LIM

LAND INFORMATION MEMORANDUM

People • Plan • Progress

Western Bay of Plenty
District Council

24 STINGRAY DRIVE CENTRAL

INFORMATION IN A LIM

INCLUDES:

RATES AND WATER RATES

- Current Rating Valuation
- Annual Rates
- Outstanding Rates amounts
- Water Charges

SEWER AND STORMWATER

- Whether the property has district sewer available and whether it is connected

SPECIAL LAND FEATURES

- Including potential erosion, filing, flooding avulsion, falling debris, slippage, alluvion, or inundation.
- The status of the land in relation to the contamination of soil by hazardous substances
- Weathertight Homes information (if relevant)
- Any relevant reports or information held by council in relation to the property

ARCHAEOLOGICAL SITES

- Any relevant Archaeological sites.

BUILDING CONSENTS, LICENSES & REQUISITIONS

- Building Permits/Consents issued on the property
- Any outstanding works, Code Compliance Certificates for consents issued since 1993
- If a Compliance Schedule has been issued for the building and when the related Warrant of Fitness expires

LICENCES AND ENVIRONMENTAL HEALTH

- Whether the property has a licence relating to the sale of food, the sale of liquor or any other licence (under Health Act 1956)

ENFORCEMENTS AND NOTICES

- Any notice, order, or requisition affecting the land or any building on the land previously issued by Council

PLANNING / RESOURCE MANAGEMENT

- Zoning of the property as defined by Operative and/or Proposed District Plans
- All Resource Consents approved in relation to the property
- Long term Community Plans
- Structure Plans

DRAINAGE AND WATER

- Information on public stormwater and wastewater pipelines on the property as shown on Councils log plans
- Water toby location

MAPS

- Maps relating to the property including Aerial Photo, Land Information, District Plan and Deposited Plan.

INFORMATION NOT RECEIVED IN A LIM:

- Building Plans
- For information in relation to State Highways please contact New Zealand Transport Agency
- Western Bay of Plenty District Council does not hold any information concerning electricity, gas and tele phone connections.
- Computer Registers (previously called Certificate of Title).

LAND INFORMATION MEMORANDUM

Section 44a, Local Government Official Information and Meetings Act 1987

15 December 2022

P/1226/4

HICKMAN, JOSEPHINE ANNE
184E PRESTIDGE ROAD
RD 4
KATIKATI 3181

Thank you for your application for a Land Information Memorandum.

The original of this LIM has been prepared pursuant to S.44A of the Local Government Official Information and Meetings Act 1987, solely for the applicant, and contains information known to Council within its records and only relevant to the site requested. The reliance by other parties on the information within this LIM shall be at that other parties' sole risk. If any interpretation or explanation is required on any of the enclosed information or plans, the services of an independent advisor or consultant should be sought.

It is recommended that the Certificate of Title, which is not issued by Council, be searched by the purchaser. The LIM does not necessarily include information relating to private covenants or other memoranda affecting the title and those should be obtained from a title search.

In preparing this report, no Council inspection of the property has been undertaken.

This Land Information Memorandum is valid as at the date of issue only.

Yours faithfully

Regulatory Services – Environmental Consents Team
Email: consentsadmin@westernbay.govt.nz

APPLICANT

Client Name:	
Applicant Name:	HICKMAN, JOSEPHINE ANNE 184E PRESTIDGE ROAD RD 4 KATIKATI 3181
Postal Address:	184E PRESTIDGE ROAD RD 4 KATIKATI 3181
Application Date:	05 Dec 2022
Issue Date:	15 December 2022

PROPERTY

Property Owner:	STINGRAY INVESTMENTS LIMITED
Valuation No:	06829 003 33
Location:	24 STINGRAY DRIVE CENTRAL
Legal Description:	LOT 28 DP 525703
Area (hectares):	0.0655

Copies of any relevant deposited plans are included in the Map Section of this LIM.

RATES AND WATER RATES

The information provided on rates/financial details in this report may not reflect the current details of the legal description/valuation on your application form. This may be due to the property being under subdivision or that the information has not yet been provided or updated for the current valuation and improvements for this financial year.

Note: Rates, Rateable Valuation Details and Water Rates relate to a valuation number. This may be linked to other properties, or a parent property. For this Land Information Memorandum, the valuation number 06829 003 33 is linked to Lot 28 Deposited Plan 525703.

Land Value:	$385,000
Improvements:	$630,000
Capital Value:	$1,015,000
Tree Value:	$0

Annual Rates:	$4,217.66
Rates Owing:	$0.00

Note: For the period until rates are "set" the Current Annual Rates and Rateable Valuation Details should not be relied upon and any queries should be directed to the Rates department.

Rates are charged in two equal instalments for the period commencing 1 July and ending 30 June each year.

Water Rates – This information applies to Western Bay of Plenty District Council systems only. In some parts of Tauriko, Papamoa, Pyes Pa and Oropi, properties are served by Tauranga City Council system.

Metered Water	YES
Date of Last Reading	30 Aug 2022
Connected	YES
Available	YES
Owing	$0.00

Water rates may be outstanding on this property as meter readings are completed six monthly.

Further information about Council's water supply and water quality is available from Council's website. Please refer to the Western Bay of Plenty District Council's Water Supply System Bylaw 2008: Water Supply System Bylaw 2008

Rates information and valuation history can be found online at the Western Bay of Plenty District Council website: Rating Information Search

For any information regarding Maori Land, please contact the Waiariki or Waikato/Maniapoto Office of the Maori Land Court or view their website and online records at: http://www.justice.govt.nz/courts/maori-land-court

BUILDING

This information is a record of details held on Council files and may not reflect the situation on site if work has been undertaken without consent. If Council holds any as-built drainage plans relevant to this property they will be included in the attachments section of this LIM.

Building Consents:		
BC	**Project**	**Status of Consent**
91996	NEW RETAINING WALL	CCC FINAL ISSUED 31 Dec 2019
92233	NEW DWELLING AS SHOWHOME	CCC FINAL ISSUED 23 Jan 2020

Building, Plumbing and Drainage Permits issued prior to 1993 will not have a Code Compliance Certificate as the requirement for this did not come into effect until 1 January 1993.

Any information held by council relating to Building Permits will be listed on the Historical Data page at the back of this section in your LIM.

Information regarding buildings where Council holds no records of consents:

The absence of records for building permits or consents may mean any of the following:

- The building was erected without a permit or consent.
- The building work may be exempt from requiring a permit/consent.
- A Council record is unable to be located.

If building work was carried out without a building permit prior to the 1991 Building Act, or without obtaining building consent under the Building Act 1991 or Building Act 2004, then there is no authority under those Acts for the Council to retrospectively issue a building consent for the work.

For buildings erected prior to the commencement of the Building Act 1991, without any building permit or for which Council holds no records, then Council is generally unlikely to take any action against the current owners of that building unless the building is unsafe or insanitary in terms of the Building Act 2004 or the Health Act 1956. This assumes that the building complies in all other respects with other statutory requirements.

For post-Building Act 1991/Building Act 2004 work, for which the Council holds no record, or the work is not exempt, it is likely that the building work was carried out without consent. If so, the property owner and the person who carried out the work may have contravened the Building Act 1991 and Building Act 2004 and enforcement action may be taken at the Council's discretion. However some building work is exempt from requiring a permit/consent. This generally applies to small buildings or structures and minor alterations. Irrespective of whether consent is required the Building Act requires that all building work must comply with the Building Code. Potential purchasers of properties requiring further information on building work are advised to engage a qualified building professional to inspect and report.

A certificate of acceptance can be applied for when work is done without a building consent after 1 July 1992, or in specific circumstances when a code compliance certificate (CCC) can't be issued.

For further information go to – https://www.building.govt.nz

Certificate of Acceptance:	
COA	**Status**
None Known	

Compliance Schedules / Building Warrant of Fitness:	
Premise	**Notes**
None Known	

Any other information affecting this Property is listed below:
-COUNCIL SERVICES There are Council Services on this property (refer to the Land Information Map in the Map Section of this LIM). It is Council policy that no building shall be built closer than the greater of: a. 1.5m from the centre of any public sewer, stormwater or water pipe. b. within 1.5m of rising main c. the depth of the pipe inverted from the ground surface. To construct a building within these requirements written permission must be granted by Councils Utilities Manager.

LICENCES AND ENVIRONMENTAL HEALTH

Premise Registration:		
Premises	**Category**	**Licence Status**
None Known		

Liquor Licences:			
Type	**Status**	**Licence No**	**Date Issued**
None Known			

ENFORCEMENTS AND NOTICES

Enforcements and Notices:				
Parcel ID	**Notice Type**	**Comments**	**Date Issued**	**Date Complied**
None Known				

SPECIAL LAND FEATURES

This section of the LIM includes any Special Land Features known in relation to this property such as Flooding, Hazardous Contaminants, Erosion, Alluvium, Avulsion, Falling Debris and Subsidence.

It is the landowner's responsibility to determine whether the property is suitable for any proposed activity or whether any proposed building site is suitable for development (and to undertake tests if necessary).

Any information relating to Weathertight Homes Resolution Services Act 2006 – Section 124 would be included in the attachments section of this LIM.

Any relevant reports held by Council are included in the attachments.

ARCHAEOLOGICAL SITES

Please refer to the Map Section for any relevant Archaeological Sites.

Information on Archaeological Sites and Heritage Features in the Western Bay of Plenty District can be found online:

- New Zealand Archaeological Association - http://www.archsite.org.nz/
- Heritage New Zealand - http://www.heritage.org.nz/

SEWER AND STORMWATER

Services: See attached Land Information map
District Sewer Connected: YES
District Sewer Available: YES

Septic Tanks
Almost all properties with a dwelling in Te Puna West, Ongare Point and Tanners Point will be served by a septic tank and will likely be part of Bay of Plenty Regional Council's compulsory septic tank maintenance programme. The maintenance programme involves professional regular emptying of septic tanks and checks to ensure they are working properly. Inspections are carried out by Bay of Plenty Regional Council certified operators at a cost to the home owner. Should a system fail the inspection, it may need to be upgraded or modified. For a property in any of these three locations please contact Bay of Plenty Regional Council direct on 0800 884 880 to check the status of the wastewater system. Note that information on septic tanks is only held by the Regional Council for properties in the maintenance areas.

If a sewer is available, under the Local Government Act 1974, the property must connect to the sewer if the sewer is within 30m of the property boundary or if the sewer is within 60m of the dwelling.

Most septic tanks in the Western Bay of Plenty are permitted provided they are adequately maintained, however when a dwelling has a bedroom added the wastewater system generally must be upgraded to meet the current standard.

Changes to Septic Tank Requirements
Following a Regional Plan change in August 2014 the only remaining Western Bay communities involved in the compulsory septic tank maintenance programme are Te Puna West, Ongare Point and Tanners Point.

Te Puna West and Ongare Point septic tanks will lose their permitted status on 1 December 2015 and become discretionary. Each property must then either connect to a sewer where it is available, install an Aerated Wastewater Treatment System or obtain a resource consent for some other wastewater disposal system. This may involve an upgrade of the septic tank system.

Please contact Bay of Plenty Regional Council directly 0800 884 880 if you have any questions.
Maps of the maintenance areas can be viewed at the Regional Council website: https://www.boprc.govt.nz/your-council/plans-and-policies/plans/regional/on-site-effluent-treatment-regional-plan/ (Schedule 10)

NETWORK UTILITY OPERATORS

Western Bay of Plenty District Council does not hold any information concerning electricity, telecommunication and gas connections. Information may be obtained from the relevant companies.

PROJECTS

We work to provide good-quality local infrastructure and local services to our communities.
To read about projects within your district please visit the Current Projects page on our website.

PLANNING/RESOURCE MANAGEMENT

This property is zoned **RES**
FUTUREURBA for more information on this zone refer to the District Plan (link below).

District Plan Status
Information regarding current status of the District Plan including rules, maps and performance standards, plus any proposed plan changes can be found online:

District Plan - Western Bay of Plenty District Council

Notified Plan Changes

- Plan Change 93. Te Puna Springs (Commercial) at 17 Te Puna Road
- Plan Change 94. Washer Road Business Park (Industrial) at 66 Washer Road

Plan Changes 93 & 94 were notified on 4 December 2021. Hearings were held on 6 & 7 July 2022 and a decision will be issued soon. For more information, please visit Council's webpage https://www.westernbay.govt.nz/property-rates-and-building/district-plan-and-resource-consents/district-plan/district-plan-changes.

- Plan Change 2 Ōmokoroa and Te Puke Housing Supply and Other Supporting Matters

  Plan Change 2 was notified on 20 August 2022. Submissions close on 16 September 2022. For more information, please visit Council's webpage https://www.westernbay.govt.nz/property-rates-and-building/district-plan-and-resource-consents/district-plan/district-plan-changes.

If you have any questions about the Plan Changes, please contact Council's Customer Service Team on 571 8008 or 0800 926 732.

RC Number	Status	Consent Type	Date Issued
10182	GRANTED	Earthworks - Stage 2 Omokoroa	28/10/2016
11230	GRANTED	Blanket Front Yard reduction - Stage 1B	14/02/2019
11303	GRANTED	Non-complying activity for a show home in the residential zone. (operate 7 days pw 1pm-4pm) and one sign (1.8m x0.8m)	22/02/2019

Any information held by council relating to Historic Planning Consents will be listed on the Historical Data page at the back of this LIM.

If there are any Consent Notices, Memorandum of Encumbrance, Deed of Covenant, Bush Protection Inspections and/or Yard Exemption Statements relevant to this property they will be included in the attachments section of this LIM.

Historical resource consents may have lapsed. Applicants are advised to verify the currency of resource consents with Council staff.
If Resource Consent has been granted on this property it does not infer that the conditions of the consent have been met. Applicants are advised to verify the status of Resource Consent with Council staff.

Any features identified in the Operative District Plan are listed below:

Any other features are listed below:
-LIQUEFACTION Council holds a report from Tonkin + Taylor Ltd entitled "Bay of Plenty Regional Liquefaction Vulnerability Assessment" (2021) (Report). This Report presents the results of a liquefaction mapping exercise for the Bay of Plenty Region. Liquefaction can occur when some saturated soils (typically silts and sands) lose strength and stiffness (temporarily behaving as a liquid rather than a solid) in response to earthquake shaking. The Report was prepared in accordance with the Ministry for the Environment (MfE) and Ministry of Business, Innovation and Employment (MBIE) "Planning and Engineering Guidance for Potentially Liquefaction Prone Land" (2017) to a Level A (basic desktop assessment) level of detail. A figure showing the liquefaction vulnerability categories recommended for use in the "Planning and Engineering Guidance for Potentially Liquefaction Prone Land" (2017) can be viewed on Council's natural hazards webpage (liquefaction subpage).

These categories are "liquefaction damage is unlikely", "liquefaction damage is possible" and "liquefaction category is undetermined".

The Report is referred to in this LIM because the subject property is identified based on information contained in the Report as having one or more of these categories.

The liquefaction maps from the Report are shown on the map contained in this LIM entitled "Natural Hazards (Not District Plan)" and shown on Council's interactive online natural hazard map. The latter allows a particular property to be searched for and can be viewed on Council's natural hazards webpage (liquefaction subpage).

"Liquefaction damage is unlikely" means a probability of more than 85 percent that liquefaction-induced ground damage will be none to minor in a 1-in-500 year earthquake shaking event. At this stage there is not enough information to distinguish between Very Low and Low (liquefaction vulnerability). More detailed assessment would be required to assign a more specific liquefaction category. Following more detailed assessment a classification of Medium or High (liquefaction vulnerability) is also a possible categorisation but based on the information available this is considered very unlikely.
"Liquefaction damage is possible" means a probability of more than 15 percent that liquefaction-induced ground damage will be minor to moderate (or more) in a 1-in-500 year earthquake shaking event. At this stage there is not enough information to distinguish between Medium and High (liquefaction vulnerability). More detailed assessment would be required to assign a more specific liquefaction category. Following more detailed assessment a classification of Very Low or Low (liquefaction vulnerability) is also a possible categorisation but this is considered less likely.

"Liquefaction category is undetermined" means that a liquefaction vulnerability category is undetermined, either because a liquefaction assessment has not been undertaken for this area, or there is not enough information to determine the appropriate category with the required level of confidence.

Council will be introducing changes to its District Plan in due course to update its maps to reflect the information contained in the Report. In the interim, Council will be relying on the information contained in the Report to exercise statutory functions such as making decisions under the Building Act and Resource Management Act.

The Report can be viewed on Council's natural hazards webpage (liquefaction subpage). The Report includes a liquefaction vulnerability map for the Region in Figure 4.2 on page 52.

This liquefaction subpage also contains information and Frequently Asked Questions (FAQs) relating to liquefaction and how it may affect the use of a property.

It can be viewed at www.westernbay.govt.nz/liquefaction.

