Whangarei District Council
Private Bag 9023, Whangarei 0148, New Zealand
P +64 9 430 4200 | 0800 WDC INFO | 0800 932 463 F +64 9 438 7632
E mailroom@wdc.govt.nz www.wdc.govt.nz

LAND INFORMATION MEMORANDUM NO: LM2501340
Received: 21 Aug 2025
Issued: 28 Aug 2025
Section 44A, Local Government Official Information And Meetings Act 1987

APPLICANT
C George
1389A Whangarei Heads Road
RD4
Whangarei 0174

SITE INFORMATION
Property ID: 116145
Street Address: 5 Rangikorero Place (Pvt), Whangarei 0174
Legal Description: LOT 27 DP 323886

This is a Land Information Memorandum only.

Full payment has been made for this Land Information Memorandum.

1: PROPERTY DETAILS.

- Location Map
- Record of Title: 96405
- Deposited Plan: DP 323886

This property is subject to a Consent Notice, information attached.

- Interest Number 6578874.8 Dated – 17/08/2005

2: INFORMATION IDENTIFYING EACH (IF ANY) SPECIAL FEATURE OR CHARACTERISTIC OF THE LAND CONCERNED, INCLUDING BUT NOT LIMITED TO POTENTIAL EROSION, AVULSION, FALLING DEBRIS, SUBSIDENCE, SLIPPAGE, ALLUVION, OR INUNDATION, OR LIKELY PRESENCE OF HAZARDOUS CONTAMINANTS, BEING A FEATURE OR CHARACTERISTIC THAT IS KNOWN TO THE WHANGAREI DISTRICT COUNCIL.

Whangarei District Council holds indicative information on land stability hazard for Whangārei. Information on land stability, including an interactive web tool, can be found on the Council's website.
The Whangarei District Council may require site-specific investigations before granting future subdivision or building consent for the property, the level of investigation or assessment would depend on the level of stability risk of the area the property is in.
See map attached indicating this property is located within low & moderate zones and refer:
https://www.wdc.govt.nz/Services/My-property-and-rates/Natural-hazards

Whangarei District Council notified Plan Change 1 - Natural Hazards (PC1) on the 31st of May 2023. The Plan Change introduces new provisions relating to natural hazards to the District Plan, including new hazard maps and rules for land use, development, and subdivision in hazard susceptible areas. As of 4 December 2024 the Decision Version PC1 rules have legal effect.
Refer to map attached and for more information on the proposed plan change please visit: https://www.wdc.govt.nz/Services/Planning/District-Plan-changes/Current-plan-changes

Whangarei District Council holds information on the liquefaction vulnerability of the district.
The site is located within an area classified as Liquefaction vulnerability category:

- undetermined.

The report was prepared by Tonkin & Taylor Ltd to provide WDC with a district wide liquefaction vulnerability assessment to help inform spatial planning and assessment of landuse, subdivision and building consents.
To view the report and access maps please use the following link:
https://www.wdc.govt.nz/Services/My-property-and-rates/Natural-hazard s

Please note: To view the liquefaction layer your map scale must be greater than 1:5000.

3: INFORMATION ON COUNCIL AND PRIVATE UTILITY (SEWERAGE, WATER & STORMWATER) SERVICES.

Information relating to Council Utility Services for this property is attached.

- Water, Wastewater and Stormwater Map

As-Built Plan for this property from the building file is attached.

- As Built Services Plan from BC2400419

For further information regarding Council Water Supply please refer:
https://www.wdc.govt.nz/Services/Water-services/Water-Supply

Pursuant to Section 51 of the Building Act 2004 and Section 451 of the Local Government Act 1974, any future building work that encroaches upon any Council Pipe or Utility must obtain written consent from the Waste & Drainage and/or Water Services Manager/s prior to works commencing.
For information refer: https://www.wdc.govt.nz/Council/Council-documents/Policies/Building-Over-Public-Sewers-Policy

4: INFORMATION RELATING TO VALUATION, LAND, AND WATER RATES. INFORMATION FROM WHANGAREI DISTRICT COUNCIL RECORDS.

Information on Valuation, Rates and Water Meter location (if applicable) for the current financial year, is attached.

Outstanding water balance as at today's date is $63.17.
A final reading of the water meter will be required.

5: INFORMATION CONCERNING ANY PERMIT, CONSENT, CERTIFICATE, NOTICE ORDER, OR REQUISITION AFFECTING THE LAND OR ANY BUILDING ON THE LAND PREVIOUSLY ISSUED BY THE WHANGAREI DISTRICT COUNCIL OR BUILDING CERTIFIER (WHETHER UNDER THE BUILDING ACT 1991 AND/OR 2004 OR ANY OTHER ACT).

Copy of Building Consent and Code Compliance Certificate issued for this property is attached as listed below:

- BC2400419 – New Dwelling
  Building Consent Issued – 14/06/2024
  Code Compliance Certificate Issued – 04/08/2025

Copy of Application (e.g. Vehicle Crossing Permit and/or Public Utility Service) for this property is attached as listed below:

- PU241110 – Water Meter Only
  Approved – 04/07/2024

6: INFORMATION RELATING TO THE USE TO WHICH THE LAND MAY BE PUT AND ANY CONDITIONS ATTACHED TO THAT USE.

This property is located in a Settlement Zone Residential Sub-Zone.
See map attached and for more information search the property address on Councils ePlan here https://eplan.wdc.govt.nz/plan/

This property is located in a Coastal Environment.
See map attached and for more information search the property address on Councils ePlan here https://eplan.wdc.govt.nz/plan/

This property is located in an area identified as a Goat Control Area.
See map attached and for further information contact the Department of Conservation on 09 470 3300.

A Deemed Permitted Boundary Activity application under the Resource Management Act 1991 has been approved for this property, information attached.

- PB2400012 – To Construct a new residential unit that will infringe height in relation to boundary on the north eastern adjacent boundary with 7 Rangikorero Place.
  Approved – 20/06/2024

7: INFORMATION WHICH IN TERMS OF ANY OTHER ACT HAS BEEN NOTIFIED TO THE WHANGAREI DISTRICT COUNCIL BY ANY STATUTORY ORGANISATION HAVING THE POWER TO CLASSIFY LAND OR BUILDINGS FOR ANY PURPOSE.

This property is known to contain/or is in the vicinity of Archaeological site/s, refer map attached.

- Q07/1203 – Midden/Oven

- Q07/1308 – Midden/Oven

Please note, any future development, including building consents, will be notified to Heritage New Zealand.
For further information contact Heritage New Zealand, Northland Area Office on ph. 09 407 0470 or infonorthland@heritage.org.nz

8: OTHER INFORMATION CONCERNING THE LAND AS WHANGAREI DISTRICT COUNCIL CONSIDERS, AT COUNCILS DISCRETION, TO BE RELEVANT.

Whangarei District Council recommends that all Whangarei District residents visit the Northland Regional Council website, https://www.nrc.govt.nz/ for information on Civil Defence hazard response. This information includes Tsunami evacuation zones, maps and community response plans for flooding and extreme weather events etc.

Copies of site plan, floor plan and elevations are attached for your information.

- A copy of a Geotechnical Report by Cook Costello dated 14/05/2018 from BC2400419 is attached for your information.

9: INFORMATION RELATING TO ANY UTILITY SERVICE OTHER THAN COUNCILS SUCH AS TELEPHONE, ELECTRICITY, GAS AND REGIONAL COUNCIL WILL NEED TO BE OBTAINED FROM THE RELEVANT UTILITY OPERATOR.

Further information may be available from other authorities; Northpower; Spark; Vector Limited; etc.

DISCLAIMER

Land Information Memoranda (LIM) are prepared under the provisions of Section 44A of the Local Government Official Information and Meetings Act 1987. An inspection of the land or building(s) has not been completed for the purposes of preparing the LIM. It has been compiled from the records held by Whangarei District Council. The information contained in the LIM is correct at the date of issue.
A LIM is prepared for the use of the applicant and may not be able to be relied on by other parties.
Advice from an independent professional such as a lawyer or property advisor should be sought regarding the contents of this LIM.
Additional information regarding the land or buildings (such as resource consents and other permissions and restrictions) not contained in this LIM may be held by Northland Regional Council. For further information contact Northland Regional Council on (09) 470 1200, 0800 002 004 or www.nrc.govt.nz.
A LIM is not a suitable search of Council's records for the purposes of the National Environmental Standards (NES) for soil contamination of a potentially contaminated site.

Signed for and on behalf of Council:

P Luwes
Property Information Officer

Property Map

New Subdivisions

- Proposed Pre-223
- 223 Certificate

New subdivisions: Proposed as accepted, pre-223 and 223 Certificate with set Conditions.

Land Parcel boundaries are indicative only and are not survey accurate. Area measurement is derived from the displayed geometry and is approximate. True accurate boundary dimensions can be obtained from LINZ survey and title plans

28 August 2025

Scale 1:1,000

Aerial Photography

This map includes New Zealand's most current publicly owned aerial imagery and is sourced from the LINZ Data Service.

28 August 2025

Scale 1:1,000

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 **96405**

Land Registration District **North Auckland**

Date Issued 20 September 2005

Prior References
NA121C/74

Estate Fee Simple

Area 1422 square metres more or less

Legal Description Lot 27 Deposited Plan 323886

Registered Owners

Gordon Robert Law and Heather Jane Law

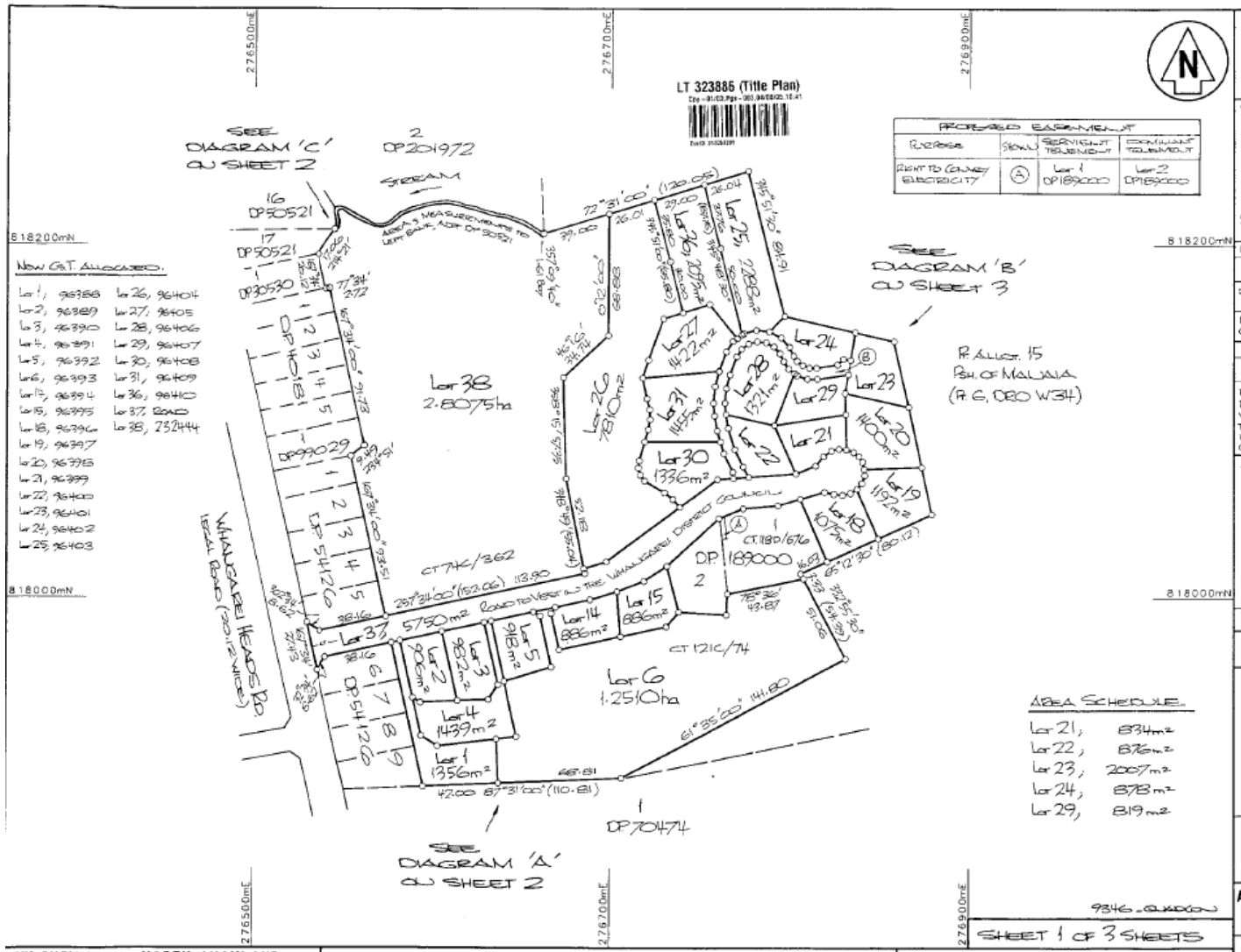
Interests

6578874.8 Consent Notice pursuant to Section 221 Resource Management Act 1991 - 20.9.2005 at 9:00 am

Appurtenant hereto is a right of way, rights to convey water, gas, telecommunications and computer media created by Easement Instrument 6578874.14 - 20.9.2005 at 9:00 am

The easements created by Easement Instrument 6578874.14 are subject to Section 243 (a) Resource Management Act 1991

Land Covenant in Easement Instrument 6578874.15 - 20.9.2005 at 9:00 am



PROPOSED EASEMENT

PURPOSE	SHOWN	SERVIENT TENEMENT	DOMINANT TENEMENT
RIGHT TO CONVEY ELECTRICITY	A	Lot 1 DP 189000	Lot 2 DP 189000

New G.T. Allocated.

Lot 1, 96388	Lot 26, 96404
Lot 2, 96389	Lot 27, 96405
Lot 3, 96390	Lot 28, 96406
Lot 4, 96391	Lot 29, 96407
Lot 5, 96392	Lot 30, 96408
Lot 6, 96393	Lot 31, 96409
Lot 12, 96394	Lot 36, 96410
Lot 13, 96395	Lot 37, Road
Lot 18, 96396	Lot 38, 732444
Lot 19, 96397	
Lot 20, 96398	
Lot 21, 96399	
Lot 22, 96400	
Lot 23, 96401	
Lot 24, 96402	
Lot 25, 96403	

AREA SCHEDULE

Lot 21,	834m²
Lot 22,	876m²
Lot 23,	2007m²
Lot 24,	878m²
Lot 29,	819m²

CLASS OF SURVEY:
Lots 1-6, 14, 15, 18-31, 36, 37, CLASS I
Lot 38, CLASS II

I hereby certify that this plan was approved by the Whangarei District Council pursuant to Section 223 of the Resource Management Act 1991 on the 25th day of July 2003 Subject to the granting of/reserving of the easements set out in the Memoranda hereon.

Authorised Officer-
Whangarei District Cl.

MEMORANDUM OF EASEMENT IN GROSS

PURPOSE	SHOWN	SERVIENT TENEMENT	GRANTEE
RIGHT TO TRANSMIT ELECTRICITY	B	Lot 23 HEREON	NORTHPOWER LIMITED
RIGHT TO CONVEY WATER	B	Lot 23 HEREON	WHANGAREI DISTRICT COUNCIL

MEMORANDUM OF EASEMENTS

PURPOSE	SHOWN	SERVIENT TENEMENT	DOMINANT TENEMENT
RIGHT OF WAY, RIGHT TO CONVEY WATER, GAS, TELECOMMUNICATIONS & COMPUTER MEDIA	B	Lot 23 HEREON	Lots 24, 25, 27, 28, 29, 31, 36 HEREON

Approved: For and on behalf of Quickon Properties Limited:

E.T. Clarke I.R. Conn N.A. Conn

E. Conn E. Conn C.B. Greene

Registered Owners

Total Area 8.0516ha

Comprised in GT 121C/74(All), 74C/362(All) & 180/676(Lot)

I, Lesley Warren Simpson of Whangarei being a person entitled to practice as a registered surveyor, certify that

(a) the surveys to which this dataset relates are accurate, and were undertaken by me or under my direction in accordance with the Survey Act 1986 and the Survey Regulations 1998;
(b) this dataset is accurate, and has been created in accordance with that Act and those Regulations.

(Signature) (date) 2.10.05

Field Book p Traverse Book p

Reference Plans

Examined Correct

Approved as to Survey by Land Information NZ on
6.9.2005

Deposited by Land Information NZ on
20.9.2005

File Received 04 AUG 2005 Instructions

DP 323886

Approved AKLM 0014

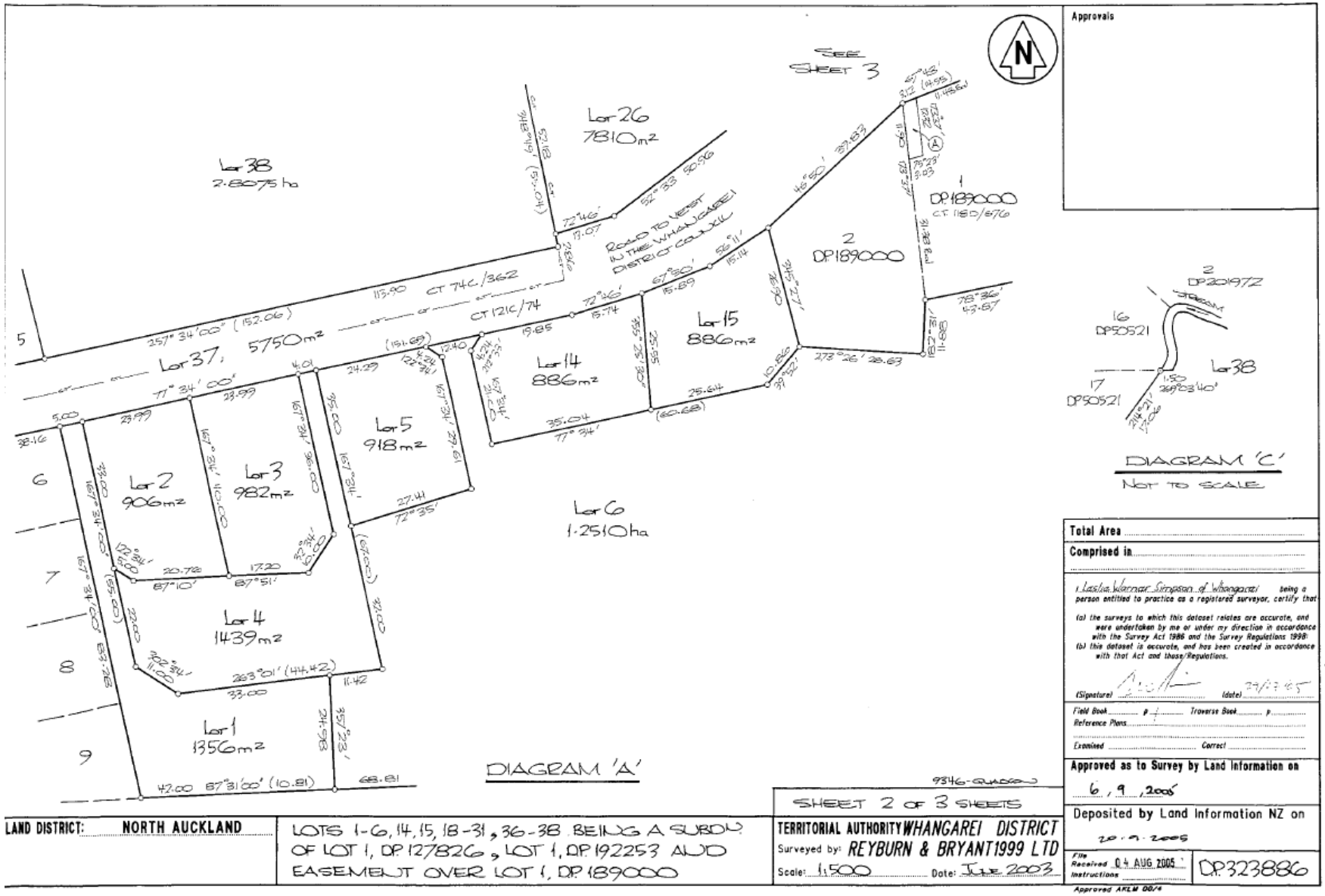
9846 QUICKON

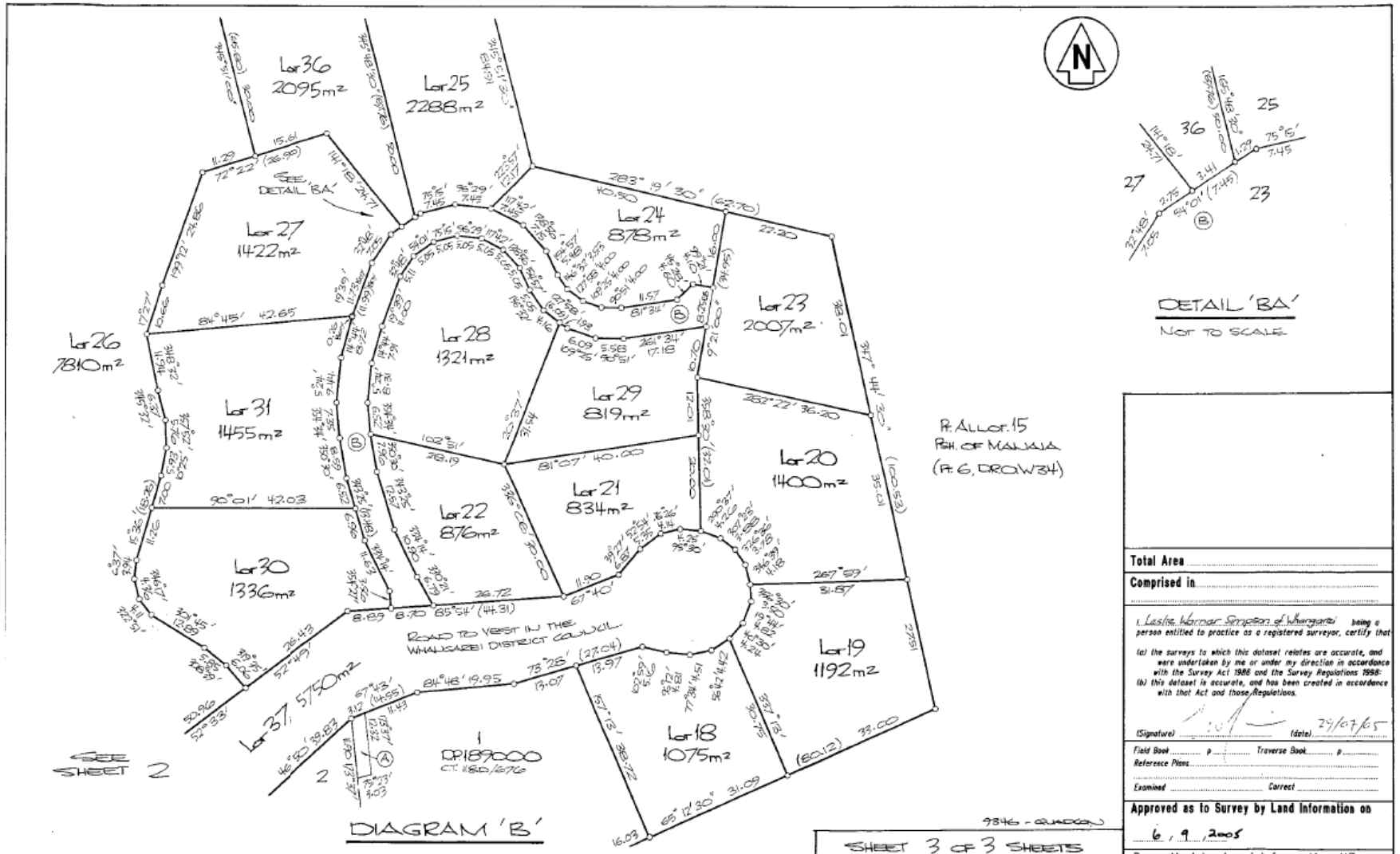
SHEET 1 OF 3 SHEETS

LAND DISTRICT: NORTH AUCKLAND

LOTS 1-6, 14, 15, 18-31, 36-38 BEING A SUBDN. OF LOT 1, DP 127826 & LOT 1, DP 192253 AND EASEMENT OVER LOT 1, DP 189000.

TERRITORIAL AUTHORITY WHANGAREI DISTRICT
Surveyed by: REYBURN & BRYANT 1999 LTD
Scale: 1:1500 Date: JUNE 2003





LAND DISTRICT: NORTH AUCKLAND	LOTS 1-6, 14, 15, 18-31, 36-38 BEING A SUBDN OF LOT 1, DP 127826, LOT 1, DP 192253 AND EASEMENT OVER LOT 1, DP 189000	SHEET 3 OF 3 SHEETS TERRITORIAL AUTHORITY WHANGAREI DISTRICT Surveyed by: REYBURN & BRYANT 1999 LTD Scale: 1:500 Date: JUNE 2003

9846 - GUMDIGGERS

Total Area .....

Comprised in .....

I, Leslie Norman Simpson of Whangarei being a person entitled to practice as a registered surveyor, certify that

(a) the surveys to which this dataset relates are accurate, and were undertaken by me or under my direction in accordance with the Survey Act 1986 and the Survey Regulations 1998;
(b) this dataset is accurate, and has been created in accordance with that Act and those Regulations.

(Signature) ..... (Date) 29/07/05

Field Book ..... p ..... Traverse Book ..... p .....
Reference Plans .....
Examined ..... Correct .....

Approved as to Survey by Land Information on
6 / 9 / 2005

Deposited by Land Information NZ on
20. 9. 2005

File Received 04 AUG 2005
Instructions .....

DP 323886

Approved AKLM 0014

SD No	SD 98/038 RC 3399[illegible]
PID No	08508
Street	VARIOUS
Type	CONSENT NOTICE
Drawing No	DP 323886

IN THE MATTER of the Resource Management Act 1991 ("the Act")

A N D

IN THE MATTER of a subdivision consent as evidenced by Land Transfer Plan No. 323886

A N D

IN THE MATTER of a Consent Notice issued pursuant to Section 221 of the Act by THE WHANGAREI DISTRICT COUNCIL ("the Council")

IT IS HEREBY CERTIFIED that the following conditions to be complied with on a continuing basis by the subdividing owner and subsequent owners were imposed by the Council as conditions of approval for the subdivision as effected by Land Transfer Plan No. 323886 ("the plan")

1. In respect of the lots being lots 1 through 6, 14, 15, 18 through 31, 36 and 37 on the plan ("the lots") all development is to be undertaken so as to comply with and/or meet the restrictions on development as are identified in the Hawthorn Geddes Engineers & Architects Limited engineering reports dated 6 August 2002, 23 September 2004 and 21 July 2005 as attached hereto.

2. In relation to the lots the following general development criteria shall be met:

   a) All excavations shall be adequately retained and maximum fill depths shall not exceed 1m on slopes exceeding 10° without further appropriate geotechnical advice.

   b) Further geotechnical advice will be required for basement and driveway excavations to ensure adequate stability is maintained during and after construction.

   c) Natural soil slope angles shall not exceed 1 vertical to 3 horizontal.

   d) Finished ground surfaces shall be re-vegetated or sealed over to prevent erosion.

e) Foundations or any other construction shall not penetrate or damage subsoil drains.

f) As built plans of existing subsoil drainage are to be placed on the building file at council.

g) Foundations can be designed to NZS 3604, except that foundations shall be terminated at a minimum depth of 600mm below ground level.

h) Specific foundation design will be required on steeper lots where standard design would not be appropriate such to apply in particular to lots 15, 25, 27, 30, 31 and 36 on the plan.

i) All excess stormwater from roofs and other impervious surfaces shall be discharged to a public stormwater connection at the boundary of that property.

3. In relation to lots 2, 3, 4, 5, 6 and 14 on the plan specific design of foundations is required with such to be designed to resist settlement with the integrity of the subsoil drainage on these properties to be maintained at the time of dwelling construction.

DATED at Whangarei this 17th day of August 2005

SIGNED for THE WHANGAREI DISTRICT COUNCIL pursuant to the authority of the Council given pursuant to the Local Government Act 2002 and the Resource Management Act 1991

Authorised Signatory

X0508006.GJM.DOC:dy

Hawthorn Geddes
engineers & architects ltd

Reference: 4030

6 August 2002

N S & M L Dickson
R D 4
McLeods Bay

Attention: Nigel Dickson

GEOTECHNICAL REPORT PREPARED FOR A PROPOSED SUBDIVISION OF LOT 1 DP 192253 MCLEODS BAY

Purpose

The purpose of this report is to address the stability of proposed house sites and road access for a stage 1, 2 and 3 proposal on the above property, for a resource consent application. Two existing Lots contained within the subdivision are not considered in this report (Lots 1 and 2 DP189000).

Stage 1, 2 and 3 includes all the sections immediately adjacent to the main access road and all sections adjacent to two proposed R O W's located on the northern side of the main access road as shown on the attached plan.

Proposal

The proposal is to construct a main access from the entrance to the subdivision on Whangarei Heads Road up to a cul de sac head located adjacent to the existing dwelling on the property. Two proposed R O W's on the northern side of the main access way provide access to approximately 15 sections.

The standard of construction is to be in accordance with Whangarei District Council standards.

Earthworks including up to 2.5m excavation is required to develop access and some controlled fill is required on lots bordering the south side of the main access.

The plans show that all properties are to be supplied with reticulated water and sewage connections, although we are advised that reticulated sewage may not be available in the near future.

