

Land-Use Consent for
W & L Jones Properties Limited
294D Waipapa Road, Kerikeri

Date: 21 August 2024

Please find attached:

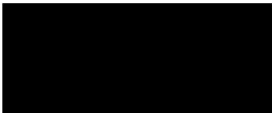
- an application form for a Land-use Resource Consent to construct a 100m² shed on a site located in the **Rural Production Zone** in the Operative District Plan and the proposed **Rural Residential Zone** in the Proposed District Plan; and
- an Assessment of Environmental Effects of the potential and actual effects of the proposal on the environment.

The application has been assessed as a **Discretionary Activity** for a breach to the Far North Operative District Plan (ODP) Stormwater management Rule 8.6.5.1.3 for the Rural Production Zone and has been assessed as a **Permitted Activity** under the Proposed Far North District Plan (PDP).

If you require further information, please do not hesitate to contact the me.

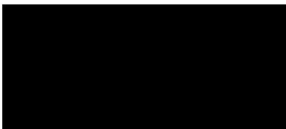
Regards,

Deanne Rogers



Consultant Planner

Reviewed by:



Rochelle Jacobs
Director/Senior Planner

NORTHLAND PLANNING & DEVELOPMENT 2020 LIMITED



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Attachments:

- 1. FNDC Application Form**
- 2. Record of Title and Consent Notices – LINZ**
- 3. Site Plan – *Kiwi Shed Northland***
- 4. Building Elevation Plans – *The Northland Group – Wide Span Sheds***
- 5. Geotechnical Report – *Wilton Joubert***
- 6. Stormwater Report – *Wilton Joubert***
- 7. Traffic Assessment Report – *Engineering Outcomes***
- 8. Traffic Assessment Report (2020) – *Engineering Outcomes***
- 9. Resource Consent Decision RC 2200212 – *Far North District Council***
- 10. Resource Consent Approved Plan RC 2200212 – *Far North District Council***



Assessment of Environment Effects Report

1. Description of the Proposed Activity

- 1.1 The Applicant seeks resource consent to locate a new 100m² storage shed on a site at 294D Waipapa Road. The site is the location of the commercial storage unit business 'U Store It Kerikeri'.
- 1.2 The proposed shed is 10m x 10m (100m²). The height is 4.68 metres at the roof apex. The shed cladding and roof material is profiled metal. The shed will be setback more than 10m from the site's western boundary in line with the existing storage unit sheds. The purpose of the shed is for the storage of the business owners' personal items and will not form part of the commercial lease activity. Other than the 100m² shed building, no additional impermeable surfaces are required to be formed. The location of the shed is illustrated on the Kiwi Shed Northland site plan attached at **Attachment 3**. Building elevation plans are attached at **Attachment 4**.
- 1.3 Some removal of existing vegetation along the northern side of the existing north-west storage shed is required. Replacement planting will be provided on the north side of the new shed post construction to visually screen the new building. A landscape plan will be provided in conjunction with the building consent application as required by consent notice 10766316.5 described in Section 3 below.
- 1.4 Minimal earthworks are required to construct the shed foundation. It is intended that the building site area be raised slightly by approximately 0.30m to match the ground level of the existing shed to the south. For building consent purposes, Wilton Joubert has assessed the geotechnical suitability of the shed location and provided recommendations for appropriate building foundations and floor levels for the avoidance of flood inundation. The report notes that the construction of the existing sheds involved raising the overall ground height of the building area by 0.30m, which is not reflected in the NRC GIS Flood Hazard Map. A copy of the Wilton Joubert geotechnical report dated 8 August 2024 is attached at **Attachment 5**.
- 1.5 In accordance with FNDC Engineering Design Standards 2023, Wilton Joubert has also designed an updated stormwater management system for the site that includes all of the existing impermeable surfaces and the new building. To attenuate stormwater runoff back to 80% of pre-development flow rates for the 1% AEP storm event, (and with an allowance for climate change) the report proposes that all roof water runoff is drained via a proprietary guttering system to an existing catchpit that drains to the existing stormwater pond at the rear of the site. The report concludes that the existing detention pond and orifice configuration will provide adequate attenuation to account for the addition of the proposed shed. A copy of the Wilton Joubert stormwater report dated 29th May 2024 is attached at **Attachment 6**.
- 1.6 Road access to the shed would continue to be via the existing shared driveway.



- 1.7 Dean Scanlan of Engineering Solutions has reassessed the traffic movements generated by the storage unit business and confirmed that these remain with the permitted standards of the ODP. A copy of this traffic impact assessment report is attached at **Attachment 7**.

2. Site and Surrounds Description

- 2.1 The application site is located at 294D Waipapa Road, Kerikeri (refer Figure 1 below). The site is legally described as Lot 7 DP 475668. A copy of the record of title is attached at **Attachment 2**. The site area includes the existing shared driveway, over which there is ROW easement for vehicle access, stormwater drainage, electricity, water supply and sewerage in favour of adjacent properties. The Far North District Council reticulated water supply runs along the northern side of Waipapa Road.
- 2.2 The site is a 1.3344-hectare rural property that includes four main sheds containing 64 storage units. A 270m long existing sealed driveway extends from the site entrance on Waipapa Road to the rear sites. The location of the existing shed and impermeable surfaces with their calculated dimensions is notated on the Wilton Joubert 'Impermeable Area' plan attached at **Attachment 9**. The total existing impermeable area on the site comprises the following:
- Existing shared driveway – 1,919m²
 - Existing sheds – 1,180m²
 - Existing yard vehicle circulation area (gravel) – 1,932m²
- Total = 5,031m² (or 38.44%)**
- 2.3 The addition of the shed will increase the total area or impermeable surface on the site to **5,131m² or 38.45%**.
- 2.4 The overall building coverage area on the site will increase by 100m² from 1,180m² to 1,280m² or 9% of the site area.
- 2.5 The northern part of the site is permeable and includes an existing constructed stormwater (attenuation) pond within a fenced pasture area. The dimensions of the pond are 35.5m long by 15m in width (532.5m²). The pond outlet is fitted with a 170mmØ orifice located 210mm below the overflow outlet to attenuate the post-development flows back to 80% of the pre-development flows.
- 2.6 The site does not contain any significant indigenous vegetation or natural inland wetlands.
- 2.7 The site is not a HAIL site as mapped by Far North District Council.
- 2.8 The site soil type is LUC 3w2. It is considered that the site is exempt from the definition of highly productive land under Clause 3.5 (7)(b) of the National Policy Statement for Highly Productive Land. The site is not being used for productive land use activities and is largely occupied by the consented commercial storage unit business. The inclusion of a smaller 100m² is a secondary



accessory building activity that will have no effect on the overall productive use of the site. The council has proposed a rural-residential zone for the site.

- 2.9 The surrounding semi-rural environment along Waipapa Road comprises mixed sized lots in the Rural Production Zone. Many sites are located with access from shared driveways. The immediately adjacent properties are a mix of commercial and residential sites.



Figure 1 - Aerial view of the site and the surrounding properties - Source: Prover

3. Consent History

- 3.1 The application site Lot 7 DP 475668 was established in 2010 by way of a management plan type subdivision consent (RC 2051237) that created 7 lots over four stages. Lot 7 and building development on the site are subject to the following consent notices:

5841227.2

- i. The operation of agricultural and horticultural equipment including sprays and chemicals (Subject to compliance with any relevant legislation) may be a permitted activity. Accordingly, where rainwater is collected from exposed surfaces for human consumption in connection with any new residential development, the occupiers of any such dwelling shall install an approved water filtration system. The water quality system is to meet the guidelines contained within the Ministry of Health publication dated 1995 entitled "Guidelines for Drinking Water Quality Management for NZ" and any subsequent amendments.

10766316.5

Lots 3 & 7 DP 475668

- i. Each lot will require an aerobic treatment plant or equivalent to provide satisfactory treatment of wastewater prior to disposal. The on-going operation and maintenance of the system is to be covered by a maintenance agreement undertaken by the system supplier or its authorised agent.



- ii. Any building consent shall be accompanied by a landscape plan prepared by a suitably qualified Landscape architect. The plan shall be designed to assist the built development to be absorbed into the rural landscape and to enhance rural amenity. The plan shall be implemented within the last planting season following completion of the exterior of the dwelling and be maintained on a continuing basis thereafter.
 - iii. Any dwelling will require foundations specifically designed by a Chartered Professional Engineer, the details of which shall be submitted in conjunction with the Building Consent application.
 - iv. No dwelling shall be erected within 20 metres of the slip area "A" as shown on the scheme plan annotated by Duffill Watts & King Ltd as part of their Engineering Report (dated March 2005) submitted with the resource consent application.
 - v. The landowners and occupiers shall maintain on a continuing basis all paintings, weed control and works undertaken in accordance with the approved management plan.
- 3.2 The site does not contain any residential activity, therefore 5841227.2 does not currently apply. Consent notice 9862627.2 does not apply to Lot 7.
- 3.3 There remains a building consent requirement to provide a landscape plan prepared by a suitably qualified landscape architect at the time of building consent. Copies of the consent notice instruments are attached at **Attachment 2**.
- 3.4 The site has a land use resource consent (RC 2200212) for the 'U-Store Kerikeri' commercial storage business purposes. The consent authorizes the use of 64 lockable storage units located within four large sheds (two of which were existing at the time of application) as indicated on the approved plan (see Figure 2 below). The resource consent also authorized 5,299m² (or 39.7%) of impermeable surface that includes the shared driveway¹. A copy of the approved resource consent and plans is attached at **Attachment 9** and **10**.
- 3.5 Traffic movements associated with the business were assessed to be a permitted activity.

¹ Refer approved stamped plans RC 2200212 dated 23/12/2020



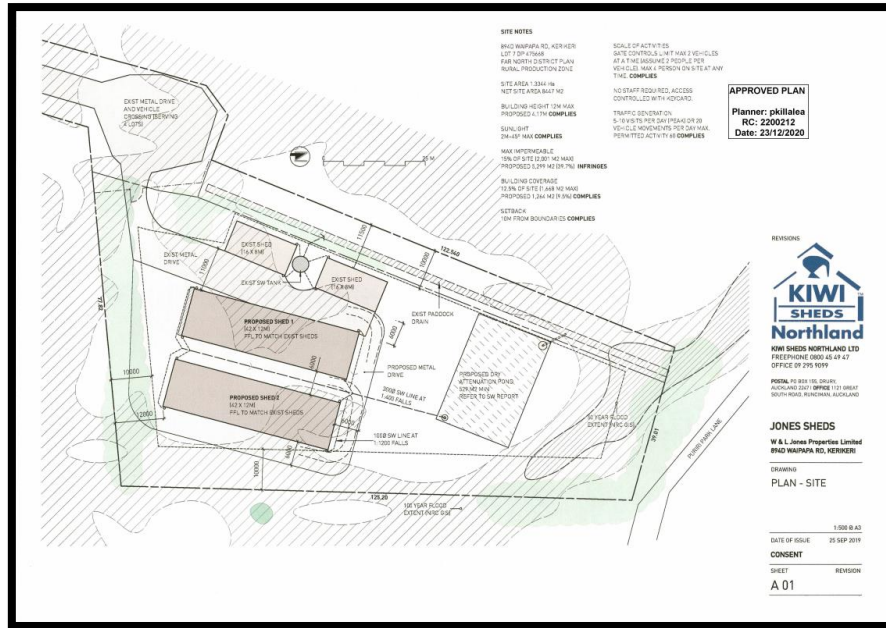


Figure 2 – Approved Site Layout Plan 2020 – RC 2200212

3.6 Post resource consent, the establishment of the business required a slight variation to the configuration of the buildings and the layout of the impermeable surfaces which extend slightly further north than shown on the consented plans. This was due to a fire rating requirement for Shed D as shown on the aerial image based ‘impermeable surface’ plan attached to the stormwater report (refer **Attachment 6**) that required the building to be located 12-metres from the eastern boundary. This constructed building was shortened to accommodate the narrowing of the boundary from south to north.



4. Reasons for Consent

Operative Far North District Plan (ODP)

4.1 The site is zoned Rural Production in the ODP.



Figure 3 - Operative District Plan Zone – Rural Production

4.2 An assessment of the relevant District Plan rule standards is set out in **Table 1** and **Table 2** below:

Rural Production Zone Standards

Table 1 - Assessment against the Rural Production Zone rule standards		
Plan Reference	Rule	Performance of Proposal
8.6.5.1.1	Residential Intensity	Not applicable
8.6.5.1.2	Sunlight	Permitted. The proposal is able to comply with the permitted sunlight provisions.
8.6.5.1.3	Stormwater Management	Discretionary Activity The maximum permitted impermeable surface is 15% of the site area. The total amount of impermeable surfaces proposed within the site is as follows: <ul style="list-style-type: none"> Existing shared driveway – 1,919m² Existing sheds – 1,180m²



		<ul style="list-style-type: none"> Proposed Shed -100m² Vehicle Manoeuvring (yard) hard stand area – 1,932m² <p>Total – 5,131m² (or 38.45% of the gross site area)</p>
8.6.5.1.4	Setback from Boundaries	<p>Permitted.</p> <p>The proposed shed would be located 10m from the western boundary.</p>
8.6.5.1.5	Transportation	Not applicable
8.6.5.1.6	Keeping of Animals	Not applicable.
8.6.5.1.7	Noise	<p>Permitted.</p> <p>The proposal is for a shed. The RPZ noise standards apply to activities on the site.</p>
8.6.5.1.8	Building Height	<p>Permitted.</p> <p>The shed roof apex height is a complying 5.845m.</p>
8.6.5.1.10	Building Coverage	<p>The proposed building coverage comprises the following:</p> <ul style="list-style-type: none"> Existing (approved) buildings – 1,180m² Proposed Shed – 100m² <p>Total = 1,280m² or 9% of the site area</p>
8.6.5.1.11	Scale of Activities	<p>Permitted</p> <p>The proposed shed does not form part of the commercial storage unit business and will be for the personal use of the business owner.</p>
8.6.5.1.12	Temporary Activities	<p>Not applicable.</p> <p>No non-residential activities are proposed.</p>
10.7.5.4	Discretionary Activities	<p>Discretionary Activity</p> <p>The proposal does not comply with one or more of the permitted, controlled, restricted discretionary or discretionary standards for the Rural Production Zone.</p>



Applicable District Wide Standards

Table 2 – Assessment against the relevant District Wide rule standards		
Plan Reference	Rule	Performance of Proposal
Chapter 12 – Natural and Physical Resources		
12.1	Landscapes and Natural Features	Not applicable
12.3.6.1.2	Excavation and/or filling	Permitted. Minimal earthworks (less than 50m ³) are required to construct the shed. The building site ground level will be raised by approximately 0.30m to align with the ground level of the adjacent shed. Earthworks volumes are approximately 30m ³ .
Chapter 15 - Transportation		
15.1.6A	Traffic Intensity	Permitted Traffic generated by the existing storage unit business will remain below the ODP permitted threshold of 60 one-way movements.
15.1.6B	Parking	Permitted On-site parking is provided in accordance with RC-2200212
15.1.6C	Access	Permitted As existing

ODP Activity Status

4.3 The assessment against the relevant ODP permitted standards above has identified the following rule breaches:

- 8.6.5.1.3 - Stormwater Management – permitted activity *the total proposed area of impermeable surface exceeds the permitted standard of 15% of the gross site area.*
- 8.6.5.1.2 – Stormwater Management – controlled activity – *the total area of impermeable surface exceeds the controlled activity standard of 20% of the gross site area.*

4.4 In accordance with Rule 8.6.5.4, the proposed activities are Discretionary under the ODP.



Proposed District Plan (PDP)

- 4.5 The proposed activities are subject to the PDP provisions. The PDP was publicly notified on the 27th of July 2022. The submission and further submission periods have closed. PDP hearings are underway. As no decisions on submissions have been made, little weight is attributed to the proposed provisions.
- 4.6 The proposed site zone is Rural-Residential. Part of the site is within a mapped 100-yr River Flood Hazard Zone. Applicable rules that have current legal effect are limited to the management of earthworks activities.

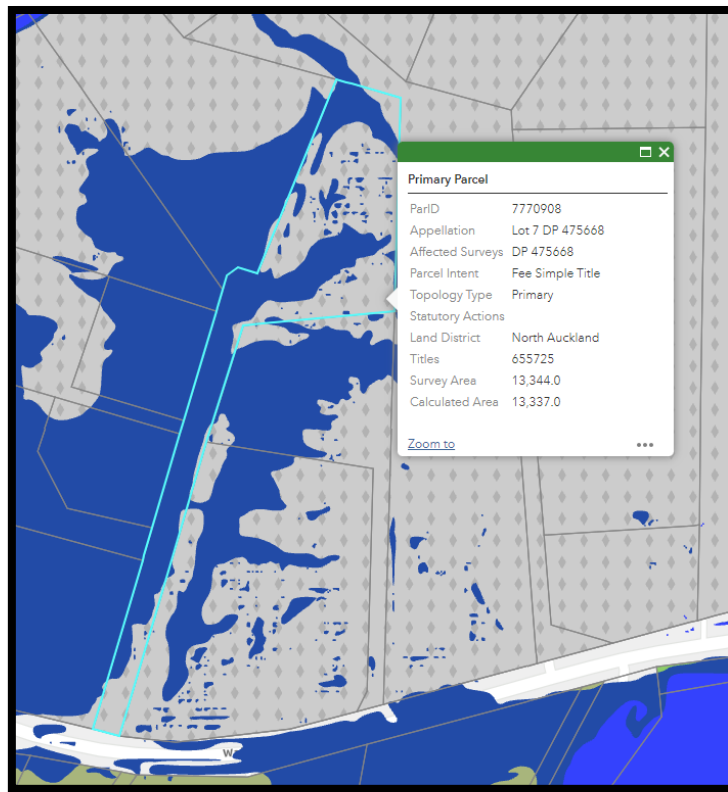


Figure 4 – Proposed District Plan Zone – Rural Residential (with 100yr River Flood Hazard Zone Overlay)

- 4.7 An assessment of the proposed activities against the PDP rules that have immediate legal effect, is set out in **Table 3** below:

Table 3 – Assessment against the PDP rule standards that have immediate legal effect		
Chapter	Rule Reference	Compliance of Proposal
Hazardous Substances	<p>The following rules have immediate legal effect:</p> <p>Rule HS-R2 has immediate legal effect but only for a new significant hazardous facility located within a scheduled site and area of</p>	<p>Not applicable.</p> <p>The site does not contain any hazardous substances nor are any proposed.</p>



	<p>significance to Māori, significant natural area or a scheduled heritage resource</p> <p>Rules HS-R5, HS-R6, HS-R9</p>	
Heritage Area Overlays	<p>All rules have immediate legal effect (HA-R1 to HA-R14)</p> <p>All standards have immediate legal effect (HA-S1 to HA-S3)</p>	<p>Not applicable.</p> <p>The site is not located within a Heritage Area Overlay.</p>
Historic Heritage	<p>All rules have immediate legal effect (HH-R1 to HH-R10).</p> <p>Schedule 2 has immediate legal effect.</p>	<p>Not applicable.</p> <p>The site does not contain any areas of Historic Heritage.</p>
Notable Trees	<p>All rules have immediate legal effect (NT-R1 to NT-R9)</p> <p>All standards have legal effect (NT-S1 to NT-S2)</p> <p>Schedule 1 has immediate legal effect</p>	<p>Not applicable.</p> <p>The site does not contain any notable trees.</p>
Sites and Areas of Significance to Maori	<p>All rules have immediate legal effect (SASM-R1 to SASM-R7)</p> <p>Schedule 3 has immediate legal effect</p>	<p>Not applicable.</p> <p>The site does not contain any sites or areas of significance to Maori.</p>
Ecosystems and Indigenous Biodiversity	<p>All rules have immediate legal effect (IB-R1 to IB-R5)</p>	<p>Not applicable.</p> <p>The site does not contain any known ecosystems or indigenous biodiversity to which these rules would apply.</p>
Subdivision	<p>The following rules have immediate legal effect: SUB-R6, SUB-R13, SUB-R14, SUB-R15, SUB-R17</p>	<p>Not applicable.</p> <p>The proposal is not for subdivision.</p>
Activities on the Surface of Water	<p>All rules have immediate legal effect (ASW-R1 to ASW-R4)</p>	<p>Not applicable.</p> <p>The proposal does not involve activities on the surface of water.</p>
Earthworks	<p>The following rules have immediate legal effect: EW-R12, EW-R13</p> <p>The following standards have immediate legal effect: EW-S3, EW-S5</p>	<p>Permitted.</p> <p>All earthworks in all zones are subject to Accidental Discovery Protocol standards EW-S3 and sediment control standards EW-S5</p> <p>The minor volume of proposed earthworks will be undertaken in accordance with these standards.</p>
Signs	<p>The following rules have immediate legal effect: SIGN-R9, SIGN-R10</p>	<p>Not applicable.</p>



	All standards have immediate legal effect but only for signs on or attached to a scheduled heritage resource or heritage area	
Orongo Bay Zone	Rule OBZ-R14 has partial immediate legal effect because RD-1(5) relates to water	Not applicable.

PDP Activity Status

4.8 The proposed activity is currently **Permitted** under the PDP.

National Environmental Standards

National Environment Standard for Assessing and Managing Contaminants in Soil to Protect Human Health 2011

4.9 The site is not identified as HAIL on the Council database of HAIL sites. The site has no known history of horticulture or agriculture activities. The site is not a HAIL site.

National Environment Standard for Freshwater Regulations 2020 (NES-F)

4.10 The site does not contain any wetland and would not affect any wetland that is protected by the NES-F.

Control of Earthworks Bylaw

4.11 The site is zoned Rural Production Zone. An assessment against the control of earthworks bylaw is set out below.

ASSESSMENT OF THE APPLICABLE CONTROL OF EARTHWORKS RULES:		
<u>PERFORMANCE STANDARDS</u>		
Bylaw Reference	Rule	Performance of Proposal
7.1	(a)	Complies Earthworks in the Rural Production Zone will not be undertaken within 3 metres of any site boundary.
	(b)	Complies The site is exempt from this rule as it is within the Rural Production Zone.
	(c)	Complies Proposed earthworks in the Rural Production Zone will not exceed 1.5m in depth.



	(d)	Complies The earthworks area is outside of any resource features.
	(e)	Complies Stormwater runoff will not be affected to the extent that it will adversely affect any adjoining property.

4.12 An earthworks permit is not required for the proposed earthworks activity.

5. Statutory Assessment under the Resource Management Act (RMA)

Section 104B of the RMA

5.1 Section 104B governs the determination of applications for Discretionary and Non-Complying Activities. A consent authority may grant or refuse the application. If it grants the application, it may impose conditions under Section 108.

Section 104(1) of the RMA

5.2 The relevant parts of Section 104(1) of the RMA state that when considering an application for resource consent –

“the consent authority must, subject to Part 2, and section 77M have regard to –

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

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

(b) any relevant provisions of –

i. a national environmental standard:

ii. other regulations:

iii. a national policy statement:

iv. a New Zealand Coastal Policy Statement:

v. a regional policy statement or proposed regional policy statement:

vi. a plan or proposed plan; and

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

5.3 Actual and potential effects arising from the development as described in 104(1)(a) can be both positive and adverse (as described in Section 3 of the Act). Positive effects arising from this development is the location of a shed on the site for non-commercial storage activities that will provide for the wellbeing of the Applicant.



- 5.4 Section 104(1)(ab) requires that the consent authority consider *‘any measure proposed or agreed to by the applicant for the purposes 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’*. The proposal is not of a scale or nature that would require specific offsetting or environmental compensation measures to ensure positive effects on the environment. Potential adverse effects on the environment arising from the addition of the proposed shed at the site are less than minor.
- 5.5 Section 104(1)(b) requires that the consent authority consider the relevant provisions of national environmental standards, regulations, national policy statements, regional policy statements or plans, including proposed plans. The National Policy Statement for Highly Productive Land (NPS-HPL) applies to the site as it is within an area of mapped LUC 3 soil. Notwithstanding this classification of the land, it is considered that the site qualifies for an exemption from the definition of ‘inappropriate use’ of highly productive land under Clause 3.9(2) due to the nature of the existing consented activities that occupy the majority of the useable part of the site and the ‘small-scale’ nature of the building addition that would have no impact on the productive capacity of the land (sub-clause (g)). The proposed location of the shed is entirely within the established, and enclosed commercial storage unit area of the site. The rear, balance area of the site will remain undeveloped. The future proposed zoning for the site is ‘Rural-Residential’.
- 5.6 There are no other national standards, regulations or national policy statements that are directly relevant to the proposed activities and / or that are not adequately managed within the framework hierarchy of the District Plan.
- 5.7 An assessment of the relevant statutory documents is provided in the Report sections below.
- 5.8 Section 104(1)(c) states that consideration must be given to ‘any other matters that the consent authority considers relevant and reasonable, necessary to determine the application.’ There are no other matters relevant to this application.
- 5.9 In accordance with Section 104(6), adequate information is provided to determine this application.
- 5.10 The proposal is to be assessed as a Discretionary Activity under District Plan Rule 8.6.5.4. The Council has full discretion to consider the broad range of policy matters relating to land use activities in the Rural Production zone.

Section 104(1)(a) - Assessment of Effects on the Environment

- 5.11 Having reviewed the relevant plan provisions and taking into account the matters to be addressed by an assessment of environmental effects as outlined in Clause 7 of Schedule 4 of the Act, the potential adverse effects are limited to matters relating to stormwater management. As described above, while there is there is a minor increase in impermeable surface on the site involving a new building occupying an existing permeable surface, cumulatively this can be appropriately managed by the existing stormwater management



system that directs runoff from Sheds C & D and the vehicle circulation area to the stormwater attenuation pond. As with the existing buildings, the proposal is to discharge roof runoff from the new shed building via a guttering and piped network system to the stormwater attenuation pond. The proposed discharge is assessed by Wilton Joubert engineers to be an appropriate solution for the site to mitigate the runoff effects of the new building to 80% of the pre-development flows. Based on the Wilton Joubert engineering assessment, potential adverse effects of the increase in impermeable surface area are assessed to be no less than minor.

- 5.12 The ODP Chapter 11 assessment criteria 11.3 sets out the matters for discretion when considering an increase in impermeable surfaces. Wilton Joubert have not identified any potential adverse effect on the wider stormwater catchment. Controlled attenuated discharge is proposed from the existing pond to the adjacent farm drain and stream system further to the north. Stormwater discharge from the developed part of the site is to be reduced to 80% of pre-development flow rates (with an adjustment for climate change). The management of stormwater will avoid any incremental or cumulative increase in stormwater within the catchment. There would be no change to the existing natural contours, other than the raising of the ground level below the shed. Stormwater would continue to be directed via a piped network to the stream system to the north via an existing stormwater detention pond.

Section 104(1)(b) – Relevant provisions of any statutory planning document

- 5.13 In accordance with Section 104(1)(b) of the Act, the following documents are relevant to this application. As stated above, other than the NPS-HPL there are no national policy statements or regulations that are relevant to the proposed activity.

Regional Policy Statement for Northland 2016 / Regional Plan for Northland (February 2024)

- 5.14 The Regional Policy Statement for Northland (RPS) and the Regional Plan for Northland are the governing regional statutory documents for Northland that includes the application site. The small-scale nature of the proposed land use activity is such that it can be adequately assessed under the provisions of the ODP provisions. The nature and volume of stormwater that would be generated by the minor increase in impermeable is not of a regional scale that would be captured by regional rules. Parts of the site are within a mapped NRC flood hazard area. The proposal does not involve any PDP defined 'vulnerable activity'. The building would be designed to accommodate any required floor levels to avoid inundation.
- 5.15 It is considered the proposal would be consistent with the intent of the Regional Policy Statement and would not be subject to any Regional Plan rule.

Far North Operative District Plan 2009

- 5.16 The relevant objectives and policies of the ODP are those related to the Rural Environment, which includes the land in the Rural Production Zone. As assessed above, it is considered that the proposed shed activity would generate less than minor adverse effects on the existing environment and can be mitigated by the existing stormwater management system the site.



The proposal would be consistent with the character of the surrounding area, which is a mix of rural-residential and commercial activities. Traffic movements generated by the site activities are assessed to be within the permitted threshold of the ODP (refer **Attachment 7 & 8**). The proposal would not be contrary to the objectives and policies of the ODP Rural Production Zone where, in addition to farming and rural production activities, a wide range of other activities are enabled (Policy 8.6.4.1). By way of a previous resource consent decision RC 2200212 [p5] (refer **Attachment 9**), the appropriateness of the impermeable surfaces associated with the establishment of the storage unit commercial activity was assessed to:

- *Maintain the natural and physical resources of the Rural Production Zone (Objective 1);*
- *Provide for the applicant's economic wellbeing and maintain overall wellbeing of the surrounding environment (Objective 8.6.3.2);*
- *Be consistent with the intent of the Rural Production Zone (Objective 8.6.3.3);*
- *Avoid conflicting activities (Objective 8.6.3.6);*
- *Mitigate adverse effects on the life-supporting capacity of soil through stormwater management design and erosion and sediment control measures (Objective 8.6.3.7)*

5.17 Previous landscape mitigation required by consent notice conditions will be maintained and replaced where appropriate.

Proposed Far North District Plan 2022

5.18 The application site is proposed to be zoned 'Rural Residential' (RRZ). Parts of the site are within a mapped 100-year River Flood Hazard Zone.

Rural Residential Zone objectives

5.18.1 The commercial storage activity on the site is a consented activity and forms part of the existing environment. This activity has been assessed to be an appropriate land use in this part of Waipapa Road that is currently zoned Rural Production. The surrounding area comprises predominantly rural-residential activities, with a variety of larger commercial type activities located on both sides of Waipapa Road.