Property Adjoining Reserves

Under Council's Reserve Management Plan any property adjoining a public reserve is not permitted to encroach onto that reserve. Where new encroachments occur or if an existing encroachment exists Council will give notice to the encroacher to remove the encroachment and reinstate the reserve at their own cost.

Please refer to the Reserve Management Plan.

Reserve Management Plans

Community Plans:

Council has a programme to help urban communities in the district develop long term plans that detail a vision for each community. Information regarding current Community Plans can be found online:

Community Planning

OTHER USEFUL INFORMATION

Western Bay of Plenty District Council provides the following discretionary information which it considers to be relevant in accordance with Section 44A(3) of the Local Government Official Information and Meetings Act 1987(LGOIMA)

Structure Plans

Structure plans have been developed by Council to assist in managing the Districts growth.

Waihi Beach	Katikati	Katikati Lifestyle Zone
Omokoroa Structure Plan	Tides Reach Rural-Residential	Minden Lifestyle Zone
Te Puna Business Park	Te Puke Structure Plan	Te Puke Lifestyle Zone
Te Puke West Industrial	Rangiuru Business Park	Comvita Campus

Bay of Plenty Regional Council

Regional Council (Environment BOP) polices and plans may affect the use and management of land, water and air and other natural and physical resources. Further information on whether a property is affected by any regional planning instrument or by some other function of the Regional Council is available from Environment BOP, on phone 0800 ENVBOP (884 880), or fax 0800 884 882.

Heritage New Zealand

Please refer to the Geographic Information Services (GIS) plan which will identify any registered archaeological sites over the property as a "U" number in the red box. If a site is recorded over the property on the GIS plan, an explanatory statement is attached. Please also refer to the District Planning Map, which will identify any significant heritage features over the property. If a significant heritage feature is recorded over the property, the provisions of Section 11 of the Operative District Plan apply. If the GIS plan or District Planning Map does not identify any archaeological site or heritage feature it should not be assumed there are no sites or features, only that Council has no record of such a site or feature. Property owners still have obligations under the Heritage New Zealand Pouhere Taonga Act 2014 in that it is an offence for anyone to destroy, damage or modify or cause to be destroyed, damaged or modified, the whole or part of any archaeological site, knowing or having reasonable cause to suspect it is an archaeological site.

Ministry for the Environment ("MFE")

The Ministry for Environment has published the "*National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health*" ("the NES"). These are regulations issued under sections 43 and 44 of the Resource Management Act and apply nationally. They are in place to ensure development is appropriately managed on land potentially subject to contamination from hazardous activities such as orchards or other al uses.

Each regional, city or district council must enforce the same standard through its Regional or District Plan. In some circumstances, councils can impose stricter standards.

If the intended activity is for subdivision of land, or a "change in use" of the land, then you may need to provide a Preliminary Site Investigation ("PSI"). The assessment can only be undertaken by a suitably qualified and experienced practitioner ("SQEP") as discussed in the NES. If you are unsure of whether this applies to you, please contact Council's Duty Planner on 07 571 8008. The Ministry for the Environment website contains further information on the NES at:
http://mfe.govt.nz/laws/standards/contaminants-in-soil/

HISTORICAL DATA

There are no historical building permit documents held for this property

There are no historical planning consent documents held for this property

MAPS

Aerial Photography

Land Information

Land Information Legend

District Plan

District Plan Legend

Other Natural Hazards (not in District Plan)

Natural Hazards Legend

Western Bay of Plenty District Council | For our people

Aerial Photo

0 25 Meters A4 Scale 1: 500

N

Western Bay of Plenty District Council | For our people

Land Information

0 — 25 Meters

A4 Scale 1: 500

N

Water Supply

- Main
- Rider Main / Connection
- Instruments - Meter / Toby
- Valve - Air Release
- Valve - Altitude
- Valve - Non Return / Backflow Preventer
- Valve - Butterfly
- Valve - Flow Control
- Valve - Flow Meter
- Valve - Hydrant
- Valve - Normally Closed
- Valve - Pressure Reducing
- Valve - Pressure Sustaining
- Valve - Scour
- Valve - Sluice
- End Cap
- Junction
- Treatment Plant
- Containment Structure - Reservoir or Tank
- Pump
- Well - Bore

Stormwater

- Gravity Main
- Gravity Main (Below 1:2000)
- Pressure Main
- Service Main / Connection
- Open Drain
- Grass Swale
- Catchpit
- Chamber - Box
- Chamber - Inspection Shaft
- Chamber - Manhole
- Soakhole
- Valve - Flood Gate
- Valve - Sluice
- Wing Wall
- Inlet
- Junction
- Outlet
- Pump
- RAMM Culvert
- Stormwater Drainage Reserve
- Stormwater Pond

Wastewater

- Gravity Main
- Gravity Main (Below 1:2000)
- Rising Main
- Service Main / Connection
- Chamber - Inspection Shaft
- Chamber - Manhole
- Mechanical - Grinder Pump
- Valve - Air / AirKnife
- Valve - Non Return
- Valve - Pressure Reducing
- Valve - Scour /Knife
- Valve - Sluice
- Inlet
- Treatment Plant
- Junction
- Outlet
- Instruments - Flow Meter
- Pump
- Wastewater Pond

Property

- Paper Road
- Property or Restrictive Area
- Building
- Hydro
- Railway
- Road
- Parcel
- TCC Water Catchment

Protected Land

- Statutory Acknowledgement Areas
- Consent Notice Covenant
- Ecological
- Environment Protection Actual Point
- Environment Protection Actual Line
- Environment Protection Actual Polygon
- Conservation Covenant
- QE II

Recommended For Protection

- Environment Protection Proposed Point
- Environment Protection Proposed Line
- Environment Protection Proposed Polygon
- Class 1
- Class 2
- Class 3

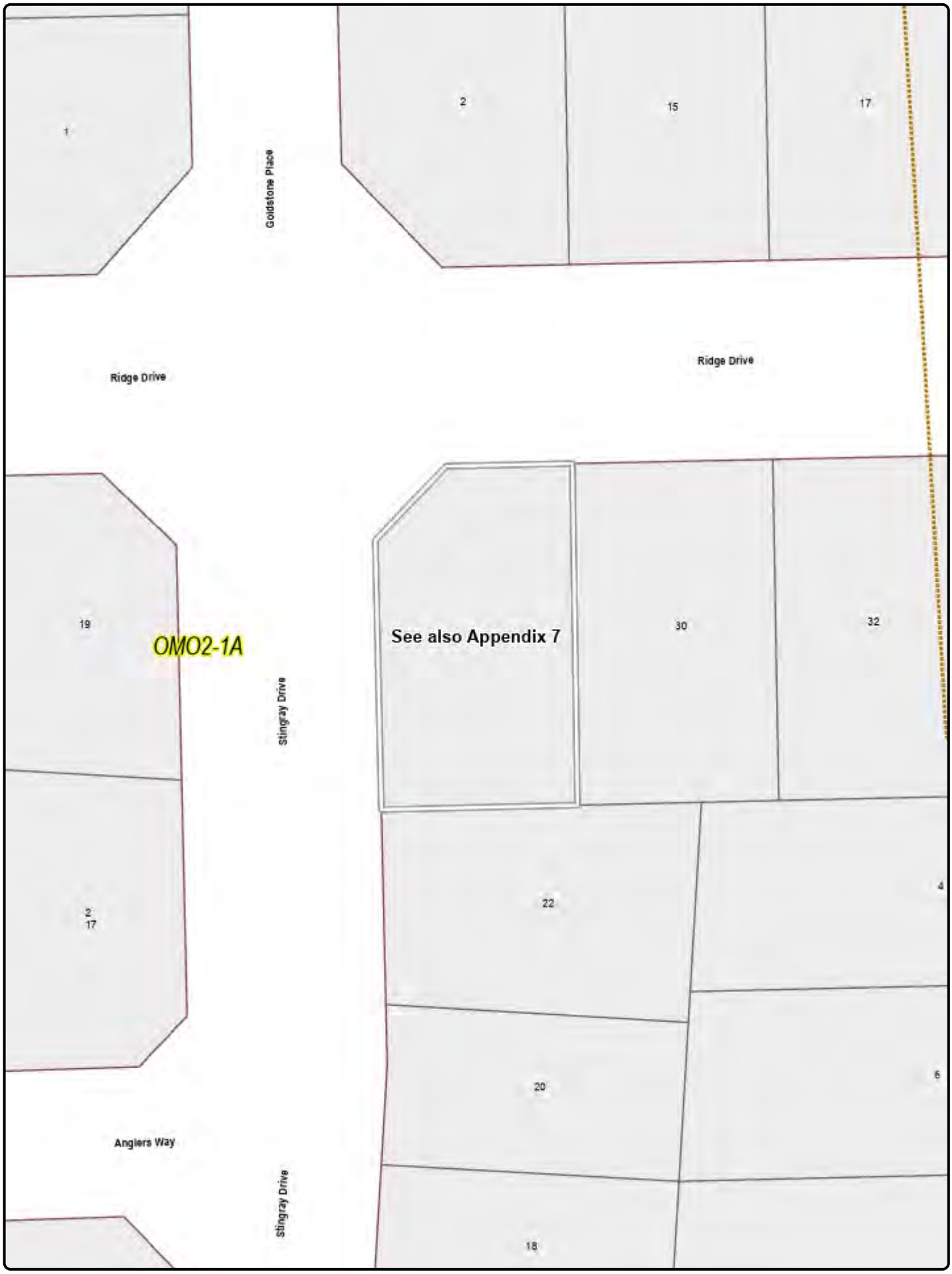
WBOP

- Other Councils
- Western Bay of Plenty
- Ocean, River, Stream
- Selected Parcel

Location of Services is indicative only.
Council accepts no liability for any error.

Western Bay of Plenty District Council | For our people

Land Information Legend



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District Plan

0 25 Meters A4 Scale 1: 500

N

Constraints

- Built Heritage Feature
- Cultural Heritage Feature
- Cultural Heritage Feature Boundary
- Coastal Erosion Area - Primary Risk (1)
- Coastal Erosion Area - Secondary Risk (1)
- Coastal Erosion Area - Access Yard
- Coastal Erosion Area – Rural
- Coastal Inundation Area
- Significant Ecological Feature / RAP
- Flood Hazard
- Outstanding Landscape Feature - 50m (S7a & S8a) - 40m (S9a)
- Outstanding Landscape Feature
- Stability Area - Minden A
- Stability Area - Minden B1
- Stability Area - Minden B2
- Stability Area - Minden C
- Stability Area - Minden U
- Stability Area - General
- Stability Area - Landslip
- Viewshaft

Infrastructure

- Airport Approach Surface
- Formed Roads
- Limited Access State Highways
- Stop Bank

Reserves

- Kaimai - Mamaku Forest Park Boundary
- Esplanade Strip
- Priority proposed esplanade strip/reserve
- Proposed esplanade strip/reserve
- Reserve
- Reserve, Department of Conservation

Structure Plans

- Greenlane
- Road
- Walk / Cycle Way
- Stormwater
- Wastewater Pump Station
- Wastewater
- Water Supply
- Stormwater Pond
- Identified Area (2) Flowpaths & Local Ecological Features
- Minden Lifestyle Structure Plan Area Overland
- Reserve Area
- Structure Plan Boundary

Urban Map Display

- Notable Trees
- Town Centre Boundary
- Designation

Zones

- Commercial
- Commercial Transition
- Future Urban
- Horticulture Post Harvest
- Industrial
- Lifestyle
- Medium Density Residential
- Residential
- Rural
- Rural Residential
- TECT All Terrain Park

Zone Overlays

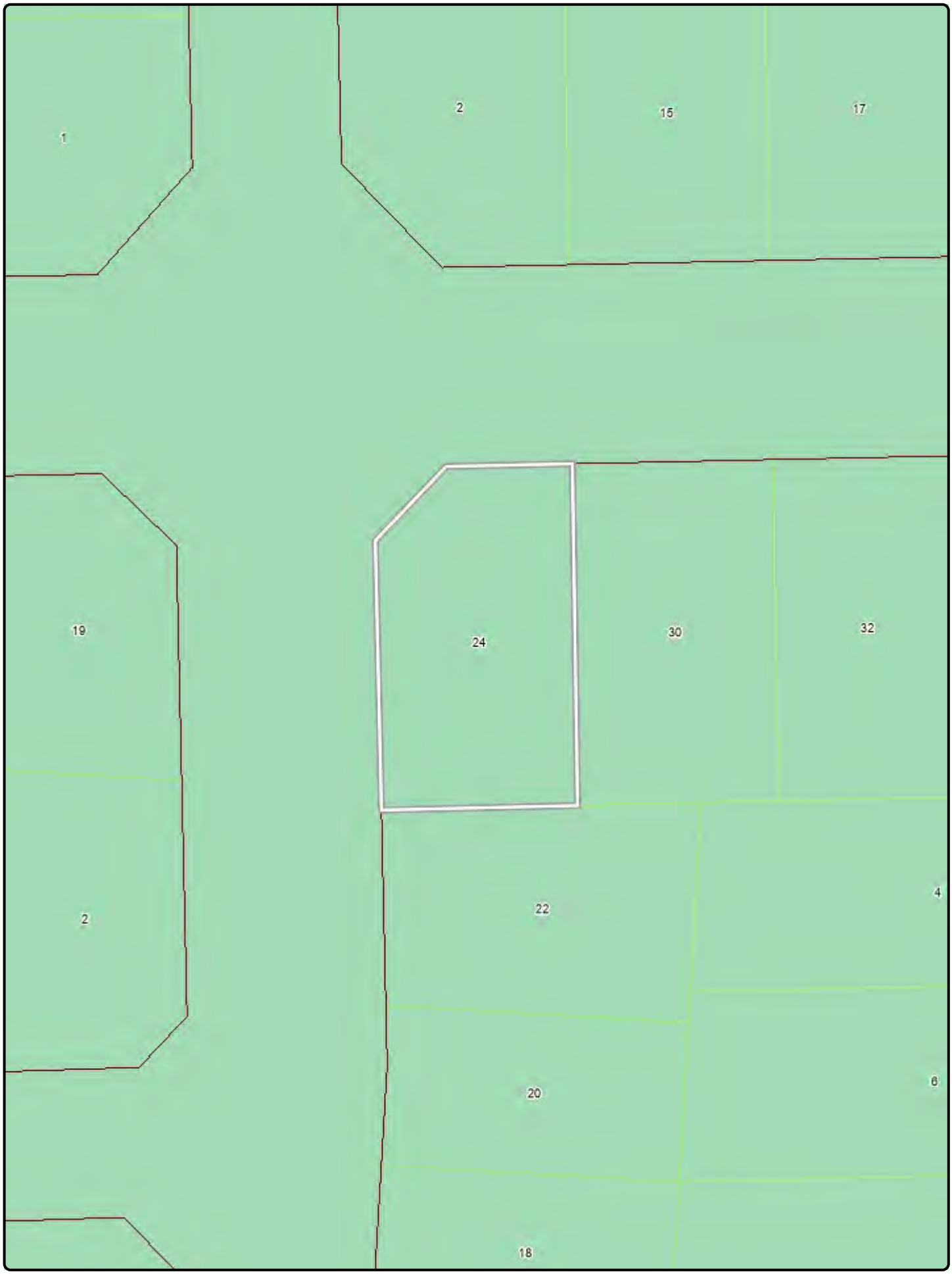
- Matakana Island Forested Sand Barrier
- TNL 100m Building Line Setback
- Electricity Transmission Line
- Electricity Transmission Line Buffer 16m (3)
- District Boundary
- Firing Range Exclusion Zone
- Quarry Effects Management Area

Bay of Plenty Regional Council should be consulted before undertaking any activity in the vicinty of Mean High Water Springs to establish the actual line of Mean High Water Springs.
Formed roads are indicated as white shading on the road land parcels. Unformed roads have the underlying zone indicated.

(1) Primary risk includes the whole of the red line and the land towards the sea. Secondary risk includes the whole of the green line up to the edge of the red line.
(2) The identified areas include; the community service area at Rangiuru, the central hub site within the All Terrain Park and buffer zones in Stage 2 Omokoroa and Binnie Road.
(3) Compliance with NZECP 34:2001 is required in this area for buildings/structures and earthworks. The distance quoted is from the centreline of the transmission line.

