m 0.49%							52.16m -0.50%			
HORIZ. GEOMETRY		119.03 N27.194W				R50.00 23.746m		88.00 N0.017E									
CHAINAGE	160.000	170.000	180.000	190.000	200.000	210.000	220.000	230.000	240.000	250.000	260.000	270.000	280.000	290.000	300.000	310.000	312.162

SUBDIVISION ROAD - LONG SECTION CH 160.000-312.162m

1:750H
1:150V

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ROAD CROSS SECTION - CH140.0m
1:100

ROAD CROSS SECTION - CH120.0m
1:100

ROAD CROSS SECTION - CH100.0m
1:100

ROAD CROSS SECTION - CH80.0m
1:100

ROAD CROSS SECTION - CH60.0m
1:100

ROAD CROSS SECTION - CH40.0m
1:100

ROAD CROSS SECTION - CH20.0m
1:100

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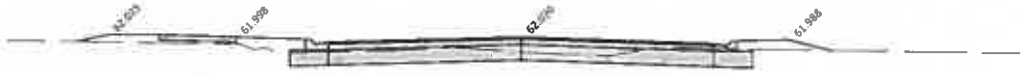
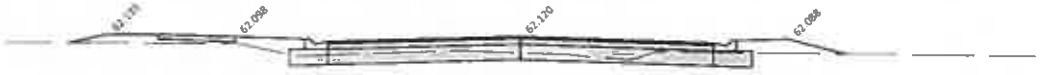
ROAD CROSS SECTION - CH300.0m
1:100



ROAD CROSS SECTION - CH280.0m
1:100



ROAD CROSS SECTION - CH260.0m
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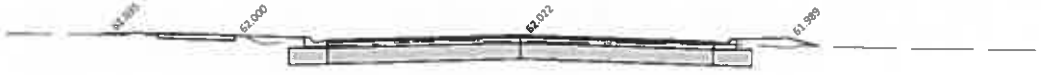

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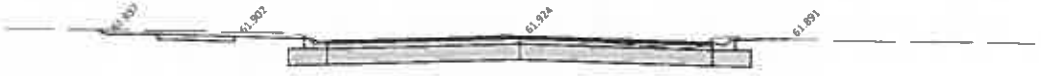

ROAD CROSS SECTION - CH220.0m
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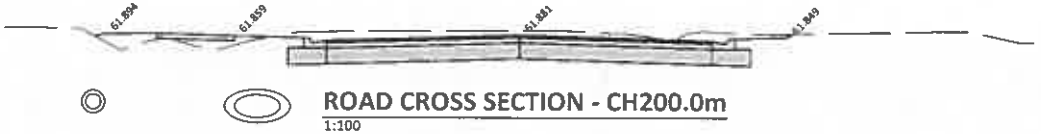
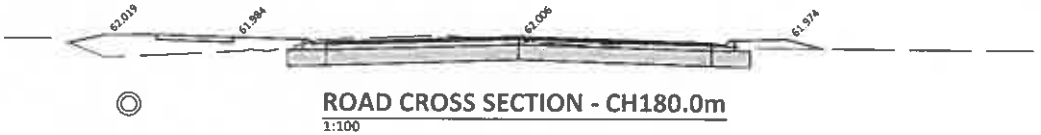
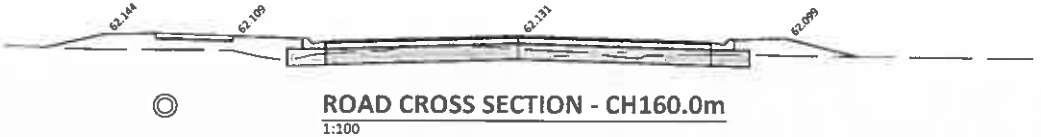


ROAD CROSS SECTION - CH200.0m
1:100



ROAD CROSS SECTION - CH180.0m
1:100



ROAD CROSS SECTION - CH160.0m
1:100

NOTES:

- All services should be located on-site prior to commencement of works.
- All works to comply with all relevant local authority by-laws and council regulations where applicable.
- All works to be inspected by a Far North District Council representative or a Chartered Professional Engineer.
- Contractors to confirm all dimensions on site prior to commencing any work.
- Do not scale off drawings.
- These drawings are to be read in conjunction with specifications - plans take precedence.
- If any part of these documents are unclear, please contact RSEng Ltd.
- This plan is copyright to RSEng Ltd and should not be reproduced without prior permission.

