

Application for resource consent or fast-track resource consent

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

1. Pre-Lodgement Meeting

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

2. Type of Consent being applied for

(more than one circle can be ticked):

- | | |
|---|---|
| <input type="radio"/> Land Use | <input type="radio"/> Discharge |
| <input type="radio"/> Fast Track Land Use* | <input type="radio"/> Change of Consent Notice (s.221(3)) |
| <input type="radio"/> Subdivision | <input type="radio"/> Extension of time (s.125) |
| <input type="radio"/> Consent under National Environmental Standard
(e.g. Assessing and Managing Contaminants in Soil) | |
| <input type="radio"/> Other (please specify) _____ | |

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

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

☐ Yes ☐ No

4. Consultation

Have you consulted with Iwi/Hapū? ☐ Yes ☐ No

If yes, which groups have you consulted with?

Who else have you consulted with?

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

5. Applicant Details

Name/s:

Brett James Price & Robyn Elizabeth Price

Email:

Phone number:

Postal address:

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

6. Address for Correspondence

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

Name/s:

Williams & King, Attention: Natalie Watson

Email:

Phone number:

Postal address:

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

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

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

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

Name/s:

Owners - As per applicant

**Property Address/
Location:**

44 Tangihua Rd

Postcode

0178

8. Application Site Details

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

Name/s:

**Site Address/
Location:**

 Postcode

Legal Description:

Val Number:

Certificate of title:

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

Site visit requirements:

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

Is there a dog on the property? ☐ Yes ☐ No

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

9. Description of the Proposal:

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

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

10. Would you like to request Public Notification?

☐ Yes ☐ No

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

(more than one circle can be ticked):

- ☐ Building Consent
- ☐ Regional Council Consent (ref # if known)
- ☐ National Environmental Standard consent
- ☐ Other (please specify)

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

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

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

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

- | | |
|---|---|
| <input type="radio"/> Subdividing land | <input type="radio"/> Disturbing, removing or sampling soil |
| <input type="radio"/> Changing the use of a piece of land | <input type="radio"/> Removing or replacing a fuel storage system |

13. Assessment of Environmental Effects:

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

Your AEE is attached to this application ☐ Yes

13. Draft Conditions:

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

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

14. Billing Details:

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

Name/s: (please write in full)

Brett and Robyn Price

Email:

Phone number:

Postal address:

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

Fees Information

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

Declaration concerning Payment of Fees

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

Name: (please write in full)

Brett James Price

Signature:

(signature of bill payer)

[Redacted Signature]

Date 04-Jun-2025

MANDATORY

15. Important Information:

Note to applicant

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

You may apply for 2 or more resource consents that are needed for the same activity on the same form. You must pay the charge payable to the consent authority for the resource consent application under the Resource Management Act 1991.

Fast-track application

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

Privacy Information:

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

15. Important information continued...

Declaration

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

Name: (please write in full)

Brett James Price

Signature:

A signature is not required

by electronic means

Date 04-Jun-2025

Checklist (please tick if information is provided)

- ☒ Payment (cheques payable to Far North District Council)
- ☒ A current Certificate of Title (Search Copy not more than 6 months old)
- ☐ Details of your consultation with Iwi and hapū
- ☒ Copies of any listed encumbrances, easements and/or consent notices relevant to the application
- ☒ 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.

Brett & Robyn Price

Proposed Building, Impermeable Surfaces & Earthworks

Wagener Grove, Pukenui

Williams & King, Kerikeri¹

4 June 2025

1.0 Overview

Brett and Robyn Price propose to develop a property located at Wagener Grove in Pukenui. The proposed development involves the construction of a new non-habitable shed with bathroom, tea room and store room, with access from a new metalled driveway, which is to be formed from the site's existing entrance off Wagener Grove. A PIM assessment has indicated that resource consent is required under the Visual Amenity and Stormwater Management rules of the Operative Far North District Plan (EBC-2025-857/0). Earthworks will also be required to form the new driveway (topsoil stripping, removed material to be retained on site, and placement of aggregate).

The subject site is legally described as Lot 2 DP 323666 and is held in the Record of Title 95364. Consent notice conditions recorded on the Record of Title are either not applicable to the subject site, or are not relevant to the proposed activity.

The subject site is zoned Coastal Living in the Operative Far North District Plan, and the proposed development requires resource consent under the 'Visual Amenity' and 'Stormwater Management' Rules of the zone as well as the District Wide rule for 'Excavation and/or Filling' in the Coastal Living Zone. It has been assessed as being a restricted discretionary activity overall. Under the Proposed Far North District Plan, the site is zoned Rural Lifestyle, and relevant rules with legal effect can be met as permitted activities.

This assessment accompanies the Resource Consent application made by the Applicant and is provided in accordance with Schedule 4 of the Resource Management Act 1991. It is intended to provide the necessary information, in sufficient detail, to provide an understanding of the proposal and any actual or potential effects the proposed activity may have on the environment.

¹ Williams & King - a Division of Survey & Planning Solutions (2010) Ltd
Surveyors, Planners, Resource Managers - Kerikeri and Kaitiaki
PO Box 937 Kerikeri Phone (09) 407 6030 Email: nat@saps.co.nz

2.0 Description of Proposal

2.1 Proposed Shed

A single storey non-habitable shed with a floor area of 162m² and a roof area of 225m² is proposed, with access over a metalled driveway via an existing entrance point of Wagener Grove. The building will be located in the eastern half of the property, with access to the western elevation via roller doors and other doors on the southern and eastern elevations. Internal building layout will comprise a large open area for boat parking, with storage room, tea room and bathroom areas shown along the eastern side of the building. Refer to the Going Architectural Plans in **Appendix 1**.

The building will have a monopitch roof with a maximum height of approximately 5.35m, and will be constructed on a concrete slab.

Exterior materials are shown on the Elevation Plans as comprising Rib Metal longrun cladding and roof, with colorsteel roller doors and aluminum joinery. Colours are not yet specified.

The proposed Site Plan is presented in **Figure 1**.

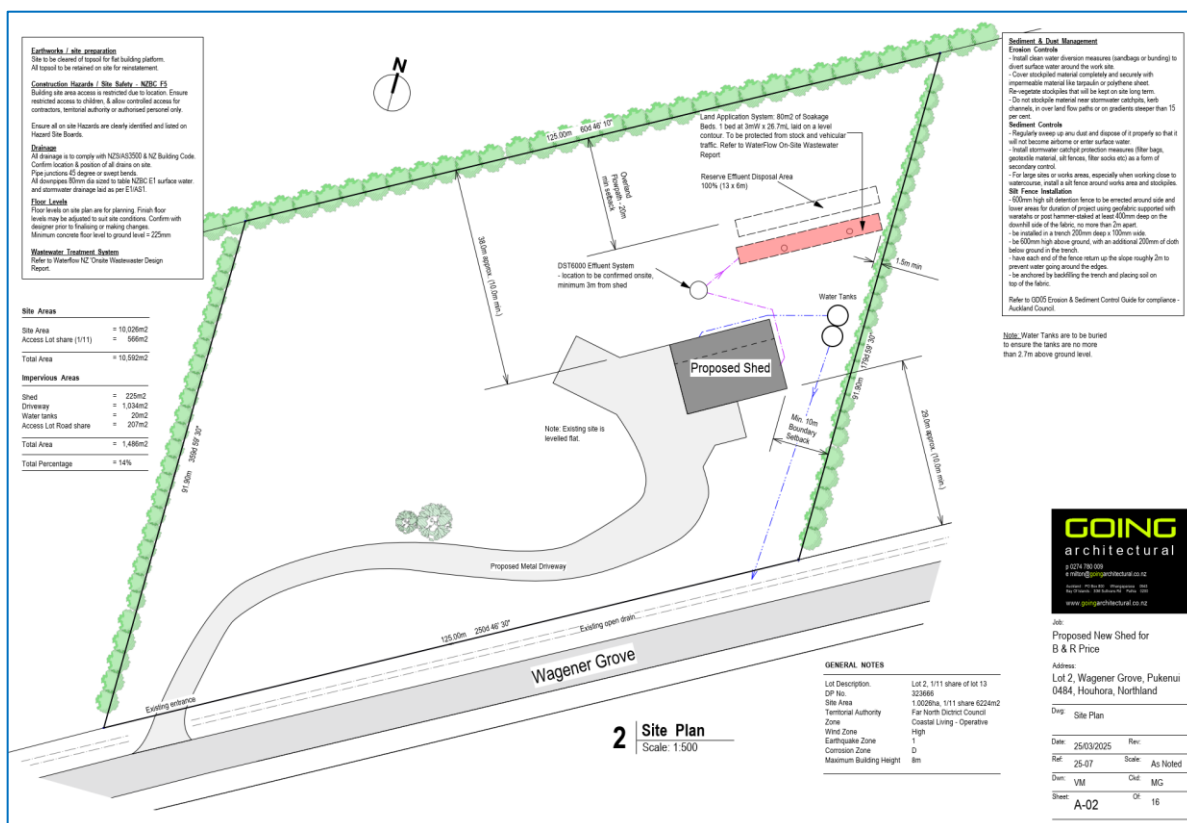


Figure 1: Site Plan

2.2 Impermeable Surface Coverage and Stormwater Management

The proposed Site Plan tables impermeable surface coverage on Lot 2 DP 323666 as comprising the shed and driveway area as amounting to approximately 1,259m² (excluding water tanks, which can be disregarded as per the Operative District Plan definition of 'Impermeable Surface').

The definition also states:

“In the case of jointly owned access lots that contain impermeable surfaces within their boundaries, the total area of these impermeable surfaces are to be divided equally and considered as parts of the various sites served by the access lot for the purpose of determining compliance with the relevant stormwater management rules.”

Therefore, an additional 207m², being a one eleventh share of the impermeable surface within Lot 13 DP 323666, must be included. Total impermeable surfaces are therefore 1,466m².

Refer to the Site Plan in **Appendix 1** and the Stormwater Mitigation Report in **Appendix 2**.

As Wagener Grove has been formed for a number of years, the Stormwater Mitigation Report addresses the mitigation required to offset stormwater runoff for the proposed impermeable areas, i.e., the proposed driveway and roof area. It details that the upper section of the water tanks will be used to provide detention volume to achieve stormwater neutrality for the proposed impermeable areas. This will be achieved by fitting one of the tanks with a 24mm diameter orifice located more than 540mm below the overflow outlet to provide 540mm water elevation and 12.6m³ of storage. The overflow outlet will be located at the top of the tank with a 100mm diameter.

Discharge from the tanks will be transported via sealed pipes to the discharge point, being the existing open drain running parallel with the site's southern boundary. Likewise, the driveway will be shaped to shed runoff to the drain via even sheet flow, or alternatively runoff can be shed to a grassed v-channel swale drain on the southern side of the proposed driveway (detail for silt traps / pre-treatment devices along the possible swale drain is provided in **Appendix 2**).

2.4 Earthworks

The subject site is level, and besides foundation work, earthworks are not required to complete the building platform.

A small volume of earthworks will be required to form the driveway, being topsoil stripping and placement of aggregate. The topsoil depth in the Wastewater Report soil logs (**Appendix 3**) is reported to be 150mm, therefore based on driveway area of 1,034m², estimated excavation will be approximately 155m³, with this volume to be retained on site for landscaping, and an equal amount of aggregate. Total earthworks volume is therefore approximately 465m³.

2.5 Utility Services

Two water storage tanks will be placed to the east of the building, with overflow discharged to the exiting open drain running parallel with Wagner Grove. The stormwater management proposal, including attenuation, is presented in **Appendix 2**.

On-site wastewater treatment and disposal will be undertaken in accordance with the WaterFlow design presented in **Appendix 3**, which has been designed for the proposed shed with allowance for a future residential dwelling. This describes the use of a dual chamber septic tank with discharge to soakage beds at a loading rate of 20 litres per square metre per day, requiring a disposal area of 80m² with 100% reserve disposal area.

2.6 Consent Notice Compliance

The Record of Title for the application site records consent notice 6290071.3. The relevant conditions are commented on as follows.

- I. **Maintain the trees and/or shrubs comprising the approved landscaping, including replacement of any dead and/or diseased plants and a share of any private landscaping, as may be required.**

The approved landscaping plan is shown in **Figure 2**, which has been sourced from the Council's Property File for RC 2010082-RMASUB. In relation to Lot 2 DP 323666 and Lot 13 DP 323666 (jointly owned private access), this shows:

- Norfolk Island Hibiscus along the eastern boundary of Lot 2 DP 323666.
- Palm trees located along the boundary between Lots 2 and 13 DP 323666 – one in the middle of the private road frontage, and one on either end where there is a common boundary with Lots 1 and 3 DP 323666.

The proposal has no implications in terms of this condition.

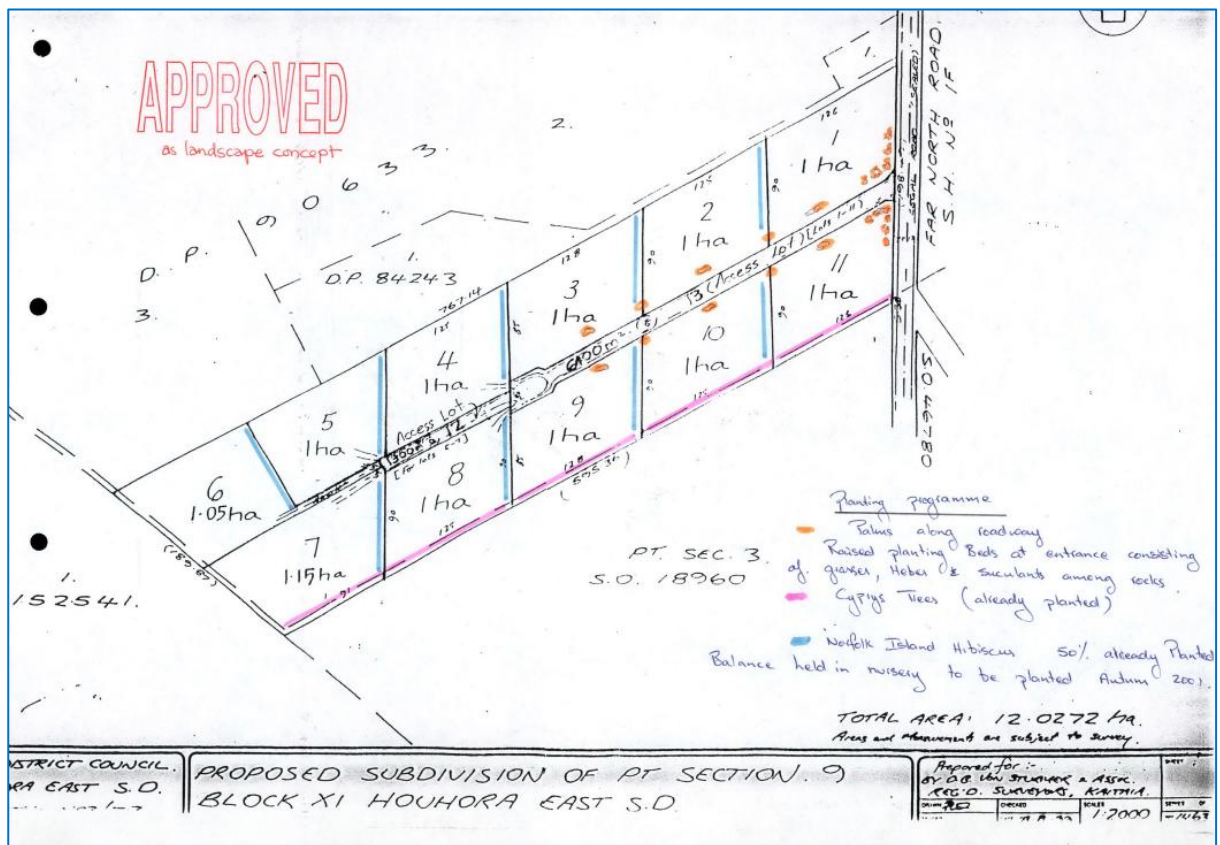


Figure 2: Approved Landscape Concept Plan RC 2010082.

- II. **Comply on an on-going basis with the duties and obligations imposed by way of the provisions of the document prepared in compliance with Condition (3)(j) of RC 2010082 dated 9 July 2001.**

Correspondence within the Council's property file for RC 2010082 indicates that the condition in the amended consent referred to by the above consent notice condition was Condition 3(h), which required the consent holder to "provide for Council approval a legal document which

apportions future maintenance and upgrading costs of the private way amongst the benefitting owners (including that which may be required to any landscaping which lies within the private way legal boundaries). Such an approved document may either be given effect by the consent notice herein or by a separate registerable instrument”.

Land Covenant in Easement Instrument 6290071.7 gives effect to this.

The proposal has no implications in terms of this condition.

III. Not applicable

IV. Undertake any maintenance, as and how required, by the stormwater management plan as prepared and implemented under Condition (3)(b) of RC 2010082 dated 9 July 2001.

Condition 3(b) required a stormwater management plan to be provided to Council's satisfaction (and then implemented), with drawings and calculations to indicate any stormwater from the subdivision site, including that from any upstream catchment, would be controlled so as not to cause or increase flooding, erosion or any nuisance condition within the subdivision or on any adjoining property. The stormwater management plan was to detail any required maintenance, and any future works to upgrade the stormwater system to an urban system, and the condition also required written approvals from any property owners onto which concentrated water was indicated to be discharged.

The 224c certification documentation included a plan showing drainage along the northern and southern boundaries of Lot 2 DP 323666 with a note to say that stormwater management was completed and swale drainage formed.

There was no apparent documentation setting out required maintenance, which would presumably involve periodic drain clearing.

The proposal has no implications in terms of this condition.

V. Not applicable.

3.0 Application Site Details and Description

3.1 Location

The property is located at Wagener Grove, in Pukenui. Wagener Grove is a private road created as a jointly owned access lot, of which the application site owns one eleventh share. Wagener Road is located to the west of State Highway 1 in Raio, approximately 1.2km south east of Pukenui. Refer to the Location Map in **Figure 3**.



Figure 3: Location Map

3.2 Legal Details

Legal details of the application site are listed below. The Record of Title is attached in **Appendix 4**.

RECORD OF TITLE	APPELLATION	TITLE AREA	INTERESTS
95364	Lot 2 DP 323666 & 1/11 th share in Lot 13 DP 323666	Lot 2 DP 323666: 1.0026ha more or less Lot 13 DP 323666: 6224m ² more or less	<u>D574558.1</u> Gazette Notice declaring part State Highway No.1F Far North District commencing on the eastern side of the highway at the intersection with Hendersons Bay Road and on the western side of the highway at the northern boundary and proceeding in the southerly direction to the intersection with State Highway No.10 to be a limited access road - Subject to Section 241(2) Resource Management Act 1991 (affects DP 323666) <u>6290071.3</u> Consent Notice pursuant to Section 221 Resource Management Act 1991 The easements created by Easement Instrument <u>6290071.5</u> are subject to Section 243 (a) Resource Management Act 1991 Subject to a right (in gross) to a telecommunications easement over part marked A on DP 323666 in favour of Telecom New Zealand Limited created by Easement Instrument <u>6290071.5</u>

			<p>The easements created by Easement Instrument <u>6290071.6</u> are subject to Section 243 (a) Resource Management Act 1991</p> <p>Subject to a right (in gross) to transmit electricity easement over part marked A on DP 323666 in favour of Top Energy Limited created by Easement Instrument <u>6290071.6</u></p> <p>Land Covenant in Easement Instrument <u>6290071.7</u></p> <p><u>11016062.2</u> Notice pursuant to Section 91 Transit New Zealand Act 1989</p>
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3.3 Site Conditions

The subject site is a vacant site which is generally flat to gently inclined land in grass. The northern, eastern and western boundaries are defined by hedging, while the site adjoins Wagener Grove along its southern boundary.

Refer to the Geotechnical Report (**Appendix 5**) for a description of geomorphology and published geology, as well as a description of the subsurface conditions, and absence of a groundwater table in the location of the proposed shed.

A cadastral map is provided in **Figure 4** below.

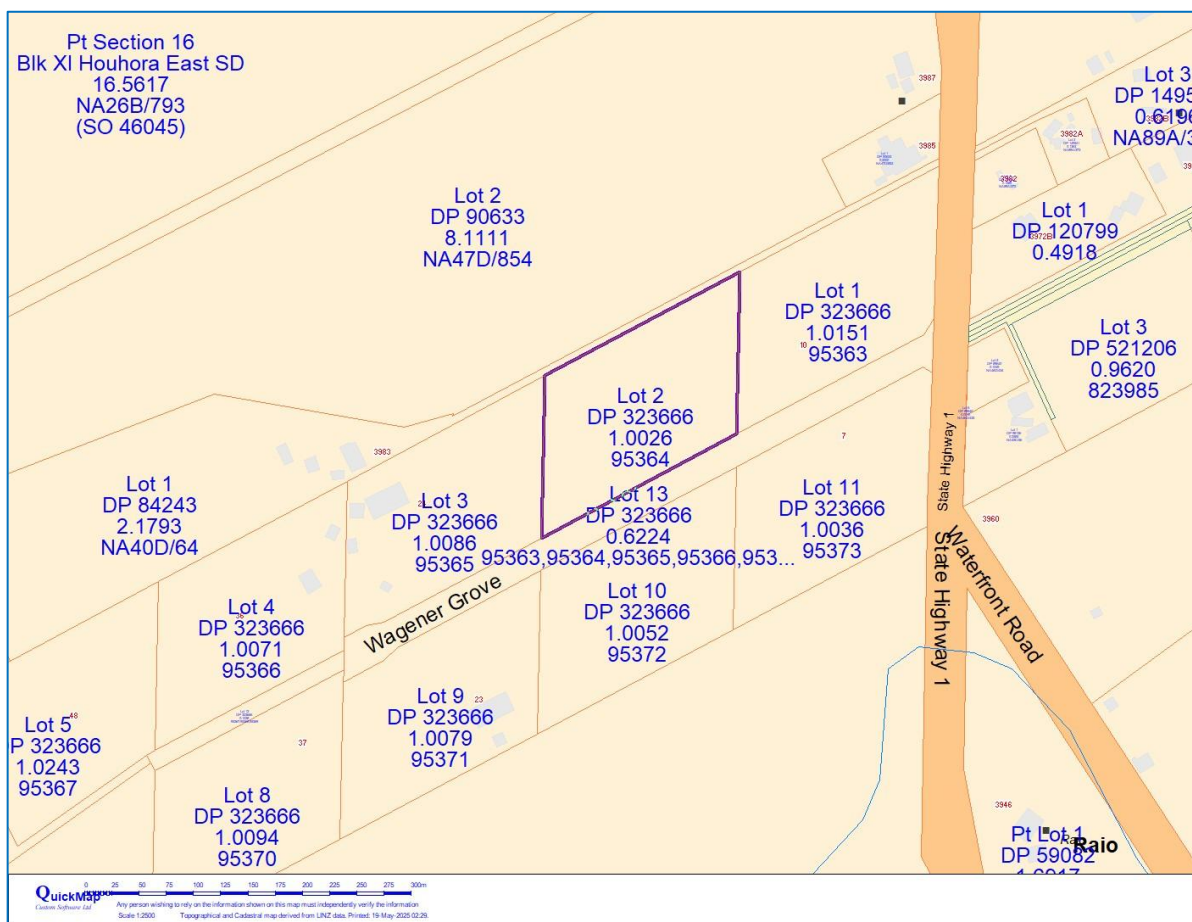


Figure 4: Cadastral Map

3.4 Recorded Natural Features

The Northland Regional Council Regional Policy Statement does not record the site as being within the coastal environment, or as having any areas of high or outstanding natural character, outstanding natural features or outstanding natural landscapes.

There are no mapped wetlands on or near the site within the Northland Regional Council Biodiversity Wetlands mapping.

The site is not part of a reserve or protected natural area as mapped in the Far North Maps Reserves and protected areas mapping.

4.0 District Plan Assessment

4.1 Operative Far North District Plan

The application site is zoned Coastal Living and is not subject to any Resource Features. The proposal is assessed against the relevant rules of the District Plan as follows.

4.1.1 Coastal Living Zone

Rule	Discussion	Compliance
Permitted Activities		
10.7.5.1.1 Visual Amenity	The proposed building does not meet permitted activity standard (a) as the gross floor area exceeds 50m ² . The controlled activity standard (Rule 10.7.5.2.2) is not met as the building is not within an approved building envelope. As such, the activity is a restricted discretionary activity under Rule 10.7.5.3.1.	Does not comply – restricted discretionary activity
10.7.5.1.2 Residential Intensity	The proposed building is not intended as a residential unit.	Not applicable
10.7.5.1.3 Scale of Activities	The proposed building is intended to be used as a private shed.	Complies
10.7.5.1.4 Building Height	Building height does not exceed 8m.	Complies
10.7.5.1.5 Sunlight	The proposed building height is less than the setback on this level site, and will comply with the permitted activity standard.	Complies
10.7.5.1.6 Stormwater Management	Proposed impermeable surfaces exceed 600m ² , being the lesser area compared with 10%. The restricted discretionary activity standard allows 1,500m ² , being the lesser area compared to 15% (Rule 10.7.5.3.8). Proposed impermeable surfaces (as detailed on the Site Plan in Appendix 1) do not exceed the restricted discretionary activity standard.	Does not comply – restricted discretionary activity
10.7.5.1.7 Setback from Boundaries	The proposed building is least 10m from all site boundaries.	Complies

4.1.2 District Wide Provisions

Natural & Physical Resources

Rule	Discussion	Compliance
Soils & Minerals		
12.3.6.1.2 Excavation and/or Filling In the ... Coastal Living ... Zones	Earthworks will exceed 300m ³ . The restricted discretionary activity standard of 2,000m ³ is not exceeded (Rule 12.3.6.2.1).	Does not comply – restricted discretionary activity

Financial Contributions

The proposal has no implications in terms of Chapter 14.

Transportation

Rule	Discussion	Compliance
Traffic – Permitted Activities		
15.1.6A.2.1 Traffic Intensity	The new shed can be considered as a non-habitable building to be built in advance of a residential unit being established on the site. The first residential unit on a site is exempt from this rule.	Complies
Parking – Permitted Activities		
15.1.6B.1.1 On-Site Car Parking Spaces	The shed and outdoor metalled area provide sufficient parking.	Complies
Access – Permitted Activities		
15.1.6C.1.1 Private Accessway in All Zones	The site has individual access from Wagener Grove (private access), which is existing and approved for the level of users.	Complies
15.1.6C.1.5 Vehicle Crossing Standards in Rural and Coastal Zones	The site has an existing entrances off Wagener Grove, and the existing intersection between Wagener Grove / SH1 is existing and approved – no new vehicle crossings are proposed.	Complies
15.1.6C.1.7 General Access Standards	Less than four parking spaces will be accessed from Wagener Grove as per clause (a). Remaining clauses (b) – (d) will be met by the access design.	Complies

4.1.3 Summary of Activity Status

Overall, the proposal has been assessed as a restricted discretionary activity, requiring consent under Visual Amenity Rule 10.7.5.3.1, Stormwater Management Rule 10.7.5.3.8 and Excavation and/or Filling Rule 12.3.6.2.1.

4.2 Proposed Far North District Plan

The subject site is zoned Rural Lifestyle.

4.2.1 Rules with Immediate Legal Effect

Rules relating to earthworks and the discovery of suspected sensitive material, and earthworks and erosion and sediment control (EW-R12 and EW-R13) and associated standards EW-S3 and EW-S5 can be complied with through advice notes relating to the Heritage New Zealand Accidental Discovery Protocol and the requirement for erosion and sediment control to be implemented in accordance with the specified guideline document for the duration of earthworks.

We are not aware of any other applicable rules with legal effect under the Proposed District Plan. Other relevant rules without legal effect are commented on below.

4.2.2 Area-Specific Matters – Rural Lifestyle Zone

Rule	Discussion	Compliance
RLZ-R1 New buildings or structures...	PER-1 – the proposed buildings accommodate a permitted activity (RLZ-R3). PER-2: RLZ-S1: 8m height not exceeded. RLZ-S2: Recession planes complied with. RLZ-S3: 10m setbacks achieved. RLZ-S4: More than 30m from MHWS. RLZ-S5: Building / structure coverage is less than 12.5%. RLZ-S6: Not applicable.	These rules do not have legal effect.
RLZ-R2 Impermeable Surface Coverage	12.5% (1,324m ² - including 1/11 th share in Lot 13 DP 323666) is the less than 2,500m ² . The total proposed impermeable area (including 1/11 th share in Lot 13 DP 323666) is approximately 1,486m ² exceeds the permitted activity standard, requiring consideration as a restricted discretionary activity.	
RLZ-R3 Residential activity	The shed is being established as an accessory building to a future residential unit.	

4.2.3 District-Wide Matters – Energy, Infrastructure, & Transport – Transport

Rule	Discussion	Compliance
TRAN-R1 Parking	Outdoor parking areas or parking within the shed can be provided to comply with the permitted standard.	These rules do not have legal effect.
TRAN-R2 Vehicle crossings and access, including private accessways	Existing vehicle crossing formed to a single site / household equivalent. Existing crossing not off the listed road types.	
TRAN-R5 Trip generation	Single residential unit proposed. Proposed development does not generate traffic exceeding that listed in TRAN-Table 11 – Trip generation.	

5.0 Assessment of Environmental Effects

Section 104(1)(a) and (ab) require the consent authority, subject to Part 2 of the Act, to have regard to any actual and potential effects on the environment of allowing the activity and 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.

Section 104(2) indicates that a consent authority may disregard an adverse effect of the activity on the environment if a national environmental standard of the plan permits an activity with that effect and Section 104(3)(a)(ii) requires a consent authority to not, when considering an application, have regard to any effect on a person who has given written approval to the application (unless that person has withdrawn the written approval before the date of a hearing or before the application is determined, as set out in 104(4)).

Clauses 6 and 7 of Schedule 4 of the RMA indicate the information requirements and matters that must be addressed in or by an assessment of environmental effects, both of which are subject to the provisions of any policy statement or plan. This assessment of environmental effect therefore addresses the relevant matters listed in Rules 10.7.5.3.1, 10.7.5.3.8 and 12.3.6.2.1 of the Operative District Plan.

5.1 Visual Amenity Effects (matters listed in Rule 10.7.5.3.1)

The location of the building

The proposed shed is to be located on the eastern half of the property, which has a near level grade. As the site conditions are uniform over the whole of the site in terms of elevation, grass cover, and visibility from public places, there are no relevant factors to consider in terms of a preferable building site where visual effects would be reduced.

The building location does require a relatively long length of driveway to access it from the existing vehicle crossing off Wagener Grove, however, the position has been chosen to take into account a future residential dwelling which may be established on the western half of the property.

It is considered that the proposed building location is appropriate, and the Geotechnical Report outlines that the proposed building development has been assessed as stable and is generally suitable for conventional construction. All other geotechnical hazards at the site have been assessed as either not present or of acceptable risk provided that the various mitigation measures and good practice recommendations outlined in the Geotechnical Report are adopted.

The size, bulk, and height of the building or utility services in relation to ridgelines and natural features

The shed is a single storey structure with an apex height of approximately 5.35m. Its floor area of 162m² and a roof area of 225m² is considered reasonable for the site. The building is to be positioned in the eastern half of the property, which has a level contour. The building site does not protrude above any ridgeline.

The subject site itself is not part of an outstanding natural landscape or outstanding natural feature, and does not have high or outstanding natural character. There are no nearby areas of high or natural character from which the proposed building would detract.

The colour and reflectivity of the building

Existing buildings in the wider area around Wagener Grove exhibit a range of colour schemes, ranging from the cream coloured self storage buildings on the adjacent property, white and cream dwellings and accessory buildings, and grey and brown toned residential buildings. As the site is not part of the coastal environment, and there were no restrictions imposed at subdivision stage resulting in consent notice conditions relating to exterior colours and materials, it is considered that a range of building colours is acceptable, and no restrictions on the proposed activity are necessary.

The extent to which planting can mitigate visual effects

The site contains existing mature hedges around the northern, eastern and western boundaries, which enhance privacy and amenity values for the proposed building and for neighboring sites. The established planting is protected by an existing consent notice condition. Existing vegetation will soften the built form of the proposed building and integrate it into the site, as well as provide privacy between the site and adjoining properties.

It is noted that the site is no longer considered to be within the coastal environment, as evidenced by the most recent Regional Policy Statement mapping. The character of the site is more akin to a rural lifestyle area, therefore the existing extent of planting is considered appropriate to mitigate visual effects.

Any earthworks and/or vegetation clearance associated with the building

As the proposed building platform is flat, the only earthworks associated with the building will be for foundation preparation, with those works being excluded from the definition of 'excavation' under the Operative District Plan.

No removal of indigenous vegetation is required.

The location and design of associated vehicle access, manoeuvring and parking areas

Vehicle access, manoeuvring and parking areas will be formed as shown on the site plan. These are not visually obtrusive, and again with the level contour, require minimal earthworks to form.

The extent to which the building will be visually obtrusive

The new building is low in profile, being a single storey building and will be set within an existing rural lifestyle area, where existing dwellings and accessory buildings are already located.

The proposal is an appropriate development in this location and on the application site. It will be unobtrusive and consistent with other existing built development found locally.

The cumulative visual effects of all the buildings on the site

The proposed building is the first for the site and does not contribute to cumulative effects. It is likely that a future residential dwelling will also be established on the site. Proposed building coverage amounts to approximately 2.2% of the site area, which results in a modest and reasonable extent of coverage on the site.

The degree to which the landscape will retain the qualities that give it its naturalness, visual and amenity values

The application site has been modified in the past to form a level contour and implement linear planting. It is devoid of indigenous vegetation or other natural characteristics. The wider landscape is highly modified through buildings and ancillary access, including the self-storage facility adjoining the site's eastern boundary. The site and wider surrounding landscape has a low level of natural character, and is not part of an outstanding landscape.

There will be no change to the existing site contours.

The proposed development will be similar in nature to the existing surrounding development on the adjoining and nearby Coastal Living Zone lots, and the overall landscape will retain its current level of natural and visual amenity.

The extent to which private open space can be provided for future uses

The site retains ample open grassed areas, which are more than adequate to provide for a future residential dwelling and private outdoor areas. Existing hedging provides for privacy between neighbouring properties. The roller door access to the shed is located on the western elevation, facing internally towards the centre of the site.

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

The site does not include any mapped outstanding natural features, outstanding landscape features, or areas of high or outstanding natural character as mapped by the Regional Policy Statement.

As described above, the building design, together with the setting of the site in a modified and developed area, means that the proposed building will not be a dominant or obtrusive feature of the landscape. It will be at a scale which blends in with current building and settlement patterns of the area. Permitted activity boundary setbacks and height and relation to boundary standards are achieved.

Existing plantings will soften the appearance of the building, and blend it into the existing environment.

The extent to which non-compliance affects the privacy, outlook and enjoyment of private open spaces on adjacent sites

The proposed building will comply with all permitted activity setback, height and height in relation to boundary rules, such that the privacy, outlook and enjoyment of private open spaces on adjacent sites will not be affected beyond what can be considered as the permitted baseline.

5.2 Stormwater Effects (matters listed in Rule 10.7.5.3.8)

An assessment of stormwater effects is provided within the Stormwater Mitigation Report (Section 8). In summary, with the proposed attenuation, and stormwater management devices, the potential adverse effects of stormwater runoff can be appropriately mitigated in terms of the rate and quality of stormwater discharge from the site, impacts on the life supporting capacity of soils, and cumulative effects on catchment impermeability.

5.3 Earthworks Effects (matters listed in Rule 12.3.6.2.1)

(i) the effects of the area and volume of soils and other materials to be excavated

The proposed extent of soil excavation will be the minimum required to complete the proposed driveway, and results in an overall low volume of earthworks. Excavated top soil will be retained on site for landscaping purposes.

(ii) the effects of height and slope of the cut or filled faces

Minimal depth of top soil stripping is required to prepare the driveway, with the excavated material to be retained on site for landscaping. No adverse effects in this regard are anticipated.

(iii) the time of the year when the earthworks will be carried out and the duration of the activity

The earthworks can be completed in a single stage at a short duration. They will immediately be stabilised through placement of aggregate, and can be completed in dry weather periods to minimise the transportation of sediment laden stormwater.

(iv) the degree to which the activity may cause or exacerbate erosion and/or other natural hazards on the site or in the vicinity of the site, particularly lakes, rivers, wetlands and the coastline

A minimal depth of earthworks is proposed to prepare the driveway. The location of the proposed earthworks is not in close proximity to any water bodies including the coastal marine area.

(v) the extent to which the activity may adversely impact on visual and amenity values

Refer to the assessment of effects under Section 5.2.

(vi) the extent to which the activity may adversely affect cultural and spiritual values

There are no known archaeological sites on the property, although an archaeological site is recorded on the adjacent property to the north. The site is highly modified through earlier subdivision and site specific earthworks, and it is considered unlikely that any archaeological sites will be uncovered during earthworks. Council have advised Heritage New Zealand Pouhere Taonga of the PIM application and invited comments; none are known to have been received. Nevertheless, the standard Accidental Discovery Protocol advisory note can be included in the consent, to advise the consent holder of their responsibilities under the Heritage New Zealand Pouhere Taonga Act 2014, in the event that an archaeological material is inadvertently uncovered during the course of earthworks.