Western Bay of Plenty District Council | For our people

District Plan Legend



Western Bay of Plenty District Council | For our people

Natural Hazards (not District Plan)

0 25 Meters A4 Scale 1: 500

N

Other Natural Hazards

Legend

- Tauranga Harbour Coastal Erosion Year 2080
- Tauranga Harbour Coastal Erosion Year 2130
- Tauranga Harbour Coastal Inundation
- Katikati Floodable Area
- Ōmokoroa Floodable Area
- Te Puke Floodable Area
- Waihi Beach Floodable Area
- Wairoa Floodable Area
- Rural / Small Settlements Floodable Area
- Maketu/Pukehina Tsunami
- Liquefaction Damage is Possible
- Liquefaction Damage is Unlikely
- Liquefaction Category is Undetermined

Property

Legend

- Te Puke Floodable Area
- Paper Road
- Property or Restrictive Area
- Building
- Lease
- Hydro
- Railway
- Road
- Parcel
- Selected Parcel

Western Bay of Plenty District Council | For our people

Natural Hazards Legend

Title Plan - DP 525703

Survey Number	DP 525703
Surveyor Reference	Goldstone Stage 1B
Surveyor	Julia Marie Glass
Survey Firm	Maven Bay of Plenty
Surveyor Declaration	I Julia Marie Glass, being a licensed cadastral surveyor, certify that: (a) this dataset provided by me and its related survey are accurate, correct and in accordance with the Cadastral Survey Act 2002 and the Rules for Cadastral Survey 2010, and (b)the survey was undertaken by me or under my personal direction. Declared on 06 Nov 2018 05:13 PM

Survey Details

Dataset Description	Lots 27, 28, 35, 49, 52, 63, 64, 102, 103, 122, 204-209 being a subdivision of Lot 203 DP 519381		
Status	Deposited		
Land District	South Auckland	**Survey Class**	Class A
Submitted Date	06/11/2018	**Survey Approval Date**	13/11/2018
		Deposit Date	06/11/2018

Territorial Authorities

Western Bay of Plenty District

Comprised In

RT 825529

Created Parcels

Parcels	Parcel Intent	Area	RT Reference
Lot 27 Deposited Plan 525703	Fee Simple Title	0.0693 Ha	851745
Lot 28 Deposited Plan 525703	Fee Simple Title	0.0655 Ha	851746
Lot 35 Deposited Plan 525703	Fee Simple Title	0.0646 Ha	851747
Lot 49 Deposited Plan 525703	Fee Simple Title	0.0593 Ha	851748
Lot 52 Deposited Plan 525703	Fee Simple Title	0.0581 Ha	851753
Lot 63 Deposited Plan 525703	Fee Simple Title	0.0540 Ha	851752
Lot 64 Deposited Plan 525703	Fee Simple Title	0.0593 Ha	851749
	Road	0.6730 Ha	
Lot 103 Deposited Plan 525703	Vesting on Deposit for Local Purpose Reserve	0.0249 Ha	851750
Lot 122 Deposited Plan 525703	Fee Simple Title	0.0354 Ha	Multiple
Lot 204 Deposited Plan 525703	Fee Simple Title	1.2795 Ha	851751
Lot 205 Deposited Plan 525703	Fee Simple Title	0.1774 Ha	851752
Lot 206 Deposited Plan 525703	Fee Simple Title	0.5226 Ha	851752
Lot 207 Deposited Plan 525703	Fee Simple Title	0.3060 Ha	851752
Lot 208 Deposited Plan 525703	Fee Simple Title	0.2837 Ha	851752
Lot 209 Deposited Plan 525703	Fee Simple Title	0.1126 Ha	851752
Area V Deposited Plan 525703	Easement		
Area W Deposited Plan 525703	Easement		
Area X Deposited Plan 525703	Easement		
Area Z Deposited Plan 525703	Easement		

Title Plan - DP 525703

Created Parcels

Parcels	Parcel Intent	Area	RT Reference
Area AA Deposited Plan 525703	Easement		
Area AB Deposited Plan 525703	Easement		
Area AE Deposited Plan 525703	Easement		
Area AT Deposited Plan 525703	Easement		
Area AF Deposited Plan 525703	Easement		
Area AG Deposited Plan 525703	Easement		
Area AH Deposited Plan 525703	Easement		
Area AI Deposited Plan 525703	Easement		
Area AK Deposited Plan 525703	Easement		
Area AL Deposited Plan 525703	Easement		
Area AM Deposited Plan 525703	Easement		
Area AN Deposited Plan 525703	Easement		
Area AO Deposited Plan 525703	Easement		
Area AP Deposited Plan 525703	Easement		
Area AQ Deposited Plan 525703	Easement		
Area AR Deposited Plan 525703	Easement		
Area AS Deposited Plan 525703	Easement		
Area AY Deposited Plan 525703	Easement		
Area AZ Deposited Plan 525703	Easement		
Total Area		3.8452 Ha	

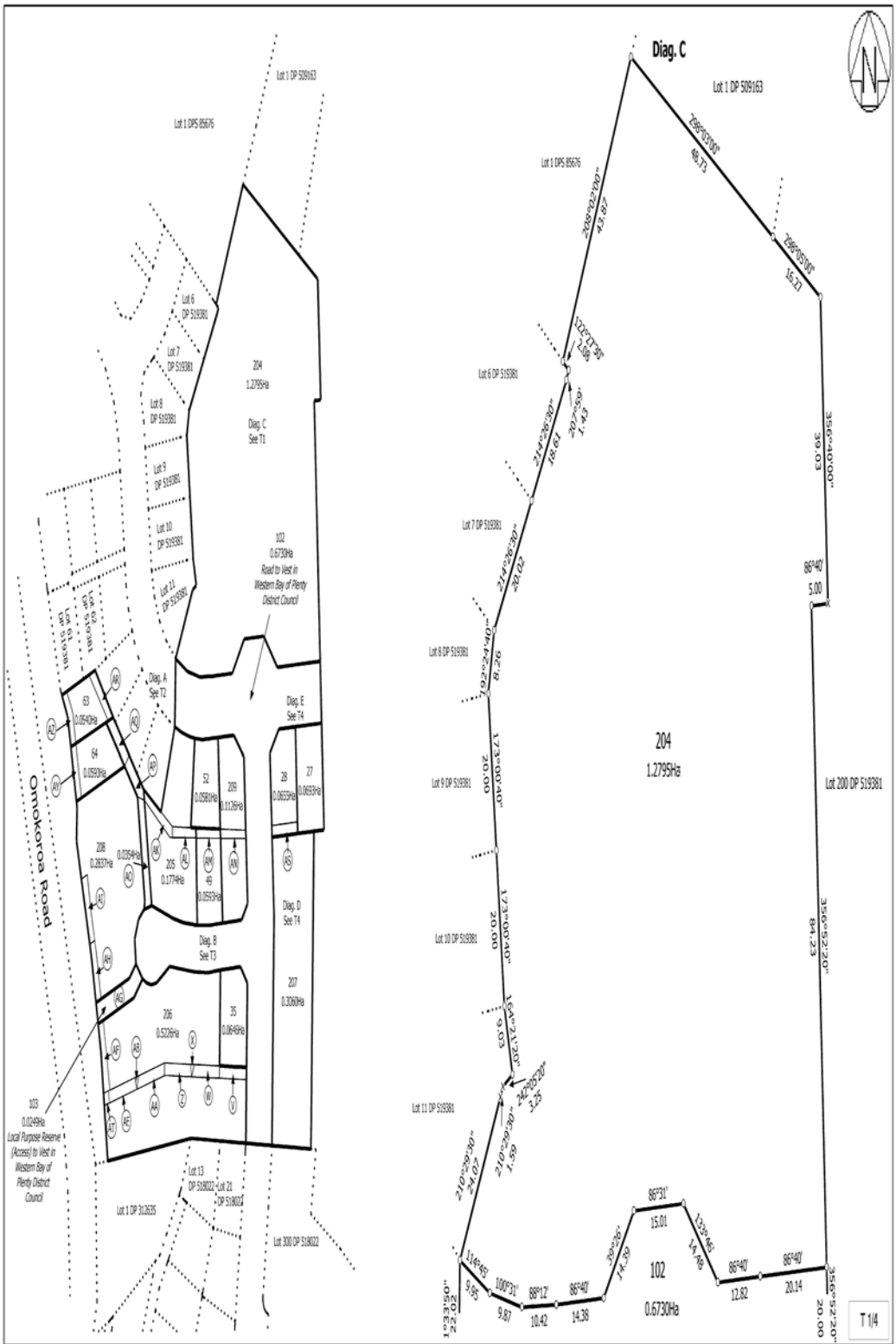
Plan Reference: DP 525703

Memorandum of Easements in Gross			
Purpose	**Servient Tenement**	**Shown**	**Grantee**
RIGHT TO DRAIN WATER AND RIGHT TO DRAIN SEWAGE	LOT 206	V	WESTERN BAY OF PLENTY DISTRICT COUNCIL
		W	
		X	
		Z	
		AA	
		AB	
		AE	
		AT	
		AF	
	LOT 103	AG	
	LOT 28	AS	
	LOT 49	AM	
	LOT 209	AN	
	LOT 205	AL	
		AK	
	LOT 122	AP	
		AQ	
	LOT 63	AR	
	LOT 208	AH	
		AI	
RIGHT TO CONVEY WATER	LOT 103	AG	

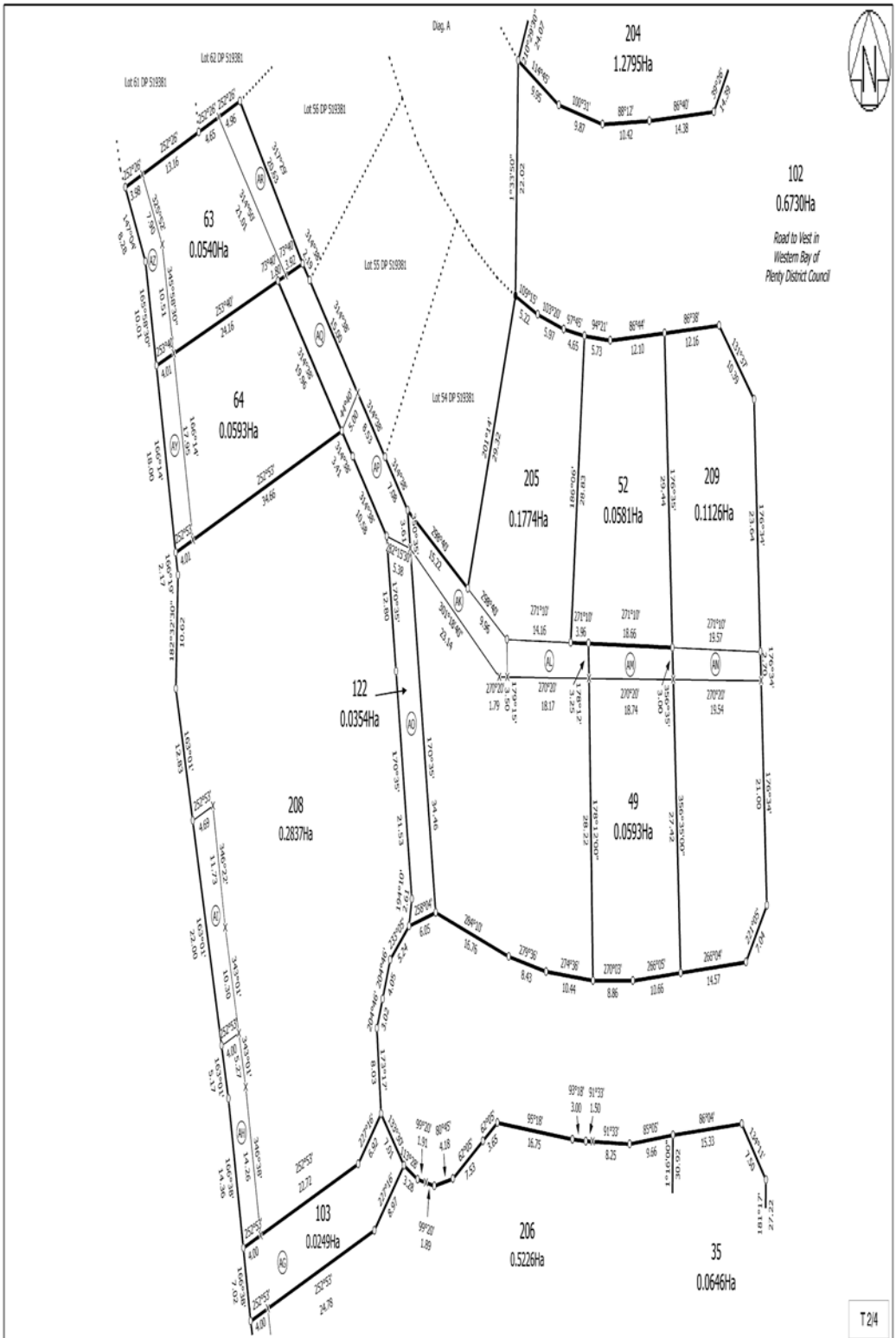
Memorandum of Easements			
Purpose	**Servient Tenement**	**Shown**	**Dominant Tenement**
RIGHT OF WAY, RIGHT TO CONVEY WATER, ELECTRICITY, TELECOMMUNICATION AND COMPUTER MEDIA	LOT 122	AO	LOT 63, 64, 208
		AP	
		AQ	LOT 63, 64

Schedule of Land Covenants		
Purpose	**Servient Tenement**	**Shown**
RESTRICTED BUILDING AREAS	LOT 63	AZ
	LOT 64	AY

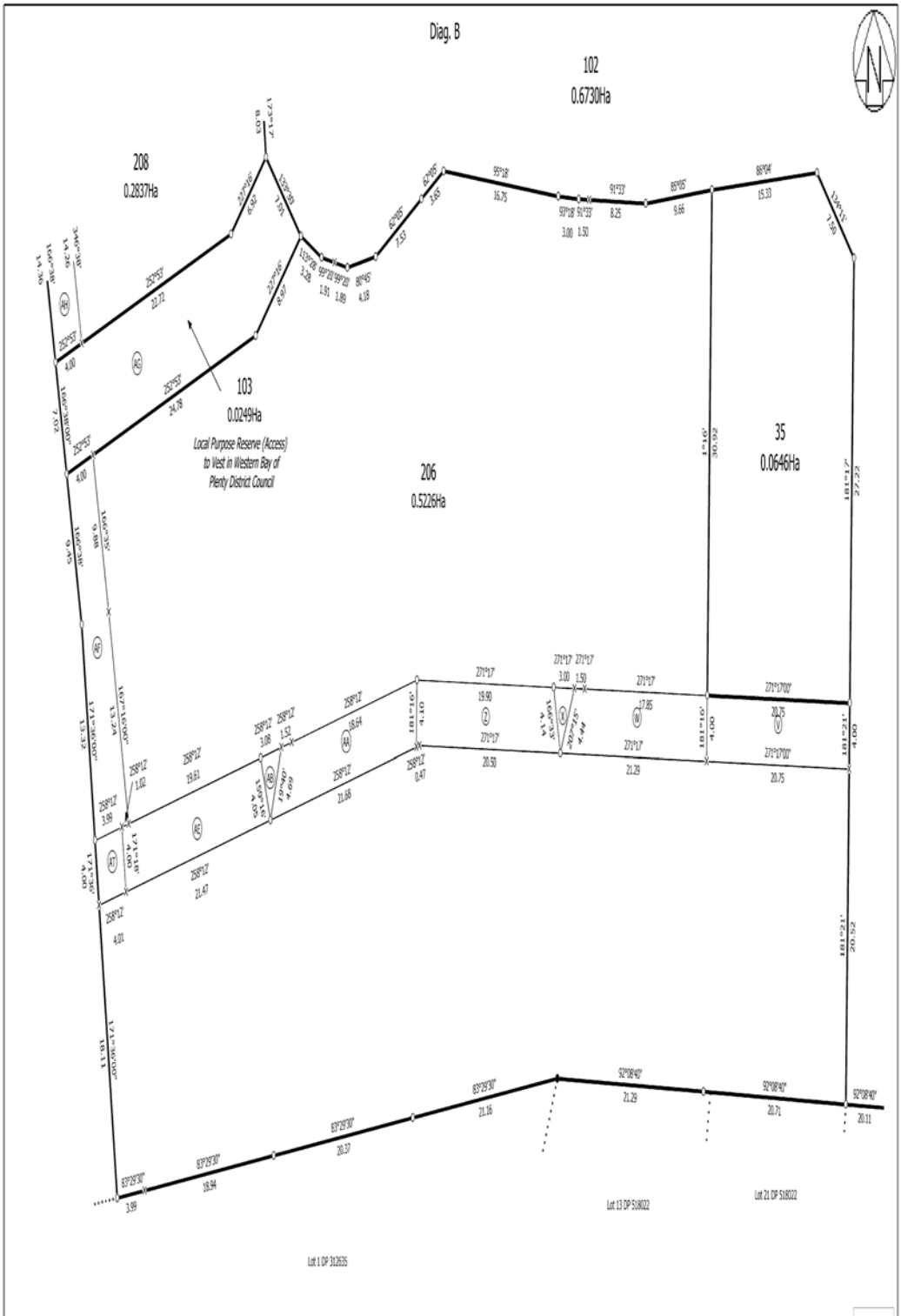
Amalgamation Conditions:
That Lot 122 DP 525703 (legal access) be held as to 4 undivided one-quarter shares by the owners of Lots 63 & 64 DP 525703 (one undivided one-quarter share each) and Lot 208 DP 525703 (two undivided one-quarter shares) as tenants in common in the said shares and that individual computer registers be issued in accordance therewith. See [request number 1546866].
That Lot 63 DP 525703, Lot 205 DP 525703, Lot 206 DP 525703, Lot 207 DP 525703, Lot 208 DP 525703 and Lot 209 DP 525703 be held in the same computer register. See [request number 1546866].