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

Title
SUBDIVISION DESIGN
ENGINEERING DRAWINGS

Client
OKOKIWI DOWNS/PARVUS HOLDINGS

Location
190 WAIPAPA ROAD
KERIKERI

Date	Rev	Notes
Nov' 20	C	Amend Road Vertical Alignment
Sep' 20	B	Minor amendments
Dec' 19	A	Original Issue

Scale	Original	Rev
As Shown	A3	C

Drawn by	Approved by	File	Sheet
NW	MJ	16607	6

Thomson Survey

From: Paul Henry [paul@tsurvey.co.nz]
Sent: Wednesday, 10 February 2021 9:59 a.m.
To: 'Thomson Survey'
Subject: FW: Lots 1-13 @ 190 Waipapa Rd

Kind Regards

Paul Henry

Surveyor
BSurv

315 Kerikeri Road, Kerikeri 0230
PO Box 372 Kerikeri 0245

p. 09 4077360 | e. paul@tsurvey.co.nz

-----Original Message-----
From: Stephen Bill | Crown Brands [mailto:stephen@crownbrands.co.nz]
Sent: Wednesday, 27 January 2021 3:10 PM
To: 'Brad'
Cc: 'Grant Bill'; Paul Henry
Subject: Lots 1-13 @ 190 Waipapa Rd

Hello Brad,

Could you send a copy of the Traffic Management Plan to Paul at Thompson Survey so they can apply for 223c as below please?

Thanks & Regards,
Stephen

-----Original Message-----
From: Stephen Bill | Crown Brands
Sent: Wednesday, 27 January 2021 3:07 p.m.
To: Paul Henry <paul@tsurvey.co.nz>
Cc: 'Grant Bill' <grant.bill@outlook.com>; 'Lynley Newport' <lynley@tsurvey.co.nz>
Subject: RE: Lots 1-13 @ 190 Waipapa Rd

Hello Paul,

Sounds good, please proceed with 223c.

- Successful Contractor: JSB Construction Ltd
- Duration of contract: 1 November 2020 - 31 March 2021
- Supervising Engineer: RS Eng - Matthew Jacobson
- Traffic Management Plan - will request Brad from JSB to send direct to you.

Thanks & Regards,
Stephen

-----Original Message-----

From: Paul Henry [mailto:paul@tsurvey.co.nz]
Sent: Wednesday, 27 January 2021 2:52 p.m.
To: Stephen Bill | Crown Brands <stephen@crownbrands.co.nz>
Cc: 'Grant Bill' <grant.bill@outlook.com>; 'Lynley Newport' <lynley@tsurvey.co.nz>
Subject: RE: Lots 1-13 @ 190 Waipapa Rd

Hi Stephen/Grant.

Can you supply us the details that will meet condition 3 d) i) to iv) of the attached resource consent? Once we have that information we can apply for the 223 cert, if you are happy for us to do so?

Kind Regards

Paul Henry

Surveyor
BSurv

315 Kerikeri Road, Kerikeri 0230
PO Box 372 Kerikeri 0245

p. 09 4077360 | e. paul@tsurvey.co.nz

3d 109

Works Access Permit

Registration Number: **1771903**

Utility Reference: **4804152986**

Far North District Council

1. Details of Proposed Work

Activity: Minor Earthworks/Filling
Address: Waipapa Road, Kerikeri, Kerikeri, 0230
Location in road: Carriageway, Berm
WAP valid period: 28 January 2021 to 31 March 2021

2. The Parties

Far North District Council being a body corporate in accordance with the Local Government Act 2002 ('the Corridor Manager;')

Private being an approved Utility Operator in accordance with submitting a request for access in accordance with that act;

BROADSPECTRUM (NEW ZEALAND) LIMITED being the agent of the Utility Operator submitting this request on behalf of the Utility Operator and in accordance with the Utility Operator's statutory rights ('the Applicant').

3. Attachments

Attachment 1 being the Schedule of Reasonable Conditions.

Attachment 2 being plan TMP showing the agreed service location.

4. Background

(a) The Utility Operator wishes to carry out the works stated on CAR Number 1771903 and thereafter maintain the utility services established in the corridor;

(b) The Corridor Manager is required to provide a written consent in accordance with its governing legislation and to provide a schedule of reasonable conditions, if required, by the utility legislation under which the request for access has been made; and

(c) In accordance with the Code: Utilities' Access to the Transport Corridors and on behalf of the Corridor Manager, I give my written consent for access to the corridor at the agreed location and attach my schedule of reasonable conditions:

(d) In the case of State highways this Works Access Permit serves as the approvals required under sections 51 and 78 of the Government Roading Powers Act.

Signed [signature] **Date** 25/01/2021

Alan Wheatley acting pursuant to delegated authority.