(vii) the extent to which the activity may adversely affect areas of significant indigenous vegetation or significant habitats of indigenous fauna

No vegetation clearance is required, and no habitats are affected by the proposed earthworks.

(viii) the number, trip pattern and type of vehicles associated with the activity

A small excavator will be used to scrape back topsoil for the driveway and form drainage where necessary, and aggregate will be bought to site in a tipper truck, with the number of trips depending on the size of truck (estimated 12 – 20 two way trips).

(ix) the location, adequacy and safety of vehicular access and egress

The site has an existing entrance off Wagener Grove, with good visibility in both directions. Likewise, the existing intersection between Wagener Grove and State Highway 1 is suitable for vehicle access.

Earthworks machinery will need to ensure that dirt is not transported onto the adjoining and nearby private and public road network, this can be supported by undertaking the work in dry weather and using standard consent conditions.

(x) the means by which any adverse environmental effects of the activity will be avoided, remedied or mitigated.

The extent of earthworks is typical for this type of property and development. Standard mitigation through erosion and sediment control, rapid stabilisation of exposed areas with aggregate, undertaking works in dry and stable weather, observing construction noise limits for the Coastal Living Zone, and observing the Accidental Discovery Protocol will be undertaken.

5.4 Summary of Effects and Mitigation

The relevant effects of the proposed development are considered to be less than minor.

6.0 Statutory Assessment

6.1 Objectives and Policies

6.1.1 Far North Operative District Plan

The objectives and policies of the Coastal Environment, Coastal Living Zone and Soils and Minerals Sections of the District Plan are relevant to this proposal. As a restricted discretionary activity, where the relevant matters that the Council has restricted the exercise of its discretion to have been adequately addressed, it is considered that the proposal will be in accordance with the objectives and policies of the Operative District Plan.

6.1.2 Far North Proposed District Plan

The matters of discretion listed for restricted discretionary activities under Rule RLZ-R2 (Impermeable surface coverage) have been addressed within the Stormwater Management Report. The proposal can therefore be considered to be in accordance with the relevant objectives and strategies of the Proposed District Plan.

6.1.3 Regional Policy Statement for Northland ("RPS")

The relevant policy from the RPS are commented on under the relevant heading below.

5.1.1 Policy – Planned and coordinated development.

Subdivision, use and development should be located, designed and built in a planned and co-ordinated manner which:

- (a) Is guided by the 'Regional Form and Development Guidelines' in Appendix 2;*
- (c) Recognises and addresses potential cumulative effects of subdivision, use, and development, and is based on sufficient information to allow assessment of the potential long-term effects;*
- (d) Is integrated with the development, funding, implementation, and operation of transport, energy, water, waste, and other infrastructure;*
- (e) Should not result in incompatible land uses in close proximity and avoids the potential for reverse sensitivity;*
- (g) Maintains or enhances the sense of place and character of the surrounding environment except where changes are anticipated by approved regional or district council growth strategies and / or district or regional plan provisions.*
- (h) Is or will be serviced by necessary infrastructure.*

Note: in determining the appropriateness of subdivision, use and development (including development in the coastal environment – see next policy), all policies and methods in the Regional Policy Statement must be considered, particularly policies relating to natural character, features and landscapes, heritage, natural hazards, indigenous ecosystems and fresh and coastal water quality.

The proposed use and development comply with the permitted activity Coastal Living Zone standards with the exception of the Visual Amenity Rule and Stormwater Management Rule, however the effects arising from these infringements will be either avoided or mitigated (in the case of stormwater) so as to have a less than minor environmental effect. Development of an existing site for private use, in this case being an accessory building to a future residential dwelling, is an anticipated land use in this zone, and the development of the site for this purpose will be compatible with other existing activities in the area in order to maintain the character of the surrounding environment.

6.1.4 New Zealand Coastal Policy Statement 2010 (“NZCPS”)

The Regional Policy Statement gives effect to the NZCPS, and this does not include the subject site as being within the coastal environment, despite the Coastal Living Zoning under the Operative District Plan. As such, it is considered that the NZCPS is not relevant to the proposed activity.

6.2 National Environmental Standards

6.2.1 National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health

The proposal has been considered in terms of the Resource Management (National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health) Regulations 2011. The subject site is not recorded on Northland Regional Council’s Selected Landuse Register.² Review of Retrolens aerial imagery shows that the site has been in pasture between 1970 and 1985, while the Far North Maps Land cover and land use shows that the site has been in in exotic grassland from 1989 to 2020.³ More recent satellite aerial imagery sourced from Google Earth shows that Wagener Grove was formed by 2004, with there being no apparent change to the site conditions until 2018 when some earthworks or recontouring in the location of the proposed shed have been completed, presumably to fill in hollows in the ground to produce the current level contour.

Using Method 6(2) of the regulations, the land is not known to be currently, or historically, used for any activity or industry on the Hazardous Activities and Industries List, and the activity is not subject to the above regulations.

6.2.2 National Environmental Standards for Freshwater & Amendments

The site is not recorded as being within, or within 100m of, a natural inland wetland as mapped in the Northland Regional Council Biodiversity Wetland mapping.

As such, the proposal is not considered to have any implications in terms of the above national environmental standard, in particular, regulation 54.

6.3 Proposed Regional Plan – February 2024

No consents are required under the Proposed Regional Plan.

² Northland Regional Council. Retrieved 20 May 2025 from <https://localmaps.nrc.govt.nz/localmapviewer/?map=65b660a9454142d88f0c77b258a05f21>

³ Sourced from <http://retrolens.nz> and licensed by LINZ CC-BY 3.0

6.4 Part 2 of the Resource Management Act 1991

An assessment of the proposal in relation to Part 2 of the Act is given below.

PART 2 PURPOSE AND PRINCIPLES

5 Purpose

- (1) *The purpose of this Act is to promote the sustainable management of natural and physical resources.*
- (2) *In this Act, sustainable management means managing the use, development, and protection of natural and physical resources in a way, or at a rate, which enables people and communities to provide for their social, economic, and cultural wellbeing and for their health and safety while-*
 - (a) *Sustaining the potential of natural and physical resources (excluding minerals) to meet the reasonably foreseeable needs of future generations; and*
 - (b) *Safeguarding the life-supporting capacity of air, water, soil, and ecosystems; and*
 - (c) *Avoiding, remedying, or mitigating any adverse effects of activities on the environment.*

6 Matters of national importance

In achieving the purpose of this Act, all persons exercising functions and powers under it, in relation to managing the use, development, and protection of natural and physical resources, shall recognise and provide for the following matters of national importance:

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

7 Other matters

In achieving the purpose of this Act, all persons exercising functions and powers under it, in relation to managing the use, development and protection of natural and physical resources, shall have particular regard to-

- (b) *The efficient use and development of natural and physical resources;*
- (c) *The maintenance and enhancement of amenity values;*
- (f) *Maintenance and enhancement of the quality of the environment;*

8 Treaty of Waitangi

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

The nature of development is similar to surrounding properties and represents an appropriate building within this existing rural lifestyle environment. The proposed building is of a modest height and floor area, and together with the retention of established planting, will ensure that adverse visual amenity effects are appropriately avoided and mitigated, to ensure that the existing character of the site and its surrounding can be retained. Stormwater mitigation to achieve stormwater neutrality is proposed.

Despite the Coastal Living Zoning under the Operative District Plan, the most recent mapping of the coastal environment undertaken for the Regional Policy Statement does not include the subject site.

The proposal has regard to Section 7 Matters and represents an efficient and anticipated use of the land, which will retain existing amenity values and maintain the quality of the environment.

The proposal has no known implications in terms of the Treaty of Waitangi principles.

Overall, the proposal is considered to be consistent with the purpose and principles of the Resource Management Act 1991.

7.0 Consultation & Notification Assessment

7.1 Public Notification Assessment

Step 1: Public notification is not requested. Section 95A(3)(b) and (c) do not apply.

Step 2: Public notification is not precluded.

Step 3: There are no rules that require public notification in terms of section 95A(8)(a). An assessment has been made in accordance with section 95D, and it is considered that the adverse effects of the activity are not more than minor. Refer to Section 5.0 of this report.

Step 4: No special circumstances exist to warrant public notification.

7.2 Limited Notification Assessment

Step 1: The site is not in the marine and coastal area or common marine and coastal area. There are no affected protected customary rights groups or affected customary marine title groups.

The Far North Maps Treaty Settlements Maps records a range of areas of interest relating to the subject site, including the Ngāti Kuri Claims Settlement Act 2015, Te Aupori Claims Settlement Act 2015 and Ngāi Takoto Claims Settlement Act 2010, as listed in Schedule 11 of the RMA. However, we understand that the subject site is not on or adjacent to land that is the subject of a statutory acknowledgement under any of the listed Acts. As such, it is considered that there are no affected persons in terms of Section 95B(3)(b).

Step 2: Limited notification is not precluded.

Step 3: In terms of 95B(8), an assessment has been undertaken in accordance with section 95E. Section 95E(1) specifies that a person is an affected person if the consent authority decides that the activity's adverse effects on the person are minor or more than minor (but are not less than minor).

Section 95E(2) provides guidance as to how a consent authority should assess an activity's adverse effects on a person for the purposes of Section 95E, including clause (a), where they may disregard an adverse effect of the activity on a person if a rule or national environmental standard permits an activity with that effect and clause (b), where they must, if the activity is a controlled activity or a restricted discretionary activity, disregard an adverse effect of the activity on the person if the effect does not relate to a matter for which a rule or a national environmental standard reserves control or restricts discretion. Therefore, Council may disregard adverse effects not related to the matters listed in Rules 10.7.5.3.1, 10.7.5.3.8 and 12.3.6.2.1.

Section 95E(3) specifies that a person is not an affected person in relation to an application for a resource consent for an activity if (a) the person has given, and not withdrawn, approval for the proposed activity in a written notice received by the consent authority before the authority has decided whether there are any affected persons.

The anticipated adverse effects of the proposed development in relation to the listed rules are expected to be less than minor, in particular given that stormwater attenuation is proposed to provide stormwater neutrality, and there is a minimal amount of earthworks and avoidance of vegetation clearance required. The building will not be visually obtrusive or a dominant feature of the environment, and will not result in effects that are minor or greater on any person. It is noted that the proposed building will comply with all permitted activity setback, height and height in relation to boundary rules, such that the privacy, outlook and enjoyment of private open spaces on adjacent sites will not be affected. As such, it is considered that there are no affected persons in terms of the proposed activity.

Step 4: There are no special circumstances to warrant notification to any other person.

7.3 Summary of Notification Assessment

As outlined above we are of the opinion that the proposal satisfies the statutory requirements for non-notification, and we respectfully request that it be processed on that basis.

8.0 Conclusion

In terms of sections 104 and 104C of the Resource Management Act 1991, we consider that:

- Considering the matters over which the Council has restricted the exercise of its discretion to in the Operative District Plan, the actual and potential adverse effects of the proposal can be avoided and mitigated so as to be less than minor.
- The proposal is considered to be consistent with the relevant objectives and policies of the Operative District Plan, Proposed District Plan, and Regional Policy Statement.
- The proposal is in accordance with the Purpose and Principles of the Resource Management Act 1991.

We also note that:

- It has been assessed that the proposal meets the statutory criteria to be processed as non-notified.

For these reasons it is requested this application be considered to be a non-notified application, and that the Council grant consent to the proposal, under delegated authority, as detailed in the application and supporting information.

Signed 
Natalie Watson,
Resource Planner

Date 4 June 2025
WILLIAMS & KING
Kerikeri

9.0 Appendices

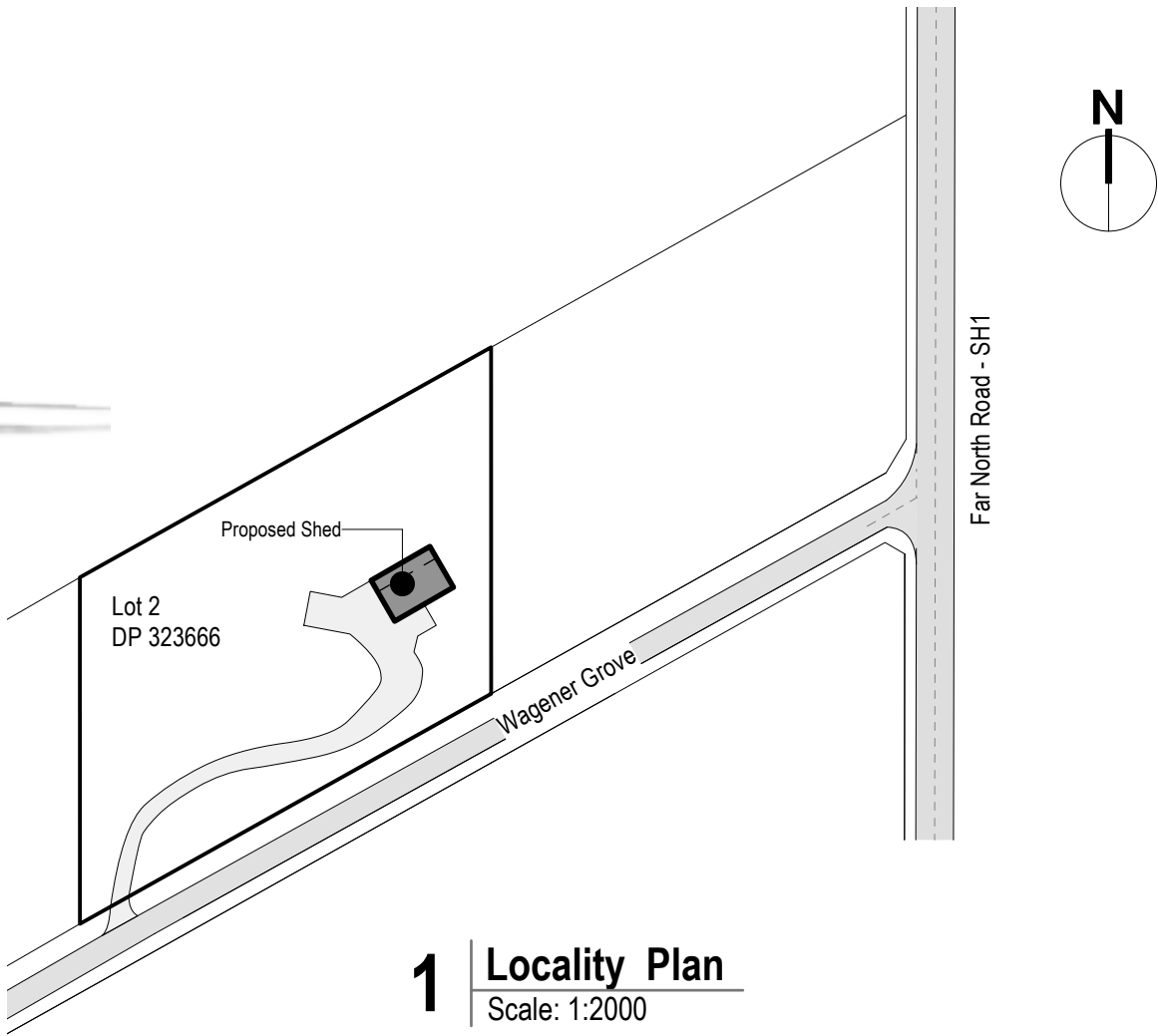
- Appendix 1:** Going Architectural Plans
- Appendix 2:** Wilton Joubert Limited Stormwater Mitigation Report
- Appendix 3:** Waterflow NZ Ltd Onsite Wastewater Design Report
- Appendix 4:** Record of Title
- Appendix 5** LDE Geotechnical Report



Proposed New Shed

Lot 2, Wagener Grove, Pukenui

For Brett & Robyn Price



1 | Locality Plan
Scale: 1:2000

Drawing List

Sheet:	Rev:
Design Sheets	
A-01	Cover Page
A-02	Site Plan
A-03	Floor Plan - Shed
A-04	Floor Plan - Internal
A-05	Shed Elevations
A-06	3D Rendering
A-07	Foundation Plan/Slab
A-08	Drainage Plan
A-09	Section 1 & 2

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Job:
Proposed New Shed for
B & R Price
Address:
Lot 2, Wagener Grove, Pukenui
0484, Houhora, Northland

Dwg: Cover Page

Date:	25/03/2025	Rev:	
Ref:	25-07	Scale:	As Noted
Dwn:	VM	Ckd:	MG
Sheet:	A-01	Of:	9

Earthworks / site preparation
Site to be cleared of topsoil for flat building platform & driveway.
All topsoil to be retained on site for reinstatement.
Allow for 200mm deep cut below GL for under slab engineered fill and perimeter foundation.

Construction Hazards / Site Safety - NZBC F5
Building site area access is restricted due to location. Ensure restricted access to children, & allow controlled access for contractors, territorial authority or authorised personnel only.

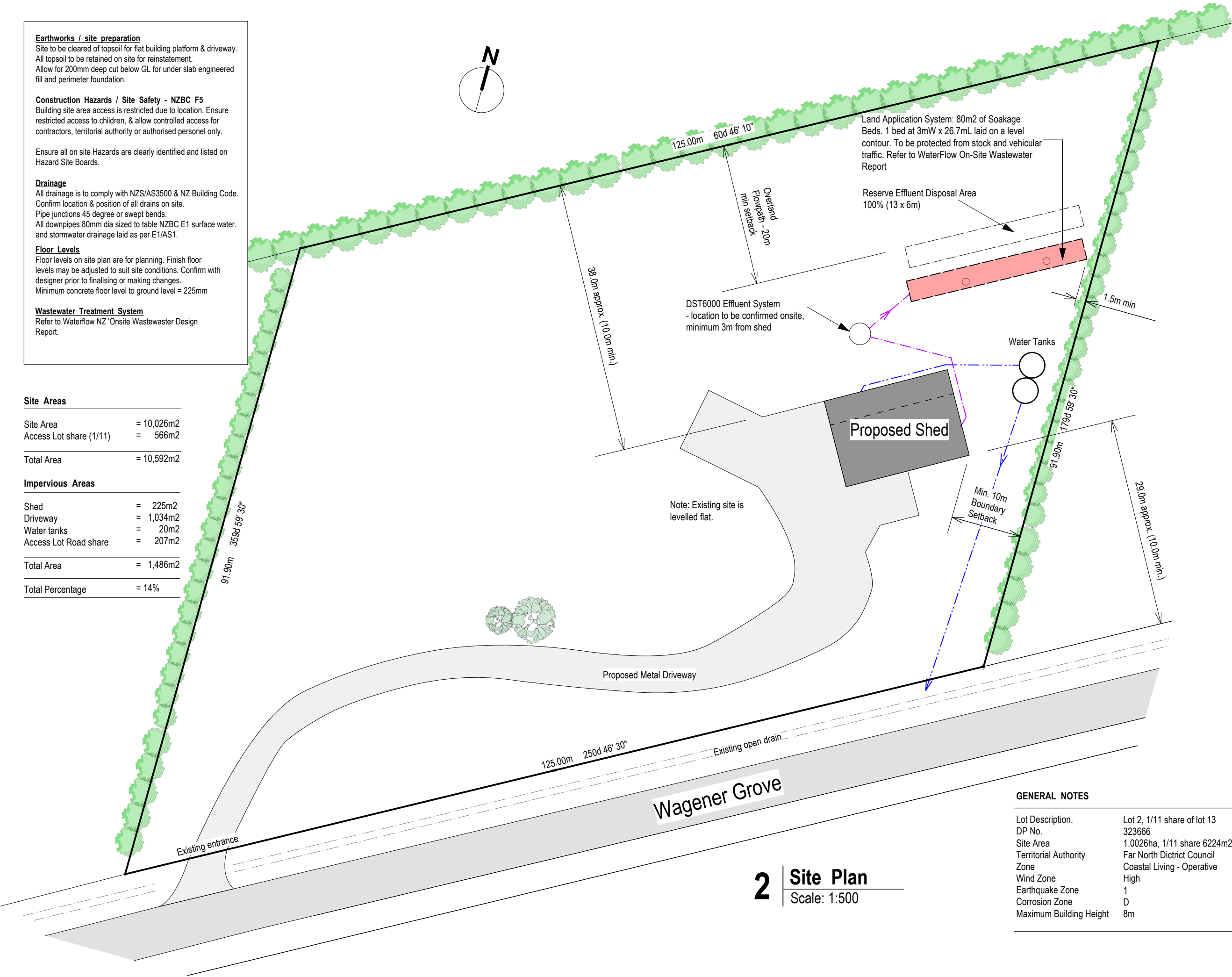
Ensure all on site Hazards are clearly identified and listed on Hazard Site Boards.

Drainage
All drainage is to comply with NZS/AS3500 & NZ Building Code. Confirm location & position of all drains on site.
Pipe junctions 45 degree or swept bends.
All downpipes 80mm dia sized to table NZBC E1 surface water. and stormwater drainage laid as per E1/AS1.

Floor Levels
Floor levels on site plan are for planning. Finish floor levels may be adjusted to suit site conditions. Confirm with designer prior to finalising or making changes.
Minimum concrete floor level to ground level = 225mm

Wastewater Treatment System
Refer to Waterflow NZ 'Onsite Wastewater Design Report.

Site Areas	
Site Area	= 10,026m2
Access Lot share (1/11)	= 566m2
Total Area	
= 10,592m2	
Impervious Areas	
Shed	= 225m2
Driveway	= 1,034m2
Water tanks	= 20m2
Access Lot Road share	= 207m2
Total Area	
= 1,486m2	
Total Percentage	
= 14%	



Sediment & Dust Management
Erosion Controls

- Install clean water diversion measures (sandbags or bunding) to divert surface water around the work site.
- Cover stockpiled material completely and securely with impermeable material like tarpaulin or polythene sheet. Re-vegetate stockpiles that will be kept on site long term.
- Do not stockpile material near stormwater catchpits, kerb channels, in over land flow paths or on gradients steeper than 15 per cent.

Sediment Controls

- Regularly sweep up anu dust and dispose of it properly so that it will not become airborne or enter surface water.
- Install stormwater catchpit protection measures (filter bags, geotextile material, silt fences, filter socks etc) as a form of secondary control.
- For large sites or works areas, especially when working close to watercourse, install a silt fence around works area and stockpiles.

Silt Fence Installation

- 600mm high silt detention fence to be erected around side and lower areas for duration of project using geofabric supported with waratahs or post hammer-staked at least 400mm deep on the downhill side of the fabric, no more than 2m apart.
- be installed in a trench 200mm deep x 100mm wide.
- be 600mm high above ground, with an additional 200mm of cloth below ground in the trench.
- have each end of the fence return up the slope roughly 2m to prevent water going around the edges.
- be anchored by backfilling the trench and placing soil on top of the fabric.

Refer to GD05 Erosion & Sediment Control Guide for compliance - Auckland Council.

Note: Water Tanks are to be buried to ensure the tanks are no more than 2.7m above ground level.

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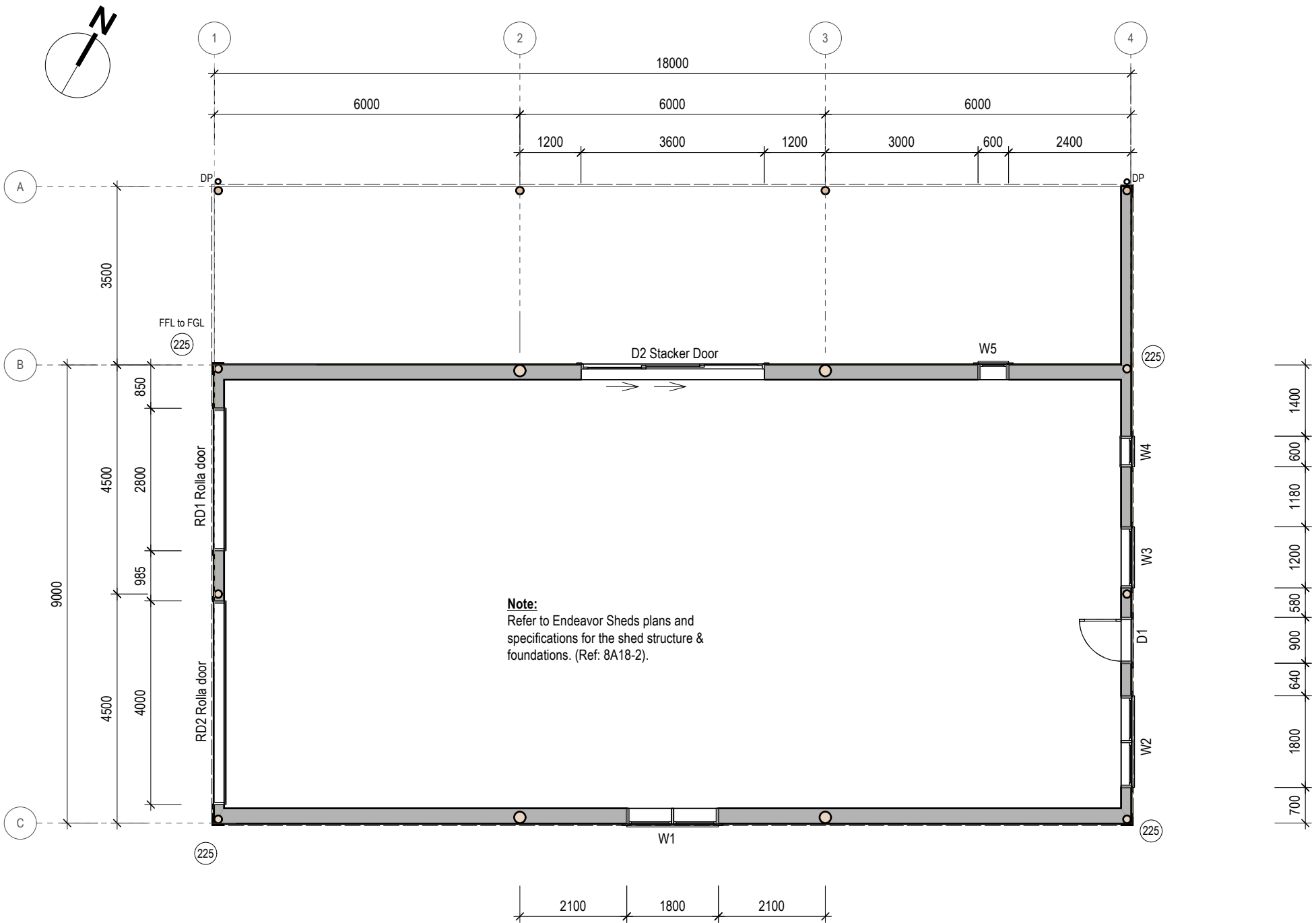
Job:
**Proposed New Shed for
B & R Price**
Address:
**Lot 2, Wagener Grove, Pukenui
0484, Houhora, Northland**

Dwg: **Site Plan**

Date:	25/03/2025	Rev:	
Ref:	25-07	Scale:	As Noted
Dwn:	VM	Ckd:	MG
Sheet:	A-02	Of:	9

GENERAL NOTES	
Lot Description.	Lot 2, 1/11 share of lot 13
DP No.	323666
Site Area	1.0026ha, 1/11 share 6224m2
Territorial Authority	Far North District Council
Zone	Coastal Living - Operative
Wind Zone	High
Earthquake Zone	1
Corrosion Zone	D
Maximum Building Height	8m

2 | **Site Plan**
Scale: 1:500



1 | SHED Plan
Scale: 1:100

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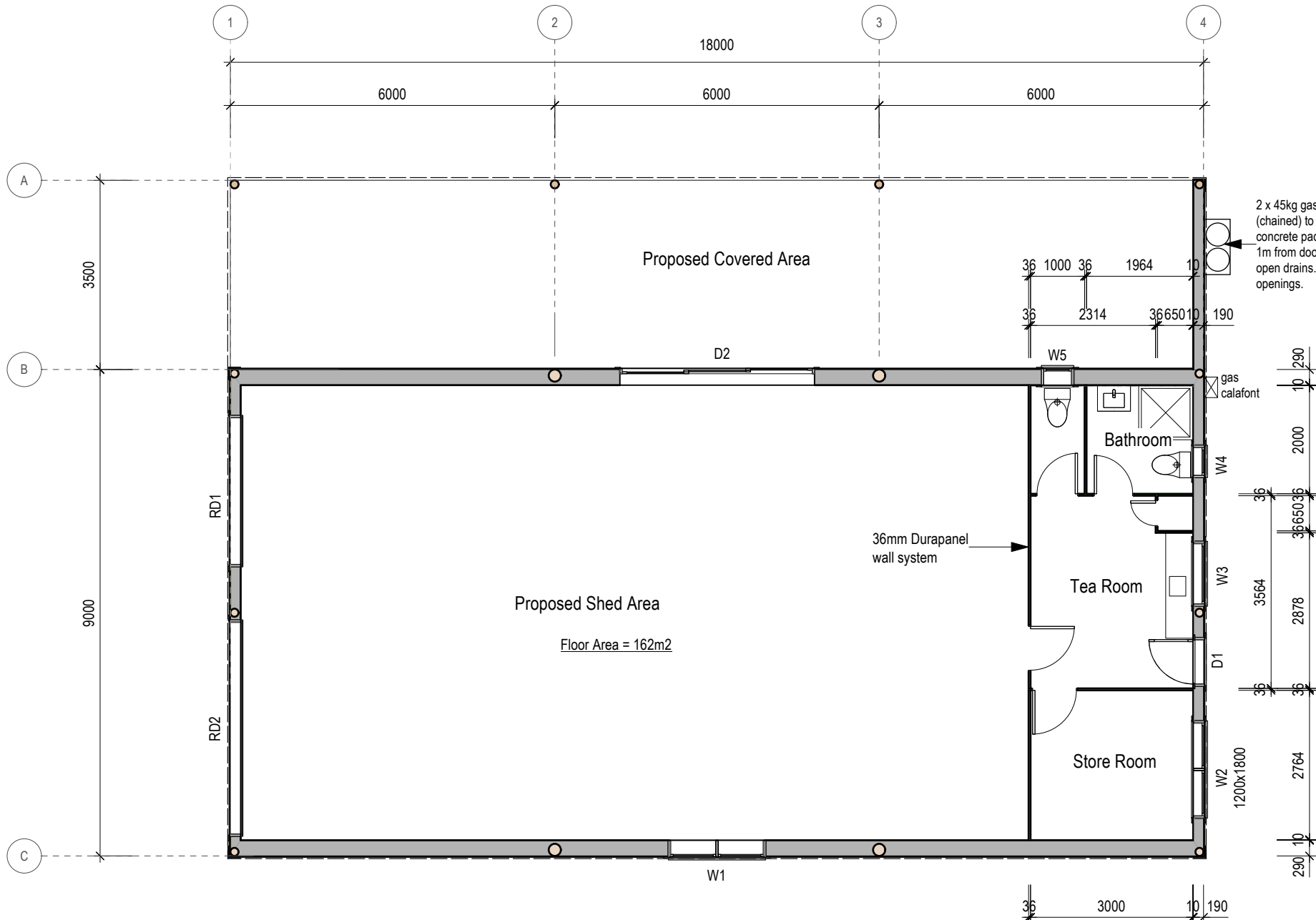
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Job:			
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Address:			
Lot 2, Wagener Grove, Pukenui 0484, Houhora, Northland			
Dwg: Floor Plan - Shed			
Date:	25/03/2025	Rev:	
Ref:	25-07	Scale:	As Noted
Dwn:	VM	Ckd:	MG
Sheet:	A-03	Of:	9



2 Proposed Shed Floor Plan

Scale: 1:100

GENERAL NOTES

All building work to comply with the NZ Building Code.

Refer to Endeavor Sheds Consent Plan Set, Ref: BA18-2 for full working drawings, structural plans and details.

New Internal Walls

36mm Durapanel walls are to be installed in accordance with Durapanel Manufacturers Installation Specifications.

Exterior walls to be wrapped with Tekton Wall Wrap.

Note: Standard shed cladding details do not include a wall wrap as it is not required. The wall wrap indicated is not required for consent purposes but is indicated on the plan for owner / builder pricing specs. only.

Internal Wall Linings

Bathroom / Wet Area Walls
= 10mm GIB Aqualine plasterboard to be fixed to wall framing.
Bathroom / Wet Area Ceilings
= 10mm GIB Aqualine to be fixed to ceiling framing

Interior Wall lining 'option' outside of bathroom wall framing
= 9mm structural plywood

Bathrooms / showers / Wet Areas

Shower enclosures are to consist of Acrylic base and wall liners with glass and aluminium door systems to suit the shower space, installed to manufacturers specifications. Safety glass to showers.

Wet Area Flooring

All floors within 1500mm of sanitary fixtures and appliances are to be impervious and easily cleaned. Exposed concrete floors are to be "polished" concrete floors with densifying chemical applicators and sealed with a micro-sealer.

Insulation Requirements - Wet Area / Bathroom

90mm Walls / Thermal envelope surrounding bathroom area (R1.5 min. requirement) = R2.2 wall insulation batts to be installed.

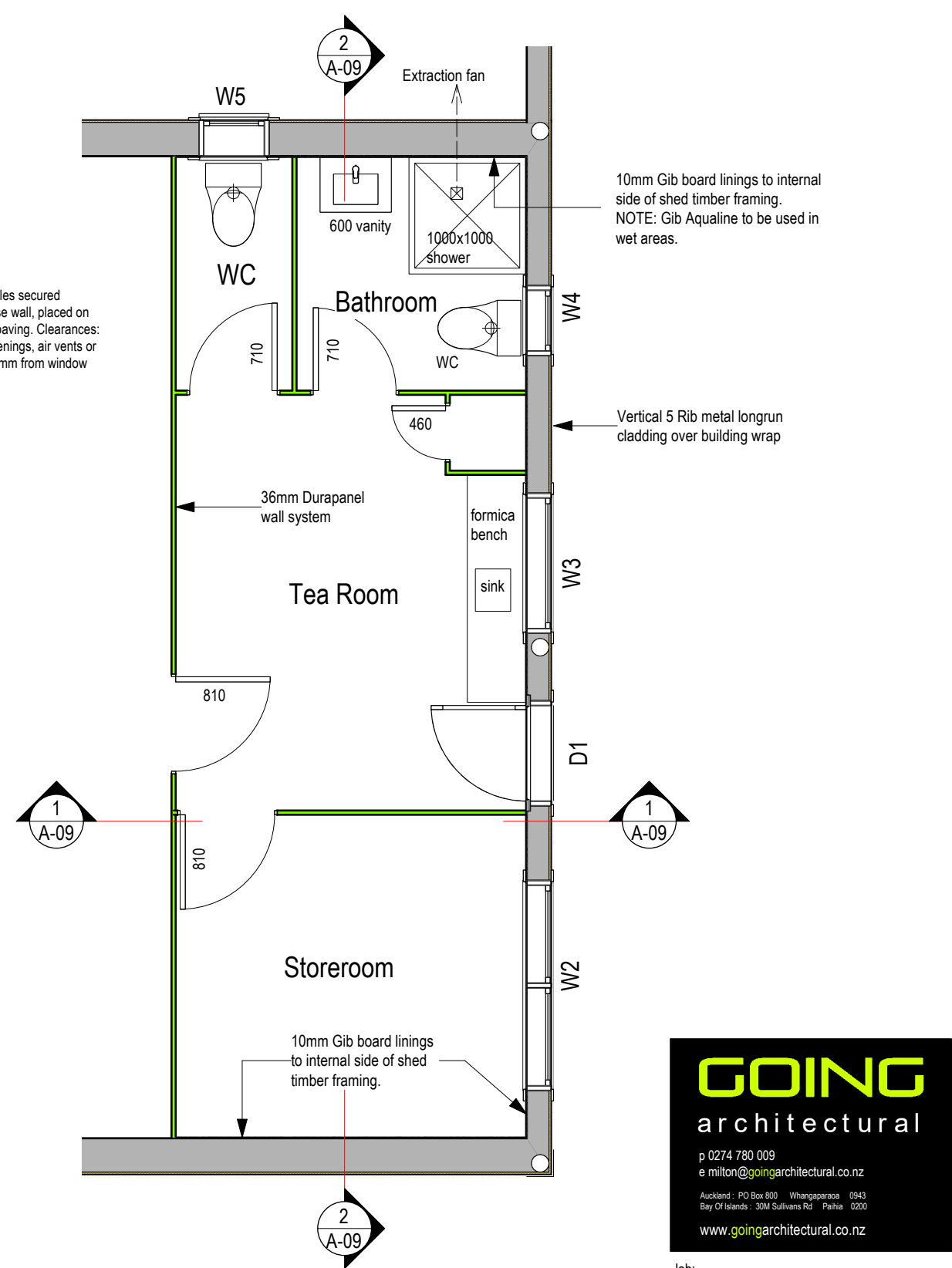
Ceilings (R1.5 min. requirement) = R2.2 insulation batts to be installed in bathroom ceilings.