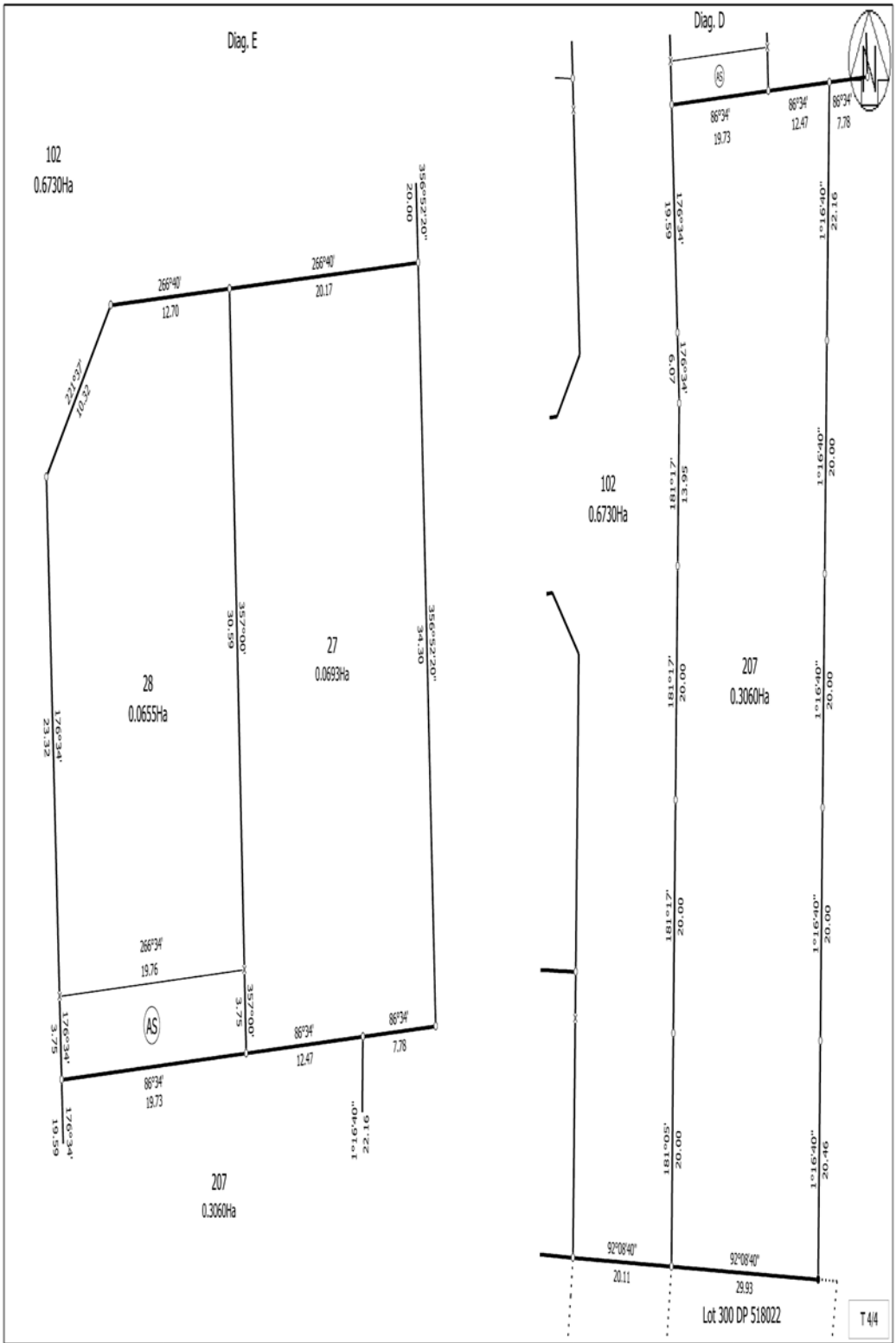
Land District: South Auckland	Lots 27, 28, 35, 49, 52, 63, 64, 102, 103, 122, 204-209 being a subdivision of Lot 203 DP 519381	Surveyor: Julia Marie Glass	Title Plan DP 525703
Digitally Generated Plan Generated on: 15/11/2018 11:38am Page 5 of 8		Firm: Maven Bay of Plenty	Deposited on: 6/11/2018



Land District: South Auckland Digitally Generated Plan Generated on: 15/11/2018 11:38am Page 6 of 8	Lots 27, 28, 35, 49, 52, 63, 64, 102, 103, 122, 204-209 being a subdivision of Lot 203 DP 519381	Surveyor: Julia Marie Glass Firm: Maven Bay of Plenty	Title Plan DP 525703 Deposited on: 6/11/2018



Land District: South Auckland Digitally Generated Plan Generated on: 15/11/2018 11:38am Page 7 of 8	Lots 27, 28, 35, 49, 52, 63, 64, 102, 103, 122, 204-209 being a subdivision of Lot 203 DP 519381	Surveyor: Julia Marie Glass Firm: Maven Bay of Plenty	Title Plan DP 525703 Deposited on: 6/11/2018



Land District: South Auckland Digitally Generated Plan Generated on: 15/11/2018 11:38am Page 8 of 8	Lots 27, 28, 35, 49, 52, 63, 64, 102, 103, 122, 204-209 being a subdivision of Lot 203 DP 519381	Surveyor: Julia Marie Glass Firm: Maven Bay of Plenty	Title Plan DP 525703 Deposited on: 6/11/2018

ATTACHMENTS

A2781627: RC10182L LAND USE - CONTROLLED - Earthworks - Stage 2 Omokoroa

A3246884: Stage 1b - Appendix H -- Application GCR - GeotechReport_4209.St1B -Terrane Consultants Ltd - 2018-07 -19 .r1

A3326288: SUB12041 - 221 Consent Notice - No 1

A3326290: SUB12041 - 221 Consent Notice - No 3

A3391792: 2019-02-14 - RC11230L - Decision - Harbour Ridge Dev Ltd - Ridge Dr - Land Use - Restricted Discretionary

A3399674: 2019-02-22 - RC11303L Decision

A4954651: BC92233 As built Plan

Invoice

RC10182L
28 October 2016

Western Bay of Plenty District Council
Policy, Planning and Regulatory Services Group

Application for Resource Consent – Non-Notified - GOLDSTONE, BRIAN CLIVE

Delegated Authority **P/1207/57, P/1710/5, P/1710/3/2**

Recommendation:

(a) THAT pursuant to sections 95A(2)(a) and 95D of the Resource Management Act 1991 Western Bay of Plenty District Council resolves that the adverse effects of the proposal will be no more than minor and the application need not be publicly notified.

(b) THAT the Council is satisfied after taking into due consideration the requirements of section 95E and 95F of the Resource Management Act 1991 that there are no persons or order holders affected by the activity and therefore limited notification in accordance with section 95B of the Resource Management Act 1991 is not required.

(c) THAT Council is satisfied that no special circumstances exist that require notification of this consent application in accordance with section 95A(4) of the Resource Management Act 1991.

(d) THAT pursuant to Sections 104, 104A and 108 of the Resource Management Act 1991 Western Bay of Plenty District Council grants consent to the application by Brian Goldstone for a land use consent being a controlled activity under the Operative District Plan 2012 to undertake over 300m^2 of earthworks in a six month period within the Omokoroa Stage 2 Structure Plan at 18 Goldstone Road and 351 Omokoroa Road, Omokoroa, legally described as Lot 2 DPS 58676 and Lot 1 DPS 58259 and Part Allot 63 Parish of Te Puna, subject to the following conditions

1. THAT the earthworks shall be carried out in accordance with the following plans and information submitted in relation to this application, except where modified by any conditions of this consent:
   (a) Drawings prepared by Terrane Geotechnical Solutions, project referenced "Briden Properties Limited 351 Omokoroa Road, Tauranga Residential Subdivision – Stage 1", referenced 4048.2.dwg, dated September 2016, drawings entitled:-

   Geotechnical drawings
   (i) 4048-G01 entitled "Layout and Drawing Register"
   (ii) 4048-G10 entitled "Investigation Location Plan"
   (iii) 4048-G20 entitled "Section AA"
   (iv) 4048-G21 entitled "Section BB"

Erosion and Sediment Control

(v) 4048-E00 entitled "Layout and Drawing Register"
(vi) 4048-E1 entitled "Existing Site Plan"
(vii) 4048-E4 entitled "Area 1 Plan"
(viii) 4048-E5 entitled "Area 2 Plan"
(ix) 4048-E6 entitled "Area 3 Plan"
(x) 4048-E10 entitled "Details – Sheet 1"
(xi) 4048-E11 entitled "Details – Sheet 2"

(b) Drawings prepared by Birch Surveyors, project name "Goldstone - 351 Omokoroa Road & 18 Goldstone Road Omokoroa", dated 15/9/16, including:-

(i) 3969-Goldstone-Stage1-EW-01 revision A, entitled "Proposed Finished Contour Plan Stage 1",
(ii) 3969-Goldstone-Stage1-EW-02 revision A, entitled "Existing Contours Plan Stage 1 - EW-02",
(iii) 3969-Goldstone-Stage1-EW-03 revision A, entitled "Proposed Cut and Fill Depths Plan Colours and Contours Stage 1 EW-03"
(iv) "Proposed Finished Contour Plan – Stage 1" with annotations Area 1, 2 and 3

(c) Geotechnical report prepared by AJ Cowbourne of Terrane Geotechnical Solutions, referenced 4048.1.r) entitled "Briden Subdivision – 351 Omokoroa Road, Omokoroa – Stage 1 – Geotechnical Assessment Report", dated 21 September 2016.

(d) Archaeological Assessment prepared by Ken Phillips of Archaeology B.O.P. dated May 2016.

2. THAT adequate prior notice shall be given to hapu prior to earthworks commencing (at least 4 weeks) and that evidence of this notice shall also be provided to Council's Compliance Officer.

3. THAT the monitoring of earthworks and land disturbance by hapu shall be undertaken in accordance with the Earthworks Procedures, as outlined in Appendix 7 (Section 4.8) of the Operative District Plan 2012. An agreement to enable site access for monitoring shall be prepared and agreed with hapu. Evidence of this agreement shall also be provided to Council's Compliance Officer prior to commencement of works.

4. THAT the earthworks shall be undertaken in accordance with the Earthworks Procedures outlined in Appendix 7 (Section 4.8) of the Operative District Plan 2012.

REASONS FOR DECISION:

1. The notification date of the Operative District Plan 2012 was 18 June 2012 and all appeals have been resolved. The Council has however notified several plan changes. Those plan change provisions which have not been appealed, or where any appeals have been resolved, or where no submission has been received, have been treated as if they were operative in accordance with Section 86F of the Resource Management Act 1991. Those plans changes where a submission or appeal has been lodged, but not determined or resolved, have been considered but are found to have no relevance to this application.

The Site

2. The application site is located on the eastern side of Omokoroa Road, south of the railway line. The site is held in three titles, Lot 2 DPS 85676 (2.3800ha), Lot 1 DPS 58259 and Pt Allot 63 SO423 Te Puna Parish (24.7116ha), and comprises approximately 27.0916ha. The site is located within the Stage 2 area of the Omokoroa Structure Plan and is zoned Future Urban and Residential. The site contains designation D189: Realignment of existing road (Omokoroa Road). The site contains one archaeological site, referenced by Heritage New Zealand (HNZ) as, U14/3105 (Pit - Maori).

3. The site is currently used for drystock farming. There is an existing house and shed located in the north-east corner of the site, both of which will be demolished. To the south of the site is another site proposed to be subdivided for residential use.

4. The site is varied in topography, with areas of reasonably flat land and gentle contour, with some localised steeper sections. The topography generally falls from the east to west, with the eastern ridge coinciding with the top of the ridge and the western boundary being Omokoroa Road.

Proposal

5. It is proposed to undertake large scale earthworks to make the site suitable for residential development (in preparation for a 71 residential lot subdivision). The earthworks to create the subdivision will require approximately 91,000m^3 of cut and 55,000m^3 of filling. The excess cut material will be stockpiled east of Stage 1, ready to use in Stage 2 earthworks.

6. The earthworks will be undertaken in stages. Area 1 is the land in the north-western portion of the site adjacent to Omokoroa Road. Area 2 is in the south-western portion of the site. Area 3 is the land to the east of Area 2. Details about the sequencing of the works are outlined in the application details.

7. The applicant has engaged with Pirirakau. Pirirakau have confirmed they are not opposed to the development on the proviso that the summit area of the site adjacent to the Neil Group boundary is set aside as a lookout/reserve to be vested in WBOPDC ownership; and archaeology is managed in conjunction with Pirirakau as per our agreement of cultural monitoring and archaeological recommendations of Ken Phillips (archaeological assessment provided as part of the application details).

8. An archaeological authority has been obtained from Heritage New Zealand (Ref: 2017/059) 18 August 2016, and is currently in the process of obtaining other necessary consents from the Bay of Plenty Regional Council (BOPRC).

Activity Status

9. Rule 12.4.1(j) of the Operative District Plan 2012 states that any earthworks within the Omokoroa Stage 2 Structure Plan area exceeding 300m^2 in any six month period is assessed as a controlled activity. The matters Council exercise control over are as follows:

(j) Controlled Earthworks Omokoroa Stage 2 Structure Plan

Earthworks within the Stage 2 Structure Plan area that exceed the following standard shall be Controlled Activities:

- *Maximum area of earth disturbed in any six monthly period - 300m².*

Council shall exercise its control over the extent to which conditions ensure:

(i) Adequate prior notice is given to hapu prior to excavation commencement; and

(ii) The monitoring of Earthworks and land disturbance by hapu is provided for. See Appendix 7 4.8.

Explanatory Note:
This rule shall not apply to land for which prior subdivisional or resource consent has been issued by Council where that consent provided for the matters in (i) and (ii) above.

Assessment

Archaeology

10. The New Zealand Archaeological Association (NZAA) records show that there are approximately 10 recorded archaeological sites within 500m of the Goldstone property including two Pa and a number of pit and shell midden features indicative of open settlements and associated cultivations on the elevated and eastern slopes.

11. One recorded archaeological site is located entirely within the property (U14/3105 – Pit). It comprises of a single pit depression on the highest point of the proposed subdivision. This site was recorded in 2003, measuring 5m x 3m x 0.2m deep. It is located on the western side of a ridge crest extending south from Goldstone Road. The pit feature was relocated during the 2006 and 2016 archaeological survey of the property and found to be in a similar state that originally described.

12. The archaeologist outlines that based on their understanding of similar archaeological sites on the Omokoroa peninsula, including adjacent subdivision developments it is highly likely that further archaeological features are present on the elevated ridge on which U14/3105 is located. Archaeological site U14/3105 forms part of a wider archaeological landscape representing defended and undefended settlement and cultivation of the Omokoroa peninsula particularly on the elevated central ridges and favourable eastern slopes.

13. Ground disturbance associated with the proposed residential subdivision will be extensive and involve lowering the northern ridge crest on which the pit feature (U14/3105) is located. There is reasonable cause to suspect that further subsurface archaeological features are located in the immediate vicinity of the pit feature and further unrecorded archaeological sites may be uncovered during the course of the earthworks associated with the development.

Earthworks

14. The proposed development of the site needs to be undertaken to provide suitable building platforms, construct associated roadways and services. There will be temporary effects associated with the proposed earthworks, including noise, dust and visual impact. The effects arising from the proposed earthworks will be temporary in nature and largely addressed by the conditions imposed by the necessary Regional Council consents (ref: RM16/0390). Sediment control and dust management are addressed in the Regional Council consent.

15. A significant volume of earthworks are proposed to re-contour the current pastoral landscape to a form suitable for residential development (86,800m^3 cut and 51,100m^3 fill, over an area of 71,714m^2). The proposal is to operate a balanced earthworks budget on-site which will avoid potential adverse traffic effects associated with earthworks construction traffic. The balance of surplus fill (12,000m^2) is to be stockpiled on site (on flat ground in Stage 2, approximately 100m past the eastern edge of Stage 1).

16. The Operative District Plan 2012 does not specify controlled activity assessment criteria for earthworks undertaken in the Stage 2 Omokoroa Structure Plan. By providing for earthworks as a controlled activity it is a mechanism to ensure the requirements set out in the earthworks protocols, as outlined in Appendix 7 (Section 4.8) of the Operative District Plan 2012, can be required by way of condition(s) of consent.

17. Conditions of consent have been imposed requiring the consent holder to adhere to the WBOPDC Earthworks Protocols as outlined in Appendix 7 (Section 4.8) of the Operative District Plan 2012 to ensure the these protocols are followed.