FOR Corridor Manager APPROVAL USE ONLY

Time Spent Processing: _____

☐	Approved Contractor	☐	Route Plan Submitted	☑	TMP Submitted	☐	Stockpiling Arrangements

APPROVED
CAR 1771903
Alan Wheatley
STMS Number 21790
Far North District Council
[signature]
25 January 2021

CONDITIONS

General Conditions

1. The Utility Operator must: (a) carry out all Work in Transport Corridors in accordance with the Code and KiwiRail's Specifications for Working in Railway Corridors; (b) undertake all Works in compliance with the Acts of Parliament and mandated codes of practice that relate to their industry and the type of Work described within the plans and methodology submitted; (c) install assets more or less in the location shown on the attached plans, and agree the exact location and position with the Road Corridor Manager before Work commences; (d) locate any Utility Structures in the Road Corridor in the agreed position shown on the drawings and clear of the Carriageway, Road Corridor furniture and kerbs, drains, manholes, etc. Utility Structures agreed to be within the trafficable part of the Road are to be flush with the surface and designed to withstand full heavy Traffic loading (NZTA's HN-HO-72 Traffic Loading); (e) provide a full description of the construction methodology, reinstatement, resurfacing and compaction and agree this with the Road Corridor Manager prior to Work commencing; (f) make the Works available at all times for inspection by any person representing the Road Corridor Manager; (g) if requested, pay the reasonable costs of the Road Corridor Manager in connection with the processing of this notice and for the monitoring and auditing of the Works; (See NZ Transport Agency Cost Structure under Clause 23) (h) keep a full copy of the Works Access Permit/ Permit to Enter and Reasonable Conditions on the Work Site at all times during the Works; (i) undertake remedial action on non-conforming Work within the timeframe set by the Road Corridor Manager, where reasonable and practicable; (j) gain all the necessary consents, approvals and permits from the relevant statutory and regulatory authorities at its own cost; (k) keep plans of the installed Work and make them available to the Railway Corridor Manager (in all cases) and Road Corridor Manager (on request); (l) compensate the Road Corridor Manager for any damage or costs incurred to the Road Corridor due to the Work or for costs resulting from the removal of abandoned installations, Utility Structures, components and equipment that belong to the Utility Operator; (m) repair all Road Corridor assets damaged as a result of the Works, should the Road Corridor Manager determine these are necessary prior to the end of the Warranty period; (n) restore to their original condition any surface or Utility Structure that was damaged or removed as a result of the Works; (o) control the surface water channels so as to cause minimal interference to existing flows; (p) fully restore the surface water channels at the completion of the Works; (q) notify the Road Corridor Manager of any maintenance Work it proposes to undertake within the two-year Warranty period; (r) have in place an approved TMP for Roads and Motorways at least two days prior to Work commencing on the Work Site; (s) provide the Road Corridor Manager with two Working Days' notice before commencement of Work on the Work Site; (t) ensure that the Work is carried out under the control of a warranted supervisor as required by the Code of Practice for Temporary Traffic Management and ensure that there are sufficient people on site specifically to control the flow of Traffic through the site in accordance with the TMP; (u) comply with instructions from an officer of the NZ Police Traffic Safety Branch or a duly authorised agent of the Road Corridor Manager in respect of Traffic management and safety; (v) complete Works in the Road Corridor in one continuous operation (suspension of Works over five continuous days requires the prior written permission of the Road Corridor Manager); (w) protect and maintain all Road Corridor signs, markers, signals, barriers and associated marking and replace them to the appropriate industry standard where they have been damaged by the Works; (x) complete and submit a Works Completion Notice form when the Works are complete; and (y) stop Work as necessary to meet the requirements of section 42 of the Heritage New Zealand Pouhere Taonga Act 2014.

2. Work must not take place on or near a State highway during and one day either side of a public holiday or public holiday weekend.

3. Where otherwise required due to Traffic volumes or specific residential or Central Business District requirements, the hours of Work must be as specified in the Local Conditions and Special Conditions.

4. The Warranty period starts from the date the Road Corridor Manager has given signed acceptance that the Work is complete or otherwise as provided in Section 4.7.1.7 of the

APPROVED
CAR 1771903
STMS Number 21790
Far North District Council
25 January 2021

Code.

5. Unless the Works stated in the WAP have started on the Work Site, the agreement relating to the Works will only remain valid for six months from the date of approval on the Works Access Permit.

6. The Road Corridor Manager must manage all applications relating to Road Corridor access in accordance with the timeframes and processes in the Code.

7. The Corridor Manager may:

   (a) assess the suitability of any action proposed by the Utility Operator during the Warranty period and impose Reasonable Conditions that will maintain the integrity of the Road assets;

   (b) arrange for remedial Work to be done and recover the costs incurred from the Utility Operator, if the Utility Operator fails to take action within the agreed timeframe; and

   (c) instruct the Utility Operator to stop Work and leave the Work Site (having made the site safe) if the Works are not complying with the relevant Reasonable Conditions including any plans, relevant conditions or specifications contained in the Code, or permission requirements.