Extraction fans

Fans to be extracted through soffits or walls where indicated on plans.
Min. Flow rates = 25L/s (shower & bath)

Exterior Concrete Patios / Entryway

Concrete paved areas to be either broom finished or crushed exposed aggregate finish for "slip resistance" in main pathways and areas adjacent to exterior doors.



3 Internal Layout

Scale: 1:50

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Proposed New Shed for
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Address:

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0484, Houhora, Northland

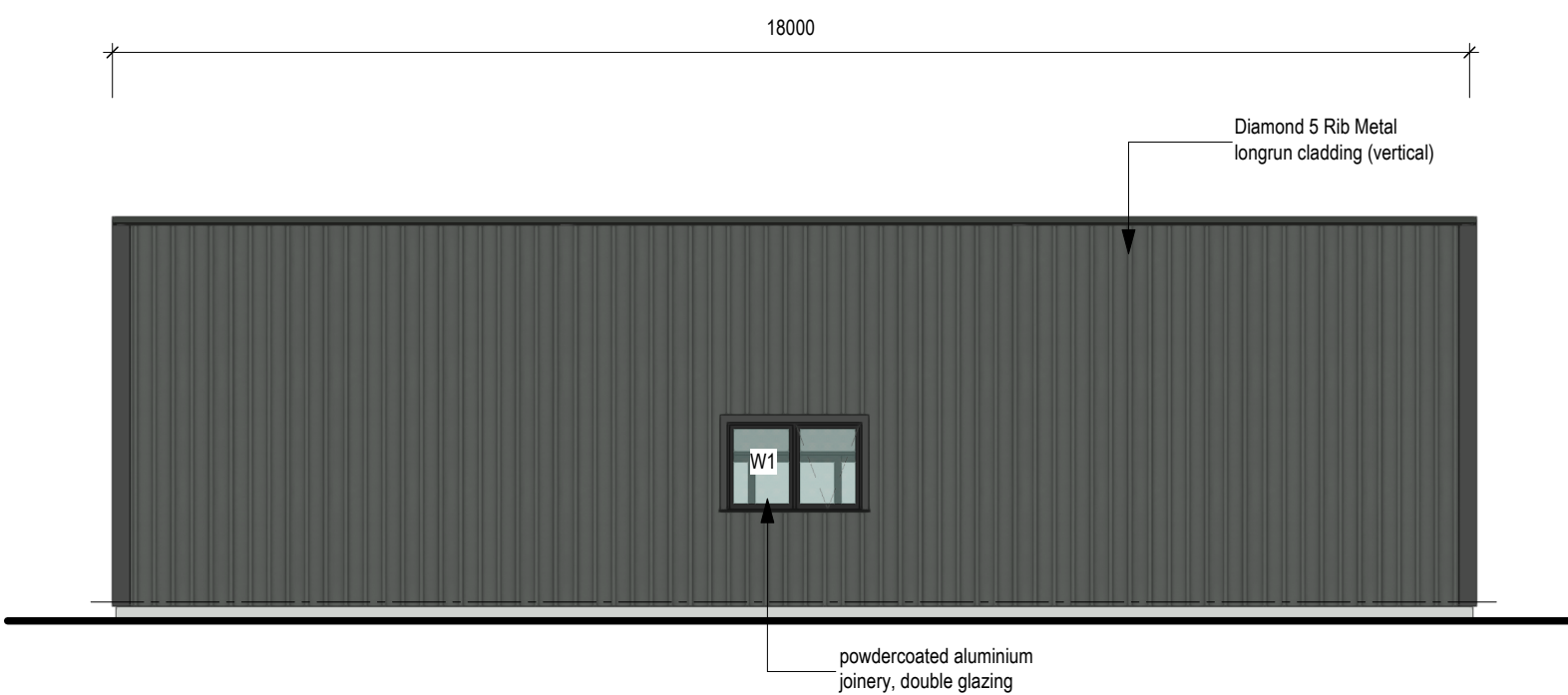
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Date: 25/03/2025 Rev:

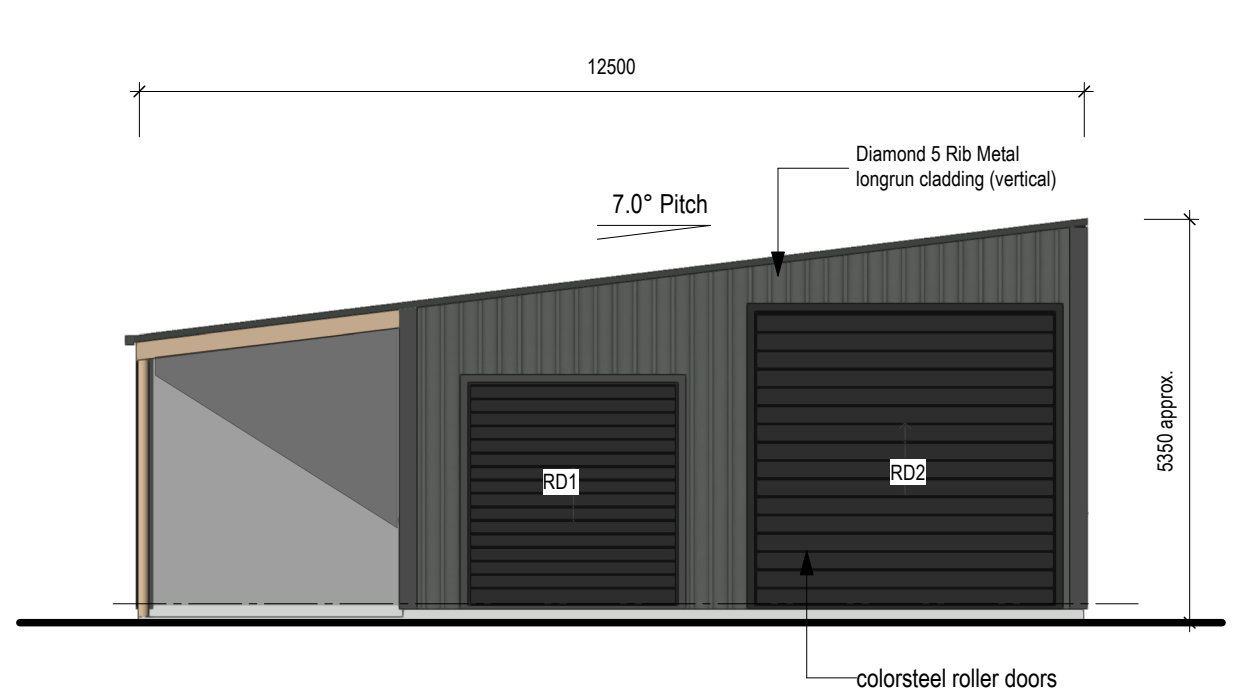
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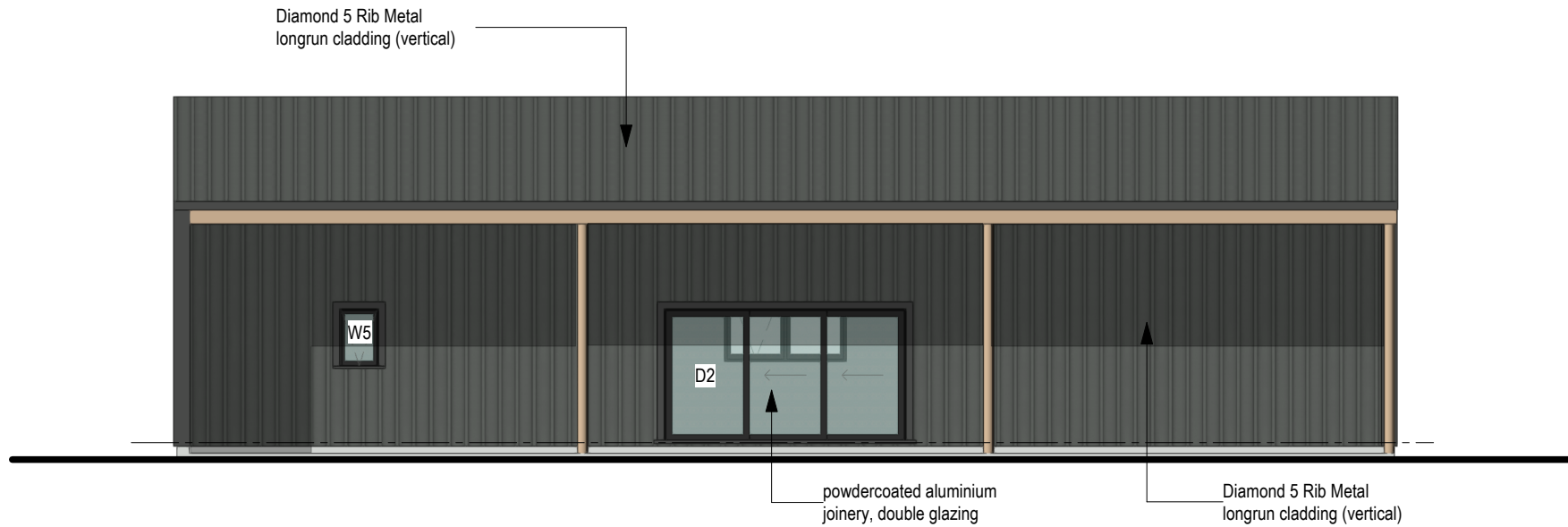
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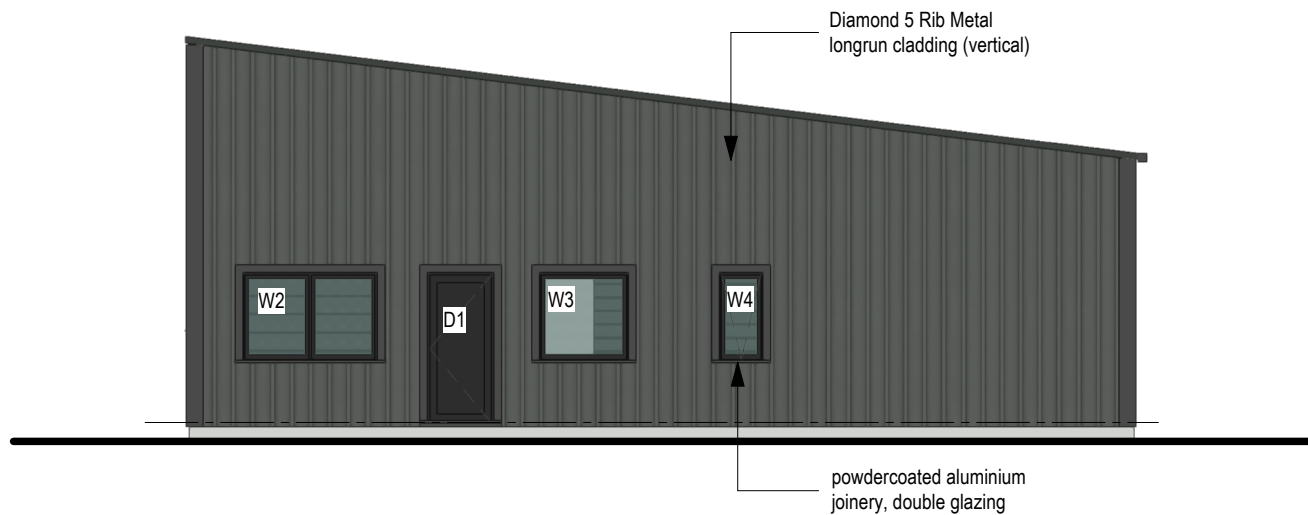
1 Front Elevation
Scale: 1:100 Ref:



2 Left Side Elevation
Scale: 1:100 Ref:



3 Rear Elevation
Scale: 1:100 Ref:



4 End Elevation 2
Scale: 1:100 Ref:

Exteriors

• Walls:

- Dimonds 5 Rib metal longrun (vertical) over wall wrap

• Roof:

- Dimonds 5 Rib metal longrun
- 125 Box Gutter
- Roof underlay = Thermakraft Covertex

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0484, Houhora, Northland

Dwg: Shed Elevations

Date:	25/03/2025	Rev:	
Ref:	25-07	Scale:	As Noted
Dwn:	VM	Ckd:	MG
Sheet:	A-05	Of:	9



5 | **3D View 1**
Scale: 1:120



6 | **3D View 2**
Scale: 1:120

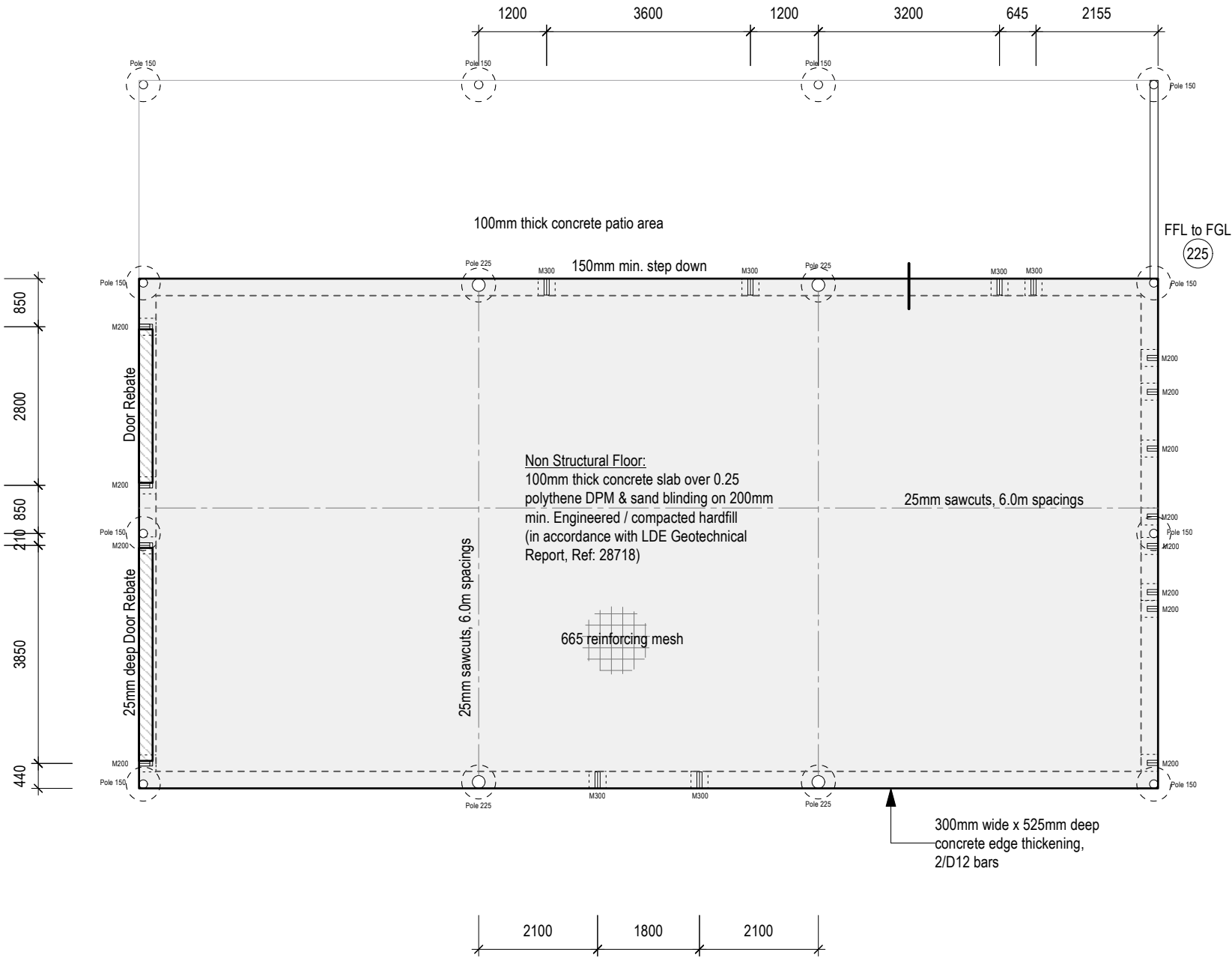


Job:
Proposed New Shed for
B & R Price

Address:
Lot 2, Wagener Grove, Pukenui
0484, Houhora, Northland

Dwg: 3D Rendering

Date:	25/03/2025	Rev:	
Ref:	25-07	Scale:	As Noted
Dwn:	VM	Ckd:	MG
Sheet:	A-06	Of:	9



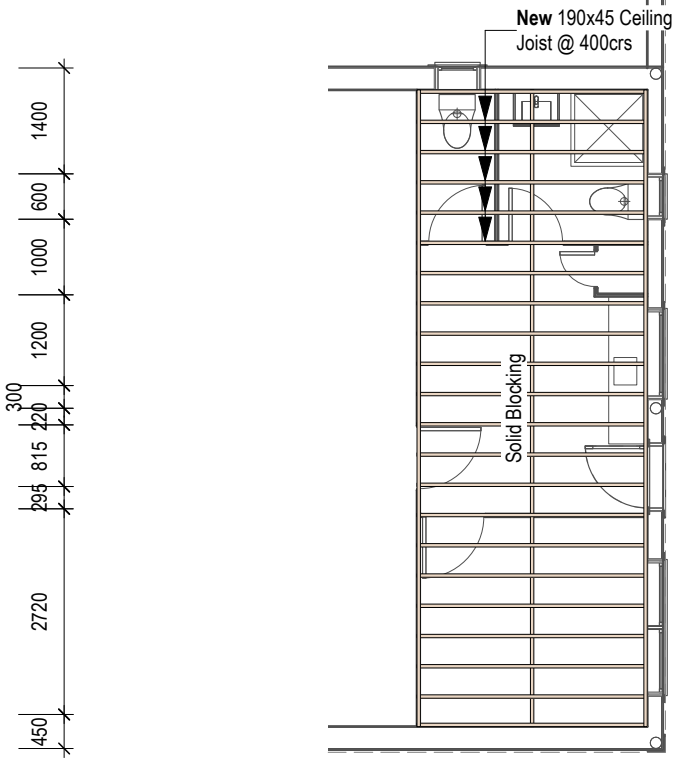
1 Slab/Foundation Plan
Scale: 1:100

NOTE: Refer to 'Endeavor Sheds' Structural Plans (Ref: BA18-2) for all structural plans & details

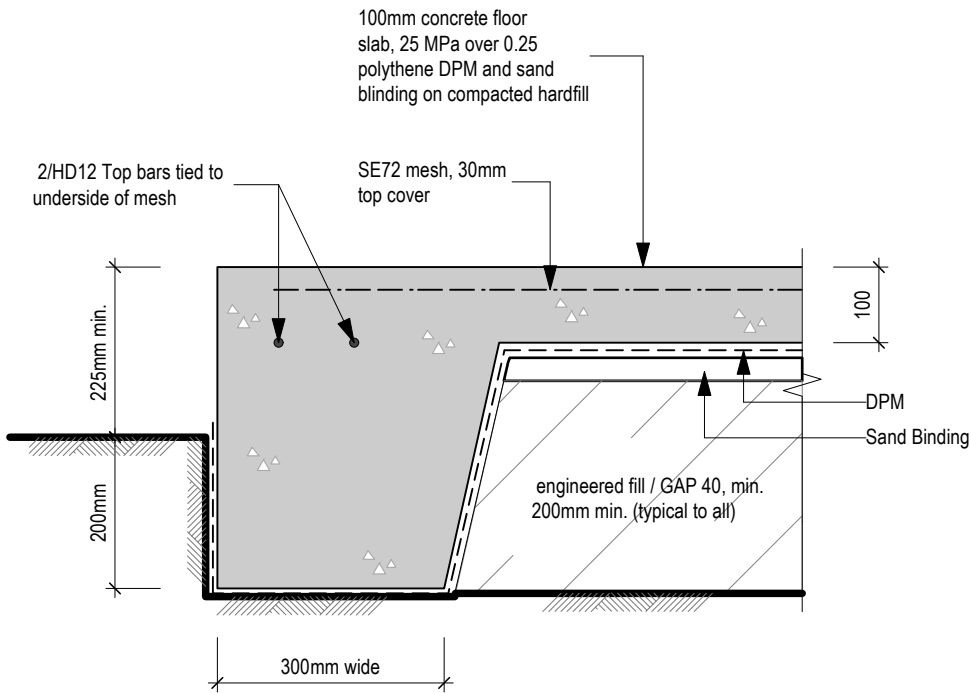
NOTES

Timber Bottom Plate to Concrete Slab Fixings
= M12 anchor bolts with 50x50x3mm washers, @1200 crs max. Bolts Min. 120mm into slab, min. 50mm from Slab edge. Bolts set within 150mm of each end of the plate. DPC to u/side of bottom plate.

Ceiling Joists to top plate / support
= 3 x skewed 90 x 3.15 power-driven nails.



3 Shed Ceiling Plan_Proposed
Scale: 1:100



FD01 Concrete Footing Detail
Scale: 1:10 Ref: A-07, A-09

General Notes

All rafters, beams, bearers and joists to be MSG8 minimum grade.

Refer to Endeavor Sheds Consent Plan Set, Ref: BA18-2 for full working drawings, structural plans and details.

Timber treatment

Exterior timber

Piles / poles - H5
Exposed posts, joists & decking - H3.2
Enclosed deck & roof framing - H3.1
Enclosed Bearers - H3.1
Exposed beams - H3.2
Exposed Bearers - H3.2

Floor joists - H1.2

Interior timber

Wall framing - H1.2
Bottom plates - H1.2
Wet area framing - H1.2
Window / door framing (external walls) - H1.2
Rafters, trusses, purlins - H1.2



1. All drainage is to comply with NZBC E1/AS1 (Stormwater / surface water) and AS/NZS 3500.2 (Foul Water / Sewer).
2. Confirm location & position of all drains on site.
3. Pipe junctions 45 degree or swept bends.
4. All downpipes 80mm dia sized to table NZBC E1 surface water, and stormwater drainage laid as per E1/AS1.
5. Hot and cold water supplies are to be run in dux segura gold piping (compliant to AS/NZS 4020) and installed to comply to AS/NZS 3500.1
6. Lumberlok Top Plate Stiffener Plates to be used for pipe penetrations up to 60mm through top plates.

Plumbing Legend & Schematic		
Fitting type	Pipe	Gradient
WC	100mm Dia	1:60
Basin, sink	40mm Dia	1:40
Shower	65mm Dia	1:40
Main Drain	100mm Dia	1:60

Note: All pipes running under slab to be min. Ø65mm to comply with AS/NZS3500.

Water Supply

Protection of Potable Water

The water supply system shall be installed so that there is no likelihood of cross connection between:

- a) A potable water supply system and a non potable water supply system,
- b) A potable water supply system connected to a water main, and any water from another source including a private water supply,
- c) A potable water supply system and any bathing facilities including swimming, spa or paddling pools, and
- d) A potable water supply system and pipes, fixtures or equipment (including boilers and pumps) containing chemicals, liquids, gases or other non-potable substances.

Backflow Prevention Devices

Backflow prevention devices / non-return valves shall be provided where it is possible for water or contaminants to backflow into the potable water supply system and shall be installed as near as practicable to the potential source of contamination. ie. exterior hose taps.

Water supply - Potable water requirements

1. Install leaf diverters on all downpipes.
2. Install under-sink water filter / purifier system.
3. Overflow from water tanks to be drawn from the bottom of the tank for cleaning in heavy falls.

Puretek (Z1-RW-K) Quick Twist, Dual Undersink Rainwater Filter Kit, 0.1 Micron or eq. product

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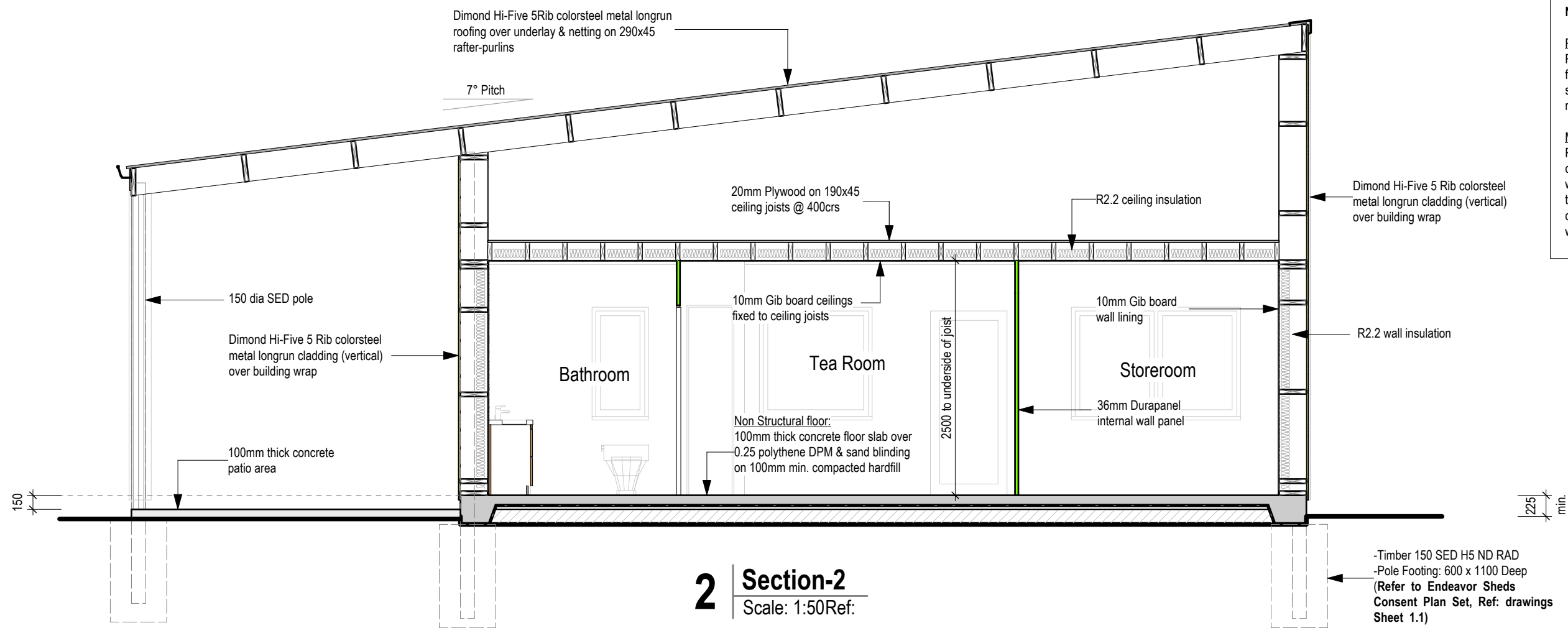
Job:

Proposed New Shed for
B & R Price

Address:
Lot 2, Wagener Grove, Pukenui
0484, Houhora, Northland

Dwg: **Drainage Plan**

Date:	25/03/2025	Rev:	
Ref:	25-07	Scale:	As Noted
Dwn:	VM	Ckd:	MG
Sheet:	A-08	Of:	9



NOTES:

Roofing Details

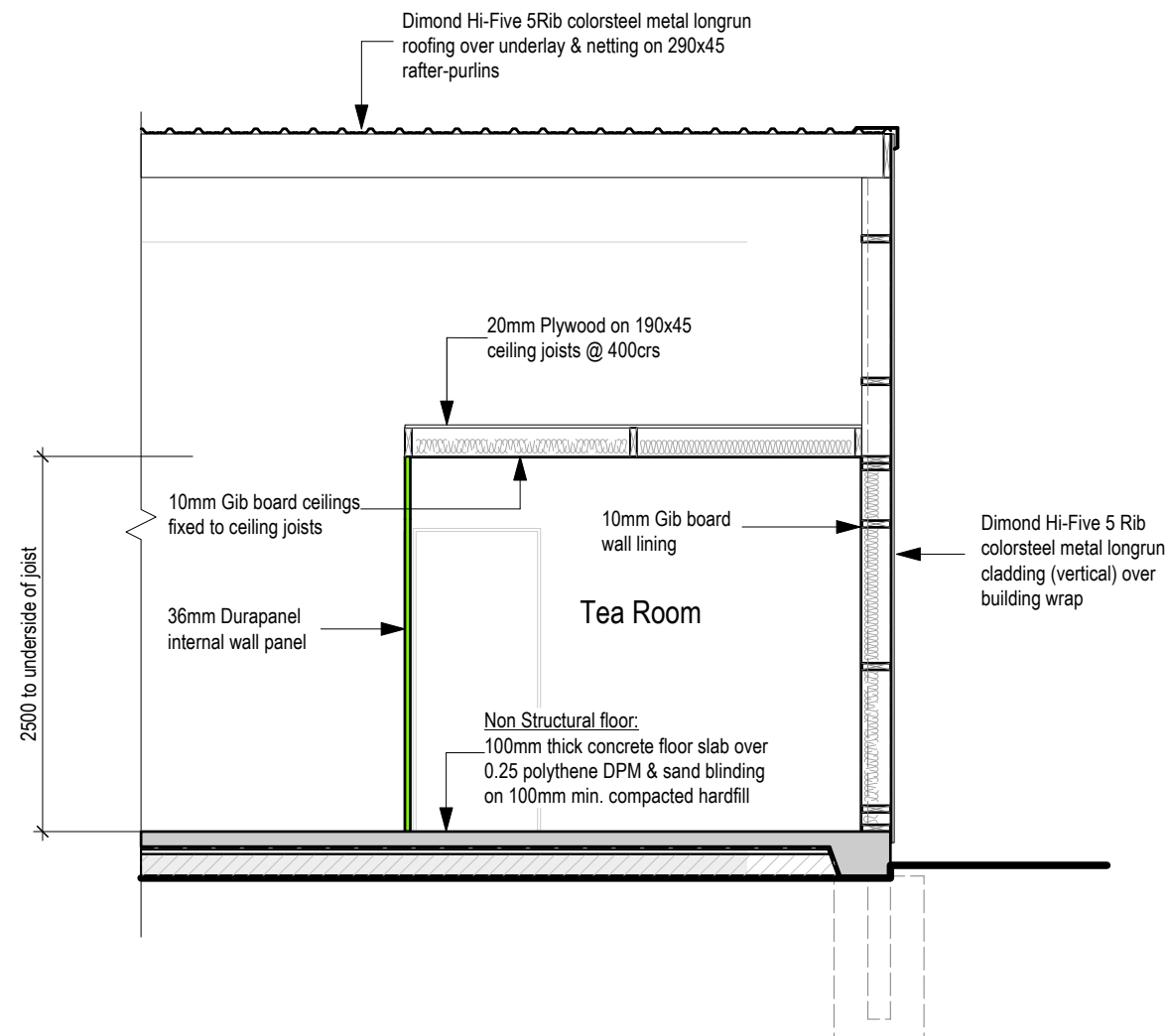
Refer to Endeavor Sheds Plans and details for roofing fixing and details. Note: Thermakraft Covertek 401 (or similar) underlay & netting is to be added to u/side of roofing.

Metal Cladding Details

Refer to Endeavor Sheds Plans & details for all cladding junction & flashing details. Note: Tekton wall wrap (or similar) is to be added / installed to outside of timber framing under metal cladding. Refer to additional cladding details on sheets C01 & C02 showing added wall underlay, and flashing tapes at window junctions.

1 Section 1

Scale: 1:50Ref:



Timber treatment

Exterior timber

Piles / poles - H5
Exposed posts, joists & decking - H3.2
Enclosed deck & roof framing - H3.1
Enclosed Bearers - H3.1
Exposed beams - H3.2
Exposed Bearers - H3.2

Timber weatherboards - H3.1
Fascia / barges - H3.1
Sarking - H3.1
Cavity battens - H3.1
Floor joists - H1.2

Interior timber

Wall framing - H1.2
Bottom plates - H1.2
Wet area framing - H1.2
Window / door framing (external walls) - H1.2
Rafters, trusses, purlins - H1.2

Timber Bottom Plate to Concrete Slab Fixings

= M12 anchor bolts with 50x50x3mm washers, @1200 crs max. Bolts Min. 120mm into slab, min. 50mm from Slab edge. Bolts set within 150mm of each end of the plate. DPC to u/side of bottom plate

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Job:

Proposed New Shed for
B & R Price

Address:

Lot 2, Wagener Grove, Pukenui
0484, Houhora, Northland

Dwg: Section 1 & 2

Date: 25/03/2025 Rev:




Ref: 25-07 Scale: As Noted

Dwn: VM Ckd: MG

Sheet: A-09 Of: 9

SITE Wagener Grove, Pukenui
LEGAL DESCRIPTION Lot 2 DP 323666
PROJECT Proposed Shed
CLIENT Brett & Robyn Price
REFERENCE NO. 140242
DOCUMENT Stormwater Mitigation Report
STATUS/REVISION No. 01
DATE OF ISSUE 16th May 2025

Report Prepared For	Email
Brett & Robyn Price	oakleighs.s@xtra.co.nz

Authored by	G.Brant (BE(Hons) Civil)	Civil Engineer	Gustavo@wjl.co.nz	
Reviewed by	P. McSweeney (BE(Hons) Civil)	Civil Engineer	Patrick@wjl.co.nz	
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 323666		
Site Area:	10,026m ²		
Development Type:	Proposed Shed		
Development Proposals Supplied:	Plan Set provided by Going Architectural (Ref No: 25-07, dated: 25.03.2025)		
District Plan Zone:	Coastal Living		
Permitted Activity Coverage:	<u>600m²</u>		
Impermeable Coverage:	Post-Development Impermeable Areas		
	Proposed Roof Area	225m ²	
	Proposed Metal Driveway	1,034m ²	
	Total impermeable area = 1,259m ² or 12.6% of the site area		
Activity Status:	<u>Restricted Discretionary Activity</u>		
	Attenuation is to be provided in accordance with the requirements outlined in Section 5 via the proposed dual-purpose rainwater tanks.		
Roof Attenuation:	Proposed Tank – 2 x 30,000 litre Rainwater Tanks (or similar) Dimensions – 3850mmØ x 3050mm high (or greater) 1% AEP Control Orifice – 24mmØ orifice; <u>located >540mm below the overflow outlet</u> Overflow – 100mmØ at the top of the tank		
	It is recommended to shape the proposed metal driveway to shed runoff to the existing open drain that runs parallel with the property's southern boundary via even sheet flow. Runoff passed through grassed areas will be naturally filtered of entrained pollutants and will act to mitigate runoff by way of ground recharge and evapotranspiration.		
Driveway Mitigation:	<u>Alternatively</u> , where even sheet flow is not practicable due to the levelling of the site, the proposed metal driveway is to be shaped to shed runoff to a minimum 200mm deep x 500mm wide grassed v-channel swale (should be formed to a minimum 1% grade where achievable and minimum 0.5% grade is acceptable where topography is flat) on the southern side of the proposed driveway. The proposed swale is to have a minimum 600mmØ silt trap(s) with a scruffy dome or type 2 catchpit with a grated inlet located at a low point(s) away from the proposed shed. The ground around the low point is to be formed to allow >30mm of ponding above the catchpit inlet. The silt trap(s) is to be fitted with a 150mmØ outlet pipe discharging runoff to the discharge point specified below.		
Point of Discharge:	To outlet in existing open drain running parallel to the lot's southern boundary.		

2. SCOPE OF WORK

Wilton Joubert Ltd. (WJL) was engaged by the clients, **Brett & Robyn Price**, to produce an on-site stormwater management assessment at the above site for the proposed shed.

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

- Plan Set provided by Going Architectural, including site plan, floor plan and elevations (Ref No: 25-07, dated: 25.03.2025)

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

3. SITE DESCRIPTION

The 10,026m² property is legally described as Lot 2 DP 323666 and is located off the northern side of Wagener Grove. The lot is accessed directly off Wagener Grove along the lot's southern boundary.

The lot is currently vacant and recent earthworks have been undertaken to level the site.

The Far North District Council (FNDC) GIS Water Services Map indicates that the property is not serviced by public stormwater, wastewater or potable water reticulation. However, an existing roadside channel is located on the northern side of Wagener Grove.



Figure 1: Aerial Snip from FNDC Maps Showing Parent Site Boundaries (cyan)

4. DEVELOPMENT PROPOSALS

The development proposal, obtained from the client, is to construct a shed and a metalled accessway / parking area, as depicted in the plan set provided by Going Architectural (Ref No: 25-07, dated: 25.03.2025).