18. Rule 4A.6.1 of the Operative District 2012 explicitly allows for controlled activities to be granted approval without requiring the written consent of, or service of notice on, any potentially affected parties. Accordingly no persons have been notified or considered affected.

Pirirakau

19. Pirirakau were consulted and have confirmed they are not opposed to the proposal for subdivision and development on the proviso that:
    - the summit area of the site, adjacent to the Neil Group boundary is set aside as a lookout/reserve to be vested in WBOPDC ownership
    - archaeology is managed in conjunction with Pirirakau as per the agreement of cultural monitoring and archaeological recommendations of Ken Phillips.

Heritage New Zealand

20. The application was referred to Heritage New Zealand (HNZ) who have confirmed that an archaeological authority has been obtained from HNZ for this development area (ref: 2017/59) therefore HNZ has no further concerns regarding this application.

Development Engineering

21. The application was referred to Council's Development Engineer who has no further conditions of consent.

Reserves

22. The application was referred to Council's Reserves and Facilities department who have no special requirements or conditions at this stage of the development.

BOPRC

23. Bay of Plenty Regional Council (BOPRC) were consulted. At the time feedback was provided BOPRC confirmed they had received a consent application by Briden Properties Limited to carry out large scale earthworks and discharge stormwater for residential subdivision (ref: RM16-0390), and that the application was undergoing a section 88 completeness check. Resource consent

NESCS

24. Consideration has been given to the National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health ("NESCS"). In this instance the NESCS regulations would not apply as a HAIL activities are unlikely to have been undertaken on the subject site.

25. In having regard to the above, Council is satisfied that any adverse effects on the environment are less than minor and are adequately avoided, remedied or mitigated by the conditions of consent. Conditions of consent will ensure: adequate notice will be provided to Hapu prior to excavation commencing, along with evidence of the notice to be provided to Council; and that the monitoring of earthworks and land disturbance by Hapu is provided for.

26. The proposal is also considered to be consistent with the relevant objectives and policies of the Operative District Plan 2012 and the purpose and principles of Part II of the Resource Management Act 1991 and accordingly Council has granted the consent.

ADVICE NOTES:

1. It is possible that archaeological sites may be affected by the proposed work. Evidence of archaeological sites may include burnt and fire cracked stones, charcoal, rubbish heaps including shell, bone and/or glass and crockery, ditches, banks, pits, old building foundations, artefacts of Maori and European origin or human burials. The applicant is advised to contact Heritage New Zealand Pouhere Taonga if the presence of an archaeological site is suspected. Work affecting archaeological sites is subject to a consenting process under Heritage New Zealand Pouhere Taonga Act 2014. If any activity associated with this proposal, such as earthworks, fencing or landscaping, may modify, damage or destroy any archaeological site(s), an authority (consent) from Heritage New Zealand Pouhere Taonga must be obtained for the work to proceed lawfully. The Heritage New Zealand Pouhere Taonga Act 2014 contains penalties for unauthorised site damage.

2. The consent holder should notify Council, in writing, of their intention to begin works prior to commencement. Such notification should be sent to the Council's Compliance Monitoring Team (fax: 07 577 9820) and include the following details:
    - name and telephone number of the project manager and site owner
    - site address to which the consent relates
    - activity to which the consent relates
    - expected duration of works.

    Notifying Council of the intended start date enables cost effective monitoring to take place. The consent holder is advised that additional visits and administration required by Council officers to determine compliance with consent conditions will be charged to the consent holder on an actual and reasonable basis

3. Full compliance with the conditions of consent is necessary to carry out the activity to which this consent relates. Your progress towards satisfying the conditions of consent will be monitored by a Council representative and failure to meet these conditions may result in enforcement action being taken in accordance with Council's Monitoring Compliance and Enforcement Strategy. This may involve the issuing of an Infringement Notice (instant fine) and/or a monitoring fee.

4. You may object to this decision, including any conditions of consent, by notifying Council within 15 working days of receipt of this decision. However, you are advised that you may not commence the activity authorized by this consent until your objection/appeal is resolved.

5. All correspondence with Hapu, as required by Conditions (2), (3) and (4), shall be undertaken in consultation with Pirirakau Incorporated Society Environment Manager (Julie Shepherd, pirirakau.hapu@gmail.com)

6. The Council advises that as per Rule 4C1.3.1 of the Operative District Plan 2012, construction noise shall not exceed the noise limits in, and shall be measured and assessed in accordance with, the requirements of NZS 6803:1999 Acoustics – Construction Noise.

7. As recommended in the archaeological assessment:
   a) Prior investigation of U14/3105 is required to be carried out before the commencement of bulk earthworks associated with the subdivision development.
   b) THAT archaeological monitoring is carried out by a suitably qualified archaeologist during ground disturbance associated with the development all work must stop in the immediate area until the project archaeologist has carried out appropriate investigation, sampling and recording in accordance with the conditions of the Heritage New Zealand authority.
   c) If koiwi tangata (human remains) are encountered, no further modification of the site concerned shall occur until Tangata whenua and Heritage New Zealand have been advised and their responses received.

Rochelle Friend
Senior Consents Planner
28 October 2016

Approved under Delegated Authority
Chris Watt
Environmental Consents Manager

Date: 28/10/2016

CCLU1

CCLU1

Rev no	Revision note	Date	Issued By
0	Assessment Report	Sept-2016	

NOTES:

1. This drawing is not to be used for construction purposes.
2. Subdivision layout from Birch Surveyors drawing, ref 3969 EW-02, dated 15th August 2016.

WESTERN BAY OF PLENTY DISTRICT COUNCIL
APPROVED
For Resource Consent No: 10182L
Date: 28/10/2016 Signed:

PLAN – PROPOSED STAGE 1 LAYOUT
SCALE 1:2500

0 25 50 75 100 (m)
SCALE 1:2500

GEOTECHNICAL DRAWINGS

Drawing Number	Drawing Title	Rev 0	Rev 1	Notes
4048 - G01	Layout & Drawing Register	21-Sep-2016		
4048 - G10	Investigation Location Plan	21-Sep-2016		
4048 - 20	Section AA	21-Sep-2016		
4048 - 21	Section BB	21-Sep-2016		

Terrane
geotechnical solutions

Terrane Consultants Ltd
PO Box 13-607 TAURANGA
Ph 07-579 9708 Fax 07 579 9702

Des: blm	File ref: 4048.2.dwg	Scale: 1:2500 at A3 size
Dwg: blm	Date: September-2016	Rev: 0
Chk:		

Project:
BRIDEN PROPERTIES LIMITED
351 OMOKOROA ROAD, TAURANGA
RESIDENTIAL SUBDIVISION - STAGE 1

Terrane ref:	Approved:
4048 - G01	

Title:
LAYOUT & DRAWING REGISTER

Rev no	Revision note	Date	Issued By
0	Assessment Report	Sept-2016	

NOTES:

1. This drawing is not to be used for construction purposes.
2. Dimensions are in metres unless noted otherwise.
3. Base survey from Birch Surveyors drawing, ref 3969 EW-02, dated 15th September 2016. Contours are at metre intervals. Levels are in terms of Moturiki Datum 1953.

WESTERN BAY OF PLENTY DISTRICT COUNC
APPROVED
For Resource Consent No: 101821
Date: 26/10/2016 Signed:

HA13
HA2
Farm house
HA10
Stage 1 Boundary
HA4
HA14
Track fill
Piggery
HA3
A 20
HA4
HA9
HA11
HA1
B 21
HA12
HA8
HA6
HA5
OMOKOROA ROAD
B 21
0 12.5 25 37.5 50 (m)
SCALE 1:1250

KEY:
HA Handauger borehole

Terrane
geotechnical solutions

Terrane Consultants Ltd
PO Box 13-607 TAURANGA
Ph 07-579 9708 Fax 07 579 9702

Des: blm	File ref: 4048.2.dwg	Scale: 1:1250 at A3 size
Dwg: blm	Date: September-2016	Rev: 0
Chk:		

Project:
BRIDEN PROPERTIES LIMITED
351 OMOKOROA ROAD, TAURANGA
RESIDENTIAL SUBDIVISION - STAGE 1

Terrane ref:	Approved:
4048 - G10	

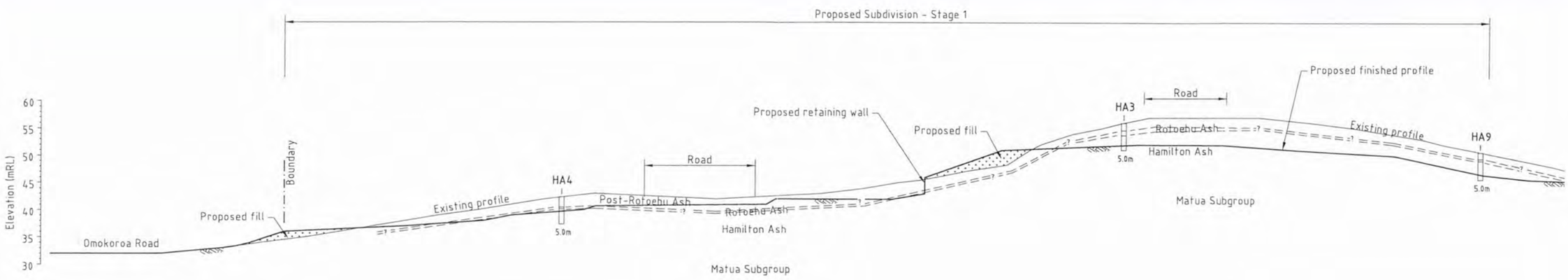
Title:
INVESTIGATION LOCATION PLAN

Rev no	Revision note	Date	Issued By
0	Assessment Report	Sept-2016	

WESTERN BAY OF PLENTY DISTRICT COUNCIL
APPROVED
For Resource Consent No: 101821
Date: 20/10/2016 Signed:

NOTES:

1. This drawing is not to be used for construction purposes.
2. Dimensions are in metres unless noted otherwise.
3. Profile derived from Sheets -G10 and -G12. Levels are in terms of Moturiki Datum 1953.
4. The subsurface model described herein is based on interpolation between borehole and other data at discrete locations. Actual subsurface conditions may vary from those inferred.



SECTION A GEOLOGICAL
SCALE 1:750
G10

0 7.5 15 22.5 30 (m)
SCALE 1:750

Terrane
geotechnical solutions

Terrane Consultants Ltd
PO Box 13-607 TAURANGA
Ph 07-579 9708 Fax 07 579 9702

Des: blm	File ref: 4048.2.dwg	Scale: 1:750 at A3 size
Dwg: blm	Date: September-2016	Rev: 0
Chk:		

Project:
BRIDEN PROPERTIES LIMITED
351 OMOKOROA ROAD, TAURANGA
RESIDENTIAL SUBDIVISION - STAGE 1

Terrane ref:	Approved:
4048-G20	

Title:
SECTION AA

Rev no	Revision note	Date	Issued By
0	Assessment Report	Sept-2016	

NOTES:

1. This drawing is not to be used for construction purposes.
2. Dimensions are in metres unless noted otherwise.
3. Profile derived from Sheets -G10 and -G12. Levels are in terms of Moturiki Datum 1953.
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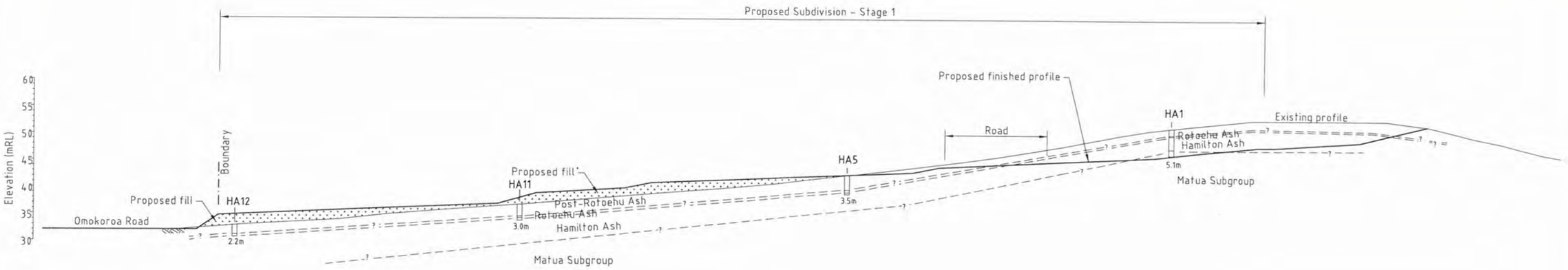

SECTION B GEOLOGICAL
SCALE 1:750
G10

0 7.5 15 22.5 30 (m)
SCALE 1:750

Terrane
geotechnical solutions
Terrane Consultants Ltd
PO Box 13-607 TAURANGA
Ph 07-579 9708 Fax 07 579 9702

Des: blm	File ref: 4048.2.dwg	Scale: 1:750 at A3 size
Dwg: blm	Date: September-2016	Rev: 0
Chk:		

Project:
BRIDEN PROPERTIES LIMITED
351 OMOKOROA ROAD, TAURANGA
RESIDENTIAL SUBDIVISION - STAGE 1

Terrane ref:	Approved:
4048 - G21	

Title:
SECTION BB

PRELIMINARY

PLAN - PROPOSED SUBDIVISION LAYOUT
SCALE 1:2500

0 25 50 75 100 (m)
SCALE 1:2500

Rev no	Revision note	Date	Issued By
0	RC Application	Sept-2016	

NOTES:

1. This drawing is not to be used for construction purposes.
2. Subdivision layout from Birch Surveyors drawing, ref 3969 EW-02, dated 15th September 2016

SOUTHERN BAY OF PLENTY DISTRICT COUNCIL
APPROVED
For Resource Consent No: 101821
Date: 28/10/2016 Signed:

DRAWINGS

Erosion and Sediment Control

Drawing Number	Drawing Title	Rev 0	Rev 1	Notes
4048 - E00	Layout & Drawing Register	21 Sept 2016		Resource Consent Application
4048 - E1	Existing Site Plan	21 Sept 2016		Resource Consent Application
4048 - E4	Area 1 Plan	21 Sept 2016		Resource Consent Application
4048 - E5	Area 2 Plan	21 Sept 2016		Resource Consent Application
4048 - E6	Area 3 Plan	21 Sept 2016		Resource Consent Application
4048-E10	Details - Sheet 1	21 Sept 2016		Resource Consent Application
4048-E11	Details - Sheet 2	21 Sept 2016		Resource Consent Application

Also attached are plans from Birch Surveyors, dated 15th September 2016.
Those plans are
-3969-EW-01 : Proposed Finished Contour Plan:
-3969-EW-02 : Existing Contours Plan: and
-3969-EW-03 : Proposed Cut and Fill Depths Plan.
Two of the plans have been annotated (by Terrane) to show sub-catchments.

Note:
The site is accessed from 351 Omokoroa Road but actually consists of two seperate properties, being 351 Omokoroa Road and 18 Goldstone Road.

Terrane
geotechnical solutions

Terrane Consultants Ltd
PO Box 13-607 TAURANGA
Ph 07-579 9708 Fax 07 579 9702

Des: blm	File ref: 4048.2a.dwg	Scale: as shown at A3 size
Dwg: blm	Date: September-2016	Rev: 0
Chk: ajc		

Project:
BRIDEN PROPERTIES LIMITED
351 OMOKOROA ROAD, TAURANGA
PROPOSED SUBDIVISION

Terrane ref:	Approved:
4048 - E00	

Title:
LAYOUT & DRAWING REGISTER

PRELIMINARY

Rev no	Revision note	Date	Issued By
0	Preliminary	Sept-2016	

NOTES:

1. This drawing is not to be used for construction purposes.
2. Dimensions are in metres unless noted otherwise. Levels are in terms of Moturiki Datum 1953.
3. Base survey from Birch Surveyors drawing, ref 3969 EW-02, dated 15th August 2016.