5.18.2 The proposed activity is seeking to locate an additional storage shed on the site for the Applicant's personal use. Despite its commercial nature, the RRZ has been applied to the application site, which reflects the predominant rural-residential character that has emerged along Waipapa Road. The RRZ has a residential purpose and is intended to provide for smaller residential lot sizes of approximately 2,000-4,000m². It is likely that this area will intensify over time as more land is subdivided for residential purposes. However, Waipapa Road will remain an important arterial road that links the eastern end of the Kerikeri town centre to the Waipapa commercial centre and SH10. Future land use activity in this location will be expected to maintain rural-residential character and control any reverse sensitivity issues that may occur within the zone.

5.18.3 The application site is located down a long, shared driveway and is not visible from Waipapa Road. Other than signage, the commercial storage activities are not visible from the road.



The building development on the site is not inconsistent with the character of larger rural buildings or rural industry type activities. The site is also separated from adjacent properties by pastoral grazing and covenanted areas that prevent residential development from locating too close to the site. Existing landscape planting mitigates the visual impact of the development and traffic movement activity to and from the site.

- 5.18.4 While the proposed activity is an extension of the built development associated with the commercial storage activity, the PDP RRZ objectives and policies do not seek to preclude such activities, particularly where they are existing. New buildings that do not contain an activity that is permitted in the RRZ would be Discretionary and able to be considered against the objectives and policies of the RRZ. The expansion of existing commercial activities will need to be assessed in terms of their potential effect on the character and amenity of the RRZ, the ability to control reverse sensitivity as the area intensifies, an ability to provide adequate infrastructure, ability to manage the impact of natural hazards and avoid adverse effects on historic resources and cultural values.
- 5.18.5 It is considered that the small-scale nature of the proposed shed activity that is discretely located on the site and at the end of a shared driveway will not be contrary to the objectives and policies on the PDP RRZ.

6. Notification Assessment – Sections 95A to 95G of the RMA

Public Notification Assessment

- 6.1 Section 95A requires a council to follow specific steps to determine whether to publicly notify an application. The following is an assessment of the application against these steps:

Step 1 Mandatory public notification in certain circumstances

An application must be publicly notified if, under section 95A(3), it meets any of the following criteria:

- (a) the applicant has requested that the application be publicly notified;*
- (b) public notification is required under section 95C;*
- (c) the application is made jointly with an application to exchange recreation reserve land under section 15AA of the Reserves Act 1977.*

- 6.2 Public notification of the application is not required or requested. The application is not made jointly with an application to exchange reserve land. Step 1 does not apply. Step 2 is considered.

Step 2: Public Notification precluded in certain circumstances.

(4) Determine whether the application meets either of the criteria set out in subsection (5) and,—

- (a) if the answer is yes, go to step 4 (step 3 does not apply); and*
 - (b) if the answer is no, go to step 3.*
- (5) The criteria for step 2 are as follows:*



(a) the application is for a resource consent for 1 or more activities, and each activity is subject to a rule or national environmental standard that precludes public notification:

(b) the application is for a resource consent for 1 or more of the following, but no other, activities:

(i) a controlled activity:

(ii) [Repealed]

(iii) a restricted discretionary, discretionary, or non-complying activity, but only if the activity is a boundary activity.

(iv) [Repealed]

(6) [Repealed]

6.3 Public Notification is not precluded as the proposal is a Discretionary activity and is not a boundary activity. Step 3 is considered.

Step 3: Public Notification required in certain circumstances

6.4 The proposal is not subject to a rule or NES requiring public notification and the proposal does not have effects that will be more than minor. Public Notification is not required. Step 4 is considered.

Step 4: Public notification in special circumstances

6.5 Section 95A(9) states that a council must publicly notify an application for resource consent if it considers that 'special circumstances' exist.

6.6 There are no special circumstances that would warrant public notification of the application. The proposed activity is storage shed that requires resource consent for reasons relating to stormwater management (impermeable surfaces). Potential adverse effects can be avoided or mitigated to the extent that they are negligible.

Public Notification Summary

6.7 It is considered that the public notification of the application is not required.

Limited Notification Assessment

6.8 If the application is not publicly notified, a consent authority must follow the steps of section 95B to determine whether to give limited notification of an application.

Step 1: Certain affected groups and affected persons must be notified

(2) Determine whether there are any—

(a) affected protected customary rights groups; or

(b) affected customary marine title groups (in the case of an application for a resource consent for an accommodated activity).

(3) Determine—



- (a) whether the proposed activity is on or adjacent to, or may affect, land that is the subject of a statutory acknowledgement made in accordance with an Act specified in Schedule 11; and*
- (b) whether the person to whom the statutory acknowledgement is made is an affected person under section 95E.*

(4) Notify the application to each affected group identified under subsection (2) and each affected person identified under subsection (3).

6.9 There are no protected customary rights groups or customary marine title groups or statutory acknowledgement areas that are relevant to this application. Step 1 does not apply and Step 2 must be considered.

Step 2: Limited notification precluded in certain circumstances

(5) Determine whether the application meets either of the criteria set out in subsection (6) and,—

- (a) if the answer is yes, go to step 4 (step 3 does not apply); and*
- (b) if the answer is no, go to step 3.*

(6) The criteria for step 2 are as follows:

- (a) the application is for a resource consent for 1 or more activities, and each activity is subject to a rule or national environmental standard that precludes limited notification:*
- (b) the application is for a controlled activity (but no other activities) that requires a resource consent under a district plan (other than a subdivision of land).*

6.10 There is no rule in the plan or national environmental standard that precludes notification. The application is not for a controlled activity. Step 2 does not apply. Step 3 is considered.

Step 3: Certain other affected persons must be notified

(7) In the case of a boundary activity, determine in accordance with section 95E whether an owner of an allotment with an infringed boundary is an affected person.

(8) In the case of any other activity, determine whether a person is an affected person in accordance with section 95E.

(9) Notify each affected person identified under subsections (7) and (8) of the application.

6.11 The proposal is not for a boundary activity nor is it a prescribed activity.

6.12 Based on the preceding assessment of effects on the environment, it is considered that there are no persons, including adjoining neighbours that would be adversely affected to a minor or more than minor extent. Traffic generated by the storage facility will not increase above the ODP permitted threshold. Written approval from adjoining property owners has not been sought.



- 6.13 The potential adverse effects on any persons are less than minor. Step 3 does not apply. Step 4 is considered.

Step 4: Further notification in special circumstances

(10) whether special circumstances exist in relation to the application that warrant notification of the application to any other persons not already determined to be eligible for limited notification under this section (excluding persons assessed under section 95E as not being affected persons),

- 6.14 The proposal is to construct a small storage shed on the site. There are no special circumstances that would apply.

Limited Notification Assessment Summary

- 6.15 For the reasons set out above, it is concluded that Steps 1 to 4 do not apply, and that this application can be processed on a non-notified basis. Any potential effects on adjoining neighbours would be less than minor. Potential adverse effects are mitigated by the location and outlook orientation of neighbouring houses, landscape screening trees along boundaries, and the appropriate management of stormwater runoff.

7. RMA Part 2 Assessment

- 7.1 The application is subject to Part 2 of the RMA contained in Sections 5 to 8 inclusive.
- 7.2 The proposed activity will achieve the sustainable management purpose of the RMA expressed in Section 5 and enable social and economic wellbeing of the Applicant. Future sustainable use of natural and physical resources and the life-supporting capacity of air, water, soil and ecosystems will not be affected. Adverse effects on the environment can be avoided and/or mitigated.
- 7.3 The scale of the proposed activity is such that Section 6 of Matters of National Importance are not impacted. The relationship of Maori and their culture and traditions would not be affected. The activity would not affect any historic heritage, area with identified customary rights and would not exacerbate any natural flood hazard risk.
- 7.4 Section 7 matters are not affected by the proposed activity.
- 7.5 Section 8 relates to the principles of the Treaty of Waitangi. The proposed activity would not be contrary to the principles of the Treaty of Waitangi.

8. Conclusion

- 8.1 The Applicant seeks resource consent to locate a storage type shed on a site at 294D Waipapa Road, Kerikeri. The site contains the consented storage unit business 'U Store It Kerikeri'. Discretionary resource consent is required to exceed the permitted and controlled activity thresholds for impermeable surfaces in the ODP Rural Production Zone.



- 8.2 This AEE concludes that the location of the shed along with mitigating factors that include the previously consented impermeable surface area and the ongoing appropriate management of stormwater runoff, will ensure that any potential adverse effects on the environment are no more than minor.
- 8.3 The proposed activity would not be contrary to any relevant statutory policy statement or plan objectives or policies.
- 8.4 The proposed activity will enable the social and economic wellbeing of the Applicant. This is consistent with Section 5 of the RMA and Objective 8.6.3.2 of the Rural Production Zone.
- 8.5 The Applicant requests that the application be granted on a non-notified basis.

9. Limitations

- 9.1 This report has been commissioned solely for the benefit of our client, in relation to the project as described above, and to the limits of our engagement, with the exception that the Far North District Council or Northland Regional Council may rely on it to the extent of its appropriateness, conditions and limitations, when issuing their subject consent.
- 9.2 Copyright of Intellectual Property remains with Northland Planning and Development 2020 Limited, and this report may NOT be used by any other entity, or for any other proposals, without our written consent. Therefore, no liability is accepted by this firm or any of its directors, servants or agents, in respect of any information contained within this report.
- 9.3 Where other parties may wish to rely on it, whether for the same or different proposals, this permission may be extended, subject to our satisfactory review of their interpretation of the report.
- 9.4 Although this report may be submitted to a local authority in connection with an application for a consent, permission, approval, or pursuant to any other requirement of law, this disclaimer shall still apply and require all other parties to use due diligence where necessary.





Office Use Only
Application Number:

APPLICATION FOR RESOURCE CONSENT OR FAST-TRACK RESOURCE CONSENT

(Or Associated Consent Pursuant to the Resource Management Act 1991 (RMA))

(If applying for a Resource Consent pursuant to Section 87AAC or 88 of the RMA, this form can be used to satisfy the requirements of Form 9)

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

1. Pre-Lodgement Meeting

Have you met with a Council Resource Consent representative to discuss this application prior to lodgement? **Yes / No**

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

- Land Use
- Fast Track Land Use*
- Subdivision
- Discharge
- Extension of time (s.125)
- Change of conditions (s.127)
- Change of Consent Notice (s.221(3))
- Consent under National Environmental Standard (e.g. Assessing and Managing Contaminants in Soil)
- Other (please specify) _____

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

3. Would you like to opt out of the Fast Track Process? Yes / No

4. Applicant Details:

Name/s: W & L Jones Properties Limited

Electronic Address for Service (E-mail): _____

Phone Numbers: _____

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

Post Code: 0293

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

Name/s: Northland Planning & Development (2020) Ltd c/- Rochelle Jacobs

Electronic Address for Service (E-mail): _____

Phone Numbers: _____

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.

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

Name/s: W & L Jones Properties Limited

Property Address/
Location: 294D Waipapa Road, Kerikeri

7. Application Site Details:
Location and/or Property Street Address of the proposed activity:

Site Address/
Location: 294D Waipapa Road, Kerikeri

Legal Description: Lot 7 DP 475668 Val Number: 213 | 27108

Certificate of Title: 655725
Please remember to attach a copy of your Certificate of Title to the application, along with relevant consent notices and/or easements and encumbrances (search copy must be less than 6 months old)

Site Visit Requirements:
Is there a locked gate or security system restricting access by Council staff? Yes / No
Is there a dog on the property? Yes / No
Please provide details of any other entry restrictions that Council staff should be aware of, e.g. health and safety, caretaker's details. This is important to avoid a wasted trip and having to re-arrange a second visit.

The site is a secure storage lock up. In order to access the property you will need to contact Warren.

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

To construct a 100m2 shed on site with associated paving.

If this is an application for an Extension of Time (s.125); Change of Consent Conditions (s.127) or Change or Cancellation of Consent Notice conditions (s.221(3)), please quote relevant existing Resource Consents and Consent Notice identifiers and provide details of the change(s) or extension being sought, with reasons for requesting them.

9. Would you like to request Public Notification Yes/No

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

Building Consent (BC ref # if known)

Regional Council Consent (ref # if known)

National Environmental Standard consent

Other (please specify)

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

The site and proposal may be subject to the above NES. In order to determine whether regard needs to be had to the NES please answer the following (further information in regard to this NES is available on the Council's planning web pages):

Is the piece of land currently being used or has it historically ever been used for an activity or industry on the Hazardous Industries and Activities List (HAIL)

yes no don't know

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

yes no don't know

Subdividing land

Changing the use of a piece of land

Disturbing, removing or sampling soil

Removing or replacing a fuel storage system

12. Assessment of Environmental Effects:

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

Please attach your AEE to this application.

13. Billing Details:

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

Name/s: (please write all names in full)

Warren Jones & LORRAINE JONES

Email:

Postal Address:

Phone Numbers:

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: LORRAINE JONES (please print)

Signature: [Redacted] (signature of bill payer - mandatory)

Date: 15/08/24

14. Important Information:

Note to applicant

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

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

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

Fast-track application


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

Privacy Information:

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

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

Name: Rochelle Jacobs (please print)

Signature:  (signature)

Date: 13/8/24

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

Checklist (please tick if information is provided)

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

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

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

UNBOUND

SINGLE SIDED

NO LARGER THAN A3 in SIZE



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

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




R.W. Muir
Registrar-General
of Land

Identifier **655725**
Land Registration District **North Auckland**
Date Issued 28 April 2017

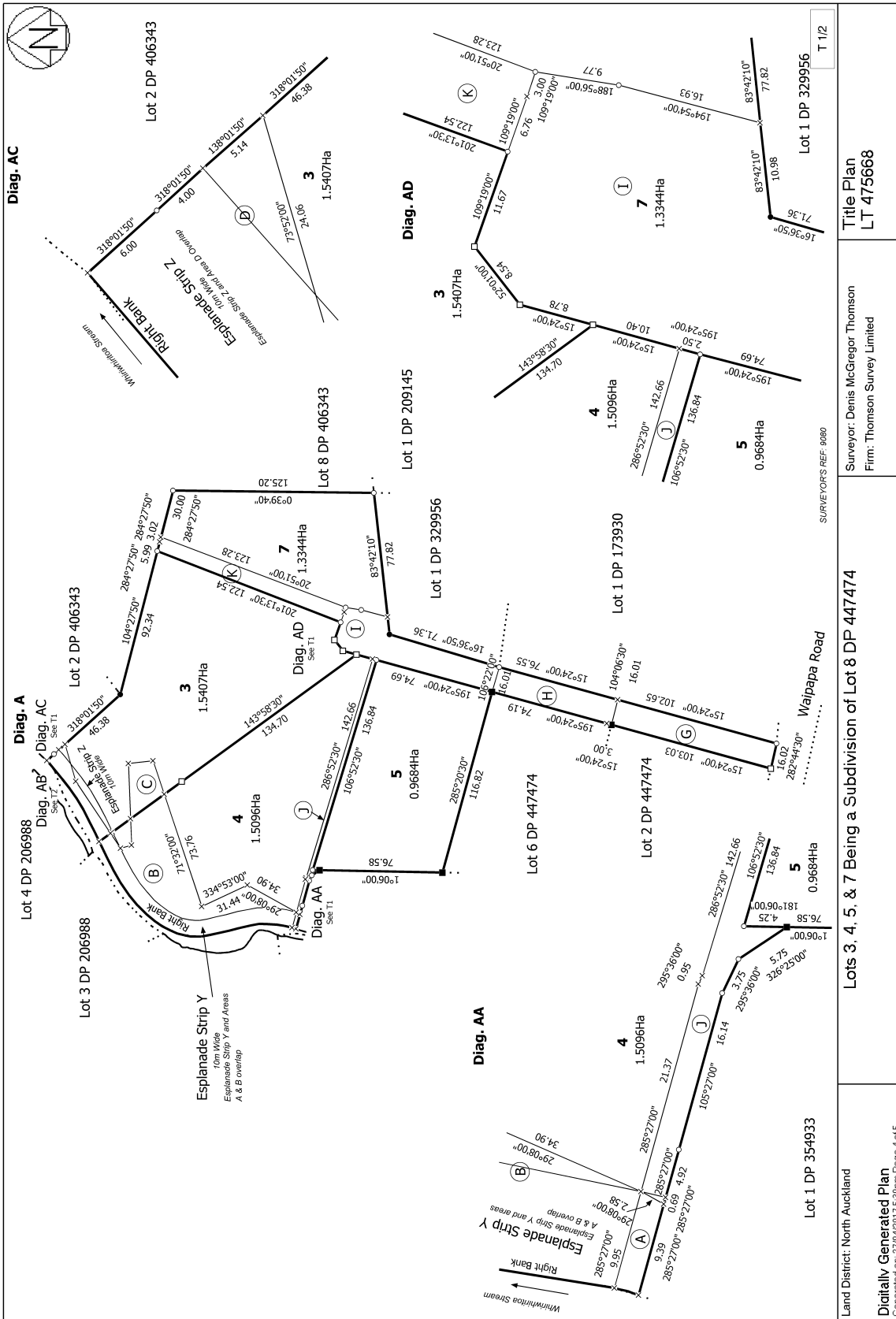
Prior References
568198

Estate Fee Simple
Area 1.3344 hectares more or less
Legal Description Lot 7 Deposited Plan 475668
Registered Owners
W & L Jones Properties Limited

Interests

Appurtenant hereto is a water supply right specified in Easement Certificate B270993.5 - 14.3.1984 at 1:40 pm
The easements specified in Easement Certificate B270993.5 are subject to Section 309 (1) (a) Local Government Act 1974
Appurtenant hereto is a water supply right created by Transfer B270993.6 - 14.3.1984 at 1:40 pm
The easements created by Transfer B270993.6 are subject to Section 309 (1) (a) Local Government Act 1974
5841227.2 Consent Notice pursuant to Section 221 Resource Management Act 1991 - 16.12.2003 at 9:00 am
9862627.2 Consent Notice pursuant to Section 221 Resource Management Act 1991 - 7.3.2016 at 11:06 am
Subject to a right of way and a right to transmit electricity, telecommunications and water supply and stormwater and sewerage rights over parts marked G & H on DP 475668 created by Easement Instrument 9862627.3 - 7.3.2016 at 11:06 am
Appurtenant hereto is a stormwater right created by Easement Instrument 9862627.3 - 7.3.2016 at 11:06 am
The easements created by Easement Instrument 9862627.3 are subject to Section 243 (a) Resource Management Act 1991
Subject to a right to convey electricity (in gross) over parts marked G & H on DP 475668 in favour of Top Energy Limited created by Easement Instrument 9862627.4 - 7.3.2016 at 11:06 am
Subject to a right (in gross) to convey electricity over part marked I on DP 475668 in favour of Top Energy Limited created by Easement Instrument 10766316.2 - 28.4.2017 at 4:43 pm
Subject to a right of way and rights to convey electricity, telecommunications, computer media and water supply, stormwater and sewage easements over part marked G, H & I and convey storm water over part marked K, all on DP 475668 created by Easement Instrument 10766316.3 - 28.4.2017 at 4:43 pm
Appurtenant hereto is a right to convey stormwater created by Easement Instrument 10766316.3 - 28.4.2017 at 4:43 pm
Some the easements created by Easement Instrument 10766316.3 are subject to Section 243 (a) Resource Management Act 1991 (See DP 475668)
Subject to a right to convey stormwater over parts marked I and K on DP 475668 created by Easement Instrument 10766316.4 - 28.4.2017 at 4:43 pm
10766316.5 Consent Notice pursuant to Section 221 Resource Management Act 1991 - 28.4.2017 at 4:43 pm

Subject to a right (in gross) to convey telecommunications and computer media over parts marked G, H and I on DP
475668 in favour of Chorus New Zealand Limited created by Easement Instrument 10791929.1 - 26.5.2017 at 2:03 pm
10791929.3 Mortgage to ASB Bank Limited - 26.5.2017 at 2:03 pm



SURVEYORS REF. 9080

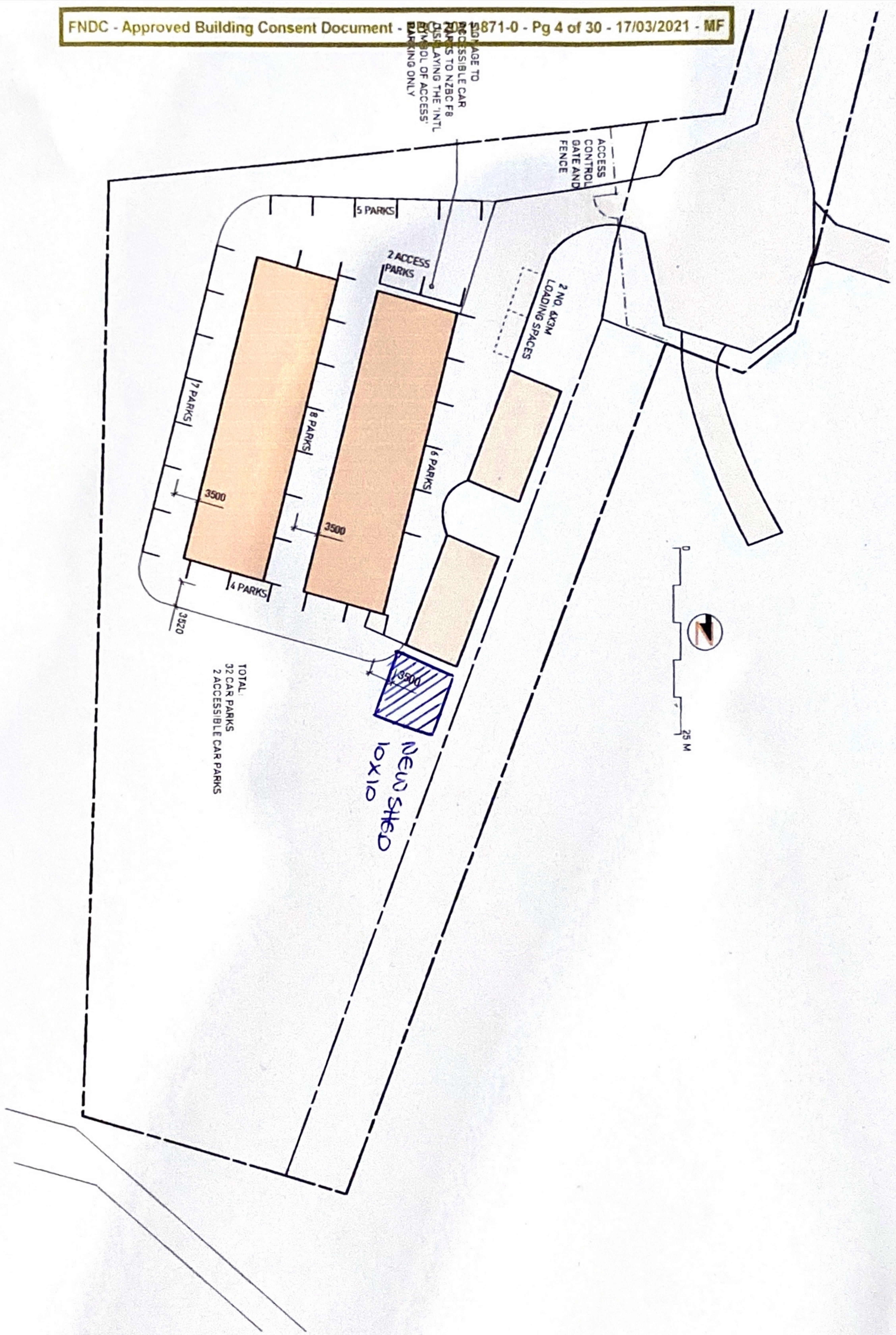
Title Plan
LT 475668

Surveyor: Denis McGregor Thomson
Firm: Thomson Survey Limited

Lots 3, 4, 5, & 7 Being a Subdivision of Lot 8 DP 447474

Land District: North Auckland
Digitally Generated Plan
Generated on: 27/04/2017 5:30pm Page 4 of 5

MANAGEMENT TO ACCESSIBLE CAR PARKS TO NZBC F8 DISPLAYING THE 'INTL SYMBOL OF ACCESS' PARKING ONLY



REVISIONS



KIWI SHEDS NORTHLAND LTD
FREEPHONE 0800 45 49 47
OFFICE 09 295 9099

POSTAL PO BOX 155, DRURY,
AUCKLAND 2247 | OFFICE 1121 GREAT
SOUTH ROAD, RUNCIMAN, AUCKLAND

JONES SHEDS

W & L Jones Properties Limited
294D WAIPAPA RD, KERIKERI

DRAWING
PLAN - TRAFFIC

1:500 @ A3

DATE OF ISSUE 17 FEB 2021




CONSENT

SHEET REVISION

A 03

SITE 294D Waipapa Road, Kerikeri
 LEGAL DESCRIPTION Lot 7 DP 475668
 PROJECT New Importance Level 1 Shed
 CLIENT W & L Jones Properties
 REFERENCE NO. 134086
 DOCUMENT Stormwater Memorandum
 STATUS/REVISION No. C
 DATE OF ISSUE 8 August 2024

Report Prepared For	Email
W & L Jones Properties	dah@xtra.com

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. SCOPE OF WORK

Wilton Joubert Ltd. (WJL) was engaged by the client, **W & L Jones Properties**, to produce an on-site stormwater mitigation assessment at the above site for the proposed Importance Level 1 (IL1) shed.

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

- Marked-up Site Plan supplied by Kiwi Sheds Northland (dated: 17.02.2021)
- Existing Site plan with coverage areas by WJL (Plan no. 135530-G600)

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

2. DEVELOPMENT PROPOSALS

The development proposal, obtained from the client, is to construct a new shed (100m²) on-site as depicted in the marked-up site plan provided by W & L Jones Properties (dated: 17.02.2021).

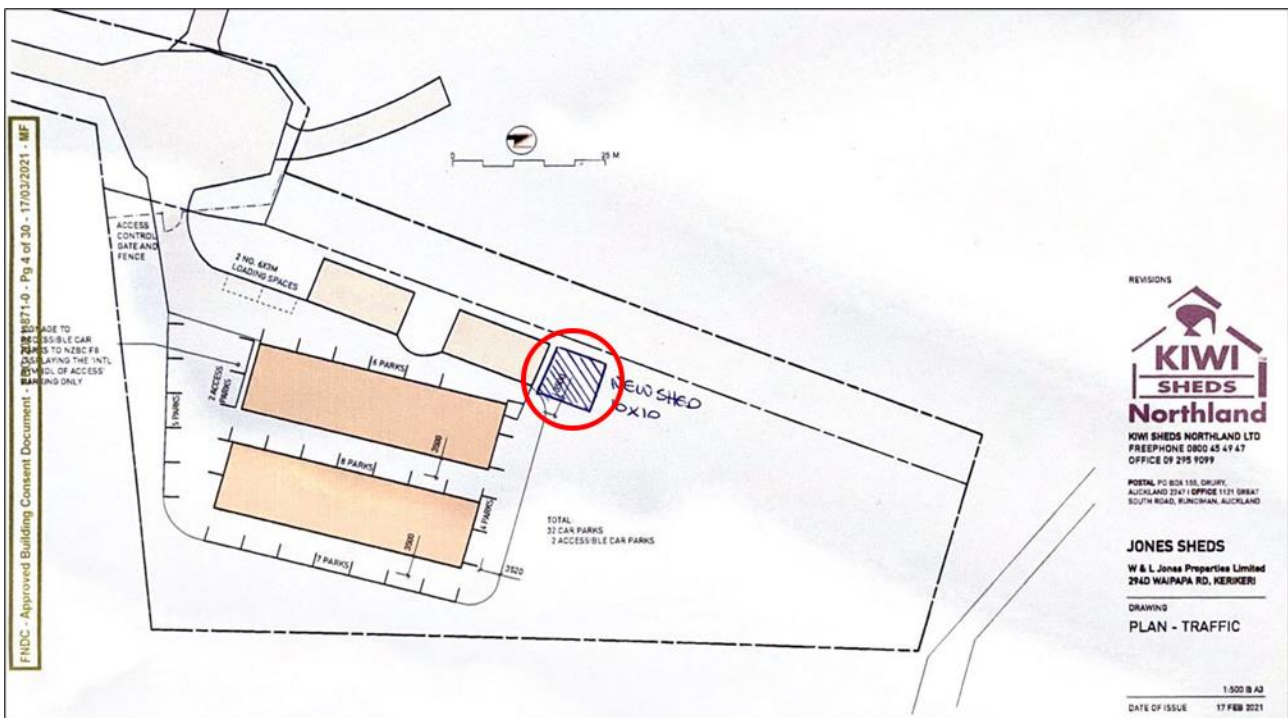


Figure 1: Snip of Proposed Site Plan Provided by W & L Jones Properties (dated: 17.02.2021) – Proposed Shed Circled in Orange

The principal objective of this assessment is to provide for stormwater disposal for the management of runoff generated from the proposed shed.

3. ASSESSMENT CRITERIA

Design Requirements

To manage runoff generated from the proposed shed, it is recommended to attenuate runoff back to 80% of pre-development flow rates for the 1% AEP storm event, with an allowance for climate change.

Stormwater Modelling Method

HydroCAD® software has been utilised in design for a 1% AEP rainfall value of 313mm with a 24-hour duration. The Type IA storm profile has been utilised in accordance with TR-55. Rainfall data was obtained from HIRDS and increased by 20% to account for climate change.

Impermeable Areas

The calculations for the stormwater management system are based on areas measured from drone imagery as per below (excluding the ROW):

	Pre-Development	Post-Development	Total Change
Roof Area	1,180 m²	1,280 m²	
Shed A	128 m ²	128 m ²	
Shed B	128 m ²	128 m ²	
Shed C	504 m ²	504 m ²	100 m ²
Shed D	420 m ²	420 m ²	
Proposed Shed	0 m ²	100 m ²	
Hardstand Area	1,932 m²	1,932 m²	0 m²

The total amount of impermeable area on site, post-development will be 3,212m². Should any changes be made to the current proposal, the on-site stormwater mitigation design must be reviewed.