Extent of our Involvement

Our investigation consisted of the following activities:

1. A site inspection

2. The digging of eight hand augered boreholes to assess subsoil conditions.

3. An examination of old aerial photographs to look for visible signs of slippage.

4. The examination of proposed development plans prepared by Reyburn and Bryant, reference 5894 and dated January 2002, to determine the extent of proposed earthworks.

Site Description

The property is mainly westerly facing with views over the Whangarei Harbour. Most of the land is presently in pasture. The lower slopes are gently sloping at less than 10° but the upper slopes are steeper (up to 25°) where most of the proposed lots are located. Below the change in slope angle, (from moderately steep to gentle), springs are visible at the ground surface. A spur ridge, crosses northeast to southwest through two of the proposed rights-of-way and a number of proposed lots.

The existing access to the house follows the proposed main access road.

Visual Stability Assessment

We found no visible evidence of deep-seated slippage within the area bound by stage 1 and 2 development.

There was evidence of ongoing erosion, especially within existing water tables and associated excavated slopes alongside the existing driveway.

There was evidence of springs present at the intersection between steeper and lower slopes on the property, but this was not accompanied by land slippage.

Subsoil Conditions

The geological rock map of the area (NZMS 290 Sheet Q06/07) describes the subsoil on this property as being within possible boundaries of 3 different geological lithologies, namely andesitic breccia, andesitic lava flow and Northland Allochthon (otherwise known as Onerahi chaos breccia). The latter is often unstable even on gentle slopes.

Eight boreholes were dug to assess subsoil conditions. The location of the boreholes is shown on the attached plan and the borelogs are attached to this report.

Andesitic breccia is exposed in an excavation on Lot 2. DP 189000, below the existing house. This consisted of completely weathered boulders in a soil matrix. Brown clayey silt is exposed along the driveway and over the northern parts of the subdivision. Boreholes dug in this area confirm a thin layer of brown ash overlying completely weathered, homogenous, very sensitive silt. The measured groundwater levels in this area were well below the surface.

In contrast to this, groundwater levels at the base of the steeper slope and alongside the southern side of the existing driveway are at or near the surface. The soil at this location is assessed as alluvial terrace deposits overlying andesitic breccia. We found no evidence Northland Allochthon on the property.

Conclusions and Recommendations

Earthworks in General

Attention is drawn to the physical behaviour of the soil that is likely to be encountered during earthworks. The brown soil cover that is apparent at shallow depths over the property is prone to erosion when vegetation is removed and is moderately sensitive to strength change with rise or loss of water content. The underlying weathered andesite, evident on the northern slopes in the vicinity of the ROW's is very sensitive and subject to significant loss of strength on remoulding. This material will be difficult to handle and to work with if it is disturbed. Re-working this soil may require the addition of lime. The depth of cut in these areas should therefore be minimised.

The light grey clay (terrace deposits) evident along the main road alignment is wet of optimum, due to springs in the area and will not be suitable as controlled fill unless it is dried back before compaction. Subsoil drainage in addition to the standard subsoil under-drains will be required. The addition of lime to soil may be a viable option if it is to be reworked.

A certain (but yet to be defined) amount of controlled fill will be required on some lots. Underdrainage will be required under the fill as described elsewhere in this report. This will need to be monitored closely to ensure adequate compaction is achieved.

Main Roading Access

The main access roading involves relatively minor earthworks but includes excavation with maximum batters of 1 horizontal to 1 vertical and fill depths up to 1.5m. The latter extends onto four lots along the southern side of the alignment.

Our investigation found that there is likely to be up to 1m of unconsolidated fill overlying topsoil, which will have to be removed. Only fill containing less than 10% topsoil can be used for recompaction.

Before fill can be placed in this area a series of subsoil drains will need to be constructed across the road alignment and across the proposed lots to the south, as shown on the attached plans. The drain shall be 2m deep with an even (no flatter than 1:50) fall to the intersecting drain (at the south end) that is 1m deep. Settlement markers will need to be placed in the fill to monitor settlement.

The required, standard subsoil road drains shall intersect these drains.

Excavated batters shall be constructed with a maximum slope angle of 3 horizontal to 1 vertical otherwise the retaining structures will be required to reduce the slope angle to this maximum slope angle.

ROW Construction

The construction of two ROW involves the retaining of excavations up to 2.5m high. Retaining wall structures will need to be designed using the following design parameters:

a) $\gamma' = 17\ kN/m^3$
b) $\phi' = 28°$
c) $S_u = 80\ kPa$
d) Surcharge angles and/or vehicle loads as appropriate

Excavation into the underlying sensitive silt is likely in the deepest excavations and where this occurs, lime stabilisation may be necessary to rework the material once it becomes disturbed by the weight of machinery on the subgrade.

The relevant recommendations for the main access also apply to ROW construction.

Stability

We found no evidence of deep-seated instability on the property. However, the soil is prone to erosion when vegetation is removed resulting in maximum stable slope angles of approximately 18° (3 horizontal to 1 vertical). Concentrated surface water runoff causes erosion even on gentle slopes.

We found no evidence of springs or an elevated groundwater table on the upper, steeper slopes of the property. The depth of excavation should be limited to 2m on these slopes to minimise having to deal with very sensitive soil beneath.

We also recommend maximum cut and fill slopes of 3 horizontal to 1 vertical and that these slopes are topsoiled and grassed over.

Building Sites

Many of the lots have building sites that are on slopes which are predominantly, or contain some land approaching maximum safe slope angles. This will mean that the development of these building sites and access to them will require careful engineering to ensure that stability is maintained. This following criteria apply to all lots at the time of building.

a) All excavations shall be adequately retained and maximum fill depths shall not exceed 1m on slopes exceeding 10° without further appropriate geotechnical advice. In addition, further geotechnical advice will be necessary for basement and driveway excavations to ensure adequate stability is maintained during and after construction.

b) Natural soil slope angles shall not exceed 1 vertical to 3 horizontal.

c) Finished ground surfaces shall be re-vegetated or sealed over to prevent erosion.

d) Foundations or any other construction shall not penetrate or damage subsoil drains. An as built plan of existing subsoil drainage is to be placed on the building file at council.

e) Foundations can be designed to NZS 3604, except that foundations shall be terminated a minimum of 600mm below ground level. Specific foundation design is expected on steeper lots where standard design would not be appropriate.

f) On lots where subsoil drainage underlies controlled fill, settlement markers will need to be installed and monitored until settlement ceases, before sections are released onto the market.

g) All excess stormwater from roofs and other impervious surfaces shall be discharged to a public stormwater connection at the boundary.

Provided the above recommendations are complied with it is our opinion that the proposed lots (and building sites where shown on them) are stable and suitable for building on.

On-site effluent disposal

Regional Council rules for discharge include minimum lot sizes for on-site effluent disposal depending on soil type. The soil type on this property is slow draining (category 6) subsoil. This means that most lots will only be suitable for a dwelling with a maximum of 3 bedrooms that are serviced by reticulated water.

The only suitable method of land application is subsurface irrigation after satisfactory pretreatment. The system that will provide satisfactory pretreatment prior to land application is primary treatment in a septic tank followed by secondary treatment using a packed bed reactor. This system does provide a high quality effluent under variable and shock loading conditions. Primary and secondary treatment using aerated wastewater treatment system is also an option, but these systems do not perform well under variable or shock loading conditions.

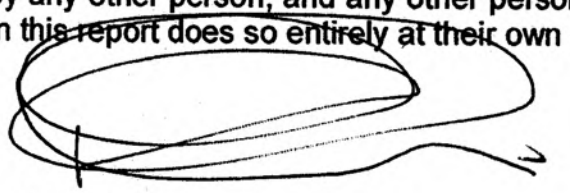
We understand (but cannot confirm) that the sewage reticulation for this area is planned for the 2003 construction season.

Service trenches

Service trenches shall be constructed to also act as subsoil drains by installing a sleeved perforated draincoil in the bottom of the trench and covered with 200mm of compacted F/2 filter metal. Above this material, either 'pages' metal or compacted PAP20 or 40 can be used.

Limitation

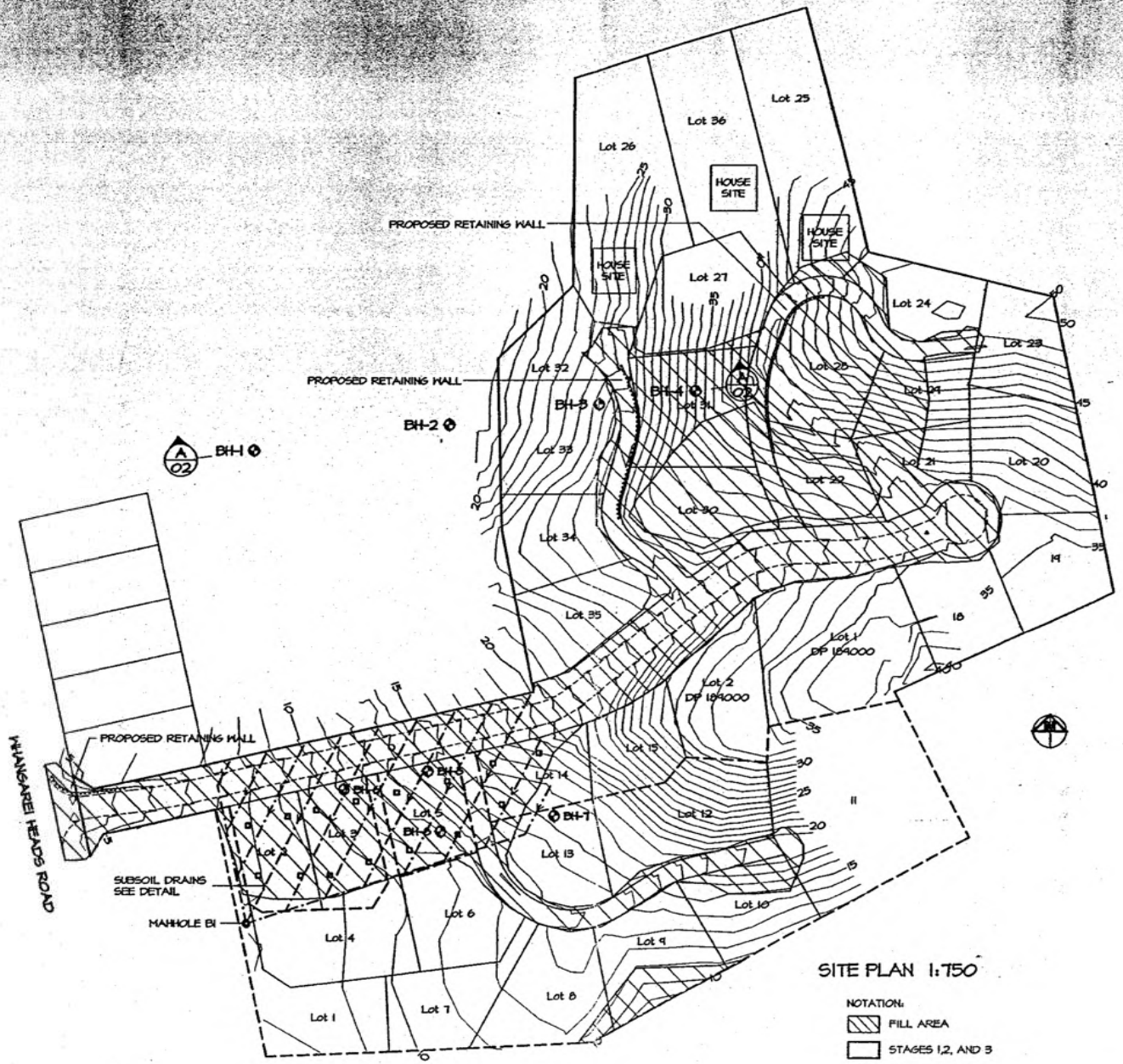
This report has been prepared solely for the benefit of our client N S & M L Dickson, future owners and the Whangarei District Council in relation to the resource consent application for which this report has been prepared. The comments in it are limited to the purpose stated in this report. No liability is accepted by Hawthorn Geddes Engineers & Architects Ltd in respect of its use by any other person, and any other person who relies upon any matter contained in this report does so entirely at their own risk.



Peter Geddes
Hawthorn Geddes
architects & engineers ltd

Report Prepared By: Rostyn Lomax

Encl: Borelogs (A4 – 11 pages)
Site Plan (A3 – 2 pages)
Calculations (A4 – 3 pages)
Producer Statement Design (A4 – 1 page)
Producer Statement Construction Review (A4 – 1 page)
Notice to Owners (A4- 1 page)



SITE PLAN 1:750

NOTATION:

- FILL AREA
- STAGES 1,2, AND 3
- STAGES 4 AND 5

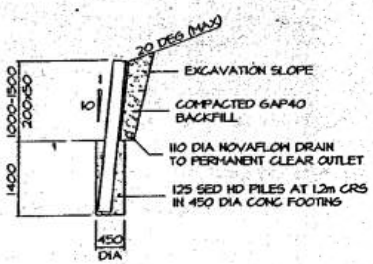
A1 SIZE DWGS PHOTO-REDUCED TO A3 SIZE MAY BE SCALED AT HALF SHOWN SCALE.

HAWTHORN GEDDES
engineers and architects
7 SELWYN AVENUE, P.O. BOX 575, WHANGAREI
TELEPHONE (09) 438 7139, FAX (09) 430 0711
EMAIL: hg@hgcs.co.nz

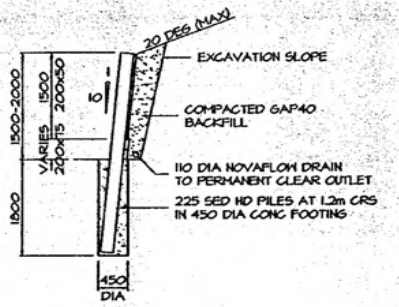
CLIENT: MS & MC DICKSON

PROJECT: PROPOSED SUBDIVISION
WHANGAREI HEADS RD, McLEODS BAY
SITE PLAN

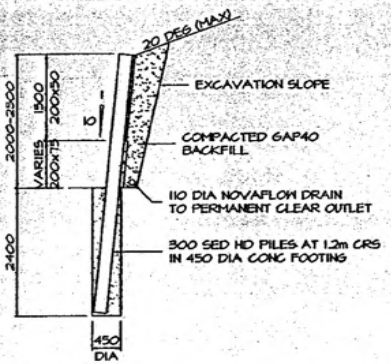
	K:\DWG\4230-01.DWG			THIS DRAWING WAS PRODUCED BY C.A.D. IT SHOULD NOT BE AMENDED MANUALLY AND MAY HAVE BEEN PHOTO-REDUCED.	ORIGINAL SIZE A1.
				DATE: AUGUST 2002	CLIENT No. 4030
				DRAWN: BL	
				SCALE: 1:750	
B1	ISSUED FOR CONSENT	RL	20.08.02	CHECK:	SHT 01 OF 02
No.	REVISION DETAILS	BY	DATE	APP'VD	Rev. B1



1.0 - 1.5m HIGH WALL



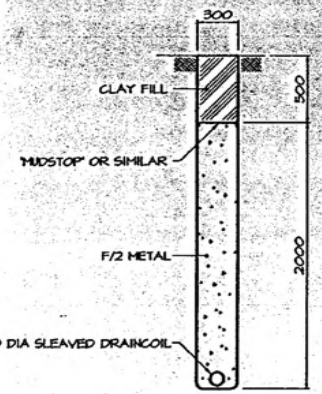
1.5 - 2.0m HIGH WALL



2.0 - 2.5m HIGH WALL

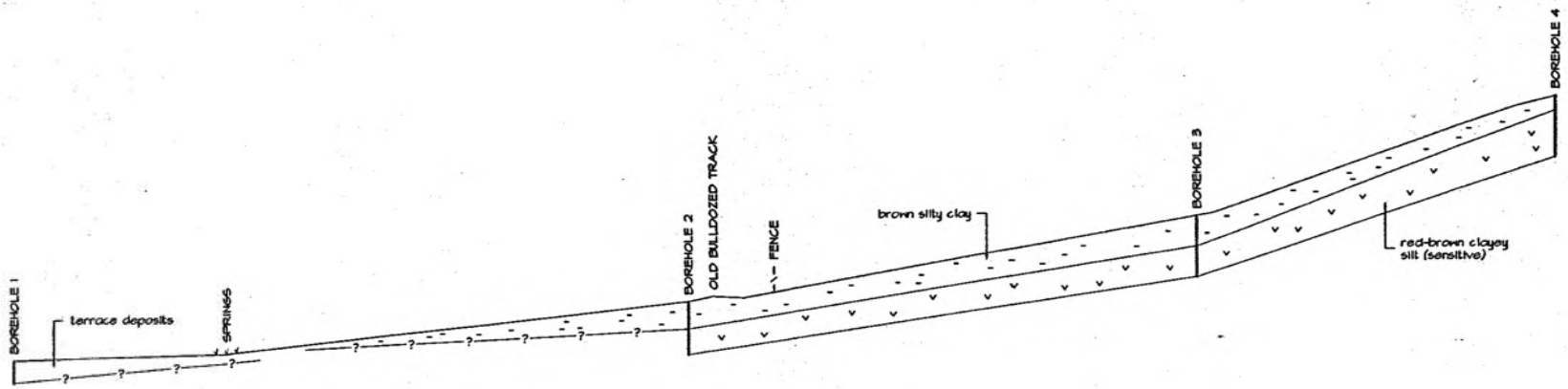
RETAINING WALL DETAILS N.T.S.

NOTE: RAILS TO BE CONTINUOUS OVER AT LEAST 2 POLES.



SUBSOIL DRAIN DETAIL 1:20

NOTE: MINIMUM FALL 1:50



SECTION A/01 1:250

A1 SIZE DWGS PHOTO-REDUCED TO A3 SIZE MAY BE SCALED AT HALF SHOWN SCALE.

HAWTHORN GEDDES
engineers and architects
7 SELWYN AVENUE, P.O. BOX 575, WHANGAREI
TELEPHONE (09) 438 7139, FAX (09) 430 0711
EMAIL: hg@hgcs.co.nz

CLIENT: NS & MC DICKSON

PROJECT: PROPOSED SUBDIVISION
WHANGAREI HEADS RD, McLEODS BAY
SITE PLAN & SUBSOIL DRAIN DETAIL

No.	REVISION DETAILS	BY	DATE
B1	ISSUED FOR CONSENT	RL	20.08.02

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THIS DRAWING WAS PRODUCED BY C.A.D. IT SHOULD NOT BE AMENDED MANUALLY AND MAY HAVE BEEN PHOTO-REDUCED.

ORIGINAL SIZE: A1.

DATE: AUGUST 2002
DRAWN: BL
SCALE: 1:750
CHECK'
APP'VD

CLIENT No. 4030

SHT 02 OF 02

Rev. B1

Hawthorn Geddes
engineers & architects ltd

Producer Statement
Design

Project Number: **4030**

Issued by **Peter Geddes**
(suitably qualified design professional)

To **Nigel Dickson**
(owner)

In respect of **Retaining Wall Design**
(description of building work)

At **Sunset Estate, McLeods Bay**
(address)

Part Lot 1 and 2 DP 127826 and Part Allotment 15

HAWTHORN GEDDES ENGINEERS & ARCHITECTS LTD has been engaged by **Nigel Dickson**
to provide **Design of retaining walls alongside proposed road access to the subdivision**
in respect of clause (s) **B1/VM4**
Of the Building Regulations 1992 for ☐ All ☑ Part only as specified of the building work
The design has been prepared in accordance with **NZS 3603,** (respectively) of the approved documents issued by the Building Authority and the work described on drawings:
titled **Proposed Subdivision N S & M L Dickson**
and numbered **4030 (Pages 1 & 2)**

And the specification and other documents according to which the building is proposed to be constructed.

As an independent design professional covered by a current policy of Professional Indemnity Insurance to a minimum value of $200 000, I BELIEVE ON REASONABLE GROUNDS that subject to:

(i) The verification of the following design assumptions:

and (ii) Unless specifically noticed, compliance of the drawings to Non Specific codes such as: NZS **3604** and NZS **4229** have not been checked by this practice

and (iii) This certificate does not cover stability or suitability of this site

And (iv) All proprietary products meeting the performance specification requirements,

The drawings, specification, and other documents according to which the building is proposed to be constructed comply with the relevant provisions of the building code.

Date **20 August 2002**

(signature suitably qualified Design Professional)

BE MIPENZ MACENZ Reg. Engineer **8464**

(Professional Qualifications) (Registration Number)

Member ACENZ ✔ IPENZ ✔

Extract only

Hawthorn Geddes
engineers & architects ltd

In reply please quote: 5095

23 September 2004

Original + 2 owner.
3 Copies R & B
27-9-04

Quadcon Properties Ltd
P O Box 10063
Te Rapa
~~AUCKLAND~~ Hamilton

Attention: David Beard

GEOTECHNCIAL REPORT
PREPARED FOR A PROPOSED SUBDIVISION
LOT 1 DP 192253 – MCLEODS BAY

Purpose

The purpose of this report is to address the stability of house sites and road access for second stage of a proposed subdivision.

This report should be read in conjunction with a previous report prepared by this firm, reference 4030 and dated 06 August 2002, which addresses stage 1,2 and 3 of a 5 stage subdivision for a previous client. The land has subsequently been sold to Quadcon Properties Ltd who have kept the same subdivision layout, but propose to develop it in two stages. Therefore, the first stage of the present proposal has been covered by the previous report.

Specific lots addressed in this report are Lots 1-15 and access to them. It should be noted that Lots 2, 3, 5, 14 and 15 were also covered by the previous report, but have also considered in this report, because of additional information gained from this investigation.

Proposal

The proposal is to construct access and install services to proposed Lots 1 – 14 on the above property (Lot 15 will get access and services off the main right of way). It is also proposed to place excess excavated material from earthworks elsewhere on the property as controlled fill on Lots 2, 3, 4, 5 and 6 as well as Lots 9 and 10. The extent or depth of fill has yet to be quantified and will depend on the volume of excess fill available.

The proposal is set out on the attached plan, based on a subdivision proposal designed by Reyburn & Bryant Ltd.

Existing Geotechnical Reports

We have reviewed a geotechnical report of the Whangarei Heads area prepared by Tonkin and Taylor Ltd, titled 'Land Slope Stability Hazard Zonation', reference 18517 and dated October 2001. That report classifies the

Hawthorn Geddes Engineers & Architects Ltd
7 Selwyn Avenue Whangarei
Telephone 09-438 7139 Fax 09-430 0711
PO Box 575 Whangarei
Email hg@hgcs.co.nz

steeper portions of this lot as a 'moderate' stability hazard and the flatter areas as a 'low' stability hazard. A copy of the relevant plan is attached.

Extent of our Involvement

This investigation has consisted of the following activities:

- Site inspection and the digging of pits using an excavator to examine subsurface conditions.
- A stereoscopic examination of aerial photographs taken in 1942.

Site Description

The western half of the property within this part of the subdivision is gently sloping. Lots 1, 7 and 8 border a steep bank to the south forming one side of a watercourse, which drains a significant catchment of very steep bush terrain to the east.

Lots 4 and 6 together with Lots 2, 3, 5 and 14 are located on land which is wet from springs and runoff from the existing accessway.

The eastern half of the property (Lots 9-15) is more steeply sloping. There is a spring located on Lot 14. Lot 11 is partly covered in trees and gorse compared with the other Lots, which are presently in pasture.

There is an old cowshed bordering Lots 8 and 9. Lots 9 and 10 are moderately steeply sloping (less than 20°), with the odd large volcanic boulder exposed on the surface.

Lot 15 is more steeply sloping (20 - 30°) and there are existing excavations on the lower slopes of this lot and the upper slopes of Lot 14.

Visual Stability Assessment (Lots 9-15)

The very steep slope on Lot 11 is a significant landslip headscarp. The headscarp has been planted in trees, however the top of it still active and some of the trees are planted on slip debris at the base of the headscarp. The slope below the trees is likely to be comprised of significant slope debris. It appears that there is a significant risk of these areas to remobilise in the future.

There is evidence of a shallow seated slip (less than 1.5m deep) on Lot 12 as well as minor surface creep movement. Tracks have been cut into the hillside on Lots 14 and 15, which have exacerbated the existing creep movement on both of these Lots.

The land surface shape of Lots 9 and 10 indicate possible previous erosion of colluvium in this area as there are a small number of large boulders on these two lots (in excess of 2m in diameter). Rushes were evident on the surface on

the lower, flatter slope, but there were no signs of land movement affecting an existing water tank on concrete piles and there was no obvious movement affecting existing fence lines across the southern or side boundaries of these lots. These fences appear to be at least 20 years old.

Old Aerial Photographs

Aerial photographs taken in 1942 were viewed stereoscopically. The cowshed and accessary buildings were clearly visible. There was no clear evidence of the slip on Lot 11, indicating that the slip has occurred since that time, but the shallow seated slip observed on Lot 12 was visible. The land was predominantly in pasture and erosion was clearly evident on steeper areas of the northern half of the subdivision. Two parallel drainage channels to drain the springs and runoff were located along the flat terraced area in the vicinity of Lots 2 and 4.

Subsoil Conditions

Ten pits were dug with an excavator to examine subsoil conditions. The approximate location of the pits is shown on the attached plans and borelogs are attached to this report.

Pits (1, 2 and 3) dug on Lot 11 contained volcanic debris with mudstone (Onerahi Chaos breccia or Northland Allochthon) found in pit 2 on the lower part of the slope. Mudstone was also found in pits 4, 5 and 6 in one area of Lots 9, 10 and 12 but no groundwater or weak layers was found associated with the interface. Groundwater was found in pits within the free draining volcanic gravels of pits 1 and 3.

Pits dug elsewhere on the flatter part of the property (Lots 1, 4, 6 7 and 8) produced significant depths of topsoil overlying stiff to very stiff alluvial clays.

Fill was detected in previous boreholes located in Lots 3 and 5 indicating that fill from the road formation borders the frontages of Lots 2, 3 and 5.

Pits 7 and 9 were dug to assess the depth of swampy ground at these locations. The topsoil was wet in both locations but groundwater inflow was only observed in borehole 9.

In summary, volcanic breccia was observed in pits and auger holes on the upper, steeper parts of the subdivision. Raised terrace deposits were found on the flatter areas and Northland Allochthon was found to exist under the edges of the volcanic debris and the terrace deposits. Groundwater was found to form springs at the interface between the volcanic soil and the terrace deposits.

Overall Conclusion

In overall conclusion, Lot 11 does not contain a suitable, stable building site, but in our opinion subject to the conclusions and recommendations contained in this report, stable building sites exist on all the other lots.

Specific Conclusions and Recommendations

Lots 1, 7, & 8

We found no engineering issues that are likely to affect these lots.

Foundation conditions are suitable for standard foundations designed to NZS 3604) with a minimum depth of 600mm below ground level.

Lots 2, 3,4,5 & 6

Lots 2, 3 and 5 will require subsoil drainage to reduce the groundwater levels in this area. It appears that the source of wet ground conditions is from a spring located on Lot 5 which may extend onto Lot 14, and the existing access. It appears likely that draining this spring (or springs) will remove the wetness that extends over Lots 2, 3, 4, 5, 6 and 14. If the ground is very soft, additional excavation may be necessary to remove soft soil and it may be difficult to utilise this soil elsewhere within the subdivision.

The placement of an undefined depth of controlled fill on these lots is likely to give rise to settlement. Subsoil drains are required to increase the rate of settlement as well as to tap the springs. A preliminary layout of the drains is shown on the attached plans. The extent of drains is likely to vary from this and an as-built drawing showing the location of them will be necessary, so that these can be included with consent notices on each title.

The time for settlement to cease is likely to vary depending on the depth of fill. It is recommended that settlement markers be placed in the fill on each property and that these are monitored at 3 monthly intervals for the first year and from there 6 monthly if required until settlement has ceased. An alternative is to build before settlement has ceased, but using foundations designed to allow for the downward drag on them by the fill, although a risk of settlement remains, affecting service connections and concrete paths and driveways for example.

The existence of old drains and associated fill cannot also be discounted on Lots 4 and 6 and the existence of these will need to be confirmed during construction. Soft soil conditions necessitate specific foundation design on Lots 4 and 6.

Lots 9 & 10

Although Onerahi Chaos Breccia was found on Lots 9, 10 (and 12), we found no evidence to suggest that this area is unstable either by the observation of physical features on the surface, or within the materials observed within the excavator pits.

The proposal to place fill on the lower slopes of Lots 9 and 10 will not compromise the stability of this area in our opinion, however, the fill will need to be adequately retained with a wall capable of tolerating some settlement such as a gabion rock wall or segmented block wall. Foundations will need to be clear of the fill or founded below it in the underlying mudstone.

It is recommended to retain the proposed fill on these properties and to locate buildings clear of the fill or founded on the underlying mudstone if building extends out onto filled ground.

These properties are best suited to houses built over basements that are constructed in excavated ground located on the upper slopes of each lot. A specific foundation design is required for any building on these lots. These sites will need to be developed with care to minimise the risk of future instability.

Lot 11

Significant land stability issues were found on Lot 11 that would make it very difficult and expensive to stabilise due to potential land slippage of the building site as well as potential inundation. We therefore conclude that there is no stable building site on this lot and therefore no building is recommended.

Lot 12

We observed a shallow landslip on Lot 12 which has slipped a small distance of around 10m downslope. The aerial photographs taken in 1942 confirmed that this slip occurred more than 60 years ago and that it has not remobilised since that time. It is our opinion that further shallow movement of this slope is only likely during extreme storm events. A building site located at the southwestern corner of this lot, provides sufficient separation from this steep slope should a slip occur and in our opinion is not subject to inundation in terms of section 106 of the Resource Management Act or section 36 (2) of the Building Act.

A specific foundation design is required because of the presence of low strength soil. This site will need to be developed with care to minimise the risk of future instability.