WESTERN BAY OF PLENTY DISTRICT COUNCIL
APPROVED
For Resource Consent No: 101821
Date: 28/10/2016 Signed:

Stage 1 Boundary

Existing Water table

OMOKOROA ROAD

Key

= Direction of overland flow (Existing)

Catchment

0 12.5 25 37.5 50 (m)
SCALE 1:1250

Terrane
geotechnical solutions

Terrane Consultants Ltd
PO Box 13-607 TAURANGA
Ph 07-579 9708 Fax 07 579 9702

Des: blm	File ref: 4048.2a.dwg	Scale: 1:1250 at A3 size
Dwg: blm	Date: September-2016	Rev: 0
Chk: ajc		

Project:
BRIDEN PROPERTIES LIMITED
351 OMOKOROA ROAD, TAURANGA
PROPOSED SUBDIVISION

Terrane ref:	Approved:
4048 - E1	

Title:
EXISTING SITE PLAN

Rev no	Revision note	Date	Issued By
0	RC Application	Sept-2016	

Area 1

31,300 m²

Area 2

Area 3

Stage 1 Boundary

Silt fence

Silt fence

dirty water diversion bund

clean water diversion bund

Proposed Sediment Pond
Allows for 10,000m² catchment
Dimensions =13.5 x 25m with 3m wide forebay
(refer attached calculation sheet)

Ex Culvert

Existing overland flowpath

Sediment pond decant and emergency overflow

Notes - only 10,000m² open at any 1 time (max)

OMOKOROA ROAD

Ex. Culvert

Existing overland flowpath

0 12.5 25 37.5 50 (m)
SCALE 1:1250

WESTERN BAY OF PLENTY DISTRICT COUNCIL
APPROVED
For Resource Consent No: 101821
Date: 28/10/2016 Signed:

NOTES:

1. This drawing is not to be used for construction purposes.
2. Dimensions are in metres unless noted otherwise. Levels are in terms of Moturiki Datum 1953.
3. Base survey from Birch Surveyors drawing, ref 3969 EW-02, dated 15th August 2016.
4. The Contractor shall arrange a preliminary erosion control meeting with the Designer and WBOPDC representative.
5. The Contractor shall provide erosion and sediment control (E&SC) measures in accordance with the relevant local Council and regional Council environment engineering Standards and the project specification and drawings.
6. The Contractor has sole responsibilty for ensuring that the E&SC measures are maintained and operational at all times.
7. Earthworks are to be undertaken and completed within the minimum possible timeframe. Once earthworks are completed in an area, the area should be topsoiled and grassed within 5 working days.
8. E&SC measures are to be installed and operational before any earthworks begin.
9. Check all measurements on site before commencing construction.

KEY:

- Sediment Pond
- Diversion bund (clean-water)
- Diversion bund (dirty water)
- Silt fence
- Stockpile (temp topsoil)

Terrane
geotechnical solutions

Terrane Consultants Ltd
PO Box 13-607 TAURANGA
Ph 07-579 9708 Fax 07 579 9702

Des: blm	File ref: 4048.2a.dwg	Scale: 1:1250 at A3 size
Dwg: blm	Date: September-2016	Rev: 0
Chk: ajc		

Project:
BRIDEN PROPERTIES LIMITED
351 OMOKOROA ROAD, TAURANGA
PROPOSED SUBDIVISION

Terrane ref: 4048 - E4	Approved:

Title:
AREA 1 PLAN

Rev no	Revision note	Date	Issued By
0	RC Application	Sept-2016	

Area 1 already topsoiled, grassed and mulched

Area 1

Stage 1 Boundary

Excavate so flows go to South East

Existing Waterway drain.

Ex. Culvert

Area 2
35,200m²

Area 3

Clean water

OMOKOROA ROAD

Notes
* only open Area 2 once Area 1 is Stabilised.
* max 10,000m² open at any one time.

WESTERN BAY OF PLENTY DISTRICT COUNCIL
APPROVED
For Resource Consent No: 101824
Date: 28/10/2016 Signed:

Proposed Sediment Pond
Allows for 10,000m² catchment
Dimensions =13.5 x 25m with 3m wide forebay
(refer attached calculation sheet)

Decant flows + Emergency overflow to watertable

13.5

25m

0 12.5 25 37.5 50 (m)
SCALE 1:1250

Existing overland flowpath

Ex. Culvert

Clean water diverted to watertable

NOTES:

1. This drawing is not to be used for construction purposes.
2. Dimensions are in metres unless noted otherwise. Levels are in terms of Moturiki Datum 1953.
3. Base survey from Birch Surveyors drawing, ref 3969 EW-02, dated 15th August 2016.
4. The Contractor shall arrange a preliminary erosion control meeting with the Designer and WBOPDC representative.
5. The Contractor shall provide erosion and sediment control (E&SC) measures in accordance with the relevant local Council and regional Council environment engineering Standards and the project specification and drawings.
6. The Contractor has sole responsibilty for ensuring that the E&SC measures are maintained and operational at all times.
7. Earthworks are to be undertaken and completed within the minimum possible timeframe. Once earthworks are completed in an area, the area should be topsoiled and grassed within 5 working days.
8. E&SC measures are to be installed and operational before any earthworks begin.
9. Check all measurements on site before commencing construction.

KEY:

- Sediment Pond
- Diversion bund (clean-water)
- Diversion bund (dirty water)
- Silt fence
- Stockpile (topsoil)

Terrane
geotechnical solutions

Terrane Consultants Ltd
PO Box 13-607 TAURANGA
Ph 07-579 9708 Fax 07 579 9702

Des: blm	File ref: 4048.2a.dwg	Scale: 1:1250 at A3 size
Dwg: blm	Date: September-2016	Rev: 0
Chk: ajc		

Project:
BRIDEN PROPERTIES LIMITED
351 OMOKOROA ROAD, TAURANGA
PROPOSED SUBDIVISION

Terrane ref:	Approved:
4048 - E5	

Title:
AREA 2 PLAN

PRELIMINARY

Notes

*only open Area 3 once Area 1 and 2 are stabilised

* max 10,000m² to be open at one time.

Area 1 + Area 2 already topsoiled, grassed and mulched

Area 1

Area 2

Area 3
20,300m²

Stage 1 Boun...

Ex. Culvert

OMOKOROA ROAD

Ex. Culvert

Fill stockpile on flat ground 100m

WESTERN BAY OF PLENTY DISTRICT COUNCIL
APPROVED
For Resource Consent No: 101821
Date: 25/10/2016 Signed:

Proposed Sediment Pond
Allows for 10,000m² catchment
Dimensions =13.5 x 25m with 3m wide forebay
(refer attached calculation sheet)

decant flow + Emergency flow to water table.

0 12.5 25 37.5 50 (m)
SCALE 1:1250

Rev no	Revision note	Date	Issued By
0	RC Application	Sept-2016	

NOTES:

1. This drawing is not to be used for construction purposes.
2. Dimensions are in metres unless noted otherwise. Levels are in terms of Moturiki Datum 1953.
3. Base survey from Birch Surveyors drawing, ref 3969 EW-02, dated 15th August 2016.
4. The Contractor shall arrange a preliminary erosion control meeting with the Designer and WBOPDC representative.
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8. E&SC measures are to be installed and operational before any earthworks begin.
9. Check all measurements on site before commencing construction.

KEY:

- Sediment Pond
- Diversion bund (clean-water)
- Diversion bund (dirty water)
- Silt fence
- Stockpile

Terrane
geotechnical solutions

Terrane Consultants Ltd
PO Box 13-607 TAURANGA
Ph 07-579 9708 Fax 07 579 9702

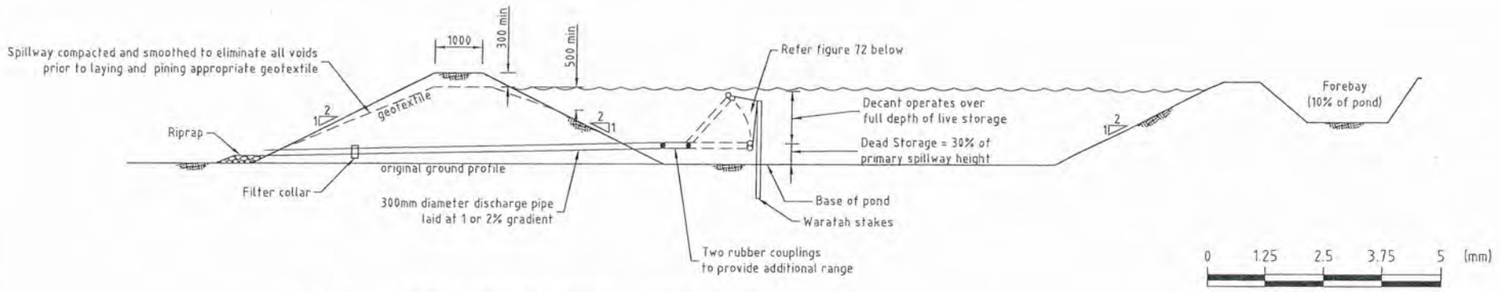
Des: blm	File ref: 4048.2a.dwg	Scale: 1:1250 at A3 size
Dwg: blm	Date: September-2016	Rev: 0
Chk: ajc		

Project:
BRIDEN PROPERTIES LIMITED
351 OMOKOROA ROAD, TAURANGA
PROPOSED SUBDIVISION

Terrane ref:	Approved:
4048 - E6	

Title:
AREA 3 PLAN

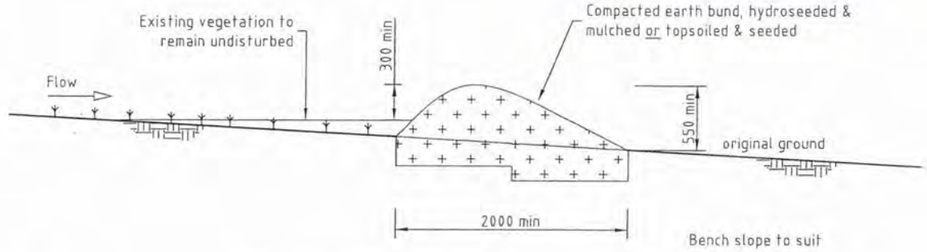
Rev no	Revision note	Date	Approved By
0	RC Application	Sept-2016	



DETAIL 1 DECANT POND - SECTION
SCALE 1:125

NOTES:

1. This drawing is not to be used for construction purposes unless signed as approved.
2. Dimensions are in millimetres unless noted otherwise.
3. All works shall conform to and comply with the relevant local Council and regional Council environment engineering Standards unless shown otherwise as Approved Specific Design.
4. Check all measurements on site before commencing construction.



DETAIL 2 DIVERSION BUND -SECTION
SCALE 1:50

0 500 1000 1500 2000 (mm)
SCALE 1:50

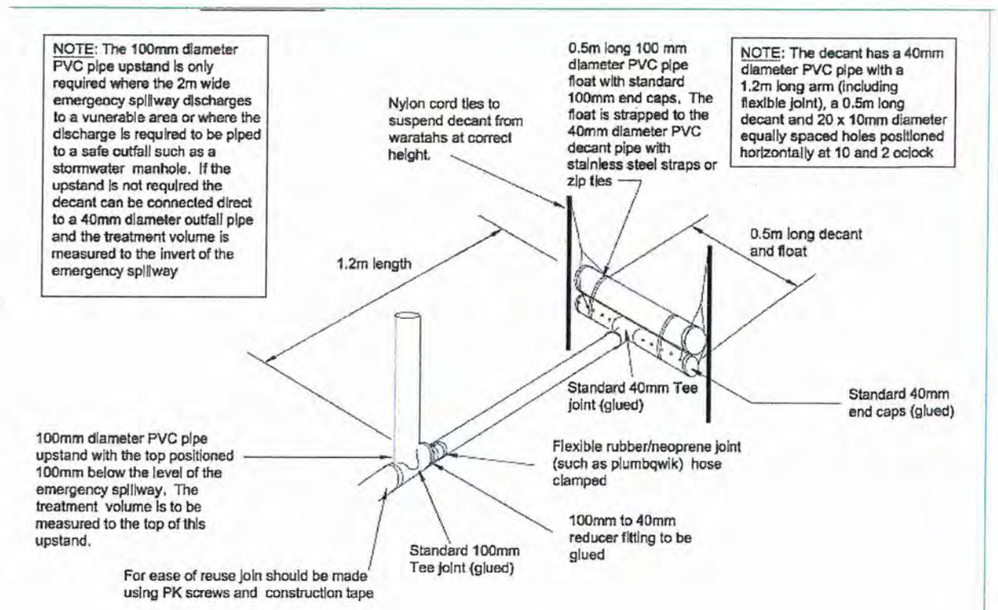


Figure 72 Detail on T-bar decant for Taupo pumice and Kaharoa ash related soils high clay content soils - image courtesy of Auckland Regional Council

WESTERN BAY OF PLENTY DISTRICT COUNCIL
APPROVED
For Resource Consent No: 10182L
Date: 28/10/2016 Signed:

Terrane
geotechnical solutions

Terrane Consultants Ltd
PO Box 13-607 TAURANGA
Ph 07-579 9708 Fax 07 579 9702

Des: blm	File ref: 4048.2a.dwg	Scale: as shown at A3 size
Dwg: blm	Date: September-2016	Rev: 0
Chk: ajc		

Project:
BRIDEN PROPERTIES LIMITED
351 OMOKOROA ROAD, TAURANGA
PROPOSED SUBDIVISION

Terrane ref:	Approved:
4048 - E10	

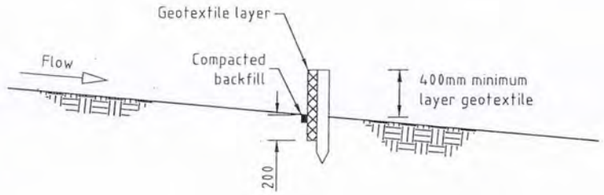
Title:
DETAILS - SHEET 1

Rev no	Revision note	Date	Approved By
0	RC Application	Sept-2016	

NOTES:

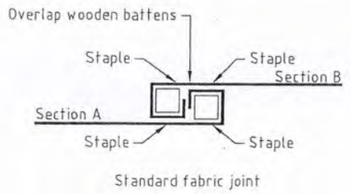
1. This drawing is not to be used for construction purposes unless signed as approved
2. Dimensions are in millimetres unless noted otherwise.
3. All works shall conform to and comply with the relevant local Council and regional Council environment engineering Standards unless shown otherwise as Approved Specific Design.
4. Check all measurements on site before commencing construction.

WESTERN BAY OF PLENTY DISTRICT COUNCIL
APPROVED
For Resource Consent No: 101821
Date: 28/10/2016 Signed:



DETAIL 3 SILT FENCE - SECTION
SCALE 1:50

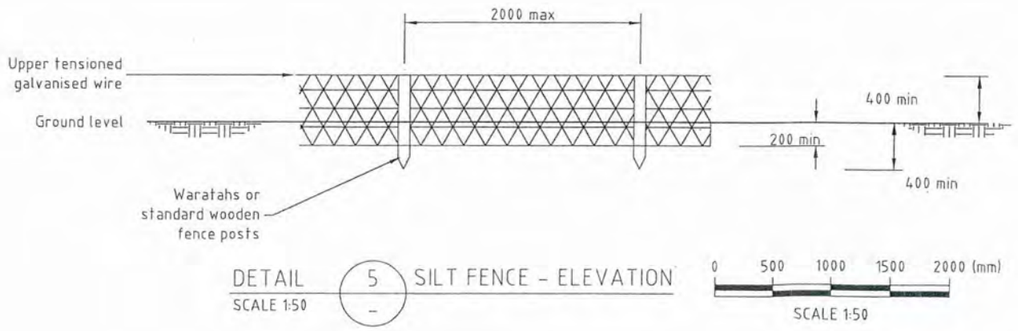
0 500 1000 1500 2000 (mm)
SCALE 1:50



Standard fabric joint

DETAIL 4 SILT FENCE - PLAN
SCALE 1:50

0 500 1000 1500 2000 (mm)
SCALE 1:50



DETAIL 5 SILT FENCE - ELEVATION
SCALE 1:50

0 500 1000 1500 2000 (mm)
SCALE 1:50

Terrane
geotechnical solutions

Terrane Consultants Ltd
PO Box 13-607 TAURANGA
Ph 07-579 9708 Fax 07 579 9702

Des: blm	File ref: 4048.2a.dwg	Scale: as shown at A3 size
Dwg: blm	Date: September-2016	Rev: 0
Chk: ajc		

Project:
BRIDEN PROPERTIES LIMITED
351 OMOKOROA ROAD, TAURANGA
PROPOSED SUBDIVISION

Terrane ref: 4048 - E11	Approved:

Title:
DETAILS - SHEET 2

LEGEND

- PROPOSED LOT BOUNDARIES
- PROPOSED FINISHED SURFACE MAJOR CONTOURS (1.0M)
- PROPOSED FINISHED SURFACE MINOR CONTOURS (0.25M)
- SUBDIVISION STAGE BOUNDARIES
- DESIGNATION BOUNDARY
- EXTENT OF EARTHWORKS
- EXISTING SURFACE MAJOR CONTOURS (1.0M)
- EXISTING SURFACE MINOR CONTOURS (0.25M)

NOTES:

1) AREAS AND MEASUREMENTS ARE APPROXIMATE ONLY AND SUBJECT TO FINAL SURVEY AND SUBDIVISION APPROVAL.

2) THE CADASTRAL BOUNDARIES SHOWN WERE OBTAINED FROM LANDONLINE DATED AUGUST 2016.

3) SITE LEVELS ARE IN TERMS OF LAND INFORMATION NEW ZEALAND (LINZ) VERTICAL DATUM MOTURIKI 1953 (MEAN SEA LEVEL). THE HEIGHT ORIGIN IS LINZ GEODETIC MARK AQ48 (1V) RL 33.5601m.

5) REFER TO DRAWINGS EW-02 FOR EXISTING SITE CONTOURS AND EW-03 FOR CUT FILL DEPTHS.