4. STORMWATER MITIGATION ASSESSMENT

Existing Detention Pond

Runoff generated from the proposed shed is recommended to be managed via the existing detention pond specified in the Geotechnical Site Suitability Report prepared by TMC Consulting Engineers (Ref No: S0357-J02767, dated: 11.09.2019).

The client confirmed that Sheds A and B was consented and built with its own stormwater management setup prior to the rest of the existing development. The existing pond on site therefore was designed to service Shed C, D and the driveway. The impermeable areas to therefore achieve stormwater neutrality is 2,956m².

The report prepared by TMC Consulting Engineers specifies that the detention pond should have a surface area of 529m² and be fitted with a 160mmØ orifice 200mm below the overflow outlet to attenuate the post-development flows back to 80% of the pre-development flows.

We have been advised by the client that the existing pond has dimensions of approximately 35.5m in length, 15m in width and has been fitted with a 170mmØ orifice 210mm below the overflow outlet. The calculations and findings are based on these parameters.

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

Surface	Area	Runoff CN	1% AEP Peak Flow Rate	80% of 1% AEP Peak Flow Rate
Greenfields Impermeable Area	2,956 m ²	74	49.23ℓ/s	39.38ℓ/s

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

Surface	Area	Runoff CN	Existing Orifice Setup	1% AEP Peak Flow Rate
Post-Development Impermeable Area	2,956 m ²	98	170mm @ 150mm from Pond base	30.20ℓ/s

**Bases on previously approved 35.5m Long x 15m Wide x 480mm Deep Pond.*

**No Soakage assumed.*

A fieldwork investigation was undertaken at the site by WJL on 21.05.2024. Metservice and Kerikeri Weather Station indicate that 66.8mm of rainfall occurred over the 24-hours prior to the fieldwork investigation. The base of the pond was observed as partially wetted on the day of the WJL fieldwork investigation (see Figure 2). A separate site visit was undertaken on 22.05.2024, and the standing water in the pond was observed to have been soaked away (see Figure 3). The client also advised that during Cyclone Gabrielle in 2023, the pond did not overflow, and water collected in the pond soaked away within 47-hours once the weather event ceased.



Figure 2: Site Photograph of the Partially Filled Detention Pond, Taken on the Day of the WJL Fieldwork Investigation (21.05.2024) - (northwest direction)



Figure 3: Site Photograph of the Detention Pond, Taken on the Day of the WJL Fieldwork Investigation (22.05.2024) - (northwest direction)

Stormwater Mitigation – Proposed Shed

A proprietary guttering system is required to collect roof runoff from the proposed shed and direct runoff to the existing detention pond via sealed pipes.

It is recommended to install litter filters in-line between the roof and detention pond. The 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 shed.

As per the appended calculations, the existing detention pond can provide adequate attenuation to account for the addition of the proposed shed.

5. 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. Existing measurements and volumes must be confirmed prior to construction.

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.

6. 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.

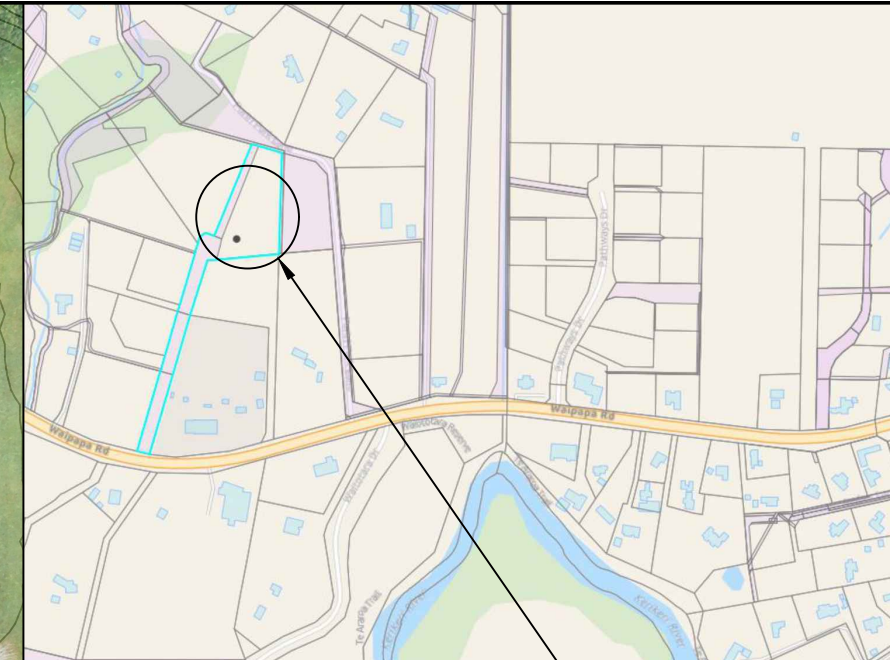
The performance behaviour outlined by this report is dependent on the construction activity and actions of the builder/contractor. Inappropriate actions during the construction phase may cause behaviour outside the limits given in this report.

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.

REPORT ATTACHMENTS

- Calculation Set



SITE LOCATION

IMAGE SOURCE:
FAR NORTH DISTRICT COUNCIL LOCALMAPS

- GENERAL NOTES**
- SITE PLAN IS ONLY INDICATIVE FOR CONCEPT DESIGN. NO MEASUREMENTS MAY BE TAKEN FROM DRAWING.
 - BACKGROUND INFORMATION, CONTOURS & LOCAL SERVICES PROVIDED BY THE CLIENT & EXTRACTED FROM LOCAL COUNCIL GIS.
 - ALL DIMENSION AND LEVELS TO BE CHECKED ON SITE PRIOR TO THE COMMENCEMENT OF CONSTRUCTION. ANY DISCREPANCIES TO BE REPORTED TO THE ENGINEER.
 - 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.
 - AREAS MEASURED FROM DRONE IMAGERY:
 - SHED A = 128m²
 - SHED B = 128m²
 - SHED C = 504m²
 - SHED D = 420m²
 - METAL DRIVEWAY = 1,932m²
 - TOTAL = 3,112m² EXCLUDING SHARED ROW

WILTON JOUBERT
Consulting Engineers

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www.wiltonjoubert.co.nz

ISSUE / REVISION			
No.	DATE	BY	DESCRIPTION
A	MAY 2024	NPN	ISSUED WITH GEOTECHNICAL REPORT

DESIGNED BY:
DRAWN BY:
CHECKED BY:
SURVEYED BY:

NPN
BGS

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.

FOR INFORMATION
DESIGN / DRAWING SUBJECT TO ENGINEERS APPROVAL

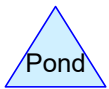
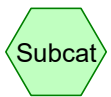
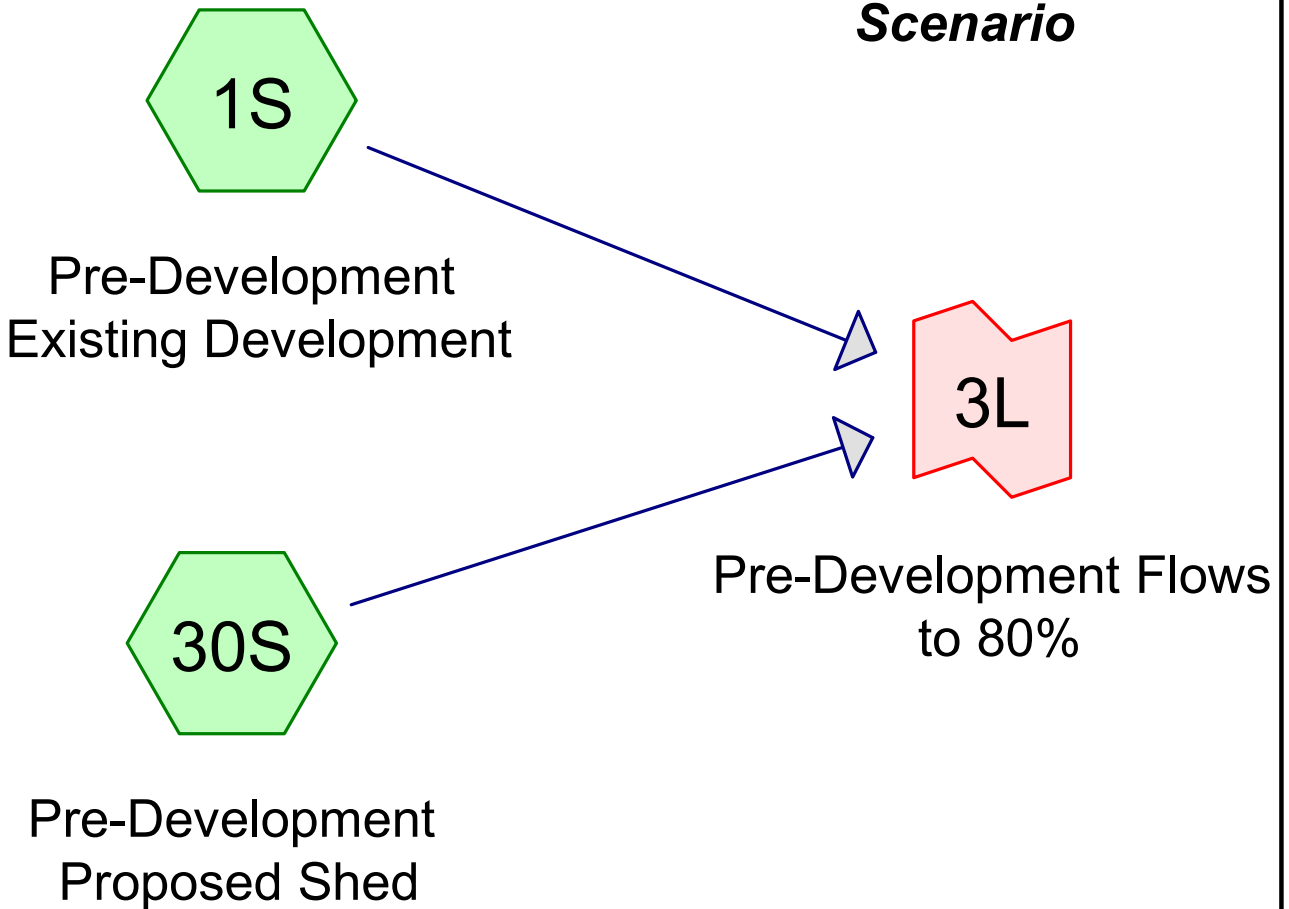
DRAWING TITLE:
SITE PLAN

PROJECT DESCRIPTION:
IMPERMEABLE AREAS

PROJECT TITLE:
**LOT 7 DP 475668
294D WAIPAPA ROAD
KERIKERI
NORTHLAND**

ORIGINAL DRAWING SIZE: A3	OFFICE: KERIKERI
DRAWING SCALE: 1:500	CO-ORDINATE SYSTEM: NOT COORDINATED
DRAWING NUMBER: 135530-G600	ISSUE: A
COPYRIGHT - WILTON JOUBERT LIMITED	

Pre-Development Scenario



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 1S: Pre-Development Runoff Area=2,856.0 m² 0.00% Impervious Runoff Depth>238 mm
Tc=10.0 min CN=74 Runoff=47.56 L/s 679.0 m³

Subcatchment 30S: Pre-Development Runoff Area=100.0 m² 0.00% Impervious Runoff Depth>238 mm
Tc=10.0 min CN=74 Runoff=1.67 L/s 23.8 m³

Link 3L: Pre-Development Flows to 80% x 0.80 Inflow=49.23 L/s 702.8 m³
Primary=39.38 L/s 562.2 m³ Secondary=9.85 L/s 140.6 m³

Total Runoff Area = 2,956.0 m² Runoff Volume = 702.8 m³ Average Runoff Depth = 238 mm
100.00% Pervious = 2,956.0 m² 0.00% Impervious = 0.0 m²

Summary for Subcatchment 1S: Pre-Development Existing Development

Runoff = 47.56 L/s @ 7.97 hrs, Volume= 679.0 m³, Depth> 238 mm

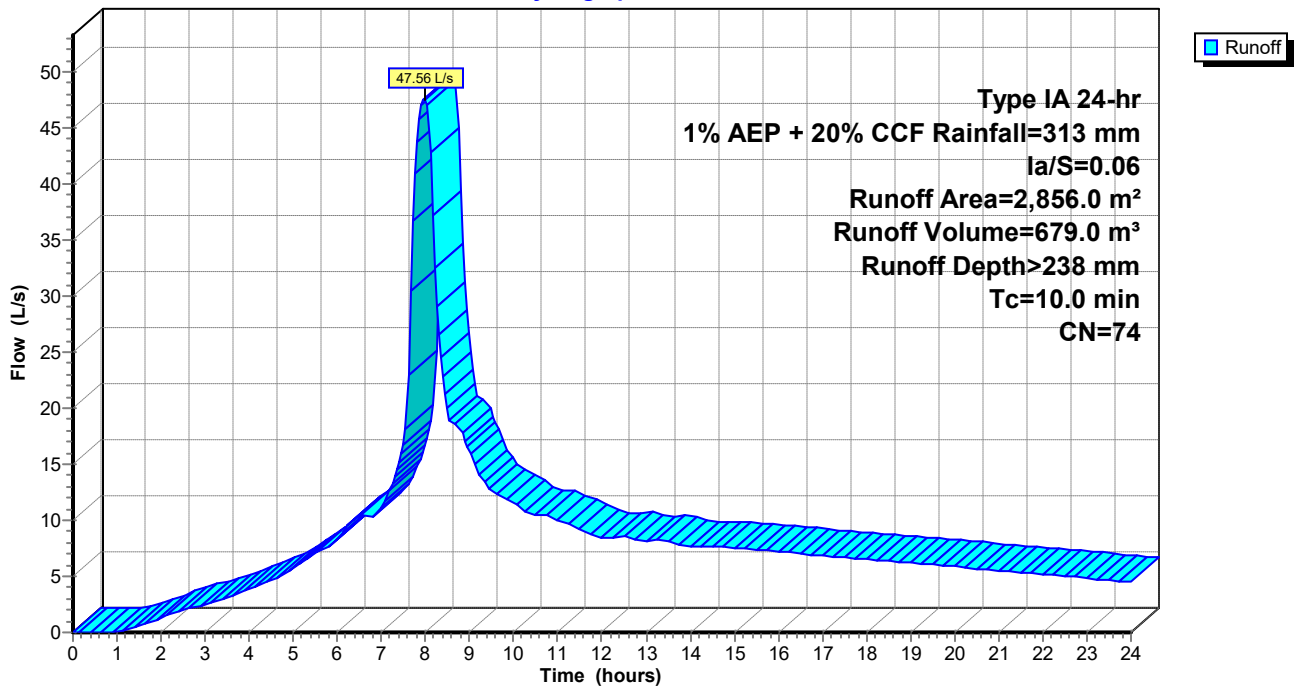
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 Type IA 24-hr 1% AEP + 20% CCF Rainfall=313 mm, Ia/S=0.06

Area (m ²)	CN	Description
* 2,856.0	74	>75% Grass cover, Good, HSG C
2,856.0		100.00% Pervious Area

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

Subcatchment 1S: Pre-Development Existing Development

Hydrograph



Summary for Subcatchment 30S: Pre-Development Proposed Shed

Runoff = 1.67 L/s @ 7.97 hrs, Volume= 23.8 m³, Depth> 238 mm

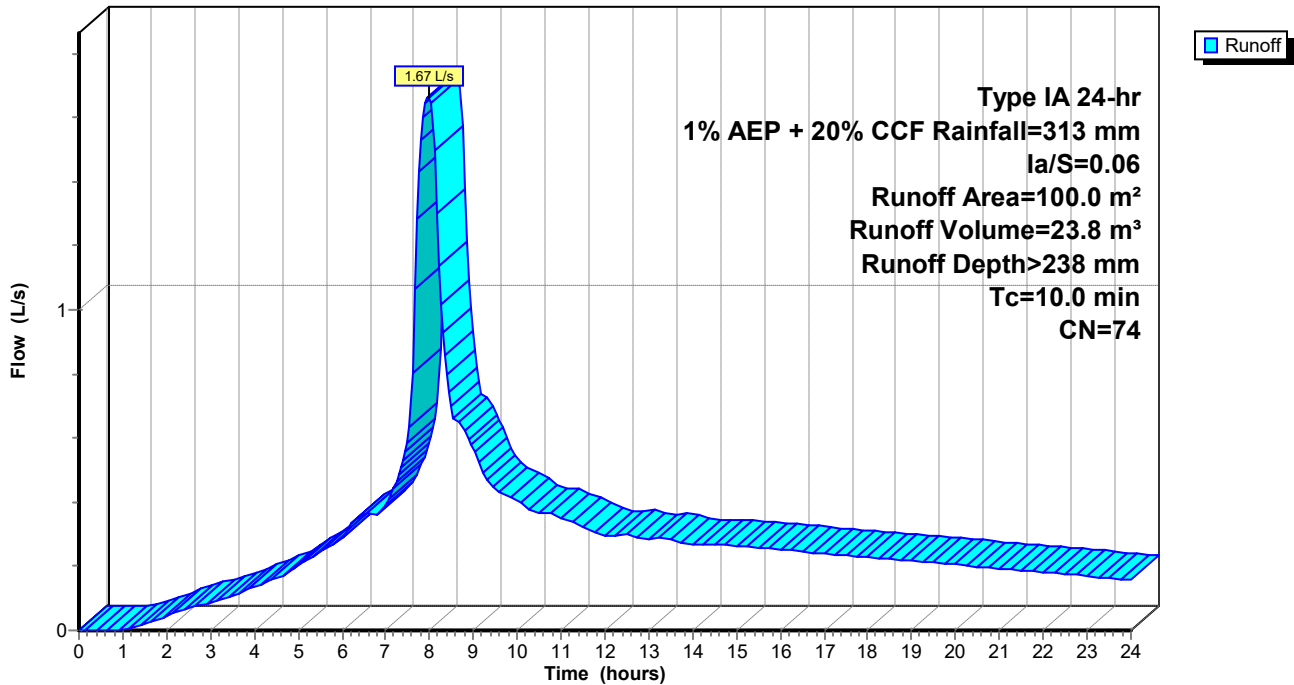
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 Type IA 24-hr 1% AEP + 20% CCF Rainfall=313 mm, Ia/S=0.06

Area (m ²)	CN	Description
* 100.0	74	>75% Grass cover, Good, HSG C
100.0		100.00% Pervious Area

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

Subcatchment 30S: Pre-Development Proposed Shed

Hydrograph

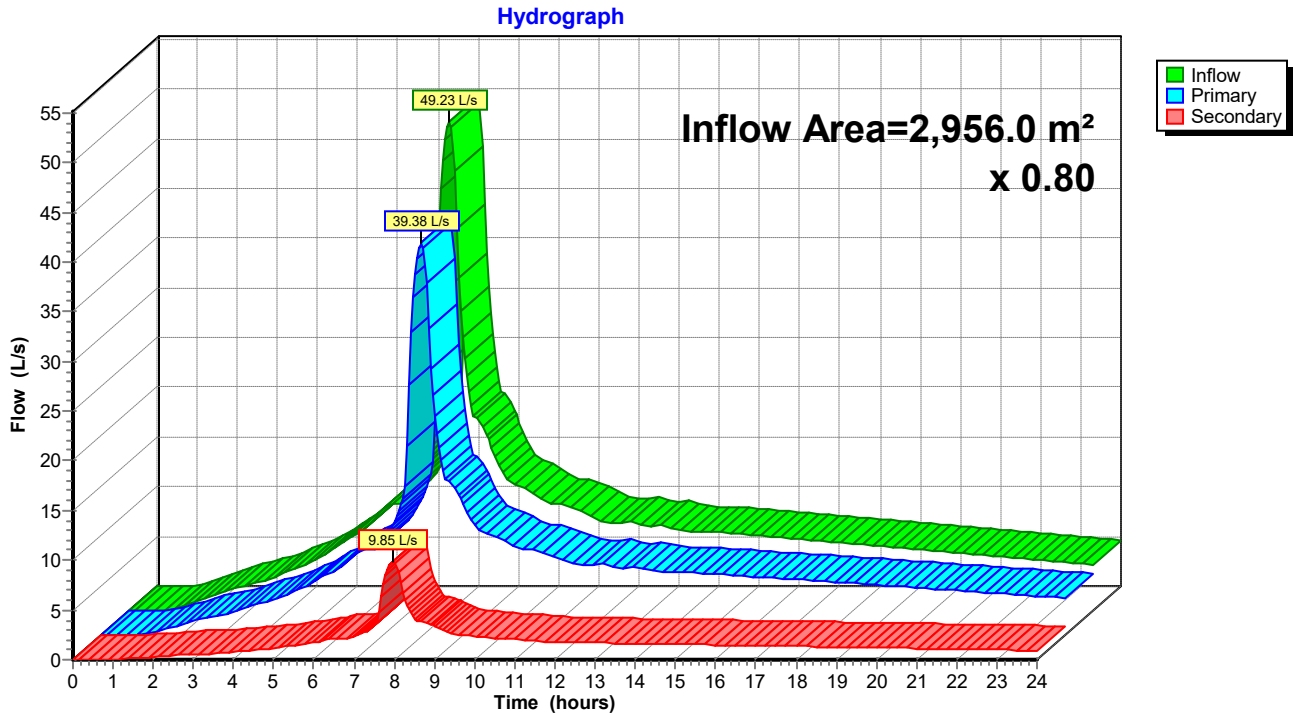


Summary for Link 3L: Pre-Development Flows to 80%

Inflow Area = 2,956.0 m², 0.00% Impervious, Inflow Depth > 238 mm for 1% AEP + 20% CCF event
Inflow = 49.23 L/s @ 7.97 hrs, Volume= 702.8 m³
Primary = 39.38 L/s @ 7.97 hrs, Volume= 562.2 m³, Atten= 20%, Lag= 0.0 min
Secondary = 9.85 L/s @ 7.97 hrs, Volume= 140.6 m³

Primary outflow = Inflow x 0.80, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Link 3L: Pre-Development Flows to 80%



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 10S: Runoff Area=2,856.0 m² 100.00% Impervious Runoff Depth>307 mm
Tc=10.0 min CN=98 Runoff=58.95 L/s 876.3 m³

Subcatchment 26S: Post-Development Runoff Area=100.0 m² 100.00% Impervious Runoff Depth>307 mm
Tc=10.0 min CN=98 Runoff=2.06 L/s 30.7 m³

Pond 18P: Existing Pond Peak Elev=0.419 m Storage=223.2 m³ Inflow=61.02 L/s 907.0 m³
Outflow=30.20 L/s 869.0 m³

Link 16L: Post-Development Inflow=30.20 L/s 869.0 m³
Primary=30.20 L/s 869.0 m³

Total Runoff Area = 2,956.0 m² Runoff Volume = 907.0 m³ Average Runoff Depth = 307 mm
0.00% Pervious = 0.0 m² 100.00% Impervious = 2,956.0 m²

Summary for Subcatchment 10S: Post-Development Existing Development

Runoff = 58.95 L/s @ 7.94 hrs, Volume= 876.3 m³, Depth> 307 mm

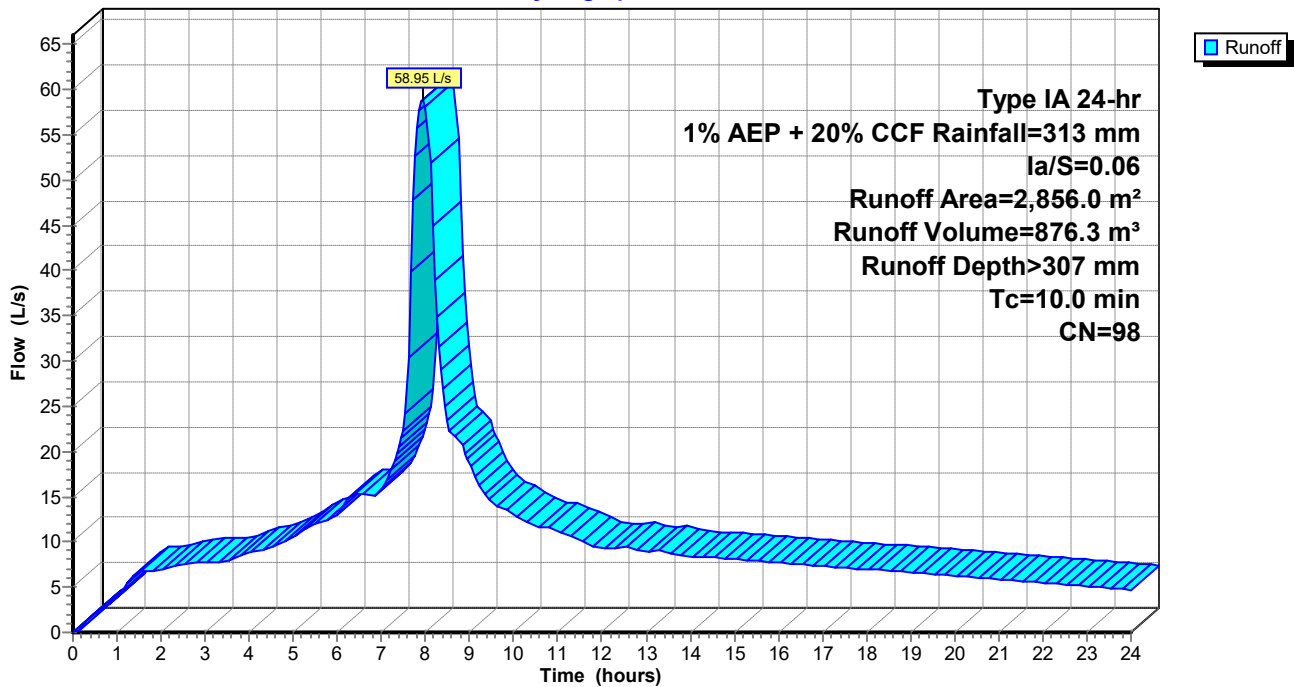
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 Type IA 24-hr 1% AEP + 20% CCF Rainfall=313 mm, Ia/S=0.06

Area (m ²)	CN	Description
2,856.0	98	Roofs, HSG C
2,856.0		100.00% Impervious Area

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

Subcatchment 10S: Post-Development Existing Development

Hydrograph



Summary for Subcatchment 26S: Post-Development Proposed Shed

Runoff = 2.06 L/s @ 7.94 hrs, Volume= 30.7 m³, Depth> 307 mm

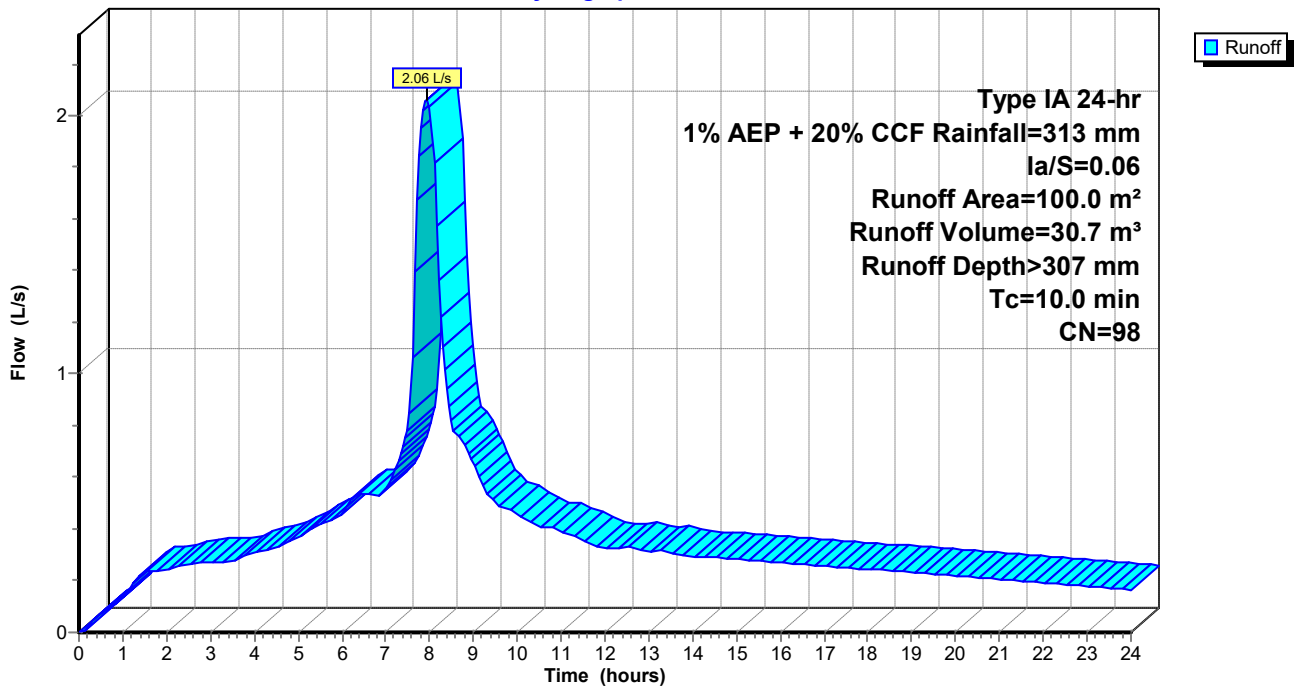
Runoff by SCS TR-20 method, UH=SCS, Weighted-CN, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 Type IA 24-hr 1% AEP + 20% CCF Rainfall=313 mm, Ia/S=0.06