8. In granting this WAP, no vested right is created.

9. This WAP is not transferable without the written permission of the Road Corridor Manager.

Local Conditions

APPROVED
CAR 1771903
Alan Wheatley
STMS Number 21790
Far North District Council
25 January 2021

CAR Number: 1771903

www.invarion.com

Date: 13/01/21 **Author:** D Caswell **Project:** JSB 190 Waipapa Rd Entrance
Scale:: 1:1000

Comments:
TMD2, Two-way Two-lane Road,Unattended Site, Shoulder Closure

APPROVED
CAR 1771903
Alan Wheat
Senior Officer 21700
Far North District Council
25 January 2021

Condition 3 e)

Far North District Council

Application for Road Naming/Renaming

GENERAL INFORMATION

- Proposed names are to be submitted for **new roads in subdivisions** to Infrastructure & Asset Management Department with the application for resource consent.
- Proposed names are to be submitted (in writing) for **existing legal but unnamed roads**, to the Administration Officer, Infrastructure & Asset Management Department.
- Proposed road **renamings** are to be submitted in writing. Requests from outside of Council must provide information and background as to why the road should be renamed. Written consent from affected residents and owners must be obtained.
- The proposed names will be checked against Council's Roading database to avoid duplication.
- Liaise with the iwi when using Maori names and provide supporting document of their approval.
- Several names (3 are recommended) should be submitted for each road or accessway, in order of preference in case of rejection
- A background to the names, their origins and their link with the area is to be supplied
- Personal names are to be discouraged unless the name submitted has a historical connection with the property being subdivided, or are that of a well-known identity or prominent Far Northerner, or New Zealander
- It is Councils prerogative under Section 319(j) Local Government Act 1974 to name streets and the Council may refuse to approve names considered unsuitable
- Where more than one road is being created in a subdivision, a common theme is recommended for road names
- Private road names are considered by Council. They will need to meet Council's Signage Guidelines (white background with blue lettering.
- Names are to be chosen in proportion to the type of road, and in accordance with the Naming Guide at the end of the form
- If you are unsure if the road you want to name is a Council maintained road or private road, please contact the Infrastructure & Asset Management Department.

APPLICANT DETAILS

Applicant/Developer Name: Stephen Bell

Organisation: Okokiri Downs Ltd + Purua Holdings Ltd

Postal Address: C/- 53 Pa Rd, Kerikeri

Phone: 021 228 4759 Mobile: 021 228 4759

Email: stephen@crownbrands.co.nz

ROAD LOCATION

Address: 190 Waipapa Rd, Kaukeri

Legal Description: Lot 1 DP 408584 + Lot 4 DP 513347

Resource Consent Application Number: 2140673-RMAVAR/A.

Please supply a scheme plan map that clearly indicates the location of the Road, Private Road or Right-Of-Way when submitting your application.

TYPE OF ROAD (Please tick) -

☑ Public Road ☐ Private Road ☐ Right-of-Way

PROPOSED ROAD NAMES

Road 1	First Choice:	The Lakes Drive
	Second Choice:	Lakeview Drive
	Third Choice:	Mason Heights
Road 2	First Choice:	
	Second Choice:	
	Third Choice:	
Road 3	First Choice:	
	Second Choice:	
	Third Choice:	

BACKGROUND

A background to the names, their origins and their link with the area is to be supplied

Road will eventually continue on and past between the 2 significant Lakes built by John Mason

John Mason consulted

Bevan McCarthy consulted* (owner of Lot 2 DP 408584)

* Bevan McCarthy's preference is 1st Choice and 2nd Choice.

ROAD RENAMING

Please state the current road name and your reason for requesting the name change below then complete the rest of the form. Also, please ensure you attach the written consents of at least 85% of affected residents and attach to the application form.

GENERAL INFORMATION AND GUIDELINES

Ensure that road names are not duplicated in the Far North District *(both spelling and pronunciation to be considered)*; this includes same road names with different suffix. To do this, please use www.google.co.nz/maps and search "proposed road name (excl suffix) Northland" to check if proposed names may be duplicates.
Ensure that road type appropriately matches the definition of the suffix, such as 'road', 'avenue' etc. Road names without a suffix are now strongly discouraged (e.g. Broadway). The following definitions provide a guide, but please note that other appropriate suffixes that are not in this list may be used.