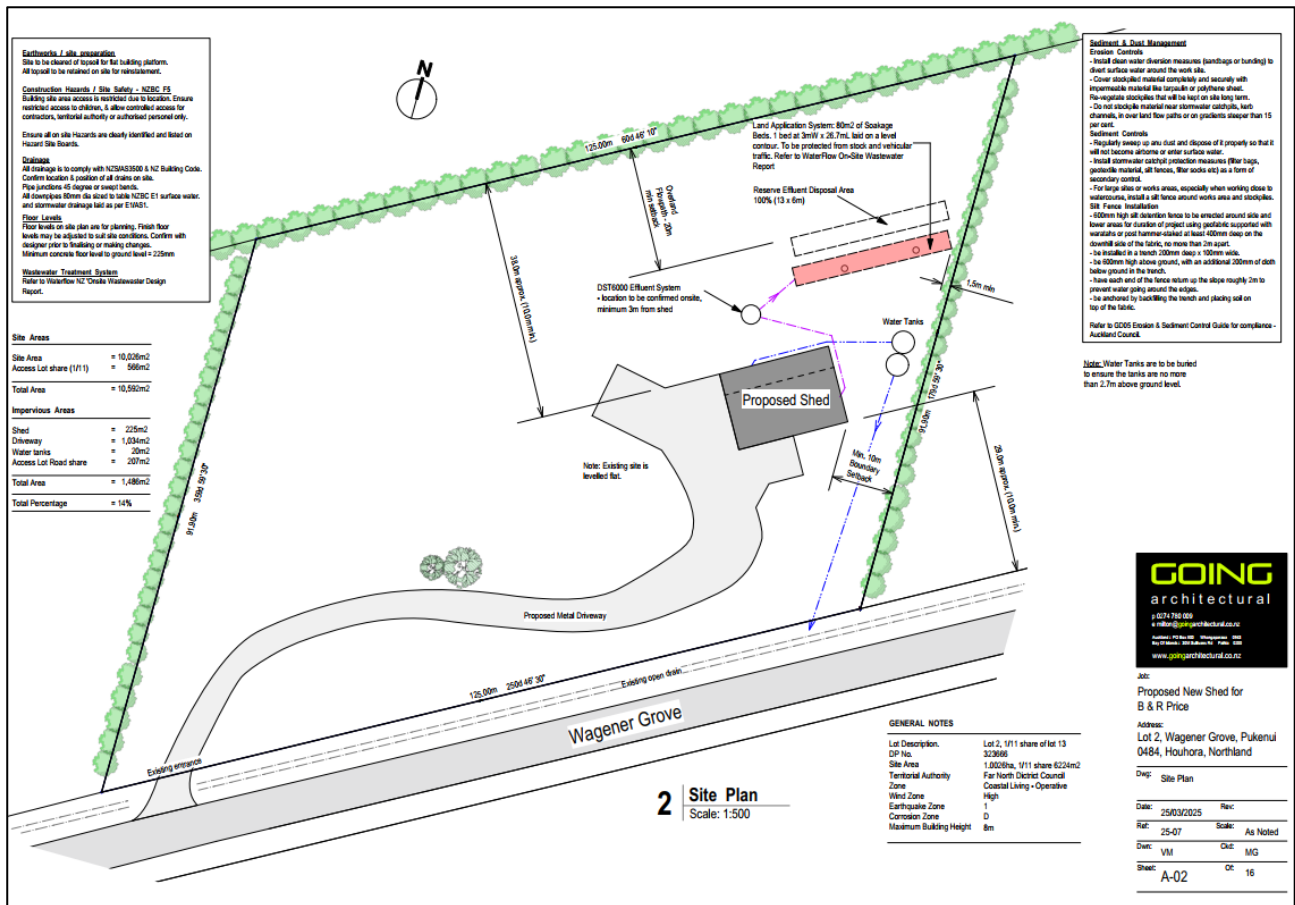


Figure 2: Snip of Proposed Site Plan Provided by Going Architectural (Ref No: 25-07, dated: 25.03.2025)

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 development.

5. ASSESSMENT CRITERIA

Impermeable Areas

The calculations for the stormwater system for the development are based on a gross site area of 10,026m² and the below areas extracted from the supplied plans:

	Pre-Development	Post-Development	Total Change
Proposed Shed Roof Area	0 m ²	225 m ²	225 m ²
Proposed Driveway	0 m ²	1,034 m ²	1,034 m ²
Pervious	10,026 m ²	8,767 m ²	-1,259 m ²

The total amount of impermeable area on site, post-development, equates to 1,259m² or 12.6% 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 Coastal Living. The following rules apply under the FNDC District Plan:

10.7.5.1.6 – **Permitted Activities – Stormwater Management** - The maximum proportion or amount of the gross site area which may be covered by buildings and other impermeable surfaces shall be 10% or 600m² whichever is the lesser.

10.7.5.3.8 – **Restricted Discretionary Activities – Stormwater Management** - The maximum proportion or amount of the gross site area covered by buildings and other impermeable surfaces shall be 15% or 1,500m², whichever is the lesser.

The total proposed impermeable area exceeds 600m² and therefore does not comply with Permitted Activity Rule (10.7.5.1.6). Therefore, the proposal is considered a Restricted Discretionary Activity. Additional considerations for stormwater management as outlined in the Far North District Council District Plan Section 10.7.5.3.8 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 (10.7.5.1.6) is **659m²**. Stormwater attenuation for the 1% AEP storm event, with an adjustment for climate change must 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 impermeable areas (600m² 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.

The Type IA storm profile was utilised for stormwater attenuation calculations in accordance with TR-55. HydroCAD® software has been utilised in design for a 1% AEP rainfall value of 227mm with a 24-hour duration utilised for calculations. Rainfall data was obtained from HIRDS and increased by 20% 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 shed 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 shed. A first flush diverter and/or leaf filters may be installed in-line between the gutters and the tank inlet. The tank inlet level should be at least 600mm below the gutter inlet and any in-line filters. Any filters will require regular inspection and cleaning to ensure the effective operation of the system. The frequency of cleaning will depend on current and future plantings around the proposed roof area. Provision should be made by the homeowner for top-up of the tanks via water tankers in periods of low rainfall.

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

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

Potable Tanks Detention Volume

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

Proposed Tank	2 x 30,000 litre Rainwater Tanks (or similar)
Tank dimensions	3850mmØ (or greater) x 3050mm high (or greater)
Outlet Orifice (1% AEP Control)	24mm diameter orifice ; located <u>>540mm below the overflow outlet</u> <ul style="list-style-type: none">- 540mm water elevation- 12.6m³ storage
Overflow Outlet	100mm diameter ; located at the top of the tank

Discharge from the potable water / detention tanks must be transported via sealed pipes to the discharge point specified below. The tanks must be installed in accordance with the tank suppliers' details and specifications. Levels are to be confirmed by the contractor on-site prior to construction. Adequate fall (minimum 1% grade) from the tank's outlet to the discharge point is required. If this is not achievable, WJL must be contacted for review of the design. Refer to the appended Site Plan (140242-C200), Tank Detail (140242-C201) and calculation set for clarification.

Stormwater Mitigation – Metal Driveway

It is recommended to shape the proposed metal driveway to shed runoff to the existing open drain that runs parallel with the property's southern boundary via even sheet flow. Runoff passed through grassed areas will be naturally filtered of entrained pollutants and will act to mitigate runoff by way of ground recharge and evapotranspiration.

Alternatively, where even sheet flow is not practicable due to the levelling of the site, the proposed metal driveway is to be shaped to shed runoff to a **minimum** 200mm deep x 500mm wide grassed v-channel swale (should be formed to a minimum 1% grade where achievable and minimum 0.5% grade is acceptable where topography is flat) on the southern side of the proposed driveway. The proposed swale is to have a minimum 600mmØ silt trap(s) with a scruffy dome or type 2 catchpit with a grated inlet located at a low point(s) away from the proposed shed. The ground around the low point is to be formed to allow >30mm of ponding above the catchpit inlet. The silt trap(s) is to be fitted with a 150mmØ outlet pipe discharging runoff to the discharge point specified below. Refer to the appended Site Plan (140242-C200) and calculation set for clarification.

Stormwater catchpits and drainage piping should be in accordance with E1 Surface Water of the NZBC. The catchpit(s) must have a suitable sump to serve as a pre-treatment device prior to discharging to the discharge point.

Stormwater Mitigation – Discharge Point

It is recommended that discharge from the potable water / detention tanks and any hardstand silt trap(s) be directed via sealed pipes to an outlet in the existing open drain that runs parallel with the property's southern boundary. Refer to the appended Site Plan (140242-C200) for clarification.

Permission should be sought from Council for any works outside the property's boundaries.

7. STORMWATER RUNOFF SUMMARY

Refer to the appended HydroCAD Calculation output.

Pre-Development Scenario – 1% AEP Storm Event + CCF

Surface	Area	Runoff CN	1% AEP Peak Flow Rate
Greenfields Impermeable Areas Exceeding Permitted Activity Threshold	659 m ²	74	6.73ℓ/s

Post-Development Scenario – 1% AEP Storm Event + CCF

Surface	Area	Runoff CN	1% AEP Peak Flow Rate
Post-Development Proposed Roof Area via Detention Tank	225 m ²	98	0.87ℓ/s
Over-Mitigated Remaining Hardstand Area to Permitted Exceedance	434 m ²	89	5.98ℓ/s
			6.72ℓ/s

Given the design parameters, stormwater neutrality will be achieved for the 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 10.7.5.1.6, it is therefore regarded as a Restricted Discretionary Activity.

In assessing an application under this provision, the Council will exercise its discretion to review the following matters below, (a) through (l) of FNDCCP Section 10.7.5.3.8.

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

<i>(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;</i>	Impermeable surfaces resulting from the development increase site impermeability by 1,259m ² . Through tank attenuation, runoff is to be attenuated to pre-development conditions for the proposed impermeable coverage exceeding the Permitted Activity threshold.
<i>(b) the extent to which Low Impact Design principles have been used to reduce site impermeability;</i>	The impermeable areas in exceedance of Permitted Activity Rule 10.7.5.1.6 will be attenuated back to pre-development flow rates for the 1% AEP storm event, adjusted for climate change.
<i>(c) any cumulative effects on total catchment impermeability;</i>	Impervious coverage will increase by 1,259m ² .

<i>(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;</i>	<p>Runoff from the proposed impermeable roof areas is to be collected and directed to the discharge point via sealed pipes.</p> <p>Ponding is not anticipated to occur provided the recommendations within this report are adhered to, mitigating interference with natural water absorption.</p>
<i>(e) the physical qualities of the soil type;</i>	Early Pleistocene parabolic dunes– moderate/good drainage
<i>(f) any adverse effects on the life supporting capacity of soils;</i>	Stormwater runoff from the proposed impermeable roof area is to be collected and directed to stormwater management devices via sealed pipes and directed to existing roadside drain, mitigating the potential for contamination of surrounding soils and harm to the life supporting capacity of soils. Runoff resulting from the proposed metal driveway is to be directed to the existing roadside drain via even sheet flow.
<i>(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;</i>	<p>Stormwater runoff from the proposed impermeable areas is to be collected and directed to stormwater management devices via sealed pipes and directed to existing roadside drain, mitigating the potential for runoff to pass over / saturate surrounding soils.</p> <p>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).</p>
<i>(h) the extent to which paved, Impermeable Surfaces are necessary for the proposed activity;</i>	The proposed driveway is necessary for access to the shed and is not considered excessive.
<i>(i) the extent to which land scaping and vegetation may reduce adverse effects of run-off;</i>	Existing vegetation and any plantings introduced by the owner 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.
<i>(j) any recognised standards promulgated by industry groups;</i>	Not applicable.
<i>k) the means and effectiveness of mitigating stormwater runoff to that expected by permitted activity threshold;</i>	The impermeable areas in exceedance of Permitted Activity Rule 10.7.5.1.6 have been attenuated back to pre-development flow rates for the 1% AEP storm event, adjusted for climate change.
<i>(l) the extent to which the proposal has considered and provided for climate change;</i>	Rainfall data was obtained from HIRDS and increased by 20% to account 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 (140242-C200 & 140242-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.



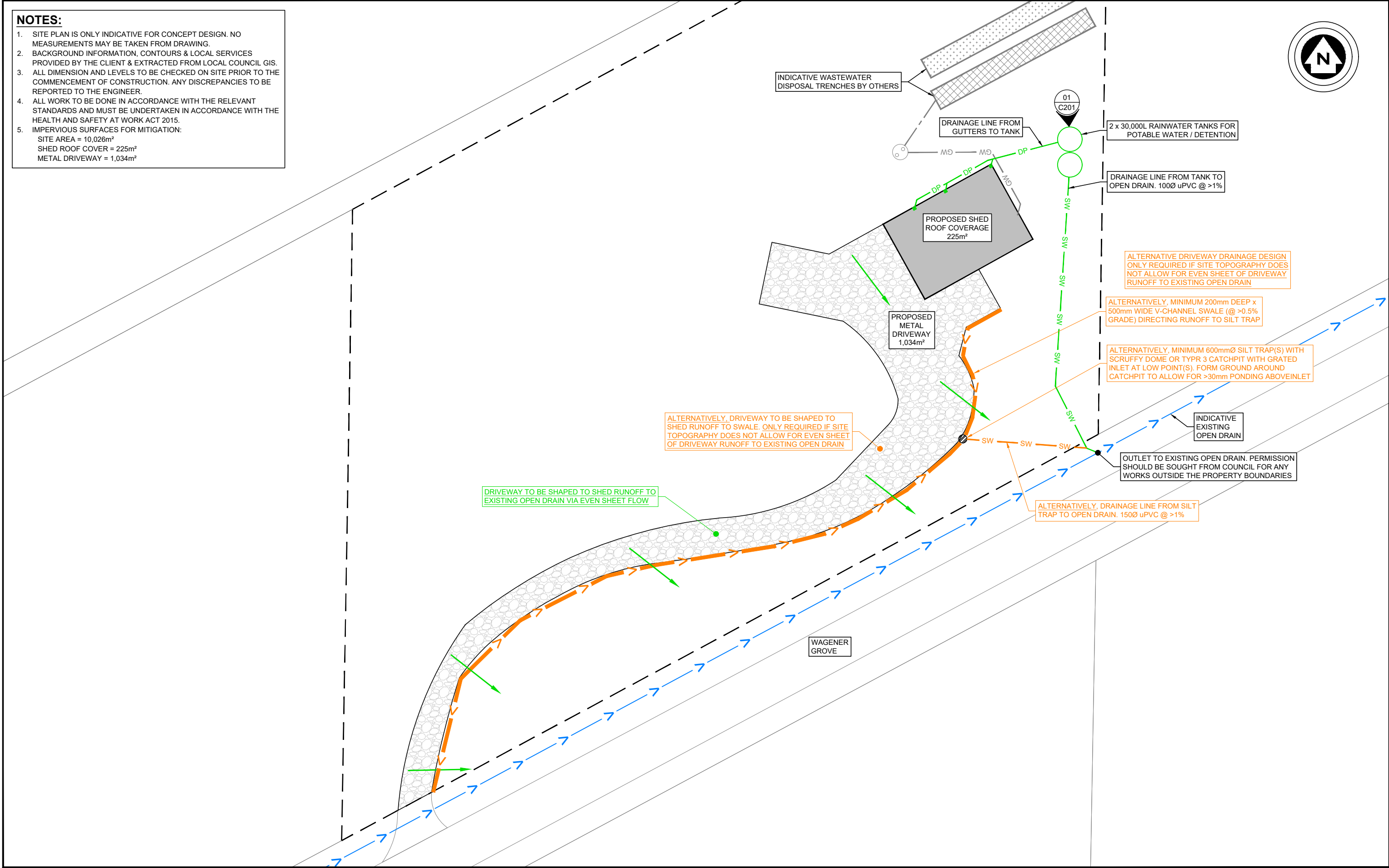
Gustavo Brant
Civil Engineer
BE(Hons)


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 = 10,026m²
SHED ROOF COVER = 225m²
METAL DRIVEWAY = 1,034m²





WILTON JOUBERT
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ISSUE / REVISION			
No.	DATE	BY	DESCRIPTION
01	MAY '25	GMB	STORMWATER MITIGATION REPORT

DESIGNED BY:
GMB

DRAWN BY:
GMB

CHECKED BY:
BGS

SURVEYED BY:
N/A

SERVICES NOTE

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

BUILDING CONSENT

DESIGN / DRAWING SUBJECT TO ENGINEERS APPROVAL

DRAWING TITLE:

SITE PLAN

PROJECT DESCRIPTION:

STORMWATER MITIGATION REPORT

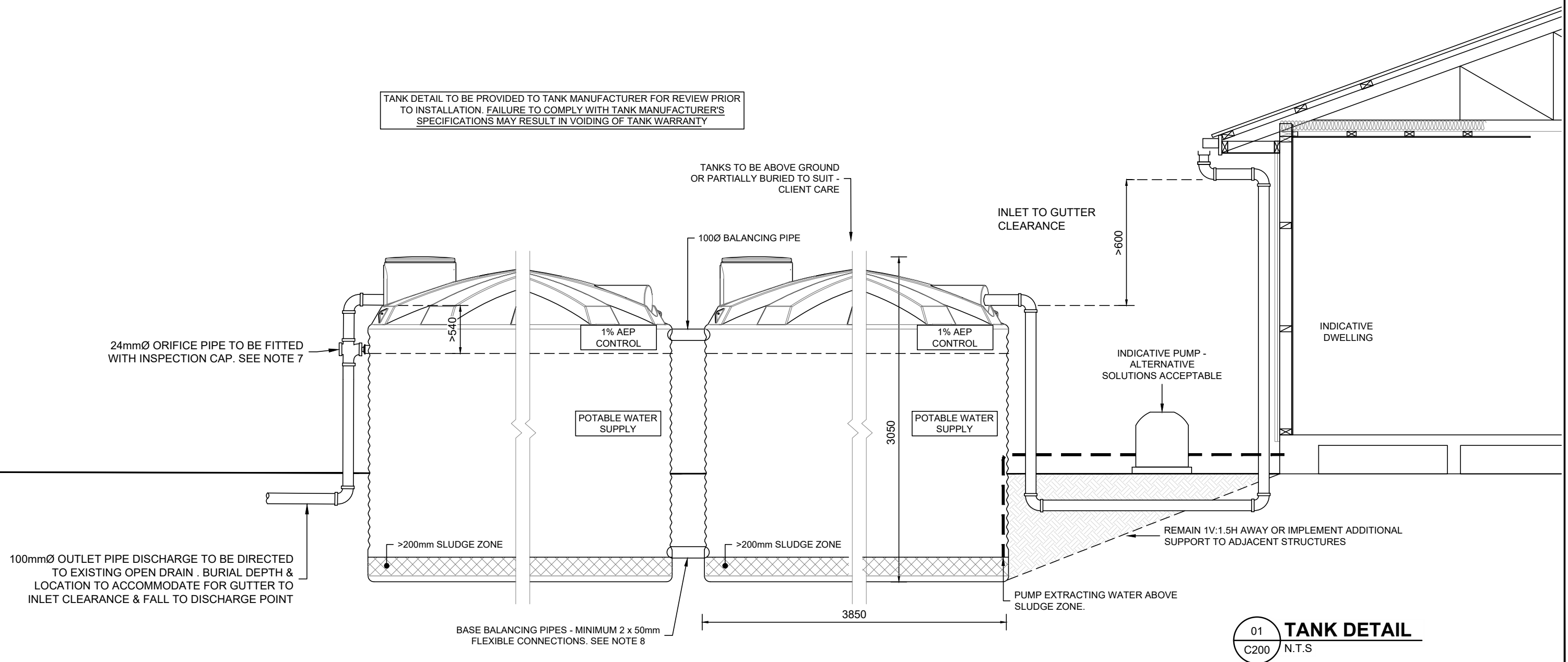
PROJECT TITLE:


**LOT 2 DP 323666
WAGENER GROVE
PUKENUI
NORTHLAND**

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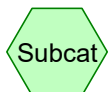
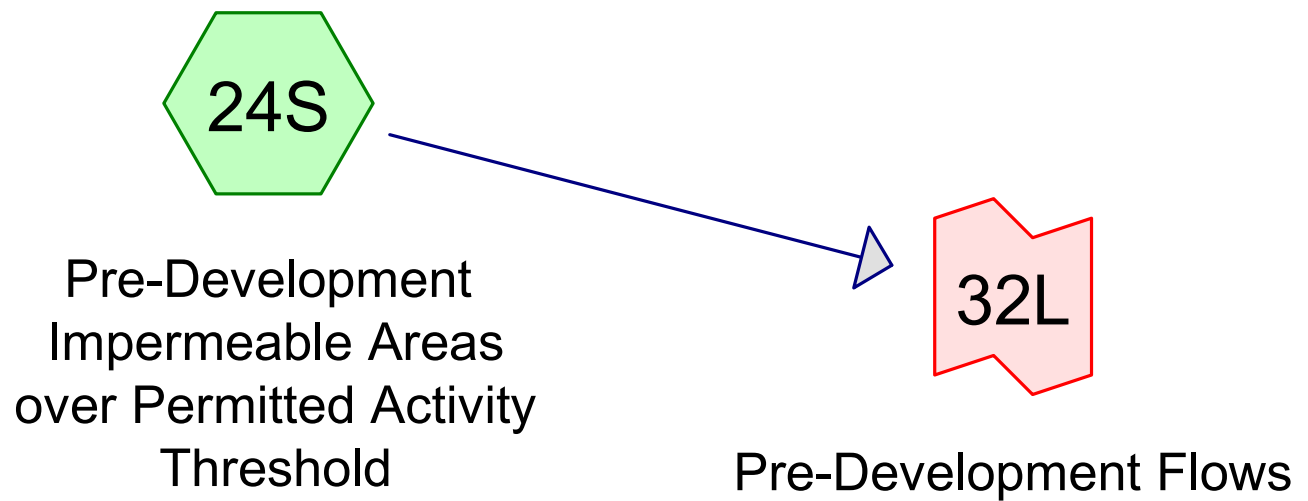
1. NOT TO SCALE. DRAWN INDICATIVELY ONLY.
2. ALL LEVELS & DIMENSIONS TO BE CONFIRMED ON SITE & ANY DISCREPANCIES TO BE REPORTED TO THE ENGINEER PRIOR TO THE COMMENCEMENT OF CONSTRUCTION.
3. TANK TO BE INSTALLED AS PER MANUFACTURERS SPECIFICATIONS & RELEVANT COUNCIL STANDARDS.
4. REGULAR INSPECTION & CLEANING IS REQUIRED TO ENSURE THE EFFECTIVE OPERATION OF THE SYSTEM.
5. ALL ORIFICE OUTLETS TO BE COVERED WITH STAINLESS STEEL OR NYLON MESH.
6. ASSUMED USE OF A 2 x 30,000 LITRE PLASTIC PROMAX WATER TANKS OR SIMILARLY APPROVED.

7. ALL OUTLETS / PENETRATIONS AT THE TANK BASE (HIGH WATER PRESSURE) TO BE INSTALLED BY THE MANUFACTURER.
8. TANKS TO BE CONNECTED AT BASE VIA FLEXIBLE CONNECTIONS ONLY.



 <p>WILTON JOUBERT Consulting Engineers</p> <p>Northland: 09 945 4188 Auckland: 09 527 0196 Christchurch: 021 824 063 Wanaka: 03 443 6209</p> <p>www.wiltonjoubert.co.nz</p>	ISSUE / REVISION			DESIGNED BY:	<p>SERVICES NOTE</p> <p>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.</p> <div style="border: 2px solid red; padding: 5px; text-align: center;"> <p>BUILDING CONSENT</p> <p><small>DESIGN / DRAWING SUBJECT TO ENGINEER'S APPROVAL</small></p> </div>	DRAWING TITLE:	<p>PROJECT TITLE:</p> <p>LOT 2 DP 323666 WAGENER GROVE PUKENUI NORTHLAND</p>	ORIGINAL DRAWING SIZE:	OFFICE:		
	No.	DATE	BY	DESCRIPTION		GMB		TANK DETAIL	A3	OREWA	
	01	MAY '25	GMB	STORMWATER MITIGATION REPORT		GMB		<p>PROJECT DESCRIPTION:</p> <p>STORMWATER MITIGATION REPORT</p>	DRAWING SCALE:	CO-ORDINATE SYSTEM:	
						BGS			N.T.S	NOT COORDINATED	
						SURVEYED BY:				DRAWING NUMBER:	ISSUE:
						N/A			140242-C201	01	
									COPYRIGHT - WILTON JOUBERT LIMITED		

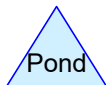
Pre-Development



Subcat



Reach



Pond



Link

Routing Diagram for 140242

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140242

Type IA 24-hr 1% AEP + 20% CCF Rainfall=227 mm

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

Subcatchment 24S: Pre-Development

Runoff Area=659.0 m² 0.00% Impervious Runoff Depth>146 mm
Tc=10.0 min CN=74 Runoff=6.73 L/s 96.3 m³

Link 32L: Pre-Development Flows

Inflow=6.73 L/s 96.3 m³
Primary=6.73 L/s 96.3 m³

140242

Type IA 24-hr 1% AEP + 20% CCF Rainfall=227 mm

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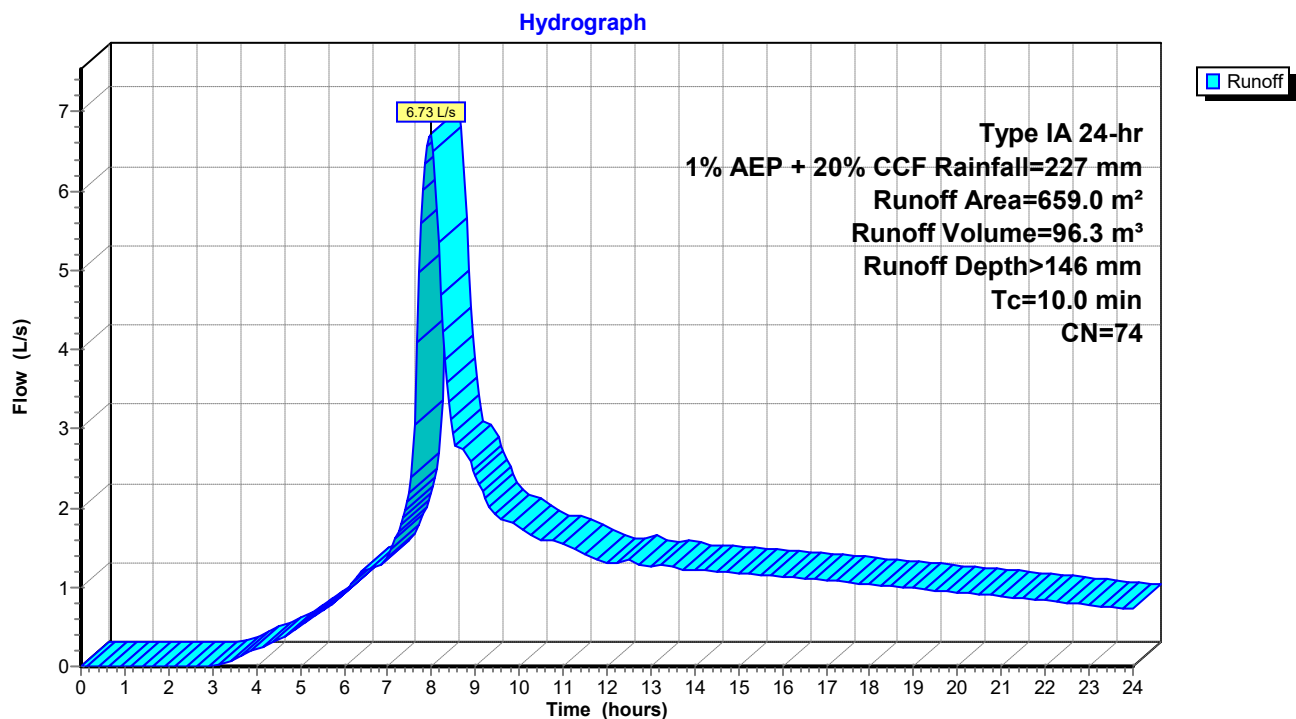
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Summary for Subcatchment 24S: Pre-Development Impermeable Areas over Permitted Activity ThresholdRunoff = 6.73 L/s @ 7.99 hrs, Volume= 96.3 m³, Depth> 146 mmRunoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type IA 24-hr 1% AEP + 20% CCF Rainfall=227 mm

Area (m ²)	CN	Description
659.0	74	>75% Grass cover, Good, HSG C
659.0		100.00% Pervious Area

Tc (min)	Length (meters)	Slope (m/m)	Velocity (m/sec)	Capacity (m ³ /s)	Description
10.0					Direct Entry,

Subcatchment 24S: Pre-Development Impermeable Areas over Permitted Activity Threshold

140242

Type IA 24-hr 1% AEP + 20% CCF Rainfall=227 mm

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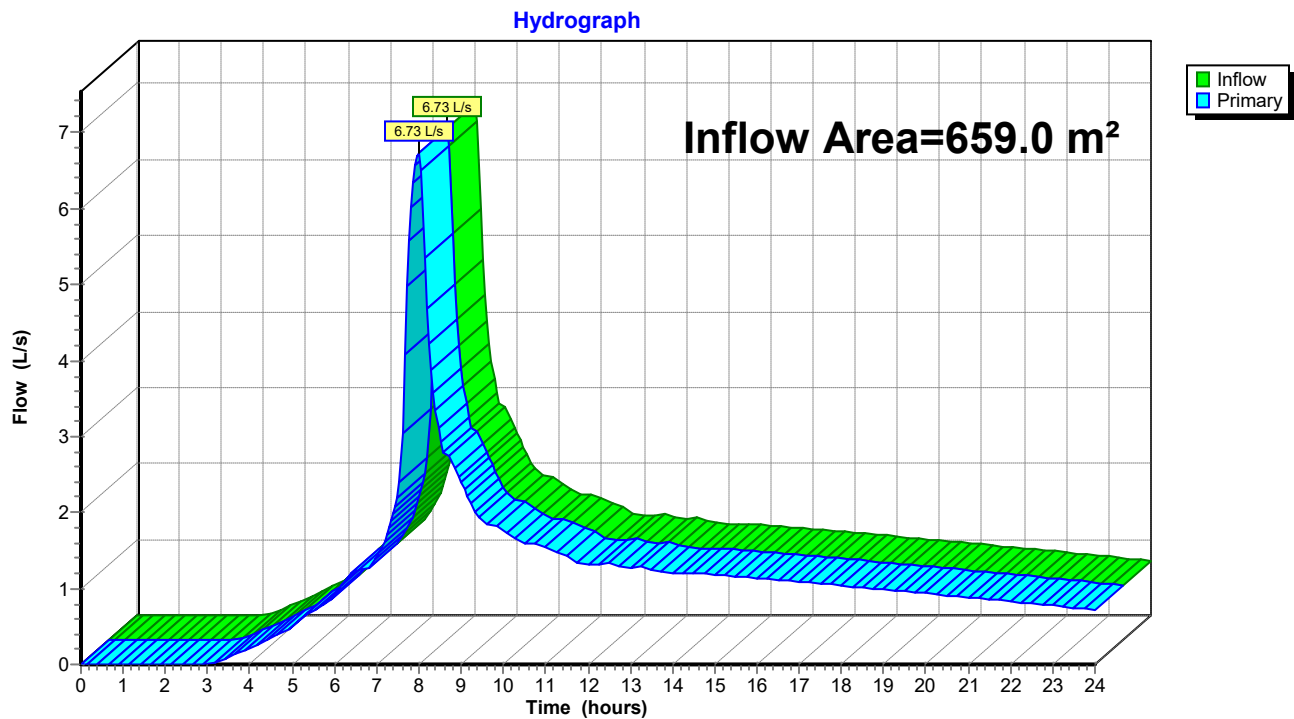
Page 4

Summary for Link 32L: Pre-Development Flows

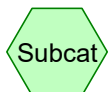
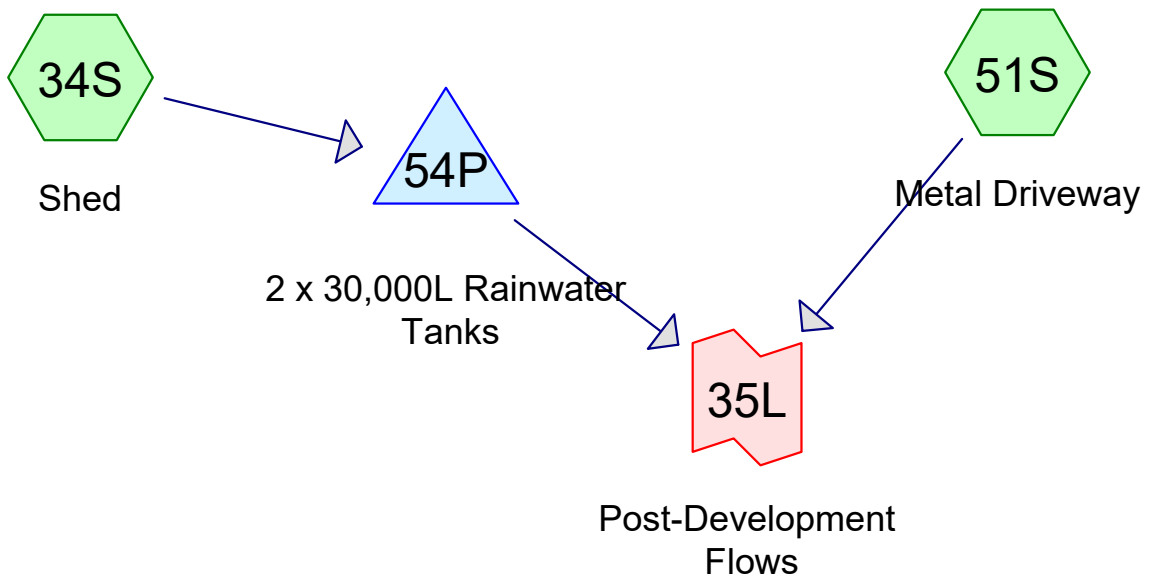
Inflow Area = 659.0 m², 0.00% Impervious, Inflow Depth > 146 mm for 1% AEP + 20% CCF event
Inflow = 6.73 L/s @ 7.99 hrs, Volume= 96.3 m³
Primary = 6.73 L/s @ 7.99 hrs, Volume= 96.3 m³, Atten= 0%, Lag= 0.0 min

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

Link 32L: Pre-Development Flows



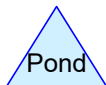
Post-Development



Subcat



Reach



Pond



Link

Routing Diagram for 140242

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Type IA 24-hr 1% AEP + 20% CCF Rainfall=227 mm

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

Subcatchment 34S: Shed Runoff Area=225.0 m² 100.00% Impervious Runoff Depth>220 mm
Tc=10.0 min CN=98 Runoff=3.36 L/s 49.6 m³

Subcatchment 51S: Metal Driveway Runoff Area=434.0 m² 0.00% Impervious Runoff Depth>193 mm
Tc=10.0 min CN=89 Runoff=5.98 L/s 83.6 m³

Pond 54P: 2 x 30,000L Rainwater Tanks Peak Elev=0.540 m Storage=12.6 m³ Inflow=3.36 L/s 49.6 m³
Outflow=0.87 L/s 46.9 m³

Link 35L: Post-Development Flows Inflow=6.72 L/s 130.6 m³
Primary=6.72 L/s 130.6 m³

140242

Type IA 24-hr 1% AEP + 20% CCF Rainfall=227 mm

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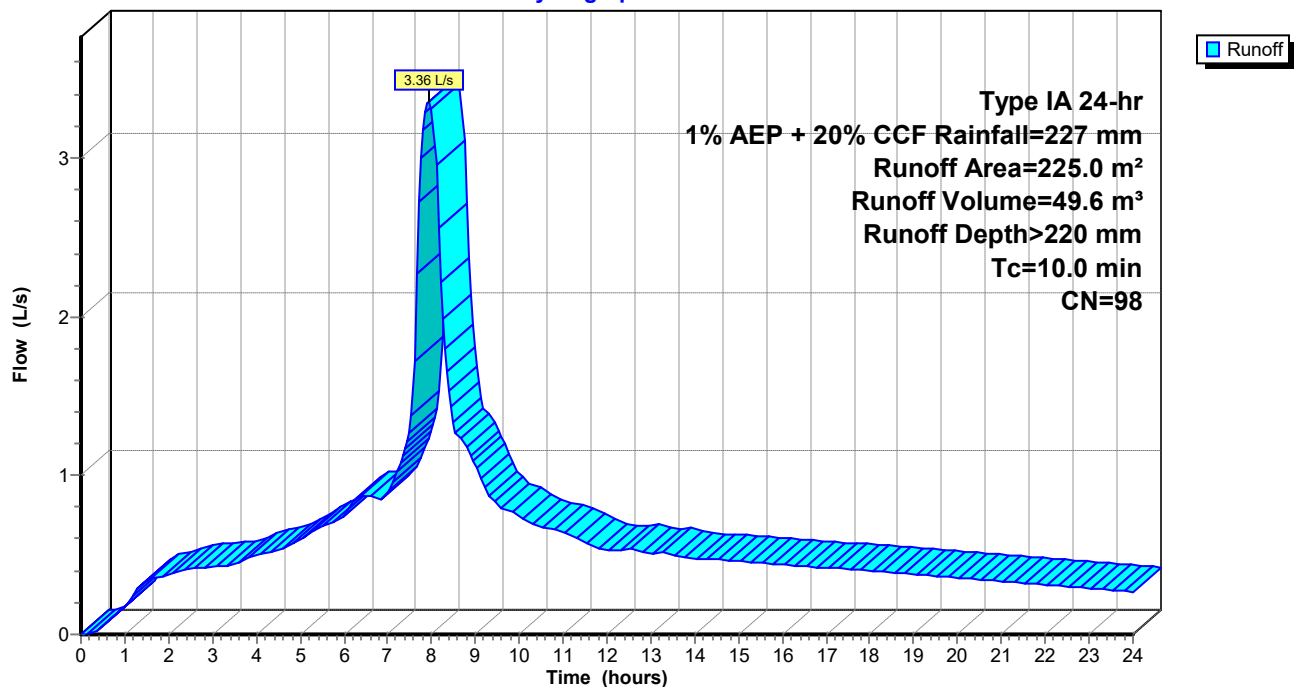
Summary for Subcatchment 34S: ShedRunoff = 3.36 L/s @ 7.94 hrs, Volume= 49.6 m³, Depth> 220 mmRunoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type IA 24-hr 1% AEP + 20% CCF Rainfall=227 mm