Area (m ²)	CN	Description
100.0	98	Roofs, HSG C
100.0		100.00% Impervious Area

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

Subcatchment 26S: Post-Development Proposed Shed

Hydrograph



Summary for Pond 18P: Existing Pond

Inflow Area = 2,956.0 m², 100.00% Impervious, Inflow Depth > 307 mm for 1% AEP + 20% CCF event
 Inflow = 61.02 L/s @ 7.94 hrs, Volume= 907.0 m³
 Outflow = 30.20 L/s @ 8.35 hrs, Volume= 869.0 m³, Atten= 51%, Lag= 24.8 min
 Primary = 30.20 L/s @ 8.35 hrs, Volume= 869.0 m³

Routing by Stor-Ind method, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs
 Starting Elev= 0.150 m Surf.Area= 532.5 m² Storage= 79.9 m³
 Peak Elev= 0.419 m @ 8.35 hrs Surf.Area= 532.5 m² Storage= 223.2 m³ (143.3 m³ above start)

Plug-Flow detention time= 196.2 min calculated for 789.1 m³ (87% of inflow)
 Center-of-Mass det. time= 55.2 min (697.6 - 642.4)

Volume	Invert	Avail.Storage	Storage Description
#1	0.000 m	532.5 m ³	15.00 mW x 35.50 mL x 1.00 mH Prismatic

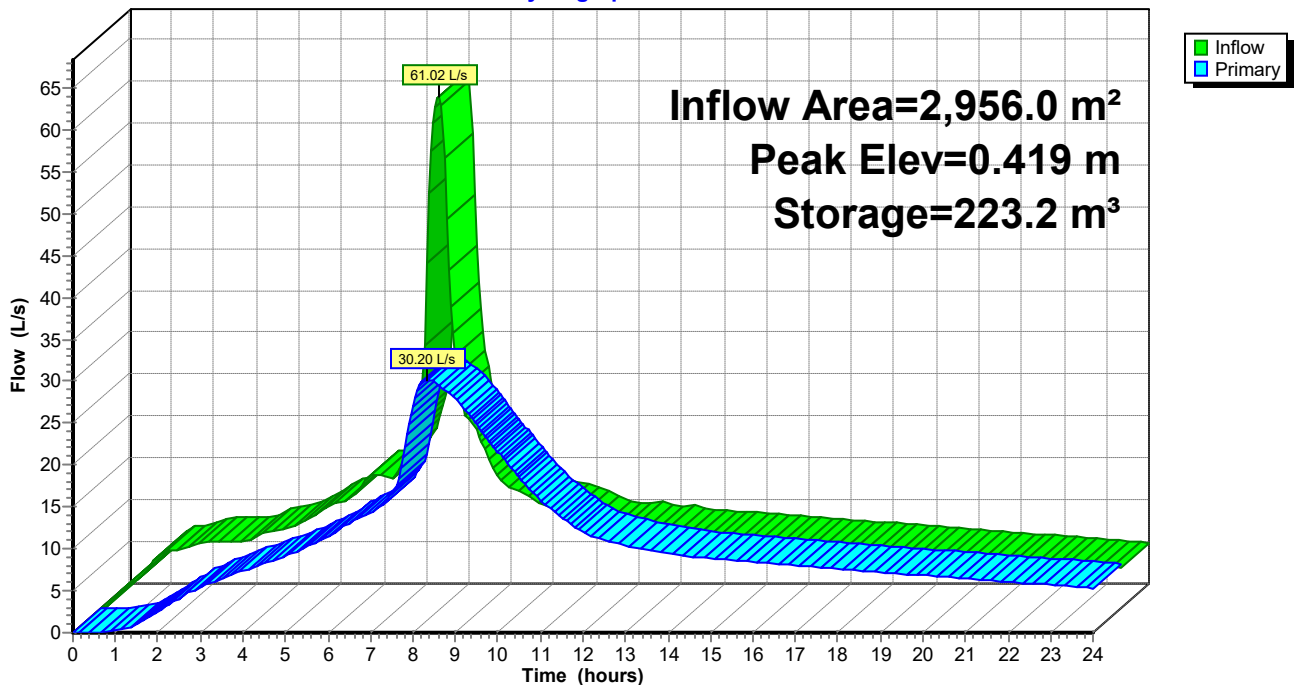
Device	Routing	Invert	Outlet Devices
#1	Primary	0.150 m	170 mm Vert. Orifice/Grate C= 0.700
#2	Primary	0.480 m	1.88 m long Sharp-Crested Rectangular Weir 2 End Contraction(s)

Primary OutFlow Max=30.20 L/s @ 8.35 hrs HW=0.419 m (Free Discharge)

- 1=Orifice/Grate (Orifice Controls 30.20 L/s @ 1.33 m/s)
- 2=Sharp-Crested Rectangular Weir (Controls 0.00 L/s)

Pond 18P: Existing Pond

Hydrograph



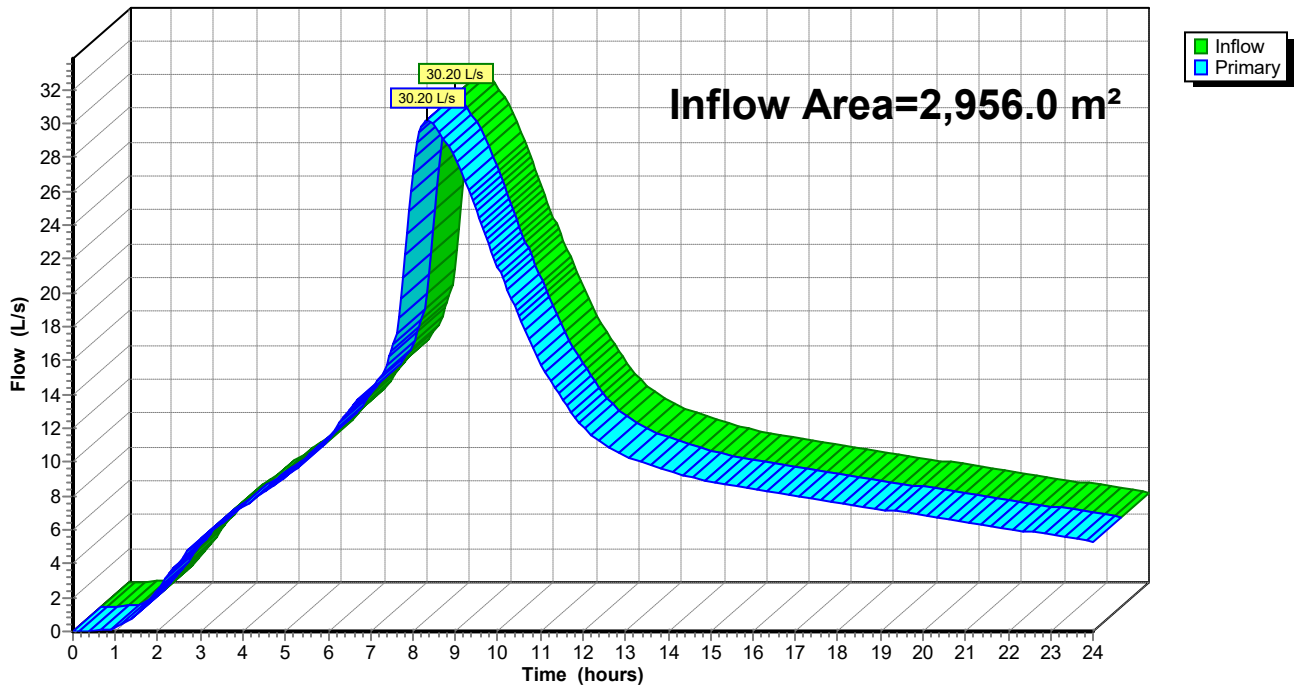
Summary for Link 16L: Post-Development

Inflow Area = 2,956.0 m², 100.00% Impervious, Inflow Depth > 294 mm for 1% AEP + 20% CCF event
Inflow = 30.20 L/s @ 8.35 hrs, Volume= 869.0 m³
Primary = 30.20 L/s @ 8.35 hrs, Volume= 869.0 m³, Atten= 0%, Lag= 0.0 min

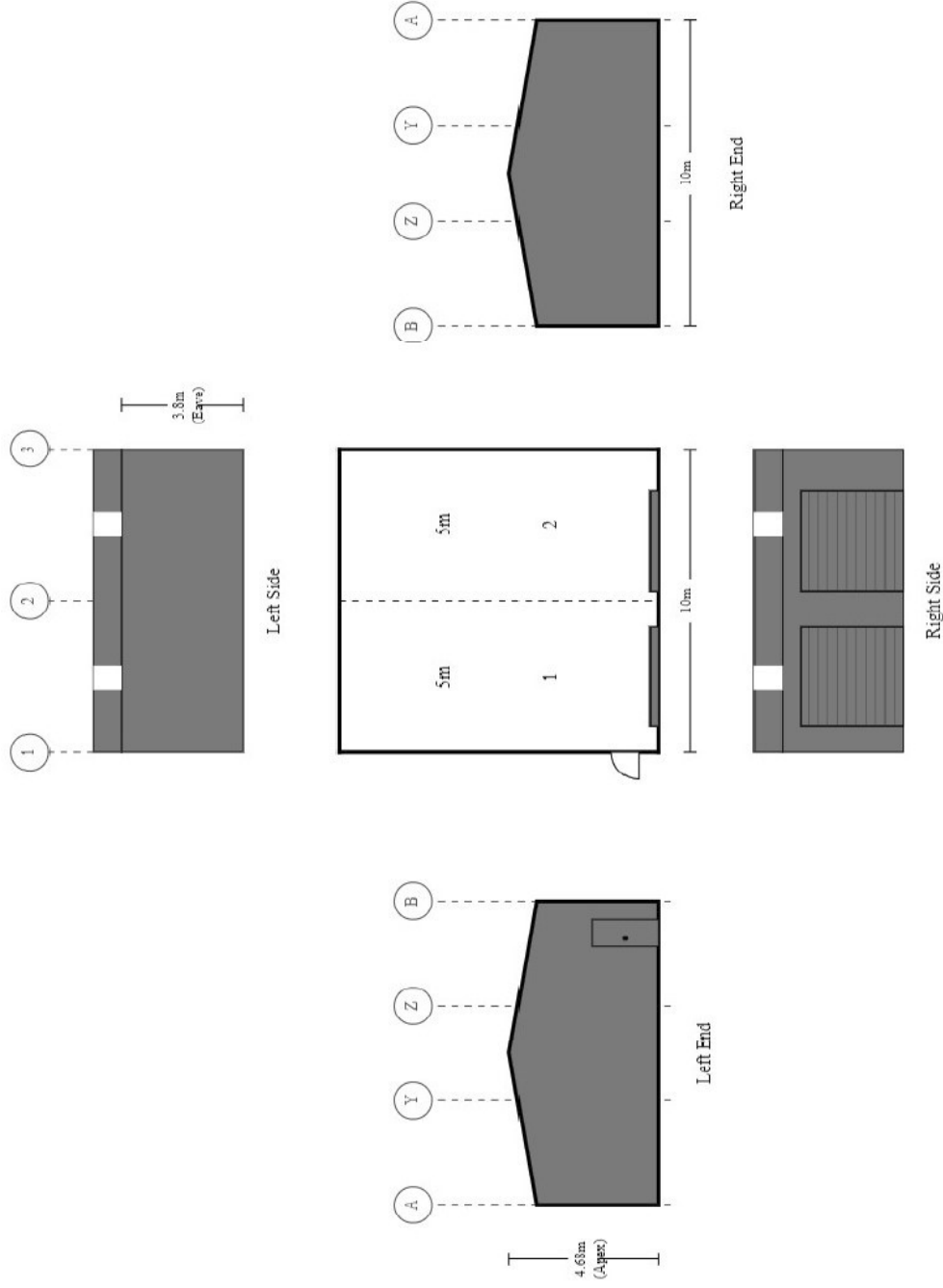
Primary outflow = Inflow, Time Span= 0.00-24.00 hrs, dt= 0.05 hrs

Link 16L: Post-Development

Hydrograph



04 BUILDING LAYOUT



CLIENT SIGNATURE

DATE:

WARREN JONES
294D WAIPAPA ROAD
KERIKERI 0230

THE NORTHLAND GROUP LTD
SHOP 4B, 93 KERIKERI ROAD
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21 August 2024

294D WAIPAPA ROAD WAIPAPA; LOT 7 DP 475668 PROPOSED ADDITION TO STORAGE FACILITY: TRAFFIC EFFECTS

By Dean Scanlen

BE(Hons)(Civil), CPEng, IntPE(NZ), CMEngNZ



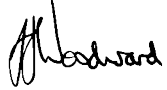

1. W & L Jones Properties Limited holds a consent¹ to operate 64 long-term storage units in four buildings at 294D Waipapa Road, Waipapa. It proposes a single additional building on the site with total floor area of 100 square metres, all of which is for private use and intended for the storage of vehicles and/or a boat, so will not be used commercially in any way.
2. This is an assessment of the additional traffic generation expected from those units. All traffic movements referred to in this report are one-way movements in one direction.
3. The traffic generation of the existing storage facility has been monitored since 21 July 2024 by which time the facility was fully operational. Between 21 July 2024 and 22 July 2024, the facility generated a total of 31,285 movements or an average of 28.5 per day. Since 22 March 2024, the traffic generation has averaged slightly under 30 movements per day.
4. This is, proportionally, significantly more traffic than I have observed from other storage facilities. I am advised that this is likely a result of a plumbing firm using one unit for short term storage of materials. That single use is likely generating significantly more traffic movements than a conventional storage unit – likely many times more.
5. Even so, even if the additional space generated traffic at the same average rate as that experienced in 2024², which is likely conservative, the traffic generation would still only increase by 3% to just over 30 movements per day. This would not even be noticed by existing users of either the facility or the shared access that leads to it, and the incremental effects would certainly be less than minor.
6. I finally note that my original estimate of five to six vehicle movements per day for the entire facility was based on actual counts from an existing facility. I expect the traffic to reduce to such levels if/when all buildings and units in the facility revert to more conventional storage, even with the proposed new building.

¹ FNDC reference 2200212

² And the private use is likely to generate similar traffic as a commercial storage unit.

SITE 294D Waipapa Road, Kerikeri
LEGAL DESCRIPTION Lot 7 DP 475668
PROJECT New Importance Level 1 Shed
CLIENT W & L Jones Properties
REFERENCE NO. 133949
DOCUMENT Site-Specific Geotechnical Report
STATUS/REVISION NO. FINAL – Building Consent
DATE OF ISSUE 28 May 2024

Report Prepared For	Email
W & L Jones Properties	dah@xtra.com

Authorized by	N. Ngaropo <i>BSc (Geology)</i>	Engineering Geologist	nikora@wjl.co.nz	
Reviewed by	S. Page <i>Part Dip. (Civil)</i>	Engineering Technician	shaun@wjl.co.nz	
Approved by	S.J. Woodward <i>(ME, CMEngNZ, CPEng)</i>	Principal Geotechnical Engineer	simonwoodward@wjl.co.nz	
Approved by	B. Steenkamp <i>BEng Civil, BSc (Geology) CMEngNZ, CPEng</i>	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.

Development Type:	New Importance Level 1 shed.
Development Proposals Supplied:	Mark-up site plan and layout plan only.
NZS3604 Type Loadings/s:	Yes.
Geology Encountered:	Kerikeri Volcanic Group. Gleyed soil crust to 1.2m to 1.3m below present ground level, overlying inferred, hard, volcanic basalt rock.
Surficial Topsoil/Non-engineered Fill/Buried Topsoil Encountered:	Ranged between 0.20m to 0.30m thickness.
Overall Site Gradient in Proximity to Development:	Flat to gently sloping.
Site Stability Risk:	No perceived Risk of deep-seated global instability.
Liquefaction Risk:	Negligible risk of liquefaction susceptibility.
Suitable Shallow Foundation Type(s):	Subject to expansive soil provisions: <ul style="list-style-type: none"> • Slab-on-Grade with deepened perimeter strip footings, or • Reinforced, stiffened raft slab
Shallow Soil Bearing Capacity:	Yes – Natural Soils & Engineered Hardfill Only. Geotechnical Ultimate Bearing Capacity = 200 kPa.
NZBC B1 Expansive Soils Classification:	Class M – Moderately Expansive ($\gamma_s = 44\text{mm}$). Refer report text for design guidance.
Minimal Footing Depth:	Refer report text for design guidance.
NZS1170.5:2004 Site Subsoil Classification:	Class B – Rock stratigraphy.
Earthworks:	<p>Confined to the stripping of surficial topsoil & replacement with engineered hardfill so that the building site can be raised by up to approximately 0.30m, generally matching the FFL of the existing shed to the south.</p> <p><u>Earthworks should only be undertaken during the summer period of the year, or during prolonged dry forecast weather conditions.</u></p> <p><u>Any proposed fills exceeding 0.30m above existing ground levels must be discussed with a Geo-Professional prior to the finalization of architectural drawings and commencement of all development works.</u></p> <p>Refer report text for design guidance.</p>
Consent Application Report Suitable for:	Not required unless development proposals have been revised, then WJL should be contacted for review prior to using this report to support a Building Consent Application.

2. INTRODUCTION

2.1. SCOPE OF WORK

Wilton Joubert Limited (WJL) was engaged by the client; **W & L Jones Properties**, to undertake a geotechnical assessment of ground conditions at the above site, where we understand, it is proposed to construct an additional new Importance Level 1 (IL1) shed adjacent to the north-westernmost existing shed on-site.

For the purposes of this report, we have assumed the shed will comprise of a lightweight, steel framed structure, designed and constructed generally in keeping with the requirements of NZS3604:2011.

2.2. SUPPLIED INFORMATION

Our assessment is based on email correspondence with the client, a marked-up Site Plan prepared by Kiwi Sheds Northland Ltd, and a building layout plan prepared by The Northland Group Ltd. The location and approximate orientation of the shed were also indicated by the client upon our arrival at the site.

We understand that this report will be used to support a Building Consent application. Please note, if development proposals are revised, WJL should be contacted for review prior to our report being used to support a consent application.

3. SITE DESCRIPTION

The subject 1.33ha irregular shaped property is located off the northern side of Waipapa Road, addressed as 294D Waipapa Road, Kerikeri, and legally described as Lot 7 DP 475668. The site is accessed off the northern end of a shared aggregate right-of-way (ROW) that is contained within the total property area. The property is shown on our appended Site Plan (ref: 133949-G600) and in Figure 1 below.



Figure 1: Screenshot aerial view of the subject site from the Far North District Council (FNDC) on-line GIS Property and Land Map. Subject property is highlighted in cyan. 1.0m contours are overlaid.

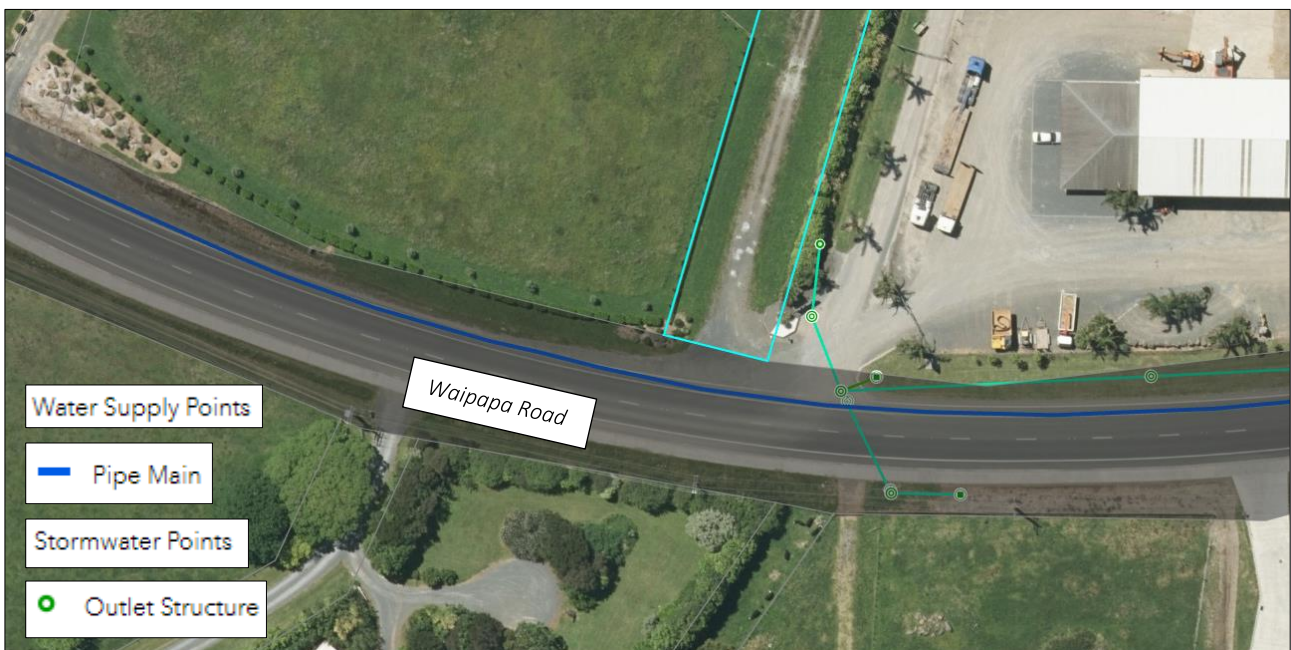
Topographically speaking, the site is situated on broad, flat to gently sloping terrain, with grades generally averaging less than 5°.

A stream feature runs directly along the western boundary, trending north, and is offset approximately ~3.0m from the western edge of the adjacent existing and proposed shed structures on the property. A pond feature is located greater than 20m away to the north of the proposed build site and overflows into the abovementioned stream at the western boundary. An additional stream is also located near the northern boundary, trending east to west, and is offset approximately 5-10m north of the pond.

Existing built development on-site is generally confined to the southern half of the property and comprises four non-habitable storage sheds, surrounded by aggregate surfacing accessways. The undeveloped northern half of the property generally comprises pasture, with intermittent trees and hedges throughout.

At the time of preparing this report, we note that the FNDC on-line GIS Water Services Map indicates that:

- A mains water service line trends along the northern side of Waipapa Road, and
- A stormwater service connection is present on the eastern side of the ROW entrance off Waipapa Road.



*Figure 2: Screenshot aerial view of the subject site from the FNDC on-line GIS Water Services Map.
Subject property is highlighted in cyan.*

4. DEVELOPMENT PROPOSALS

Based on our review of the supplied plans, it is our understanding that the client proposes constructing an additional new IL1 shed in proximity to the north-westernmost existing shed present on-site.

The 100m² shed is to be founded on a conventional on-grade slab system- with deepened perimeter strip footings, these supporting lightweight steel framing and Coloursteel cladding and roofing.

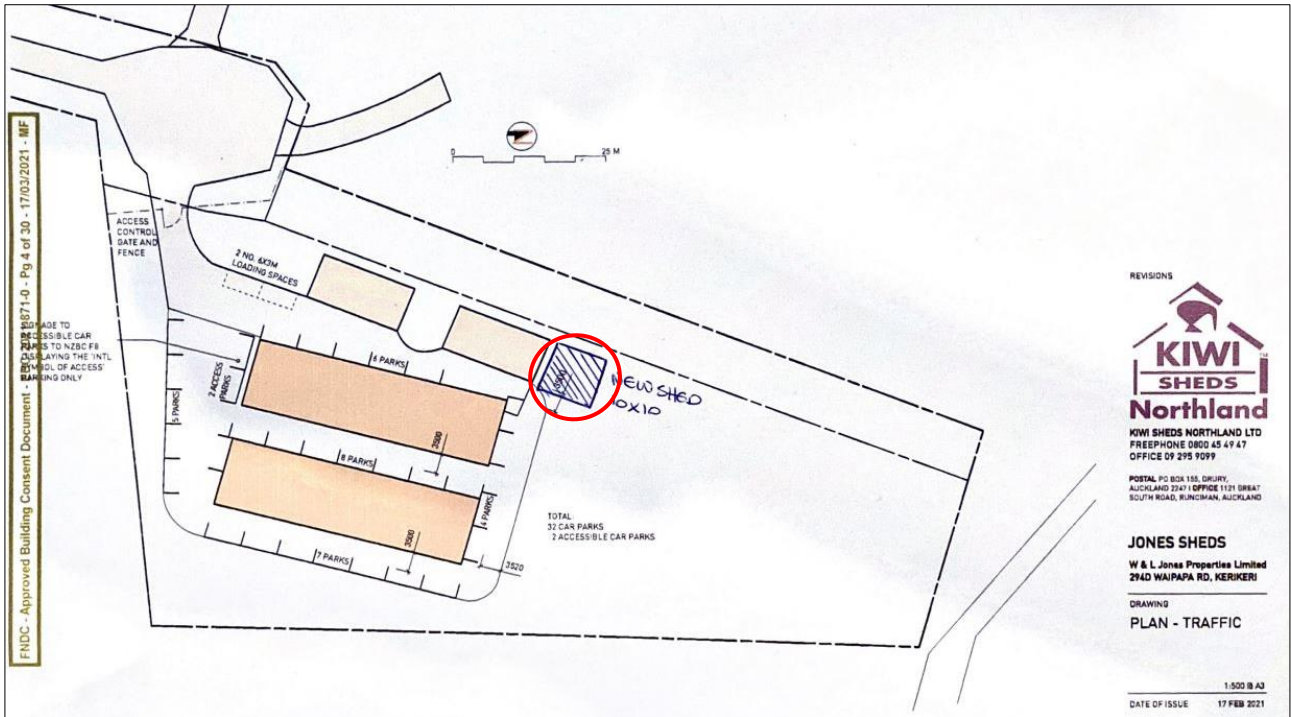


Figure 3: Screenshot of the supplied mark-up Site Plan from Kiwi Sheds Northland Ltd. Red circle depicts building site.



Figure 4: Site photograph looking towards the proposed building site (west direction).

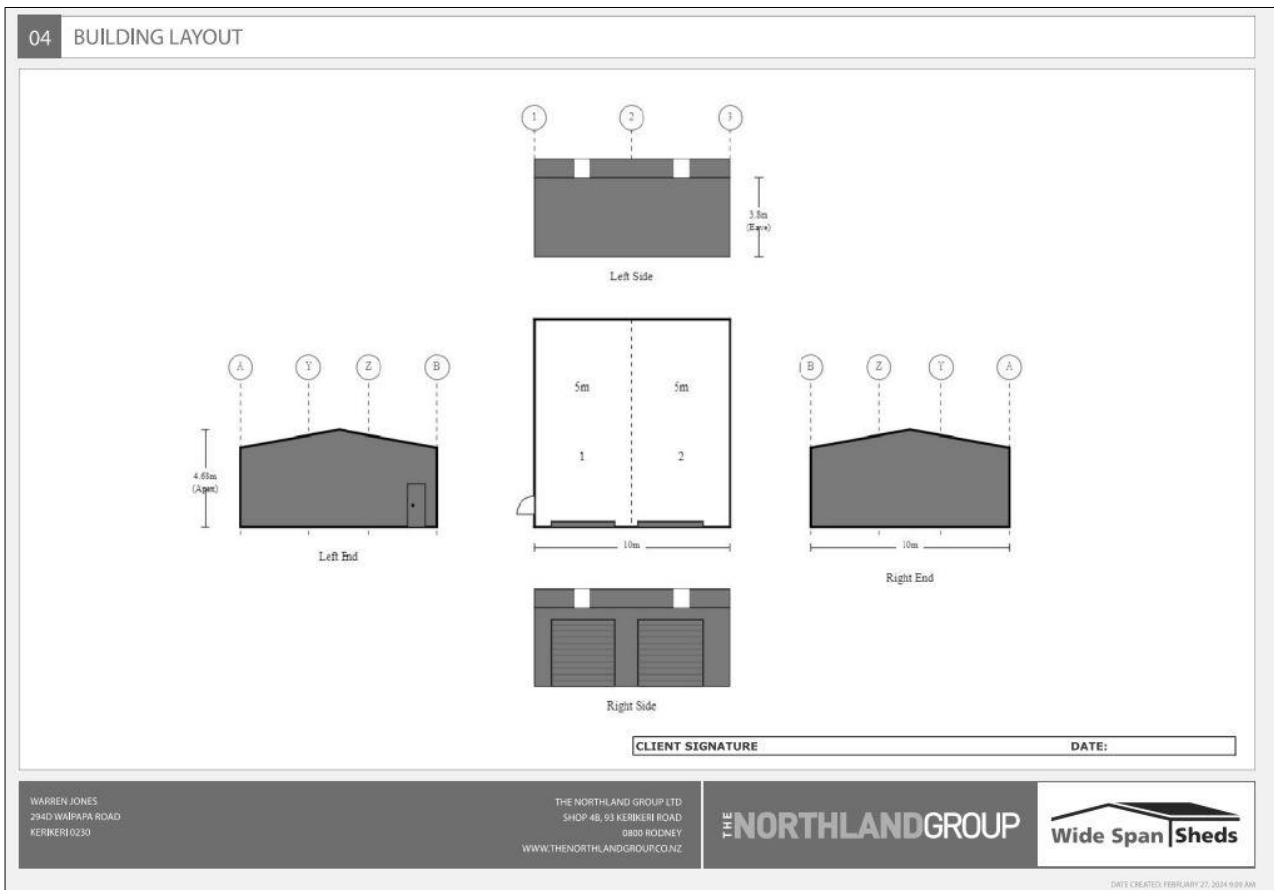


Figure 5: Screenshot of the Building Layout Plan Prepared by The Northland Group Ltd.

The finished floor level (FFL) of the structure has not been specified in the supplied drawings, but the client has indicated that the building site is to be slightly raised, up to approximately 0.30m, generally matching the FFL of the existing shed to the south.