Suffix	Definition
Avenue	A generally broad straight roadway planted on each side with trees
Boulevard	A wide roadway well paved usually with trees and grass
Circle	A roadway that generally forms a circle or a short enclosed roadway bounded by a circle
Close	A short enclosed road.
Court	A short enclosed road usually surrounded by buildings
Crescent	A crescent or half-moon shaped street rejoining the road from which it starts
Drive	Wide main roadway without many cross streets - an especially scenic road or street
Esplanade	Level roadway along the seaside, lake or a river
Glade	Roadway usually in a valley of trees
Green	Roadway often leading to a grassed public recreation area
Grove	A road that often features a group of trees standing together
Lane	A narrow way, path, country road or street. A narrow passage between hedges or buildings, an alley
Loop	Roadway that diverges from and then rejoining a main thoroughfare
Mews	Roadway in a group of houses

Suffix	Definition
Parade	Public roadway or promenade
Place	A short sometimes narrow enclosed roadway
Quay	A roadway alongside or projecting into water
Rise	A roadway going to a higher place or position
Road	Route or way between places. General usage. Defined in Local Government Act 1974, Section 315
Terrace	Roadway on a hilly area that is mainly flat
Vale	A roadway along low ground between hills
Way	A winding or curved track or path for passing along

The following are suitable suffixes for particular road types:

Road Type	Suffix
Cul-de-sac *(short dead-end street with turnaround at the end)*	Close, Court, Place
Wide spacious street	Avenue, Boulevard, Parade

The following are suitable suffixes for private roads and private ways categorised into particular road types:

Road Type	Suffix
Narrow road and right of way	Lane, Way
Associated with high ground	Rise,
Associated with low ground	Vale
Tree lined road	Avenue, Glade, Grove

Applicants Signature: _____ Date: 25 January 2021

Return Application to Postal: Far North District Council
Private Bag 752
KAIKOHE 0440
Attention: Selina Topia

or Email: selina.topia@fndc.govt.nz

Appendix - Guidelines for Choosing a Road Name

Road names should be chosen from the following categories provided they meet the criteria in clause 5.5 and 5.6 of this policy.

7.1 History – Weighting 3

7.1.1 The name of a historical person, event, industry or activity associated with the area. Such names may include early settlers and early notable people such as conservationists or naturalists.

7.1.2 The family name of the former owner of a farm or property or the name of the farm or property may be used if a historical context is established.

7.2 Culture – Weighting 3 *(Cultural significance to Maori or culture other than Maori)*

7.2.1 This category includes the name of a Maori heritage precinct, site or track or traditional appropriate Maori name for the area.

7.2.2 All Maori names are to be submitted to an Iwi representative to ensure that they are appropriate, spelt correctly, interpreted correctly and are not offensive to Maori.

7.2.3 Maori should be consulted as to whether they have an interest in the land on which the road is to be constructed and asked if they wish to contribute names at the beginning of the Resource Consent process.

7.2.4 Joint non-Maori/Maori names will not generally be considered.

7.3 Geography – Weighting 2

7.3.1 This category includes local geographical, topographical, geological and landscape features.

7.3.2 Local flora and fauna also fall into this category e.g. trees, plants and animals that are widespread and plentiful in the area.

7.3.3 Views must be readily identifiable.

7.4 Theme – Weighting 2 *(Common or established themes in the area)*

7.4.1 Where more than one road is being created in a development, a common theme is recommended for the names.

7.4.2 Where there is an established theme in an area, new road names should reflect this theme.

7.4.3 Proposed themes for a new subdivision must be submitted to council for approval.

7.4.4 When all the roads in a development or suburb fit a theme, the road layout of the development is easier to remember. The area will stand out on a map.

7.4.5 A theme may contribute to a sense of community within the area. A well chosen theme with the roads named accordingly can leave a lasting impression long after the development process has been completed.

7.5 Noteworthy Person – weighting 1 *(Personal name for special service to the District or community)*

7.5.1 Persons who have made a notable contribution to the area or the District fall into this category. The contribution which can be duly recognised may be in conservation, community service, sport, arts, military, commerce, local government or other sphere of activity.

7.5.2 Names from local war memorials will be considered where appropriate. Permission of surviving relatives should be obtained where appropriate.

7.6 Weighting the Names

7.6.1 Names may fit more than one category. The weighting reflects the relative importance of the categories and enables names to be ranked in order of merit - with the highest scored being the highest ranked.

As at 12:53PM, Thursday 11 February 2021

Payment Successful

A payment has been made with the following details:

To: FNDC online payment
From Account: 12-3091-0156927-00 (Business Cheque)
Amount: $256.00

Details to appear on their statement: ThomsonSurve RC 219673 Okokiwi9452

Print

Notes regarding electronic payments:
If your payment is being made to a non-ASB Account, you should allow up to 2 working days from the time of this transaction for the funds to be credited to the other bank account.