Lot 13

A specific foundation design is required because of the presence of low strength soil. Any excavation into the hillside at the rear of this lot will need to be adequately retained.

Lots 14 & 15

There is some surface creep movement on Lot 14 and 15 and previous tracks cut across the slope have exacerbated this movement. Lot 15 as well as the steeper slopes on Lot 14 are prone to shallow instability and will need to be carefully developed so that the stability of the property will not be compromised. For example Lot 15 is suited to excavated, retained basement construction with retaining walls to support the existing and any future steep excavations on the property even if they are shallow.

These properties are best suited to houses built over basements that are constructed in excavated ground located on the upper slopes of each lot. They will also need to be developed with care to minimise the risk of future instability. For example, all existing and future excavations will need to be adequately retained.

Roading Access

Road access construction is likely to encounter fill and weak strength subgrade during construction, due to saturated subgrade conditions. Subgrade strength improvement, such as lime stabilisation or geo-grids should be investigated to reduce the metal depth requirements. However, long-term subgrade strength is likely to improve due to subsoil drainage.

We do not recommend that the road access continues past Lot 9.

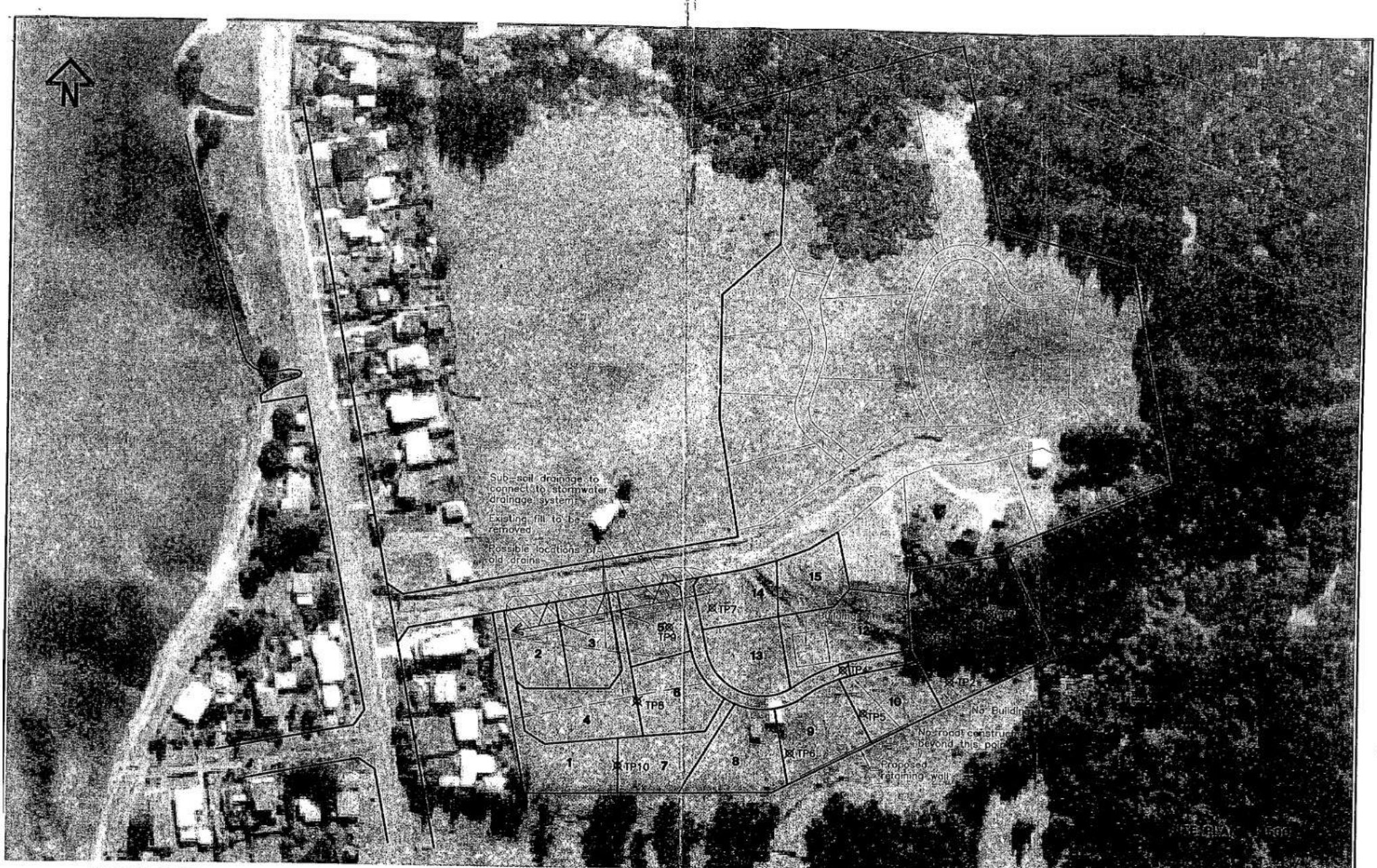
Limitation

This report has been prepared solely for the benefit of our client Quadcon Properties Ltd and the Whangarei District Council in relation to the resource consent application for which this report has been prepared. The comments in it are limited to the purpose stated in this report. No liability is accepted by Hawthorn Geddes Engineers & Architects Ltd in respect of its use by any other person, and any other person who relies upon any matter contained in this report does so entirely at their own risk.

Peter Geddes
Hawthorn Geddes
engineers & architects ltd

Letter Prepared By: Rostyn Lomax

Encl: Site Plan (1 pages x A3)
Borelogs (10 pages x A4)
Land slope stability hazard plan (1page x A3 Colour)



⊠TP Approximate location of test pits

NOTE:
Boundary locations shown are indicative only and may vary from actual positions due to distortion of aerial photograph

HAWTHORN GEDDES
engineers and architects
7 SELWYN AVENUE, P.O. BOX 575, WHANGAREI
TELEPHONE (09) 438 7139, FAX (09) 430 0711
EMAIL: hg@hgea.co.nz

CLIENT: QUADCON PROPERTIES LTD
PROJECT: GEOTECHNICAL INVESTIGATION & REPORT STAGE 2

SITE PLAN

No.	REVISION DETAILS	BY	DATE
R1	ISSUE WITH REPORT	RL	23/09/04

THIS DRAWING WAS PRODUCED BY C.A.D. IT SHOULD NOT BE AMENDED MANUALLY AND MAY HAVE BEEN PHOTO-REDUCED.

ORIGINAL SIZE: A3.

DATE: SEPT 2004
DRAWN: TKH
SCALE: 1:1500
CHECK:
APP'VD:

CLIENT No. 5095

SHT 1 OF 1

Rev. R1

200 0 1:5000 200 400 Metres

Note: This plan has been prepared by Tonkin & Taylor Ltd exclusively for and under contract to the Whangarei District council. Unless otherwise agreed in writing, all liability to T&T from any party other than the Whangarei District Council in respect to this plan is expressly excluded. This plan is based on geomorphological mapping, aerial photograph analysis, surface exposures of the underlying geology, published and unpublished geological information, WDC aerial photograph and contour data, and the Tonkin & Taylor Ltd database at a scale of 1:2000. It must be appreciated that the actual stability of the land may vary from that shown. This plan should therefore not be used as a substitute for site specific investigation.

Environmental & Engineering Consultants
NZ Ltd
Auckland Christchurch
Hamilton Wellington

DRAWN	CEW	10/01
DRAWING CHECKED	CEW	10/01
APPROVED	RMW	10/01
CAD FILE:	I:/19817/19817.dgn	
SCALES (AT A3 SIZE)	1:5000	
PROJECT No.	19817	
FIG. No.	Plan 17	

WHANGAREI DISTRICT COUNCIL

District Land Stability Assessment
Land Stability Zonation Plan

Extract only

Hawthorn Geddes
engineers & architects ltd

In reply please quote: 5095

21 July 2005

Quadcon Properties Ltd
PO Box 10063
Te Rapa
Hamilton

EARTHWORKS COMPLETION REPORT

Purpose

The purpose of this report is to provide supporting information for Whangarei District Council Form 'B' titled "Statement of professional opinion as to the suitability of land for building development."

This report is only applicable to Lots 2, 3, 4, 5 and 14, where controlled fill has been placed and forms part of a subdivision of Lot 1 DP 192253, McLeod Bay.

Extent of Earthworks

The extent and depth of earthworks is shown on the attached plan, prepared by Reyburn & Bryant, reference E9346, dated July 05 (no amendments). A subsoil drain was installed as shown on a separate, attached 'as built' plan by Reyburn and Bryant, reference A9346, sheet 3 of 9.

Extent of Our Involvement

We have inspected the site after fill and soft ground was removed prior to the placement of controlled fill.

Controlled earthfill was placed directly over stripped areas where the in-situ shear strength of the ground exceeded 100kPa. There were small areas where the in-situ strength was less than 100kPa. These areas were capped with approximately 400mm of compacted GAP40 gravel wrapped in geotextile cloth before controlled earth fill operations began.

Settlement

Settlement of fill in areas where the strength of the natural ground was high is expected to be small. On the areas where the subsoil strength was low, settlement is expected to be rapid because the sandy nature of the soil. Settlement markers have been placed in the fill and monitored to an accuracy of ±0.5mm. Results to date have been variable and indicate that the benchmarks are unreliable (movement has been upwards and downwards).

Earthfill Monitoring

The controlled earth fill operation was monitored using minimum shear strength and maximum air voids criteria of 100kPa minimum shear strength and maximum of 10% air voids. This criteria is suitable to ensure adequate strength and settlement characteristics within the fill for residential development.

The test results are attached to this report. Results show that the controlled earthfill is suitable for foundations.

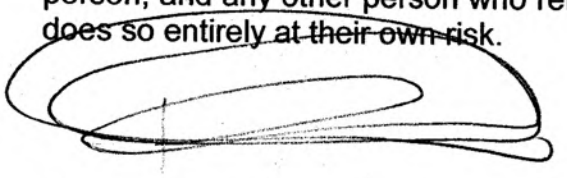
Conclusions

Based on our observations we conclude that:

- the area of controlled fill has been adequately stripped of unsuitable fill and any other unsuitable soil.
- the controlled fill has been compacted to a standard suitable for standard foundations with a minimum foundation depth of 600mm. <u>This does not include the area between the boundary of the property and the WDC yard setback distances from boundaries.</u>
- settlement monitoring to date is not conclusive as to whether or not settlement has ceased. Further monitoring will be necessary to determine when sites are ready to build on. Alternatively specific investigation and design of foundations to resist settlement can be designed if the sections are built on sooner.
- The integrity of the subsoil drain under these properties shall be maintained, so that construction of dwellings does not affect the efficiency of the drain.

Limitation

This report has been prepared solely for the benefit of our client Quadcon Properties Ltd and the Whangarei District Council in relation to the resource consent application for which this report has been prepared. The comments in it are limited to the purpose stated in this report. No liability is accepted by Hawthorn Geddes Engineers & Architects Ltd in respect of its use by any other person, and any other person who relies upon any matter contained in this report does so entirely at their own risk.



Peter Geddes
Hawthorn Geddes
engineers & architects ltd

Report prepared by Rostyn Lomax

Encl:
- WDC Form 'B' (A4 x 1 page).
- Reyburn & Bryant plan DP 323886 Sheet 1 of 3 (A3 x 1 page)
- Reyburn & Bryant plan titled 'Plan of depth and extent of fill' reference E9346 dated July 05 (A3 x 1 page)
- Controlled fill testing results (A4 x 2 pages).
- Reyburn and Bryant 'As Built' plan – 'stormwater' reference A9346 showing subsoil drainage layout (A1 x 1 page)

L.U./S.D. 98/038
P.I.D. 8508
R.C. 33996

FORM B

To: Whangarei District Council
Private Bag 9023
Whangarei

STATEMENT OF PROFESSIONAL OPINION AS TO SUITABILITY OF LAND FOR BUILDING DEVELOPMENT

Subdivision Sunset Heights (Lots 1-6, 14, 15, 18-31, 36-38) DP 323886

Owner Quadcon Properties Ltd

Location McLeod Bay

I Peter M L Geddes of **Hawthorn Geddes Engineers & Architects Ltd**
(Name and address of firm)

Hereby confirm that:

1. I am an Engineer experienced in the field of soils engineering and have been retained by the subdividing owner as the Soils Engineer on the above subdivision.

2. The extent of my inspections during construction, and the results of all tests carried out are described in my report dated 21st July 2005

3. In my professional opinion, not to be construed as a guarantee, I consider that:

   (a) The earth fills shown on Reyburn & Bryant Plan No. E 9346 dated July 05 have been placed in compliance with the Whangarei District Council Environmental Engineering Standards.

   (b) The completed works give due regard to land slope considerations.

   (c) The filled ground is suitable for the erection thereon of residential buildings not requiring specific design in terms of NZS 3604 and related documents providing that:

   (i) A statement from Hawthorn Geddes engineers & architects ltd has been given that settlement has ceased on Lots 2, 3, 4, 5 and 14, or alternatively foundation conditions are specifically investigated and designed to resist settlement on these lots.

   (ii) The integrity of the subsoil drainage on these properties shall be maintained, so that construction of dwellings shall not affect the efficiency of the drain. The subsoil drainage is shown on Reyburn & Bryant 'as-built' plan (reference A9346, sheet 3).

   (iii) Compliance with Hawthorn Geddes engineers & architects ltd report, reference 4030 and dated 6 August 2002, and a second report, reference 5095 and dated 23 September 2004, where appropriate.

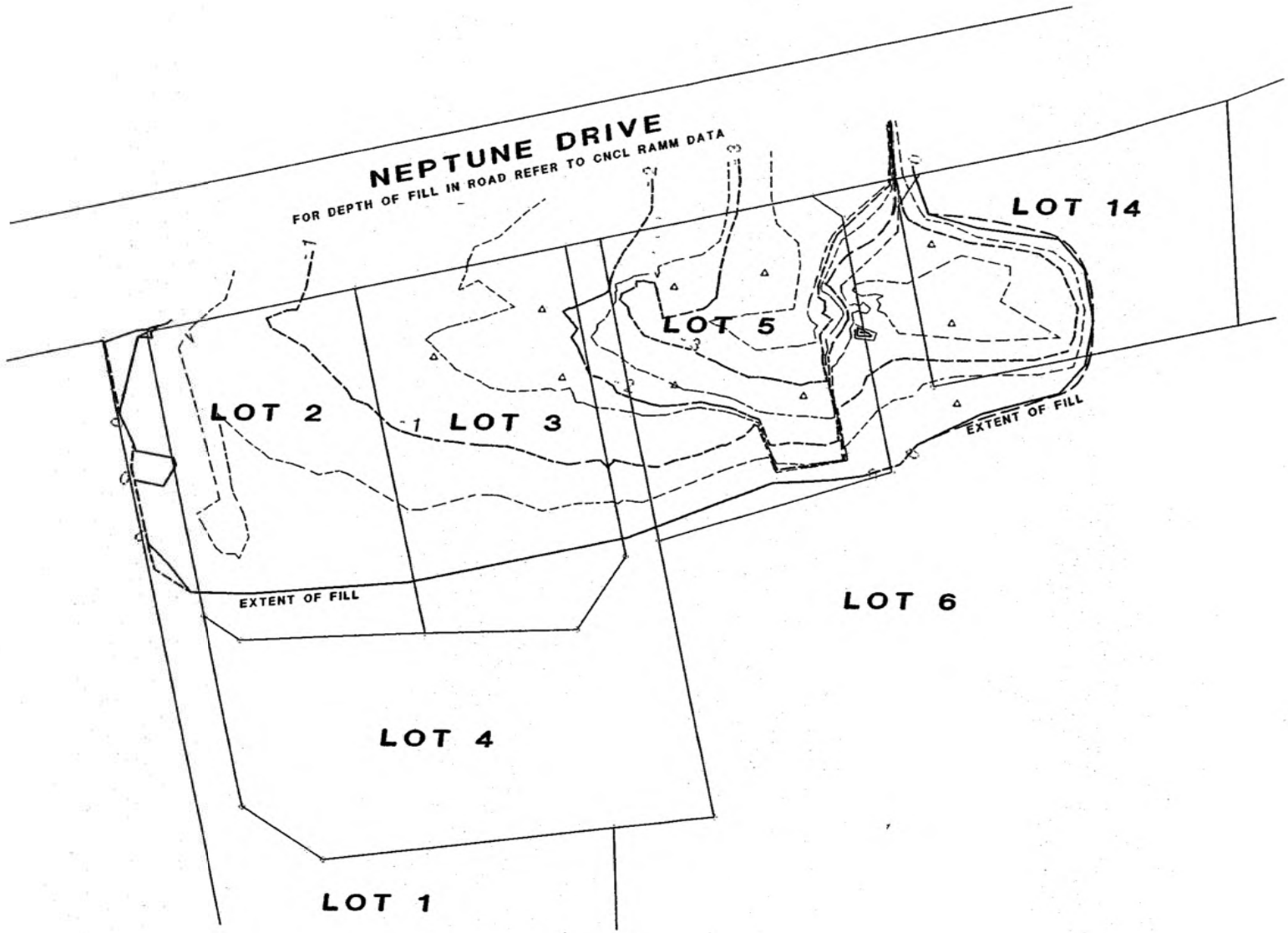
   (d) On Lots 1, 18-24, 28, 29, the original ground not affected by filling is suitable for the erection thereon of residential buildings not requiring specific design in terms of NZS 3604 and related documents providing that:

   (i) Compliance with condition c (iii) above.

   (e) On Lots 15, 25, 27, 30, 31, 36, compliance with Hawthorn Geddes engineers & architects ltd report, reference 4030 and dated 6 August 2002, in particular recommendation (e) with regard to steep sites on page 5.

4 This professional opinion is furnished to the Council and the subdividing owner for their purposes alone on the express condition that it will not be relied upon by any other person and does not remove the necessity for the normal inspection of foundation conditions at the time of erection of any dwelling.

Signed ..... Reg. No. ..... Date 1 8 05



△ DEPICTS MONITORING STATIONS

SCALE: 1 : 500

AMENDMENTS

PLAN OF DEPTH AND EXTENT OF FILL

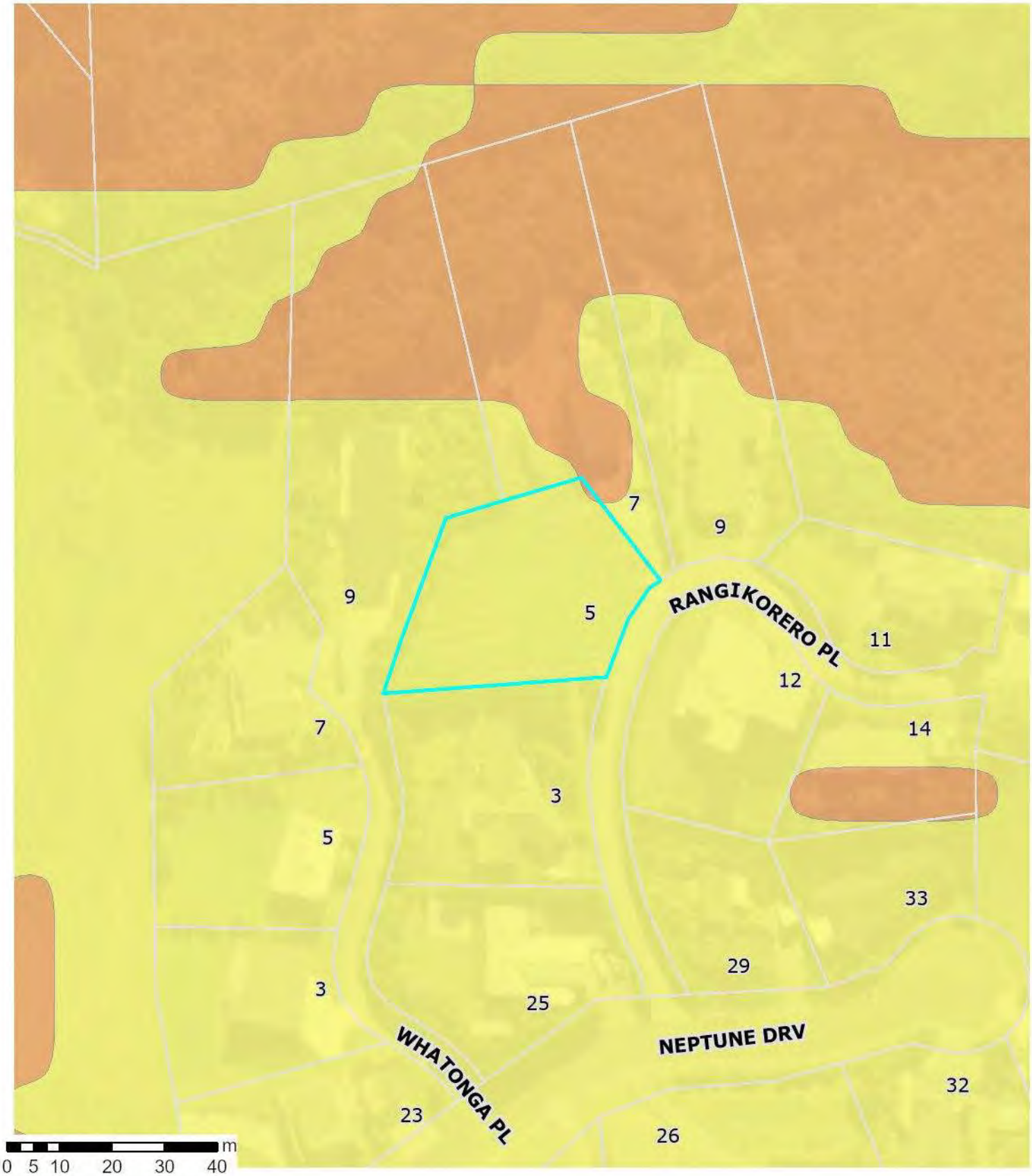
CLIENT:
QUADCON PROPERTIES LTD
PO BOX 10063
TERAPA HAMILTON

REYBURN & BRYANT
SURVEYORS, PLANNERS, RESOURCE MANAGERS
7 SELWYN AVENUE , WHANGAREI
P.O. BOX 191
PHONE 09 4383563 FAX 09 4380251

DATE: JULY 05

E9346

Land Instability



Landslide Susceptibility Zone

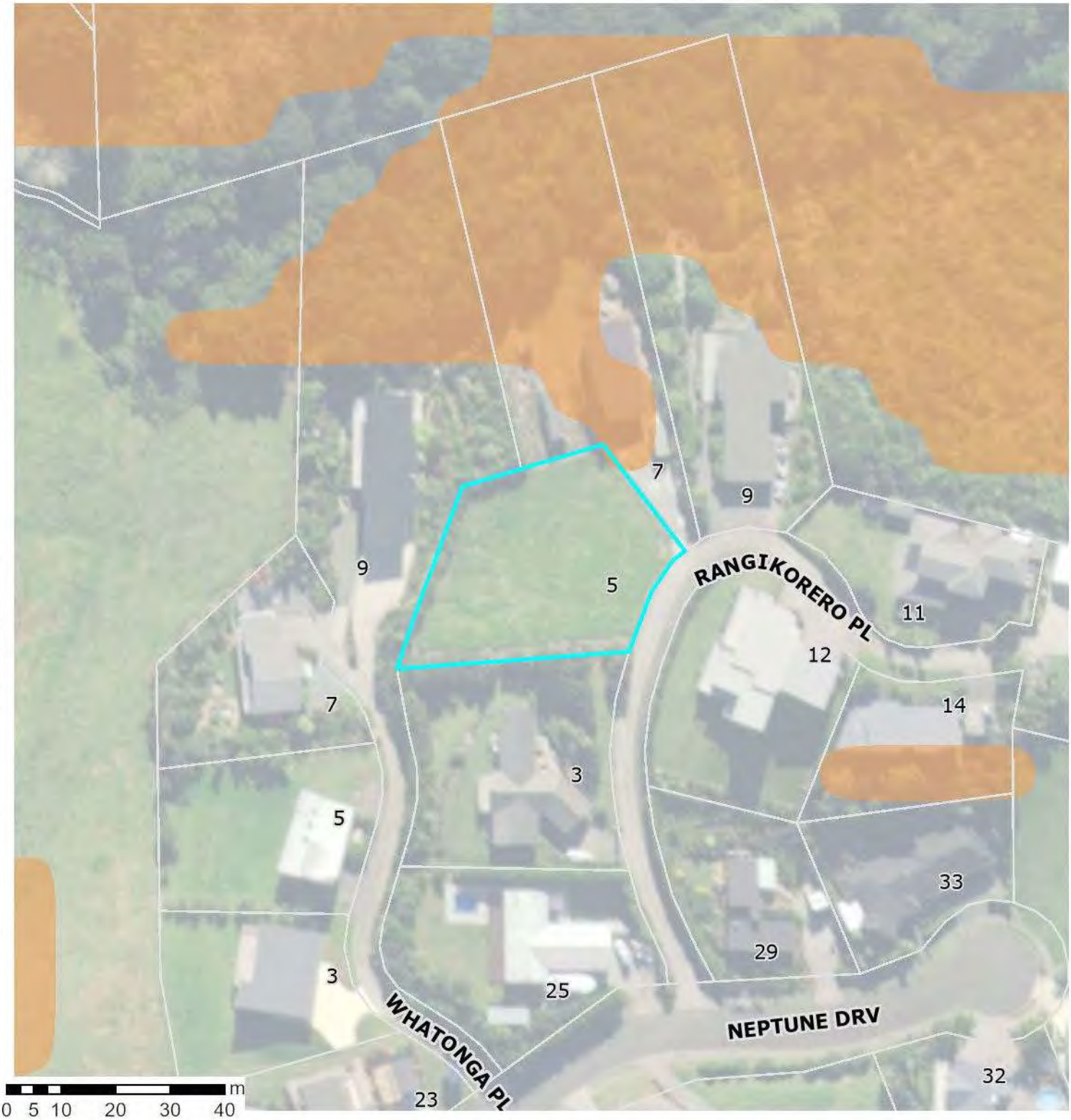
- High
- Moderate
- Low

28 August 2025

Scale 1:1,000

Whangārei District Council holds indicative information on land stability hazard for Whangārei. The Whangarei District Council may require site-specific investigations before granting future subdivision or building consent for the property, depending on the level of stability risk of the area the property is in. Tonkin + Taylor Ltd Landslide Susceptibility assessment report: https://www.wdc.govt.nz/files/assets/public/documents/council/reports/hazard-reports/land-stability/landslide-susceptibility-technical-report.pdf

District Plan Change 1 - Natural Hazards
Land Instability



PC1 - Natural Hazards
Land Instability

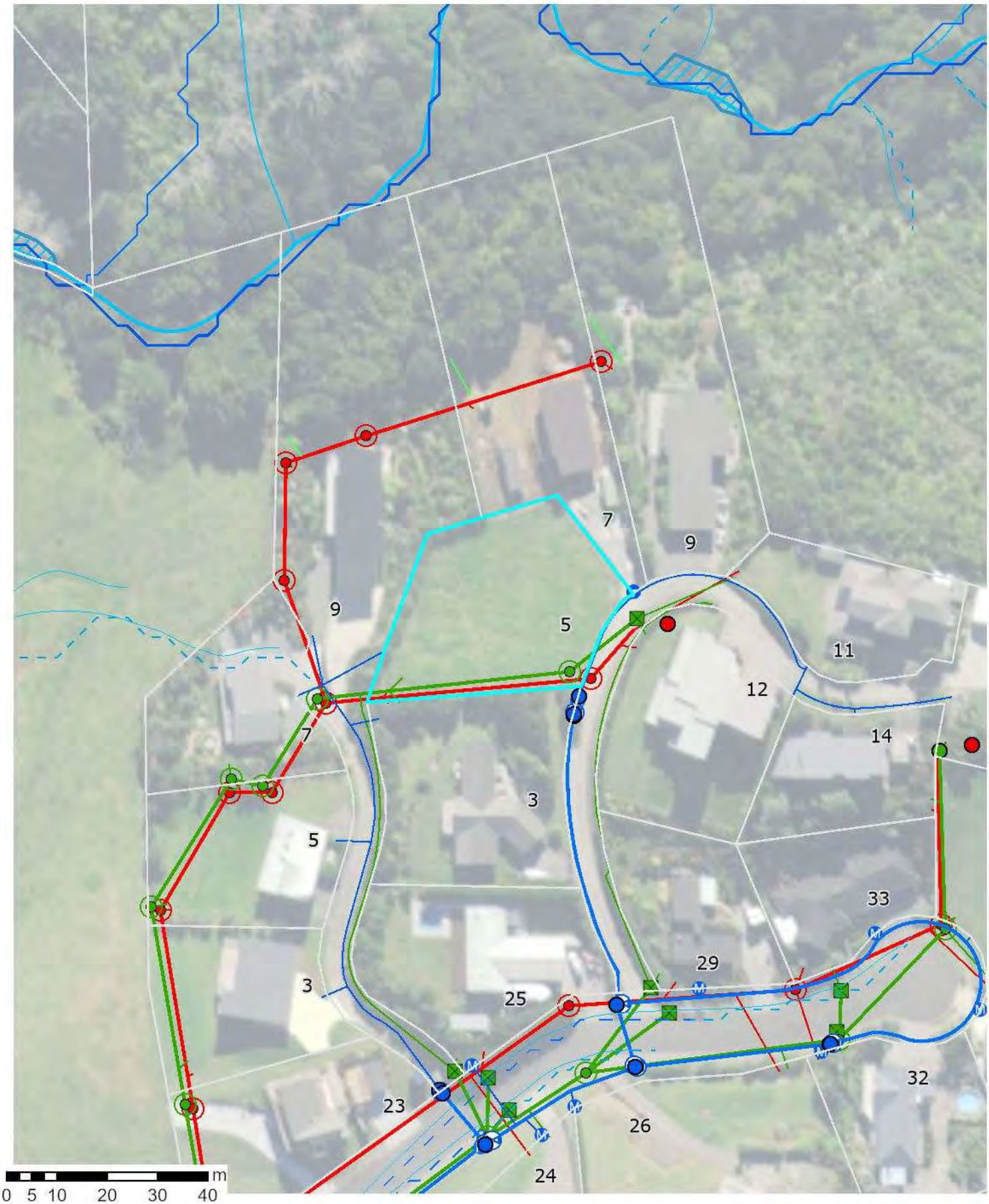
- High Susceptibility to Land Instability
- Moderate Susceptibility to Land Instability

28 August 2025
Scale 1:1,000

Information provided on this map forms part of Plan Change 1 – Natural Hazards.
To view the maps and see how the changes may affect the property please visit:
https://www.wdc.govt.nz/Services/Planning/District-Plan-changes/Current-plan-changes.