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

5. DESKTOP STUDY

5.1. GEOLOGY

Local geology across the proposed building site and land to the west is noted on the GNS Science New Zealand Geology Web Map, Scale 1:250,000, as; **Kerikeri Volcanic Group Miocene Basalt of Kaikohe – Bay of Islands Volcanic Field**. These deposits are approximately 1.8 to 9.7 million years in age and described as; “*Basalt lava, volcanic plugs, and minor tuff.*” (Ref: GNS Science Website).

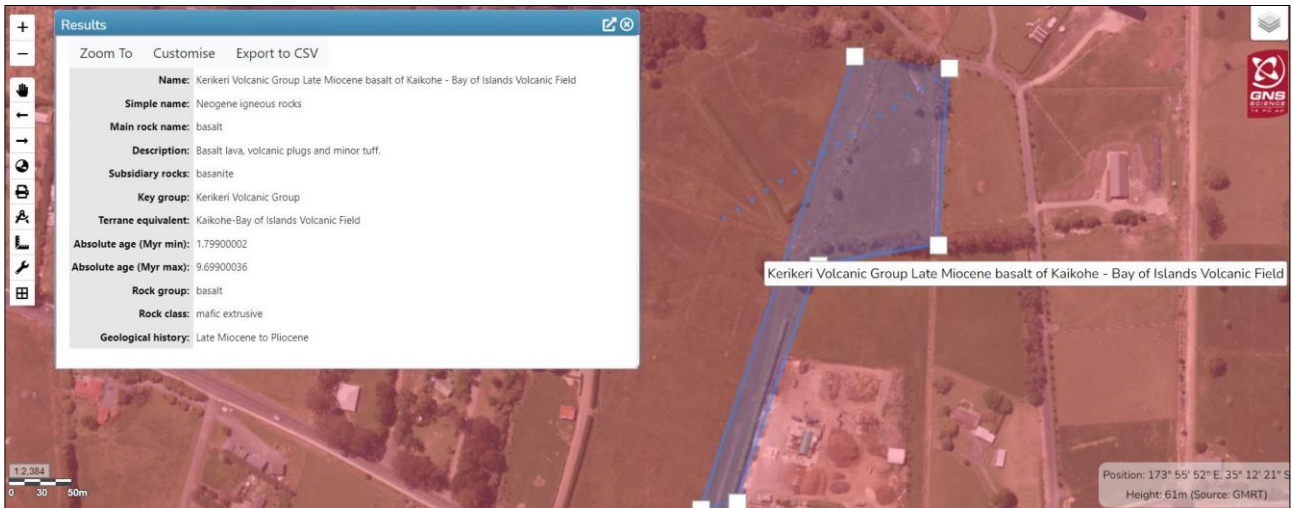


Figure 6: Screenshot aerial view of the subject site from the New Zealand Geology Web Map. Blue outline depicts general property.

During the field investigation, soils encountered beneath the site comprised predominantly of Kerikeri Volcanic Group Materials, including SILTs and clayey SILTs, but which appear to have become 'gleyed', likely as a result of prolonged saturation and oxygen depletion.

5.2. RIVER FLOOD HAZARD ZONE

At the time of preparing this report, we note that the Northland Regional Council (NRC) GIS Hazard Map indicates that only the southern portion of the proposed building site is within the 100-year (+ climate change) Priority River Flood Hazard Zone. It should be noted that the modelled flood zonation's appear to have been formulated prior to the construction of the existing storage sheds present on-site, which included raising of the land up to some 0.30m, and the installation of an engineered stormwater pond downslope near the northern boundary.



Figure 7: Screenshot from Northland Regional Council (NRC) GIS Hazard Map. Red rectangle approximately depicts the proposed building site.

The land downslope of the building site is well contoured towards the pond with no lower ponding areas evident. Prior to our fieldwork investigation, 90mm of rainfall had occurred the previous day and had only partially covered the base of the pond (see Figure 8). We then visited the site on the day following our investigation and observed that all water in the pond had basically soaked away (see Figure 9). The client also advised that during Cyclone Gabrielle in 2023, the pond did not overflow and quickly soaked away, within a day or two once the weather event ceased.

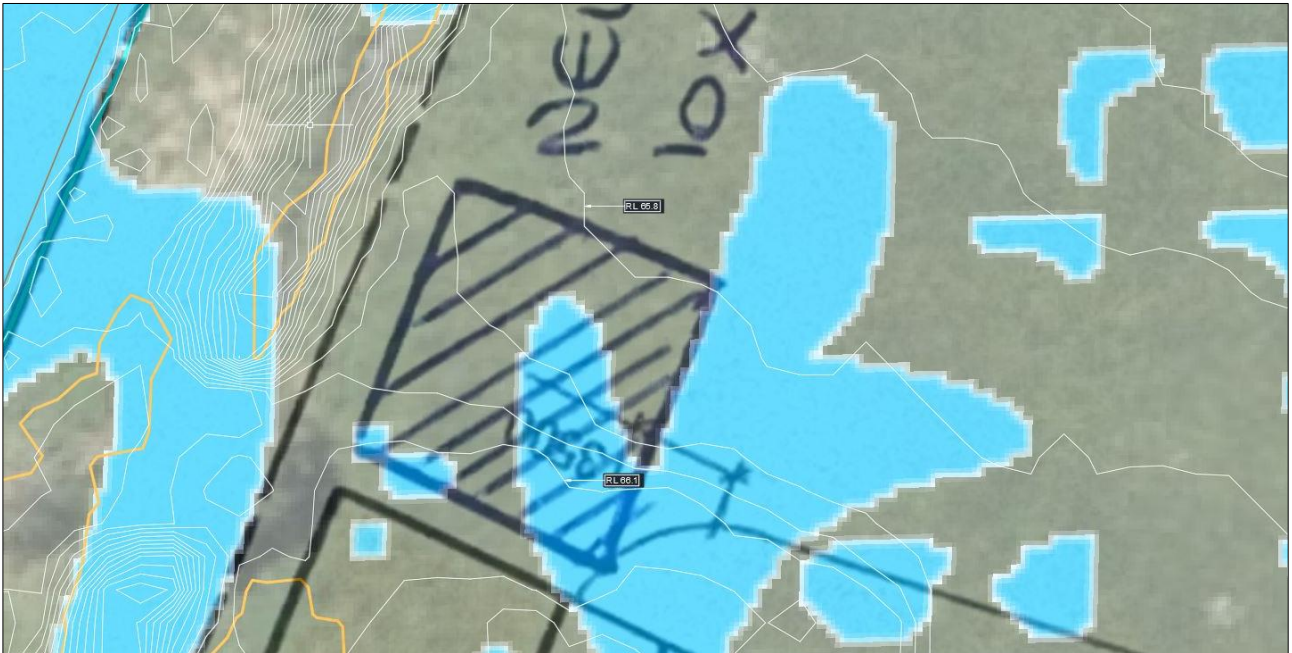


Figure 8: Site photograph of the partially filled stormwater pond, taken on the day of our investigation (northwest direction).



Figure 9: Site photograph of the stormwater pond, taken on the day following our investigation (northwest direction).

The NRC has provided a river flood level at the building site of 65.768m New Zealand Vertical Datum (NZVD). We have sourced 0.10m LiDAR contours from the NRC that indicate most of the building site is above the supplied flood level. Additionally, the client has also indicated that the building site is to be raised approximately 0.30m in matching the FFL's of the surrounding sheds.



*Figure 8: Screenshot from Northland Regional Council (NRC) GIS Hazard Map.
Building site location from Figure 4 and 0.10m LiDAR contour levels are overlaid.*

Based on all the above, provided the FFL of the garage is set at a height of no lower than 66.068m NZVD in accounting for a 0.30m freeboard above the flood level for the IL1 shed, we conclude that the risk of inundation affecting the shed to be significantly low.

5.3. PREVIOUS GEOTECHNICAL REPORTS

We have reviewed the following supplied Geotechnical Report pertaining to the construction of the two easternmost existing sheds present on-site:

- Geotechnical Site Suitability Report, prepared by TMC Consulting Engineers Ltd, dated 11 September 2019 (ref: SO357-JO2767).

In reviewing the above report, we note the following conclusions and recommendations were made:

- The walkover of the site and the subsurface investigations undertaken provided no evidence of ground movement on or adjacent to the site,
- The soil on-site was assessed as Class M, Moderately Expansive, in terms of AS2870:2011, and

From the site soil investigation and assessment, an Ultimate Bearing Capacity of 150kPa was considered appropriate for design purposes.

6. GEOTECHNICAL INVESTIGATION

Our fieldwork, as shown on the appended Site Plan (ref: 133949-G600), was undertaken on 21 May 2024 and involved:

- Drilling 2 (no.) 50mm diameter hand auger boreholes (HA's) to a maximum refusal depth of 1.5m below present ground level (bpgl), and
- Dynamic cone – scala penetrometer tests were undertaken at the base of each HA, immediately refusing on 20+ blows.

The soil sample arisings from the HA's were logged in accordance with the "Field Description of Soil and Rock", NZGS, December 2005.

In-situ undrained Vane Shear Strengths were measured at intervals of depth and then adjusted in accordance with the New Zealand Geotechnical Society (NZGS); Guidelines for Handheld Shear Vane Testing, August 2001, with strengths classified in accordance with the NZGS Field Classification Guidelines; Table 2.10, December 2005. The materials identified are described in detail on the appended records, together with the results of the various tests undertaken, plus the groundwater conditions as determined during time on site.

7. GEOTECHNICAL FINDINGS

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

7.1. TOPSOIL

A surficial TOPSOIL layer of 0.20m to 0.30m thickness was present across both HA's.

7.2. NATURAL GROUND

The underlying natural deposits encountered on-site comprised of a 0.90m to 1.1m thick crust of stiff to very stiff, gleyed Clayey SILTs, overlying inferred, hard, volcanic basalt rock. The gleyed nature of the crust is to be expected considering the low-lying nature of the site in comparison to the various surrounding watercourse features. The underlying basalt rock was inferred to have a weathered surface of gravelly SILTs about 0.20m thick.

Measured in-situ, BS1377 adjusted peak shear strengths within the gleyed crust ranged from 93kPa and 136kPa, while those within the underlying weathered horizon on top of the basalt rock all exceeded 217kPa, the upper capacity of our hand-held shear vane.

Ratios of peak to remoulded Vane Shear Strength values within the gleyed crust are assessed as 'Extra Sensitive.'

As noted in Section 6 above, dynamic cone – scala penetrometer tests undertaken at the base of each HA immediately refused on 20+ blows.



Figure 9: Site photograph of the typical soil arisings (HA01: 0.0m to 1.5m).

7.3. GROUNDWATER

Groundwater inflow was encountered in both HA's at a depth of 1.1m bpgl, both rising to a standing level of 1.0m bpgl by the completion of our fieldwork.

Considering the topographical setting that the site resides within and the underlying geological profile encountered, further seasonally elevated groundwater levels could be expected.

As such, it is imperative all earthworks and foundation works be undertaken during the summer period of the year, or during prolonged dry forecast weather conditions.

7.4. SUMMARY TABLE

The following table summarises our inferred stratigraphic profiling:

Investigation Hole ID	Termination Depth (m)	Depth to Base of Surficial Topsoil (m)	Vane Shear Strength Range within Gleyed Crust (kPa)	Depth to Top of Inferred, Hard, Volcanic Basalt Rock (m)	Standing Groundwater Depth (m)
HA01	1.5	0.20	96 - 136	1.3	1.0
HA02	1.3	0.30	93 - 105	1.2	1.0

UTP = Unable to Penetrate, NE = Not Encountered

8. GEOTECHNICAL ASSESSMENTS

8.1. SITE STABILITY

On the basis of:

- The flat to gently sloping nature of the proposed development area and surrounding influential land, and
- No obvious evidence of neither historic nor potential deep-seated instability within the immediate vicinity of influence of the proposed development area

we perceive no risk of deep-seated global slope instability impacting the proposed development or immediately beyond, which we consider will persist in the long-term, provided that all of the recommendations within this report, or subsequent revisions, are adhered to.

8.2. LIQUEFACTION ASSESSMENT

At the time of preparing this report, we note that the FNDC on-line GIS Liquefaction Vulnerability Map indicates that the general building areas of the property are within a mapped 'Unlikely' zone (green). The grey areas shown, within which the ROW lies, are 'undetermined'.

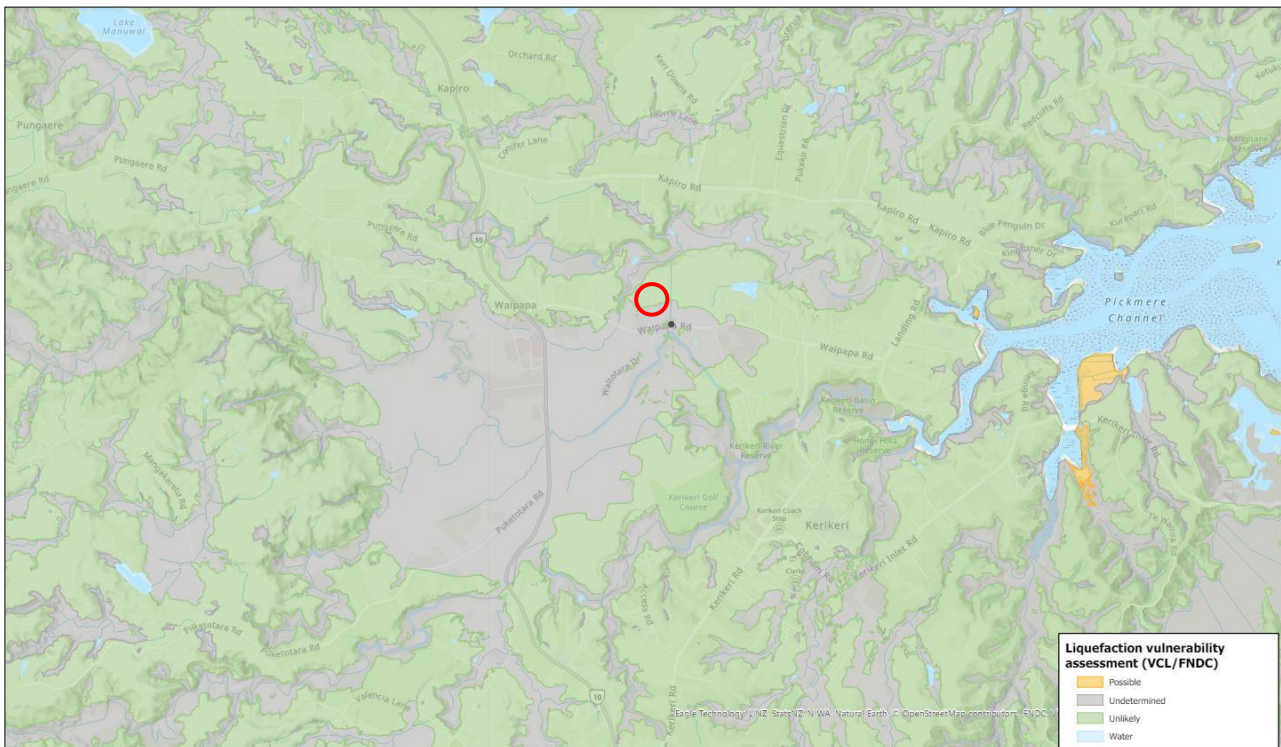


Figure 10: Screenshot aerial view of the subject site and surrounding land from the FNDC on-line GIS Liquefaction Vulnerability Map. Red circle represents the greater property.

Liquefaction is a natural phenomenon where a loss of strength of sand-like soils is experienced following cyclic induced stress, which is typically a result of prolonged seismic shaking and the resultant increase in pore water pressure of saturated soils. Recent examples of this were experienced in Christchurch and the greater Canterbury Region during the Canterbury Earthquake Sequence between 2010-2011.

Cyclic loading during prolonged seismic shaking induces an increase in pore water pressure, which in turn decreases the effective stress of a sand-like deposit of soil. Excess pore water pressure (EPWP) can build to such an extent that the effective stress of the underlying soils is reduced to near zero, whereby the soils no longer carry shear strength and behave as a semi solid/fluid. In such a scenario, excess pore water pressures will follow the path of least resistance to eventual dissipation, which can lead to the migration of liquefied soils towards the surface, or laterally towards a free-face (edge of slope, riverbank, etc.) or layers that have not yet undergone liquefaction.

A screening procedure based on geological criteria was adopted to examine whether the proposed development might be susceptible to liquefaction, with observations as follows:

- There are no known active faults traversing through the property or wider surrounding land,
- There is no historical evidence of liquefaction at the property,
- The proposed building site is underlain by inferred, hard, volcanic rock/basalt from shallow depths of 1.2m to 1.3m bpgl, and
- The subsoils beneath the property are underlain by Kerikeri Volcanic Group gleyed ash deposits that are approximately 1.8 to 9.7 million years of age, giving rise to greater consolidation in comparison to Holocene age material (10,000 years), and greater apparent soil strength.

Based on the above, we conclude that the subsoils across the proposed development area have a negligible risk of liquefaction susceptibility and liquefaction damage is therefore considered to be unlikely.

9. CONCLUSIONS AND RECOMMENDATIONS

On the basis of the above analyses, we perceive no risk of moderate to deep-seated slope instability impacting on the proposed developments within the site, provided all recommendations contained within our report are implemented in design and construction.

With regard to the Building Act 2004; Sections 71-72, it is our Professional Opinion, on reasonable grounds as outlined herein, that:

- i. The current proposed site development and associated building work within the relayed building platform should not accelerate, worsen, or result in slippage or subsidence on the land on which the building work is to be carried out or any other property, and
- ii. The land beneath the building footprint and surrounding immediate amenity areas of the relayed building platform are neither subject nor likely to be subject to slippage or subsidence, provided the development is undertaken in accordance with the recommendations and guidance of this report.

9.1. FOUNDATIONS

The supplied plans indicate that the proposed shed is to be founded on a conventional slab-on-grade system with deepened perimeter strip footings. Traditionally, such a system has only been appropriate for “Good Ground” as defined in NZS3604. More recently, Amendment 19 of the NZ Building Code has introduced expansive soil classes, S, M, H and E as defined in clause 7.5.13.1, of which class S has an upper characteristic surface movement value y_s of 22mm, which is approximately commensurate with the Good Ground upper bound of 25mm. Therefore, the use of a traditional slab-on-grade with deepened perimeter strip footings on soils more expansive than Class S requires an appropriate level of specific engineering design, which includes consideration of under-slab soil heave which could occur through soil swelling as a result of groundwater rise.

Otherwise, a reinforced, stiffened raft slab foundation system is an alternative viable foundation option and details for both will be covered in the following Section 9 recommendations.

9.1.1. SHALLOW FOUNDATION BEARING CAPACITY

Although our investigation found generally high peak undrained shear strengths of the surface soils, the facts that they have been gleyed, and also demonstrated high sensitivities to loss of strength when disturbed, the following bearing capacity values are considered to be appropriate for the design of shallow foundations, subject to founding directly within or on competent undisturbed natural ground or engineered hardfill, for which careful Geo-Professional confirmatory inspections of the subgrade should be undertaken:

Geotechnical Ultimate Bearing Capacity	200 kPa
ULS Dependable Bearing Capacity ($\Phi=0.5$)	100 kPa

When finalising development proposals, it should be checked that all foundations lie outside 45° envelopes rising up from:

- 0.50m below the invert of service trenches, and/or
- the toe of adjacent retaining walls,

unless such foundation details are found by SED to be satisfactory. Deeper foundation embedment with piles may be required for any surcharging foundations.

During inspections, it is important to exercise caution to verify that the natural ground meets the recommended bearing capacity mentioned in this report. This is crucial for preserving stability and structural integrity.

9.1.2. SHALLOW FOUNDATIONS ON EXPANSIVE SOILS

In this instance, considering the high silt content of the underlying subsoils encountered and local experience of these Kerikeri Volcanic Group ashes, we have adopted a conservative primary classification of Class M (Moderately) expansive soils, as defined in clause 7.5.13.1.2 and introduced to NZS3604 by Amendment 19 of NZBC Structure B1/AS1.

- NZBC B1 Expansive Soil Class M
- Upper Limit of Characteristic surface movement (y_s) 44mm

For shallow foundations, possessing sufficient lateral stability is essential to protect the foundation's integrity and prevent any potential damage to the structure and adjacent elements against wind and/or earthquake loadings. Although it is also essential to ensure that the load from a foundation does not impose any additional stress or load on the surrounding features, no such features are apparent on this site.

Soil expansiveness can be mitigated for foundations as follows:

- **For Slab-on-Grade with Perimeter Strip Footing Foundations:**
 - To provide for the use of a traditional slab-on-grade floor system on Class M expansivity soils, the attached calculations indicate that a y_s value of 44mm can be modulated to 25mm, by the provision of 0.37m of compacted hardfill beneath the floor, and by undercutting the legacy 0.45m footing depth by another 0.37m, and replacing that with compacted hardfill.
- **For Raft Slab Foundations:**
 - Specifically designed reinforced concrete stiffened raft designed for a y_s value of 44mm found on a minimum of 0.10m of engineered hardfill that extends a minimum of 1.0m beyond the building footprint.

9.1.3. NZS1170.5:2004 SITE SUBSOIL CLASSIFICATION

Due to the presence of around 1m of ash over the rock, we consider the proposed buildings to be underlain with a Class B – Rock stratigraphy.

9.2. SITE EARTHWORKS

Earthworks will be confined to the stripping of surficial topsoil replacement with engineered hardfill. The client has indicated that the building site is to be slightly raised by up to approximately 0.30m, in generally matching the FFL of the existing shed to the south, and this depth of hardfill could be included in the expansive soil modulation measures.

For any proposed raft slab foundation system, topsoil stripping should also extend a minimum of 1.0m beyond the building footprint.

Any bulk earthworks should be undertaken generally in accordance with the following standards:

- NZS4431:2022 “Code of Practice for Earth Fill Residential Development”,
- Section 2 “Earthworks & Geotechnical Requirements” of NZS4404:2010 “Land Development and Subdivision Infrastructure”, and
- Chapter 2 “Site Development Suitability (Geotechnical and Natural Hazards)” of the Far North District Council Engineering Standards, (Version 0.6 issued May 2023).

9.3. SITE PREPARATION

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

Once inspected, it is recommended an appropriate geotextile fabric is placed over the stripped ground in accordance with the manufacturer recommendations prior to the placement of hardfill.

9.4. SUBGRADE PROTECTION

The subgrade beneath the building platform should not be exposed for any prolonged period and should be covered with a 0.10m thick layer of granular fill such as GAP40 basecourse, as soon as possible.

Likewise, footing inverts should be poured as soon as possible once inspected by a Geo-Professional or covered with a protective layer of site concrete.

If subgrade degradation occurs by:

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

9.5. HARDFILL COMPACTION

The compaction of hardfill should be undertaken using either a heavy plate compactor or a steel wheeled roller with low frequency dynamic compaction. Hardfill layers should not exceed 0.15m at a time, and where the total depths exceed 0.60m, there is likely to be a Building Consent condition for observation/testing of the hardfill by a Geo-Professional. We recommend achieving the following compacted target values, with equivalence testing using either a Clegg Impact Hammer or DCP-Scala Penetrometer.

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

9.6. TEMPORARY & LONG-TERM EARTHWORK BATTERS

We recommend that earthworks only be undertaken during the summer period of the year, or during prolonged dry forecast weather conditions. Some provision for the use of pumps in the base of excavated footings in removing all excess water prior to concrete pouring should also be accounted for.

The earthwork site should be shaped to assist in stormwater run-off. The toe of batter excavations should be shaped to avoid ponding water.

All cuts should be battered no steeper than 1V:3H (18°) or if this cannot be achieved due to site constraints, advice from a Geo-Professional should be sought.

All fills should be battered no steeper than 1V:4H (14°) or if this cannot be achieved due to site constraints, they should be appropriately retained (deepened edge beam, foundation wall, etc).

Any proposed fills exceeding 0.30m above existing ground levels must be discussed with a Geo-Professional prior to the finalization of architectural drawings and commencement of all development works.

All exposed batters should be covered with topsoil before being re-grassed and/or planted as soon as practicable.

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

9.7. GENERAL SITE WORKS

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

Furthermore:

- All works must be undertaken in accordance with the Health and Safety at Work Act 2015.
- Any open excavations should be fenced off or covered, and/or access restricted as appropriate.
- The location of all services should be verified at the site prior to the commencement of construction.
- The Contractor is responsible at all times for ensuring that all necessary precautions are taken to protect all aspects of the works, as well as adjacent properties, buildings and services.
- Should the contractor require any site-specific assistance with safe construction methodologies, please contact WJL for further assistance.

9.8. LONG-TERM FOUNDATION CARE & MAINTENANCE

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

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

- Their presence can induce differential consolidation settlements beneath foundations through localised soil water deprivation, or conversely, and
- Foundation construction too soon after their removal can result in soil swelling and raising foundations as the soil rehydrates.
- To this end, care should be taken to avoid:
- Having significant trees positioned where their roots could migrate beneath the building foundations, and
- Constructing foundations on soils that have been differentially excessively desiccated by nearby trees, whether still existing, or recently removed.

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

10. STORMWATER CONTROL

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

All stormwater runoff from the new roof and paved areas should be collected in sealed pipes and be discharged to a stable disposal point that is well clear of the building site.

11. UNDERGROUND SERVICES

Considering the existing infrastructure present on-site (storage sheds) it is assumed that underground services, public or private, mapped, or unmapped, of any type will be present, hence we recommend staying on the side of caution during the commencement of any work within the proposed development areas.

12. FUTURE CONSTRUCTION MONITORING

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

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

For WJL to issue a PS4 to meet the above clauses of the NZBC, we will need to carry out the site inspections as per the Building Consent and Council requirements.

We require at least 48 hours’ notice for site inspections.

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

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

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

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

At this time, the following Geotechnical site inspections and testing should include, but are not limited to:

- Site cut,
- Hardfill compaction, and
- Pre-pour footing excavations.

13. LIMITATIONS

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

This report has been commissioned solely for the benefit of our clients, **W & L Jones Properties**, in relation to the project as described herein, and to the limits of our engagement, with the exception that the local Territorial Authority may rely on it to the extent of its appropriateness, conditions and limitations, when issuing the subject consent. Any variations from the development proposals as described herein as forming the basis of our appraisal should be referred to us for further evaluation. Copyright of Intellectual Property remains with WJL, and this report may NOT be used by any other entity, or for any other proposals, without our written consent. Therefore, no liability is accepted by this firm or any of its directors, servants, or agents, in respect of any other geotechnical aspects of this site, nor for its use by any other person or entity, and any other person or entity who relies upon any information contained herein does so entirely at their own risk. Where other parties may wish to rely on it, whether for the same or different proposals, this permission may be extended, subject to our satisfactory review of their interpretation of the report.

The recommendations provided in this geotechnical report are in accordance with the findings from our shallow investigation. However, it is important to acknowledge that additional refinement of the investigation and analysis may be necessary to meet the specific requirements set by the local council.