Area (m ²)	CN	Description
225.0	98	Roofs, HSG C
225.0		100.00% Impervious Area

Tc (min)	Length (meters)	Slope (m/m)	Velocity (m/sec)	Capacity (m ³ /s)	Description
10.0					Direct Entry,

Subcatchment 34S: Shed

Hydrograph



140242

Type IA 24-hr 1% AEP + 20% CCF Rainfall=227 mm

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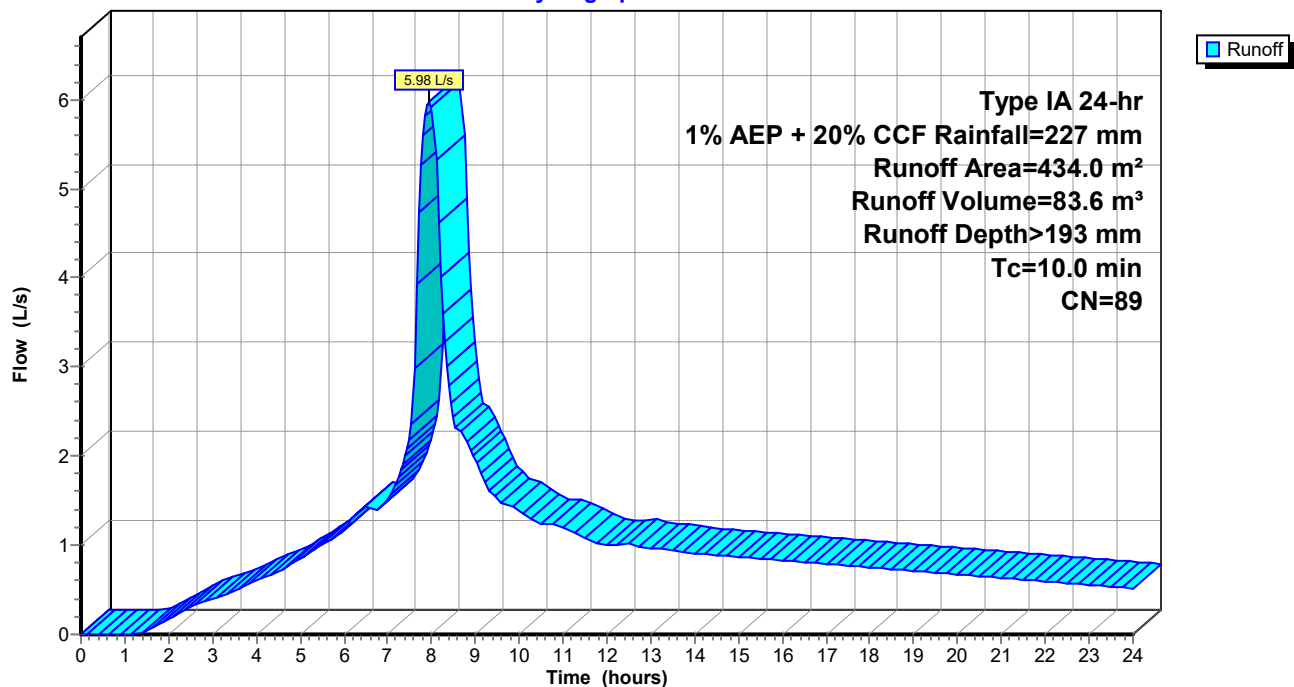
Summary for Subcatchment 51S: Metal DrivewayRunoff = 5.98 L/s @ 7.95 hrs, Volume= 83.6 m³, Depth> 193 mmRunoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type IA 24-hr 1% AEP + 20% CCF Rainfall=227 mm

Area (m ²)	CN	Description
434.0	89	Gravel roads, HSG C
434.0		100.00% Pervious Area

Tc (min)	Length (meters)	Slope (m/m)	Velocity (m/sec)	Capacity (m ³ /s)	Description
10.0					Direct Entry,

Subcatchment 51S: Metal Driveway

Hydrograph



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Type IA 24-hr 1% AEP + 20% CCF Rainfall=227 mm

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Summary for Pond 54P: 2 x 30,000L Rainwater Tanks

Inflow Area = 225.0 m², 100.00% Impervious, Inflow Depth > 220 mm for 1% AEP + 20% CCF event
 Inflow = 3.36 L/s @ 7.94 hrs, Volume= 49.6 m³
 Outflow = 0.87 L/s @ 9.33 hrs, Volume= 46.9 m³, Atten= 74%, Lag= 83.6 min
 Primary = 0.87 L/s @ 9.33 hrs, Volume= 46.9 m³

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Peak Elev= 0.540 m @ 9.33 hrs Surf.Area= 23.3 m² Storage= 12.6 m³Plug-Flow detention time= 176.1 min calculated for 46.9 m³ (95% of inflow)

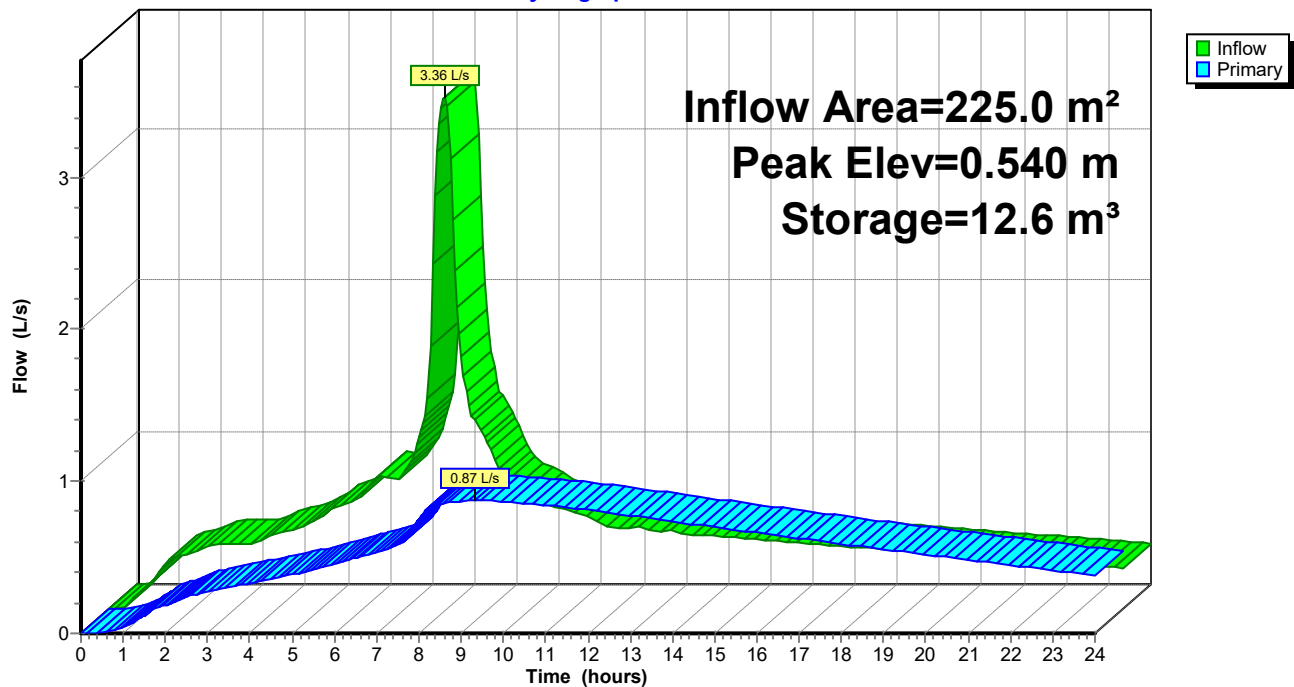
Center-of-Mass det. time= 135.9 min (783.2 - 647.3)

Volume	Invert	Avail.Storage	Storage Description
#1	0.000 m	71.0 m ³	3.85 mD x 3.05 mH Vertical Cone/Cylinder x 2

Device	Routing	Invert	Outlet Devices
#1	Primary	0.000 m	24 mm Vert. Orifice/Grate C= 0.600

Primary OutFlow Max=0.87 L/s @ 9.33 hrs HW=0.540 m (Free Discharge)←**1=Orifice/Grate** (Orifice Controls 0.87 L/s @ 1.93 m/s)**Pond 54P: 2 x 30,000L Rainwater Tanks**

Hydrograph



140242

Type IA 24-hr 1% AEP + 20% CCF Rainfall=227 mm

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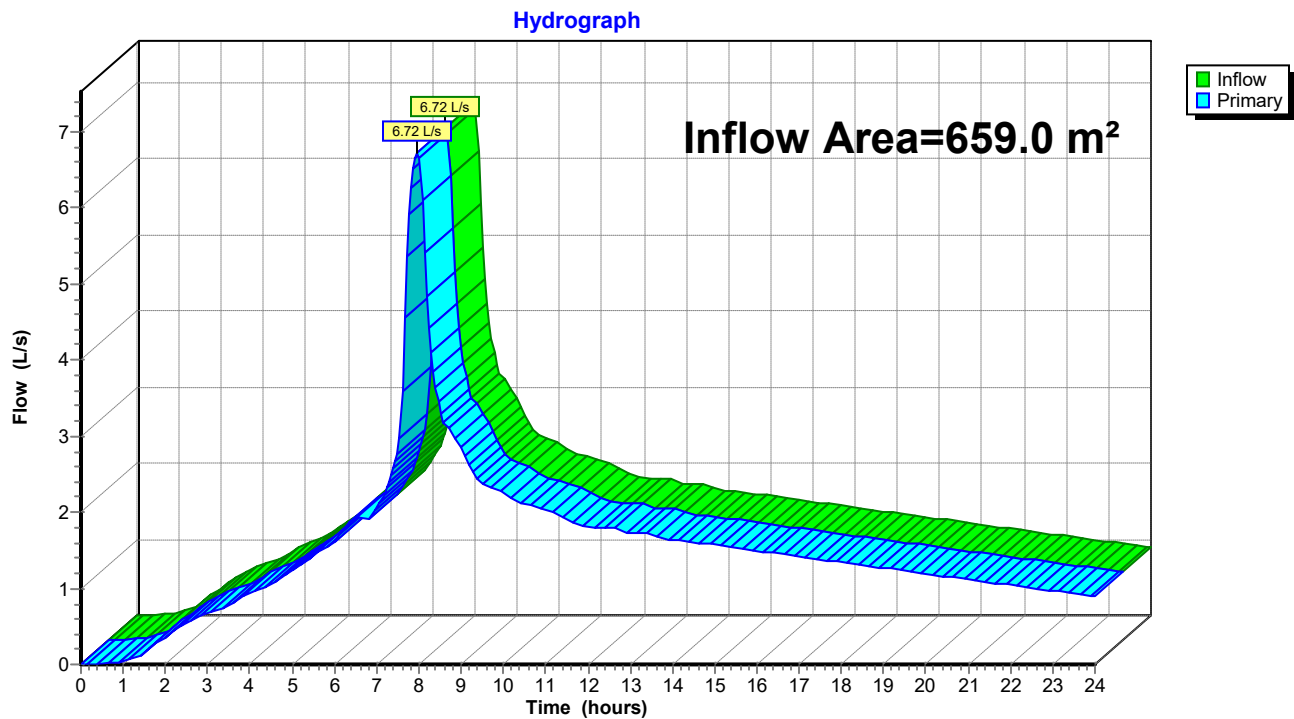
Page 6

Summary for Link 35L: Post-Development Flows

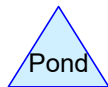
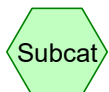
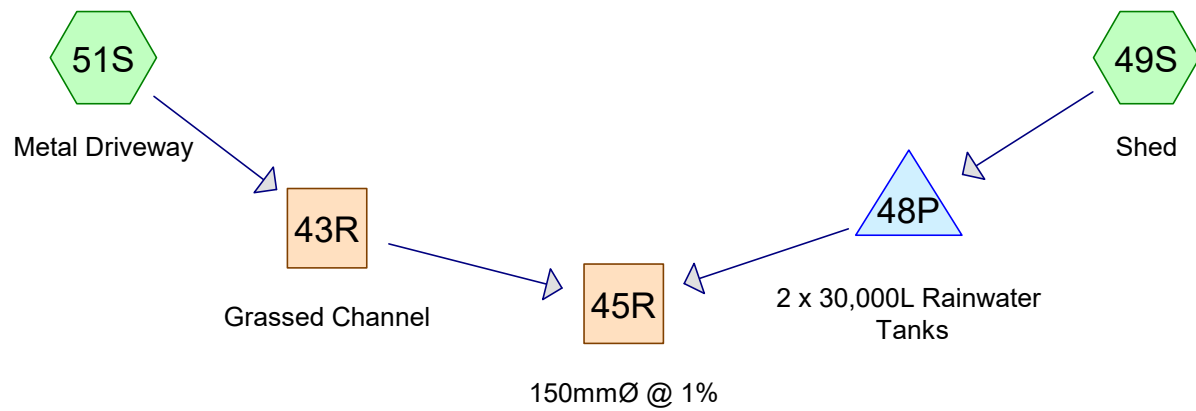
Inflow Area = 659.0 m², 34.14% Impervious, Inflow Depth > 198 mm for 1% AEP + 20% CCF event
Inflow = 6.72 L/s @ 7.97 hrs, Volume= 130.6 m³
Primary = 6.72 L/s @ 7.97 hrs, Volume= 130.6 m³, Atten= 0%, Lag= 0.0 min

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

Link 35L: Post-Development Flows



Swale & Pipe Sizing



Routing Diagram for 140242

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Type IA 24-hr 1% AEP + 20% CCF Rainfall=227 mm

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

Subcatchment 49S: Shed Runoff Area=225.0 m² 100.00% Impervious Runoff Depth>220 mm
Tc=10.0 min CN=98 Runoff=3.36 L/s 49.6 m³

Subcatchment 51S: Metal Driveway Runoff Area=1,034.0 m² 0.00% Impervious Runoff Depth>193 mm
Tc=10.0 min CN=89 Runoff=14.25 L/s 199.2 m³

Reach 43R: Grassed Channel Avg. Flow Depth=0.16 m Max Vel=0.45 m/s Inflow=14.25 L/s 199.2 m³
n=0.025 L=10.00 m S=0.0050 m/m Capacity=24.53 L/s Outflow=14.25 L/s 199.2 m³

Reach 45R: 150mmØ @ 1% Avg. Flow Depth=0.10 m Max Vel=1.14 m/s Inflow=14.99 L/s 246.1 m³
150 mm Round Pipe n=0.011 L=10.00 m S=0.0100 m/m Capacity=18.00 L/s Outflow=14.99 L/s 246.1 m³

Pond 48P: 2 x 30,000L Rainwater Tanks Peak Elev=0.540 m Storage=12.6 m³ Inflow=3.36 L/s 49.6 m³
Outflow=0.87 L/s 46.9 m³

140242

Type IA 24-hr 1% AEP + 20% CCF Rainfall=227 mm

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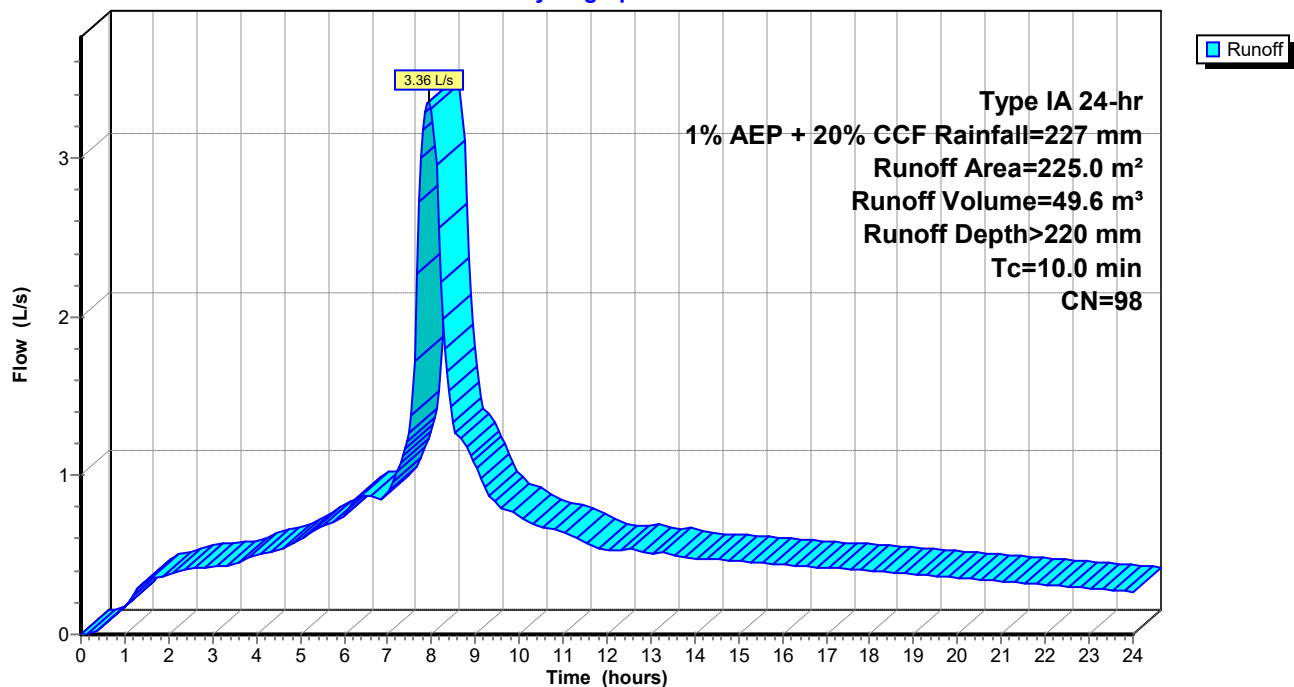
Summary for Subcatchment 49S: ShedRunoff = 3.36 L/s @ 7.94 hrs, Volume= 49.6 m³, Depth> 220 mmRunoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type IA 24-hr 1% AEP + 20% CCF Rainfall=227 mm

Area (m ²)	CN	Description
225.0	98	Roofs, HSG C
225.0		100.00% Impervious Area

Tc (min)	Length (meters)	Slope (m/m)	Velocity (m/sec)	Capacity (m ³ /s)	Description
10.0					Direct Entry,

Subcatchment 49S: Shed

Hydrograph



140242

Type IA 24-hr 1% AEP + 20% CCF Rainfall=227 mm

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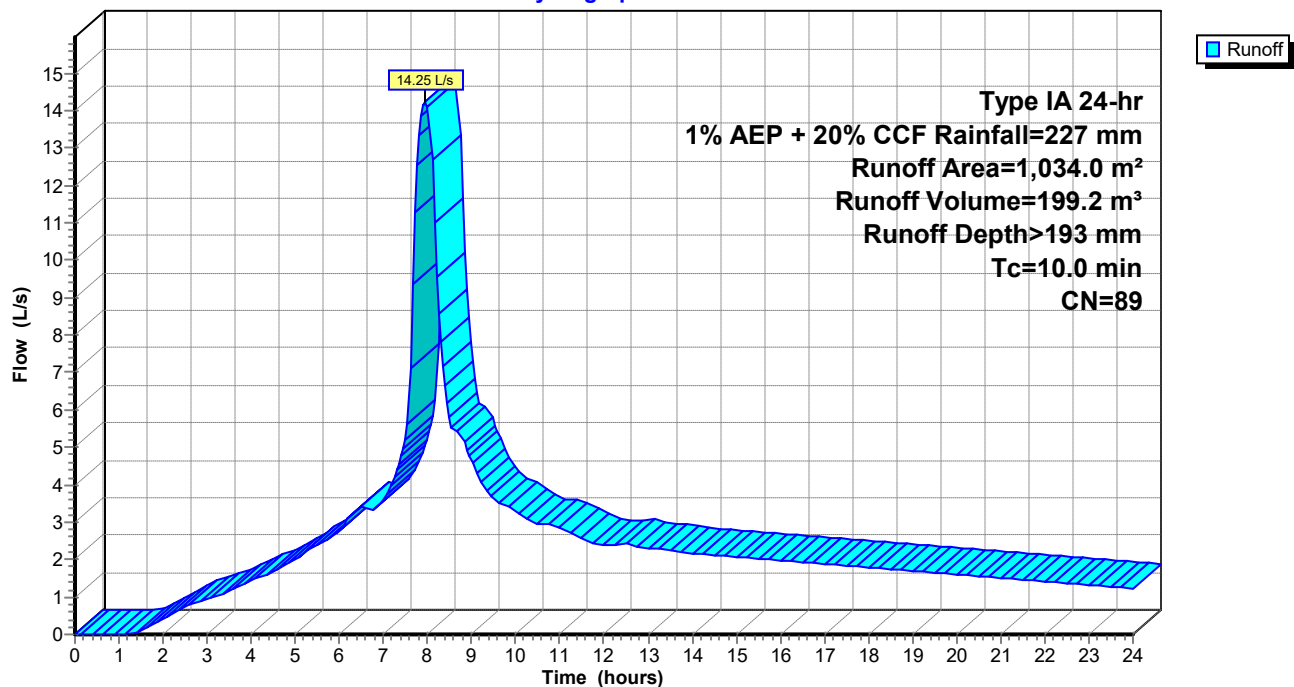
Summary for Subcatchment 51S: Metal DrivewayRunoff = 14.25 L/s @ 7.95 hrs, Volume= 199.2 m³, Depth> 193 mmRunoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
Type IA 24-hr 1% AEP + 20% CCF Rainfall=227 mm

Area (m ²)	CN	Description
1,034.0	89	Gravel roads, HSG C
1,034.0		100.00% Pervious Area

Tc (min)	Length (meters)	Slope (m/m)	Velocity (m/sec)	Capacity (m ³ /s)	Description
10.0					Direct Entry,

Subcatchment 51S: Metal Driveway

Hydrograph



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Type IA 24-hr 1% AEP + 20% CCF Rainfall=227 mm

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Summary for Reach 43R: Grassed Channel

Inflow Area = 1,034.0 m², 0.00% Impervious, Inflow Depth > 193 mm for 1% AEP + 20% CCF event
Inflow = 14.25 L/s @ 7.95 hrs, Volume= 199.2 m³
Outflow = 14.25 L/s @ 7.96 hrs, Volume= 199.2 m³, Atten= 0%, Lag= 0.3 min

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Max. Velocity= 0.45 m/s, Min. Travel Time= 0.4 min

Avg. Velocity= 0.28 m/s, Avg. Travel Time= 0.6 min

Peak Storage= 0.3 m³ @ 7.96 hrs

Average Depth at Peak Storage= 0.16 m

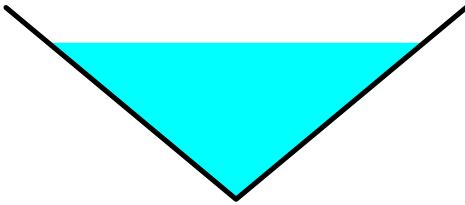
Bank-Full Depth= 0.20 m Flow Area= 0.05 m², Capacity= 24.53 L/s

0.00 m x 0.20 m deep channel, n= 0.025 Earth, clean & winding

Side Slope Z-value= 1.2 m/m Top Width= 0.48 m

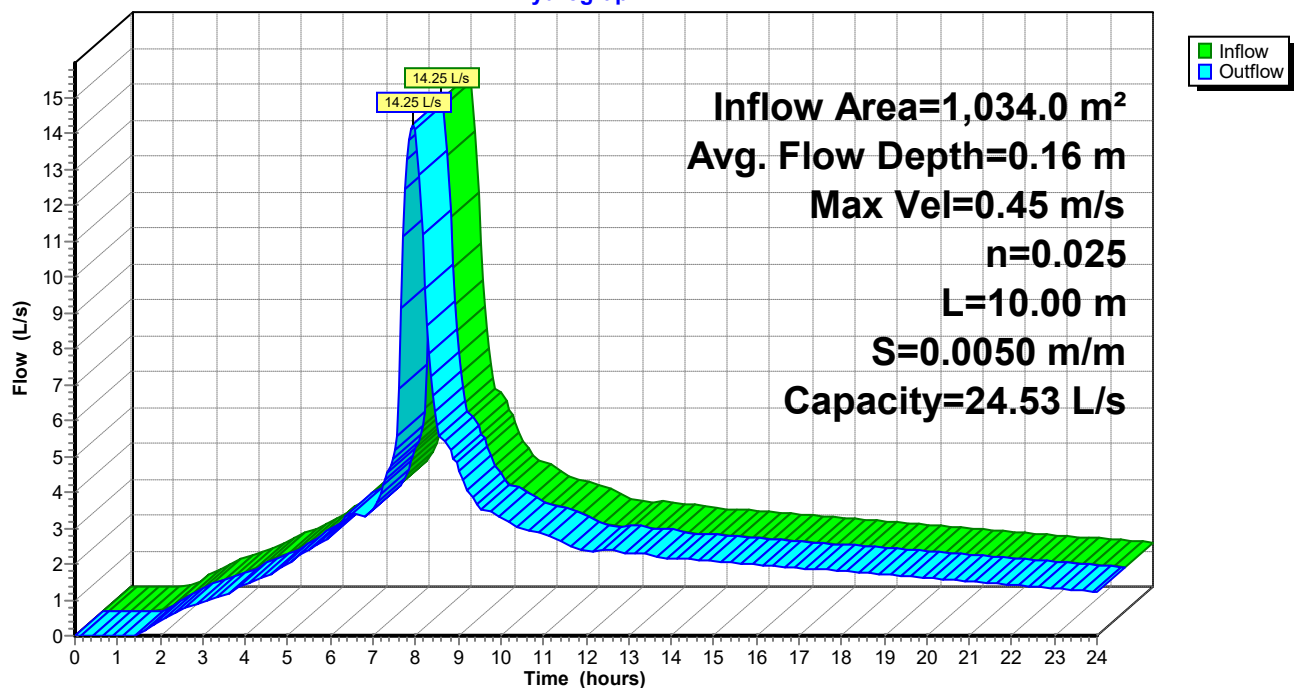
Length= 10.00 m Slope= 0.0050 m/m

Inlet Invert= 0.000 m, Outlet Invert= -0.050 m



Reach 43R: Grassed Channel

Hydrograph



140242

Type IA 24-hr 1% AEP + 20% CCF Rainfall=227 mm

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Summary for Reach 45R: 150mmØ @ 1%

Inflow Area = 1,259.0 m², 17.87% Impervious, Inflow Depth > 196 mm for 1% AEP + 20% CCF event
Inflow = 14.99 L/s @ 7.96 hrs, Volume= 246.1 m³
Outflow = 14.99 L/s @ 7.97 hrs, Volume= 246.1 m³, Atten= 0%, Lag= 0.1 min

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Max. Velocity= 1.14 m/s, Min. Travel Time= 0.1 min

Avg. Velocity= 0.71 m/s, Avg. Travel Time= 0.2 min

Peak Storage= 0.1 m³ @ 7.97 hrs

Average Depth at Peak Storage= 0.10 m

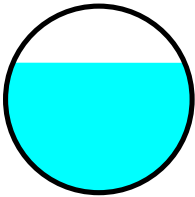
Bank-Full Depth= 0.15 m Flow Area= 0.02 m², Capacity= 18.00 L/s

150 mm Round Pipe

n= 0.011 PVC, smooth interior

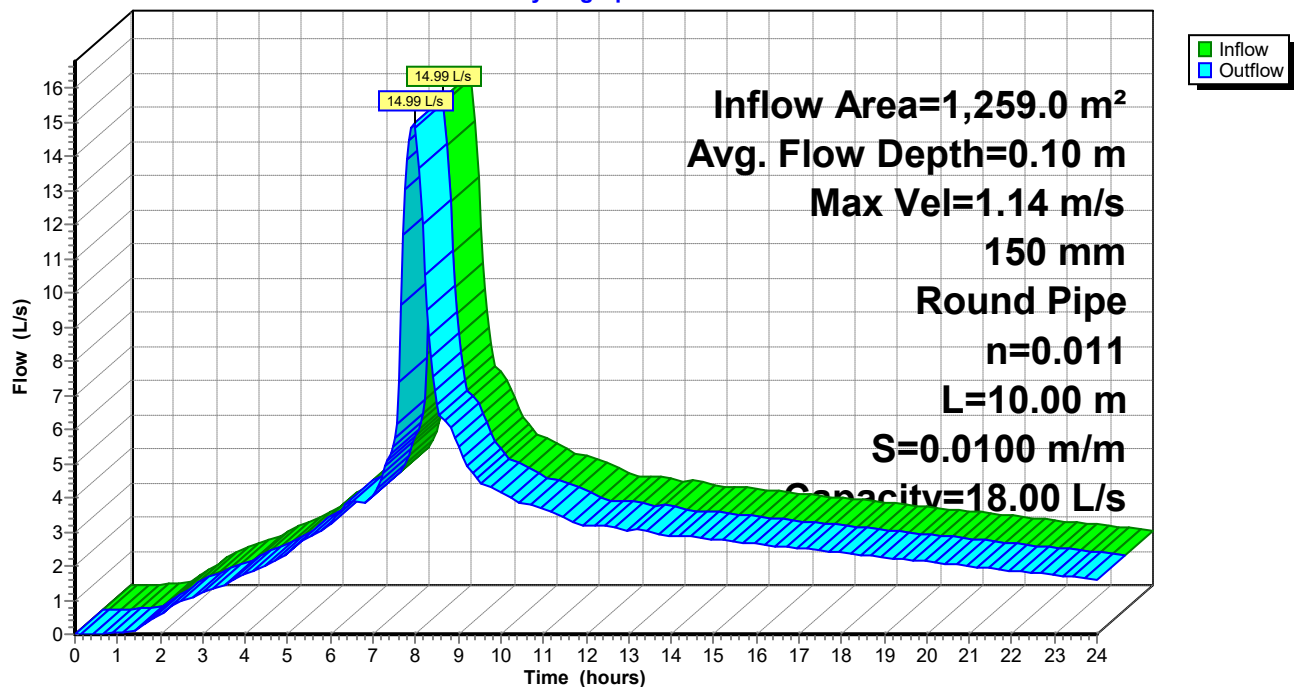
Length= 10.00 m Slope= 0.0100 m/m

Inlet Invert= -0.050 m, Outlet Invert= -0.150 m



Reach 45R: 150mmØ @ 1%

Hydrograph



140242

Type IA 24-hr 1% AEP + 20% CCF Rainfall=227 mm

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Summary for Pond 48P: 2 x 30,000L Rainwater Tanks

Inflow Area = 225.0 m², 100.00% Impervious, Inflow Depth > 220 mm for 1% AEP + 20% CCF event
 Inflow = 3.36 L/s @ 7.94 hrs, Volume= 49.6 m³
 Outflow = 0.87 L/s @ 9.33 hrs, Volume= 46.9 m³, Atten= 74%, Lag= 83.6 min
 Primary = 0.87 L/s @ 9.33 hrs, Volume= 46.9 m³

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Peak Elev= 0.540 m @ 9.33 hrs Surf.Area= 23.3 m² Storage= 12.6 m³Plug-Flow detention time= 176.1 min calculated for 46.9 m³ (95% of inflow)

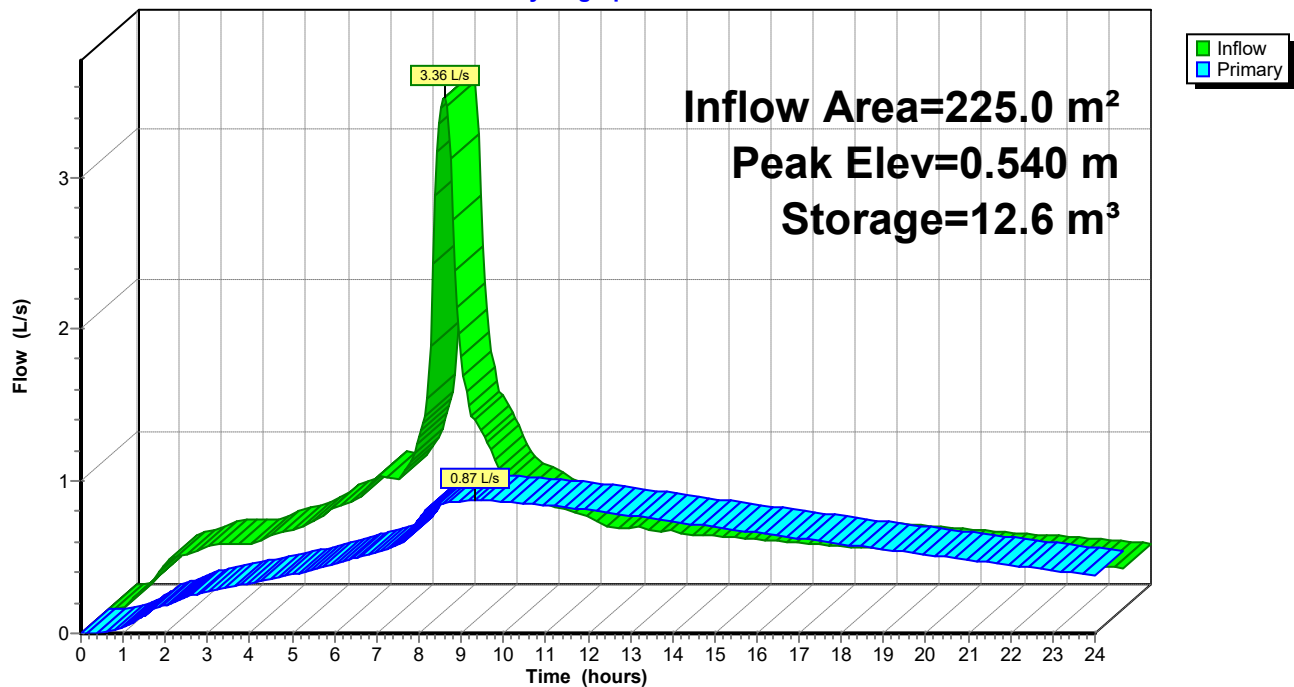
Center-of-Mass det. time= 135.9 min (783.2 - 647.3)

Volume	Invert	Avail.Storage	Storage Description
#1	0.000 m	71.0 m ³	3.85 mD x 3.05 mH Vertical Cone/Cylinder x 2

Device	Routing	Invert	Outlet Devices
#1	Primary	0.000 m	24 mm Vert. Orifice/Grate C= 0.600

Primary OutFlow Max=0.87 L/s @ 9.33 hrs HW=0.540 m (Free Discharge)←**1=Orifice/Grate** (Orifice Controls 0.87 L/s @ 1.93 m/s)**Pond 48P: 2 x 30,000L Rainwater Tanks**

Hydrograph



STATEMENT OF DESIGN - PS1

Issued by: Matt Riddell

To: Brett Price

Copy to be supplied to: Far North District Council

In Respect of: Waterflow Domestic Onsite Wastewater and Sewage System Design

At: Wagener Grove, Pukenui

Legal Description: Lot 2 DP 323666

Waterflow NZ Ltd has been engaged by Brett Price to provide the technical design services and details in respect of the requirements of G13/VM4 and B2 Durability of the Building Code 2004, for an Onsite Wastewater and Sewage System for their building at the above location.

The Design has been carried out in accordance with Auckland Council TP-58 Guidelines and Clause B2, G13 and G14 of the Building Regulations 2004.

The proposed building work covered by this producer statement is described on the drawings titled: Brett Price Onsite Wastewater Design Report, and numbered 1-42 together with the specification, and other documents set out in the schedule attached to this statement.

On behalf of the Design Firm, and subject to:

- (i) Site verification of the following design assumptions: correct installation of the system and drainage fields
- (ii) All proprietary products meeting their performance specification requirements;

As an independent design professional covered by a current policy for Professional Indemnity Insurance, no less than \$200,000*, I **believe on reasonable grounds** the building, if constructed in accordance with the drawings, specifications, and other documents provided or listed in the attached schedule, will comply with the relevant provisions of the Building Code.