Water, Wastewater and Stormwater

Whangarei District Council



This information is generalized and shows the approximate location of the Public pipeline services.
For digging, the As-Built engineering drawings must be used to accurately locate the services.
See WDC Customer Services.

28 August 2025
Scale 1:1,000

Water, Wastewater and Stormwater – Map Legend

Whangarei District Council

Water

Water Point
- Actuator
  - WDC
  - Private
- Backflow Device
  - WDC
  - Private
- Bore
  - WDC
  - Private
- End Structure
  - WDC
  - Private
- Fitting Node
  - WDC
  - Private
- Hydrant
  - WDC
  - Private
- Meter
  - WDC
- Meter Manifold
  - WDC
  - Private
- Pump
  - WDC
  - Private
- Valve
  - WDC
  - RED
  - Private

Water Line
- Abandoned Pipe
- Trunk Main
  - WDC
  - Private
- Other Main
  - WDC
  - Private
- Process Pipework
  - WDC
  - Private
- Reticulation
  - WDC
  - Private
- Service Line
  - WDC
  - Private

Water Area
- Chamber
  - WDC
  - Private
- Reservoir
  - WDC
  - Private

Stormwater

Stormwater Point
- End Structure
  - WDC
  - Private
- Fitting Node
  - WDC
  - Private
- GPT
  - WDC
  - Private
- Manhole
  - WDC
  - Private
- Pump
  - WDC
  - Private
- Stormwater Inlet
  - WDC
  - Private
- Valve
  - WDC
  - Private

Stormwater Line
- Abandoned Pipe
- Culvert
  - WDC
  - Private
- Drainage
  - WDC
  - Private
- Main
  - WDC
  - Private
- Service Line
  - WDC
  - Private
- Surface Drain
  - WDC
  - Private

Stormwater Area
- Basin
  - WDC
  - Private
- Chamber
  - WDC
  - Private

Stormwater Catchment and Flood Management

Overland Flow Paths 2021
- Modelled Catchment Flowpaths 2021
  - 0.2 ha to 0.4 ha
  - 0.4 ha to 1.0 ha
  - 1.0 ha to 3.0 ha
  - 3.0 ha to 100.0 ha
  - 100.0 ha and above
- Surface Depression Ponding Areas 2021
  - 0.200000 - 0.600000 m
  - 0.600001 - 1.200000 m
  - 1.200001 - 2.000000 m
  - 2.000001 - 4.000000 m
  - 4.000001 - 9.910000 m

Overland Flow Paths 2017
- Catchment Area 2017
  - 0.2 - 1.0 Ha
  - 1.0 - 2.0 Ha
  - 2.0 - 5.0 Ha
  - > 5.0 Ha
- Depression Storage Areas 2017
  - Depression Storage Areas

Wastewater

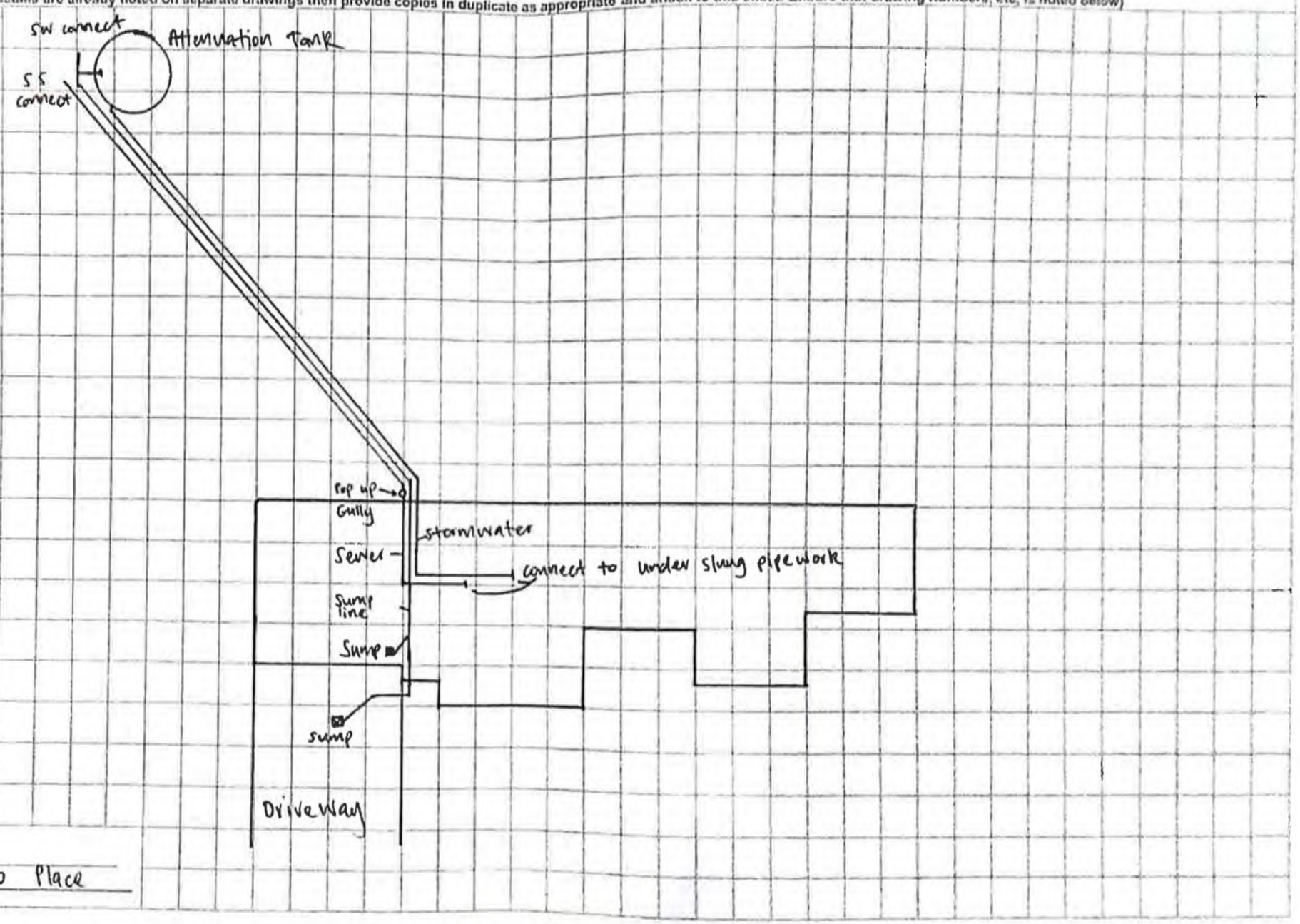
Wastewater Point
- Backflow Device
  - WDC
  - Private
- End Structure
  - WDC
  - Private
- Fitting Node
  - WDC
  - Private
- Manhole
  - WDC
  - Private
- Meter
  - WDC
  - Private
- Motor Control Centre
  - WDC
  - Private
- Pump
  - WDC
  - Private
- Valve
  - WDC
  - Private

Wastewater Line
- Abandoned Pipe
- Main
  - Rising Main (Pressure)
  - Sewer Gravity Main
  - Private
  - Other
- Process Pipework
  - WDC
  - Private
- Service Line
  - WDC
  - Private

Wastewater Area
- Chamber
  - WDC
  - Private
- Pressure Sewer System
  - Public
  - Private

PART C As-built services plan

(to be completed in all cases. If details are already noted on separate drawings then provide copies in duplicate as appropriate and attach to this sheet. Ensure that drawing numbers, etc, is noted below)



Scale NTS

Site address 5 Rangi Rovero Place

Whangarei District Council
Private Bag 9023, Te Mai
Whangarei 0143
Ph:0-9-430 4200
Email: mailroom@wdc.govt.nz

Rates LIM Report

As at: Thursday, 28 August, 2025

Property Number	116145
Legal Description	LOT 27 DP 323886
Assessment Number	0036075624
Address	5 Rangikorero Place (Pvt) Whangarei 0174
Record of Title(s)	96405
Land Value	$380,000
Capital Value	$380,000
Date of Valuation	01-July-2024
Effective Date (used for rating purposes)	01-July-2025
Meter Location	2nd LHM in chamber, LHS of drive to Whatonga Pl #5

Rates Breakdown (up to 30 June 2026)

Rates Charge	Charge Total
General Residential	$1,108.57
Stormwater	$79.00
Uniform Annual General Charge	$901.00
Regional Council Services	$229.89
Regional Economic Development	$11.55
Regional Emergency & Hazard Management	$67.31
Regional Flood Infrastructure	$41.66
Regional Land and Freshwater Management	$114.99
Regional Pest Management	$109.47
Regional Rescue Services	$8.87
Regional Sporting Facilities	$16.09
Regional Transport Rate	$30.40
Annual Charge Total	**$2,718.80**

Opening Balance as at 01/07/2025 $0.00

Rates Instalments	Total
20/07/2025 Instalment	$681.80
20/10/2025 Instalment	$679.00
20/01/2026 Instalment	$679.00
20/04/2026 Instalment	$679.00
Rates Total	**$2,718.80**

Balance to Clear $2,717.03

Form 5
Building Consent - BC2400419
Section 51, Building Act 2004

Rust Avenue, Whangarei
Private Bag 9023, Te Mai,
Whangarei 0143, New Zealand
P +64 9 430 4200
E mailroom@wdc.govt.nz
www.wdc.govt.nz/ContactUs

The Building

Street address of building:	5 Rangikorero Place Whangarei 0174
Legal description of land where building is located:	LOT 27 DP 323886
Building name:	N/A
Location of building within site/block number:	N/A
Level/unit number:	N/A

The Owner

Name of owner:	Gordon Robert Law and Heather Jane Law
Contact person:	N/A
Mailing address:	85 Kamo Road Kensington Whangarei 0112
Street address/registered office:	N/A
Phone number:	Landline: N/A Mobile: 0220731256
Daytime:	N/A
After hours:	N/A
Facsimile number:	N/A
Email address:	gordon.law@gmail.com
Website:	N/A

First point of contact for communications with the building consent authority:
Jason Misilei (Homeworld Design & Build Limited); Mailing Address: 401 Western Hills Drive
Woodhill
Whangarei 0110; Phone: 094383779; Email: jasonm@homeworld.co.nz

Building Work

The following building work is authorised by this building consent:
New Dwelling

This building consent is issued under section 51 of the Building Act 2004. This building consent does not relieve the owner of the building (or proposed building) of any duty or responsibility under any other Act

relating to or affecting the building (or proposed building). This building consent also does not permit the construction, alteration, demolition, or removal of the building (or proposed building) if that construction, alteration, demolition, or removal would be in breach of any other Act.

Conditions

This building consent is subject to the following conditions:

Section 90 - Inspections by Building Consent Authorities: (1) Every building consent is subject to the condition that agents authorised by the building consent authority for the purposes of this section are entitled, at all times during normal working hours or while building work is being done, to inspect-
(a) land on which building work is being or is proposed to be carried out; and
(b) building work that has been or is being carried out on or off the building site; and
(c) any building.

(2) The provisions (if any) that are endorsed on a building consent in relation to inspection during the carrying out of building work must be taken to include the provisions of this section.

(3) In this section, inspection means the taking of all reasonable steps to ensure that building work is being carried out in accordance with a building consent.

Construction monitoring requirements
Please contact the following consultants directly to arrange the construction monitoring identified which they have been engaged to carry out.

- RS Eng Ltd.:
  CM2 construction monitoring inspections required;
  Timber piles including retaining wall pre-pour, subfloor framing.
  NOTE: The required PS4 and Specialist documentation are in support of the required Council Inspections Specified on the Form 5.
  These do not negate the requirements for the Council Inspections but are additional to them.

Copies of all site reports/records must be provided to the Building Consent Authority as work proceeds for their records. Please upload these to the AlphaOne portal for this consent.

Inspections
The following inspections are required:

- Prepour
- Framing / Pre-wrap
- Preline Plumbing
- Post Line
- Retaining wall
- Sub-floor Framing
- Post Wrap / Cavity
- Preline Building
- Drainage
- Final

Documents Required

Prepour

- B1: Retaining wall - Construction monitoring records
- B1: Piles - Construction monitoring records

Framing / Pre-wrap

- B1: Truss certification

Preline Building

- G12: Pipework pressure test documentation

Drainage

- E1: Stormwater Drain As-built Plans
- G13: As-builts, drainlayer details, pipework test

Final

- WGANZ Statement Of Thermal Performance For The Exterior Glazing.
- PS4 For The Specific Engineer Design Work Completion.
- PS3 For The Glass Balustrade Installation.
- PS3 For The Stormwater Attenuation System Installation.
- F4: Compliance documentation
- G9: Energy works certificate
- G10 & G11: Energy works certificate

Compliance Schedule

A compliance schedule is not required for this building.

Attachments

Copies of the following documents are attached to this building consent:

Information page: Now you have your Building Consent

- Advice notes

- Form 4: Certificate attached to PIM

Signature: Murray McDonald
Position: Manager Building Control
On behalf of: Whangarei District Council
Issue Date: 14 June 2024

SITE NOTES

LEGAL DESCRIPTION
LOT 27, D.P. 323886
PHYSICAL ADDRESS
5 RANGIKORERO PLACE WHANGAREI HEADS, -, WHANGAREI, 0110

SITE AREA:	*1422m²*
DWELLING SIZE:	*174.86m²(194.06m² INCL. OUTDOOR AREA)*

SITE INFORMATION:	
WIND ZONE (TO NZS3604:2011):	*VERY HIGH*
ENVIRONMENT:	*SETTLEMENT ZONE - RESIDENTIAL*
OVERLAY/NOTABLE AREA:	*?*
EXPOSURE ZONE:	*D*
EARTHQUAKE ZONE:	*1*
INSTABILITY AREA:	*LOW/MODERATE*
FLOOD SUSCEPTIBLITY	*?*

SITE COVERAGE:	
DWELLING:	*174.86m²(194.06m² INCL. OUTDOOR AREA)*
DECKS:	*79.95m²*
BUILDING/SITE COVERAGE AREA:	*254.39m²*
TOTAL SITE COVERAGE:	*17.90%*

IMPERVIOUS AREAS:	
ROOF AREA:	*271.05m²*
PATHS/PATIOS :	*??m²*
DRIVEWAY:	*54.96m²*
TOTAL IMPERVIOUS AREA:	*316.65m²≈ 22.27%*

CONTOURS: CONTOUR LINES	*0.5m*

EXCAVATION REQUIRED:
(APPROX. COMPACTED VOLUME): APPROX CUT 0m³

WATER SUPPLY:
RETICULATED SITE - COUNCIL WATER CONNECTION POINT AS SHOWN ON SITE PLAN.

STORMWATER ATTENUATION:
ATTENUATION VIA 10,000LTR STORM WATER ATTENUTION TANK

RETICULATED WATER SUPPLY - EXISTING FIRE HYDRANT WITHIN 135m (BUT GREATER THAN 6.0m) OF DWELLING AS PER SECTION L4 SNZ PAS 4509:2008

SITE WORKS:

- *READ COOK COSTELLO GEOTECHNICAL REPORT FULLY PRIOR TO UNDERTAKING ANY SITE WORKS. ALL SITE WORKS TO COMPLY WITH RECOMMENDATIONS AND CONCLUSIONS WITHIN REPORT.*
- *CONTOUR LINES AND SERVICE CONNECTION LOCATIONS SHOWN INDICATIVE ONLY*
- *CONFIRM ALL SERVICE CONNECTION DEPTHS PRIOR TO COMMENCING ANY WORKS. ENSURE SUFFICIENT FALL FROM PROPOSED F.F.L. TO ALL CONNECTIONS.*
- *ALL RETAINING WALL DIMENSIONS SHOWN TO FINISHED WALL LINE ONLY. PROVIDE CUT MIN. 500mm BEHIND WALL TO ALLOW ROOM FOR WALL CONSTRUCTION.*

SEDIMENT CONTROL / MANAGEMENT:
- *PROVIDE SILT FENCE IF / WHERE REQUIRED TO PREVENT SEDIMENT RUN-OFF FROM LEAVING THE SITE.*
- *ACCESS / TURNING / WASHDOWN AREA TO BE METALLED PRIOR TO CONSTRUCTION.*

SITE FENCING
WHERE UNAUTHORISED ENTRY TO THE WORK SITE IS LIKELY, PROVIDE SITE FENCING AND / OR RESTRICT ACCESS IN ACCORDANCE WITH NZBC F5/AS1 SECTION 1.0 AND 1.1. 2.0m MIN. HIGH CHAINLINK FENCE WITH MAX. GRID SIZE OF 50x50mm AND POST SPACING AT MAX. 2.5m COMPLIES, PROVIDED THAT THE GAP BETWEEN GROUND AND THE BOTTOM OF THE FENCE IS NO GREATER THAN 100mm

PLUMBING & DRAINAGE NOTES:

1. *ALL SANITARY PLUMBING AND DRAINAGE WORK MUST COMPLY WITH NZ BUILDING CODE ACCEPTABLE SOLUTION NZ STANDARD - AS/NZS 3500 PART 2.2*
2. *ALL STORMWATER DRAINAGE WORK MUST COMPLY WITH NZ BUILDING CODE ACCEPTABLE SOLUTION E1/AS1.*

MINIMUM GRADIENT RATIO OF SANITARY DISCHARGE PIPES AND DRAINS:
1. AS/NZS 3500 PART 2 *DISCHARGE PIPES AND DRAINS.*
Ø65-1:40 FALL
Ø100-1:60 FALL

MINIMUM GRADIENT RATIO OF STORMWATER DRAINS: NZBC E1/AS1
Ø100 - 1:60

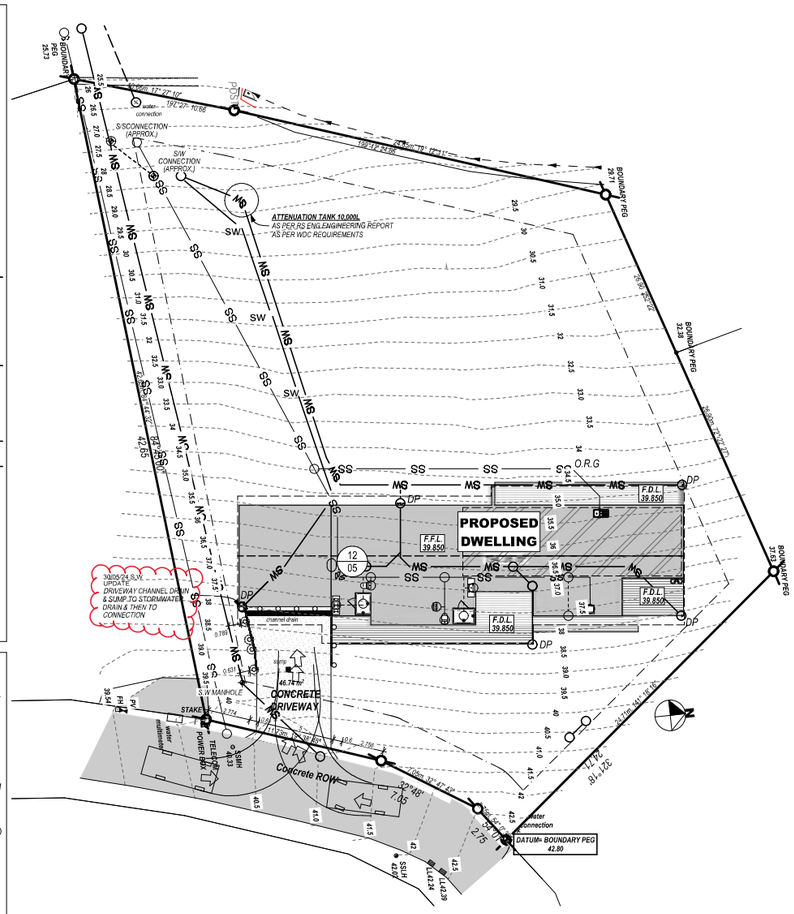
IMPORTANT:

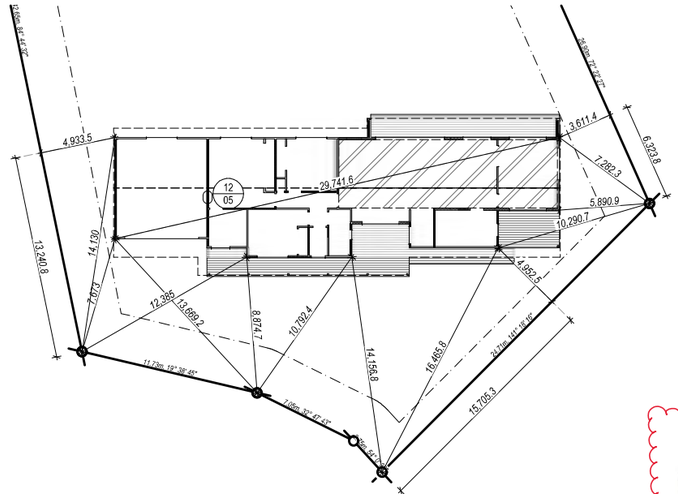
THIS SET OF DRAWINGS MUST BE READ IN CONJUNCTION WITH ATTACHED,

1) ENGINEERING CALCULATIONS/REPORTS.
2) MANUFACTURER'S LITERATURE.
3) SPECIFICATIONS.

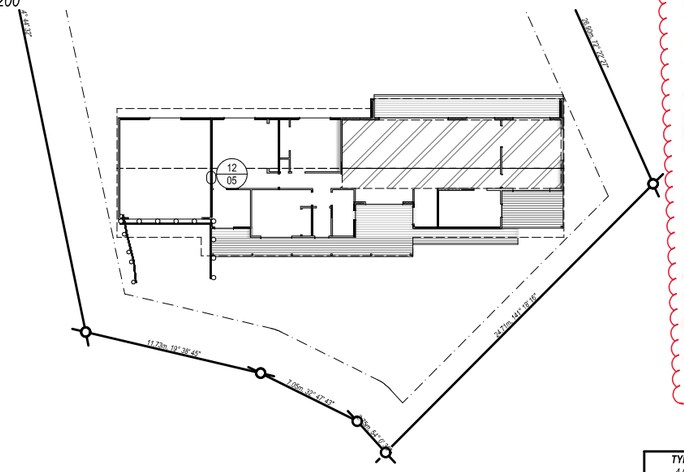
1. ALL CONSTRUCTION TO COMPLY WITH NZS 3604 2011 AND LOCAL TERRITORIAL AUTHORITY BYLAWS.
2. ALL INTERNAL DOOR SIZES SHOWN ARE FOR THE ACTUAL DOOR AND ARE NOT THE TRIM SIZE.
3. ALL DIMENSIONS & UNDERGROUND SERVICES TO BE CHECKED ON SITE BY CONTRACTORS BEFORE COMMENCEMENT OF ANY WORK.
4. CONTRACTOR TO ENSURE ALL GROUND LEVELS & HEIGHT RESTRICTIONS ARE CORRECT AND COMPLY WITH TERRITORIAL AUTHORITY BYLAWS THROUGHOUT CONSTRUCTION.
5. DO NOT SCALE FROM DRAWINGS & WORK FROM DIMENSIONS SHOWN.

SITE PLAN
1:200

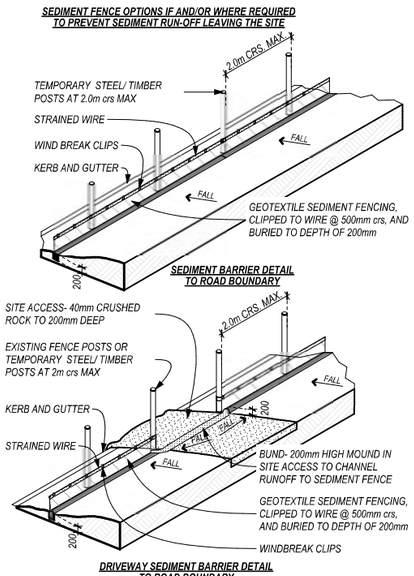




SITE SETOUT
1:200



EXCAVATION PLAN
1:200



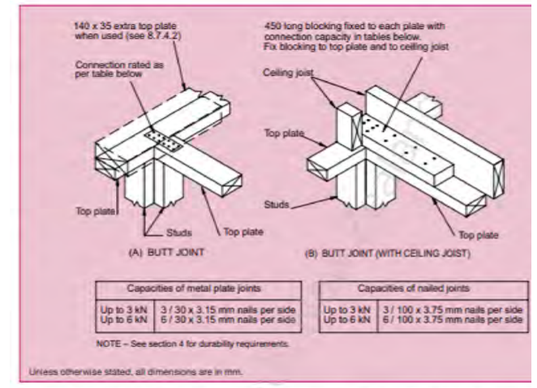
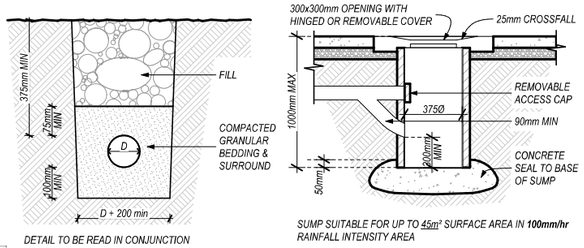


Figure 8.16 – Connecting top plates to external walls at right angles – Walls containing bracing (see 8.7.3.4)

WALL BRACING TO TOP PLATE DETAIL
1:1 — 05 / -

TYPE-ONE SURFACE WATER SUMP
AS PER E1/AS1 FIGURE 8 / PARAGRAPH 3.6.2



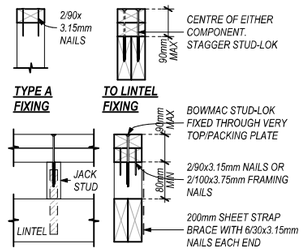
DETAIL TO BE READ IN CONJUNCTION WITH NZBC SECTION 3.9 E1/AS1

*SUMP SUITABLE FOR UP TO 45m² SURFACE AREA IN **100mm/hr** RAINFALL INTENSITY AREA*

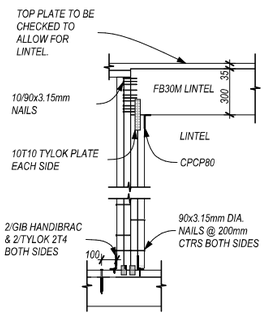
STORMWATER TRENCH DETAIL
1:10 — 07 / -

STORMWATER SUMP DETAIL
1:20 — 04 / -

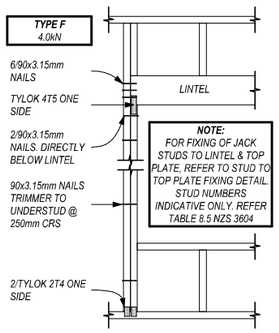
SILT FENCE DETAIL
1:100 — 03 / -

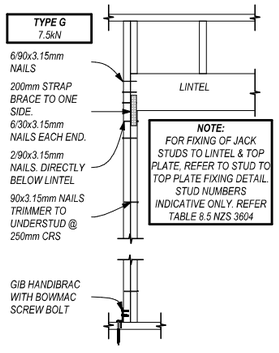


TOP PLATE FIXING DETAIL
1:10 — 02 / -



LIVING SLIDING DOOR FLITCH BEAM
1:20 — 01 / 01





LINTEL FIXING DETAIL
1:20 — 06 / -

SHEET INDEX

TYPICAL NOTES:

FLOORS
F01 (TYPICAL DWELLING)
KORINE ULTRALOCK 20mm PARTICLE BOARD FLOORING LAID ON H1.2 JOSTS. EXPOL UNDERFLOOR R2.4 EPS INSULATION LAID BETWEEN JOISTS.

F02 (DECK)
EX 100x25mm PINE DECKING SMOOTH, LAID ON H3.2 JOISTS @ CRS. SHOWN ON FLOOR FRAMING PLAN.

F03 (FLOOR WET AREAS)
BGC DURAFLOOR FIBRE CEMENT FLOORING LAID OVER H1.2 FLOOR JOISTS. EXPOL UNDERFLOOR R2.5 EPS INSULATION LAID BETWEEN JOISTS.

F04 (GARAGE)
WIRE MESH OVER 19mm H3.2 TREATED PLYWOOD FLOORING OVER H3.2 TREATED 140X45 NO.1 DECKING TIMBER LAID OVER H3.2 FLOOR JOISTS. EXPOL UNDERFLOOR R2.5 EPS INSULATION LAID BETWEEN JOISTS. PROVIDE CHICKEN MESH OVER PLYWOOD FOR ANTI SLIP SURFACE.