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

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

Yours faithfully,

WILTON JOUBERT LIMITED

Enclosures:

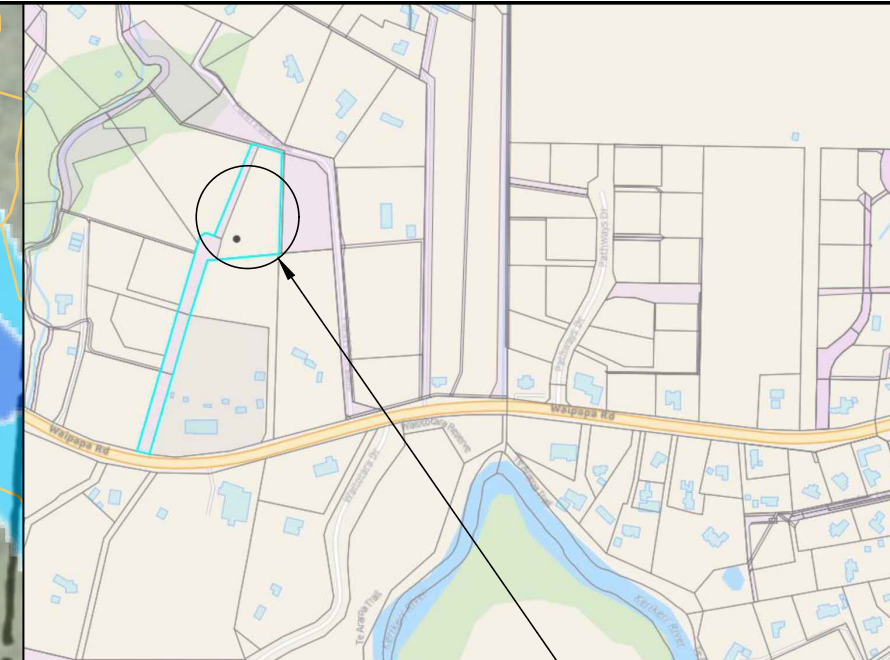
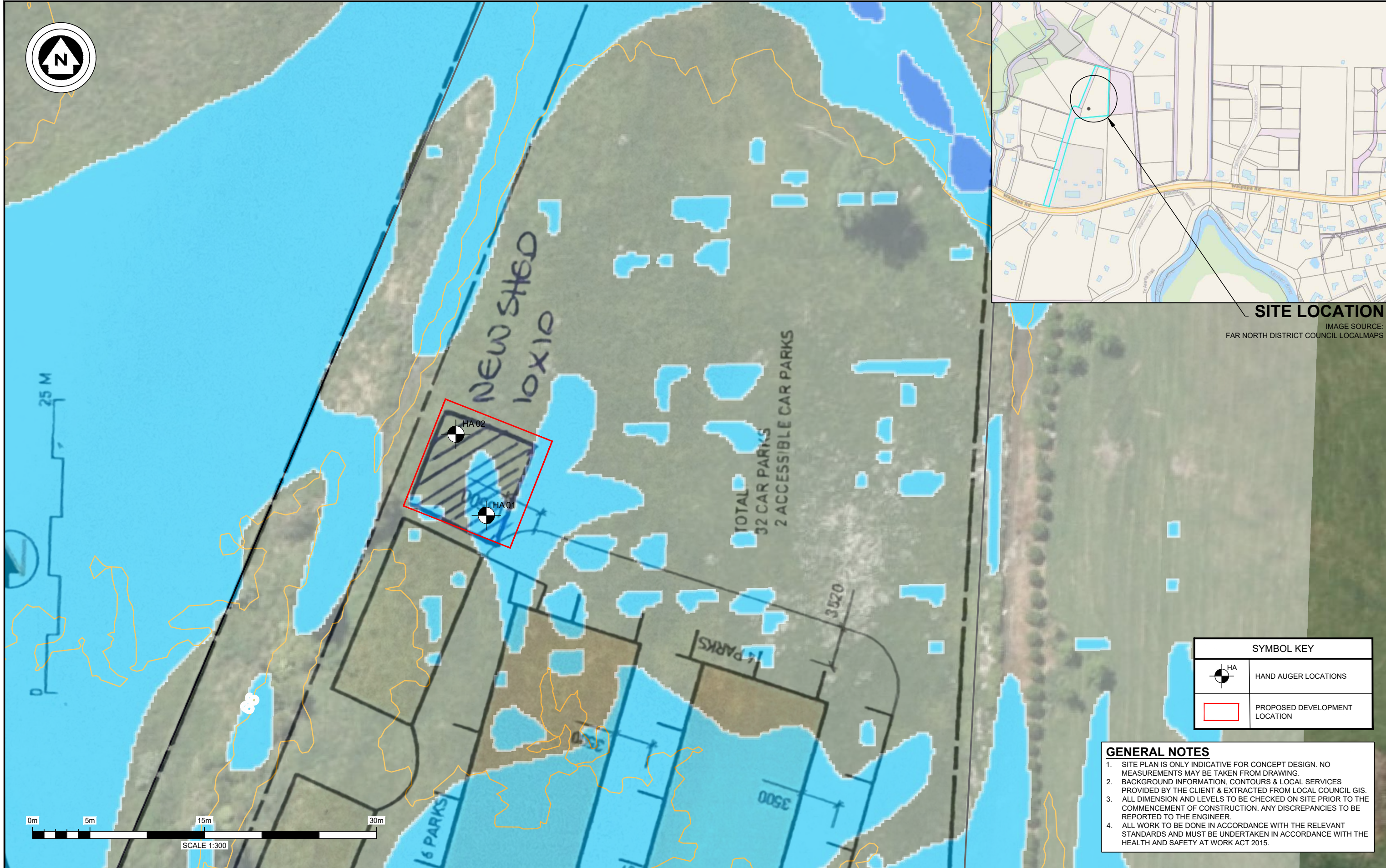
Site Plan (1 sheet)

Hand Auger Borehole Records (2 sheets)

Modulation of Characteristic Surface Movement (1 sheet)

'Foundation Maintenance & Footing Performance' sheet BTF18: A Homeowner's Guide, published by CSIRO (4 sheets)

Construction Monitoring (1 sheet)



SITE LOCATION

IMAGE SOURCE:
FAR NORTH DISTRICT COUNCIL LOCALMAPS

SYMBOL KEY	
	HAND AUGER LOCATIONS
	PROPOSED DEVELOPMENT LOCATION

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

WILTON JOUBERT
Consulting Engineers

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ISSUE / REVISION			
No.	DATE	BY	DESCRIPTION
A	MAY 2024	NPN	ISSUED WITH GEOTECHNICAL REPORT

DESIGNED BY:
DRAWN BY:
CHECKED BY:
SURVEYED BY:

NPN

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:
PROPOSED SHED

PROJECT TITLE:
**LOT 7 DP 475668
294D WAIPAPA ROAD
KERIKERI
NORTHLAND**

ORIGINAL DRAWING SIZE: A3	OFFICE: KERIKERI
DRAWING SCALE: 1:300	CO-ORDINATE SYSTEM: NOT COORDINATED
DRAWING NUMBER: 133949-G600	ISSUE: A
COPYRIGHT - WILTON JOUBERT LIMITED	

HAND AUGER : HA01

JOB NO.: 133949 SHEET: 1 OF 1

START DATE: 21/05/2024 NORTHING: GRID:

DIAMETER: 50mm EASTING:

SV DIAL: DR4802 ELEVATION: Ground

FACTOR: 1.55 DATUM:

CLIENT: W & L Jones Properties
PROJECT: Geotechnical Investigation for Building Consent

SITE LOCATION: 294D Waipapa Road, Kerikeri - Lot 7 DP 475668

STRATIGRAPHY	SOIL DESCRIPTION	LEGEND	DEPTH (m)	WATER	SHEAR VANE			DCP - SCALA (Blows / mm)	COMMENTS, SAMPLES, OTHER TESTS
					PEAK STRENGTH (kPa)	REMOULD STRENGTH (kPa)	SENSITIVITY		
Topsoil	TOPSOIL - brown, firm, moist, non plastic		0.0 - 0.2						
	Slightly Clayey SILT, brown with occasional light brown streaks, stiff, moist, low plasticity - slightly friable (NATURAL)		0.2 - 0.6						
Kerikeri Volcanic Group	Clayey SILT, light brown with occasional dark brown streaks, stiff, moist, low plasticity		0.6 - 0.8						
	0.8m: some fine to medium sand		0.8 - 1.0		136	16	8.5		
	1.0m: some grey and white streaks		1.0 - 1.2	21/05/2024					
	Slightly Gravely SILT, fine to coarse, brownish orange with light brown streaks, very stiff, wet to saturated, low plasticity		1.2 - 1.5		96	6	16		
	EOH: 1.50m - (Terminated at 1.50m)		1.5 - 1.6		UTP	-	-	20+	

REMARKS
 End of borehole @ 1.50m (Target Depth: 3.00m)
 Groundwater encountered @ 1.10m during drilling. Standing groundwater @ 1.00m.

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

LOGGED BY: NPN
 CHECKED BY: SJP

▼ Standing groundwater level
 ▽ GW while drilling



WILTON JOUBERT
 Consulting Engineers

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HAND AUGER : HA02

JOB NO.: 133949 SHEET: 1 OF 1

START DATE: 21/05/2024 NORTHING: GRID:

DIAMETER: 50mm EASTING:

SV DIAL: DR4802 ELEVATION: Ground

FACTOR: 1.55 DATUM:

CLIENT: W & L Jones Properties
PROJECT: Geotechnical Investigation for Building Consent

SITE LOCATION: 294D Waipapa Road, Kerikeri - Lot 7 DP 475668

STRATIGRAPHY	SOIL DESCRIPTION	LEGEND	DEPTH (m)	WATER	SHEAR VANE			DCP - SCALA (Blows / mm)	COMMENTS, SAMPLES, OTHER TESTS
					PEAK STRENGTH (kPa)	REMOULD STRENGTH (kPa)	SENSITIVITY		
Topsoil	TOPSOIL - brown, occasional grey streaks, firm, moist, non plastic		0.0 - 0.2						
	Slightly Clayey SILT, light brownish grey with occasional dark brown streaks, stiff, moist, low plasticity (NATURAL)		0.2 - 0.4		105	31	3.4		
Kerikeri Volcanic Group	Slightly Gravelly SILT, fine to coarse, brownish orange with light brown streaks, very stiff, wet to saturated, low plasticity		0.4 - 0.8		93	12	7.8		
			0.8 - 1.2		217+	-	-		
	EOH: 1.30m - (Terminated at 1.30m)		1.2 - 1.4		UTP	-	-	20+	

REMARKS
 End of borehole @ 1.30m (Target Depth: 3.00m)
 Groundwater encountered @ 1.10m during drilling. Standing groundwater @ 1.00m.

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

LOGGED BY: NPN
 CHECKED BY: SJP

▼ Standing groundwater level
 ▽ GW while drilling

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MODULATION OF CHARACTERISTIC SURFACE MOVEMENT

CLIENT : W & L Jones Properties
 SITE : 294D Waipapa Road
 Waipapa

JOB NO : 133949
 DATE : 25-Aug-22
 PAGE NO. : 1 of 1

DESCRIPTION:
 This classifier uses multiple soil layers to test the required depth of a hardfill raft layer over soils of a specific y_s value, to reduce to y_s for a selected range of values.

Iss = 3.7

Formula:

$$y_s = \frac{1}{100} \int_0^{H_s} I_{pt} \Delta u \Delta h$$

where y_s = characteristic surface movement
 H_s = depth of design suction change (m)
 I_{pt} = Instability index
 = adjusted Ips (soil shrinkage index) = ($\alpha \times Ips$)
 where $\alpha = 1$ in cracked zone
 & $\alpha = 2-z/5$ in uncracked zone
 Δu = soil suction change at depth z from the surface, pF
 Δh = increment of contributing depth considered

Model Assumptions
 If soil is to be considered as a fill younger than 5 years, how many years? >5
 Assume at surface, $H_0 = 0m$, change in soil suction stress $U_0 = 1.2$ pF
 Crack depth per NZBC, $H_{cr} = 0.75$ m, where $U_{cr} = 0.60$ pF
 Assume depth of no change, $H_s = 1.5$ m, where $U_{H_s} = 0.0$ pF

Suction Profile => $z = m\partial u - H_s$
 $U_0 = 1.2$ pF => profile gradient $m = 1.25$
 Cracked zone $\alpha = 1$
 Uncracked zone
 ie over depth range 0.75 m to 1.5 m, for which, $\alpha = 2.0 - z/5$

B1 Structure Amendment 19 Classifications

Surface Movement	Site Classification	Class Code	Iss Range
$0mm < y_s \leq 22mm$	Slightly	S	0-1.9%
$23mm < y_s \leq 44mm$	Moderately	M	2.0-3.7%
$45mm < y_s \leq 78mm$	Highly	H	3.8-6.5%
$y_s > 79mm$	Extremely	E	6.6-7.5%

Model Validation Calculations for Ips =

Layer No.	Ztop Zbase	Soil type	Ips	$\alpha =$	Ipt	∂z	∂u	Average ∂u	δy_s
1	0 0	Zero Hardfill Raft	0	1.00 1.00	0.00	0	1.20 1.20	1.2000	0.00
2	0 -0.75	Soil Class M	3.7	1.00 1.00	3.70	0.75	1.20 0.60	0.9000	24.98
3	-0.75 -1	Soil Class M	3.7	1.85 1.80	6.75	0.25	0.60 0.40	0.5000	8.44
4	-1 -1.25	Soil Class M	3.7	1.80 1.75	6.57	0.25	0.40 0.20	0.3000	4.93
5	-1.25 -1.5	Soil Class M	3.7	1.75 1.70	6.38	0.25	0.20 0.00	0.1000	1.60

Total Surface Movement: 0.75m depth demarcation recognizes Amendment 19 crack depth => $\Sigma \delta y_s = 39.94$
 Convert from AS2870 1 in 300 yr drought to NZBC 1 in 500 yr by adding 11% => $y_s = 44mm$



Northland, Auckland-Waikato, Canterbury, Southern Lakes

Soil Mitigation Options:

Mitigate to $y_s = 60mm$

NOT APPLICABLE									
----------------	--	--	--	--	--	--	--	--	--

Mitigate to Class M

NOT APPLICABLE									
----------------	--	--	--	--	--	--	--	--	--

Mitigate to NZS3604 "Good Ground", equiv to $y_s = 25mm$

Layer No.	Ztop Zbase	Soil type	Ips	$\alpha =$	Ipt	∂z	∂u	Average ∂u	δy_s
1	0.00 -0.37	Hardfill Raft	0	1.00 1.00	0.00	0.37	1.20 0.90	1.0520	0.00
2	-0.37 -0.75	Soil Class M	3.7	1.00 1.00	3.70	0.38	0.90 0.60	0.7520	10.57
3	-0.75 -0.90	Soil Class M	3.7	1.85 1.82	6.79	0.15	0.60 0.48	0.5400	5.50
4	-0.90 -1.15	Soil Class M	3.7	1.82 1.77	6.64	0.25	0.48 0.28	0.3800	6.31
5	-1.15 -1.40	Soil Class M	3.7	1.77 1.72	6.46	0.25	0.28 0.08	0.1800	2.91

ie, hardfill depth = 0.37 m
 => $\Sigma \delta y_s = 25.29$
 round to $y_s = 25$ mm
NZS3604 "Good Ground", equiv to $y_s = 25mm$

Mitigate to Class S

Layer No.	Ztop Zbase	Soil type	Ips	$\alpha =$	Ipt	∂z	∂u	Average ∂u	δy_s
1	0.00 -0.45	Hardfill Raft	0	1.00 1.00	0.00	0.45	1.20 0.84	1.0200	0.00
2	-0.45 -0.75	Soil Class M	3.7	1.00 1.00	3.70	0.3	0.84 0.60	0.7200	7.99
3	-0.75 -0.90	Soil Class M	3.7	1.85 1.82	6.79	0.15	0.60 0.48	0.5400	5.50
4	-0.90 -1.10	Soil Class M	3.7	1.82 1.78	6.66	0.2	0.48 0.32	0.4000	5.33
5	-1.10 -1.35	Soil Class M	3.7	1.78 1.73	6.49	0.25	0.32 0.12	0.2200	3.57

ie, hardfill depth = 0.45 m
 => $\Sigma \delta y_s = 22.39$
 round to $y_s = 22$ mm
cf Class S $y_s = 0 - 22mm$

Foundation Maintenance and Footing Performance: A Homeowner's Guide



PUBLISHING
BTF 18-2011
 replaces
Information
Sheet 10/91

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

This Building Technology File is designed to identify causes of soil-related building movement, and to suggest methods of prevention of resultant cracking in buildings.

Soil Types

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

Classifications for a given area can generally be obtained by application to the local authority, but these are sometimes unreliable and if there is doubt, a geotechnical report should be commissioned. As most buildings suffering movement problems are founded on clay soils, there is an emphasis on classification of soils according to the amount of swell and shrinkage they experience with variations of water content. The table below is Table 2.1 from AS 2870-2011, the Residential Slab and Footing Code.

Causes of Movement

Settlement due to construction

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

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

These problems are the province of the builder and should be taken into consideration as part of the preparation of the site for construction. Building Technology File 19 (BTF 19) deals with these problems.

Erosion

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

Saturation

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

Seasonal swelling and shrinkage of soil

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

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

Shear failure

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

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

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

GENERAL DEFINITIONS OF SITE CLASSES

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

Notes

1. Where controlled fill has been used, the site may be classified A to E according to the type of fill used.
2. Filled sites. Class P is used for sites which include soft fills, such as clay or silt or loose sands; landslip; mine subsidence; collapsing soils; soil subject to erosion; reactive sites subject to abnormal moisture conditions or sites which cannot be classified otherwise.
3. Where deep-seated moisture changes exist on sites at depths of 3 m or greater, further classification is needed for Classes M to E (M-D, H1-D, H2-D and E-D).

Tree root growth

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

- Roots that grow under footings may increase in cross-sectional size, exerting upward pressure on footings.
- Roots in the vicinity of footings will absorb much of the moisture in the foundation soil, causing shrinkage or subsidence.

Unevenness of Movement

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

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

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

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

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

Effects of Uneven Soil Movement on Structures

Erosion and saturation

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

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

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

Seasonal swelling/shrinkage in clay

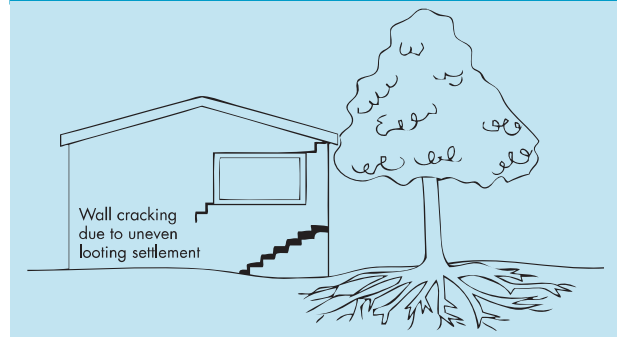
Swelling foundation soil due to rainy periods first lifts the most exposed extremities of the footing system, then the remainder of the perimeter footings while gradually permeating inside the building footprint to lift internal footings. This swelling first tends to create a dish effect, because the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

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

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

As the weather pattern changes and the soil begins to dry out, the external footings will be first affected, beginning with the locations where the sun's effect is strongest. This has the effect of lowering the

Trees can cause shrinkage and damage



external footings. The doming is accentuated and cracking reduces or disappears where it occurred because of dishing, but other cracks open up. The roof lines may become convex.

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

Movement caused by tree roots

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

Complications caused by the structure itself

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

Effects on full masonry structures

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

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

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

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

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

Upheaval caused by growth of tree roots under footings is not a simple vertical shear stress. There is a tendency for the root to also exert lateral forces that attempt to separate sections of brickwork after initial cracking has occurred.

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

Effects on framed structures

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

Effects on brick veneer structures

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

Water Service and Drainage

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

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

- Incorrect falls in roof guttering may result in overflows, as may gutters blocked with leaves etc.

- Corroded guttering or downpipes can spill water to ground.
- Downpipes not positively connected to a proper stormwater collection system will direct a concentration of water to soil that is directly adjacent to footings, sometimes causing large-scale problems such as erosion, saturation and migration of water under the building.

Seriousness of Cracking

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

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

Prevention/Cure

Plumbing

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

Ground drainage

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

It is, however, sometimes necessary when attempting to prevent water migration that testing be carried out to establish watertable height and subsoil water flows. This subject is referred to in BTF 19 and may properly be regarded as an area for an expert consultant.

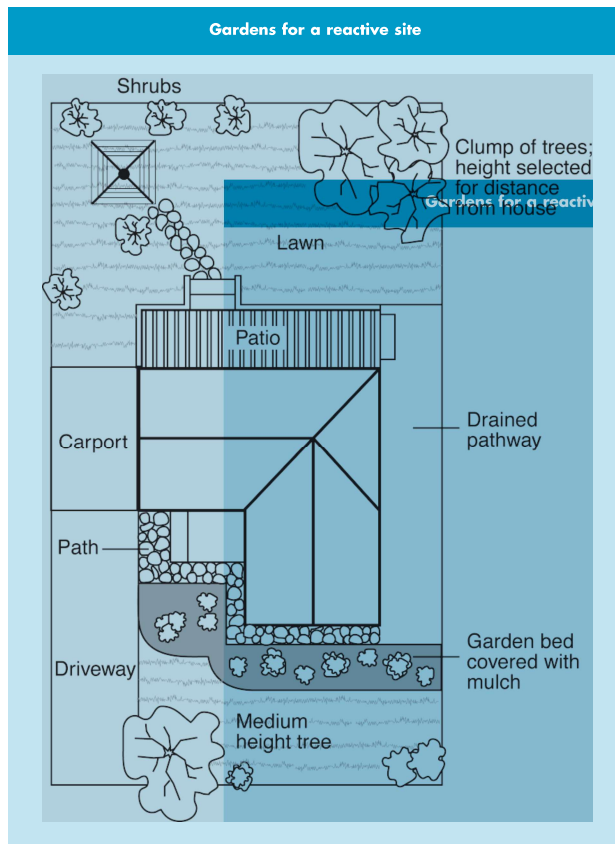
Protection of the building perimeter

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

For this reason, particularly where problems exist or are likely to occur, it is recommended that an apron of paving be installed around as much of the building perimeter as necessary. This paving should

CLASSIFICATION OF DAMAGE WITH REFERENCE TO WALLS

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



extend outwards a minimum of 900 mm (more in highly reactive soil) and should have a minimum fall away from the building of 1:60. The finished paving should be no less than 100 mm below brick vent bases.

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

Except in areas where freezing of water is an issue, it is wise to remove taps in the building area and relocate them well away from the building – preferably not uphill from it (see BTF 19).

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

Condensation

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

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

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

The garden

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

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

Existing trees

Where a tree is causing a problem of soil drying or there is the existence or threat of upheaval of footings, if the offending roots are subsidiary and their removal will not significantly damage the tree, they should be severed and a concrete or metal barrier placed vertically in the soil to prevent future root growth in the direction of the building. If it is not possible to remove the relevant roots without damage to the tree, an application to remove the tree should be made to the local authority. A prudent plan is to transplant likely offenders before they become a problem.

Information on trees, plants and shrubs

State departments overseeing agriculture can give information regarding root patterns, volume of water needed and safe distance from buildings of most species. Botanic gardens are also sources of information. For information on plant roots and drains, see Building Technology File 17.

Excavation

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

Remediation

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

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

This BTF was prepared by John Lewer FAIB, MIAMA, Partner, Construction Diagnosis.

The information in this and other issues in the series was derived from various sources and was believed to be correct when published.

The information is advisory. It is provided in good faith and not claimed to be an exhaustive treatment of the relevant subject.

Further professional advice needs to be obtained before taking any action based on the information provided.

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CONSTRUCTION MONITORING SERVICES

Construction monitoring is a service, which provides the client with independent verification (to the extent of the consultant's engagement) that the works have been completed in accordance with specified requirements. Most construction projects are unique, and construction works are often complex in detail and skilled professional involvement is necessary for the successful execution of such projects.

The decision as to which level is appropriate will be project dependent, but factors influencing the level of construction monitoring for a project are the size and importance of the project, the complexity of the construction works, and the experience and demonstrated skill in quality management of the constructor. The primary responsibility for completing the contract works in accordance with the requirements of the plans and specifications is the constructor's.

The involvement of the consultants is important during the construction phase to ensure that the design is being correctly interpreted, the construction techniques are appropriate and do not reduce the effectiveness of the design and the work is completed generally in accordance with the plans and specifications. The risk of non-compliance can be reduced by increasing the involvement of the consultant.

Table 1 sets out the five levels of construction monitoring, describes the types of review and indicates where a particular level of monitoring is appropriate. Tables 2 and 3 provide rating values for various aspects of a project to enable an assessment of an appropriate monitoring level to be made.

Table 1

LEVEL	REVIEW	COMMENT
CM1	Monitor the outputs from another party's quality assurance programme against the requirements of the plans and specifications. Visit the works at a frequency agreed with the client to review important materials of construction critical work procedures and/or completed plant or components. Be available to advise the constructor on the technical interpretation of the plans and specifications.	This level is only a secondary service. It may be appropriate where:- For the design consultant when another party is engaged to provide a higher level of construction monitoring or review during the period of construction or:- When the project works are the subject of a performance based specification and performance testing is undertaken and monitored by others.
CM2	Review, preferable at the earliest opportunity, a sample of each important work procedure, material of construction and component for compliance with the requirements of the plans and specifications and review a representative sample of each important completed work prior to enclosure or completion s appropriate. Be available to provide the constructor with technical interpretation of the plans and specification.	This level of service is appropriate for smaller projects of a routine nature being undertaken by an experienced and competent constructor and where a higher than normal risk of non-compliance is acceptable. It provides for the review of a representative sample of work procedures and materials of construction. The assurance of compliance of the finished work is dependent upon the constructor completing the work to at least the same standard as the representative sample reviewed.
CM3	Review, to an extent agreed with the client, random samples of important work procedures, for compliance with the requirements of the plans and specifications and review important completed work prior to enclosure or on completion as appropriate. Be available to provide the constructor with technical interpretation of the plans and specifications.	This level of service is appropriate for medium sized projects of a routine nature being undertaken by an experienced constructor when a normal risk of non-compliance is acceptable.
CM4	Review, at a frequency agreed with the client, regular samples of work procedures, materials of construction and components for compliance with the requirements of the plans and specifications and review the majority of completed work prior to the enclosure or on completion as appropriate.	This level of service is appropriate for projects where a lower than normal risk of non-compliance is required.
CM5	Maintain personnel on site to constantly review work procedures, materials of construction and components for compliance with the requirements of the plans and specifications and review completed work prior to enclosure or on completion as appropriate.	This level of service is appropriate for Major projects -Projects where the consequences of failure are critical -Projects involving innovative or complex construction procedures. The level of service provides the client with the greatest assurance that the completed work complies with the requirements of the plans and specifications.

Source www.ipenz.org.nz/ipenz/practicesupport/endorsedinfo/codes

Table 2

CRITERIA	K	ASSESSMENT				SELECTED VALUE
Project Status		Small	Medium	Large	Major	
	KA	1	2	3	4	1
Complexity of work procedures		Routine	Difficult	Complex		
	KB	2	4	6		2
Constructor's relevant experience		Inexperienced	Experienced	Certified ISO 9000		
	KC	6	2	1		2
Consequences of non-compliance		Minor	Moderate	Serious	Critical	
	KD	1	4	6	12	1
KTOTAL = KA + KB + KC + KD ->						6

Table 3

KTOTAL	LEVEL OF CONSTRUCTION MONITORING				
	CM1	CM2	CM3	CM4	
5-6	-	Sampling only	-	-	-
7-8	-	N/A	Weekly	-	-
9-10	A	N/A	Twice Weekly	-	-
11-12	Secondary	N/A	N/A	Twice Weekly	-
13-14	Service	N/A	N/A	Every second day	-
15-16	-	N/A	N/A	Daily	-
17-	-	N/A	N/A	N/A	Constant

N/A = Not Appropriate

- Secondary Service - This level of service is only appropriate when another party is responsible for undertaking the primary review of construction standards.

- Table 3 indicates the frequency of review considered to be appropriate for the project concerned. Not indicated is the time input requirement at each review. The time on each occasion will increase with the increased size and complexity of the construction works and should be agreed with the consultant at the time of engagement.

- Frequency of inspection is intended to be indicative of involvement with actual frequency dependent on the rate of progress of the works.



*Engineering Outcomes, Limited
132 Beach Road
PO Box 3048,
Onerahi
Whangarei
New Zealand
Telephone 09 436 5534
E-mail info@e-outcomes.co.nz
Internet www.e-outcomes.co.nz*

10 February 2020

LOT 7 DP 475668, 294D WAIPAPA ROAD WAIPAPA TRAFFIC EFFECTS OF PROPOSED STORAGE FACILITY FAR NORTH DISTRICT COUNCIL REF. 2200212

By Dean Scanlen

BE(Hons)(Civil), CPEng, IntPE(NZ)

1. An application has been filed by W & L Jones Properties Limited for a consent to operate 64 long-term storage units in four buildings at 294D Waipapa Road, Waipapa
2. This report has been commissioned by the applicant in response to a request from the Council for further information (RFI) in relation to its application for the facility. The RFI is as follows:

In the District Plan Rules Assessment of the application, it is stated that a maximum of 10 vehicle visits or 20 vehicle movements per day is proposed. Please provide a full traffic effects assessment for the proposed commercial activity against Appendix 3A Traffic Intensity Factors (TIF) of the District Plan. This assessment must include the traffic movements and effects of all users of the shared right of way, including the types of activities they are undertaking on their properties. This assessment is required to determine the potential traffic effects on the shared right of way, the vehicle crossing with Waipapa Road, and if the other users of the right of way are affected by the extra traffic generated by the proposed commercial activity.
3. All traffic movements referred to in this report are one-way movements in one direction.
4. The storage facility is targeted to long-term hirage – generally at least 12 months. It is expected that at least two-thirds of units will be hired on this basis, with the remainder for shorter-term storage – typically 3 to 4 months. People who hire long term often do so because they are not living in the Northland region or even the country. It is expected that those people will, on average, visit the facility every six weeks to two months. Short term hires are likely to visit more often – estimated at an average of every 3 to 4 weeks.
5. Most visits will generate 2 vehicle movements – an entry and an exit. Occasional visits will generate more than 2 and I estimate average traffic generation of 2.5 movements per visit.

6. Conservatively taking visits at the more frequent end of the estimated range in each case, even when all units are hired out, the storage will generate traffic as follows;

Long term hires: Say 40 units ÷ 42 days between visits per unit x 2.5 movements per visit
= a total of a little under 2.5 movements per day.

Short term hires: 24 units ÷ 21 days between visits per unit x 2.5 movements per visit
= of a little more than 2.5 movements per day.

7. That is an average of only 5 to 6 vehicle movements per day. That is only a little more than half of what a typical dwelling is expected to generate and less than a third of what is permitted, by the *Far North District Plan*, for the subject lot and all other lots in the subdivision.
8. I acknowledge that these estimates are subject to some uncertainty, especially the average time interval between visits to the site. However, even in the unlikely event that visits occur at double the frequency I estimate, then the traffic generation will still only be at the level expected from a typical dwelling and still significantly below what is permitted from the lot - traffic intensity of 20 movements per lot per day.
9. The subject site is part of a subdivision that was approved in 2010 – Far North District Council ref. 2051237-RMAVAR/A. It was for seven lots of which six, including the subject site, lead to the same shared access and thence Waipapa Road. Stage 1 of the subdivision consent included a number of access-related conditions including an upgrade of the Waipapa Road crossing to NZTA’s Diagram E and the formation of the shared access with a 5.5 metre sealed carriageway.
10. This is a high standard of access and crossing that can easily accommodate the expected traffic, and more. Diagram E is local widening that provides space for vehicles that are passing the crossing, but not turning, to safely pass those that are either decelerating or waiting to turn into the crossing. The access is straight and virtually level, so has full visibility throughout its entire length. A 5.5 metre sealed carriageway is wide enough for two-way operation and, with full forward visibility, is more than adequate for significantly more traffic than is permitted from this subdivision. The permitted traffic intensity is likely to be at least double what is actually generated once the subdivision is fully developed. That is unlikely to average significantly more than the traffic from one dwelling on each lot.
11. Overall, I conclude that the shared access and crossing has been formed to standards that are more than suitable for the traffic expected from the proposed storage facility and permitted traffic from the other five access users – even in the highly unlikely event that those users all generate the permitted traffic intensity.