Signed by: Matt Riddell - PS Author '2384' Auckland Council, Approved Designer

Date: 16/10/2024

Signature:



Waterflow NZ Ltd
4/525 Great South Road
Penrose, Auckland 1061

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



2024

Waterflow NZ Ltd
Certified Designer

Brett Price
Wagener Grove
Pukenui
Lot 2 DP 323666

Reference Number: WF11934 – R2

Issued 16/10/2024

ONSITE WASTEWATER DESIGN REPORT



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Attachments

- PS1
- Land Application System Schematics
- Assessment of Environmental Effects
- System & Installation Specifications
- Home Owners Care Guide

**PART A: CONTACT AND PROPERTY DETAILS****A 1. Consultant / Evaluator**

Name:	Alexandra Sabath
Company/Agency:	Waterflow New Zealand Ltd
Address:	1160 State Highway 12, Maungaturoto 0520
Phone:	09 431 0042
Fax:	
Email Address:	sandra@waterflow.co.nz

A 2: Applicant Details

Applicant Name:	Brett Price
Company Name:	
Property Owner:	Brett Price
Owner Address:	Wagener Grove, Pukenui
Phone:	0276688608
Mobile:	
Email Address:	oakleighs.s@xtra.co.nz

A 3: Site Information

Sited Visited by:	Ken Hoyle	Date:	Tuesday, 12 March 2024		
Physical Address:	Wagener Grove, Pukenui				
Territorial Authority:	Far North District Council				
Regional Council:	Northland Regional Council				
Regional Rule	C.6.1.3				
Legal Status of Activity:	Permitted:	x	Controlled:		Discretionary:
Total Property Area (m²):	10026m ²				
Map Grid Reference:					
Legal Description of Land (as on Certificate of Title):					
Lot No:	2				
DP No:	323666				
CT No:	95364				



A 4: Are there any previous existing discharge consents relating to this proposal or other waste discharge/disposal on the site?

Yes:		No:	x
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If yes, give reference No's and description:

--

A 5: Dwelling(s) for which on-site wastewater service is to be provided

Status of dwelling(s) to be serviced:	New	x	Existing		Multiple	
How many dwellings on the property?	2					
Capacity of dwellings:	Dwelling 1	2 shed				
(or number of bedrooms)	Dwelling 2	8 future dwelling				
	Dwelling 3					
	Other:					
Notes:						

**PART B: SITE ASSESSMENT - SURFACE EVALUATION****B 1: Site Characteristics**

Performance of adjacent systems:	(Unknown)		
Estimated annual rainfall (mm):	1000 - 1250 (as per NIWA statistics)		
Seasonal variation (mm):	300-400mm		
Vegetation cover:	grass		
Slope shape:	Linear Planar		
Slope angle:	~5 °		
Surface water drainage characteristics:	Broad overland to		
Flooding potential?	Yes:	No:	x
If Yes, specify relevant flood levels relative to disposal area:			
Site characteristics:	<p>Lot 2 Wagener Grove is a 10,026m² rural residential property in the Pukenui region of the Far North. The property is a rectangular shape and is relatively flat with grass vegetation. There is an open drain along the northern boundary but no other surface water or overland flow paths in the vicinity. There is no wastewater infrastructure in the vicinity and the property will require an onsite wastewater management system.</p>		

B 2: Slope Stability

Has a slope stability assessment been carried out on the site?

Yes:		No:	x
------	--	-----	---

If no, why not?

Low slope:	x	No signs of instability:	x	Other:
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If yes, give brief details of report:

Details:	
Author:	
Company/Agency:	
Date of report:	

B 3: Site Geology

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**B 4: Slope Direction**

What aspect does the proposed disposal system face?

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

B 5: Site Clearances if applicable (also on site plan)

	Treatment Separation Distance (m)	Disposal Field Separation Distance (m)
Boundaries:	>1.5	>1.5
Surface Water:	>20	>20
Ground Water:	>1.2	>1.2
Stands of Trees / Shrubs:	n/a	n/a
Wells/Water Bores:	>20	>20
Embankments / Retaining Walls:	>3	>3
Buildings:	>3	>3
Other:		

B 6: Please identify any site constraints applicable for this property, and indicate how the design process is to deal with these.

Constraints	Explain how constraints are being dealt with
1 Site constraints: (a) (b)	n/a

**PART C: SITE ASSESSMENT - SOIL INVESTIGATION****C 1: Soil Profile Determination Method**

Test pit:		Depth (mm):		No. of Test pits:	
Bore hole:	x	Depth (mm):	1200	No. of Bore holes	2
Other:					

C 2: Fill Material

Was fill material intercepted during the subsoil investigation?

Yes:		No:	x
------	--	-----	---

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

--

C 3: Permeability Testing

Has constant head Permeability Testing (Ksat) been carried out?

Yes:		No:	x
------	--	-----	---

If yes, please indicate the details (test procedure, number of tests):

--

Test report attached?

Yes:		No:	x
------	--	-----	---

C 4: SURFACE WATER CUT OFF DRAINS

Are surface water interception/diversion drains required?

Yes:		No:	x
------	--	-----	---

C 5: DEPTH OF SEASONAL WATER TABLE:

Winter (m):	>1.2
Summer (m):	>1.2

Was this:

Measured:	✓ no sign of ground water or mottling in bore holes
Estimated:	

C 6: SHORT CIRCUITS

Are there any potential short circuit paths?

Yes:		No:	x
------	--	-----	---

If yes, how have these been addressed?

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**C 7: SOIL CATEGORY**

Is topsoil present?

Yes:	<input checked="" type="checkbox"/>	No:	<input type="checkbox"/>
------	-------------------------------------	-----	--------------------------

If yes, what is the topsoil depth & soil description?

150mm organic sandy loam topsoil over fine sands over peat

Indicate the disposal field soil category (as per AC TP-58, Table 5.1)

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

Reason for placing in stated category:

Result of bore hole/test pit sample	<input checked="" type="checkbox"/>
Profile from excavation	<input type="checkbox"/>
Geotech report	<input type="checkbox"/>
Other:	<input type="checkbox"/>

C 8: SOIL STRUCTURE

Based on results of the in-situ soil profile investigation above (C7) please indicate the disposal (land application) field soil structure:

Massive	<input type="checkbox"/>
Single grained	<input type="checkbox"/>
Weak	<input checked="" type="checkbox"/>
Moderate	<input type="checkbox"/>
Strong	<input type="checkbox"/>

C 9: As necessary, provide qualifying notes on the relationship of Soil Category (C7) to Soil Structure (C8) and the effect this relationship will have on design loading rate selection:

--



PART D: DISCHARGE DETAILS

D 1: Water supply source for the property:

Rain water (roof collection)	x
Bore/well	
Public supply	

D 2: Are water reduction fixtures being used?

Yes:		No:	x	(according to our knowledge at time of design report)
------	--	-----	---	---

If 'yes' Please state:

Standard Fixtures include dual flush 11/5.5 or 6/3 litre toilet cisterns, and includes standard automatic washing machine, but a low water use dishwasher, no garbage grinder.

D 3: Daily volume of wastewater to be discharged:

No. of bedrooms/people:	1: 2 Person shed 2: 8 Person future dwelling 3:
Design occupancy (people): (as per AC TP-58, Table 6.1)	1: 2 People 2: 8 People 3:
	Black / Grey water
Per capita wastewater production (litres/person/day): (as per ARC TP-58, Table 6.2)	1: 160 L/day 2: 160 L/day 3:
Total daily wastewater production (litres per day):	1600 L/day

D 4: Is daily wastewater discharge volume more than 2000 litres?

Yes:		No:	x
------	--	-----	---

D 5: Gross lot area to discharge ratio:

Gross lot area:	10026 m ²
Total daily wastewater production (litres/day):	1600 L
Lot area to discharge ratio:	6.27

D 6: Net Lot Area

Area of lot available for installation of the disposal (land application) field and reserve area:

Net lot area (m ²):	9026 m ²
Reserve area (m ²):	100% 80m ²

**PART E: LAND DISPOSAL METHOD****E 1: Indicate the proposed loading method:**

	Black / Grey Water
Trickle Fed:	x
Dosing Siphon:	
Pump:	

E 2: If a pump is being used please provide following information:

Total Design Head (m):	
Pump Chamber Volume (litres):	
Emergency Storage Volume (litres):	

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

Yes:		No:	x
------	--	-----	---

E 3: Identify the type(s) of Land Disposal method proposed for this site:

	Black / Grey Water
P.C.D.I. Dripper Irrigation:	
L.P.E.D. System:	
Evapo-Transpiration Beds:	
Other:	Soakage Beds
(as per Schematics attached)	

E 4: Identify the Loading Rate proposed for option selected in E3:

as per ARC TP-58, Table 9.2 & Table 10.3	Black / Grey Water
Loading Rate (litres/m ² /day):	20
Disposal Area Basal (m ²):	80
Areal (m ²):	80

E 6: Details and dimensions of the disposal (land application) field:

Length (m):	26.7	No. Soakage Beds	1	Hole Size:	16.0
Width (m):	3.0	Spacing (m):	N/A	Hole Spacing:	500.0
Notes:	Conventional soakage beds laid on level contour. To be protected from stock and vehicle movements, as per schematic drawing attached. See schematic drawing attached.				



PART F: PROPOSED WASTEWATER TREATMENT SYSTEM

A Waterflow DCST6000 System, fed through Soakage Beds is suitable for this site. The DCST6000 System has enough capacity to accommodate 2000ltr per day, so will be well within its capacity. The land application system is designed to discharge a maximum volume of 1600ltrs per day and if this is exceeded it could cause failure resulting in environmental and public harm.

PART G: OPERATION AND MAINTENANCE OF SYSTEM

The operation of this complete system will be explained verbally to the owner by the Installer or Agent on Completion of Installation; also provided with Waterflow's Home Owner's Manual.

Waterflow NZ Ltd encourages the Home Owner to monitor and care for your Waterflow system yourself, with our backing and support, and by doing so you will learn how your system works and operates and how to keep it in top working order.

It is also recommended that a Maintenance Program contract is in place at all times to ensure this system is maintained at top performance at all times.

All on site wastewater systems require regular maintenance; in this case once annually is suffice and may be specified within the consent process by the Building Department of Far North District Council. This Maintenance will be recorded on hard copy and supplied to both the Owner and Far North District Council Compliance Officer if requested.

NOTE TO OWNER: All written records pertaining to the wastewater system should be retained in a safe place. When a change of ownership occurs, a full and complete history is able to be passed to the new owners.

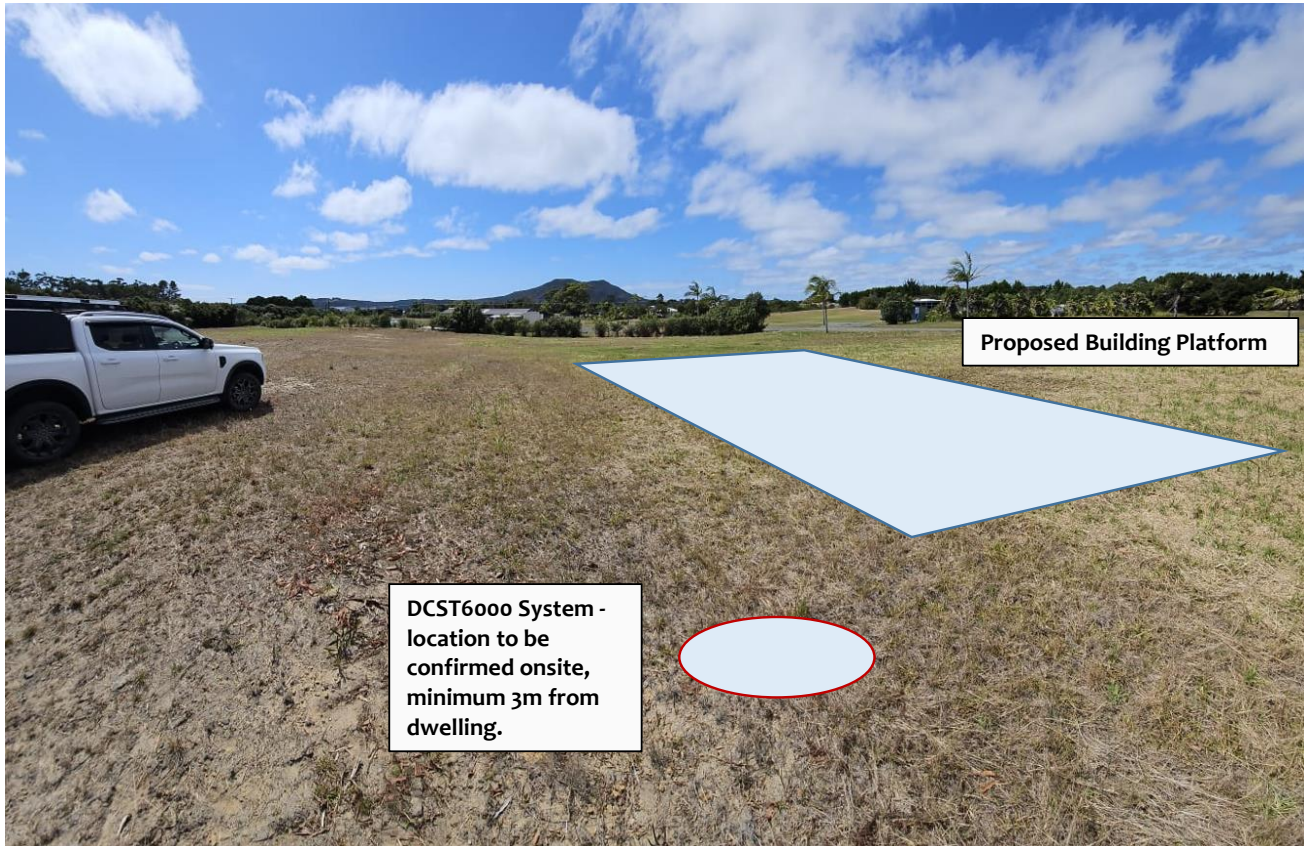
Animals are to be physically excluded from the installed effluent field to avoid damage, and to reduce the risk of soil compaction in the vicinity of the bed.

Planting within this area is encouraged to assist with evapotranspiration by plants.

PART H: SOIL LOG PROFILE



150mm organic sandy loam topsoil over
fine sands over peatClass 3, (as per AC TP-
58, Table 5.1)

PART I: SITE IMAGES



DECLARATION

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

Prepared By:	
Name:	Alexandra Sabath - Approved Designer
Signature:	
Date:	16/10/2024

Reviewed By:	
Name:	Matt Riddell - PS Author '2384' Auckland Council, Approved Designer
Signature:	
Date:	16/10/2024

NOTE: The Waterflow Systems are to be installed by a registered drainlayer to the designs supplied by Waterflow NZ Ltd. All work to comply with Regional Council Water and Soil Plans.

Comments/Summary:

The disposal field will need to be protected from traffic and animal grazing. Planting this area is recommended to increase Evapotranspiration.

Suitable plants for the disposal field can be found on our website www.naturalflow.co.nz

Waterflow Treatment systems to be installed by accredited installer unless other arrangements have been made by Waterflow NZ Ltd

For more information do not hesitate to contact the team at Waterflow NZ Ltd on 0800 628 356



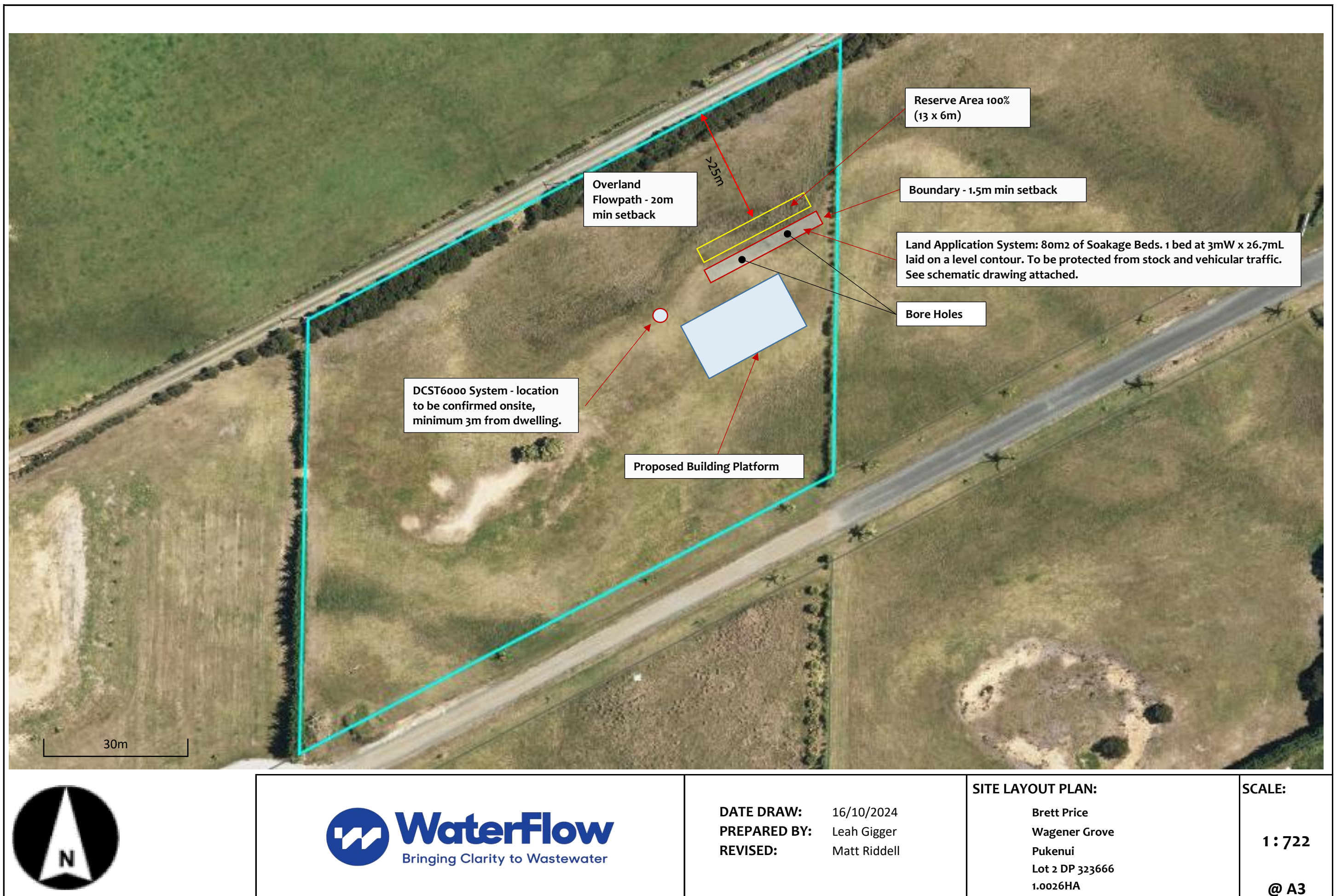
SITE LOCATION PLAN:

Brett Price
Wagener Grove
Pukenui
Lot 2DP 323666
1.0026HA

SCALE:

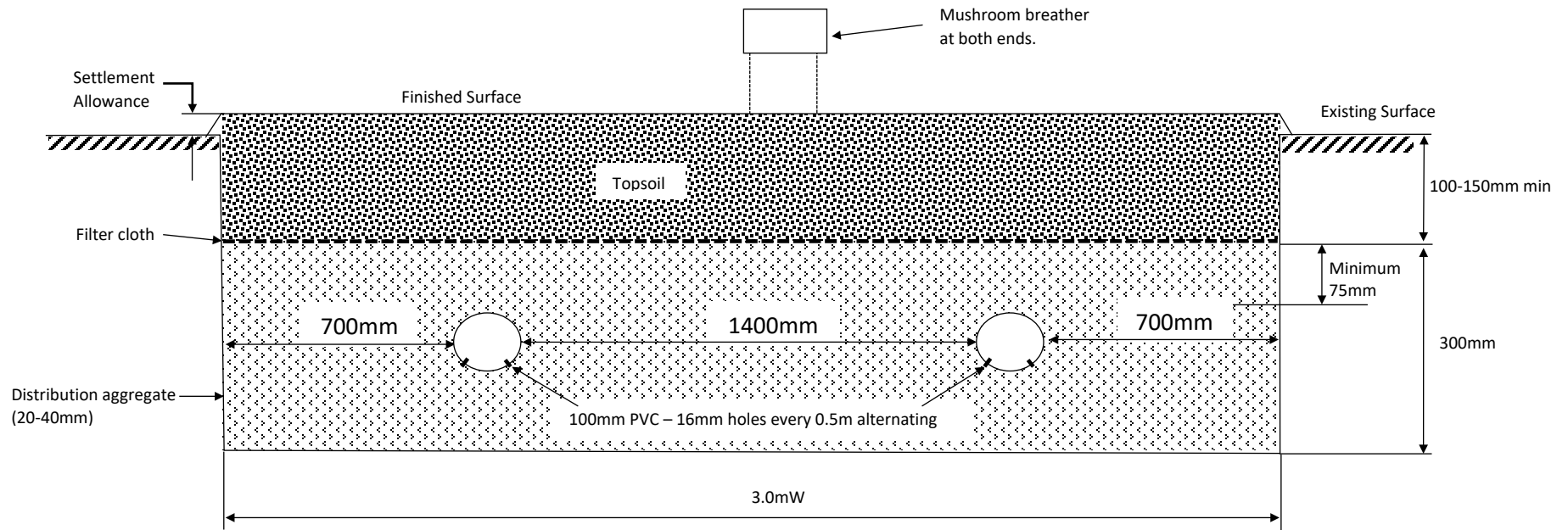
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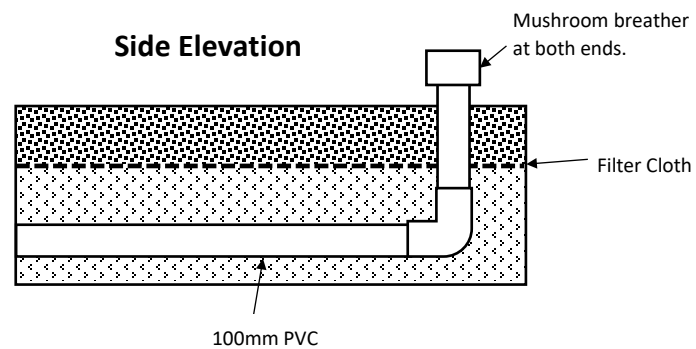


Conventional Soakage Bed - 2 Pipe

Cross Section

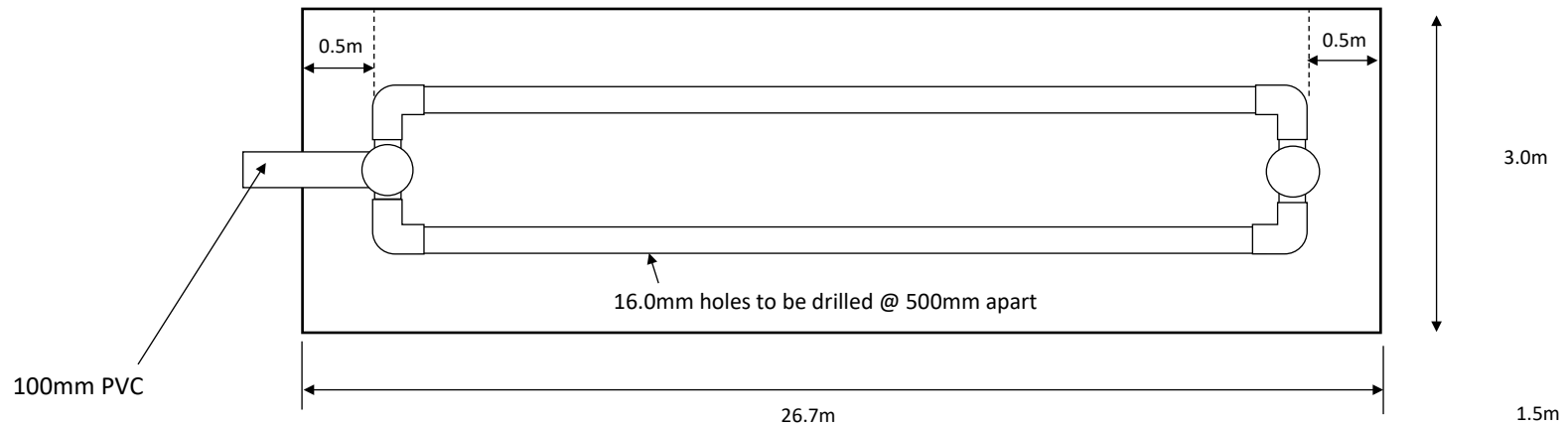


Side Elevation



Conventional Soakage Bed - 2 Pipe

Top Elevation



Assessment of Environmental Effects

Brett Price of Wagener Grove, Pukenui

Lot 2 DP 323666

1.1 Description of Proposal

The owners plan to initially build a shed but may build a dwelling in the future. A wastewater management system has been designed on the basis of an initial shed (2 person occupancy) and a future dwelling (8 person occupancy).

1.2 Site Description

Lot 2 Wagener Grove is a 10,026m² rural residential property in the Pukenui region of the Far North. The property is a rectangular shape and is relatively flat with grass vegetation. There is an open drain along the northern boundary but no other surface water or overland flow paths in the vicinity. There is no wastewater infrastructure in the vicinity and the property will require an onsite wastewater management system.

1.3 Wastewater Volume

In calculating the wastewater flows we have allowed for a maximum occupancy of 10 persons in the initial shed and potential future dwelling (as per Table 6.1 in Auckland Council TP58). The water supply is roof collected rainwater and standard water reduction fixtures will be used throughout the house. Total wastewater production is based on an allowance of 160 litres per person per day (as per Table 6.2, in Auckland Council TP58).

1.4 Wastewater Volume

The DCST6000 system that is proposed will treat the wastewater to a high standard prior to dispersal using a LPED dispersal system into a purpose-designed conventional soakage bed system, where the removal of nutrient will continue, both in the receiving soils and by plant uptake.

The system will be capable of producing reductions in Biochemical Oxygen Demand, Total Suspended Solids, Nitrogen, and Coliforms to a standard that meets the requirements (see details below). The system will cater for the wastewater requirements of the private dwellings (domestic wastewater) and will not service any commercial or trade waste sources. Risk Minor to Nil.

1.5 Proposed Treatment System

The objective of the treatment system is to reduce and remove much of the contaminants from the wastewater prior to discharge into the receiving soil. This will improve the long-term performance of the disposal field as well as reducing the risk to the receiving environment. The system will consist of:

- DCST6000
- ReIn Outlet Filter
- Land Application System

The system is constructed using concrete tank. The system produces treated effluent with BOD <150mg/l, Suspended solids <40mg/l.

1.6 Land Application System

The proposed land application system uses a LPED dispersal system into conventional soakage beds, to disperse the treated wastewater into the receiving soils and we recommend densely planting to enhance evapo-transpiration. This land application system will be installed in conjunction with existing and proposed landscaping as detailed on the site plan.

1.7 Surface & Ground Water

It is proposed to treat the water to a high standard prior to discharge and the proposed irrigation system will introduce the water into the topsoil horizon using Soakage Beds. A low application rate of treated effluent into the topsoil will significantly reduce the likelihood of, any breakout or runoff or any risk of surface water contamination. With the ground water levels being >1.2m this conservative DLR also means the risk of ground water contamination is virtually nil. A majority of the undeveloped areas of this site are suitable for a Soakage Beds when the necessary setbacks are observed. Risk Minor to Nil.

1.8 Air Quality

The proposed DCST6000 system will produce no noticeable odour when functioning correctly. Any odour will be contained within the tanks. The land application system will load the soil at a rate that should not cause ponding, spraying or aerosol of the effluent that could potentially cause odours. Risk Minor to Nil.

1.9 Visual Impact

The tanks are installed wholly below ground level with only the lids being visible. The lids will protrude approximately 100mm to prevent egress of storm water into the system. The disposal field will be located in a purpose designed mulched and intensively planted disposal area. Warning signs may be installed to indicate the presence of the disposal area, although probably not necessary in a domestic situation, also the area may be fenced to restrict access.

1.10 Environmental Risks

Risks associated with this proposal are minor. The treatment system will be automated, and the Home Owner will be given a 'Home Owners Care Guide' which explains the necessary visual checks to ensure no issues arise with the system, specifically – solids build-up - high water level – discharge failure – filter blockage.

Peak flow into the system are not expected to be significant and the system includes a large emergency storage volume.

1.11 Maintenance Requirements

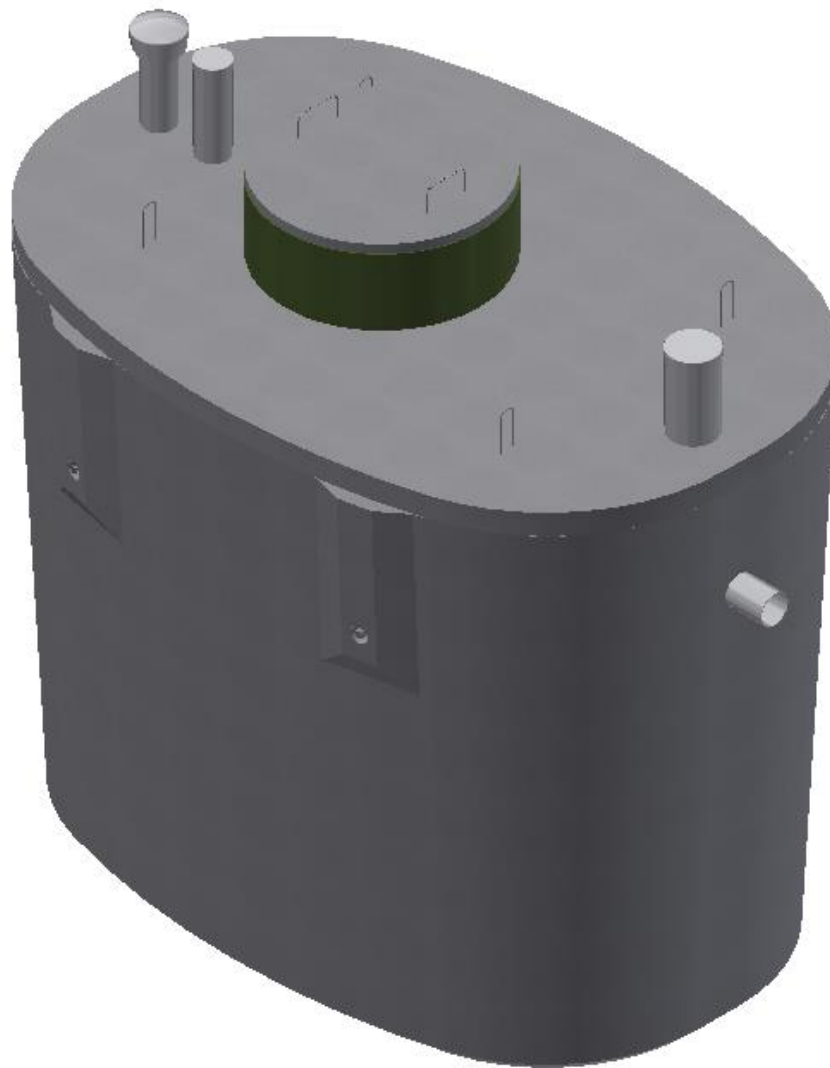
The maintenance requirement of this system is minimal, with the system fully automated. The system requires little input from the operator apart from the regular visual checks of the treatment system and land application system. All other maintenance interventions must be carried out by service persons familiar with the operation of the system and approved by the manufacturer. Maintenance may include checking of the dissolved oxygen levels, cleaning of effluent outlet filter, removal of excess sludge volume, checking of control panel function, etc....

The owners will be verbally informed at the commissioning of this system of all maintenance requirements and strongly advised to have a service contract in place prior to final sign off of the system installation.



Dual Chamber Septic Tank

System Specifications & Installation Instructions



DUAL CHAMBER SEPTIC TANK

System Specification & Installation Instructions

New Zealand's Leaders in Eco-Sustainable, Odourless Wastewater and Sewage Systems

Compliance Requirements

All Waterflow Treatment Systems meet the requirements of the NZ Building Code G13-VM4.

Section 9 of AS/NZS 1546.1:2008 state that tanks constructed to these Standards will meet the requirements of the Code for Clauses B1 and B2, structure and durability.

Compliance with Section 9 of AS/NZS 1546.1:2008 and also Clauses G13.3.4 relating to on-site treatment and disposal systems and G14.3.1 and 14.3.2 relating to the control of foul water as an industrial waste are covered in the 'Waterflow Compliance Requirements' document.

Please feel free to ask for a copy of this complete document, if required.

The Treatment Process

The Dual Chamber Septic Tank comprises of a 2500mm long by 1700mm wide concrete tank, standing 1975mm high. Following the septic tank is a Dose Chamber that controls the discharge; both gravity dose and pump dose options are available.

The wastewater is directed into the first chamber. Here the solids are separated from the liquid through settling and floatation; long term testing has shown this to remove 60-80% of solids, which are then stored in the tank. The liquid from the clear zone then flows into the second chamber where further settling and floatation takes place. Anaerobic digestion further processes the waste producing odoriferous gases and humus, reducing the BOD. This finally passed through an outlet filter as per AS/NZS 1546 1:2008 Clause D3.3.1; which screens the effluent, reducing TSS.

It is then disposed of via a gravity or pump dose into the receiving environment, in accordance with AS/NZS 1547:2012 and the relevant local authority's requirements. The size and extent of the disposal system is determined by the receiving environment and the expected flow volumes. Factors such as soil types, slope and the proximity of potentially sensitive environments such as creeks, wells, bores and other water ways determine the extent, location and type of disposal system chosen.

The Dual Chamber Septic Tank has a 2000ltr reserve capacity to allow for 24hrs emergency storage should a pump fail. The operating capacity of the Dual Chamber Septic Tank is 2000ltrs per day. Reserve capacity is not required for gravity discharge systems.

The Dual Chamber Septic Tank will accumulate solids require regular desludging. Septic tank capacities are calculated up to a 5 year pump out cycle, as per AS/NZS 1547:2012 5.4.2.2.1 as to desludging requirements. It is recommended to service at no longer than 3 years from previous inspection.

See our website: www.waterflow.co.nz

DUAL CHAMBER SEPTIC TANK

System Specification & Installation Instructions

New Zealand's Leaders in Eco-Sustainable, Odourless Wastewater and Sewage Systems

Dual Chamber Septic Tank Specifications

Tanks are made of Concrete which is suitable material for wastewater treatment containment meeting all the requirements of Section 4.3.3 of AS/NZS 1547:2012 which cross references the structural performance requirements of its section 2.4.2.3 back to the relevant provisions of AS/NZS 1546.1, which for plastic septic tanks constructed via by rotational molding using thermoplastics (polyethylene) are set out in Section 9 of that Standard. These tanks have an expected lifespan of 50 years.

Dual Chamber Septic Tank

5200ltrs Nominal capacity
2500mm Length
1700mm Width
1975mm O/A height

Gravity Dose Chamber option

500ltrs Nominal capacity
850mm Length
850mm Width
1100mm O/A height

Pump Dose Chamber option

1600ltrs Nominal capacity
1300mm Length
1300mm Width
2100mm O/A height

Installation Location and Certification

These tanks are not designed for vehicle loads and shall be located no closer than 1.50m to a driveway, road frontage or a building. If for any reason the tank is located where vehicle traffic may drive over the tank or approach closer than 1.50m, or where it may be trampled on by farm stock then the tank should be protected by a concrete slab designed to support these loads. Surface water must also be diverted from flowing into the installation.

Installation must be certified to AS/NZS 1547:2012, the certificate to be issued and held by the regulatory authority.

High Water Table Installations

All tanks have been engineered and constructed from concrete for maximum strength, in accordance with the NZC 3604. Clauses B1 and B2 for structure and durability, to withstand any hydraulic pressures, both lateral and uplift, created by high water table conditions.

Plumbing Pipes and Fittings

All internal plumbing is done with PVC pipes with appropriate connections according to AS/NZS 1260 and AS/NZS 4130.

If in doubt contact the experts on 0800 628 356 or sales@waterflow.co.nz

DUAL CHAMBER SEPTIC TANK

System Specification & Installation Instructions

New Zealand's Leaders in Eco-Sustainable, Odourless Wastewater and Sewage Systems

Backfill and Bedding

Place and bed to NZBC G13/AS2, using compacted granular metal, in layers not exceeding 100mm. Backfill with soil excavated from the hole.

Electrical

Where a pump is required on a flat site electrical connection must be installed according to AS/NZS 3000 and the control and alarm system must be in a weatherproof housing located in a readily visible position.

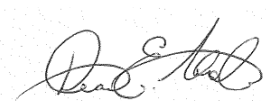
Warranty

WATERFLOW NZ LTD warrants that the Dual Chamber Septic Tank will be free from defects in material and workmanship for the following periods of time from the date of installation as set out in the following conditions:

1. Concrete Septic Tank - 15yrs
2. Zoeller Outlet Filter - lifetime
3. Pumps - 2yrs
4. WATERFLOW NZ LTD will at its discretion replace or repair such components that prove to be faulty with the same or equivalent part at no charge.
5. Warranty of operation covers the performance of the Dual Chamber Septic Tank as connected to the effluent inflow for which they are designed, and also installed to the criteria as set out in the relative installation instructions and procedures.