RE: 7 The Lakes Drive stormwater mitigation report

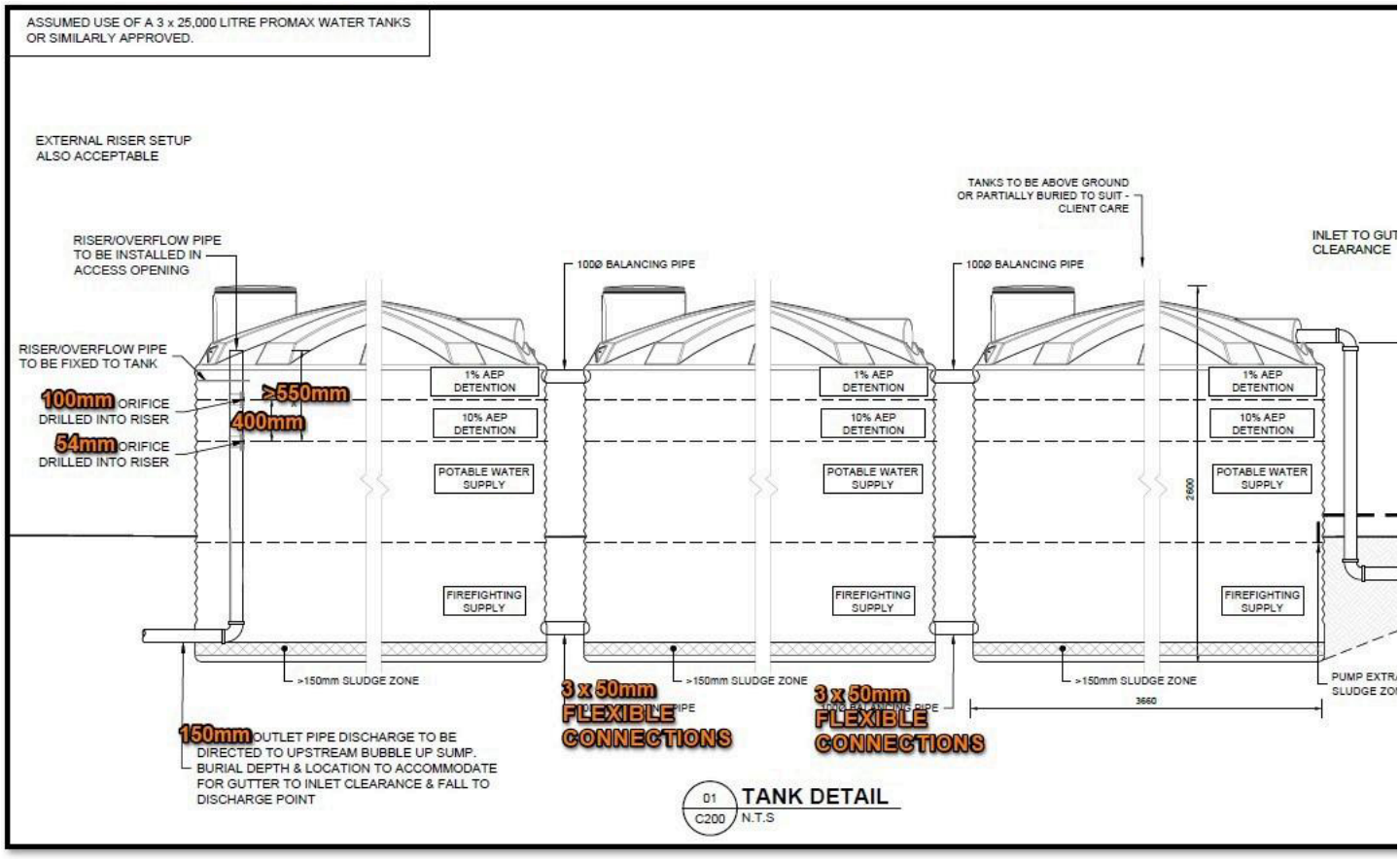
Ben Steenkamp <BenS@wjl.co.nz>

Mon 15/07/2024 3:45 PM

To:Andrew McPhee <andrew@bayplan.co.nz>
Cc:Steve Sanson <Steve@bayplan.co.nz>

Hi Andrew,

All good, here is a markup of the new setup in the tanks as well. This brings flows below the pre development flows for the 10% and 1% AEP design storms for all impervious areas as per the consent notice.