WALL CLADDINGS
W01 (PRIMARY CLADDING)
BGC DURAGROOVE SMOOTH EXTRA WIDE EXTERIOR CLADDING WITH PAINTED CORNER SOAKERS OVER H3.1 TIMBER CAVITY BATTENS ON THERMAKRAFT WATERGATE PLUS BUILDING UNDERLAY INSTALLED AS PER MANUFACTURERS SPECIFICATIONS OVER H1.2 STUDS.
W02 (SECONDARY CLADDING) BGC 175 NULINEPLUS WEATHER BOARD WITH PAINTED CORNER SOAKERS OVER H3.1 TIMBER CAVITY BATTENS ON THERMAKRAFT WATERGATE PLUS BUILDING UNDERLAY INSTALLED AS PER MANUFACTURERS SPECIFICATIONS OVER H1.2 STUDS.

W00 (INTERIOR LINING)
10mm GIB LINING STOPPED TO LEVEL 4. (10mm GIB AQUALINE TO WET AREAS WITH GLOSS OR SEMI-GLOSS FINISH)
NOTE: 12mm BD U/T PLYWOOD TO OUTDOOR LIVING AREA WITH PAINT FINISH
R2.6 WALL BATTS TO EXTERIOR WALLS (EXCLUDING GARAGE).

ROOFS
R01 (PRIMARY CLADDING)
COLORSTEEL MAXX TRIMLINE ROOFING
OVER THERMAKRAFT COVERTEK 401 ROOFING UNDERLAY ON ON H1.2 SG8 PURLINS
ON H1.2 SG8 TILE BATTENS OVER THERMAKRAFT COVERTEK 401 ROOFING UNDERLAY

R03 (GUTTER/FASCIA)
COLORCOTE CONTINUOUS CUBE 125 GUTTER ON CONTINUOUS 180 R5 COLORCOTE FASCIA, WITH Ø80 MARLEY uPVC ROUND DOWNPIPES (PAINTED).

CEILINGS
C01 (CEILING LINING)
13mm GIB LINING FIXED TO UNDERSIDE OF BARRACUDA STEEL BATTENS @ 600CRS MAX. STOPPED TO LEVEL 4 (13mm GIB AQUALINE TO WET AREAS WITH GLOSS OR SEMI-GLOSS FINISH)
NOTE: 12mm BD U/T GROOVED PLYWOOD CEILING TO KITCHEN/DINING/LIVING AREA. 12mm BD U/T PLYWOOD TO OUTDOOR LIVING AREA. USE 70x35mm h1.2 TREATED TIMBER BATTENS @ 600mm CTRS TO PLYWOOD LINED CEILING AREAS. R7.0 BLANKET INSULATION ON CEILING BATTENS BETWEEN TRUSS BOTTOM CHORDS
- *C02 (SOFFIT)*

4.5mm BGC SOFFIT LINING DIRECT FIXED TO UNDERSIDE OF SOFFIT FRAMING

JOINERY
- *J01 (JOINERY)*

DOUBLE GLAZED LOW E GLASS THERMAC DECEUNINCK uPVC JOINERY.

TIMBER TREATMENT:
TREATMENT LEVELS TO COMPLY WITH NZBC CLAUSE B2/AS1 DURABILITY, NZS3602. TIMBER AND WOOD BASED PRODUCTS FOR USE IN BUILDING AND NZS3640 CHEMICAL PRESERVATION OF ROUND AND SAWN TIMBER.
H1.2*-ALL WALL FRAMING AND ASSOCIATED MEMBERS ROOF FRAMING, TRUSSES AND CEILING JOISTS ENCLOSED FRAMING WITHIN SKILLION / FLAT ROOFS*
H3.1*-CLADDING CAVITY BATTENS*

DURABILITY
DURABILITY OF STRUCTURAL FIXINGS FOR ZONE D FIXINGS ARE TO COMPLY WITH NZBC B2 DURABILITY AND NZS3604:2011 SECTION 4 - DURABILITY.
ALL STRUCTURAL FIXINGS ARE TO BE TYPE 304 OR 316 STAINLESS STEEL.

FLASHING AND WRAP SYSTEMS
ALL FLASHINGS, FLASHING TAPES, WRAPS, UNDERLAYS AND ASSOCIATED ACCESSORIES ARE TO BE INSTALLED STRICTLY IN ACCORDANCE WITH THE MANUFACTURERS SPECIFICATIONS.

NOTE *ALL BOLTS SHALL HAVE 50SQ X 3MM WASHERS TO TIMBER FACES.*

-	--/--/----	-	-
REV.	DATE	DESCRIPTION	DRAWN

ONLY COUNCIL STAMPED PLANS TO BE USED FOR CONSTRUCTION
IF ANY DOUBT OVER BUILDING WORK CONSULT WITH DESIGNER.
DO NOT SCALE OFF PLANS.

homeworld design & build
401 WESTERN HILLS DRIVE
PO BOX 391, WHANGAREI
WWW.HOMEWORLD.CO.NZ
PH: (09) 438 3779
0800 86 89 86

LAW RESIDENCE
5 RANGIKORERO PLACE, -, WHANGAREI, 0110
GPS - -35.812961"S 174.507312"E

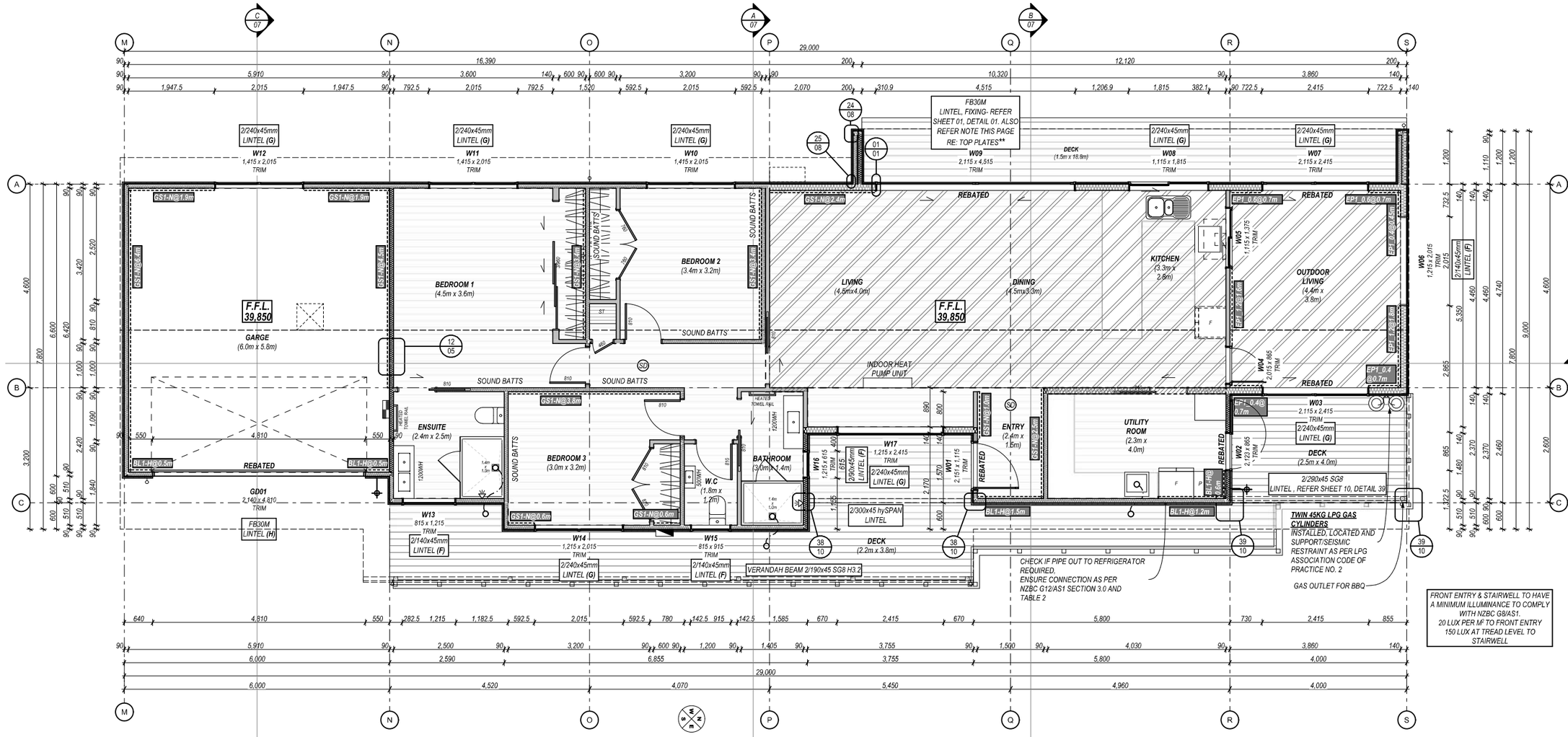
SITE PLAN

BC SET

DATE:	13/05/2024
REVISION:	-
SHEET SIZE:	A1
JOB NO:	5139FR JOB NUMBER
DRAWN:	--
PAGE:	01 OF 011

LAW - DR01- 270324 (1).pln

BC2400419
APPROVED
12/06/2024
WHANGAREI DISTRICT COUNCIL BCA



FLOOR PLAN

1:50

FLOOR PLAN NOTES

FLOOR AREA/FOOTPRINT

FLOOR AREA:	*135.26m²(174.86m² INCLUDING GARAGE)*
GARAGE AREA:	*39.6m²*
TOTAL FLOOR AREA:	***174.86m²(194.06m² INCL. OUTDOOR AREA)***

WET AREAS WATERPROOFING SYSTEM OPTIONS.
ALL DETAILS TO COMPLY WITH NZBC E3 INTERNAL MOISTURE AND MANUFACTURER'S PRODUCT DETAILS. PROVIDE AN IMPERVIOUS AND EASILY CLEANABLE SURFACE TO ALL WALL AREAS LIKELY TO BE SPLASHED. USE GIB AQUALINE ON WET AREA WALLS AND CEILINGS.

INTERNAL WET AREAS:
ALL TIMBER TO WALLS IN WET AREAS TO BE LINED WITH 10mm GIB AQUALINE

SHOWER ENCLOSURE'S SHALL BE CONTINIOUS FROM FLOOR LEVEL OR TOP OF UPSTAND TO MIN. 1800mm ABOVE FLOOR LEVEL AND NOT LESS THAN 300mm ABOVE THE SHOWER ROSE

CONFIRM THE LOCATION OF THE FOLLOWING WITH OWNER PRIOR TO INSTALLATION:
- *CEILING HATCH/ACCESS - CHECK HEAD HEIGHT FOR ACCESS*
- *FLOOR COVERINGS - CONFIRM LOCATION, EXTENT AND DIRECTION OF FLOOR COVERINGS SHOWN*
- *METER BOX & DISTRIBUTION BOARD*
- *EXTERIOR TAPS*

INTERIOR DOORS
TYPICAL DOORS:
1980mm PAINT QUALITY HOLLOW CORE DOORS WITH 18mm PAINT QUALITY DOOR JAMBS AND SCHLAGE ELEMENT SERIES DOOR HANDLES UNLESS STATED OTHERWISE
CUPBOARD SLIDERS
PROVIDE 2,050mm TRIMMER HEIGHT TO ALLOW SELECTED SLIDER HARDWARE. PACK DOWN TO SUIT IF REQUIRED

INSULATION
CEILING INSULATION: R7.0 BLANKET INSULATION ON CEILING BATTENS BETWEEN TRUSS BOTTOM CHORDS
WALL INSULATION: R2.6 WALL BATTS TO EXTERIOR WALLS (EXCLUDING GARAGE).
SUBFLOOR INSULATION: EXPOL UNDERFLOOR R2.5 EPS INSULATION LAID BETWEEN FLOOR JOISTS

KITCHEN LAYOUT SHOWN INDICATIVE ONLY.
CONFIRM LAYOUT WITH KITCHEN MANUFACTURER AND CLIENT PRIOR TO PLUMBING FITOUT

FLOOR FINISHES
HATCHING SHOWN INDICATING FLOORING FINISH INDICATIVE ONLY. CONFIRM LOCATION AND EXTENT WITH OWNER

VANITIES
PIPE ALL VANITIES FOR WALL-HUNG

STAIRS/STEPS:
ALL STAIRS TO BE AS PER MAIN PRIVATE TO NZBC D1 FIG. 11
MAX. RISE: 190mm (ENSURE RISES ARE OF EQUAL HEIGHT)
MIN. TREAD: 255mm + 25mm PROJECTION (280mm TREAD)
ENSURE MIN. 1/HANDRAIL 900mm ABOVE PITCH LINE FOR ANY STAIR WITH 3 OR MORE STEPS

ACCESS (DECKING)
APPLY NON-SKID PAINT OR SUITABILE ALTERNATIVE TO ACCESS DECKING IN ACCORDANCE WITH SECTION 2 / TABLE 2 NZBC D1.

VERANDAH BEAMS
WHERE VERANDAH BEAMS CONNECT TO WALL FRAMING, ENSURE BEAM EXTENDS 4 STUDS MIN. (180mm) INTO THE WALL TO ALLOW LUMBERLOK LINTEL FIXING BEYOND THE ADJOINING WALL

SOUND INSULATION
NOTE: PROVIDE SOUND BATT INSULATION TO ALL BEDROOMS, REFER TO SPECIFICATION & FLOOR PLAN

BRACING / LINTEL / FRAMING NOTES

STUD SIZES: *(UNLESS NOTED ON THE PLAN)*

EXTERIOR WALLS: (TO VERY HIGH WIND ZONE)
*UP TO 2.4 STUD - 90 x 45mm H1.2 SG8 STUDS @ **400mm** CRS.*
*UP TO 3.6 STUD - 140x45mm H1.2 SG8 STUDS @ **400mm** CRS*
NOGS: ALL NOGS @ 800mm MAX. CRS.

REFER ELEVATIONS & DETAILS FOR CLADDING JUNCTION REQUIREMENTS

INTERIOR WALLS:
*UP TO 3.0 STUD - 90 x 45mm H1.2 SG8 STUDS @ **600mm** CRS.*
ALL NOGS @ 800mm MAX. CRS.

LINTEL FRAMING/FIXING:
2??x??mm LINTEL (?) — *ALL LINTELS TO BE H1.2 SG8 UNLESS STATED OTHERWISE. FIX LINTELS AS DETAILED BY 'LUMBERLOK' LINTEL FIXING DETAILS ON THIS SHEET AS REFERENCED FROM BRACING/LINTEL PLAN.* ***ALLOW TO PACK OUT ALL LINTELS TO SUIT 140mm STUDS***

BRACING:
INSTALL & FIX ALL BRACING IN ACCORDANCE WITH 'GIB EZYBRACE SYSTEMS' SPECIFICATION AND INSTALLATION MANUAL AUG 2016
BOTTOM PLATE TO BE FIXED TO STUDS FOR BRACING ELEMENTS IN ACCORDANCE WITH GIB BRACING MANUAL.

TOP PLATES:
*TOP PLATE FIXINGS TO BE **TYPE 'B'** TO ALL EXTERIOR WALLS AND LOAD BEARING INTERIOR WALLS, AS PER DETAIL ON SHEET 01.*
*INTERIOR NON-LOAD BEARING WALLS TO BE **TYPE "A"** FIXING WITH 2/90 x 3.15 DIA. PLAIN STEEL WIRE NAILS DRIVEN VERTICALLY INTO STUD.*

KEY:

WDB.	WARDROBE SHELVES (1/SHELF WITH RAIL)
LIN.	LINEN CUPBOARD 5 FULL DEPTH SHELVES
ST.	STORAGE CUPBOARD - SINGLE SHELF
	'THE HATCH' 635x535mm CEILING ACCESS**
	VINYL FLOORING ** THROUGHOUT HOUSE(SPC) 30/05/24 FLOORING NOTE ADDED
	TIMBER DECKING
	EXTERIOR WATER TAP. CONFIRM LOCATION WITH OWNER PRIOR TO COMMENCING CONSTRUCTION
SM	POWER METER BOX **
	POWER DISTRIBUTION BOARD **
	SMOKE ALARM - TO COMPLY WITH NZBC F7 POINT
	LOAD SUPPORTING ROOF STRUCTURE
	HATCH INDICATES LOCATION OF INTERIOR LOAD BEARING WALL
	MECHANICAL EXTRACT VENTED TO SOFFIT

** CONFIRM LOCATION WITH OWNER PRIOR TO INSTALLATION

NOTE: LIVING ROOM LINTEL & TOP PLATE/TOP PLATE PACKER.
MITEK GUIDELINES STATE: USE A CONTINUOUS LVL VERY TOP PLATE OR CEILING PACKER WHERE POSSIBLE. PLEASE NOTE MAX. STOCK LENGTH OF SG TIMBER IS 6M AND LVL IS 7.2M; LONGER LVL [UP TO 13M] IS ONLY AVAILABLE BY SPECIAL ORDER.
WHERE THE USE OF AN LVL CONTINUOUS TOP PLATE OR CEILING PACKER IS NOT SUITABLE CARRY OUT THE FOLLOWING.
- *STAGGER JOINTS OF TOP PLATES AND STRENGTHEN WITH NAILON PLATE 320X150X2MM OR A PAIR OF FLOOR JOIST STIFFENER [FJS] FOR 140MM MEMBER AND RAFTER SPLICE 2MM X 80 X 400MM FOR 90MM MEMBER.*

TYPICAL NOTES:

FLOORS
F01 (TYPICAL DWELLING)
KOPINE ULTRALOCK 20mm PARTICLE BOARD FLOORING LAID ON H1.2 JOSTS. EXPOL UNDERFLOOR R2.5 EPS INSULATION LAID BETWEEN JOISTS.

F02 (DECK)
EX 100x25mm PINE DECKING SMOOTH, LAID ON H3.2 JOISTS @ CRS. SHOWN ON FLOOR FRAMING PLAN.

F03 (FLOOR WET AREAS)
BGC DURAFLOOR FIBRE CEMENT FLOORING LAID OVER H1.2 FLOOR JOISTS. EXPOL UNDERFLOOR R2.5 EPS INSULATION LAID BETWEEN JOISTS.

F04 (GARAGE)
WIRE MESH OVER 19mm H3.2 TREATED PLYWOOD FLOORING OVER H3.2 TREATED 140X45 NO.1 DECKING TIMBER LAID OVER H3.2 FLOOR JOISTS. EXPOL UNDERFLOOR R2.5 EPS INSULATION LAID BETWEEN JOISTS. PROVIDE CHICKEN MESH OVER PLYWOOD FOR ANTI SLIP SURFACE.

WALL CLADDINGS
W01 (PRIMARY CLADDING)
BGC DURAGROOVE SMOOTH EXTRA WIDE EXTERIOR CLADDING WITH PAINTED CORNER SOAKERS OVER H3.1 TIMBER CAVITY BATTENS ON THERMAKRAFT WATERGATE PLUS BUILDING UNDERLAY INSTALLED AS PER MANUFACTURERS SPECIFICATIONS OVER H1.2 STUDS.
W02 (SECONDARY CLADDING) BGC 175 NULINEPLUS WEATHER BOARD WITH PAINTED CORNER SOAKERS OVER H3.1 TIMBER CAVITY BATTENS ON THERMAKRAFT WATERGATE PLUS BUILDING UNDERLAY INSTALLED AS PER MANUFACTURERS SPECIFICATIONS OVER H1.2 STUDS.

W00 (INTERIOR LINING)
10mm GIB LINING STOPPED TO LEVEL 4. (10mm GIB AQUALINE TO WET AREAS WITH GLOSS OR SEMI-GLOSS FINISH)
NOTE: 12mm BD U/T PLYWOOD TO OUTDOOR LIVING AREA WITH PAINT FINISH
R2.6 WALL BATTS TO EXTERIOR WALLS (EXCLUDING GARAGE).

ROOFS
R01 (PRIMARY CLADDING)
COLORSTEEL MAXX TRIMLINE ROOFING OVER THERMAKRAFT COVERTEK 401 ROOFING UNDERLAY ON ON H1.2 SG8 PURLINS
ON H1.2 SG8 TILE BATTENS OVER THERMAKRAFT COVERTEK 401 ROOFING UNDERLAY

R03 (GUTTER/FASCIA)
COLORCOTE CONTINUOUS CUBE 125 GUTTER ON CONTINUOUS 180 R5 COLORCOTE FASCIA, WITH Ø80 MARLEY uPVC ROUND DOWNPIPES (PAINTED).

CEILINGS
C01 (CEILING LINING)
13mm GIB LINING FIXED TO UNDERSIDE OF BARRACUDA STEEL BATTENS @ 600CRS MAX. STOPPED TO LEVEL 4 (13mm GIB AQUALINE TO WET AREAS WITH GLOSS OR SEMI-GLOSS FINISH)
NOTE: 12mm BD U/T GROOVED PLYWOOD CEILING TO KITCHEN/DINING/LIVING AREA. 12mm BD U/T PLYWOOD TO OUTDOOR LIVING AREA. USE 70x35mm h1.2 TREATED TIMBER BATTENS @ 600mm CTRS TO PLYWOOD LINED CEILING AREAS.
R7.0 BLANKET INSULATION ON CEILING BATTENS BETWEEN TRUSS BOTTOM CHORDS
- *C02 (SOFFIT)*

4.5mm BGC SOFFIT LINING DIRECT FIXED TO UNDERSIDE OF SOFFIT FRAMING

JOINERY
- *J01 (JOINERY)*

DOUBLE GLAZED LOW E GLASS THERMAC DECEUNINCK uPVC JOINERY.

TIMBER TREATMENT:
TREATMENT LEVELS TO COMPLY WITH NZBC CLAUSE B2/AS1 DURABILITY, NZS3602. TIMBER AND WOOD BASED PRODUCTS FOR USE IN BUILDING AND NZS3640 CHEMICAL PRESERVATION OF ROUND AND SAWN TIMBER.
***H1.2**-ALL WALL FRAMING AND ASSOCIATED MEMBERS ROOF FRAMING, TRUSSES AND CEILING JOISTS ENCLOSED FRAMING WITHIN SKILLION / FLAT ROOFS*
***H3.1**-CLADDING CAVITY BATTENS*

DURABILITY
DURABILITY OF STRUCTURAL FIXINGS FOR ZONE D FIXINGS ARE TO COMPLY WITH NZBC B2 DURABILITY AND NZS3604:2011 SECTION 4 - DURABILITY.
ALL STRUCTURAL FIXINGS ARE TO BE TYPE 304 OR 316 STAINLESS STEEL.

FLASHING AND WRAP SYSTEMS
ALL FLASHINGS, FLASHING TAPES, WRAPS, UNDERLAYS AND ASSOCIATED ACCESSORIES ARE TO BE INSTALLED STRICTLY IN ACCORDANCE WITH THE MANUFACTURERS SPECIFICATIONS.

***NOTE** ALL BOLTS SHALL HAVE 50SQ X 3MM WASHERS TO TIMBER FACES.*

-	--/--/----	-	-
REV.	DATE	DESCRIPTION	DRAWN

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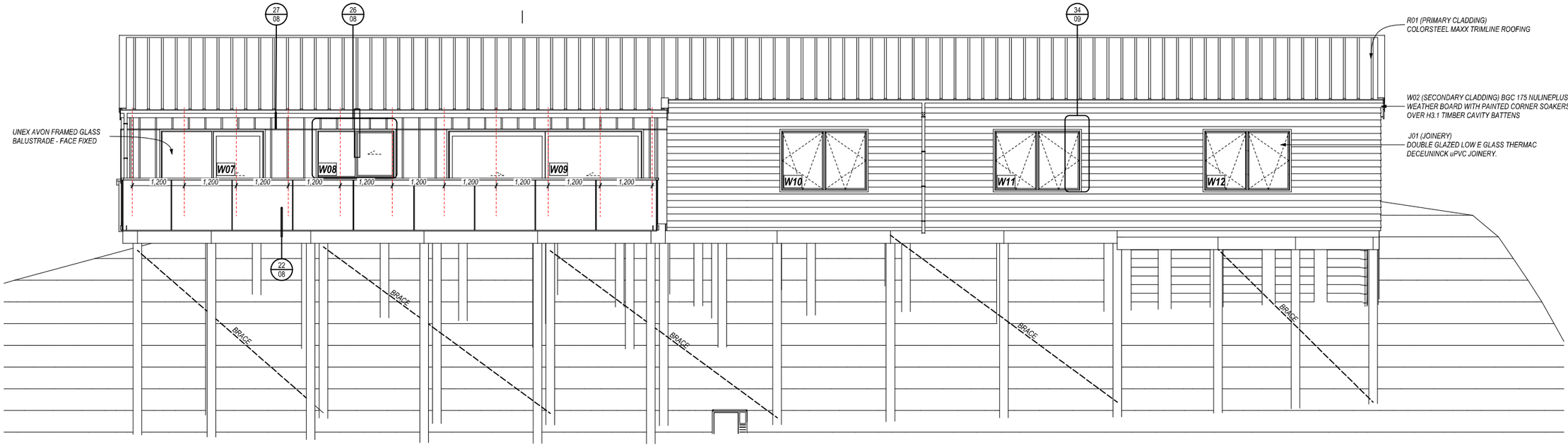
homeworld design & build
401 WESTERN HILLS DRIVE PH: (09) 438 3779
PO BOX 391, WHANGAREI 0800 86 89 86
WWW.HOMEWORLD.CO.NZ

LAW RESIDENCE
5 RANGIKORERO PLACE, -, WHANGAREI, 0110
GPS - -35.812961"S 174.507312"E
FLOOR/FRAMING/BRACING PLAN
BC SET

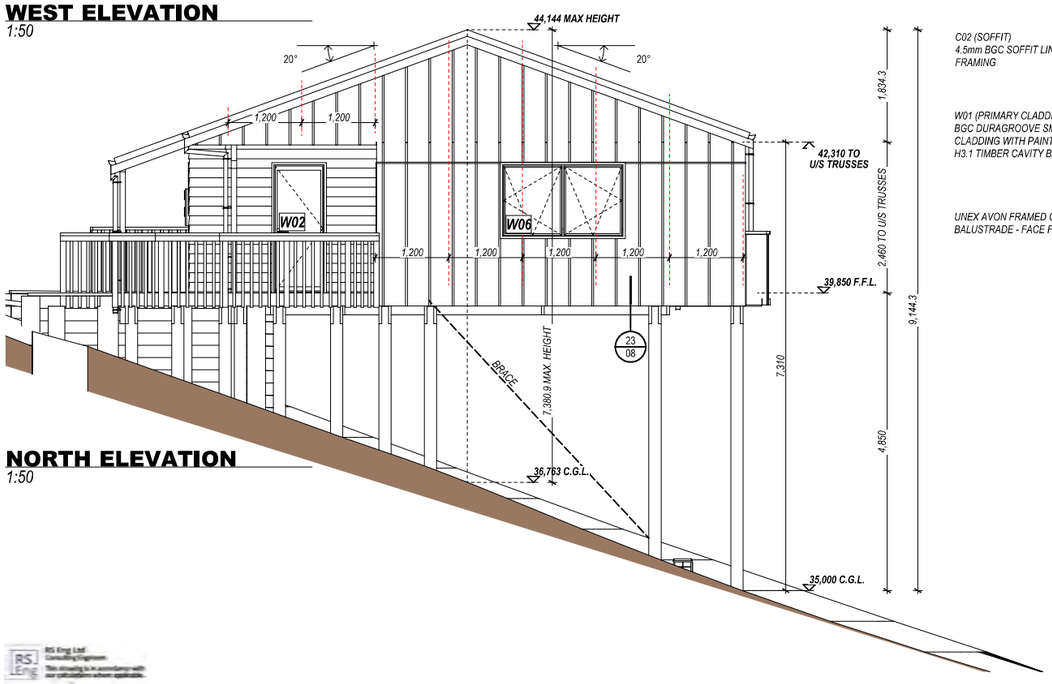
DATE:	13/05/2024
REVISION:	-
SHEET SIZE:	A1
JOB NO:	5139FR JOB NUMBER
DRAWN:	--
PAGE:	02 OF 011

BC2400419
APPROVED
12/06/2024
WHANGAREI DISTRICT COUNCIL BCA

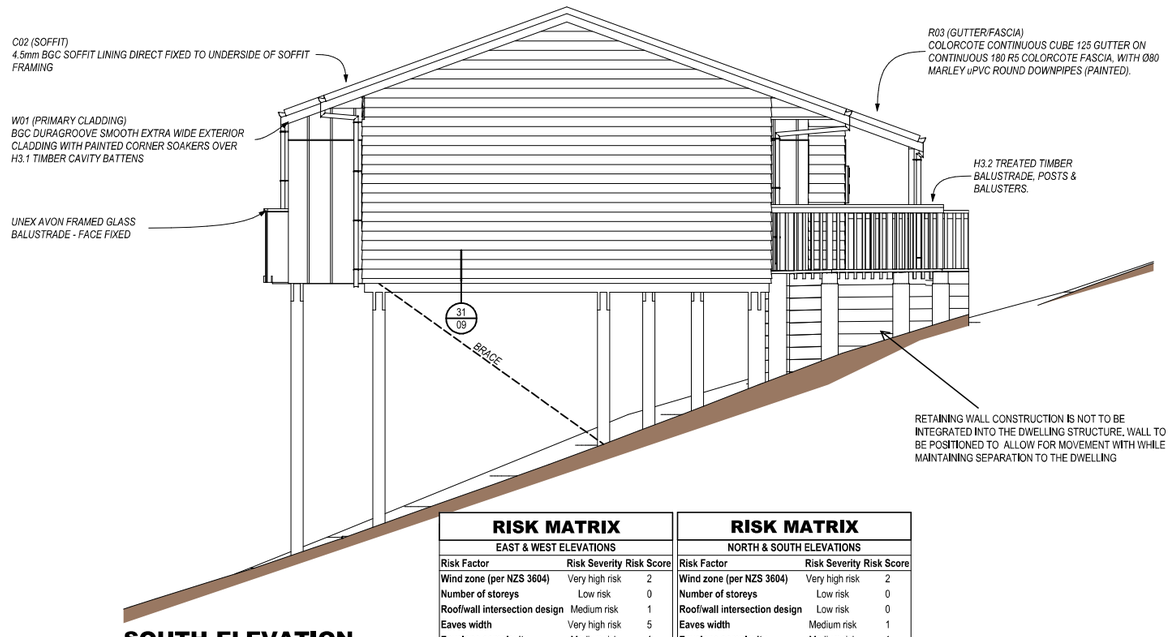
LAW - DR01- 270324 (1).pln



WEST ELEVATION
1:50



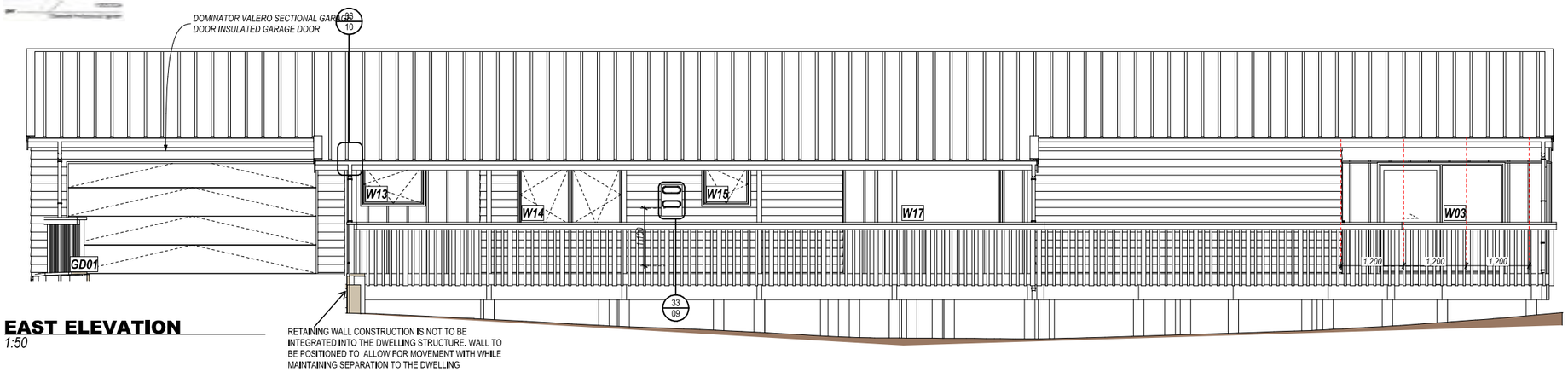
NORTH ELEVATION
1:50



SOUTH ELEVATION
1:50

RISK MATRIX		
EAST & WEST ELEVATIONS		
Risk Factor	Risk Severity	Risk Score
Wind zone (per NZS 3604)	Very high risk	2
Number of storeys	Low risk	0
Roof/wall intersection design	Medium risk	1
Eaves width	Very high risk	5
Envelope complexity	Medium risk	1
Deck design	Medium risk	2
Total Risk Score:		11

RISK MATRIX		
NORTH & SOUTH ELEVATIONS		
Risk Factor	Risk Severity	Risk Score
Wind zone (per NZS 3604)	Very high risk	2
Number of storeys	Low risk	0
Roof/wall intersection design	Low risk	0
Eaves width	Medium risk	1
Envelope complexity	Medium risk	1
Deck design	Medium risk	2
Total Risk Score:		6



EAST ELEVATION
1:50

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0800 86 89 86

LAW RESIDENCE
5 RANGIKORERO PLACE, -, WHANGAREI, 0110
GPS - -35.812961"S 174.507312"E

ELEVATIONS & WINDOW SCHEDULE

BC SET

DATE:	13/05/2024
REVISION:	-
SHEET SIZE:	A1
JOB NO:	5139FR JOB NUMBER
DRAWN:	--
PAGE:	03 OF 011

BC2400419
APPROVED
12/06/2024
WHANGAREI DISTRICT COUNCIL BCA

LAW - DR01- 270324 (1).pln

Geotechnical Report

5 Rangikorero Place, McLeod Bay
Lot 27 DP 323886

For Gordon Law

Consulting Engineers

14 May, 2018

Project Number: 14225

Table of Contents

1. INTRODUCTION

It is proposed to construct a new residential dwelling at the property of Gordon Law on Lot 27 DP 323886, 5 Rangikorero Place, McLeod Bay.