Warranty excludes defects due to:

- A) Failure to use the system in accordance with owner's manual.
- B) A force majeure event outside the reasonable control of WATERFLOW NZ LTD such as (but not limited to) earthquake, fire, flood soil subsidence ground water table variations or plumbing fault.
- C) Modifications to surrounding landscape contours after installation
- D) The actions of a third party
- E) The system required to bear loads (either hydraulic or biological) greater than that for which it was designed
- F) Any modifications or repairs undertaken without the consent of WATERFLOW NZ LTD
- G) Failure, where applicable, to fence and plant land application system (disposal field)



1st June 2014
Dean Hoyle
Managing Director

See our website: www.waterflow.co.nz

DUAL CHAMBER SEPTIC TANK

System Specification & Installation Instructions

Dual Chamber Septic Tank Installation Instructions

The Dual Chamber Septic Tank is to be installed or signed off by a registered Drain layer to the design specified by Waterflow NZ Ltd.

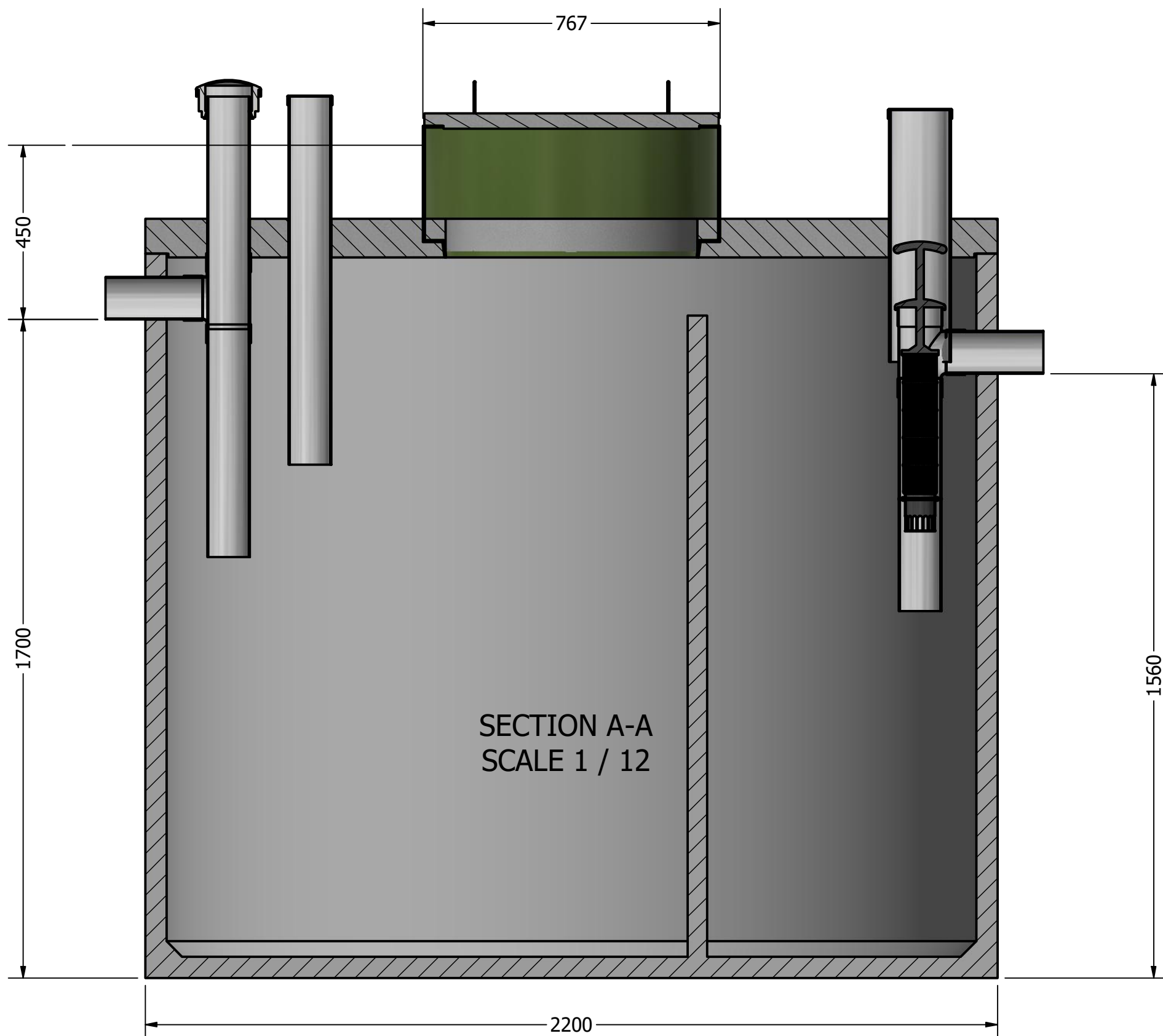
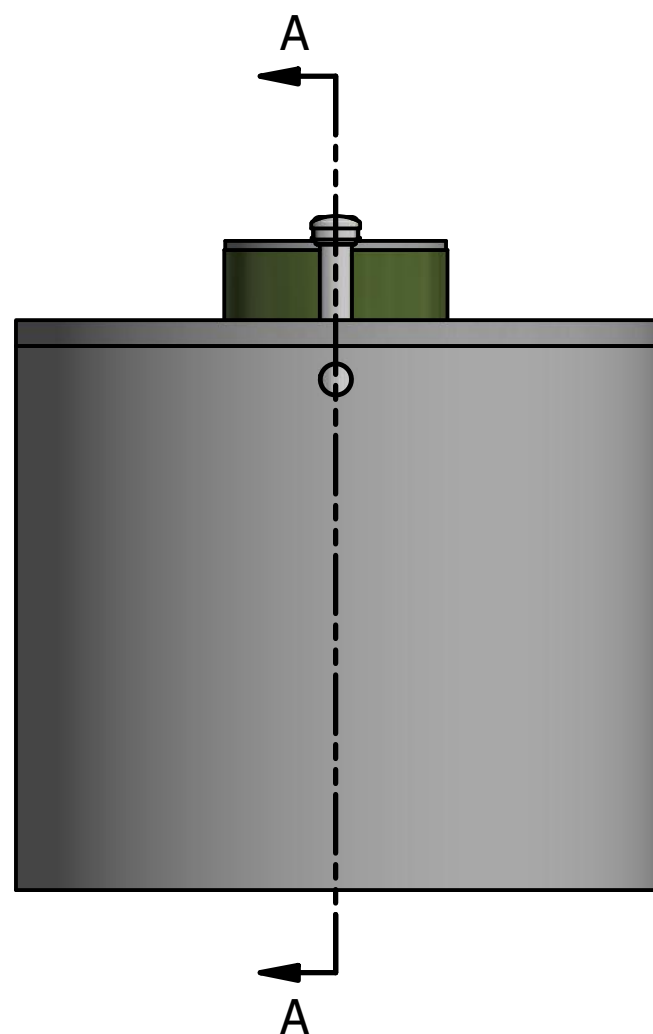
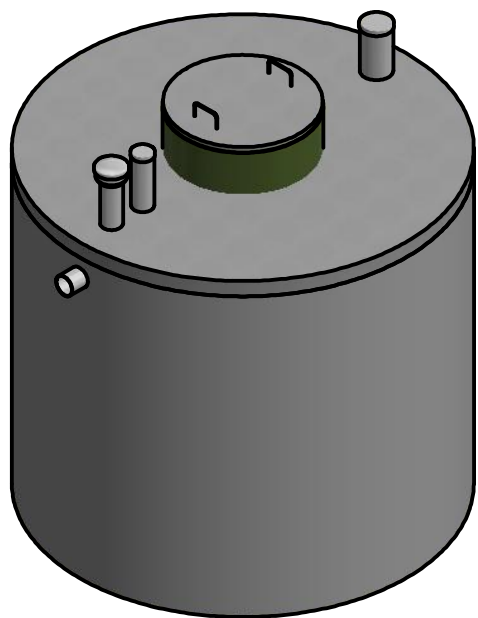
The following installation instructions and procedures followed correctly will ensure System performance is not compromised in any way.

1. Excavate a 4m x 2m level platform for the tank at the appropriate depth to ensure adequate fall for inlet pipe from the source. This has to be installed in stable soil conditions.
2. Lay 100mm of bedding metal on platform and place Septic Tank.
3. Trench from septic tank outlet to disposal field (if gravity discharge, ensure there is a constant fall from outlet to disposal field).
4. Where possible excavate a trench away from System and lay drain coil and drainage metal at the base of the system to drain away any surface or ground water. On a flat or high water table site System must be bedded in as per appendix A below.
5. Take a minimum of 3 photos at this point to showing connections and back fill, to ensure correct installation for sign off.
6. Back fill around tanks with the excavated soil.

Caution: System must be protected from excessive super imposed loads both lateral and top loads. E.g. loads from vehicular traffic. There needs to be at least 2m of clearance maintained around system.

Appendix A

High Water Table: For installation in high water table areas, make sure you have a pump to pump away ground water whilst installing. Excavate a pump cavity to one side of the platform and pump ground water away during entire installation process. Fill Septic Tank with water during installation, this will help with resisting the hydraulic uplift.



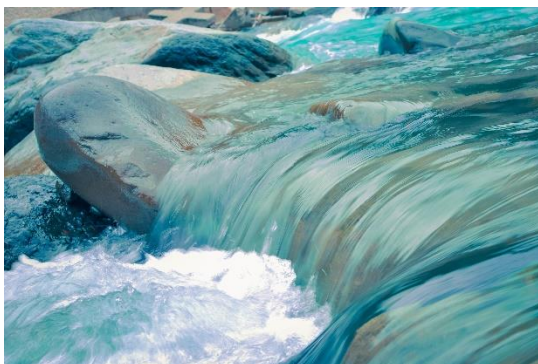
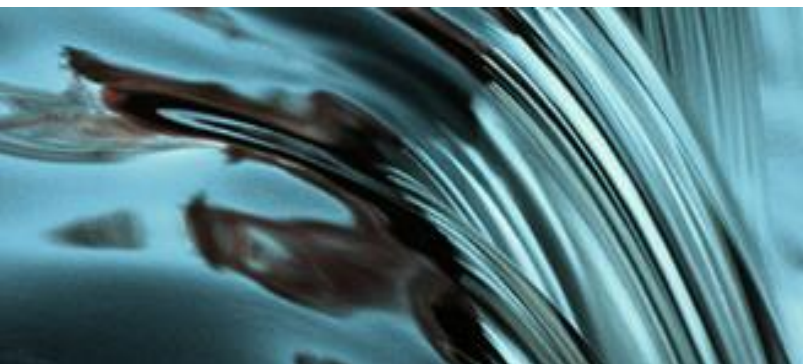


"We do it simpler"

Call us today to discuss your needs

0800 628 356

Or for more information www.waterflow.co.nz



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Belfast, Christchurch 8051
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E. sales@naturalflowsouth.co.nz

www.naturalflow.co.nz



RECORD OF TITLE
UNDER LAND TRANSFER ACT 2017
FREEHOLD
Search Copy




R.W. Muir
Registrar-General
of Land

Identifier **95364**
Land Registration District **North Auckland**
Date Issued 26 January 2005

Prior References
NA1536/18

Estate Fee Simple
Area 1.0026 hectares more or less
Legal Description Lot 2 Deposited Plan 323666
Registered Owners
Brett James Price and Robyn Elizabeth Price

Estate Fee Simple - 1/11 share
Area 6224 square metres more or less
Legal Description Lot 13 Deposited Plan 323666
Registered Owners
Brett James Price and Robyn Elizabeth Price

Interests

D574558.1 Gazette Notice declaring part State Highway No.1F Far North District commencing on the eastern side of the highway at the intersection with Hendersons Bay Road and on the western side of the highway at the northern boundary and proceeding in the southerly direction to the intersection with State Highway No.10 to be a limited access road - 25.1.2001 at 12.09 pm

6290071.3 Consent Notice pursuant to Section 221 Resource Management Act 1991 - 26.1.2005 at 9:00 am

Subject to Section 241(2) Resource Management Act 1991 (affects DP 323666)

Subject to a right (in gross) to a telecommunications easement over part marked A on DP 323666 in favour of Telecom New Zealand Limited created by Easement Instrument 6290071.5 - 26.1.2005 at 9:00 am

The easements created by Easement Instrument 6290071.5 are subject to Section 243 (a) Resource Management Act 1991

Subject to a right (in gross) to transmit electricity easement over part marked A on DP 323666 in favour of Top Energy Limited created by Easement Instrument 6290071.6 - 26.1.2005 at 9:00 am

The easements created by Easement Instrument 6290071.6 are subject to Section 243 (a) Resource Management Act 1991

Land Covenant in Easement Instrument 6290071.7 - 26.1.2005 at 9:00 am

11016062.2 Notice pursuant to Section 91 Transit New Zealand Act 1989 - 26.1.2018 at 3:17 pm

Transaction ID 5436522
Client Reference TITLE SEARCH LIMITED - WWW.TITLE.CO.NZ - Search Specialists



FAR NORTH DISTRICT COUNCIL

THE RESOURCE MANAGEMENT ACT 1991

CONO 6290071.3 Consen

Cpy - 01/01, Pgs - 002, 26/01/05, 11:03



DocID: 311775767

SECTION 221 : CONSENT NOTICE

REGARDING RC 2010082

The subdivision of Pt Sec 9, Blk XI Houhora East SD
North Auckland Registry.

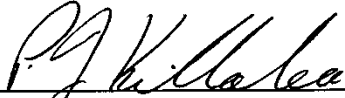
PURSUANT to Section 221 for the purposes of Section 224 of the Resource Management Act 1991, this Consent Notice is issued by the FAR NORTH DISTRICT COUNCIL to the effect that conditions described in the schedule below are to be complied with on a continuing basis by the subdividing owner and the subsequent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

SCHEDULE

- I. Maintain the trees and/or shrubs comprising the approved landscaping, including the replacement of any dead and/or diseased plants and a share of any private way landscaping, as may be required.
- II. Comply on an on-going basis with the duties and obligations imposed by way of the provisions of the document prepared in compliance with Condition (3) (j). of RC 2010082 dated 9 July 2001.
- III. Lots 1 and 11 are to form their site access only off the Lot 13 private way and at a point no closer than 30 metres from its intersection with State Highway No 1F, unless specific written approval is obtained from Transit New Zealand.
- IV. Undertake any maintenance, as and how required, by the stormwater management plan as prepared and implemented under Condition (3) (b) of RC 2010082 dated 9 July 2001.

- V. In any subsequent re-subdivision of the allotments within this development, the new proposal will be assessed (either in money, works or a combined thereof, as is appropriate) for its contribution toward providing an urban solution to the stormwater control within the area of the original subdivision.

SIGNED:


by the FAR NORTH DISTRICT COUNCIL
under delegated authority:
RESOURCE CONSENTS MANAGER

DATED at **KAIKOHE** this *10th* day of *December* 2004

RC2010082
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4wagener221




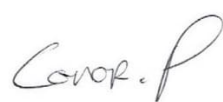
Brett Price

**GEOTECHNICAL REPORT FOR PROPOSED SHED – BUILDING
CONSENT**

Lot 2, Wagener Grove, Pukenui

DOCUMENT CONTROL

Version	Date	Issued For / Comments
1	30/05/2025	Issued for Design

Prepared By	Reviewed and Authorised By
 Caleb Gasston Senior Engineering Geologist/Geophysicist <i>PhD (Geology), MEngNZ</i>	 Conor Pullman Chartered Engineering Geologist <i>BSc, PGDipSci, CMEngNZ (PEngGeol)</i>

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APPENDIX A: ARCHITECTURAL PLANS

APPENDIX B: GEOTECHNICAL INVESTIGATION PLAN

APPENDIX C: GEOTECHNICAL INVESTIGATION DATA

1 EXECUTIVE SUMMARY

Based on the investigation and appraisal of the site reported herein, the proposed building development has been assessed as stable and is generally considered to be suitable for conventional construction in accordance with the relevant codes of practice.

The proposed building platform is generally underlain with dense sand; foundations should extend to a minimum of 0.3 m below cleared ground level. At this depth a geotechnical ultimate bearing capacity of 300 kPa should be available.

All other geotechnical hazards at the site have been assessed as either not present or of acceptable risk provided that the various mitigation measures and good practice recommendations made in this report are adopted.

A summary Table outlining key considerations of this report is provided below. This summary table should not be relied on solely. The report and its appendices should be read in its entirety.

Table 1 – Key considerations of reporting

Key Consideration	Commentary
Mapped Hazards	<i>None</i>
Site Geology & Natural Soils	<i>Dense sands of the Kariotahi Formation.</i>
Groundwater	<i>None encountered</i>
Seismic Site Class	<i>D- deep/soft soil</i>
Liquefaction	<i>Low risk</i>
Compressible Soils	<i>Topsoil and loose sand to 0.2 m bgl.</i>
Expansive Soils	<i>Materials are granular, soil expansivity risk insignificant.</i>
Existing Fill	<i>None encountered beneath building platform</i>
Earthworks	<i>Minimal required to removed topsoil and loose sand beneath concrete slab.</i>
Foundations	<i>Timber pole and shallow pad footings.</i>
Bearing Capacity	<i>GUBC of 300 kPa available at 0.3 m bgl.</i>
Drawing Review Prior To Consent Lodgement	<i>Required</i>
Building Act (Section 71)	<i>No geotechnical hazards were identified effecting the proposed development that cannot be reasonably addressed by typical engineering design and construction.</i>

2 INTRODUCTION

LDE Ltd (LDE) was engaged by Brett Price to undertake a geotechnical investigation of a site located at Lot 2 Wagener Grove, Pukenui, with the legal description Lot 2 DP 323666 (Figure 1), where it is proposed to construct a new shed.

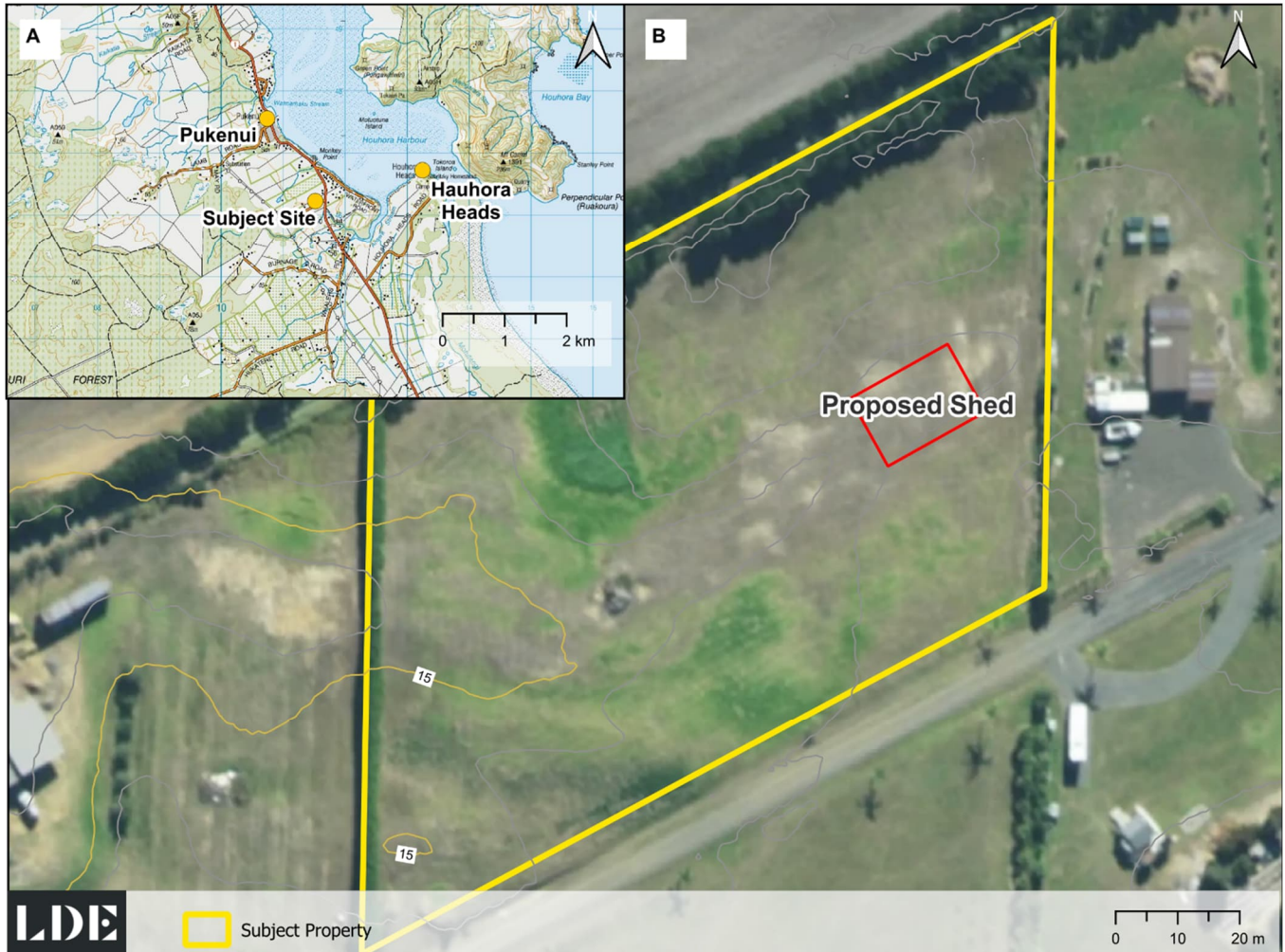


Figure 1: Site location.

2.1 Report Intentions

The purpose of this investigation was to determine and assess the nature of the ground beneath the building site to inform our geotechnical recommendations for site development and design of the building's foundations. The investigation was completed to satisfy the Far North District Council's (Te Kaunihera o Tai Tokerau ki te Roki) engineering standards for building consent (Te Kaunihera o Tai Tokerau ki te Roki, 2023). Plan review of the building's final foundation design will be required prior to an application for building consent.

2.2 Proposed Development

A 162 m² double storey shed constructed with timber framing in accordance with NZS3604 (2011) is proposed, with profiled metal cladding and roofing, and a concrete floor. Preliminary foundations are timber pole footings to support the main structural elements, shallow pads to support timber mullions, and a concrete slab on grade, supporting floor and non-structural loads. The proposed shed is to have sanitary plumbing and is considered for all intents and purposes to be an Importance Level 2 (IL2) structure in accordance with NZS1170.5 (2004).

The proposed development is to include formation of a new driveway from the vehicle crossing in the southern corner, and on-site wastewater and stormwater management.

3 DESKTOP STUDY

3.1 Description & Geomorphology

Lot 2 Wagener Grove is located approximately 1.8 km south of the rural township of Pukenui. The site occupies 1 hectare of flat lying to gently inclined land within a coastal setting, being approximately 450 m from the foreshore of Houhora Harbour. The proposed building platform is situated at the eastern end of the site, on level ground. The subject site and surrounding properties are zoned coastal living under the operative district plan. Wagener grove abuts the southern boundary of the site.

The site currently has a vehicle crossing located in the southern corner of the site but no formed accessway and is outside of the reticulated services boundary.

3.2 Published Geology

The 1:250,000 scale geological map of New Zealand (Heron, 2020) indicates the site as being underlain by Pleistocene-aged deposits of weakly-cemented, parabolic dune sands, of the Kariotahi Group. Our investigation confirms the mapped geology.

The nearest mapped active fault is the Wairoa North Fault located some several hundred kilometers to the south (GNS Science: Te Pū Ao, 2023).

3.3 Historical Site Imagery

A review of available historical aerial imagery (LGGA & Toitū Te Whenua, 2025) and satellite imagery (Google LLC, 2025) has shown that the site was used for pastoral grazing from before 1944 to the early 2000's when it was subdivided into the current lots. In 2020 earthworks were undertaken at the site, cutting down to level the current proposed building platform and filling in a depression to the north.

3.4 Council GIS

A review of Far North District Council and Northland Regional Council's GIS platforms (Te Kaunihera o Te Hiku o te Ika, 2025; Northland Regional Council, 2025) indicates the following in relation to the subject site:

- The liquefaction risk is undetermined.
- Mapped as within a Tsunami Safe Zone
- Not mapped as being within area of known flood or erosion hazard.

3.5 Contaminated Land

No hazardous activities and industries list (HAIL (Ministry for the Environment: Manatū Mō Te Taiao, 2011) activity identified in historic aerials, or in NRC's Selected Land Use Register (Northland Regional Council, 2025).

3.6 Connecting Services

A review of local service connections from FNDC Water Services (Te Kaunihera o Te Hiku o te Ika, 2025) and BeforeUDig responses indicate the site is not reticulated and power is supplied underground. Onsite wastewater disposal system and stormwater detention tanks are proposed as part of this development.

4 GEOTECHNICAL INVESTIGATION

The investigation of the site, completed on 16/05/2025, included the following work:

- A walkover assessment of the site and immediate surrounding area to identify its geomorphology and features which may influence our engineering recommendations or the long-term performance of the ground.
- 2no. 50mm diameter (Ø) hand-augered boreholes to 3.0 m target depth, or refusal. Strength testing was completed using a dynamic cone penetrometer (DCP) in the base of, or adjacent to, borehole test locations.
- Measurements of groundwater levels within invasive subsurface test holes, or in watercourses within or near the site.

Locations of the tests carried out are shown on the testing plan below (Figure 2) and in full within Appendix B. Logs with details of the relevant testing carried out are presented in Appendix C.



Figure 2: Geotechnical investigation plan.

4.1 Subsurface Conditions

A conceptual ground model of the site based on the ground investigation and available information is presented in Table 2 below.

Table 2: Conceptual ground model, informed by soils encountered during investigation across and published geology.

Geological Unit	Description	Depth to base of layer (m bgl)	DCP Blows/100mm range [average]
Topsoil and loose sand	Loose or organic SILT/SAND	0.2	
Weakly cemented dune sand	Dense SAND	3.0+	6-26 [10]

4.2 Groundwater

The groundwater table was not encountered during field testing.

Groundwater fluctuates seasonally, and is typically highest in winter and early spring, and lowest during late summer and early autumn. Based on prevailing weather conditions prior to testing, we consider the level may rise during extended periods of wet weather.

5 NATURAL HAZARDS

This section summarises our assessment of the natural hazards that might affect the site as defined in Section 71(3) of the Building Act (2004), including erosion (including coastal erosion, bank erosion, and sheet erosion), falling debris (including soil, rock, snow and ice), subsidence, inundation (including flooding, overland flow, storm surge, tidal effects and ponding), and slippage.

This section also includes our assessment of ground beneath the building site which is outside the definition of “Good Ground” as defined by the Compliance Document for the NZ Building Code, NZS3604 (Standards New Zealand- Paerewa Aotearoa, 2011) and NZS4229 (Standards New Zealand- Paerewa Aotearoa, 2013). The revised definition of ‘good ground’ no longer includes that which may be subject to liquefaction.

A summary of the hazards the site may be subject to is presented in Table 3 Further details for higher risk hazards are provided in the sections that follow.

Table 3: Natural hazard summary for .

Hazard		Assessment Description	Interpreted Risk
‘Good Ground’	Bearing Capacity	The surficial soils beneath the site are typically Dense. Using Stockwell’s method to determine static geotechnical ultimate bearing capacity (GUBC), soils below a depth of 0.3 m are expected to have a GUBC \geq 300kPa.	LOW
	Expansive Soils	The surficial soils encountered on site are typically granular and do not display characteristics of plasticity at the field moisture content. Soils are considered to be ‘Class A – Sand and Rock’ and non-expansive. $Y_s = 0$ mm.	LOW
Earthquake	Surface Fault Rupture	The GNS Active Faults Database (2020) does not show any faults passing beneath the site. There also does not appear to be any surface expressions which would indicate the presence of an active fault beneath or within proximity of the site.	LOW
	Seismicity	The national seismic hazard model for New Zealand shows that the area has low seismicity, further information on this hazard is detailed in Section 5.2 .	LOW
	Liquefaction	The subject site is underlain by dense sand, with interbedded very dense layers. Ground water was not encountered within our testing and the sand deposits are considered to drain freely. As such we consider the risk of liquefaction impacting on the development to be low. This hazard is detailed further in Section 5.3 .	LOW
Tsunami		The site is sufficiently elevated above the foreshore and is mapped by NRC as being with a Tsunami Safe Zone.	LOW
Slope Instability		The site is generally level and therefore we do not consider there to be a slope stability or landslip hazard.	LOW
Flooding		The site is located outside of areas mapped by NRC as being susceptible to flooding and is located away from significant permanent or ephemeral drainage.	LOW
Erosion (Coastal / River)		The site is not directly on the bank of a river/stream and is 500 m from Hauhora Harbour. The risk of erosion impacting on the subject site is therefore considered to be low.	LOW

Hazard	Assessment Description	Interpreted Risk
Compressible Soils & Settlement	Topsoil, and loose sand were identified in the upper 0.2 m of the soil profile, these should be stripped prior to construction, in accordance with Section 5.4 .	LOW
Notes <ul style="list-style-type: none"> - LDE risk matrixing index values are: insignificant, low, moderate, high, severe. - Multiple factors including, but not limited to, economic impact on development, life safety and frequency of occurrence have been considered in our assessment of the risk of each hazard. - Where the risk is determined to be moderate, high, or severe, further detail is provided in the sections below. - 'Good Ground' as defined in NZS3604 (2011). 		

5.1 Expansivity

No laboratory testing of the soil properties was completed. The soils encountered in our testing were granular (sand). Field plasticity tests found the surficial soils display characteristics of non-plastic materials at the field moisture content. The site subsoils are therefore best regarded as being class 'A - *Sand and Rock*' when assessed in accordance with B1/AS1 (2021).

5.2 Seismic Hazard

5.2.1 Site Subsoil Class

Based on the published geological information for the region discussed in Section 3.2, we consider that the site classification of D- "Deep or Soft Soil" Site is appropriate as defined by NZS1170.5 (2004).

5.2.2 Seismic Actions

In accordance with the NZ Building Code and NZS1170.5 (2004) a proposed residential dwelling is considered Importance Level Two (IL2) with a design working life of 50 years.

- The Serviceability Limit State (SLS) design earthquake has an annual exceedance probability of 1/25.
- The Ultimate Limit State (ULS) design earthquake has an annual exceedance probability of 1/500.
- An intermediate state event (ILS) has been considered in accordance with Module 1 recommendations (2021) and Wairoa District Council requirements (2021), for an annual exceedance probability of 1/100.

Ground motions adopted in accordance with Module 1 (2021) for geotechnical design are summarised in Table 3.

Table 4: Summary of adopted seismic parameters.

Seismic Parameters	SLS	ILS	ULS
Horizontal Peak Ground Accelerations (PGA), g	0.03	0.07	0.19
Effective magnitude, Mw	5.8	5.8	6.5

5.3 Seismic Ground Performance

5.3.1 Liquefaction

The liquefaction susceptibility of the site is mapped as being undetermined on FNDC's Far North Maps (Te Kaunihera o Te Hiku o te Ika, 2025). A quantitative liquefaction assessment was outside our work scope. However, a qualitative assessment based on our site investigation and desktop study has been undertaken. Our investigation identified dense sand to beyond our depth of testing at 3.0 m, and the groundwater table was not encountered.

Given Northland's low level of anticipated seismicity (GNS Science, 2025) and the presence of at least 3.0 m of non-liquefiable crust beneath the building platform, we consider the risk of liquefaction impacting on the development to be low.

5.4 Compressible Soils

Topsoil is compressible and was identified from 0.0 m to 0.1 m below ground level (bgl). The investigations found that the upper 200 mm of the natural subsoils are loose making them unsuitable to support floor and structural loads. Topsoil and loose sand will need to be removed prior to placing fill or constructing foundations

6 ENGINEERING RECOMMENDATIONS

6.1 Design Considerations

Based on the scope of work completed, the following aspects need to be considered in foundation design:

- NZS1170.5 (2004) Seismic Site Subsoil Class D - Deep or soft soil.
- GUBC of 300 kPa below a depth of 0.3 m.

6.2 Accessway

Access is proposed to be gained using the existing vehicle crossing. A metalled driveway is proposed to extend from the vehicle crossing to the proposed shed, as shown on the site plan in Appendix A. Minimal earthworks are expected to be required to achieve this. Prior to placing and compacting the gravel/ metal for the driveway, any topsoil and unsuitable/compressible materials should be removed. Removing the topsoil will improve compaction capabilities and reduce the risk of future settlement and rutting during the lifetime of the accessway.

6.3 Foundation Recommendations

6.3.1 Bearing Capacity

Using Stockwell's (1977) correlation of allowable bearing capacity and dynamic cone penetrometer testing in the surficial soils indicate that natural ground with a geotechnical ultimate bearing capacity (GUBC) of 300kPa (100kPa allowable) is available across the site below a depth of 0.3 m.

6.3.2 Foundation Type

Based on the site investigation and analysis, we consider that timber pole footings are suitable for the site to support the structure of the shed, and that shallow pad foundations are suitable to support the timber mullions, subject to all foundations extending to a minimum depth of 0.3 m below cleared ground.

We understand that the concrete slab which is to support the floor is to be tied into the structure, i.e., it is not to be 'floating'. To mitigate settlement of the concrete slab, and adverse effects on the structure, all topsoil, and loose or compressible materials will need to be excavated from beneath the building footprint and replaced with engineered fill in accordance with Section 6.3.3 to Section 6.3.5.

6.3.3 Unsuitable Material

All foundation excavations must extend to natural ground, free from organic, deleterious or otherwise unsuitable material. Our investigations indicate that unsuitable materials extend to at least 0.2 m depth below existing ground level.

6.3.4 Excavation & Filling

An excavation to a **minimum** of 0.2 m BGL is required to remove the topsoil and loose sand beneath the proposed structure. The excavation for the concrete raft must extend beyond the perimeter of the foundation by a horizontal distance equal to the depth of the excavation below the underside of the foundation, i.e. a 1H:1V ratio.

We recommend that the excavation be backfilled up to the underside of the prep/blinding layer for the slab with engineered fill such as GAP40, or compacted clean beach sand. The fill will support floor loads only.

Our specification for excavation and filling is presented in Section 6.3.5.

6.3.5 Fill Specification

All fill forming part of the building platform needs to be placed in a controlled manner to an engineering specification that follows the general methodology given in NZS 4431 (2022) "Engineered Fill Construction for Lightweight Structures". This includes the design, inspection and certification of the fill by a Chartered Professional Engineer or

Professional Engineering Geologist. This will be particularly important to enable the building proposed for the site to be able to be constructed in accordance with NZS3604 (2011) “Timber Framed Buildings”.

to establish the compaction criteria associated with the air voids and dry density earthworks controls.

The following specification is recommended:

1. All topsoil and unsuitable materials, including low strength ground, uncontrolled fill, rubbish etc shall be stripped from the footprint area of the fill.
1. Where fill is placed on subgrade slopes steeper than 1V:5H the subgrade shall be benched. Fill should not be placed on slopes steeper than 1V:3H without specific assessment.
2. The fill footprint area shall be inspected by the certifying engineer’s representative prior to the placement of fill.
3. The fill shall comprise of crushed granular material compacted in layers not exceeding 200mm loose thickness. The fill shall be compacted to achieve the minimum strengths provided in Table 1 below.
4. The compacted fill should be inspected by a suitably experienced geotechnical engineer or engineering geologist prior to constructing the foundations. The testing frequency and specification should be confirmed with the contractor prior to commencing work.

Table 5: Recommended Fill Compaction Criteria

Clegg Impact Value (CIV) – for compacted gravels		
	No Value Less Than	25

Provision should be made to ensure that the earthworks are conducted with due respect for the weather, particularly due to the low permeability of the underlying ground. The fill should not be placed on to wet ground, especially if ponded water is present.

The engineered fill should extend a minimum of 1m beyond the edge of the building footprint or the depth of the fill outside the footprint if this exceeds 1m, whichever is greatest.

6.3.6 Buried Services in Foundation Construction

Any disused buried services encountered within the foundation excavation should be removed and chased out of the building footprint.

6.3.7 Water in Foundation Construction

Given the site subsoils are composed of sand, consideration should be made for the potential of water entering excavations during construction. Sandy materials are prone to collapse if exposed to water during excavation, as such care should be taken to ensure excavations are not undertaken during periods of prolonged or heavy rainfall.

Significant complications can be encountered where excavation below, or close to, groundwater is required.

6.4 Settlement

Provided that the recommendations above are adhered to, we expect static load settlements to be less than 25mm, and static differential settlements are expected to be within design tolerances.

6.5 Site Contouring and Topsoiling

The finished ground level should be graded so that water cannot pond against, beneath or around the buildings for the economic life of structure.

Contouring should avoid the potential for concentration and discharge of surface water over point locations which could result in soil erosion or instability.

6.6 Surface Water

The site is not connected to the reticulated network. Rainwater will be collected from the roof for general household use. The stormwater system for the buildings should be operational as soon as the roof is in place. This is to ensure that the ground within the vicinity of the building is not compromised by the negative effects and potential consequences of soil saturation.