Kind regards,

Ben Steenkamp
Civil Group Manager (CPEng, BEng Civil, BSc (Geology), CMEngNZ)
WILTON JOUBERT Consulting Engineers
Northland, Auckland-Waikato, Canterbury, Southern Lakes
E: bens@wjl.co.nz
New Jobs: jobs@wjl.co.nz
PO Box 11381, Ellerslie, Auckland 1542 | 196 Centreway Road, Orewa, Auckland 0932
Website: www.wiltonjoubert.co.nz

From: Andrew McPhee <andrew@bayplan.co.nz>
Sent: Monday, July 15, 2024 3:14 PM
To: Ben Steenkamp <BenS@wjl.co.nz>
Cc: Steve Sanson <Steve@bayplan.co.nz>
Subject: Re: 7 The Lakes Drive stormwater mitigation report

Thanks Ben

If you are comfortable, I will just use the email trail below in the AEE to address the issue? If the design methodology is redundant and the methodology you provided address the effects, then that should in theory suffice.

Kind regards
Andrew

From: Ben Steenkamp <BenS@wjl.co.nz>
Sent: Monday, 15 July 2024 2:30 pm
To: Andrew McPhee <andrew@bayplan.co.nz>

Cc: Steve Sanson <Steve@bayplan.co.nz>
Subject: RE: 7 The Lakes Drive stormwater mitigation report

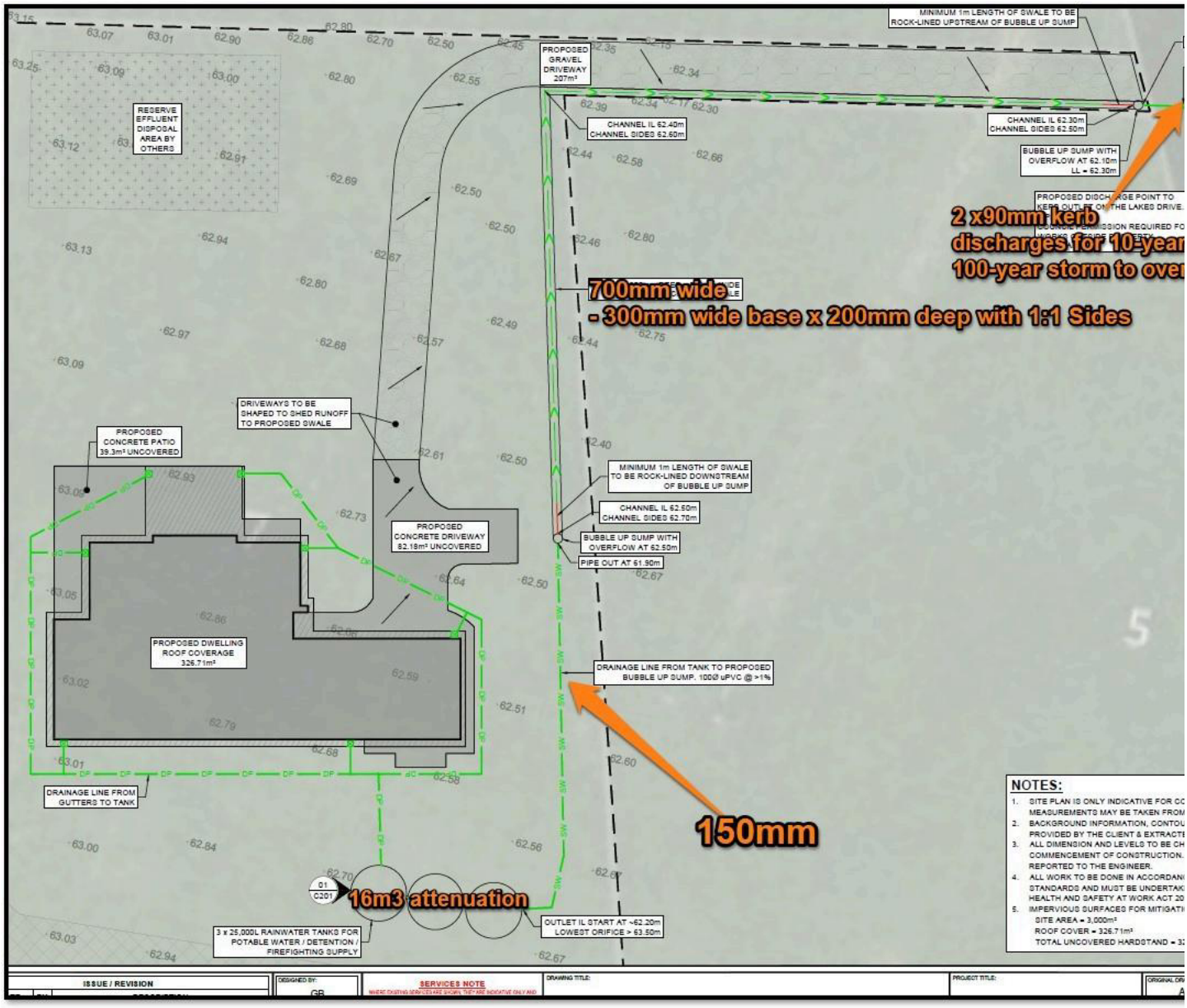
Thanks Andrew,

The design methodology used in the report is actually not one accepted by FNDC.
But as it is in the consent notice, we can change to this.