CLIENT:

BRIAN GOLDSTONE

WESTERN BAY OF PLENTY DISTRICT COUNCIL
APPROVED
For Resource Consent No: 101821
Date: 25/10/2016 Signed:

ORIGINAL SIZE: A1

Telarc. Registered
Quality ISO 9001

Birch surveyors

PROPERTY HOUSE
2A WESLEY STREET, PUKEKOHE
PO BOX 475, PUKEKOHE 2340
PH: 09 237 1111 FAX: 09 238 0033
www.birchsurveyors.co.nz

LEVEL 1
17 GREY STREET, TAURANGA
PO BOX 13185, TAURANGA 3141
PH: 07 577 1510 FAX: 07 577 1515
admin@bslnz.com

LOCAL AUTHORITY	WESTERN BAY OF PLENTY DISTRICT COUNCIL
PLANNING MAP	U63
ZONING	OMOKOROA STRUCTURE PLAN ZONE 2
ACTIVITY	SUBDIVISION
COMPRISED IN	SA47D/986
TOTAL AREA	24.7102ha
REGISTERED OWNERS	LR GOLDSTONE MJ GOLDSTONE

PROJECT NAME

GOLDSTONE

351 OMOKOROA ROAD & 18 GOLDSTONE ROAD
OMOKOROA

SURVEYOR: BAM	DATE: 08/16	DRAFTER: KR	DATE: 08/16	PROJECT NO. 3969
DESIGNER: KR	DATE: 09/16	REVIEWER: MM	DATE: 09/16	HORIZONTAL SCALE: 1:750
APPROVER: C.SALMONS		SIGNED: CS		VERTICAL SCALE: N/A
APPROVAL DATE: 15/9/16				SHEET SIZE: A1

REV.	BY	DATE	COMMENT
A	KR	9/15/16	ISSUED FOR APPROVAL

TITLE

PROPOSED FINISHED CONTOUR PLAN STAGE 1

DRAWING NAME: 3969-GOLDSTONE-STAGE 1-EW-01 REV. [A]

LEGEND

- PROPOSED LOT BOUNDARIES
- EXISTING SURFACE MAJOR CONTOURS (2.0M) — 51.00
- EXISTING SURFACE MINOR CONTOURS (0.5M)
- SUBDIVISION STAGE BOUNDARIES
- DESIGNATION BOUNDARY
- EXTENT OF EARTHWORKS

NOTES:

1) AREAS AND MEASUREMENTS ARE APPROXIMATE ONLY AND SUBJECT TO FINAL SURVEY AND SUBDIVISION APPROVAL.

2) THE CADASTRAL BOUNDARIES SHOWN WERE OBTAINED FROM LANDONLINE DATED AUGUST 2016.

3) LEVELS ARE IN TERMS OF LAND INFORMATION NEW ZEALAND (LINZ) VERTICAL DATUM MOTURIKI 1953 (MEAN SEA LEVEL). THE ORIGIN OF HEIGHTS IS LINZ GEODETIC MARK AQ48 (1V) RL 33.5601m.

5) REFER TO DRAWINGS EW-01 FOR PROPOSED FINISHED SURFACE CONTOURS AND EW-03 FOR CUT FILL DEPTHS.

CLIENT:

BRIAN GOLDSTONE

WESTERN BAY OF PLENTY DISTRICT COUNCIL
APPROVED
For Resource Consent No: 101822
Date: 12/10/2016 Signed:

ORIGINAL SIZE: A1

Telarc. Registered
Quality ISO 9001

Birch surveyors
PROPERTY HOUSE, 2A WESLEY STREET, PUKEKOHE, PO BOX 475, PUKEKOHE 2340, PH: 09 237 1111 FAX: 09 238 0033, www.birchsurveyors.co.nz
LEVEL 1, 17 GREY STREET, TAURANGA, PO BOX 13185, TAURANGA 3141, PH: 07 577 1510 FAX: 07 577 1515, admin@bslnz.com

LOCAL AUTHORITY	WESTERN BAY OF PLENTY DISTRICT COUNCIL
PLANNING MAP	U63
ZONING	OMOKOROA STRUCTURE PLAN ZONE 2
ACTIVITY	SUBDIVISION
COMPRISED IN	SA47D/986
TOTAL AREA	24.7102ha
REGISTERED OWNERS	LR GOLDSTONE MJ GOLDSTONE

PROJECT NAME

GOLDSTONE

351 OMOKOROA ROAD & 18 GOLDSTONE ROAD
OMOKOROA

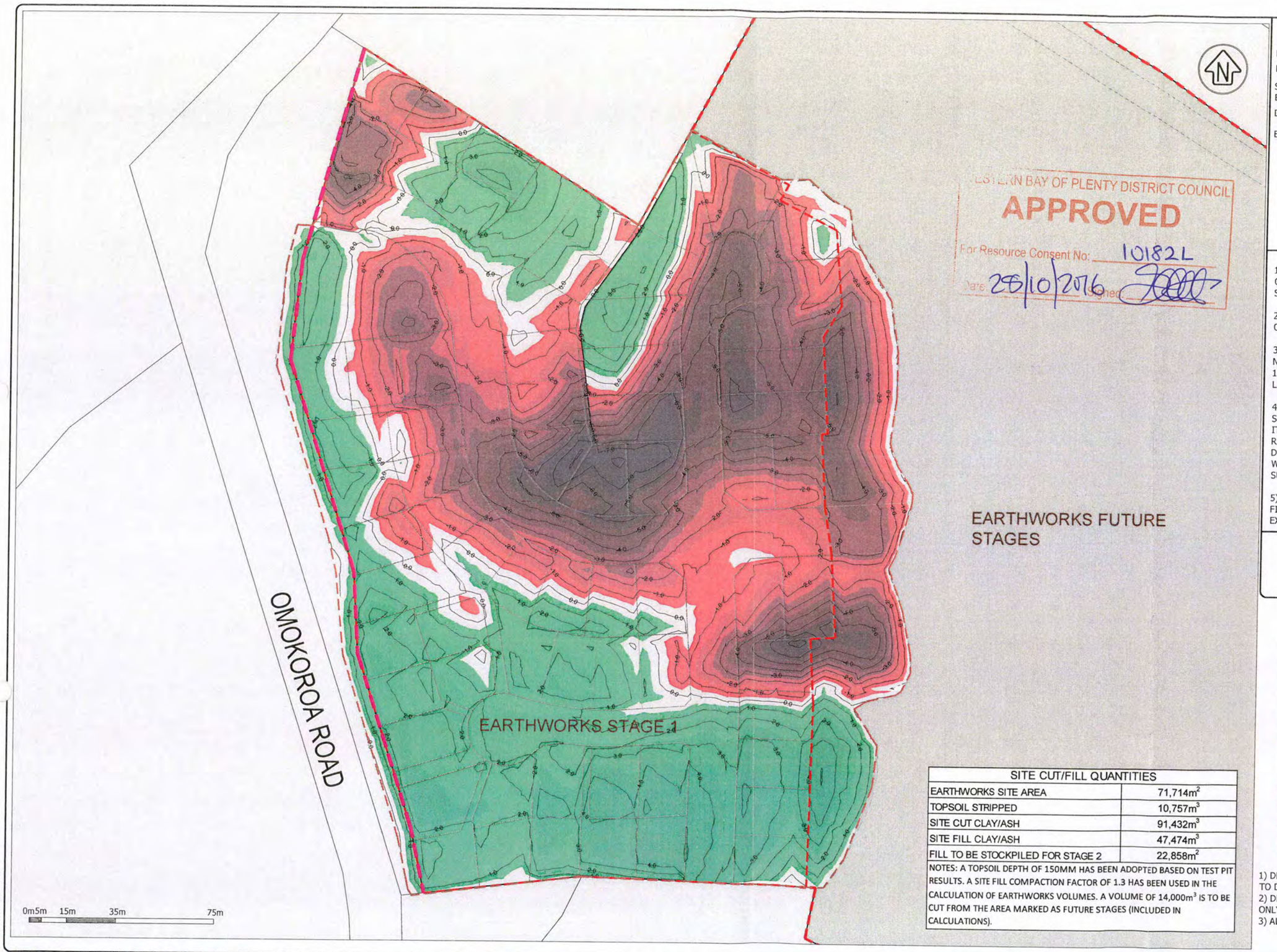
SURVEYOR: BAM	DATE: 08/16	DRAFTER: KR	DATE: 08/16	PROJECT NO. 3969	
DESIGNER: KR	DATE: 09/16	REVIEWER: MM	DATE: 09/16	HORIZONTAL SCALE: 1:750 VERTICAL SCALE: N/A	SHEET SIZE: A1
APPROVER: C.SALMONS		SIGNED: CS			
APPROVAL DATE: 15/9/16					

REV.	BY	DATE	COMMENT
A	KR	9/15/16	ISSUED FOR APPROVAL

TITLE

EXISTING CONTOURS PLAN
STAGE 1 - EW-02

DRAWING NAME	3969-GOLDSTONE-STAGE 1-EW-02	REV.	[A]



WESTERN BAY OF PLENTY DISTRICT COUNCIL
APPROVED
For Resource Consent No: 10182L
Date: 25/10/2016 Signed:

SITE CUT/FILL QUANTITIES	
EARTHWORKS SITE AREA	71,714m^2
TOPSOIL STRIPPED	10,757m^3
SITE CUT CLAY/ASH	91,432m^3
SITE FILL CLAY/ASH	47,474m^3
FILL TO BE STOCKPILED FOR STAGE 2	22,858m^2

NOTES: A TOPSOIL DEPTH OF 150MM HAS BEEN ADOPTED BASED ON TEST PIT RESULTS. A SITE FILL COMPACTION FACTOR OF 1.3 HAS BEEN USED IN THE CALCULATION OF EARTHWORKS VOLUMES. A VOLUME OF 14,000m^3 IS TO BE CUT FROM THE AREA MARKED AS FUTURE STAGES (INCLUDED IN CALCULATIONS).

LEGEND

- PROPOSED LOT BOUNDARIES
- DEPTH CONTOURS (1.0M) 51.0
- SUBDIVISION STAGE BOUNDARIES
- DESIGNATION BOUNDARY
- EXTENT OF EARTHWORKS

NOTES:

1) AREAS AND MEASUREMENTS ARE APPROXIMATE ONLY AND SUBJECT TO FINAL SURVEY AND SUBDIVISION APPROVAL.

2) THE CADASTRAL BOUNDARIES SHOWN WERE OBTAINED FROM LANDONLINE DATED AUGUST 2016.

3) LEVELS ARE IN TERMS OF LAND INFORMATION NEW ZEALAND (LINZ) VERTICAL DATUM MOTURIKI 1953 (MEAN SEA LEVEL). THE ORIGIN OF HEIGHTS IS LINZ GEODETIC MARK AQ48 (1V) RL 33.5601m

5) REFER TO DRAWINGS EW-01 FOR PROPOSED FINISHED SURFACE CONTOURS AND EW-02 FOR EXISTING CONTOURS.

CLIENT:

BRIAN GOLDSTONE

TABLE OF DEPTHS

- CUT 6.5 - 7.5m
- CUT 5.5 - 6.5m
- CUT 4.5 - 5.5m
- CUT 3.5 - 4.5m
- CUT 2.5 - 3.5m
- CUT 1.5 - 2.5m
- CUT 0.5m - FILL 0.5m
- FILL 0.5 - 1.5m
- FILL 1.5 - 2.5m
- FILL 2.5 - 3.5m
- FILL 3.5 - 4.5m

NOTES:

1) DEPTHS SHOWN ARE FROM EXISTING SURFACE TO DESIGN SURFACE.
2) DESIGN CONTOURS ARE PRELIMINARY DESIGN ONLY.
3) ALL VOLUMES ARE SOLID MEASURE

ORIGINAL SIZE: A1

Telarc. Registered
Quality ISO 9001

Birch surveyors
PROPERTY HOUSE, 2A WESLEY STREET, PUKEKOHE, PO BOX 475, PUKEKOHE 2340, PH: 09 237 1111 FAX: 09 238 0033, www.birchsurveyors.co.nz
LEVEL 1, 17 GREY STREET, TAURANGA, PO BOX 13185, TAURANGA 3141, PH: 07 577 1510 FAX: 07 577 1515, admin@bslnz.com

LOCAL AUTHORITY	WESTERN BAY OF PLENTY DISTRICT COUNCIL
PLANNING MAP	-
ZONING	OMOKOROA STRUCTURE PLAN ZONE 2
ACTIVITY	SUBDIVISION
COMPRISED IN	SA47D/986
TOTAL AREA	24.7102ha
REGISTERED OWNERS	LR GOLDSTONE MJ GOLDSTONE

PROJECT NAME

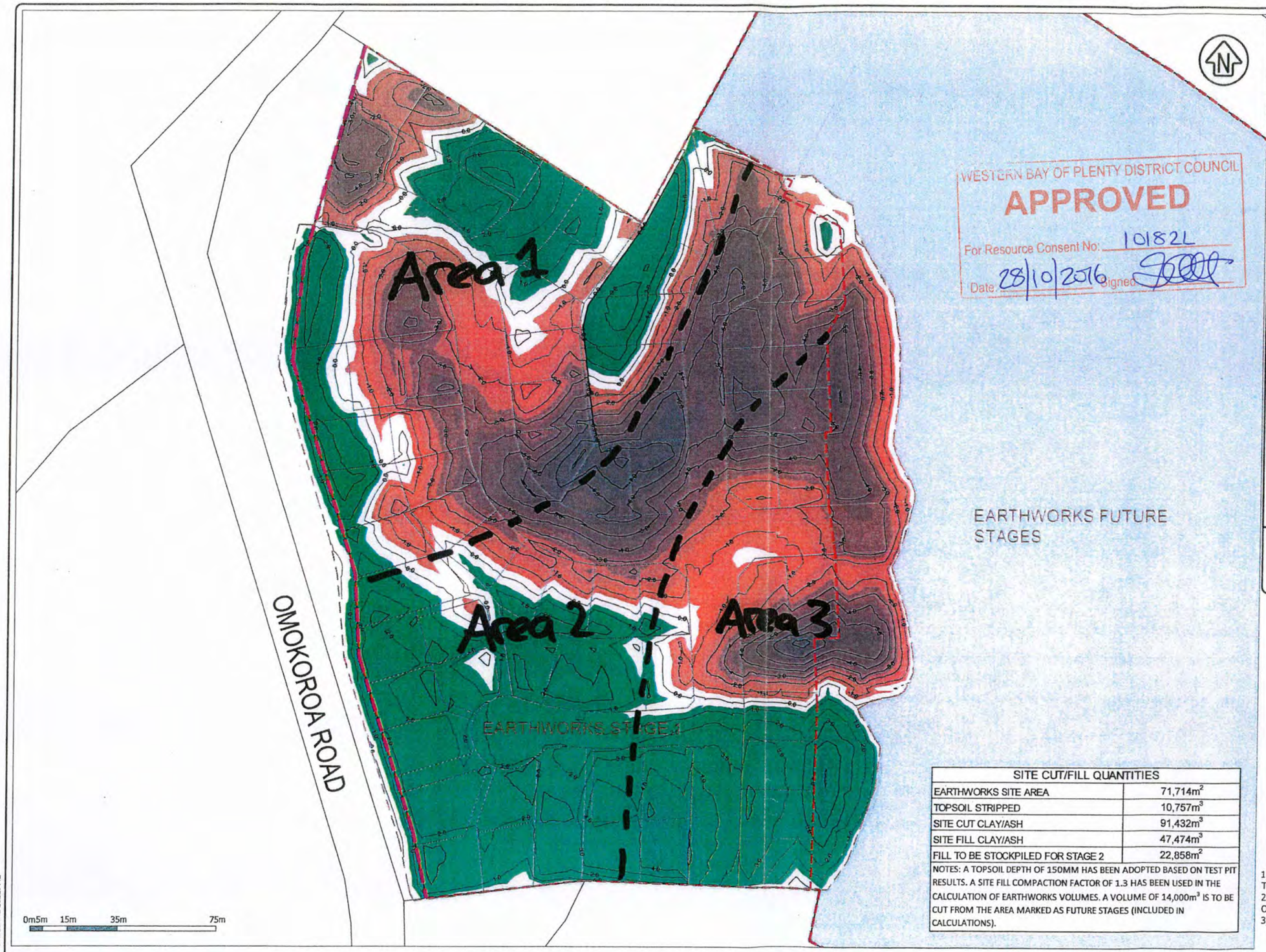
GOLDSTONE
351 OMOKOROA ROAD & 18 GOLDSTONE ROAD
OMOKOROA

SURVEYOR: BAM	DATE: 08/16	DRAFTER: KR	DATE: 08/16	PROJECT NO. 3969
DESIGNER: KR	DATE: 09/16	REVIEWER: MM	DATE: 09/16	HORIZONTAL SCALE: 1:750
APPROVER: C.SALMONS		SIGNED: CS		VERTICAL SCALE: N/A SHEET SIZE: A1
APPROVAL DATE: 15/9/16				REV. A; BY KR; DATE 9/15/16; COMMENT ISSUED FOR APPROVAL

TITLE

PROPOSED CUT AND FILL DEPTHS PLAN
COLOURS AND CONTOURS
STAGE 1 - EW-03

DRAWING NAME 3969-GOLDSTONE-STAGE 1-EW-03 REV. [A]



WESTERN BAY OF PLENTY DISTRICT COUNCIL
APPROVED
For Resource Consent No: 10182L
Date 28/10/2016 Signed

LEGEND

PROPOSED LOT BOUNDARIES	
DEPTH CONTOURS (1.0M)	51.0
SUBDIVISION STAGE BOUNDARIES	
DESIGNATION BOUNDARY	
EXTENT OF EARTHWORKS	

NOTES:
1) AREAS AND MEASUREMENTS ARE APPROXIMATE ONLY AND SUBJECT TO FINAL SURVEY AND SUBDIVISION APPROVAL.