6.6.1 Effluent Disposal

The site is not proposed to be connected to the Council sewerage reticulation network. An onsite wastewater disposal system has been designed by WaterFlow. The design features are reported in their report ref WF11934-R2, dated 16/10/2024.

6.6.2 Service Pipes

All service pipes, stormwater structures should be designed and constructed to ensure adequate capacity, strength, and water tightness to prevent leakage into the platform through blockage, running under pressure, or structural failure.

All service pipes installed within any fill should be flexible, or flexibly joined, so that they may deflect without breaking if the ground settles.

A record should be kept of the position, type, and size of all subsoil drains, and in particular of their outlets.

6.7 Trees and Shrubs

If new trees, shrubs or gardens are established near the structure, care should be taken to ensure:

- The vegetation does not interfere with any subfloor ventilation or services to the structure.
- Over-watering of the vegetation does not saturate the ground near the foundations.
- Trees or shrubs with the potential to develop significant root systems should be planted a minimum distance equal to the mature height of the plant away from the foundations.

7 PLAN REVIEW

Prior to an application for Building Consent, it is important we are given the opportunity to review the final development drawings to ensure the recommendations contained within this report have been followed and interpreted correctly. Following successful review of the development drawings, we are able to update this report to support an application for Building Consent.

8 SUSTAINABILITY

Considering sustainability as early as possible in a project's development, could lead to significant project opportunities and wider positive outcomes. Geotechnical opportunities for increased sustainability for this project include:

- Striping and stocking topsoil for reuse (dependant on presence/ levels of contaminants).
- Designing for cut and fill balance where possible.
- Reuse of site won materials, or using materials won from other sites including use of recycled crushed concrete aggregate for hard fill.
- Contributing site investigation data to the New Zealand Geotechnical Database (NZGD) to help reduce the site investigations needed in the future.
- Using local consultants and contractors to reduce transport related emissions.

9 SAFETY IN DESIGN

Safety in design (SiD) needs to be considered for all projects and is a requirement of the Health and Safety at Work Act (2015). We understand that the proposed structure will be built in situ.

Safety around excavations is a key risk during construction. Excavations including pile excavation should not be left open for prolonged periods, as exposure to wind/rain may induce collapse. Fall restraint may be required when working near deep excavations, and excavations shall be secured with fencing/ fall prevention. Some excavations

may trigger the notification to Worksafe for hazardous work under Regulation 26 of the Health and Safety in Employment Regulations (1995).

We recommend SiD notes are attached to all drawings submitted for consent. Furthermore, during plan review LDE will check that the foundation drawings include our SiD recommendations to ensure these have been considered in the construction methodology.

10 SITE VERIFICATION

It should be noted that the Building Consent Authority (BCA) frequently requires a Producer Statement-Construction Review (PS4) to be submitted to the BCA for Code of Compliance Certification (CCC) to be issued. A PS4 is usually required for the geotechnical specialist area. The requirement for a consultant to issue a PS4-geotechnical will likely appear as a condition in the Building Consent documents. In order to issue a PS4 LDE must undertake inspections of relevant works to verify that the ground conditions adhere to the findings of this report and that the recommendations of this report have been followed correctly.

It is the Consent Holders responsibility to notify LDE Ltd. for geotechnical construction inspections and testing required for subsequent issue of a PS4. Retrospective inspection of completed or partially completed geotechnical work is not possible and a PS4 cannot be issued without all the required inspections.

It is the Client's responsibility to ensure that any inspections that are required during construction are notified to us and that we are requested to carry out those inspections with adequate prior notice (at least 48 hours).

We anticipate the following elements will require inspection by a geotechnical specialist:

- i) Soil conditions associated with the stripped beneath the concrete slab once topsoil and unsuitable materials have been removed. Specifically, testing of the subgrade soils prior to placement of engineered fill or construction with concrete will be required.
- ii) Soil conditions within pile and pad foundation excavations. Specifically testing of the soils within foundations prior to placing steel or pouring concrete.

11 SECTION 72 STATEMENT

Subject to the adoption in full of the recommendations within this report, it is our opinion in terms of section 72 of the building act that;

- a) The land is not subject to and is unlikely to be subject to 1 or more natural hazards; and

- b) The building work to which an application for a building consent relates will not accelerate, worsen, or result in a natural hazard on the land on which the building work is to be carried out or on any other property.

12 LIMITATIONS

This report should be read and reproduced in its entirety including the limitations to understand the context of the opinions and recommendations given.

This report has been prepared exclusively for Brett Price in accordance with the brief given to us or the agreed scope and they will be deemed the exclusive owner on full and final payment of the invoice. Information, opinions, and recommendations contained within this report can only be used for the purposes with which it was intended. LDE accepts no liability or responsibility whatsoever for any use or reliance on the report by any party other than the owner or parties working for or on behalf of the owner, such as local authorities, and for purposes beyond those for which it was intended.

This report was prepared in general accordance with current standards, codes and best practice at the time of this report. These may be subject to change.

Opinions given in this report are based on visual methods and subsurface investigations at discrete locations designed to the constraints of the project scope to provide the best assessment of the environment. It must be appreciated that the nature and continuity of the subsurface materials between these locations are inferred and that actual conditions could vary from that described herein. We should be contacted immediately if the conditions are found to differ from those described in this report.

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APPENDIX A
ARCHITECTURAL
PLANS

Earthworks / site preparation

Site to be cleared of topsoil for flat building platform.
All topsoil to be retained on site for reinstatement.

Construction Hazards / Site Safety - NZBC F5

Building site area access is restricted due to location. Ensure restricted access to children, & allow controlled access for contractors, territorial authority or authorised personel only.

Ensure all on site Hazards are clearly identified and listed on Hazard Site Boards.

Drainage

All drainage is to comply with NZS/AS3500 & NZ Building Code. Confirm location & position of all drains on site.
Pipe junctions 45 degree or swept bends.
All downpipes 80mm dia sized to table NZBC E1 surface water. and stormwater drainage laid as per E1/AS1.

Floor Levels

Floor levels on site plan are for planning. Finish floor levels may be adjusted to suit site conditions. Confirm with designer prior to finalising or making changes.
Minimum concrete floor level to ground level = 225mm

Wastewater Treatment System

Refer to Waterflow NZ 'Onsite Wastewater Design Report.

Sediment & Dust Management

Erosion Controls

- Install clean water diversion measures (sandbags or bunding) to divert surface water around the work site.
- Cover stockpiled material completely and securely with impermeable material like tarpaulin or polythene sheet. Re-vegetate stockpiles that will be kept on site long term.
- Do not stockpile material near stormwater catchpits, kerb channels, in over land flow paths or on gradients steeper than 15 per cent.

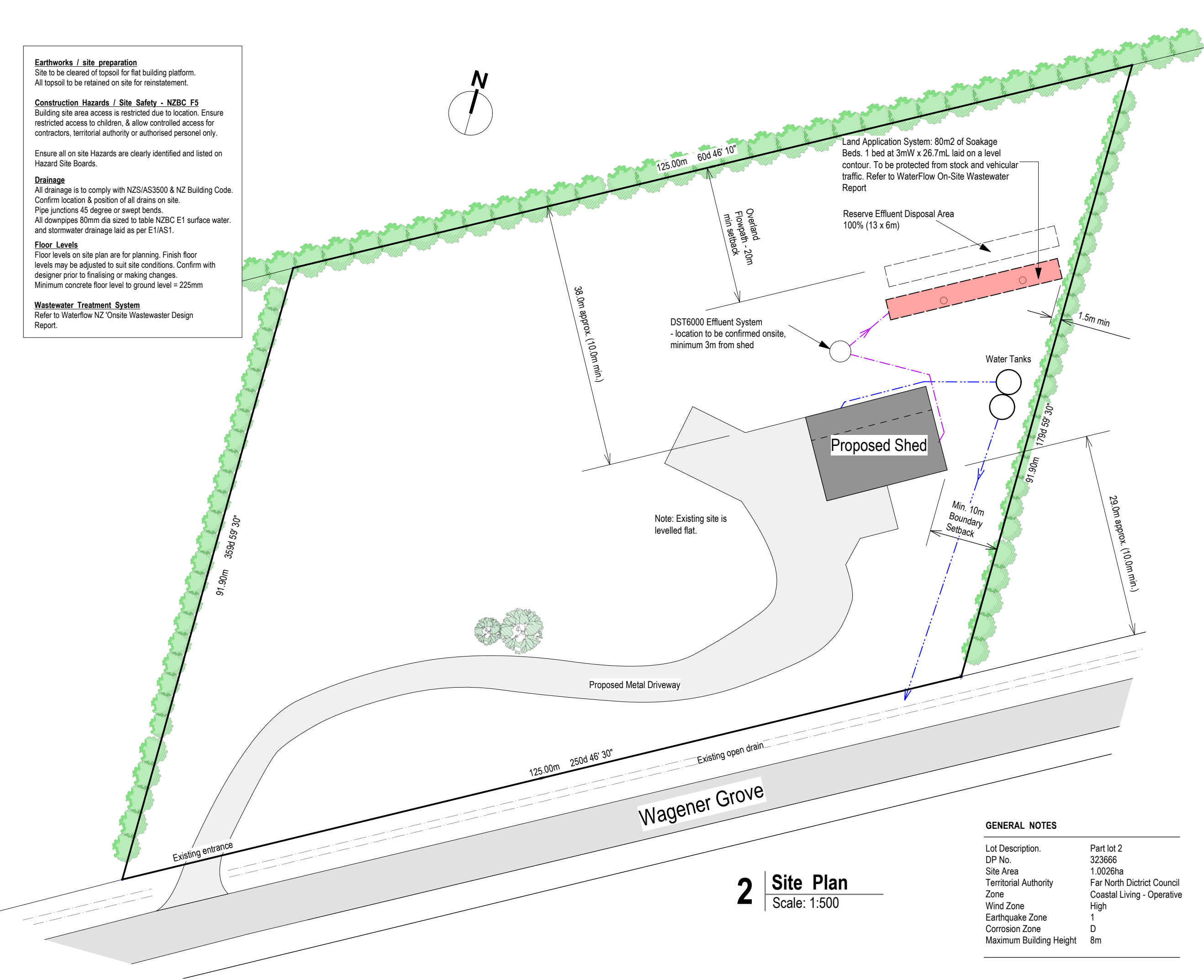
Sediment Controls

- Regularly sweep up anu dust and dispose of it properly so that it will not become airborne or enter surface water.
- Install stormwater catchpit protection measures (filter bags, geotextile material, silt fences, filter socks etc) as a form of secondary control.
- For large sites or works areas, especially when working close to watercourse, install a silt fence around works area and stockpiles.

Silt Fence Installation

- 600mm high silt detention fence to be erected around side and lower areas for duration of project using geofabric supported with waratahs or post hammer-staked at least 400mm deep on the downhill side of the fabric, no more than 2m apart.
- be installed in a trench 200mm deep x 100mm wide.
- be 600mm high above ground, with an additional 200mm of cloth below ground in the trench.
- have each end of the fence return up the slope roughly 2m to prevent water going around the edges.
- be anchored by backfilling the trench and placing soil on top of the fabric.

Refer to GD05 Erosion & Sediment Control Guide for compliance - Auckland Council.



2 Site Plan
Scale: 1:500

GENERAL NOTES

Lot Description.	Part lot 2
DP No.	323666
Site Area	1.0026ha
Territorial Authority	Far North District Council
Zone	Coastal Living - Operative
Wind Zone	High
Earthquake Zone	1
Corrosion Zone	D
Maximum Building Height	8m

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Job:

Proposed New Shed for
B & R Price

Address:

Lot 2, Wagener Grove, Pukenui
0484, Houhora, Northland

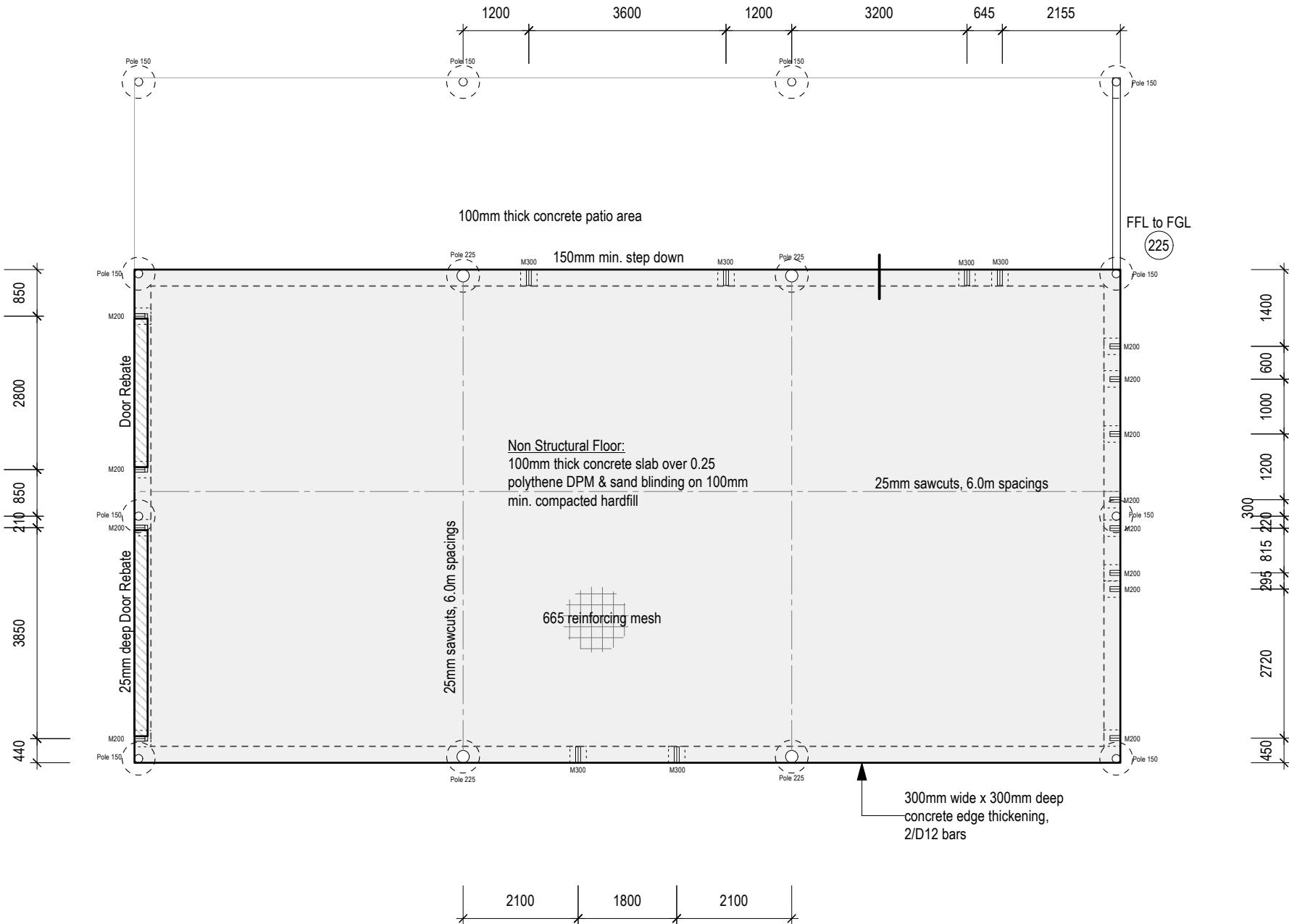
Dwg: Site Plan

Date: 25/03/2025 Rev:

Ref: 25-07 Scale: As Noted

Dwn: VM Ckd: MG

Sheet: A-02 Of: 16



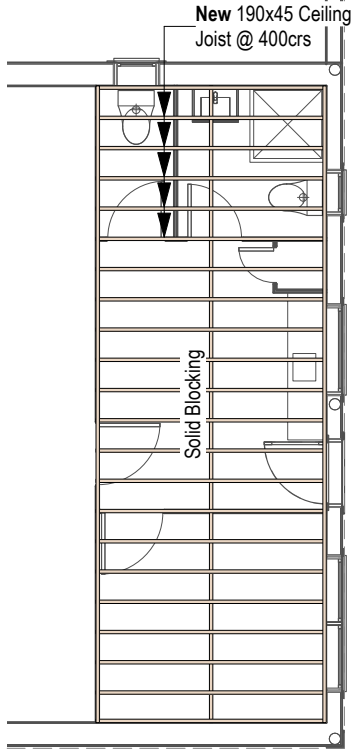
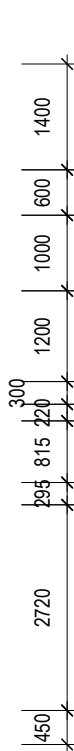
1 Slab/Foundation Plan
Scale: 1:100

NOTE: Refer to 'Endeavor Sheds' Structural Plans (Ref: BA18-2) for all structural plans & details

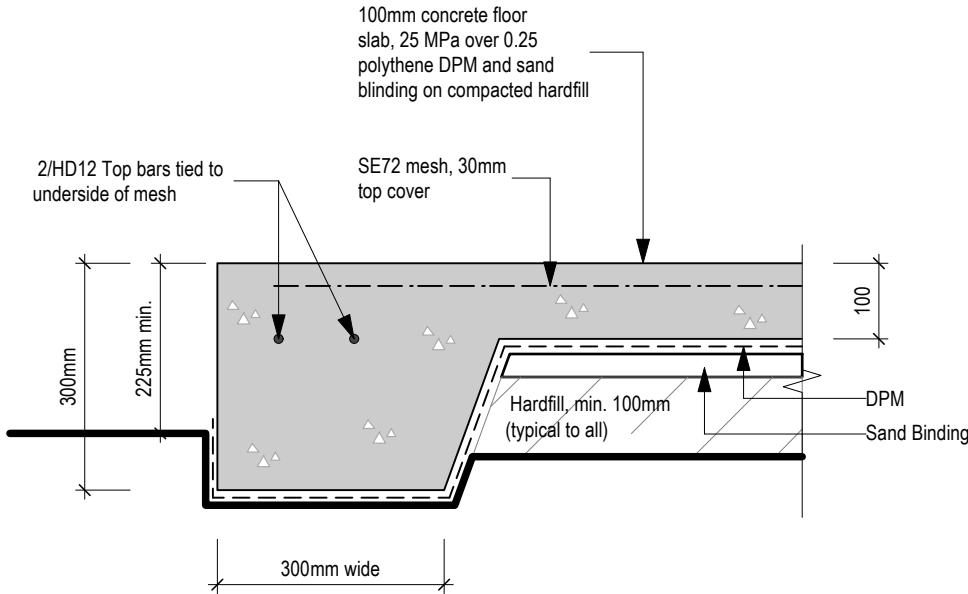
NOTES

Timber Bottom Plate to Concrete Slab Fixings
= M12 anchor bolts with 50x50x3mm washers, @1200 crs max. Bolts Min. 120mm into slab, min. 50mm from Slab edge. Bolts set within 150mm of each end of the plate. DPC to u/side of bottom plate.

Ceiling Joists to top plate / support
= 3 x skewed 90 x 3.15 power-driven nails.



3 Shed Ceiling Plan_Proposed
Scale: 1:100



FD01 Concrete Footing Detail
Scale: 1:10 Ref: A-07, A-09

General Notes

All rafters, beams, bearers and joists to be MSG8 minimum grade.

Refer to Endeavor Sheds Consent Plan Set, Ref: BA18-2 for full working drawings, structural plans and details.

Timber treatment

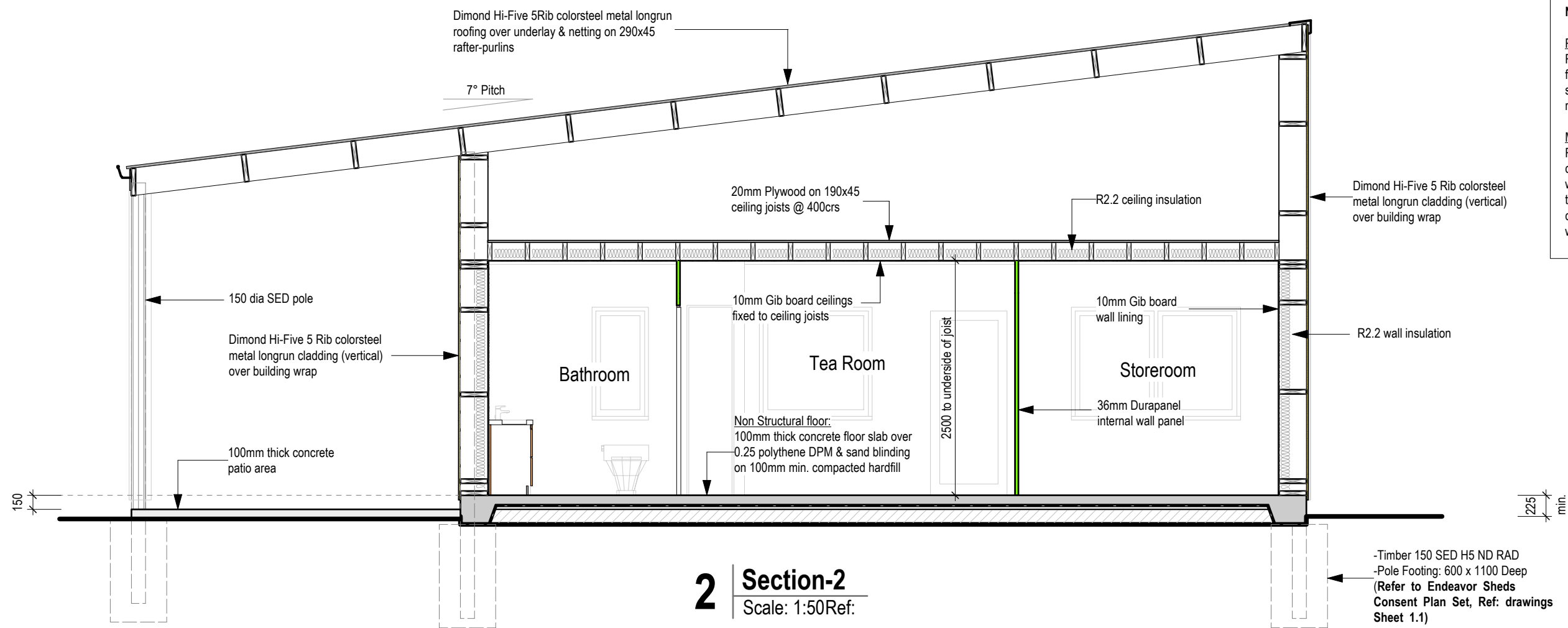
Exterior timber

Piles / poles - H5
Exposed posts, joists & decking - H3.2
Enclosed deck & roof framing - H3.1
Enclosed Bearers - H3.1
Exposed beams - H3.2
Exposed Bearers - H3.2

Floor joists - H1.2

Interior timber

Wall framing - H1.2
Bottom plates - H1.2
Wet area framing - H1.2
Window / door framing (external walls) - H1.2
Rafters, trusses, purlins - H1.2



NOTES:

Roofing Details

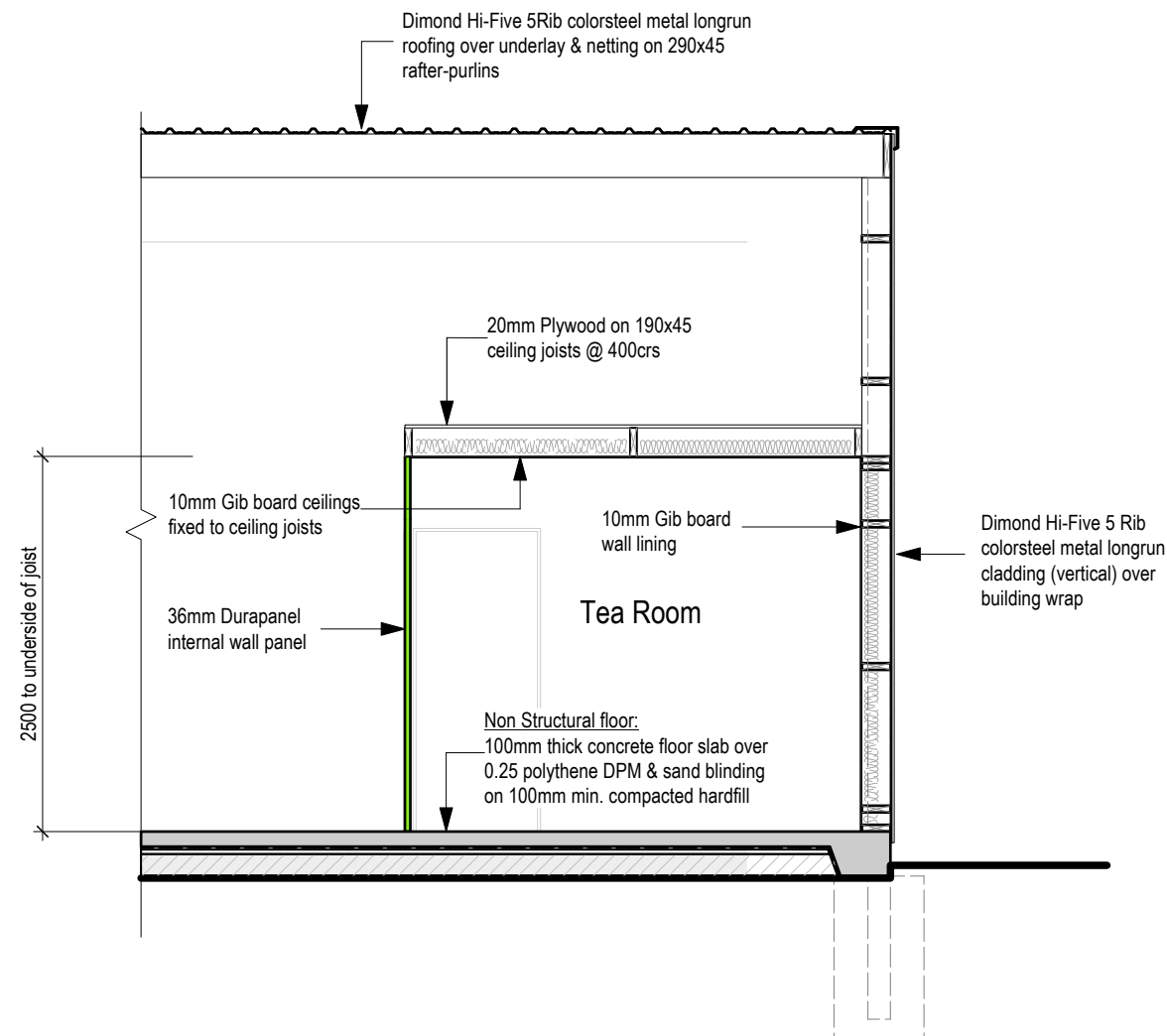
Refer to Endeavor Sheds Plans and details for roofing fixing and details. Note: Thermakraft Covertek 401 (or similar) underlay & netting is to be added to u/side of roofing.

Metal Cladding Details

Refer to Endeavor Sheds Plans & details for all cladding junction & flashing details. Note: Tekton wall wrap (or similar) is to be added / installed to outside of timber framing under metal cladding. Refer to additional cladding details on sheets C01 & C02 showing added wall underlay, and flashing tapes at window junctions.

1 Section 1

Scale: 1:50Ref:



Timber treatment

Exterior timber

Piles / poles - H5
Exposed posts, joists & decking - H3.2
Enclosed deck & roof framing - H3.1
Enclosed Bearers - H3.1
Exposed beams - H3.2
Exposed Bearers - H3.2

Timber weatherboards - H3.1
Fascia / barges - H3.1
Sarking - H3.1
Cavity battens - H3.1
Floor joists - H1.2

Interior timber

Wall framing - H1.2
Bottom plates - H1.2
Wet area framing - H1.2
Window / door framing (external walls) - H1.2
Rafters, trusses, purlins - H1.2

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= M12 anchor bolts with 50x50x3mm washers, @1200 crs max. Bolts Min. 120mm into slab, min. 50mm from Slab edge. Bolts set within 150mm of each end of the plate. DPC to u/side of bottom plate

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Job:

Proposed New Shed for
B & R Price

Address:

Lot 2, Wagener Grove, Pukenui
0484, Houhora, Northland

Dwg: Section 1 & 2

Date: 25/03/2025 Rev:

Ref: 25-07 Scale: As Noted

Dwn: VM Ckd: MG

Sheet: A-09 Of: 16

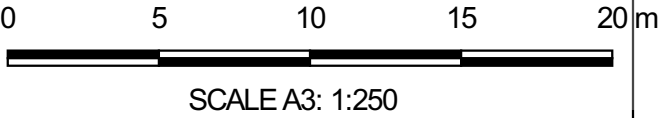
APPENDIX B

GEOTECHNICAL INVESTIGATION PLAN



LEGEND

- Geotechnical Testing
- Hand Auger + DCP
- Basemaps
- LINZ Aerial Imagery
 - Aerial Imagery Basemap



- NOTES
1. Aerial basemap and property boundaries sourced from LINZ Data Service (CC-BY 4.0).
 2. Topographic contours derived from LiDAR data.
 3. Investigation locations shown approximately only.
 4. Development scheme plan provided by Going Architectural.

CLIENT
Brett Price

PROJECT
Geotechnical Investigation for Proposed Shed
Lot 2 Wagener Grove,
Pukenui

DRAWING TITLE
Geotechnical Investigation Plan



PROJECT REF 28718	DRAWING REF 28718-1	REVISION A
DATE 30/05/2025	PREPARED BY CJG	CHECKED BY -
FILE PATH M-FILES\LDE - Project\10267-28718\Geo QGIS Zip Folder (ID 79084)\28718 QGIS Site Maps\28718 2 Wagener Grove.qgz		

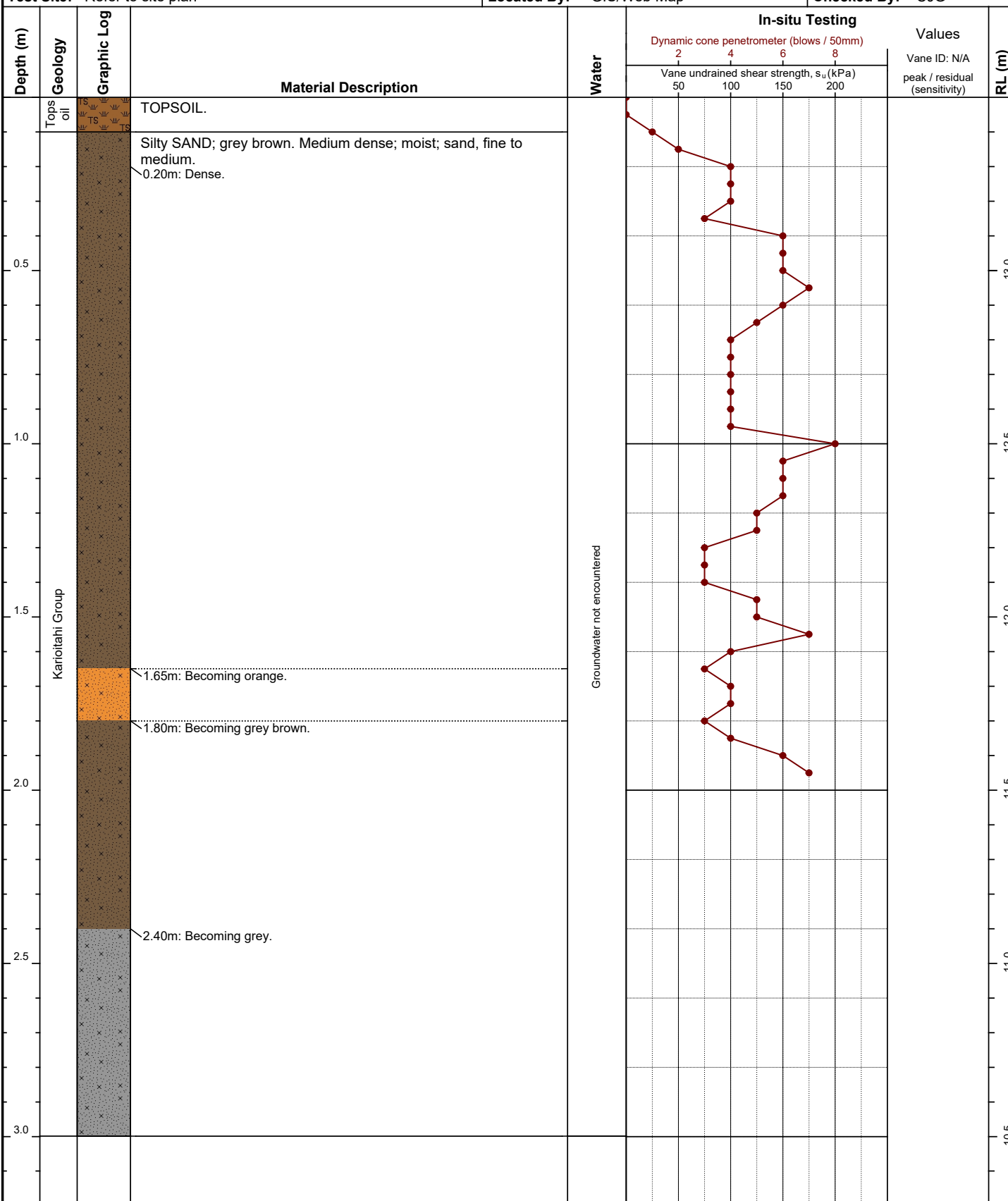
APPENDIX C

INVESTIGATION LOGS

Client:	Brett Price
Project:	2 Wagener Grove, Pukenui
Location:	
Test Site:	Refer to site plan

Coordinates:	6146225mN, 1611545mE
System:	NZTM
Elevation:	13.5m
Located By:	GIS/Web Map

Test Date:	16/05/2025
Logged By:	CJG
Prepared By:	EG
Checked By:	CJG


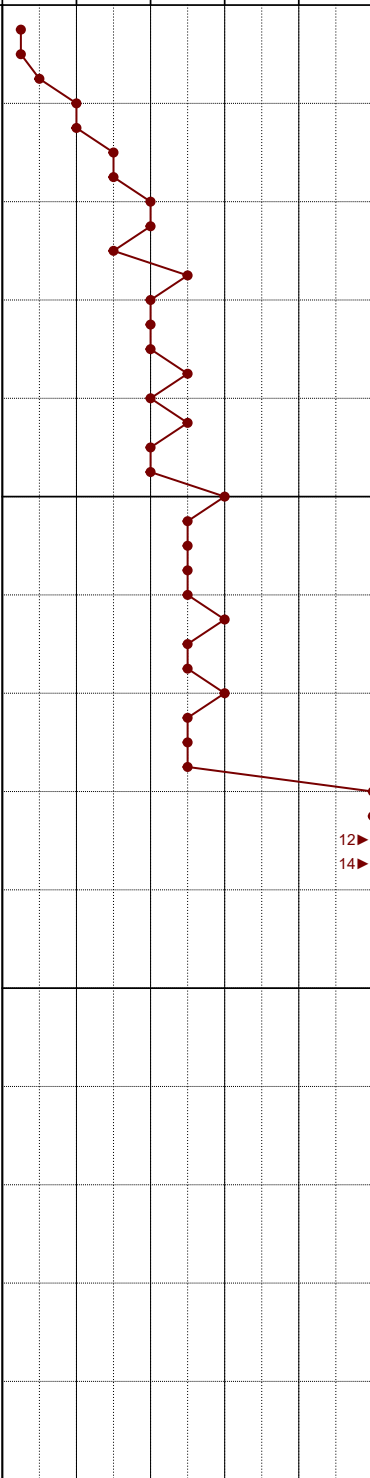


Hole Depth: 3.00m	Termination: Reached target depth
--------------------------	--

Remarks:

Materials are described in general accordance with NZGS 'Field Description of Soil and Rock' (2005). No correlation is implied between shear vane and DCP values.

- Vane peak ▼ Standing water level
 ○ Vane residual ◁ Groundwater inflow
 ◆ Vane UTP ▷ Groundwater outflow
- UTP = Unable to Penetrate

LDE engineers • scientists				Hand Auger Borehole Log				Test ID: HA02				
Client: Brett Price Project: 2 Wagener Grove, Pukenui Location: Test Site: Refer to site plan				Coordinates: 6146217mN, 1611531mE System: NZTM Elevation: 13.6m Located By: GIS/Web Map				Project ID: 28718				
								Sheet: 1 of 1				
								Test Date: 16/05/2025				
								Logged By: CJG				
								Prepared By: EG				
								Checked By: CJG				
Depth (m)	Geology	Graphic Log	Material Description	Water	In-situ Testing				Values	RL (m)		
					Dynamic cone penetrometer (blows / 50mm)						Vane ID: N/A peak / residual (sensitivity)	
					Vane undrained shear strength, s _u (kPa)							
	Tops oil		Silty sandy TOPSOIL; brown; organic.	Groundwater not encountered						13.5		
			Silty SAND; grey brown. Medium dense; moist.								13.0	
0.5			0.40m: Dense.									13.0
1.0												
1.5	Karioitahi Group											12.5
			Becoming orange. Very dense.									
2.0											12.0	
						</						