12. I finally note that the buildings proposed on the site have total floor areas of nearly 1,300 square metres for which the *Far North District Plan*, Appendix 3A, specifies traffic intensity of nearly 130 vehicle movements per day for industrial activity. This is well above what storage facilities generate and the plan does not have traffic intensity factors for storage. With such a wide discrepancy between what the district plan specifies and the reality of what will actually occur, it is important to evaluate the proposal against the reality.

Report prepared by:



Dean R Scanlen
BE(Hons)(Civil), CPEng, IntPE(NZ)

Engineering Outcomes Limited

View Instrument Details



Instrument No 10766316.5
Status Registered
Date & Time Lodged 28 April 2017 16:43
Lodged By Jury, Sarah Emily
Instrument Type Consent Notice under s221(4)(a) Resource Management Act 1991



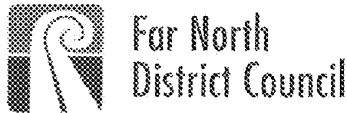
Affected Computer Registers	Land District
655722	North Auckland
655723	North Auckland
655724	North Auckland
655725	North Auckland

Annexure Schedule: Contains 3 Pages.

Signature

Signed by Sarah Emily Jury as Territorial Authority Representative on 28/04/2017 04:25 PM

*** End of Report ***



Plots: Png 752, Manurewa Ave
Lot: 06 0446, New Zealand
Telephone: 09 431 5200
Phone: 09 431 5200
Fax: 09 431 5187
Email: en@fn.govt.nz
fn.govt.nz

Te Kaitiaki a Te Ika Māori ki Te Kaitiaki

Te Kaitiaki a Te Ika Māori ki Te Kaitiaki

THE RESOURCE MANAGEMENT ACT 1991

SECTION 221: CONSENT NOTICE

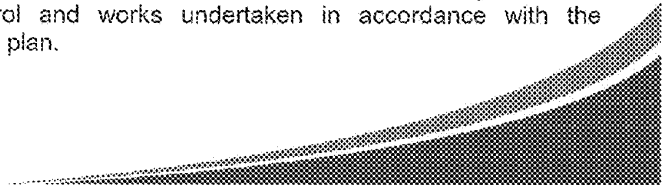
REGARDING RC 2051237-VAR-A
Being the Subdivision of Lot 2 & 3 DP 354933
North Auckland Registry

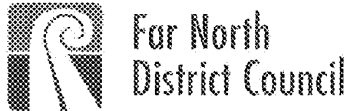
PURSUANT to Section 221 and for the purpose of Section 224 (c) (ii) of the Resource Management Act 1991, this Consent Notice is issued by the **FAR NORTH DISTRICT COUNCIL** to the effect that conditions described in the schedule below are to be complied with on a continuing basis by the subdividing owner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

SCHEDULE

Lots 3 & 7 DP 475668

- (i) Each lot will require an aerobic treatment plant or equivalent to provide satisfactory treatment of wastewater prior to disposal. The on-going operation and maintenance of the system is to be covered by a maintenance agreement undertaken by the system supplier or its authorised agent.
- (ii) Any building consent shall be accompanied by a landscape plan prepared by a suitably qualified Landscape architect. The plan shall be designed to assist the built development to be absorbed into the rural landscape and to enhance rural amenity. The plan shall be implemented within the first planting season following completion of the exterior of the dwelling and be maintained on a continuing basis thereafter.
- (iii) Any dwelling will require foundations specifically designed by a Chartered Professional Engineer, the details of which shall be submitted in conjunction with the Building Consent application.
- (iv) No dwelling shall be erected within 20 metres of the slip area "A" as shown on the scheme plan annotated by Duffill Watts & King Ltd as part of their Engineering Report (dated March 2005) submitted with the resource consent application.
- (v) The landowners and occupiers shall maintain on a continuing basis all plantings, weed control and works undertaken in accordance with the approved management plan.





Private bag 757, Kamoikihi Ave
Tokelau 0146, New Zealand
Telephone: 0909 920 029
Phone: 091 401 5200
fax: 091 401 2137
Email: ask.us@fn.govt.nz
Website: www.fn.govt.nz

Te Kōwhiri o Tei Tokorua Ki Te Raki

Our top priority is your future
www.fn.govt.nz

Lot 4 DP 475668

- (i) The lot will require an aerobic treatment plant or equivalent to provide satisfactory treatment of wastewater prior to disposal. The on-going operation and maintenance of the system is to be covered by a maintenance agreement undertaken by the system supplier or its authorised agent.
- (ii) Any Building Consent shall be accompanied by a landscape plan prepared by a suitably qualified Landscape Architect. The plan shall be designed to assist the built development to be absorbed into the rural landscape and to enhance rural amenity. The plan shall be implemented within the first planting season following completion of the exterior of the dwelling and be maintained on a continuing basis thereafter.
- (iii) Any dwelling will require foundations specifically designed by a Chartered Professional Engineer, the details of which shall be submitted in conjunction with the Building Consent application.
- (iv) No dwelling shall be erected within 20 metres of the slip area "A" as shown on the scheme plan annotated by Duffill Watts & King Ltd as part of their Engineering Report (dated March 2005) submitted with the resource consent application.
- (v) The landowners and occupiers shall maintain on a continuing basis all plantings, weed control and works undertaken in accordance with the approved management plan.





Private Reg 752, Manatua Ave
Kororua 0440, New Zealand
Telephone: 0908 820 829
Fax: 0908 801 9200
E-mail: info@fn.govt.nz
Website: www.fn.govt.nz

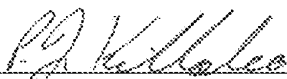
Te Kaitiaki a Te Tai Tokerau Ki Te Raki

*Whānau, āwhiri, āwhiri, āwhiri
whānau ki te kaitiaki a te raki*

Lot 5 DP 475668

- (i) The lots will require an aerobic treatment plant or equivalent to provide satisfactory treatment of wastewater prior to disposal. The on-going operation and maintenance of the system is to be covered by a maintenance agreement undertaken by the system supplier or its authorised agent.
- (ii) Any Building Consent shall be accompanied by a landscape plan prepared by a suitably qualified Landscape Architect. The plan shall be designed to assist the built development to be absorbed into the rural landscape and to enhance rural amenity. The plan shall be implemented within the first planting season following completion of the exterior of the dwelling and be maintained on a continuing basis thereafter.
- (iii) Any dwelling will require foundations specifically designed by a Chartered Professional Engineer, the details of which shall be submitted in conjunction with the building consent application.

SIGNED:


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

DATED at KERIKERI this 27th day of April 2017



View Instrument Details



Instrument No 9862627.2
Status Registered
Date & Time Lodged 07 March 2016 11:06
Lodged By Jonson, Jan Dorothy
Instrument Type Consent Notice under s221(4)(a) Resource Management Act 1991



Affected Computer Registers	Land District
568195	North Auckland
568196	North Auckland
568197	North Auckland
568198	North Auckland

Annexure Schedule: Contains 8 Pages.

Signature

Signed by Peter Gilmour Macauley as Territorial Authority Representative on 11/03/2016 09:52 AM

*** End of Report ***



Pirata Bay 752, Memorial Ave
Kaitake 0440, New Zealand
Freephone: 0800 920 029
Phone: (09) 401 5200
Fax: (09) 401 2137
Email: ask.us@fndc.govt.nz
Website: www.fndc.govt.nz

Te Kaunihera o Tai Tokerau Ki Te Raki

*Te Kaitiaki Take Kōwhiri
Mō te Tai Tokerau*

THE RESOURCE MANAGEMENT ACT 1991

SECTION 221: CONSENT NOTICE

REGARDING RC 2051237
Being the Subdivision of Lots 2 & 3 DP 354933
North Auckland Registry

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

SCHEDULE

Lot 1 – DP 447474

- (i) Vehicular access to Lot 1 shall be obtained only via Easement E over Lot 1 DP 354933. No other points of entry shall be permitted to Waipapa road.

Lot 2 – DP 447474

- (ii) Vehicular access to Lot 2 shall be obtained only via ROW easement G. No other points of entry shall be permitted to Waipapa road.

Lots 1, 2, 6 & 8 – DP 447474

- (iii) Each lot will require an aerobic treatment plant or equivalent to provide satisfactory treatment of wastewater prior to disposal. The on-going operation and maintenance of the system is to be covered by a maintenance agreement undertaken by the system supplier or its authorised agent.
- (iv) Any Building Consent shall be accompanied by a landscape plan prepared by a suitably qualified Landscape Architect. The plan shall be designed to assist the built development to be absorbed into the rural landscape and to enhance rural amenity. The plan shall be implemented within the first planting season following completion of the exterior of the dwelling and be maintained on a continuing basis thereafter.





Private Bag 752, Memorial Ave
Kaitiaki 0440, New Zealand
T freephone: 0800 920 029
Phone: (09) 401 5290
Fax: (09) 401 2137
Email: ask.us@fndc.govt.nz
Website: www.fndc.govt.nz

Te Kaunihera o Tai Tokerau Ki Te Raki

The Far North District Council

- (v) Any dwelling will require foundations specifically designed by a Chartered Professional Engineer, the details of which shall be submitted in conjunction with the Building Consent application.


Lot 8 – DP 447474

- (vi) No dwelling shall be erected within 20 metres of the slip area “A” as shown on the scheme plan annotated by Duffill Watts & King Ltd as part of their Engineering Report (dated March 2005) submitted with the resource consent application. (Copy Attached).

Lots 1 & 8 – DP 447474

- (vii) The landowners and occupiers shall maintain on a continuing basis all plantings, weed control and works undertaken in accordance with the approved management plan.

SIGNED:


By the FAR NORTH DISTRICT COUNCIL
Under delegated authority:
PRINCIPAL PLANNER – RESOURCE MANAGEMENT

DATED at KERIKERI this 18th day of February 2016

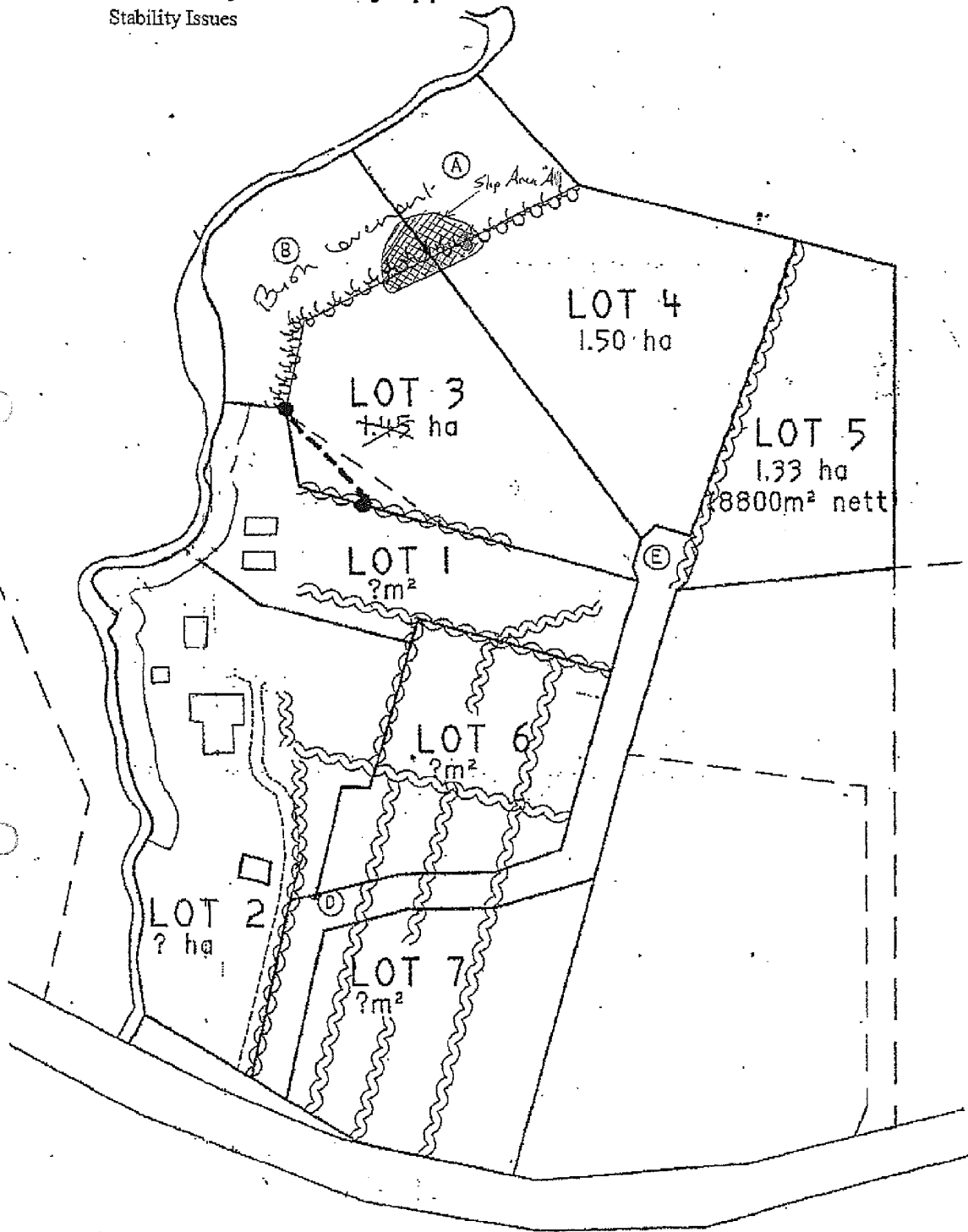


Attachment 5 Duffill Watts & King Location Plan Slip area "A"

Duffill Watts & King Ltd

Suitability & Stability Appendix

Stability Issues



Subdivision for Noble at Waipapa Road, Kerikeri

Duffill, Watts & King, Ltd
21 Hobson Avenue
PO Box 480
KERIKERI

Phone: (09) 407 9332
Fax: (09) 407 7812
E-mail: dwk.kerikeri@duffillwatts.com

C
File No.:
Job No.: 101880
Date: March, 2005
Ref: Document13

Management plan for lots 1 & 8 DP 447474

(and any subsequent 'further development' title created from those lots in the future)

- The Weed and Pest Management Programme prepared by Dr Greg Blunden (attachment 1) will be adhered to by the registered proprietors from time to time of the areas marked A & B on Deposited Plan 447474.
- The weeds have been eradicated from the esplanade strips located on lots 1 & 8 Deposited Plan 447474 and weed control will be kept maintained by twice annual weed spraying by the registered proprietors from time to time of those lots. All native and ornamental plantings will be maintained and protected and replacements will be planted in the event that any plantings die.
- The attached 'further development landscape plan' (attachment 2) is in place at the time of subdivision and will be maintained by the registered proprietors from time to time of those lots, and any lots to be created as a result of future subdivision.
- *Future plantings in conjunction with dwelling construction to mitigate impacts of the dwellings on rural amenity.*
- No building erected on the land will exceed 9 metres in height.
- The registered proprietors from time to time will be responsible for implementing this management plan and, for clarification, this management plan is registered against lots 1 & 8 DP 447474 but also applies separately and independently to each new title created from those lots in the future.

BIODIVERSITY MANAGEMENT LIMITED**Dr Greg Blunden**

12B Wairakau Rd
 Totara North RD 2 Kaeo
 Telephone 64 9 405 1244
 Mobile 021 710 441
nz.kiwi.foundation@gmail.com

**WEED & PEST MANAGEMENT PROGRAMME
 BUSH COVENANT AREAS 'A' AND 'B', & ESPLANADE STRIP BEING PART OF
 SUBDIVISION OF LOTS 2 & 3 DP 354933
 RIBBON REEF TRUSTEE COMPANY
 WAIPAPA ROAD, KERIKERI**

1. INTRODUCTION

This weed and pest management plan is for the covenant areas marked "A" and "B" and esplanade strip in the subdivision scheme plan RC 2051237 approved 27 October 2010. This plan follows on from my report for RC 2051237 "Assessment of Vegetation Values within the Proposed Subdivision of Noble, Lot 2 DP 329956 Waipapa Road Kerikeri" date October 2005

2. LAND COVER ASSESSMENT

The Whiriwhiritoa Stream marks the western boundary of the subdivision and it is also the boundary for the covenant areas "A" and "B". It is a permanent waterway of a deeply incised nature with 1:2 slope on the south running to an escarpment of 15 to 29 metres along its northern part of the edge of the subdivision. The escarpment becomes almost vertical just beyond the northern boundary. The covenant areas "A" and "B" are poorly forested, with black wattle spread throughout as the dominant plant. However, some good totara specimens are found occasionally. There are other weeds present, notably kahili ginger in the streambed and sides from Waipapa Road north. It is important the weed species be under planned in the case of the wattles and removed in the case of the ginger to prevent spread further down the water course.

3. WEED MANAGEMENT**Wattles**

Wattle provides much of the existing land cover and it is important that this remains during the weed control and revegetation process. The wattle in the covenant areas should be left as existing land cover while the area is under planted with suitable native species at an appropriate spacing. All of the new wattle seeding should be removed periodically.

Kahilli ginger

The ginger in the stream and adjacent areas should be eradicated by using the appropriate methods, including follow ups.

4. ANIMAL PEST MANAGEMENT

Norway rats *Rattus Norvegicus*, ship rats *Rattus rattus* and possums are present in the bush covenant and causing damage to palatable species. A bait station system should be established to control these animal pests, but the nature of the location means that this should be ongoing because of the high level of re-invasion that is likely. It is not possible to use cyanide in this situation and a rodenticide that deals with possums is required.

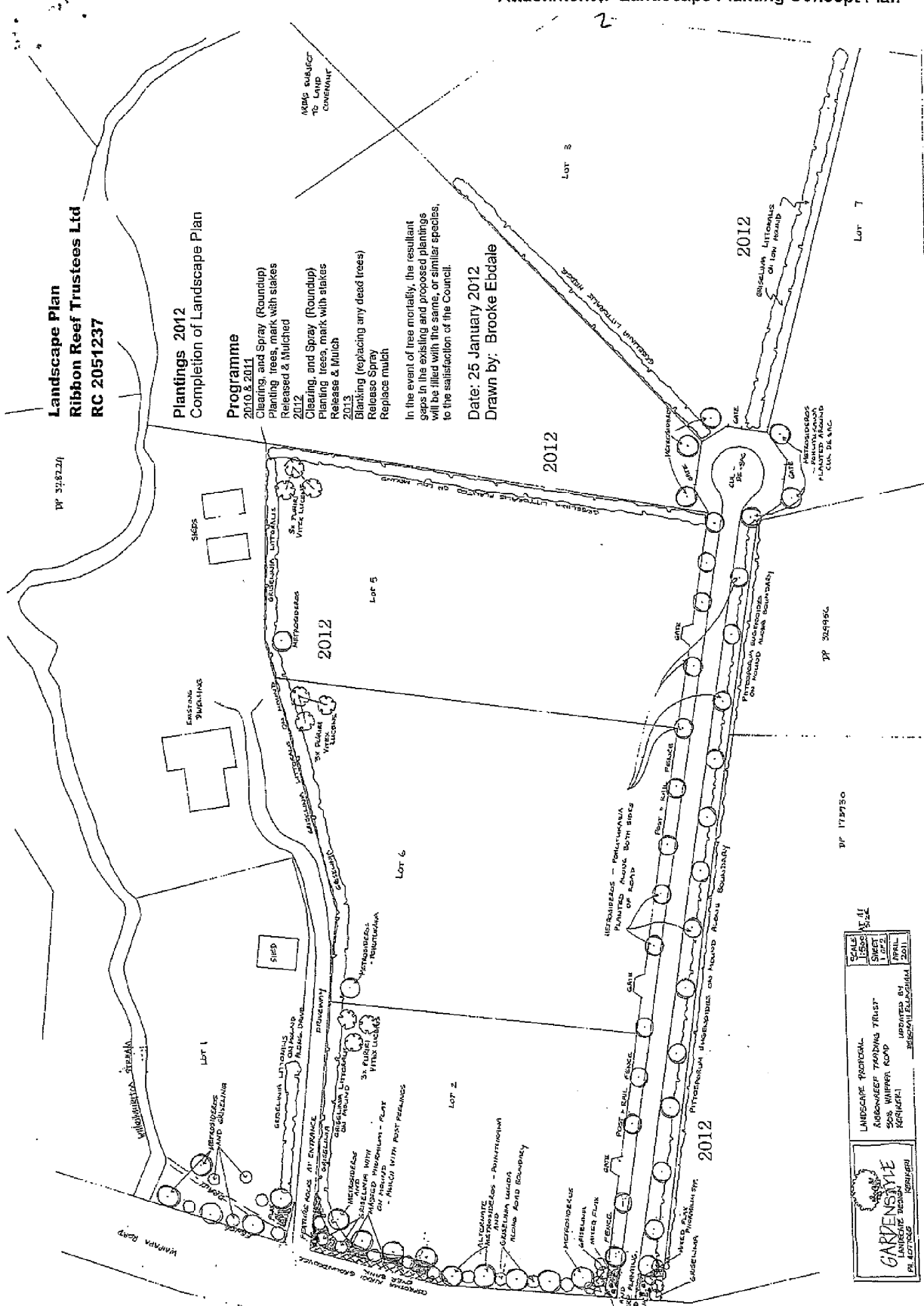
Four bait stations should be positioned within the bush covenant but no closer than 15 metres to the Whiriwhiritoa Stream. These bait stations should be filled with 100 gms of Pestoff or Ratabate in two pulses four times per year: the two pulses should be four or five days apart. Alternate toxins should be used in the quarterly treatments. Bait stations should be accessible to Norway rats which cannot climb, i.e, located within 200mm of the ground. Appropriate warning signage should be placed on entrance points to the bush covenant.

A time scale of three years is appropriate for this rehabilitation programme.



Dr Greg Blunden
Biodiversity Management Limited

9 February 2012



Landscape Plan
Ribbon Reef Trustees Ltd
RC 2051237

Plantings 2012
Completion of Landscape Plan

Programme

2010 & 2011
 Clearing and Spray (Roundup)
 Planting trees, mark with stakes
 Released & Mulched

2012
 Clearing and Spray (Roundup)
 Planting trees, mark with stakes
 Release & Mulch

2013
 Blanking (replacing any dead trees)
 Release Spray
 Replace mulch

In the event of tree mortality, the resultant gaps in the existing and proposed plantings will be filled with the same, or similar species, to the satisfaction of the Council.

Date: 25 January 2012
 Drawn by: Brooke Ebdale

SCALE		
1:100	1:100	A1
1:500	1:500	A2
1:1000	1:1000	A3
1:2000	1:2000	A4
1:5000	1:5000	A5
1:10000	1:10000	A6

LANDSCAPE PROGRAM		DATE: 25 JAN 2012	
RIBBON REEF TRUST		DRAWN BY: BROOKE EBDAL	
365/150 METER CORP		CHECKED BY: BROOKE EBDAL	
365/150 METER CORP		DATE: 25 JAN 2012	

Annexure Schedule - Consent Form
Land Transfer Act 1952 section 238(2)

2015/6250
APPROVED
Registrar-General of Land

Insert type of instrument
"Caveat", "Mortgage" etc

Caveat

Page **1** of pages

Consentor

Surname must be underlined or in CAPITALS

Capacity and Interest of Consentor

(eg. Caveator under Caveat no./Mortgagee under Mortgage no.)

Commissioner of Inland Revenue	Caveator under Caveat Number 10135600.1
--------------------------------	-----------------------------------------

Consent

Delete Land Transfer Act 1952, if inapplicable, and insert name and date of application Act.

Delete words in [] if inconsistent with the consent.

State full details of the matter for which consent is required.

Pursuant to [Section **238 (2)** of the Land Transfer Act 1952]

Pursuant to [Section s224(b)(i) of the Resource Management Act 1991]

Pursuant to [Section _____ of the _____ Act]

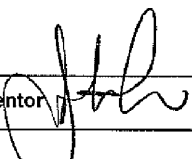
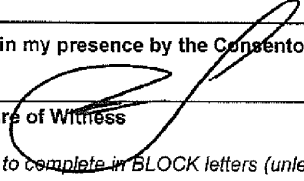
Without prejudice to the rights and powers existing under the interest of the Consentor

The Consentor hereby consents to:

1. Deposit of Plan Number LT 447474
2. Registration of Easement Instruments for Right of Way, Right to Convey Electricity, Telecommunications, Computer Media, water supply, stormwater and sewage
3. Easement Instrument granting a Right to Transmit Electricity in favour of Top Energy Limited
4. Instrument Creating an Esplanade Strip in favour of Far North District Council
5. Resource Management Act 1991 s.221 Consent Notice

Dated this **29** day of **October** 2015

Attestation

JOHN TOMICH. TEAM LEADER - COLLECTIONS INLAND REVENUE.	Signed in my presence by the Consentor 
	Signature of Witness  Witness to complete in BLOCK letters (unless legibly printed) Witness name Kathleen Marquette Gavin Occupation Recovery and Enforcement Officer. Address 57 Byron Avenue Takapuna Auckland.
Signature of Consentor	

An Annexure Schedule in this form may be attached to the relevant instrument, where consent is required to enable registration under the Land Transfer Act 1952, or other enactments, under which no form is prescribed.



FAR NORTH DISTRICT COUNCIL

THE RESOURCE MANAGEMENT ACT 1991

SECTION 221 : CONSENT NOTICE



REGARDING RC 2040188


The subdivision of Lot 1 DP 176742
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 are to be registered on the title of Lots 1 and 2 DP 329956.

SCHEDULE

- i. The operation of agricultural and horticultural equipment including sprays and chemicals (Subject to compliance with any relevant legislation) may be a permitted activity. Accordingly, where rainwater is collected from exposed surfaces for human consumption in connection with any new residential development, the occupiers of any such dwelling shall install an approved water filtration system. The water quality system is to meet the guidelines contained within the Ministry of Health publication dated 1995 entitled " Guidelines for Drinking Water Quality Management for NZ" and any subsequent amendments.

SIGNED:


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

DATED at **KAIKOHE** this *9th* day of *December*, 2003.

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FAR NORTH DISTRICT COUNCIL

**FAR NORTH OPERATIVE DISTRICT PLAN
DECISION ON RESOURCE CONSENT APPLICATION (LANDUSE)**

Resource Consent Number: 2200212

Pursuant to section 104B of the Resource Management Act 1991 (the Act), the Far North District Council hereby grants resource consent to:

W & L Jones Properties Ltd

The activity to which this decision relates: The construction of two new storage sheds for a commercial storage business and associated vehicle apron in the Rural Production Zone. The construction of two sheds does not comply with Rule 8.6.5.1.3, as the impermeable surfaces will exceed a site coverage of 15%.

Subject Site Details

Address: 294D Waipapa Road, Kerikeri
Legal Description: Lot 7 DP 475668
Certificate of Title reference: 6557255

Pursuant to Section 108 of the Act, this consent is issued subject to the following conditions:

1. The activity shall be carried out in accordance with the approved plans prepared by WATGUNLOW Architects Limited, referenced 'JONES SHEDS' sheet numbers A00, A01, A02, A03, A10 and A20 dated 25 September 2019, and attached to this consent with the Council's "Approved Stamp" affixed to them.

Stormwater

2. Peak flow runoff from the proposed sheds, driveway and parking/manoeuvring area is to be attenuated back to 80% of pre-development levels for a 1% AEP storm event plus an allowance for climate change.
3. The detention pond is to be constructed above the 1% AEP flood level and generally in accordance with the recommendations of the TMC Consulting Engineers Site Suitability Report (Ref: S0357-J02767), attached to the resource consent application. Compensation storage is to be designed such that there is no change to existing downstream flood levels for the corresponding flood events.
4. As specified in the TMC Consulting Engineers Site Suitability Report (Ref: S0357-J02767), the detention pond is to be installed with suitable litter filters or leaf slides shall be installed in line between the roof catchments and the attenuation pond. The filters are to be regularly inspected and cleaned to ensure the effective operation of the systems.
5. Overland/secondary flow paths are to be unobstructed by the new buildings, other structures or landscaping.

Noise

6. The activity is to comply with the following noise restrictions. There shall be a sign at the controlled access gate informing visitors of the noise limits and including the contact number of the owners of the facility. Any issue of non-compliance with the prescribed levels will necessitate monitoring by Council, the costs of which may be required to be recovered from the applicant.

0700 to 1900 hours 65 dBA L₁₀
1900 to 0700 hours 45 dBA L₁₀ and 70 dBA L_{max}

Hours of Operation

7. Access to the storage facility is restricted to the following hours. There shall be a sign at the controlled access gate informing visitors of the hours of operation and include the contact number of the owners of the facility.

0700 to 1900 hours

Construction

8. All construction work, including demolition and earthworks, and any noisy activities in the vicinity of the site associated with the proposed development, shall only be carried out between the hours of 7:30am and 6:00pm Monday to Saturday. No such work shall be carried out on Sundays or public holidays. This includes noise generating activities associated with the preparation for the commencement of work including deliveries, loading and unloading of goods, transferring of tools, etc.
9. The consent holder shall implement suitable sediment control measures during all earthworks to ensure that all stormwater runoff from the site is managed and controlled to ensure that no silt, sediment or water containing silt or sediment is discharged into stormwater pipes, drains or waterways in accordance with the Far North District Plan Guidelines. In the event that material is deposited on the Right of Way and/or road, the consent holder shall take immediate action at their own expense, to clean the Right of Way and/or road. These measures shall remain in place until the completion of the development.

Lighting

10. All outside lighting and security lighting is to be directed away from adjacent properties.

Monitoring

11. The consent holder shall keep a record of vehicle movements through the controlled access gate to the storage facility. These records are to be made available to Council's Monitoring Officer on request, subject to 48 hours' notice being given.