Cook Costello have been briefed to provide a geotechnical report for the proposed development. This report considers the following aspects of site development:

- Existing stability of the site
- Effects of the development on stability
- Stormwater management
- Suitable building foundations and retaining structures
- Assessment of the stability of the building site in terms of Section 72 of the Building Act, 2004

A site plan is attached in Appendix 1 showing the property boundaries, proposed location of the house and associated site investigations.

1.1. Relevant Documentation

- AS 2870: 2011 - Construction of residential slabs and footings
- NZS 3604: 2011 - Timber framed buildings
- NZS 4402:1986 - Methods of testing soils for civil engineering purposes.
- NZ Building Code: B1/VM4

  Good Ground – means any soil or rock capable of permanently withstanding an ultimate bearing pressure of 300kPa (i.e. an allowable bearing of 100kPa using a factor of safety of 3.0) but excludes;

a) Potentially compressible ground such as topsoil, soft soils such as clay which can be moulded easily in the fingers, and uncompacted loose gravel which contains obvious voids,

b) Expansive soils being those that have a liquid limit of more than 50% when tested in accordance with NZS4402 Test 2.2 and a linear shrinkage of more than 15% when tested from the liquid limit in accordance with NZS 4402 Test 2.6 and,

c) Any ground which could forseeably experience movement of 25mm or greater for any reason including one or a combination of the following: land instability, ground creep, subsidence, seasonal swelling and shrinking, frost heave, changing ground water level, erosion, dissolution of soil in water, and effects of tree roots.

- Whangarei District Council: 2018– GIS Maps

2. DESKTOP ANALYSIS

2.1. Site Description

The property is located at Rangikorero Place in McLeod Bay, Whangarei Heads. The site is accessed directly off Rangikorero Place which forms the eastern property boundary. The legal description of the site is Lot 25 DP 323886 and the total size of the lot is 1422m².

Figure 1. Aerial photograph showing subject property highlighted

The property is grassed and slopes to the west at angles up to 18°. The property has views across the Whangarei Harbour to the west.

2.2. GIS

No evidence of recent instability or subsidence was observed at the time of the site visit. Whangarei District Council GIS maps zone the property and surrounding area as low stability risk. Areas zoned as medium stability risk are shown approximately 35m from the subject property to the north and 90m to the south.

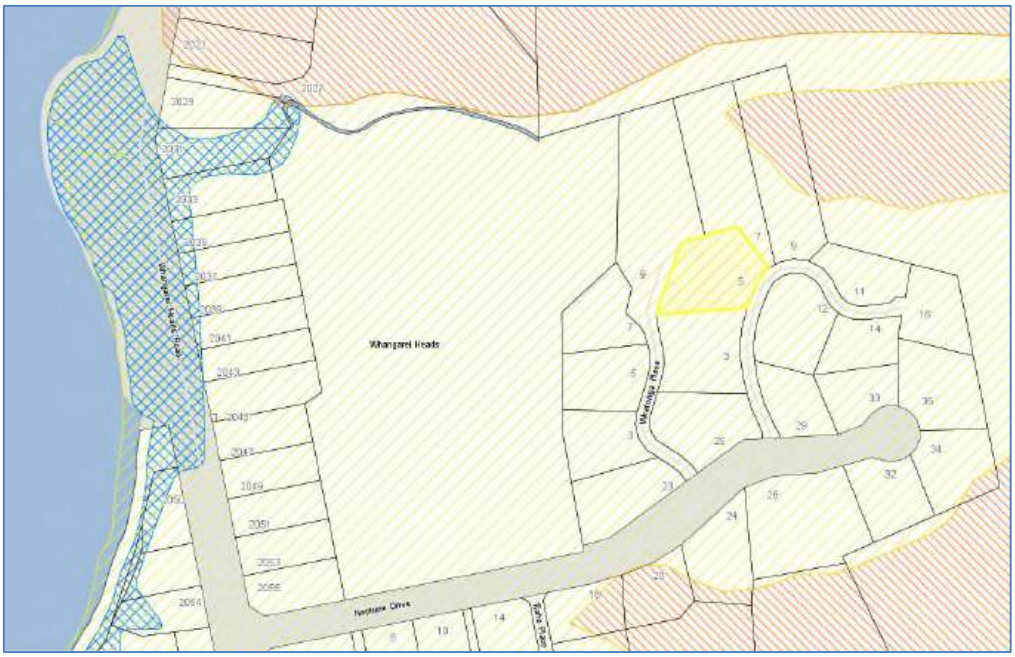


Figure 2. WDC hazard map showing stability risk

High Risk
Medium Risk
Low Risk

Connection to sewer and stormwater reticulation services is available within Rangikorero Place, with services running downslope along the southern lot boundary, as shown in Figure 3 below. Water reticulation is also available to the site.

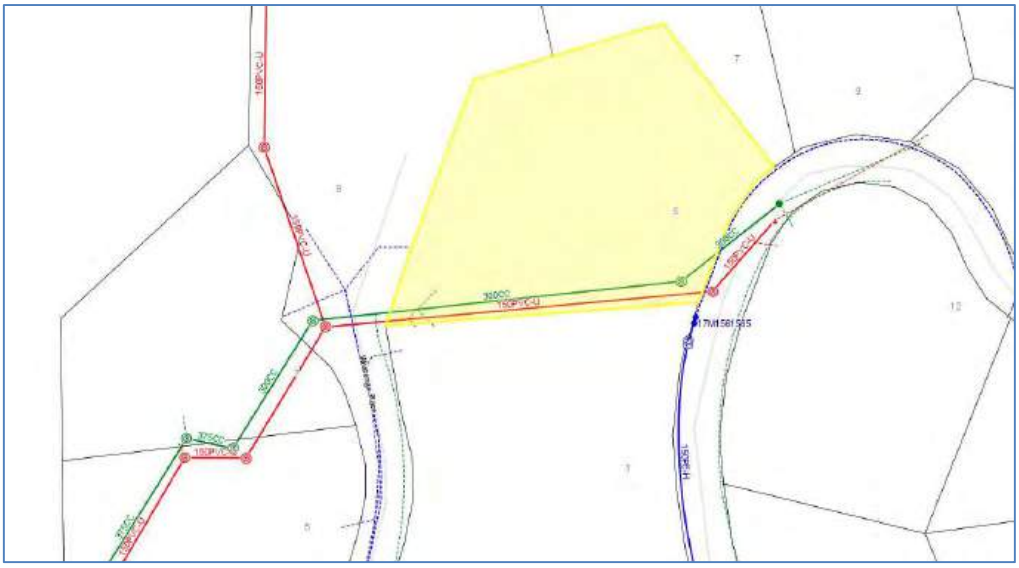


Figure *3*. WDC GIS map showing pipe services

Water reticulation
Stormwater
Sanitary sewer

2.3. Proposed Development

The proposed development is understood to consist of a split-level one-storey dwelling. Type of construction is unknown at the time of this report, but the dwelling will likely consist of a lightweight timber framed structure supported on timber pile foundations. As there is a likelihood of a concrete slab floor for a garage, or garage section of the dwelling, this foundation option will also be discussed within the recommendations.

2.4. Geology

The soil type in the area is defined on NZMS290 Sheet Q06/07 Hukerenui - Whangarei (SOILS) as Awapuku clay loam and Omu clay loam; well to moderately well drained.

The rock type in the area is defined on NZMS290 Q06/07 Hukerenui - Whangarei (ROCK TYPES) as **$B5_1$:** Andesite Breccia; coarse to very coarse angular fragments of fine to medium grained crystalline andesite in a matrix of medium grained tuff, interbedded with minor lava flows **($F6_3$),** widely fractured; moderately hard to hard. Weathered to soft clay with moderately soft fragments to depths of 10m.

The Institute of Geological and Nuclear Sciences Geology of the Whangarei Area defines the geology of the site as Taurikura Subgroup weakly stratified to massive, rubbly andesitic breccia, andesite flows and minor tuff.

Figure 4. IGNS Geology of the Whangarei Area

Coromandel Group volcanic breccia

Tauranga Group alluvial/colluvial deposits

Northland Allochthon undifferentiated melange

3. SITE INVESTIGATION

A geotechnical site investigation was carried out on the 20th of April and 3rd of May, 2018. This investigation consisted of:

- Visual inspection and walkover
- One hand augered borehole (BH) with shear vane measurements to identify subsurface soil properties
- Four Scala penetrometer tests (SP) to identify bearing capacity and uniformity of the soil

The test locations are shown on the site investigation plan attached as Appendix 1. The test results are attached as Appendix 2.

Test ID	Depth (mBGL)[1]	GWL[2] (mBGL)	Test Results	
			(mBGL)	Soil Type
BH1	4.00 (target depth)	Not encountered	0.00 – 0.20	TOPSOIL
			0.20 – 2.00	Sandy CLAY; slightly moist, highly plastic, very stiff to hard
			2.00 – 3.00	Sandy CLAY; increasing moisture content from 2.5mbgl, friable, easy to auger from 2.5mbgl (firm)
			3.00 – 4.00	Clayey SAND; moist to wet, friable

[1] mBGL: metre Below Ground Level [2] GWL: Ground Water Level

Table 1. Summary of borehole results

The borehole undertaken at the building site identified very stiff to hard Silty CLAY soils to 2mbgl. From 2mbgl the subsoil changed to a firm Sandy CLAY and moisture content increased from approximately 2.5mbgl. From approximately 3mbgl sand content increased with subsoil changing to a clayey SAND. The subsoil became moist to wet at the end of BH1 (4mbgl) however groundwater was not encountered.

Test ID	Depth (mBGL) [1]	Scala Penetrometer (mm/Blow)	Inferred Ultimate Bearing Capacity (kPa)
SP1	0.10	<50mm/blow	>200
	1.16	<28mm/blow	>300
SP2	0.07	>50mm/blow	<200
	1.03	<50mm/blow	>200
	1.13	<28mm/blow	>300
SP3	0.22	<50mm/blow	>200
	0.81	<28mm/blow	>300
SP4	0.36	<50mm/blow	>200
	0.43	<28mm/blow	>300

[1] mBGL: metre Below Ground Level

Table 2. Summary of Scala penetrometer results

Scala penetrometer results show that an ultimate bearing capacity (UBC) in excess of 300kPa (100kPa allowable) is available from approximately 1.2m below the existing ground level (worst case SP1).

Uncorrected bearing capacities derived from Scala penetrometer tests were estimated using the procedure presented by M.J. Stockwell in the paper 'Determination of allowable bearing pressure under small structures (June 1977)'.

Review of historic boreholes undertaken for the proposed subdivision revealed that the soil profile is relatively consistent through the site. A Geotechnical Report dated 6th August 2002 prepared by Hawthorn Geddes Engineers for the proposed subdivision includes four boreholes through the slope profile of the subdivision. These were taken from within the properties on the western side of Rangikorero Place, and run west down the slope within neighboring paddocks to just behind the existing properties on Whangarei Heads Road. These borelogs indicate silt and clay soils with some sand and gravels occurring from various depths. Groundwater appears to be present from 2mbgl at the base of the slope and approximately 3 – 3.5mbgl at the top of the slope (below Rangikorero Place). These borelogs have been included within Appendix 2.

4. SITE STABILITY

The Taurikura Subgroup refers to andesitic and dacitic volcanic rocks that outcrop from the southeastern side of Parua Bay (i.e. The Nook peninsula) to Ocean Beach. These rocks have intruded and have been erupted over Waipapa Group and Northland Allochthon rocks, and form the prominent peaks of Mt Manaia, Mt Aubrey and Bream Head, which are the basal remnants of two volcanic cones. These cone remnants comprise weakly stratified to massive rubbly breccia, andesite flows, and autobrecciated flows. Diorite plutons with associated intrusive andesites forms the Rangiuru-Kauri Mountain ridge, and composite andesitic and dacitic intrusions form Mount Stewart and the highest peaks on the eastern side of Parua Bay.

The unweathered intact andesite and dacite is typically strong (>100 MPa unconfined compressive strength) and grey to dark brown in colour. In their unweathered form, the breccias are similar in colour, although are likely to have a lower intact rock strength (i.e. moderately strong to strong).

Exposures of Taurikura Subgroup andesites and dacites generally show close to moderately widely spaced joints (60mm to 600mm), with some zones of very closely to extremely closely spaced joints (<20mm to 60mm). Joints within the breccias that form Mt Manaia, Mt Aubrey and Bream Head are typically very widely spaced (>2m).

Taurikura Subgroup rocks appear to weather to light brown to dark brown stiff to very stiff low plasticity clayey silts. On the other hand, many of the slopes below the ridges formed of Taurikura Subgroup volcanics are mantled with colluvium. This colluvium is typically very granular, ranging from sand to very large boulders up to 10m diameter.

Slopes underlain by Taurikura Subgroup rocks typically stand at moderate to very steep gradients and in some places stand vertically (e.g. the pinnacles of Mt Manaia, Mt Aubrey and Bream Head). The slopes are therefore relatively stable, primarily due to their naturally high rock mass and soil mass strength. However, slope instability still can occur within the soil mantle underlying steep slopes (>30°).

4.1. Slope Stability Analysis

4.1.1. Factor of Safety

The likelihood of slope failure is quantified by means of a Factor of Safety (FOS) and is determined by the ratio of stabilising forces to destabilising forces. An acceptable slope will generally have a factor of safety of 1.2 to 1.5 with a normal FOS value of 1.5 for subdivisions or housing development. The factors of safety adopted by engineers in geotechnical design have been developed to accommodate uncertainties in

geometric accuracy, soil properties, analysis method, and the validity of assumptions made.

The modelled FOS does not assure safety from instability or slope movement but indicates a reduced likelihood of failure.

The likelihood of any slope failure is dependent on the ratio of forces causing and resisting movement. Factors causing movement include the slope gradient, weight of soil, groundwater, surcharge, and the factors resisting movement include slope support and soil strength parameters. Groundwater plays a critical role in slope stability, and soil shear strength when wet may be reduced to less than half of the strength when dry.

4.1.2. Soil Parameters

The soil parameters used for slope stability analysis are tabulated below.

Soil Type	Density (γ) kN/m^3	Effective Cohesion (c') kPa	Effective Friction Angle (Φ') degrees°
Residual soil - silty CLAY	18	5	26
Residual soil – sandy CLAY	18	3	30
Weathered ROCK	22	15	35

Table 3. Soil parameters used for slope stability analysis

These parameters have been selected based on the materials encountered on site, and engineering judgement.

4.1.3. Slope Stability Analysis

A typical slope stability analysis through Section A was taken using limited survey data available from within the subdivision and a clinometer and analysed using SLIDE software to establish the risk of slope failure and recommended foundation treatments. The location of the cross section used for the stability analysis is indicated on the site plan attached as Appendix 1. Slope stability results are attached as Appendix 3.

The likelihood of slope failure was modelled as a circular failure to determine the existing stability of the slope under various conditions and to assess the likelihood of failure affecting the proposed dwelling.

Existing Surface

The existing surface of the site was modelled under normal groundwater conditions, with the water table assumed at a depth of approximately 3 - 5m below ground level. The analysis identified a Factor of Safety (FOS) in excess of 1.5 through the entire slope.

The existing surface was modelled under adverse groundwater conditions where the slope may become saturated following a heavy rainfall event or with failed drainage. The water table was modelled at an elevated depth of 1 – 2m below the existing ground level. The analysis shows a lowest FOS of 1.2 occurring through the entire slope.

Finished Surface

The finished surface was modelled with a cut depth of 2m at the top of the slope to create a level building platform for a potential driveway or garage. A uniformly distributed load of 10kN/m² has been applied at the building platform to represent the future driveway and dwelling. 150mm SED timber piles have been used to model the retaining wall, however this is for the purpose of slope stability analysis only. Retaining walls will require specific engineering design.

Under normal groundwater conditions the analysis shows a FOS >1.5 through the entire slope. Under adverse groundwater conditions the analysis shows a lowest FOS of 1.2 through the entire slope.

4.2. Summary

A summary of the Factors of Safety through the building platform for the existing and finished surfaces is tabulated below:

Slope Condition	Factor of Safety (FOS)	
	Normal Groundwater	Adverse Groundwater
Existing Surface	>1.5	>1.2
Finished Surface	>1.5	>1.2

Table 4. Summary of slope stability analysis results.2

The analysis confirms that a minimum Factor of Safety of 1.5 is available under normal groundwater conditions and 1.2 under saturated slope conditions for the stability of permanent slopes forming part of the building development.

Although site investigations identified subsoils capable of accommodating the proposed development, the underlying geology of the site has the potential to become unstable, reinforcing the need for responsible disposal of n stormwater at the site.

The site is considered to be consistent with the above geological description and is underlain by soils interpreted as residual weathered Andesite. The site contains a building site that is considered suitable for the development as proposed. The proposed development is unlikely to have a detrimental effect on the site stability, provided the development is carried out in a responsible manner and in accordance with recommendations stated within this report.

5. FOUNDATIONS AND EARTHWORKS

Many of the soils located within the Northland region are considered to be expansive soils. There are three basic types of soil naturally occurring in the Northland Area: sand, silt and clay. Clay soils are generally classified as "expansive." This means that a given amount of clay will tend to expand (increase in volume) as it absorbs water and it will shrink (lessen in volume) as water is drawn away. The action of seasonal shrink/swell of soils can have a significant impact on foundations of structures and also on other components of developments such as services, claddings, windows, doors, roading etc. It is evident from historical reports and site inspections that the effect of expansive soils is a major problem in Northland.

The surficial soils observed during the field investigations are considered to be expansive and are likely to be subject to shrink swell effects. It is considered that the building site does not meet the requirements for Good Ground as defined in the New Zealand Building Code. Foundations will require engineering design in accordance with AS 2870 Class M soils or specific design for moderately expansive soils to ensure foundations are founded below the depth of influence of moisture variation. This will require design by a Chartered Professional Engineer with suitable geotechnical experience.

Earthworks will be required to create the driveway and potentially a garage. The cut at the back of the building platform will need to be retained. This will need to be specifically designed by a suitably qualified engineer.

All material resulting from the cut should be removed from the property, or suitably compacted with proper retaining at the discretion of a suitably qualified engineer. Any imported fill will require compaction and testing in accordance with NZS4431.

For a concrete slab foundation, this shall be specifically designed for moderately expansive soils. An allowable bearing capacity in excess of 100kPa was found at a depth of 1.2m below the existing ground level. Alternatively, the concrete slab could be specifically designed for the reduced allowable bearing capacity available at the proposed foundation depth.

For a suspended timber floor, it is recommended pile foundations are extended a minimum of 1.2m below the existing ground level to found within subsoils with an allowable bearing capacity in excess of 100kPa. This depth will also help mitigate the effects of the moderately expansive subsoils.

6. STORMWATER

All storm water resulting from development works and newly formed impermeable surfaces for the property shall be collected and piped to the Council stormwater network available within the subdivision. In no instance is concentrated storm water to be discharged onto slopes without being specifically assessed, as this will be detrimental to slope stability.

7. CONCLUSIONS AND RECOMMENDATIONS

Geotechnical investigations indicate that the proposed building site is presently stable and the subsoil properties have adequate strength parameters necessary for the proposed development. Development will need to be carried out in accordance with proper engineering practice and the following guidelines:

1. House foundations will require engineering design in accordance with AS2870 Class 'M' soils or specific design for moderately expansive soils. This will require design to meet engineering standards confirmed by a Chartered Professional Engineer with suitable geotechnical experience.
2. For a concrete slab foundation, this shall be specifically designed for moderately expansive soils. An allowable bearing capacity in excess of 100kPa was found at a depth of 1.2m below the existing ground level. Alternatively, the concrete slab could be specifically designed for the reduced allowable bearing capacity available at the proposed foundation depth.
3. For a suspended timber floor, it is recommended pile foundations are extended a minimum of 1.2m below the existing ground level.
4. Earthworks will be required to create the driveway and potentially a garage. The cut at the back of the building platform will need to be retained. This will need to be specifically designed by a suitably qualified engineer.
5. All cut material should be removed from the property, or suitably compacted with proper retaining at the discretion of a suitably qualified engineer. Any imported fill will require compaction and testing in accordance with NZS4431.
6. All storm water shall be collected and piped to the Council stormwater network available within the subdivision.

Providing that the above-mentioned recommendations are followed then the conclusion drawn from the site investigation and analysis of the property as identified above, the site is capable of being developed as proposed, and in terms of Section 72 of the Building Act 2004, it can be confirmed that:

i. The land on which the building work is to take place neither subject to nor likely to be subject to subsidence or slippage,

ii. The building work itself is unlikely to accelerate or worsen or result in subsidence or slippage of that land or any other property.

8. LIMITATIONS

This report has been prepared for the benefit of Gordon Law as our client with respect to geotechnical investigation for residential development and for Whangarei District Council approval of the proposal as defined in the brief. It shall not be relied upon for any other purpose. The reliance by other parties on the information or opinions contained in this report shall, without our prior review and agreement in writing, be at such parties' sole risk.

Opinions and judgments expressed herein are based on our understanding and interpretation of current regulatory standards, and should not be construed as legal opinions. Where opinions or judgments are to be relied on they should be independently verified with appropriate legal advice. Any recommendations, opinions, or guidance provided by Cook Costello in this report are limited to technical engineering requirements and are not made under the Financial Advisers Act 2008.

Recommendations and opinions in this report are based on data from hand augered boreholes with in-situ shear vane testing and Scala penetrometer testing undertaken on site. The nature and continuity of subsoil conditions away from the boreholes and Scalas are inferred and it must be appreciated that actual conditions could vary considerably from the assumed model.

During excavation and construction the site should be examined by an Engineer or Engineering Geologist competent to judge whether the exposed subsoils are compatible with the inferred conditions on which the report has been based. It is possible that the nature of the exposed subsoils may require further investigation and the modification of the design based on this report. In any event it is essential that the firm is notified if there is any variation in subsoil conditions from those described in the report as it may affect the design parameters recommended in the report.

Cook Costello have performed the services for this project in accordance with the standard agreement for consulting services and current professional standards for environmental site assessment. No guarantees are either expressed or implied.

There is no investigation which is thorough enough to preclude the presence of materials at the site which presently, or in the future, may be considered hazardous. Because regulatory evaluation criteria are constantly changing, concentrations of contaminants present and considered to be acceptable now may in the future become subject to different regulatory standards which cause them to become unacceptable and require further remediation for this site to be suitable for the existing or proposed land use activities.

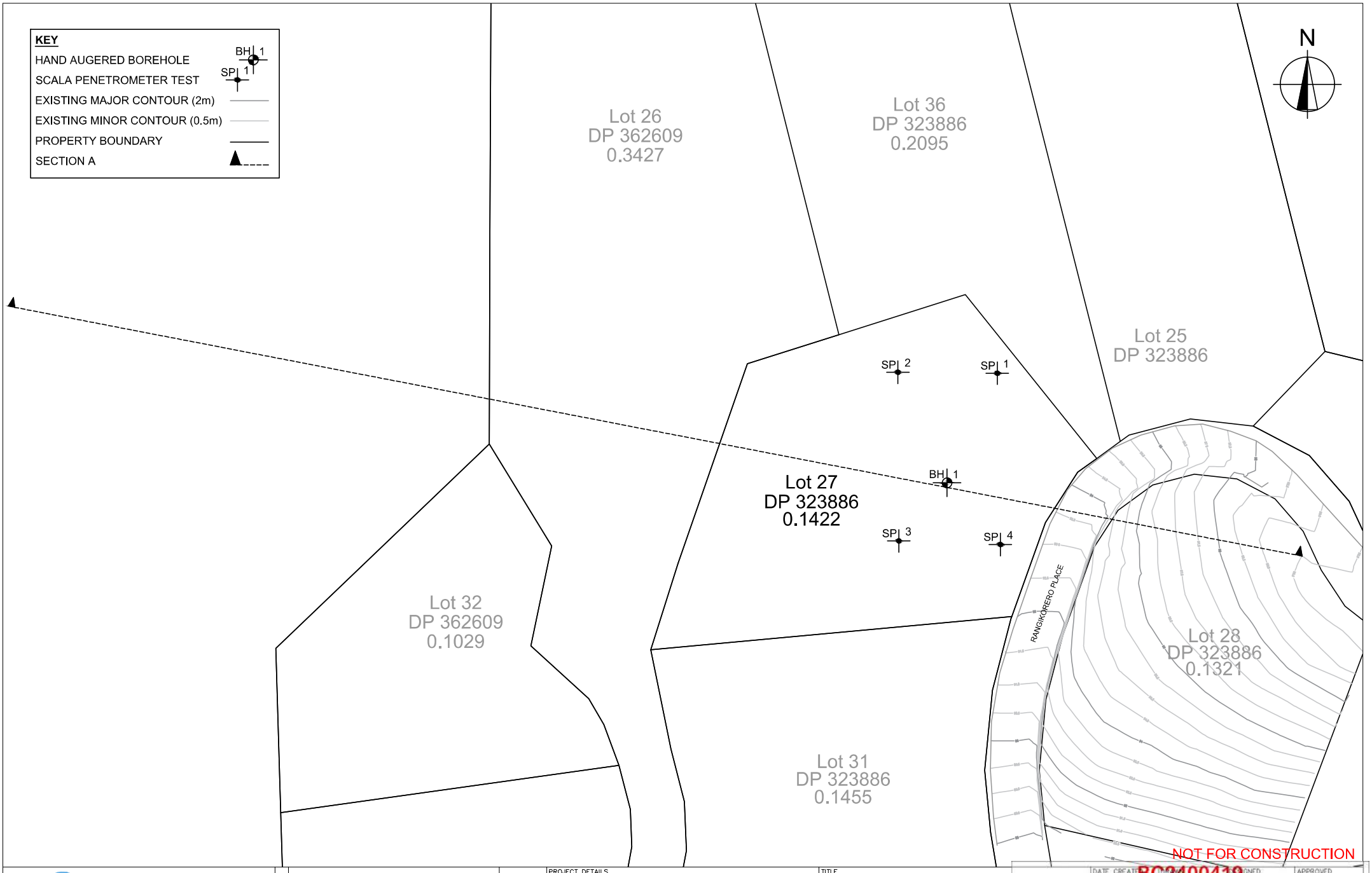
S Brock

Engineering Technician
BSc, NZDE

G Harding

Chartered Professional Engineer
CPEng, IntPE(NZ), BE, BSc, CMEngNZ

9. APPENDIX 1: SITE PLAN



NOT FOR CONSTRUCTION

cook | costello
www.coco.co.nz
Whangarei | Auckland | Wellington | Christchurch

REV.	REVISION DETAILS	DRAWN	APP.
C			
B			
A	1ST ISSUE	7/5/18 SB	

PROJECT DETAILS
GORDON LAW
5 RANGIKORERO PLACE, McLEOD BAY
LOT 27 DP 323886

TITLE
SITE PLAN

DATE CREATED	DRAWN	DESIGNED	APPROVED
7/5/18	SB		
CCL REF NO	SCALE	STATUS	
14225	1:400 @ A3	PRELIMINARY	
DWG NUMBER	REVISION		
	P1		

BC240041
APPROVED
12/06/2024
WHANGAREI DISTRICT COUNCIL BCA

DATE PLOTTED: 7/05/2018 FILE PATH: Z:\14000-14499\14225 - 5 Rangikorero Place\Cad\180507-14225-sb-site plan.dwg

Client	Homeworld Design and Build	File. No.	18968
Project	New Dwelling	Calculated by	LW
Location	5 Rangikorero Place McLeod Bay	Viewed	MH
		Date	18 Mar 2024

Date Reviewed	Description	Prepared by:	Viewed by:	Authorised by:
18-03-24	Building Consent Issue	L Wei	M Hargood	M Jacobson

STORMWATER ATTENUATION DESIGN

The site is less than 1ha in size, as per the Whangarei District Council (WDC) Engineering Standards (ES) stormwater attenuation is required. Review of Geotechnical Report by Cook Costello dated 14 May 2018 and the property Consent Notice, stormwater from the impervious services should be collected and discharged to the council reticulation system.