Please see below changes from my prelim checks.
Everything increases a bit in order to comply with the conditions.

One thing we cannot resolve is to pipe the 100-year storm via a kerb discharge – would need 5 x 90mm outlets which would look bad. I recommend just to let it overspill on the road as it wont make much difference.

Let me know if I should update the report with these changes – Note that this will be done on a time/cost basis – 2 hours max



Kind regards,

Ben Steenkamp
Civil Group Manager (CPEng, BEng Civil, BSc (Geology), CMEngNZ)
WILTON JOUBERT
Consulting Engineers
Northland, Auckland-Waikato, Canterbury, Southern Lakes
E: bens@wjl.co.nz
New Jobs: jobs@wjl.co.nz
PO Box 11381, Ellerslie, Auckland 1542 | 196 Centreway Road, Orewa, Auckland 0932
Website: www.wiltonjoubert.co.nz

From: Andrew McPhee <andrew@bayplan.co.nz>
Sent: Monday, July 15, 2024 9:16 AM
To: Ben Steenkamp <BenS@wjl.co.nz>
Cc: Steve Sanson <Steve@bayplan.co.nz>
Subject: Re: 7 The Lakes Drive stormwater mitigation report

Hi Ben

The property file is a bit of a labyrinth to get through, and I cannot find any reference to RC2190163.

It would appear that the condition should be referencing RC2190673 which has a condition 3a. The attached report was submitted to satisfy the condition as part of 223, I can only assume it is what the condition is referencing.

Kind regards
Andrew

From: Andrew McPhee <andrew@bayplan.co.nz>
Sent: Thursday, 11 July 2024 10:19 am
To: Ben Steenkamp <BenS@wjl.co.nz>
Cc: Steve Sanson <Steve@bayplan.co.nz>
Subject: Re: 7 The Lakes Drive stormwater mitigation report

Hi Ben

I am going to need to order the property file, so will send through once I have it.

Kind regards
Andrew

Get Outlook for Android

From: Ben Steenkamp <BenS@wjl.co.nz>
Sent: Thursday, July 11, 2024 10:08:32 AM
To: Andrew McPhee <andrew@bayplan.co.nz>
Cc: Steve Sanson <Steve@bayplan.co.nz>
Subject: RE: 7 The Lakes Drive stormwater mitigation report

You don't often get email from bens@wjl.co.nz. Learn why this is important

Hi Andrew,

Our design was done to comply with the district plan zoning requirements. We are not aware of any site conditions.
Can you please send through the Report referred to below? I can have a look to see if this differs to our design.

Kind regards,
Ben Steenkamp
Civil Group Manager (CPEng, BEng Civil, BSc (Geology), CMEngNZ)
WILTON JOUBERT Consulting Engineers
Northland, Auckland-Waikato, Canterbury, Southern Lakes
P: 027 2792 392 | **E:** bens@wjl.co.nz
New Jobs: jobs@wjl.co.nz
PO Box 11381, Ellerslie, Auckland 1542 | 196 Centreway Road, Orewa, Auckland 0932
Website: www.wiltonjoubert.co.nz

From: Andrew McPhee <andrew@bayplan.co.nz>
Sent: Wednesday, July 10, 2024 3:18 PM
To: Ben Steenkamp <BenS@wjl.co.nz>
Cc: Steve Sanson <Steve@bayplan.co.nz>
Subject: 7 The Lakes Drive stormwater mitigation report

Hi Ben

I am preparing the RC for this property using the stormwater mitigation report prepared by WJ.

Quick question, did you site or use the Stormwater Management and Attenuation Report provided in Condition 3(a) of RC2190163?

iv. Any development requiring building consent on the lot shall be accompanied by a Stormwater Management report prepared by a

[redacted]

Annexure Schedule: Page:2 of 2

Far North District Council

suitably qualified practitioner in accordance with the 'Stormwater Management and Attenuation Report' provided in Condition 3(a) of RC2190163.

This is a condition on the consent notice applying to the property so either needs to be referenced in your report, or I need to request the property file and establish whether your report is consistent.

Trying option 'a' first before I request the file.

Kind regards

Andrew McPhee (BPlan Hons)

Director | Consultant Planner

Bay of Islands Planning (2022) Ltd

021784331

andrew@bayplan.co.nz

https://www.bayplan.co.nz

Kerikeri House, Suite 3 88 Kerikeri Road, Kerikeri, 0295