Review Clause

12. In accordance with section 128 of the Resource Management Act 1991, the Far North District Council may serve notice on the consent holder of its intention to review the conditions of this consent. The review may be initiated for any one or more of the following purposes:

- (i) To deal with any adverse effects on the environment that may arise from the exercise of the consent and which it is appropriate to deal with at a latter stage, or to deal with any such effects following assessment of the result of the Far North District Council of duly delegated Council Officer monitoring the state of the environment in the area.
- (ii) To require the adoption of the best practicable option to remove or reduce any adverse effect on the environment.
- (iii) To deal with any inadequacies or inconsistencies the Far North District Council or duly delegated Council Officer considers there to be, in the conditions of the consent, following the establishment of the activity the subject of this consent.
In particular: If the traffic movements exceed 60 daily one-way trips (Rural Production Zone permitted activity threshold), or; If the stormwater system fails to sufficiently mitigate the effects of the impermeable surfaces.
- (iv) To deal with any material inaccuracies that may in future be found in the information made available with the application (notice may be served at any time for this reason).
- (v) The consent holder shall meet all reasonable costs of any such review.

Advice Notes

1. Archaeological sites are protected pursuant to the Heritage New Zealand Pouhere Taonga Act 2014. It is an offence, pursuant to the Act, to modify, damage or destroy an archaeological site without an archaeological authority issued pursuant to that Act. Should any site be inadvertently uncovered, the procedure is that work should cease, with the Trust and local iwi consulted immediately. The New Zealand Police should also be consulted if the discovery includes koiwi (human remains). A copy of Heritage New Zealand's Archaeological Discovery Protocol (ADP) is attached for your information. This should be made available to all person(s) working on site.
2. Pursuant to Consent Notice 10766316.5(ii): Any building consent shall be accompanied by a landscape plan prepared by a suitably qualified Landscape architect. The plan shall be designed to assist the built development to be absorbed into the rural landscape and to enhance rural amenity. The plan shall be implemented within the last planting season following completion of the exterior of the dwelling and be maintained on a continuing basis thereafter.

Reasons for the Decision

1. Description of Activity

The proposal is for the construction of two new storage sheds for a commercial storage business and associated vehicle apron in the Rural Production Zone. The construction of two sheds does not comply with Rule 8.6.5.1.3, as the impermeable surfaces will exceed a site coverage of 15%. The applicant proposes a detention pond for stormwater management, as recommended in the TMC Engineering Report, supplied with the application.

A review condition under section 128 of the RMA is considered appropriate given the area of impermeable surfaces is more than double the permitted activity threshold. This will enable Council to monitor the site and require alterations or additions to the stormwater system if it fails to sufficiently mitigate effects of stormwater. A review condition is also appropriate to cover traffic movements should they exceed the permitted activity threshold.

The Council has determined that the adverse environmental effects associated with the proposed activity are no more than minor and that there are no affected persons or affected customary rights group or customary marine title group.

2. **District Plan Rules Breached:**

- **8.6.5.1.3 - Stormwater Management**

The maximum proportion of the gross site area covered by buildings and other impermeable surfaces shall be 15%.

3. **Principal Issue[s] in Contention and Main Findings on those Issues:**

Under s104(1)(a) the positive and potential effects of the proposal are:

Adverse Effects:

- a. Stormwater (from an increase in impervious surfaces)
- b. Earthworks
- c. Groundwater
- d. Noise

The proposed buildings will result in an increase in impervious areas within the site of 2,299m², which will increase the generation of stormwater runoff. The applicant proposes to manage this by attenuating stormwater in a dry pond, designed by TMC Consulting Engineers. The Council's IAM Engineer did not have concerns with the proposal, with the recommendations adopted as consent conditions.

Effects from construction stormwater will be managed with silt fences and decanting earth bunds, this will be enforced by a resource consent application. The stormwater management design appropriately addresses erosion and sediment control and potential effects of stormwater in the Flood Hazard zone; therefore, effects are considered to be less than minor.

Earthworks to remove topsoil to establish building platforms and create the stormwater detention pond will meet the permitted standards. With the appropriate sediment control measures, it is considered that effects of earthworks will be less than minor.

The TMC Engineering report addresses groundwater at the site and concludes that the proposed management methods will adequately mitigate any adverse effects.

A consent condition that limits construction hours to 7.30am – 6.00pm Monday to Saturday, with no work occurring on Sundays or public holidays is proposed. Given the proposed condition and the activity remaining within the permitted threshold, effects are considered to be less than minor.

Traffic movements to/from the site will be monitored to ensure they stay within the permitted activity threshold for the Rural Production Zone.

Positive effects of the proposal:

- a. Service
- b. Economic benefit

The proposed use of the building as a commercial storage facility is considered to provide a service to the surrounding area and community. The proposal will result in economic benefit for the applicant, as the additional storage sheds will allow for a commercial activity to be established on the site.

Objectives and policies of the District Plan:

The following objectives and policies of the District Plan have been considered:

- a. Objectives – 8.6.3.1, 8.6.3.2, 8.6.3.3, 8.6.3.7, 8.6.3.8
- b. Policies – 8.6.4.1, 8.6.4.7, 8.4.2,

The activity will maintain the natural and physical resources of the Rural Production Zone. The physical characteristics of the site will be maintained at or above the current levels by appropriately managing stormwater disposal. The activity helps provide the applicants economic wellbeing by allowing for addition sheds for commercial use in the rural environment, while maintaining overall wellbeing of the surrounding environment. The proposal is considered to be consistent with the intent of the Rural Production Zone, as sheds are a typical land use in rural zones. Therefore, it is considered that the sheds will not adversely affect the amenity of the Zone.

The objectives, policies and rules for the Rural Production Zone allow for a wide range of activities that promote rural productivity while avoiding potential adverse effects of conflicting land use activities. It is considered that the proposal sufficiently mitigates adverse effects of the activity on the life supporting capacity of soil by the stormwater management design and erosion and sediment control measures.

The proposed development is consistent with the general intent of the District Plan and the relevant objectives and policies. The proposal is considered to be an appropriate rural development, providing economic benefits for the owners of the site and a commercial service to the wider community, whilst offering an adequate level of amenity for the surrounding rural community through the Landscape Plan (submitted at time of building consent for the sheds as a requirement of Consent Notice 10766316.5(iii)), which will assist the built development to be absorbed into the rural landscape and enhance rural amenity.

Overall, it is considered that the proposal is not contrary to the relevant objectives and policies of the District Plan.

4. In accordance with an assessment under s104(1)(b) of the Act, the proposal is consistent with the relevant statutory documents.
 - a. The Northland Regional Policy Statement 2016
 - b. Regional Plans (including proposed)
 - c. Regional Soil & Water Plan for Northland
 - d. National Environmental Standards (Air/ NESCS/ Forestry)

The Northland Regional Policy Statement 2016 (RPS)

The RPS contains high level policy guidance for the development of lower order statutory documents, including for example, the Regional Water and Soil Plan and the District Plan. District Plan's must give effect to the regional policy statement of a region and must not be inconsistent with regional plans.

The proposal is considered to be generally consistent with the Northland Regional Policy Statement. The effects are less than minor, the site is not coastal, nor contains an outstanding landscape or feature, nor any significant ecological features.

Proposed Regional Plan for Northland

The Proposed Regional Plan has one objective which is as follows:

Northland's water, coastal marine area, air and soil (and associated ecosystems) are used, developed and protected in a manner that safeguards their life-supporting capacity and maximises present and future environmental, cultural, social and economic values.

Considering the assessment of environmental effects above, the proposed activity is consistent with the objective of the proposed plan.

Policies in the Proposed Regional Plan tend to highlight approaches to best address underlying rules. No rules in the Proposed Regional Plan are breached as a result of the activity and therefore compliance with the range of policies is confirmed.

Regional Soil & Water Plan for Northland

The objectives and policies of relevance to this proposal are included within:

- *12.5.1 The protection of the soil resources including soil quality and soil quantity, from degradation or loss as a result of unsustainable land use and land use practices.*
- *12.6.1 To promote soil conservation as an integral part of all land use and development activities by:*
 - *Encouraging sustainable land use practices;*
 - *Addressing on-site and off-site water and soil problems;*
 - *Addressing actual and potential erosion problems;*
 - *Maintaining soil quality (depth, structure, water holding capacity, organic matter and fertility) as far as practicable.*

The activity will not result in the degradation of soil quality and quantity and is proposed to be undertaken in a sustainable manner. Earthworks are to be undertaken with appropriate sediment and erosion control and will be within the permitted standard. The proposed stormwater mitigation will maintain the quality of and integrity of the soil. The proposed activity is therefore considered to be consistent with the relevant objective and policy.

In accordance with an assessment under s104(1)(c) of the Act, no non – statutory documents were considered relevant in making this decision.

National Environmental Standards (NESCS)

Regarding the National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health, the site is not known to contain previous activities or current activities that are identified on the HAIL list as the site has previously been undeveloped. Therefore, the NES for Soil Contaminants is not triggered.

No other National Environmental Standards that are considered to be relevant to the application.

5. Section 104B Assessment

The proposal is subject to section 104 of the Resource Management Act 1991, which provides the matters that Council must have regard to when considering an application for resource consent. The proposal is Discretionary and is subject to section 104B that outlines Council's powers when deciding on a discretionary or non-complying activity. Council may grant or refuse the application and if granted, impose conditions under section 108.

It is considered that the adverse effects of the proposal are less than minor, as demonstrated above.

6. Part II Matters

The Council has taken into account the purpose & principles outlined in sections 5, 6, 7 and 8 of the Act.

The activity will not undermine the life supporting capacity of the land as it is considered that the proposed stormwater management is appropriate. A review clause in the conditions will ensure that the management methods can be reviewed if they fail. The proposal is largely in keeping with the existing surrounding character and land use. The additional commercial storage sheds provide for the economic and social wellbeing of the applicant and community without compromising health and safety. The site is not within an Outstanding Landscape or Feature. No Treaty of Waitangi issues are triggered.

In summary it is considered that the activity is consistent with the sustainable management purpose of the Act, and therefore granting this resource consent application achieves the purpose of the Act.

Approval

This resource consent has been prepared by Lizzie Thomson, Consultant Planner and is granted under delegated authority (pursuant to section 34A of the Resource Management Act 1991) from the Far North District Council by:



Pat Killalea, Principal Planner

Date: 23rd December 2020.

Right of Objection

If you are dissatisfied with the decision or any part of it, you have the right (pursuant to section 357A of the Act) to object to the decision. The objection must be in writing, stating reasons for the objection and must be received by Council within 15 working days of the receipt of this decision.

Lapsing of Consent

Pursuant to section 125 of the Act, this resource consent will lapse 5 years after the date of commencement of consent unless, before the consent lapses:

The consent is given effect to; or

An application is made to the Council to extend the period of consent, and the council decides to grant an extension after taking into account the statutory considerations, set out in section 125(1)(b) of the Act.

RECORD OF DECISION ON RESOURCE CONSENT APPLICATION

Participants:
Venessa Anich
Consultant Planner

Decision Date:
Granted Date:
Issued Date:

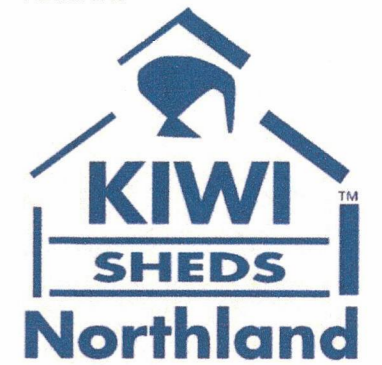
RMA Number : 2200212
RFS Type : Land Use
Legal Description : Lot 7 DP 475668
Applicant : W & L Jones Properties Ltd
Start Date : 13 December 2019
Location : 294D Waipapa Road, Kerikeri
Hearing Date : N/A
Activity : Discretionary Activity
Outcome : Approved
No. of lots : N/A
Types of lots : N/A
Zone : Rural Production Zone
Area of Site : 1.3344 ha
Proposal : Construction of two commercial sheds, increasing the impervious surface area
Issues : Stormwater

Property File	Utilities	Roading	Com Fac	Finance	NZTA	DoC	Projects	Property Co-ordinator
□								
Monitoring	Env Health	Liq License	Legal	NZHPT	NRC	PIMS	Comm. Brd	Kerikeri Irrigation Co / Doubtless Bay Water Supply Co



APPROVED PLAN
 Planner: pkillalea
 RC: 2200212
 Date: 23/12/2020

REVISIONS



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 SOUTH ROAD, RUNCIMAN, AUCKLAND

JONES SHEDS

W & L Jones Properties Limited
 894D WAIPAPA RD, KERIKERI

DRAWING
PLAN - SITE
CONTEXT

1:500 @ A3

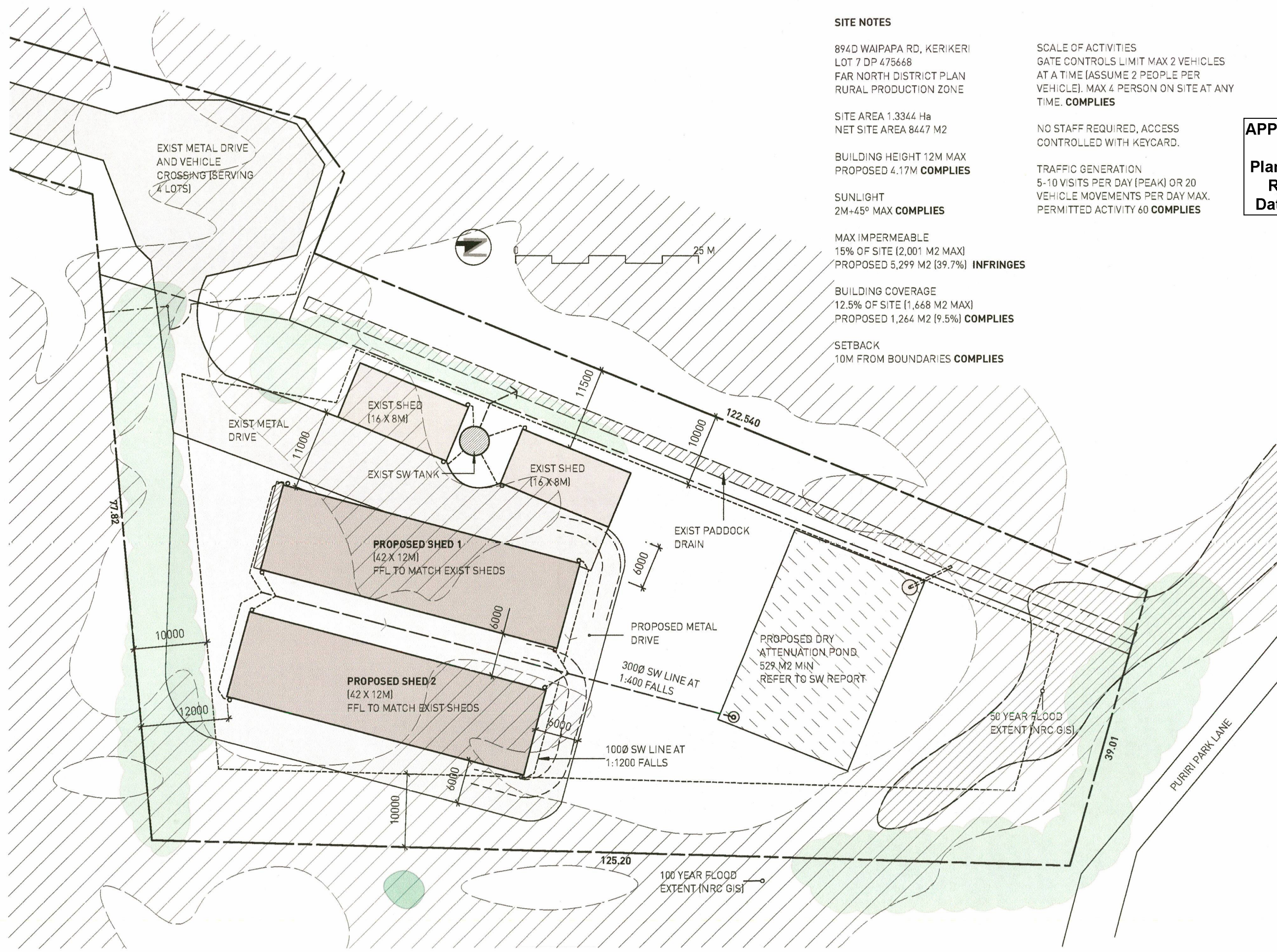
DATE OF ISSUE 25 SEP 2019

CONSENT

SHEET REVISION

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SITE NOTES

894D WAIPAPA RD, KERIKERI
 LOT 7 DP 475668
 FAR NORTH DISTRICT PLAN
 RURAL PRODUCTION ZONE

SITE AREA 1.3344 Ha
 NET SITE AREA 8447 M2

BUILDING HEIGHT 12M MAX
 PROPOSED 4.17M **COMPLIES**

SUNLIGHT
 2M+45° MAX **COMPLIES**

MAX IMPERMEABLE
 15% OF SITE (2,001 M2 MAX)
 PROPOSED 5,299 M2 (39.7%) **INFRINGES**

BUILDING COVERAGE
 12.5% OF SITE (1,668 M2 MAX)
 PROPOSED 1,264 M2 (9.5%) **COMPLIES**

SETBACK
 10M FROM BOUNDARIES **COMPLIES**

SCALE OF ACTIVITIES
 GATE CONTROLS LIMIT MAX 2 VEHICLES
 AT A TIME (ASSUME 2 PEOPLE PER
 VEHICLE). MAX 4 PERSON ON SITE AT ANY
 TIME. **COMPLIES**

NO STAFF REQUIRED, ACCESS
 CONTROLLED WITH KEYCARD.

TRAFFIC GENERATION
 5-10 VISITS PER DAY (PEAK) OR 20
 VEHICLE MOVEMENTS PER DAY MAX.
 PERMITTED ACTIVITY 60 **COMPLIES**

APPROVED PLAN

Planner: pkillalea
 RC: 2200212
 Date: 23/12/2020

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JONES SHEDS

W & L Jones Properties Limited
 894D WAIPAPA RD, KERIKERI

DRAWING

PLAN - SITE

1:500 @ A3

DATE OF ISSUE 25 SEP 2019

CONSENT

SHEET REVISION

A 01

APPROVED PLAN

Planner: pkillalea

RC: 2200212

Date: 23/12/2020



EARTHWORKS

CUT 2835 M² / 705 M³

FILL 750 M² / 705 M³

TOTAL 3585 M² / 1410 M³

MAX PERMITTED 5000 M³; **COMPLIES**

CUT AREA FOR
SHED PLATFORM
2255 M² / 560 M³

FILL AREA
750 M² / 705 M³
MAX BATTER AT 1V:2.5H

CUT AREA FOR POND
580 M² / 145 M³

300MM HIGH EARTH
BUND TO CONTAIN
SILTS DURING
EARTHWORKS

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DRAWING

PLAN - SITEWORKS

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DATE OF ISSUE 25 SEP 2019

CONSENT

SHEET REVISION

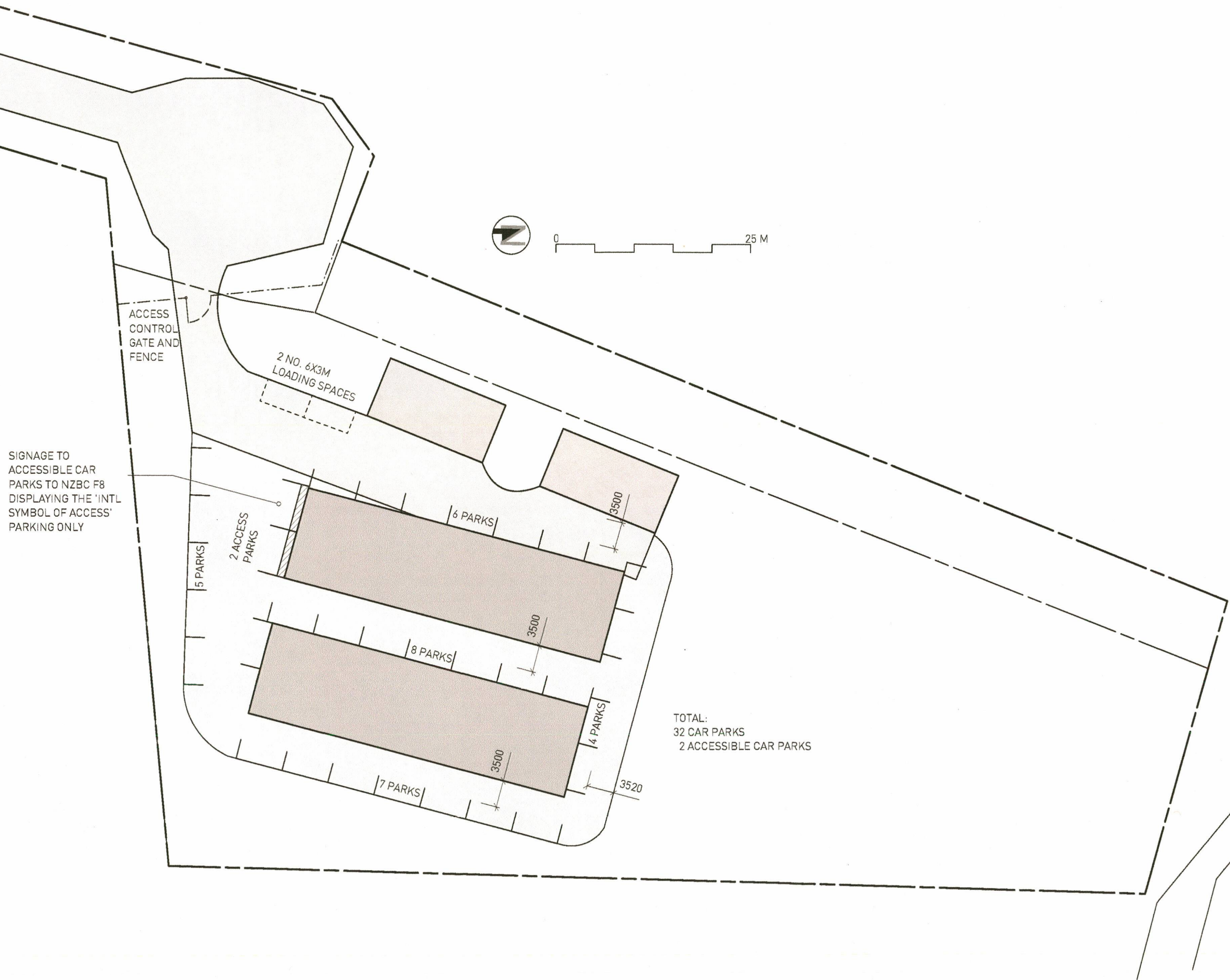
A 02

APPROVED PLAN

Planner: pkillalea

RC: 2200212

Date: 23/12/2020



SIGNAGE TO ACCESSIBLE CAR PARKS TO NZBC F8 DISPLAYING THE 'INTL SYMBOL OF ACCESS' PARKING ONLY

TOTAL:
32 CAR PARKS
2 ACCESSIBLE CAR PARKS

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JONES SHEDS

W & L Jones Properties Limited
894D WAIPAPA RD, KERIKERI

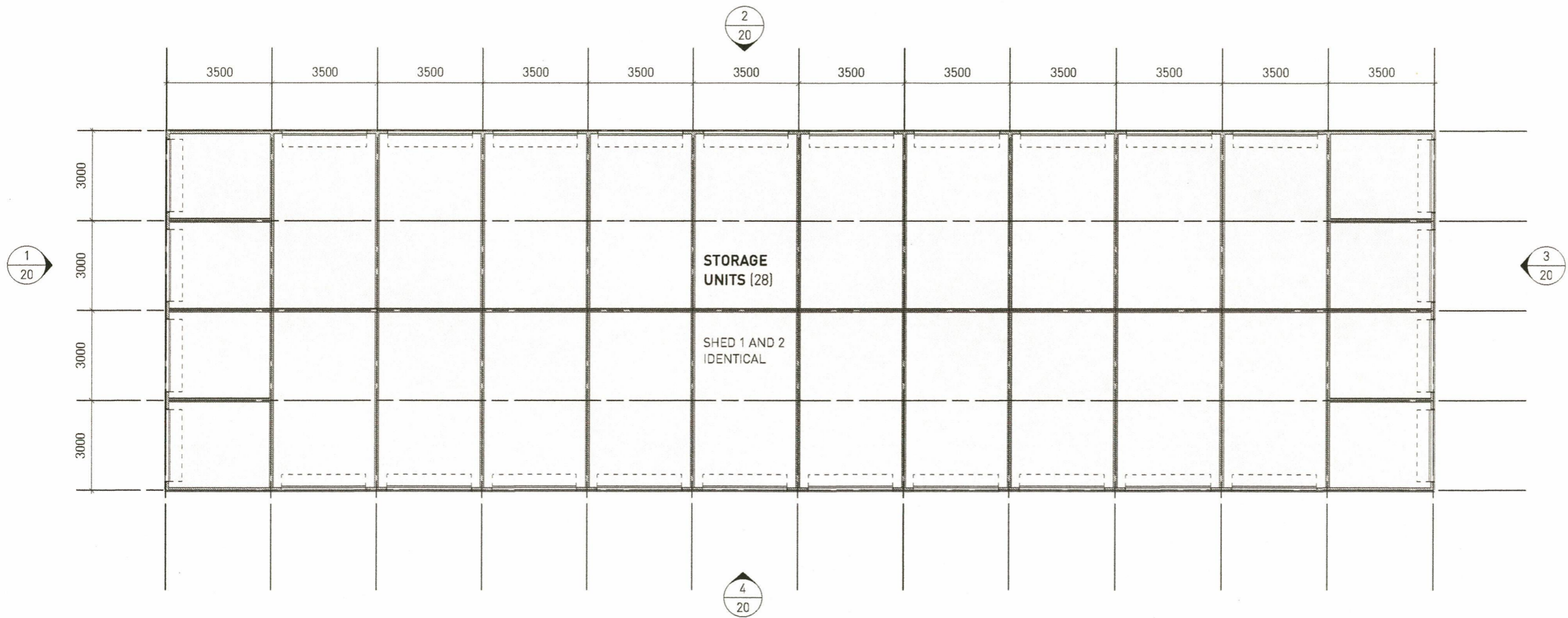
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PLAN - TRAFFIC

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DATE OF ISSUE 25 SEP 2019

CONSENT
SHEET REVISION
A 03

APPROVED PLAN

Planner: pkillalea
RC: 2200212
Date: 23/12/2020



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JONES SHEDS

W & L Jones Properties Limited
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DRAWING

PLAN - FLOOR

1:150 @ A3

DATE OF ISSUE 25 SEP 2019

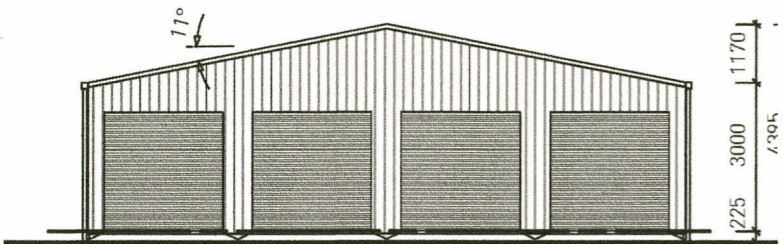
CONSENT

SHEET REVISION

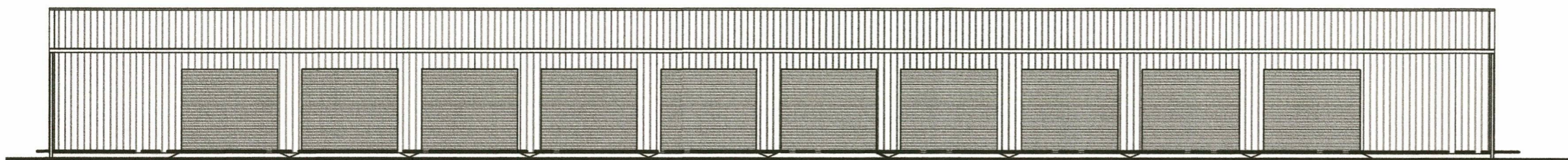
A 10

APPROVED PLAN

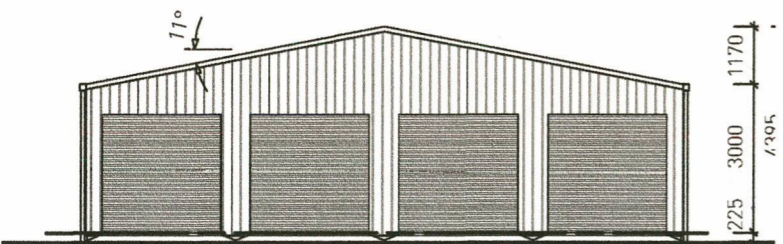
Planner: pkillalea
RC: 2200212
Date: 23/12/2020



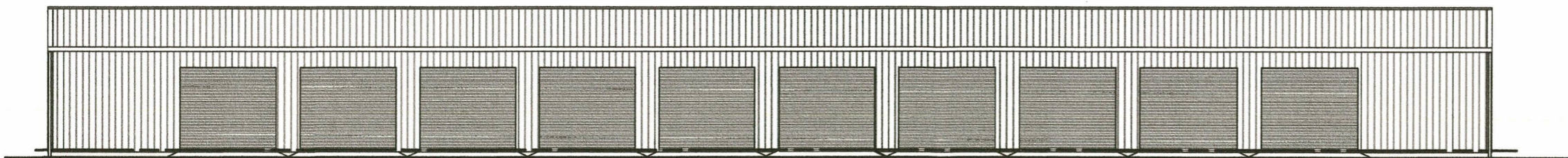
① WEST ELEVATION
A 10



② SOUTH ELEVATION
A 10



③ EAST ELEVATION
A 10



④ NORTH ELEVATION
A 10

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JONES SHEDS

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ELEVATION

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DATE OF ISSUE 25 SEP 2019

CONSENT

SHEET REVISION

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