The new dwelling is proposed to have a roof and driveway area of 271m^2 and 47m^2, respectively. Impervious surfaces allow little or no infiltration of stormwater into the ground, causing a greater volume and peak flow of rainfall runoff. As a result, attenuation of the stormwater runoff is required. This minimises any potential adverse effects on downstream properties and/or council assets.

The Whangarei District Council (WDC) Engineering Standards (ES) requires attenuation of stormwater runoff from any increase in impervious areas so that post development peak flows are less than 80% of pre-development. The WDC ES specifies that the flows be attenuated for the 20% and 1% Annual Exceedance Probability (AEP) events.

It is proposed to direct stormwater runoff from the roof of the new dwelling into a water tank with restricted outlet structure which reduce the peak flows to predevelopment levels. The attenuation system restricts stormwater runoff from the roof sufficiently to compensate for the increased flows from the driveway area.

The pre-development and post-development runoff flows were modelled using HydroCAD. The United States Department of Agriculture Technical Release 55 (TR55) Type 1A method was adopted for calculating the run-off flow, using rainfall depths from HIRDS 4 (High Intensity Rainfall Design System, NIWA) including an additional 20% rainfall depth to account for climate change as required by WDC ES. The subsoils have been assessed as being Clays of volcanic origin and are designated as Group D soils with good grass cover, from WDC EES. Table 1 includes a summary of the stormwater attenuation modelling.

Table 1: Stormwater Attenuation Design Summary

	Pre-development		Post-development	
Permeable Area (m^2) Grassed	318		_	
Impervious Area (m^2) Dwelling Roof Driveway	_ _		271 47	
Peak flow l/s From surfaces **80% (design flows reqd.)** **Total attenuated flows** Tank storage required	20% AEP 2.23 **1.79**	1% AEP 4.64 **3.72**	20% AEP +20% 3.51 **1.74** 4.0m^3	1% AEP +20% 6.31 **3.57** 7.4m^3
Attenuation Tank Summary				
Tank	10,000L Devan tank			
Tank Diameter	2.5m			
	Diameter		**Depth from Overflow**	
Primary Orifice	30mm		1.51m	
Secondary Orifice	27mm		0.71m	

All stormwater should be collected from roof and driveway surfaces and discharged in a controlled manner to the council reticulation system. No stormwater shall be discharged in an uncontrolled manner.

Enclosed:

- HIRDS rainfall depths.
- HydroCAD calculations.
- Stormwater tank details.
- Site plan.

Limitations

This report has been prepared solely for the benefit of our client. The purpose is to design an on-site stormwater attenuation design for the proposed new dwelling. The reliance by other parties on the information, opinions or recommendations contained therein shall, without our prior review and agreement in writing, do so at their own risk.

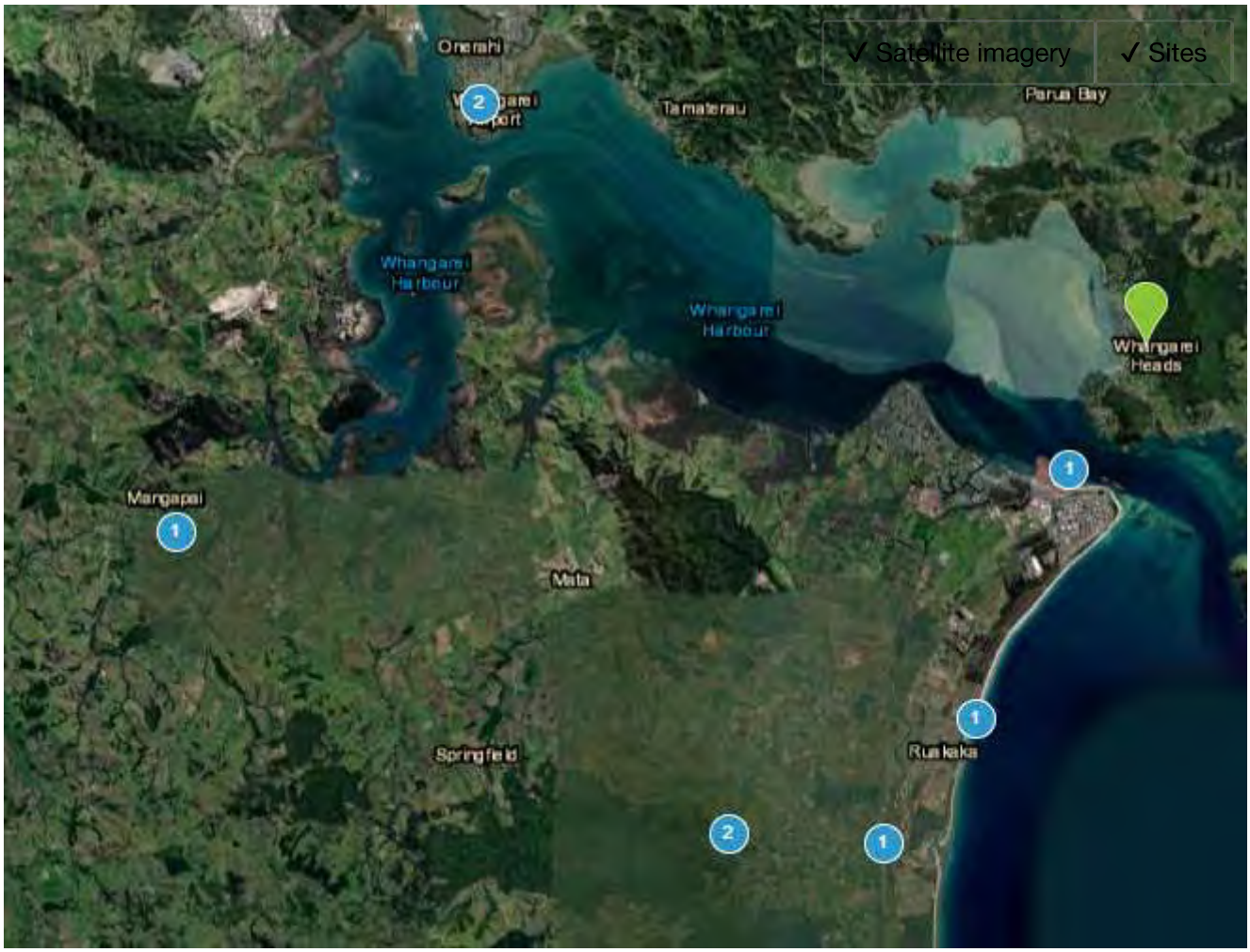
Prepared by:	View by:	Approved by:
Liam Wei BE(Hons)(Civil) Engineer	Mathew Hargood BE(Hons)(Civil), CPEng, CMEngNZ IntPE(NZ) Structural Leader	Matthew Jacobson NZDE(Civil), BE(Hons)(Civil), CPEng, CMEngNZ Director

RS Eng Ltd

High Intensity Rainfall Design System V4 (/)

Location

Address search	5, Rangikorero Place, McLeod Bay, Whangārei Heads, Whangārei District, Nort



Site Information

To generate a set of results, either click on an existing data point, or a new location and enter a site name, then press the Generate Report button.

Latitude	-35.813030700000006
Longitude	174.50731969999998
Site Name	18968

BC2400419
APPROVED
12/06/2024
WHANGAREI DISTRICT COUNCIL BCA

Site Id	

Output Table Format

- (●) Depth - Duration - Frequency
- ( ) Intensity - Duration - Frequency

Generate Report

Results Spreadsheet Download

Site Details | Historical Data | RCP2.6 Scenario | RCP4.5 Scenario | RCP6.0 Scenario | RCP8.5 Scenario

Rainfall depths (mm) :: Historical Data

ARI	AEP	10m	20m	30m	1h	2h	6h	12h	24h	48h	72h	96h	120h
1.58	0.633	9.14	14.2	18.1	26.5	37.6	60.4	77.9	96.7	116	127	134	139
2	0.500	10.1	15.7	19.9	29.2	41.4	66.6	85.7	106	128	139	147	153
5	0.200	13.3	20.6	26.3	38.5	54.5	87.6	113	140	168	183	193	201
10	0.100	15.7	24.3	31.0	45.4	64.2	103	133	165	197	215	228	236
20	0.050	18.1	28.2	35.8	52.5	74.2	119	153	190	228	249	263	273
30	0.033	19.6	30.4	38.7	56.7	80.2	129	166	205	246	268	283	294
40	0.025	20.7	32.1	40.8	59.8	84.4	136	174	216	259	282	298	310
50	0.020	21.5	33.3	42.4	62.1	87.8	141	181	225	269	293	310	322
60	0.017	22.1	34.4	43.7	64.0	90.5	145	187	232	277	302	319	332
80	0.013	23.2	36.0	45.8	67.1	94.8	152	196	242	290	316	334	347
100	0.010	24.0	37.3	47.4	69.5	98.1	157	202	251	300	327	346	359
250	0.004	27.4	42.4	53.9	79.0	112	179	230	285	340	371	392	407

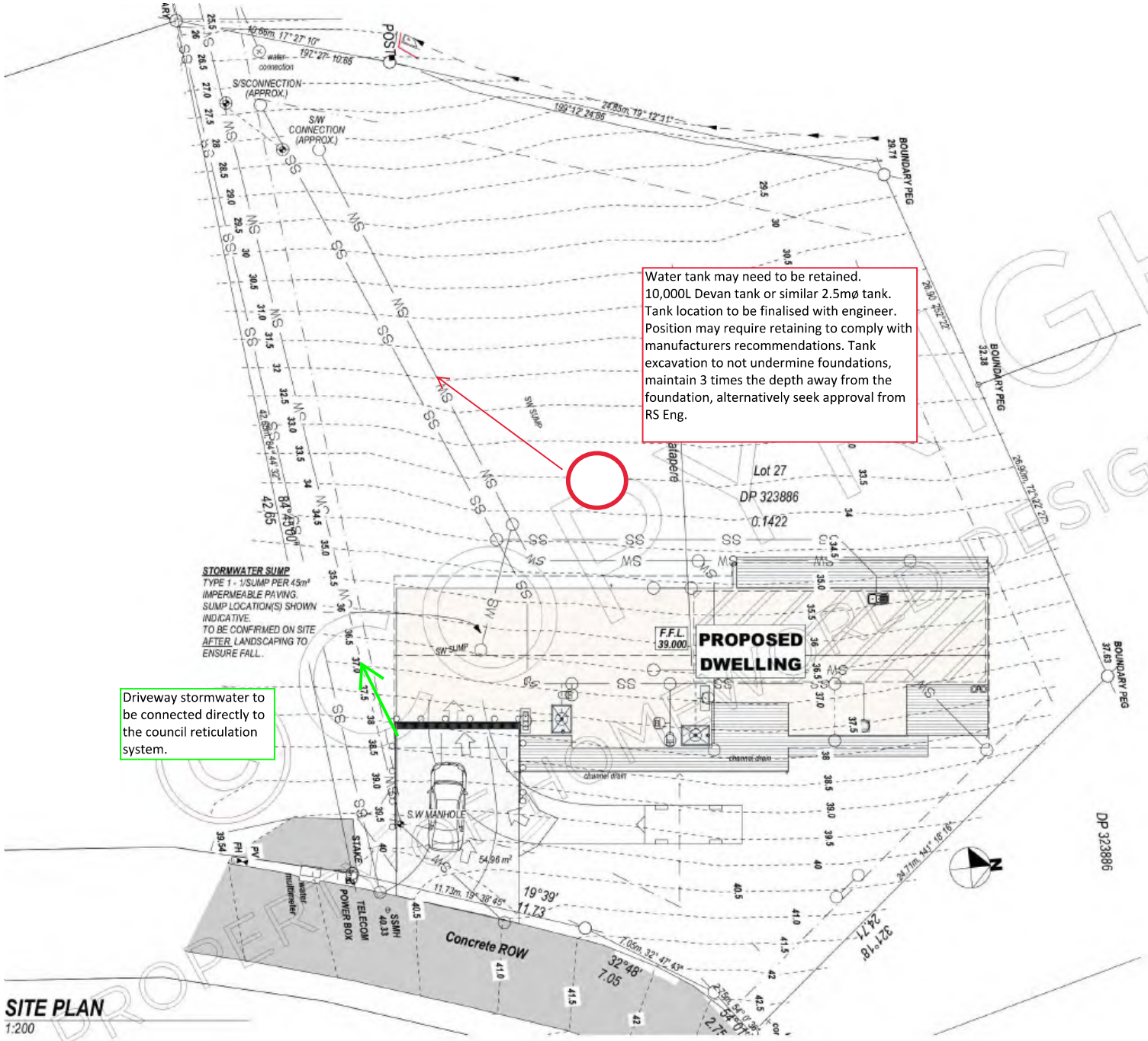
Depth standard error (mm) :: Historical Data

ARI	AEP	10m	20m	30m	1h	2h	6h	12h	24h	48h	72h	96h	120h
1.58	0.633	1.3	1.7	1.9	2.6	3.6	7.4	10	15	18	22	22	23
2	0.500	1.4	1.8	2.1	2.9	4.0	8.1	11	16	21	24	25	26
5	0.200	2.0	2.6	3.0	4.3	5.8	11	16	22	28	33	34	35

ARI	AEP	10m	20m	30m	1h	2h	6h	12h	24h	48h	72h	96h	120h
10	0.100	2.5	3.4	4.1	5.7	7.6	15	20	26	33	39	40	42
20	0.050	3.2	4.5	5.4	7.6	10	19	26	31	39	46	47	50
30	0.033	3.7	5.3	6.4	8.9	12	22	30	34	43	50	51	54
40	0.025	4.0	5.9	7.1	10	14	25	33	36	46	53	55	58
50	0.020	4.3	6.4	7.8	11	15	28	36	38	49	56	57	61
60	0.017	4.6	6.9	8.3	12	16	30	39	39	51	58	60	63
80	0.013	5.1	7.7	9.3	13	18	33	43	42	54	62	63	67
100	0.010	5.5	8.3	10	15	20	36	47	44	57	65	66	71
250	0.004	7.5	12	14	21	29	52	67	54	71	79	81	86

Appendix A

Drawings



SITE PLAN
1:200

SITE NOTES

LEGAL DESCRIPTION:	LOT 27, D.P. 323886
SITE AREA:	1422m²
PHYSICAL ADDRESS:	
5 RANGIKORERO PLACE WHANGAREI HEADS,WHANGAREI HEADS, WHANGAREI, 0110	
WIND ZONE (TO NZS3604:2011):	VH(BRANZ MAPS-TBC)
ENVIRONMENT:	SETTLEMENT ZONE - RESIDENTIAL
OVERLAY/NOTABLE AREA:	?
EXPOSURE ZONE:	D
EARTHQUAKE ZONE:	1
INSTABILITY AREA:	LOW/MODERATE
FLOOD SUSCEPTIBILITY:	?
ACID SULPHATE RISK:	N/A
BUILD AREAS:	
PROPOSED DWELLING:	174.86m²(194.06m² INCL. OUTDOOR AREA)
PROPOSED DECKING:	79.95m²
TOTAL COVERAGE:	254.39m²
TOTAL SITE COVERAGE:	**17.90%**
IMPERVIOUS AREAS	
ROOF AREA:	271.05m²
PATHS/PATIOS:	??m²
DRIVEWAY:	54.96m²
TOTAL IMPERVIOUS AREA:	**316.65m²= 22.27%**
CONTOURS: CONTOUR LINES	0.5m
EARTHWORKS REQUIRED:	APPROX CUT 0m³

homeworld design & build
401 Western Hills Drive, Woodhill
PO Box 391, Whangarei
www.homeworld.co.nz
PH: (09) 438 3779
0800 86 89 86

SKETCH 01	
Date:	15/01/2024
Sheet Size:	A3
Drawn:	--

LAW RESIDENCE
5 RANGIKORERO PLACE WHANGAREI HEADS, -, WHANGAREI
LAW - FR (C04) [illegible]

BC2460419
APPROVED
12/06/2024
WHANGAREI DISTRICT COUNCIL BCA

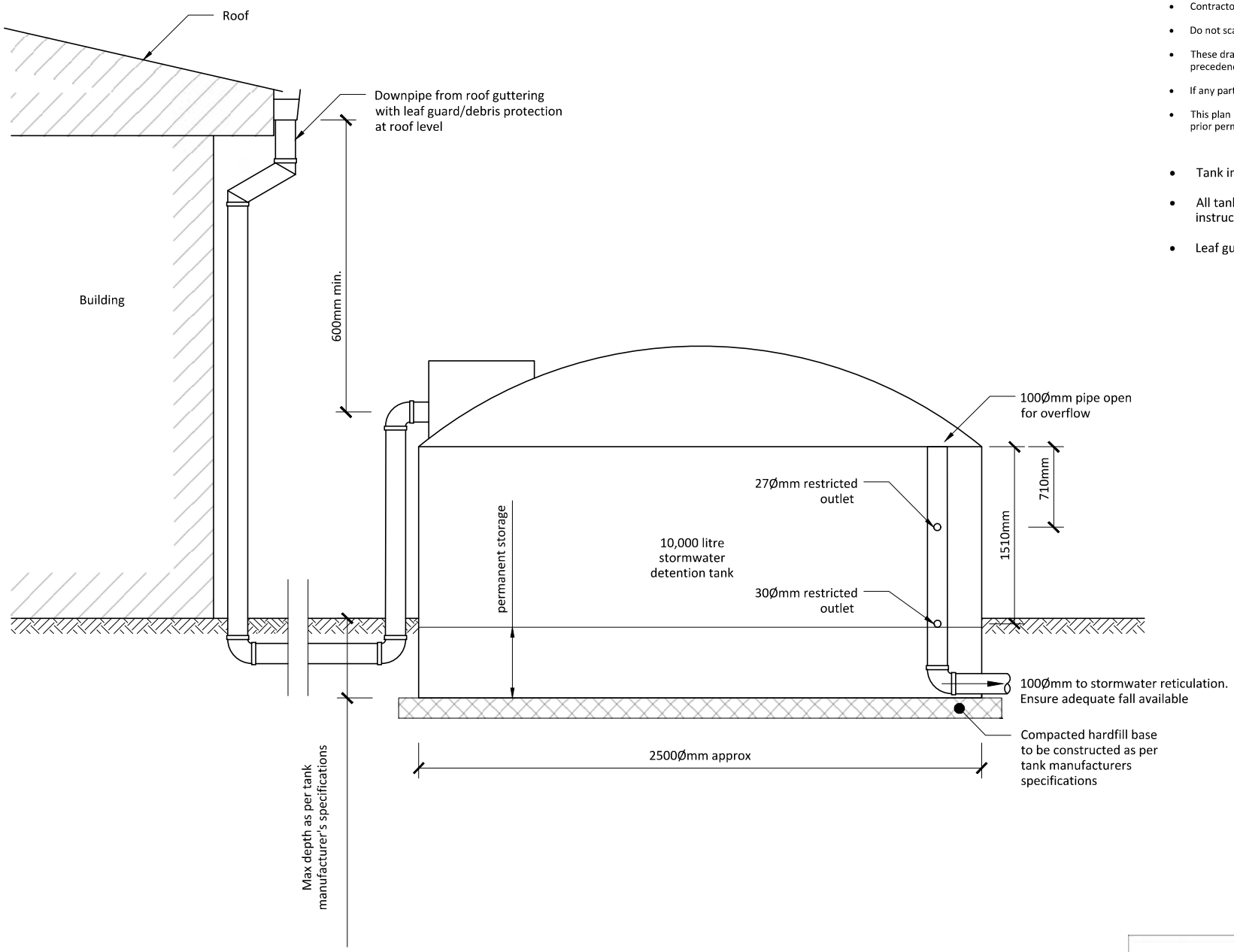
Appendix B

Stormwater Attenuation Design and Details

NOTES:

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

- Tank installation and footing to manufacturers instructions.
- All tank penetrations and pipe connections to manufacturers instructions.
- Leaf guard/debris protection to manufacturers instructions.



STORMWATER ATTENUATION 10,000L PLASTIC TANK DETAIL

1:20

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

Title
STORMWATER ATTENUATION
PLASTIC TANK DETAIL

Client
Homeworld - Law

Location
5 Rangikorero place
WHANGAREI

Date	Rev	Notes
1/03/2024	A	Original Issue

Scale	Original	Rev
1:20	A3	A
Drawn	Approved	File #
CW	CW	24068

Sheet 1

Form 7
Code Compliance Certificate
Section 95, Building Act 2004

Rust Avenue, Whangarei
Private Bag 9023, Te Mai,
Whangarei 0143, New Zealand
P +64 9 430 4200
E mailroom@wdc.govt.nz
www.wdc.govt.nz/ContactUs

The Building

Street address of building:	5 Rangikorero Place, Whangarei 0174
Legal description of land where building is located:	LOT 27 DP 323886
Building name:	N/A
Location of building within site/block number:	N/A
Level/unit number:	N/A
Current, lawfully established, use:	2.0 Housing: 2.0.2 Detached Dwelling
Year first constructed:	2024

The Owner

Name of owner:	Gordon Robert Law and Heather Jane Law
Contact person:	N/A
Mailing address:	85 Kamo Road, Kensington, Whangarei
Street address/registered office:	N/A
Phone number:	Landline: N/A Mobile: 0220731256
Daytime:	Landline: N/A Mobile: 0220731256
After hours:	Landline: N/A Mobile: 0220731256
Facsimile number:	N/A
Email address:	gordon.law@gmail.com

First point of contact for communications with the council/building consent authority:
Jeff Smith (Homeworld Design & Build Limited); Mailing Address: 401 Western Hills Drive
Woodhill
Whangarei 0110; Mobile: 0276207590; Email: jeffs@homeworld.co.nz

Building Work

Building consent number:	BC2400419
Description:	New Dwelling
Issued by:	Whangarei District Council

Code Compliance

The building consent authority named below is satisfied, on reasonable grounds, that -
the building work complies with the building consent.

Signature: Shane Hakaraia
Position: Building Control Officer - Snr - Inspections
On behalf of: Whangarei District Council
Date: 04 August 2025

Whangarei District Council
Private Bag 9023, Whangarei 0148, New Zealand
P +64 9 430 4200 | 0800 WDC INFO | 0800 932 463
E mailroom@wdc.govt.nz www.wdc.govt.nz

Fast Track - Public Utility Service Application
20mm Water Meter Only (DOMESTIC ONLY)

PU241110

General Guidance

- All other connection types require a 'standard' public utility works application
- All fields must be completed or N/A as appropriate
- The applicant must be the owner of the land, or the lease holder, or a person who has agreed to unconditionally purchase or lease the land
- If a Backflow Preventer is required with the water meter (see application requirements), please complete a 'standard' public utility works application.

Owner / Applicant

Full Name GORDON + HEATHER LAW

Postal address 5 RANGIKORERO PLACE, WHG. Post code 0174

Phone _____ Mobile 0220731256

Email gordon.law@gmail.com

Agent Authorisation (If required)

As the agent you accept responsibility to pass all Council's correspondence to the applicant as appropriate. If fees are not paid by the agent, charges will remain the responsibility of the owner.

Full Name/ Company Name Jason Visilei, Homeworld design + build ltd.

Position/ Title Designer

Contact Details

Postal address 401 WESTERN HILLS DRIVE, WOODHILL, WHANGAREI Post code 0110

Phone 4383779 Mobile —

Email jasonv@homeworld.co.nz

Signature Jason Visilei Date 18/06/2024

Site Address

Street/Road Number 5 Street/Road Name RANGIKORERO PLACE

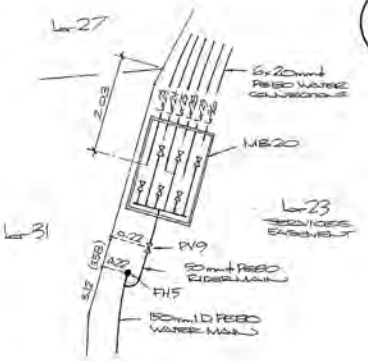
Town or Area WHANGAREI Lot 27 DP 323886

Office Use Only

Property ID:	116145		
LLP number:	109436	Date:	19/06/2024
Related Consents:	BC2400419		

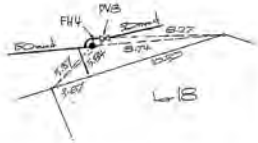
WATER SERVICES APPROVED

Signed ____ Date 04/07/2024



DETAIL 'H'

NOT TO SCALE



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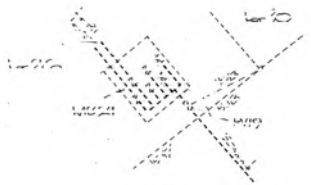

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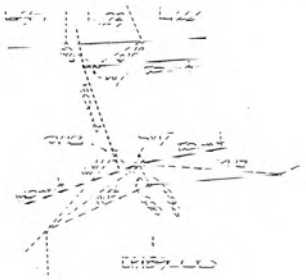


DETAIL 'E'

SEE SHEET 5

AS BUILT
Received By
Date 20/8/24

8617

	DATE	AMENDMENT
SURVEYED:		
DRAWN:		
CHECKED:		
APPROVED:		

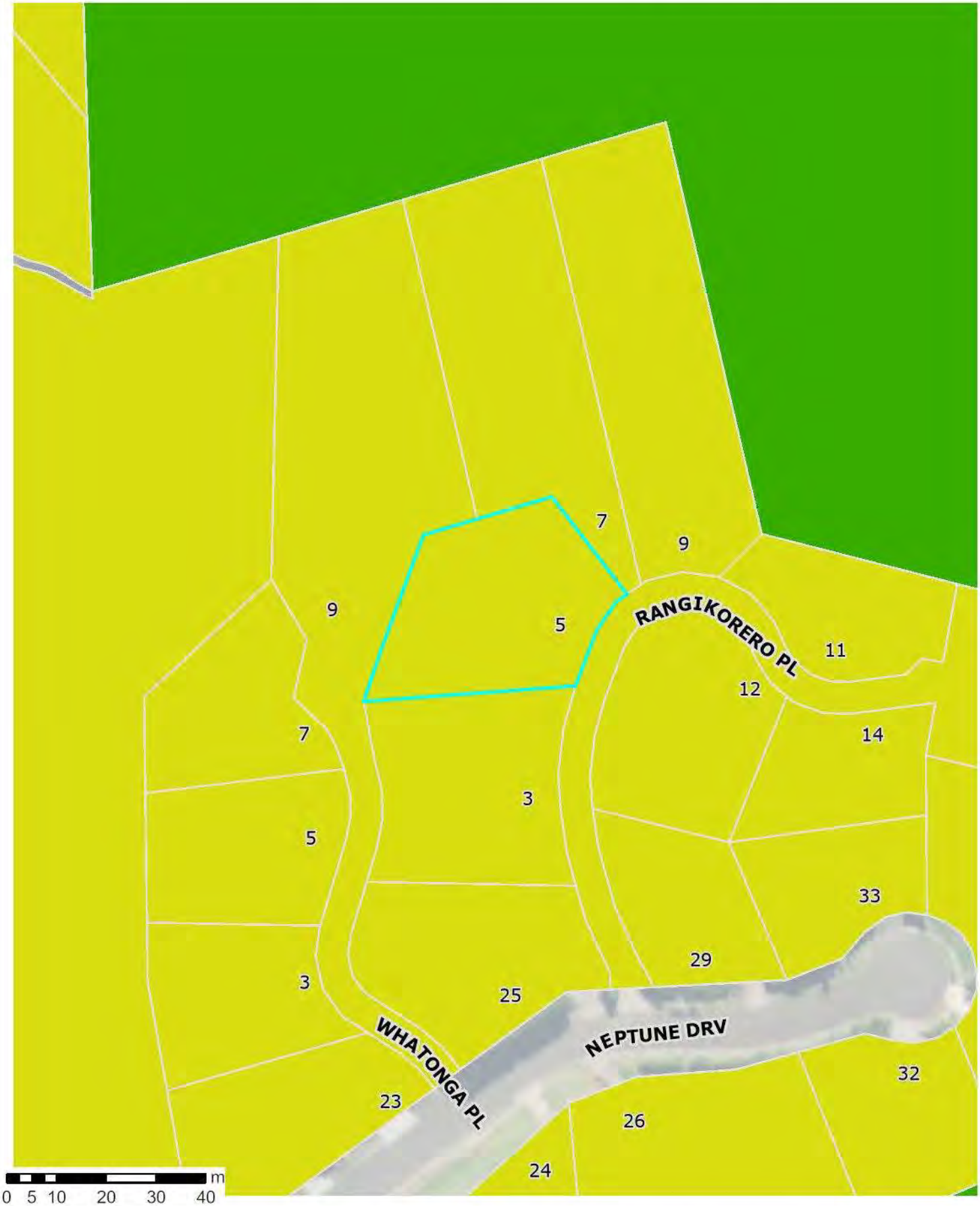
'AS BUILT' PLAN – WATER RETICULATION
SUNSET HEIGHTS SUBDIVISION – STAGE 1 (DP 323886)
QUADCOM PROPERTIES LTD – McLEODS BAY, WHANGAREI. WDC REF. RC33996

REYBURN & BRYANT
SURVEYORS, PLANNERS, RESOURCE MANAGERS
7 SELWYN AVENUE, WHANGAREI
P.O. BOX 191
PHONE 09 4383563 FAX 09 4380251

JOB No: A9346
SHEET 6 OF 9 SHEETS
ORIGINAL
SCALE: (A1) 1:500

8617/6

Operative District Plan - Area Specific Matters

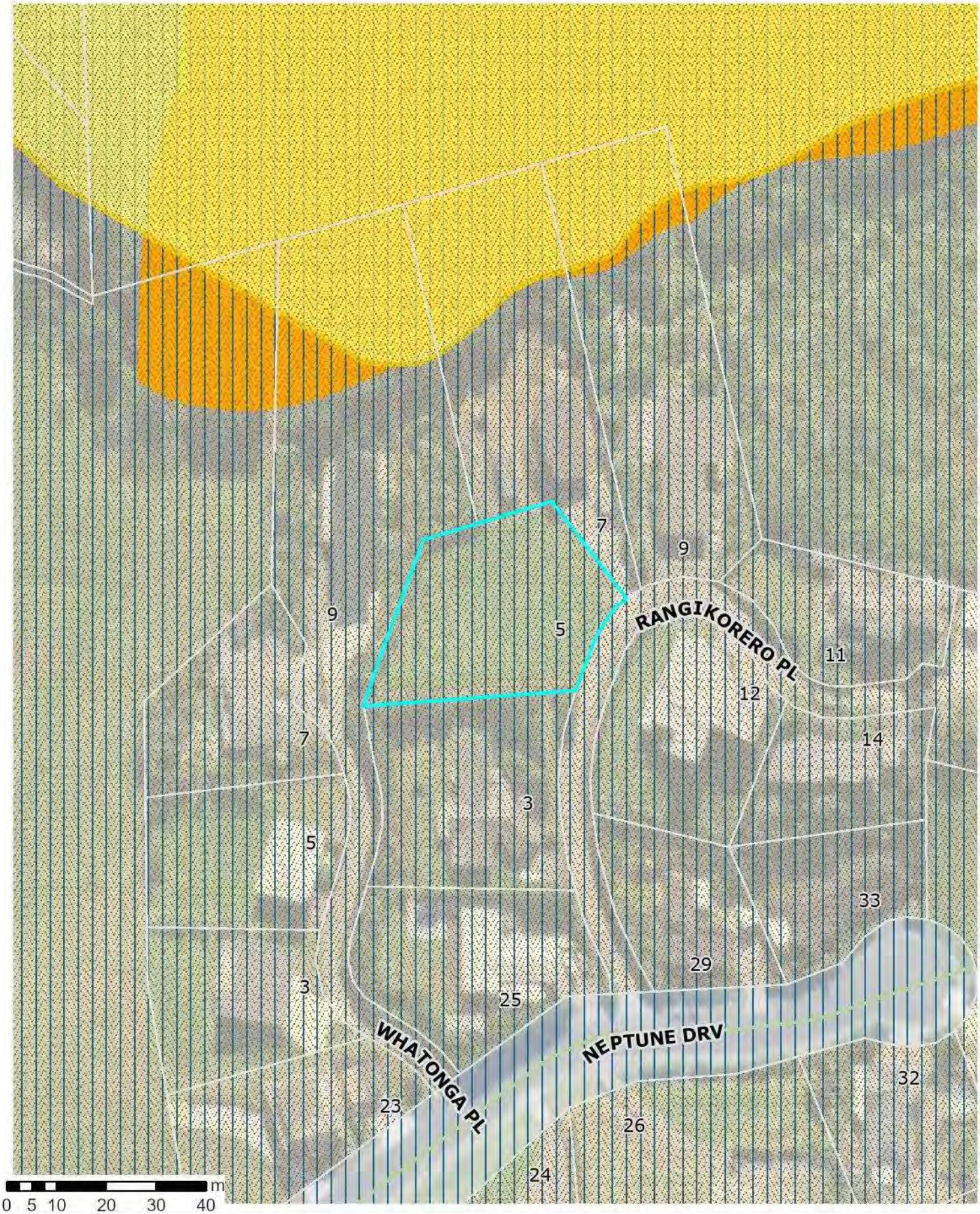


The information displayed is schematic only and serves as a guide. It has been compiled from Whangarei District Council records and is made available in good faith but its accuracy or completeness is not guaranteed.

28 August 2025
Scale 1:1,000

Operative District Plan - District-Wide Matters

Whangarei District Council



The information displayed is schematic only and serves as a guide. It has been compiled from Whangarei District Council records and is made available in good faith but its accuracy or completeness is not guaranteed.

28 August 2025
Scale 1:1,000

Operative District Plan – Map Legend

District-Wide Matters

Energy, Infrastructure and Transport

- Airport Runway
- Indicative Road
- National Road
- Regional Road
- Arterial Road
- Primary Collector Road
- Secondary Collector Road
- Low Volume Road
- Access Road
- Strategic Road Protection Area
- Strategic Railway Protection Line
- National Grid Tower
- Northpower Tower CEL-Cat1
- National Grid Line
- Northpower Overhead Critical Line Cel-Cat1
- Northpower Critical Overhead Lines CEL
- Northpower Critical Underground Lines CEL

Hazards and Risks

- Coastal Erosion Hazard 1
- Coastal Erosion Hazard 2
- Flood Susceptible Areas
- Mining Hazard Area 1
- Mining Hazard Area 2
- Mining Hazard Area 3

Historical and Cultural Values

- Notable Tree Overlay
- Heritage Item Overlay
- Heritage Area Overlay
- Sites of Significance to Maori
- Areas of Significance to Maori

Natural Environment Values

- Esplanade Priority Area
- Coastal Marine Area (CMA) boundary
- Goat Control Areas
- Outstanding Natural Feature
- Outstanding Natural Landscape

General District-Wide Matters

- Air Noise Boundary
- Outer Control Boundary
- Helicopter Hovering Area
- Noise Control Boundary Overlay
- Rail noise alert area
- Rail vibration alert area
- QRA Quarrying Resource Area
- QRA Mining Area
- QRA Buffer Area
- QRA 500m Indicative Setback
- Coastal Environment Overlay
- Outstanding Natural Character Area
- High Natural Character Area

Area Specific Matters

- Designation
- Precinct
- Development Area

Residential Zones

- Large Lot Residential Zone
- Low Density Residential Zone
- General Residential Zone
- Medium Density Residential Zone

Rural Zones

- Rural Production Zone
- Rural Lifestyle Zone
- Settlement Zone Residential Sub-Zone
- Settlement Zone Centre Sub-Zone
- Settlement Zone Industry Sub-Zone

Commercial and Mixed Use Zones

- Local Centre Zone
- Neighbourhood Centre Zone
- Commercial Zone
- Mixed Use Zone
- Town Centre Zone
- City Centre Zone

Industrial Zones

- Light Industrial Zone
- Heavy Industrial Zone

Open Space and Recreation Zones

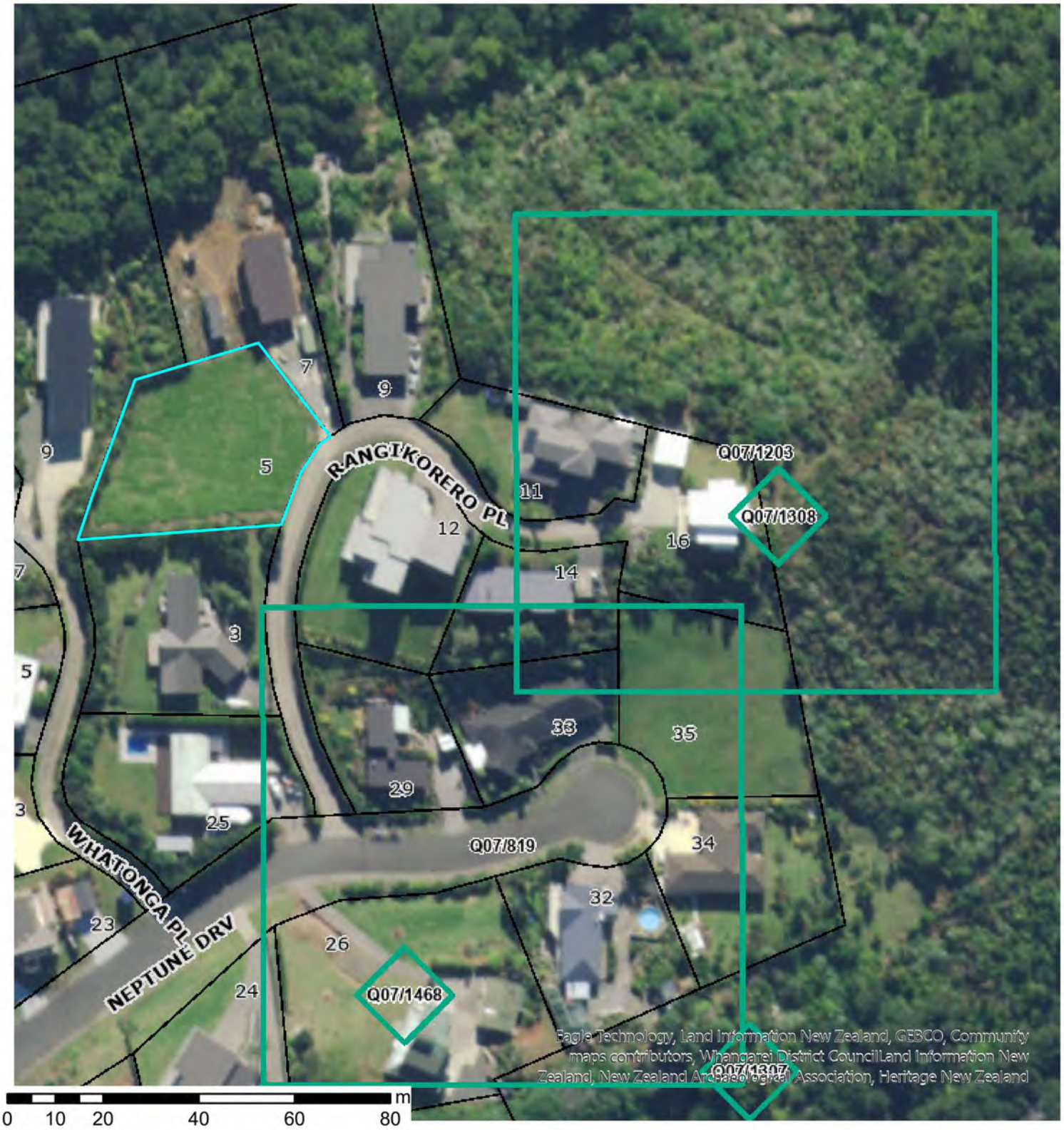
- Natural Open Space Zone
- Open Space Zone
- Sport and Active Recreation Zone

Special Purpose Zones

- Airport Zone
- Future Urban Zone
- Fonterra Kauri Milk Processing SRIZ – Ancillary Irrigation Farms
- Hospital Zone
- Port Zone
- Ruakaka Equine Zone
- Shopping Centre Zone
- Strategic Rural Industries Zone
- Waterfront Zone

Archaeological and Historical Sites

Whangarei District Council



Archaeological and Historical Sites

Heritage New Zealand Pouhere Taonga

The historic places data is sourced from Heritage New Zealand Pouhere Taonga.
https://www.heritage.org.nz/

28 August 2025
Scale 1:1,128

NZAA Sites

Approved

Pending - Edit

NZAA sites is sourced from the New Zealand Archaeological Association ArchSite.

Terms of use refer https://nzaa-archsite.hub.arcgis.com/pages/terms-use

To interpret the data refer https://nzaa-archsite.hub.arcgis.com/pages/help#:~:text=Interpreting%20ArchSite%20data

Private Bag 9023, Whangarei 0148, New Zealand
P +64 9 430 4200 | 0800 WDC INFO | 0800 932 463
E mailroom@wdc.govt.nz www.wdc.govt.nz

Section 87BA of the Resource Management Act 1991
Written Notice of Deemed Permitted Boundary Activity

IN THE MATTER of an application under Section 87BA of the Resource Management Act 1991 by Gordon Robert Law & Heather Jane Law.

To Gordon Robert Law & Heather Jane Law.

Application

Application Number: PB2400012

Property Id: 116145

Site

Address:	**5 Rangikorero Pl, Whangarei Heads**
Legal Description:	**Lot 27 DP 323886**
Relevant Interests:	**Consent Notice 6578874.8 – excavation and site preparation conditions**
Zone:	**Settlement Zone Residential (Sub – Zone 1)**
Resource Notations:	**Goat Control Area, Medium Effluent Unsuitability, Low Instability.**
Plan Changes:	**N/A**

Activity

Description of Activity:

The proposal is to construct a new residential unit on Lot 27 DP 323886 / 5 Rangikorero Pl. The proposed residential unit will infringe the height in relation to boundary on the north western adjacent boundary with 7 Rangikorero Pl.

Site Description:

The site is approximately 1422m^2 and is situated in Whangarei Heads. The area where the proposed residential unit will be located, is relatively steep and will require minimal earthworks given that the building platform will be on piles.

Aerial of Site (Source: WDC Maps)

Rule Infringements:

WDC Operative District Plan

The proposed residential unit infringes the SETZ-SZ1-R3 Building and Major Structure Height in Relation to Boundary rule on the north western boundary with 7 Rangikorero Pl.

Plan Numbers:

Plans titled: -

- "Site Plan" – prepared by Homeworld Design & Build, dated 10/06/24.
- "Elevations" – prepared by Homeworld Design & Build, dated 10/06/24.

Owner of Infringed Boundary:

Address	Legal Description	Name	Written Approval Obtained & Plans Signed
7 Rangikorero Pl	Lot 36 DP 323886	Stephanie Rix & Gavin Thomas	Yes

Plan depicting adjoining property (red dot) with the affected boundary. (Source: WDC GIS Maps)

Boundary Activity is Permitted

Discussion

The proposal is considered to be a Discretionary Activity under SETZ- SZ1-R3 Building and Major Structure Height in Relation to Boundary; however, the proposal can meet the criteria for a Permitted Boundary Activity as it complies with all other relevant bulk and location requirements of the Settlement Residential Zone.

Determination

That the Team Leader (RMA Consents) of the Whangarei District Council acting under powers delegated by Council pursuant to Section 34A of the Resource Management Act 1991 (the Act) is satisfied that the proposed activity described above meets the requirements of Section 87AAB and 87BA of the Act and is therefore a permitted activity under Section 87BA(1) of the Act.

Advice Note

1. This notice will lapse 5 years after the date it is given unless the activity permitted by this notice is undertaken.
2. A certificate of compliance (under Section 139 of the Act) cannot be applied for in respect of this activity.
3. This notice is valid only for the activity described. If the activity changes, a resource consent may be required.
4. The Team Leader RMA Approvals and Compliance shall be notified at least five (5) working days prior to activities commencing on the subject site.

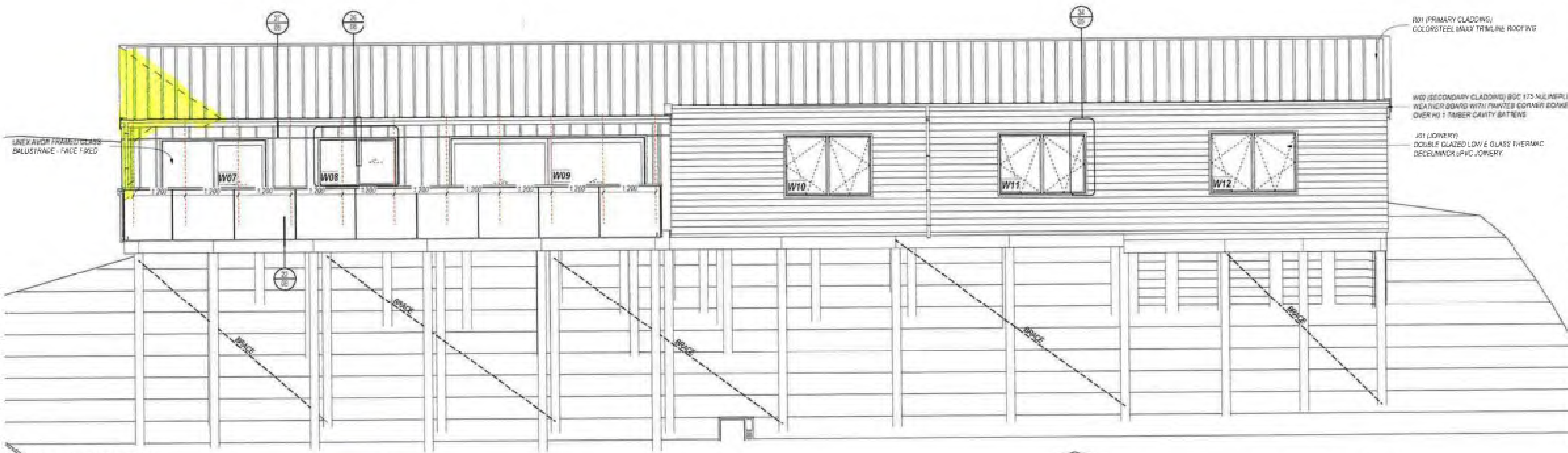
Sam Pickering
Planner – RMA Consents

20 June 2024
Date

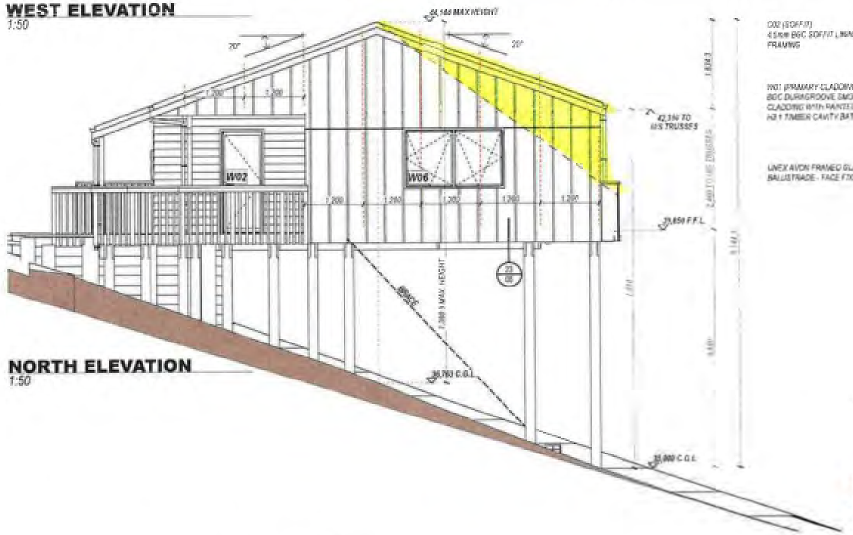
Kaylee Kolkman
Team Leader – RMA Consents

20 June 2024
Date

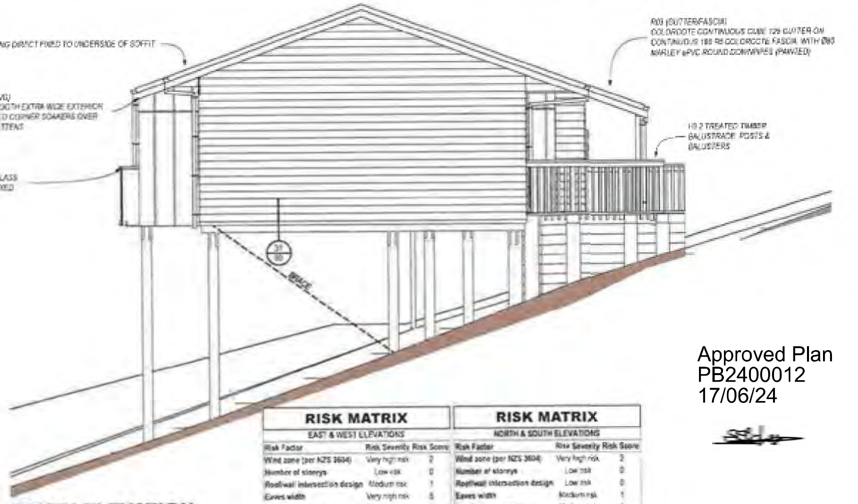
Approved Plan
PB2400012
17/06/24



WEST ELEVATION
1:50



NORTH ELEVATION
1:50



SOUTH ELEVATION
1:50

Approved Plan
PB2400012
17/06/24

RISK MATRIX		
EAST & WEST ELEVATIONS		
Risk Factor	Risk Severity	Risk Score
Wind zone (per NZS 3604)	Very high risk	2
Number of storeys	Low risk	0
Roof/wall intersection design	Medium risk	1
Eaves width	Very high risk	5
Envelope complexity	Medium risk	1
Deck design	Medium risk	2
Total Risk Score:		11

RISK MATRIX		
NORTH & SOUTH ELEVATIONS		
Risk Factor	Risk Severity	Risk Score
Wind zone (per NZS 3604)	Very high risk	2
Number of storeys	Low risk	0
Roof/wall intersection design	Low risk	0
Eaves width	Medium risk	1
Envelope complexity	Medium risk	1
Deck design	Medium risk	2
Total Risk Score:		6

EAST ELEVATION
1:50

11/6/24
11-6-24
10/6/24

TYPICAL NOTES:

FLOORS
F01 (TYPICAL DWELLING)
KOPINE ULTRALOCK 20mm PARTICLE BOARD FLOORING LAID ON H1.2 JOISTS. EXPOL UNDERFLOOR R1.4 EPS INSULATION LAID BETWEEN JOISTS

F02 (DECK)
EX 150x25mm PINE DECKING SMOOTH. LAID ON H3.2 JOISTS @ CRS. SHOWN ON FLOOR FRAMING PLAN

F03 (FLOOR WET AREAS)
BGC DURAFLOOR FIBRE CEMENT FLOORING LAID OVER H1.2 FLOOR JOISTS. EXPOL UNDERFLOOR R0.9 EPS INSULATION LAID BETWEEN JOISTS

F04 (GARAGE)
WIRE MESH OVER 19mm H3.2 TREATED PLYWOOD FLOORING OVER H3.2 TREATED 140x45 NO.1 DECKING TIMBER LAID OVER H3.2 FLOOR JOISTS. EXPOL UNDERFLOOR R0.9 EPS INSULATION LAID BETWEEN JOISTS. PROVIDE CHICKEN MESH OVER PLYWOOD FOR ANTI SLIP SURFACE

WALL CLADDINGS
W01 (PRIMARY CLADDING)
BGC DURAGROOVE SMOOTH EXTRA WIDE EXTERIOR CLADDING WITH PAINTED CORNER SOAKERS OVER H3.1 TIMBER CAVITY BATTENS ON THERMAKRAFT WATERGATE PLUS BUILDING UNDERLAY INSTALLED AS PER MANUFACTURERS SPECIFICATIONS OVER H1.2 STUDS
W02 (SECONDARY CLADDING) BGC 175 NULINEPLUS WEATHER BOARD WITH PAINTED CORNER SOAKERS OVER H3.1 TIMBER CAVITY BATTENS ON THERMAKRAFT WATERGATE PLUS BUILDING UNDERLAY INSTALLED AS PER MANUFACTURERS SPECIFICATIONS OVER H1.2 STUDS

W05 (INTERIOR LINING)
10mm GIB LINING STOPPED TO LEVEL 4. (10mm GIB AQUALINE TO WET AREAS WITH GLOSS OR SEMI-GLOSS FINISH)
NOTE: 12mm BD UT PLYWOOD TO OUTDOOR LIVING AREA WITH PAINT FINISH
R2.6 WALL BATTS TO EXTERIOR WALLS (EXCLUDING GARAGE)

ROOFS
R01 (PRIMARY CLADDING)
COLORSTEEL MAXX TRIMLINE ROOFING
OVER THERMAKRAFT COVERTEK 401 ROOFING UNDERLAY ON
ON H1.2 SG8 PURLINS
ON H1.2 SG8 TILE BATTENS OVER THERMAKRAFT COVERTEK 401 ROOFING UNDERLAY

R03 (GUTTER/FASCIA)
COLORCOTE CONTINUOUS CUBE 125 GUTTER ON CONTINUOUS 185 R5 COLORCOTE FASCIA. WITH Ø80 MARLEY uPVC ROUND DOWNPIPES (PAINTED)

CEILINGS
C01 (CEILING LINING)
13mm GIB LINING FIXED TO UNDERSIDE OF BARRACUDA STEEL BATTENS @ 600CRS MAX. STOPPED TO LEVEL 4 (13mm GIB AQUALINE TO WET AREAS WITH GLOSS OR SEMI-GLOSS FINISH)
NOTE: 12mm BD UT GROOVED PLYWOOD CEILING TO KITCHEN/DINING/LIVING AREA. 12mm BD UT PLYWOOD TO OUTDOOR LIVING AREA. USE 70x35mm H1.2 TREATED TIMBER BATTENS @ 600mm CTRS TO PLYWOOD LINED CEILING AREAS
R7.0 BLANKET INSULATION ON CEILING BATTENS BETWEEN TRUSS BOTTOM CHORDS
• C02 (SOFFIT)
4.5mm BGC SOFFIT LINING DIRECT FIXED TO UNDERSIDE OF SOFFIT FRAMING

JOINERY
• J01 (JOINERY)
DOUBLE GLAZED LOW E GLASS THERMAC DECEUNINCK uPVC JOINERY

TIMBER TREATMENT
TREATMENT LEVELS TO COMPLY WITH NZBC CLAUSE B2/AS1 DURABILITY. NZS3602: TIMBER AND WOOD BASED PRODUCTS FOR USE IN BUILDING AND NZS3640 CHEMICAL PRESERVATION OF ROUND AND SAWN TIMBER
H1.2 ALL WALL FRAMING AND ASSOCIATED MEMBERS ROOF FRAMING, TRUSSES AND CEILING JOISTS ENCLOSED FRAMING WITHIN SKILLION / FLAT ROOFS
H3.1 CLADDING CAVITY BATTENS

DURABILITY
DURABILITY OF STRUCTURAL FIXINGS FOR ZONE D FIXINGS ARE TO COMPLY WITH NZBC B2 DURABILITY AND NZS3604:2011 SECTION 4 - DURABILITY.
ALL STRUCTURAL FIXINGS ARE TO BE TYPE 304 OR 316 STAINLESS STEEL

FLASHING AND WRAP SYSTEMS
ALL FLASHINGS, FLASHING TAPES, WRAPS, UNDERLAYS AND ASSOCIATED ACCESSORIES ARE TO BE INSTALLED STRICTLY IN ACCORDANCE WITH THE MANUFACTURERS SPECIFICATIONS

NOTE: ALL BOLTS SHALL HAVE 50SQ X 3MM WASHERS TO TIMBER FACES

-	-/-/-	-	-
REV.	DATE	DESCRIPTION	DRAWN

ONLY COUNCIL STAMPED PLANS TO BE USED FOR CONSTRUCTION. IF ANY DOUBT DURING BUILDING WORK CONSULT WITH DESIGNER.
DO NOT SCALE OFF PLANS

homeworld
design & build

40 WESTERN HILLS DRIVE
PO BOX 297, WHANGAREI
WWW.HOMEWORLD.CO.NZ
PH: (09) 438 7779

LAW RESIDENCE
5 RANGIKORERO PLACE, -, WHANGAREI, 0110
GPS - -35.812961°S 174.307312°E

ELEVATIONS & WINDOW SCHEDULE

BC SET

DATE:	10/06/2024
REVISION:	-
SHEET SIZE:	A1
JOB NO:	5139FR JOB NUMBER
DRAWN:	--
PAGE:	03 OF 011