2) THE CADASTRAL BOUNDARIES SHOWN WERE OBTAINED FROM LANDONLINE DATED AUGUST 2016.

3) LEVELS ARE IN TERMS OF LAND INFORMATION NEW ZEALAND (LINZ) VERTICAL DATUM MOTURIKI 1953 (MEAN SEA LEVEL). THE ORIGIN OF HEIGHTS IS LINZ GEODETIC MARK AQ48 (1V) RL 33.5601m

5) REFER TO DRAWINGS EW-01 FOR PROPOSED FINISHED SURFACE CONTOURS AND EW-02 FOR EXISTING CONTOURS.

CLIENT:

BRIAN GOLDSTONE

TABLE OF DEPTHS

CUT 6.5 - 7.5m
CUT 5.5 - 6.5m
CUT 4.5 - 5.5m
CUT 3.5 - 4.5m
CUT 2.5 - 3.5m
CUT 1.5 - 2.5m
CUT 0.5m - FILL 0.5m
FILL 0.5 - 1.5m
FILL 1.5 - 2.5m
FILL 2.5 - 3.5m
FILL 3.5 - 4.5m

NOTES:
1) DEPTHS SHOWN ARE FROM EXISTING SURFACE TO DESIGN SURFACE.
2) DESIGN CONTOURS ARE PRELIMINARY DESIGN ONLY.
3) ALL VOLUMES ARE SOLID MEASURE

SITE CUT/FILL QUANTITIES	
EARTHWORKS SITE AREA	71,714m^2
TOPSOIL STRIPPED	10,757m^3
SITE CUT CLAY/ASH	91,432m^3
SITE FILL CLAY/ASH	47,474m^3
FILL TO BE STOCKPILED FOR STAGE 2	22,858m^2

NOTES: A TOPSOIL DEPTH OF 150MM HAS BEEN ADOPTED BASED ON TEST PIT RESULTS. A SITE FILL COMPACTION FACTOR OF 1.3 HAS BEEN USED IN THE CALCULATION OF EARTHWORKS VOLUMES. A VOLUME OF 14,000m^3 IS TO BE CUT FROM THE AREA MARKED AS FUTURE STAGES (INCLUDED IN CALCULATIONS).

ORIGINAL SIZE: A1

Telarc Registered Quality ISO 9001

Birch surveyors
PROPERTY HOUSE, 2A WESLEY STREET, PUKEKOHE, PO BOX 475, PUKEKOHE 2340, PH: 09 237 1111 FAX: 09 238 0033, www.birchsurveyors.co.nz
LEVEL 1, 17 GREY STREET, TAURANGA, PO BOX 13185, TAURANGA 3141, PH: 07 577 1510 FAX: 07 577 1515, admin@bsln.co.nz

LOCAL AUTHORITY	WESTERN BAY OF PLENTY DISTRICT COUNCIL
PLANNING MAP	-
ZONING	OMOKOROA STRUCTURE PLAN ZONE 2
ACTIVITY	SUBDIVISION
COMPRISED IN	SA47D/986
TOTAL AREA	24.7102ha
REGISTERED OWNERS	LR GOLDSTONE HJ GOLDSTONE

PROJECT NAME

GOLDSTONE
351 OMOKOROA ROAD & 18 GOLDSTONE ROAD
OMOKOROA

SURVEYOR: BAM	DATE: 08/16	DRAFTER: KR	DATE: 08/16	PROJECT NO.	3969
DESIGNER: KR	DATE: 09/16	REVIEWER: MM	DATE: 09/16	HORIZONTAL SCALE:	1:750
APPROVER: C.SALMONS		SIGNED: CS		VERTICAL SCALE:	N/A
APPROVAL DATE:	15/9/16			SHEET SIZE:	A1

REV.	BY	DATE	COMMENT
A	KR	9/15/16	ISSUED FOR APPROVAL

TITLE

PROPOSED CUT AND FILL DEPTHS PLAN
COLOURS AND CONTOURS
STAGE 1 - EW-03

DRAWING NAME	3969-GOLDSTONE-STAGE 1-EW-03	REV.	[A]

HARBOUR RIDGE DEVELOPMENTS LTD

Geotechnical Completion Report

Stage 1B of the Harbour Ridge Subdivision

at

351 Omokoroa Road, Omokoroa

Date: 19th July 2018

Revision: 0.1

Distribution:

Harbour Ridge Developments Ltd	2 copies
Maven BOP Ltd	1 copy
Terrane Consultants Ltd	1 copy (file)

Terrane Consultants Ltd
PO Box 13-607, Tauranga
P: (07) 579 9708 / E: enquiries@terrane.co.nz

File Ref: 4209.St1B.GCR

HARBOUR RIDGE SUBDIVISION - STAGE 1B
GEOTECHNICAL COMPLETION REPORT
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4209 – G82 : Section GG

Subdivision plans (by Maven BOP Ltd):

17-510-Goldstone-Stage 1B–As Built Contours (Rev B, dated 18.07.2018)
17-510-Goldstone-Stage 1B-As Built Cut & Fill Depths (Rev B, dated 18.07.2018)

C: Factual Data

D: Fill Test Results

E: Analysis

F: Trench Backfill Testing (Higgins Group data)

1.0 INTRODUCTION

Terrane Consultants Ltd was engaged by Brian Goldstone of Harbour Ridge Developments Ltd as the Soils Engineer for the Harbour Ridge residential subdivision at 351 Omokoroa Road, Western Bay of Plenty.

The bulk earthworks and other works for Stage 1B of the subdivision have now been completed. This report summarises the earthworks undertaken and provides an assessment of the geotechnical suitability for building development. Earthworks undertaken outside the Stage 1B boundary are not included in this certification.

In overall summary, it is considered that the completed works give due regard to land slope and foundation stability considerations, and the Lots are therefore considered to be geotechnically suitable for building development, subject to the requirements and recommendations given in this report.

A Statement of Professional Opinion is included in Appendix A of this report.

2.0 SITE DESCRIPTION

The Harbour Ridge Subdivision is located on a terrace remnant within the central part of the Omokoroa Peninsula, on the eastern side of Omokoroa Road and approximately 350 metres south of the main trunk railway. The site was previously in general farmland.

The layout of Stage 1B is shown on Drawing 4209-G80 included in Appendix B of this report. Stage 1A is located immediately northwest of the subdivision and was certified in the Geotechnical Completion Report dated February 2018. Future stages are located immediately to the northeast and east.

The geotechnical assessment for Stages 1A and 1B of the subdivision was given in the report:

> "*Proposed Residential Subdivision (Stage 1), 351 Omokoroa Road, Omokoroa - Geotechnical Assessment Report*", prepared by Terrane Consultants Ltd for Briden Properties Ltd, dated 21st September 2016, reference 4048.1, rev 0.

The site geology comprises the usual terrace forming stratigraphy, being thick unwelded tuffs now weathered to silts and clays, overlain by weathered airfall ashes which mantle the topography.

With subdivisional earthworks now completed the finished topography comprises a gentle stepped profile from the upper eastern boundary down to crest of the fill batter overlooking Omokoroa Road.

3.0 SUBDIVISION DEVELOPMENT

The design of Stage 1B was undertaken by Beyond NZ Ltd and Maven BOP Ltd. The bulk earthworks were undertaken by Goldstone Contracting Ltd, with roading and services construction by Higgins Group Ltd.

The finished lot boundaries and levels within Stage 1B are very similar to the original design, with the only noticeable change being the inclusion of two small retaining walls located alongside right-of-ways, both being less than 1 metre high.

The finished Stage 1B comprises 31 new residential Lots (Lots 27 to 53 inclusive and 63 to 66 inclusive) and associated roads and accessways.

4.0 INVESTIGATIONS

The site investigations for the original geotechnical assessment included:

- review of published and in-house geotechnical data, including air photographs;
- a detailed walkover inspection and engineering geological mapping;
- fourteen handauger boreholes to up to 5.1 metres depth;
- insitu strength testing using a hand shear vane; and
- laboratory water content testing.

The results are given in the Geotechnical Assessment Report dated 21st September 2016.

Further investigations undertaken as part of detailed design and during construction included:

- six Cone Penetration Tests (CPT) to up to 16 metres depth;
- thirty one handauger boreholes; and
- insitu strength testing using a hand shear vane.

The locations of the additional investigations are shown on Drawing 4209-G80 in Appendix B of this report, while the factual results are included in Appendix C.

5.0 EARTHWORKS AND CONSTRUCTION

5.1 General

Construction of Stage 1B required a reasonably substantial amount of bulk earthworks. Material was cut from the top of a ridge in the northwestern corner and in adjacent Stage 1C and placed as fill in the southern and western parts of the Stage 1B. The earthworks resulted in cuts up to 6.5 metres deep and fills up to 5.0 metres thick.

The excavated material was placed as structural grade filling, excluding a wedge of topsoil rich material that formed the berm batter in Omokoroa Road.

The earthworks were undertaken as a controlled operation and generally in accordance with the project specification, NZS4431:1989 "*Code of practice for earth fill for residential development*" and the Western Bay of Plenty Development Code (2009).

The compaction criteria for general filling were:

- Min undrained shear strength: single reading = 110 kPa, average = 115 kPa
- Max air voids: single reading ≈12%, average= 10% (depending on pumice content).

More stringent criteria were used for the uppermost metre of the fill profile. Limits on water content were also used to control the quality of the fill, particularly for the cut soils excavated from more than approximately 5 metres below original ground level, as these sometimes exhibited non-standard behaviour.

Supervision and certification of the road construction was carried out by Tiaki Consulting Engineers Ltd and is not included in this certification.

Excavation and backfilling of the service trenches was undertaken by Higgins Group Ltd. Test results and location plans are attached in Appendix F.

5.2 Inspections and Testing

At least thirty five engineering inspections were undertaken during the earthworks within Stage 1B, including of stripping operations, bulk earthworks and other works.

Earthworks compaction testing was undertaken and directly supervised by Terrane, in conjunction with some testing by Opus Laboratories.

Upon completion of the bulk earthworks handauger boreholes were completed in the middle of each residential lot.

The results of the fill compaction and other control testing are included in Appendix D.

The test results are consistent with observations made on site and confirm that the filling was placed and compacted in accordance with the project specification.

6.0 RETAINING WALLS

There are three small timber pole retaining walls located within or immediately outside Stage 1B, located on Lot 36, Lot 40 and north of Lot 65, as shown on Drawing 4209-G80. The walls are up to 950 mm high. The walls were all engineer-designed and subject to a building consent. Certification of the walls is provided under separate cover.

7.0 ASSESSMENT

7.1 General

The ground conditions exposed during construction were consistent with those inferred at the time of the Geotechnical Assessment Report, dated September 2016.

All bulk filling within Stage 1B is structural grade. Backfilling of the stormwater and sewer service trenches was undertaken by Higgins Group Ltd. The test results supplied to Terrane are included in Appendix F of this report. The backfilling was not verified by Terrane.

The earthworks and retaining walls have resulted in flat to gently sloping building platforms, which are suitable for residential development.

There are gentle to moderate sloping batters located in the side yards between many of the building platforms. These batters are generally less than 1 metre high and have a maximum gradient of 1V:2.5H (vertical to horizontal). The batters should be considered by designers of adjacent buildings in accordance with the standard requirements of NZS3604:2011 *Timber Framed Buildings*.

7.2 Slope Stability

Slope gradients dip from the ridge crest 50 metres east of the site to Omokoroa Road on the western side of the site. Gradients within the Stage 1B boundaries are generally very gentle to moderate, with localised steeper gradients only on the eastern side of the subdivision boundary. The geometry is shown on Section GG on the attached Drawing 4209-G82.

The subdivision earthworks extended beyond the eastern boundary of Stage 1B, resulting in a 5 metre thick buttress of structural grade filling at the toe of the original slope, forming a flat bench approximately 20 metres wide before the ground rises to the ridge crest. The overall subdivision design is for future earthworks to downcut the ridge by at least 4 metres and further reduce the size of the slope.

The filling within Stage 1B and the formation of the bench have reduced the risk of instability compared to the pre-development situation, and the proposed down-cutting will further reduce the risk to essentially nil. As the down-cutting has not yet been undertaken the stability of the slope was checked via stability analysis using SLIDE software. The results indicate the minimum Factor of Safety (FoS) of the slope is at least FoS = 2.4, including under seismic conditions (graphical output is included in Appendix E of this report). The results confirm the assessment that the bulk of the elevated ground to the east does not represent a potential hazard to Stage 1B.

The exception to the above is Lot 27 at the northern end, where the cut batter has been locally steepened and is immediately adjacent to the boundary. It is programmed to down-cut the batter from approximately 7 metres to only 2 metres high at the start of the upcoming earthworks season. Until then, the geometry indicates there is a possibility of slippage sufficient to affect part of the building platform within Lot 27. The debris risk could be mitigated by measures such as an engineer-designed retaining wall or a debris diversion system, as well as the downcutting operation.

For the purposes of certification Lot 27 has been designated as a Specific Design Zone, as defined in Section 7.4 following.

7.3 Other Potential Hazards

An overview of the other potential ground hazards affecting Stage 1B is as follows:

- **Settlement:** the site soils are typical of the wider area, with generally low risk of settlement under light to moderate loadings. The boreholes did not identify any significant lateral variations in compressibility across the site. The filling is all structural grade and relatively consistent. Accordingly, normal requirements for building development apply;
- **Liquefaction**: the site is well elevated above the groundwater table. This, plus the predominantly cohesive nature of the site soils and their age, means there is essentially no risk of liquefaction under strong earthquake shaking;
- **Active faulting**: there are no active faults within the vicinity of the site;
- **Internal erosion**: this is a process by which soil particles are removed from within a soil or rock mass, usually by flowing groundwater. The resulting cavities are collectively referred to as tomo. No indications of tomo or accelerated erosion were identified. Normal provisions for volcanic soils apply; and
- **Groundwater flooding**: no elevated risk apparent.

7.4 Suitability Zoning and Building Restriction Lines

The suitability of each Lot for building development has been simplified into a two level system, with each area requiring specific geotechnical consideration identified as a Specific Design Zone (SDZ) and defined via a Building Restriction Line (BRL). In other words:

Zone A: Suitable for non-specific design in accordance with NZS3604:2011 *Timber Framed Buildings*, subject to a reduced bearing capacity of 125 kPa to allow for the sensitive nature of the volcanic ash soils (ultimate limit state conditions, inclusive of a strength reduction factor of 0.5);

------ Building Restriction Line (BRL) -----

SDZ: (Specific Design Zone). Building development to be subject to specific geotechnical investigation and design. The requirements for specific geotechnical inputs refer to an accredited Category 1 Geotechnical Engineer as defined in the Tauranga City Council Infrastructure Development Code.

The locations of the SDZ and BRL are shown on Drawing 4209-G80.

Lot-specific development requirements are as follows:

- **Lots 40 and 46:**

  Building development inside the SDZ on the western side of Lots 40 and 46 will need to take the nearby timber pole retaining walls into account, to avoid surcharging effects (this should be straightforward given the walls are only a maximum of 1.0 metres high).

- **Lots 42 to 45, 63, 64 and 66:**

  There is an up to five metre high batter slope on the western side of the lots adjacent to Omokoroa Road. This slope dips from the Lots towards Omokoroa Road at gradients of approximately 1V:2H and is formed of engineered fill with a wedge of topsoil-rich filling along the base of the slope.

  Although the batter slope is considered stable, as a precaution, a SDZ has been identified along the western parts of the Lots adjacent to Omokoroa Road. The BRL has been defined 4.0 metres from the western boundary. This is the same as side/rear yard requirements for properties adjacent to Omokoroa Road, therefore the SDZ dos not have a material effect on the areas available for building.

- **Lot 27:**

  As discussed in Section 7.3 above, even though it is most likely to only be temporary, the cut batter immediately adjacent to Lot 27 does not achieve the levels of stability required for normal residential development. Accordingly, Lot 27 has been designated a Specific Design Zone.

  The batter slope is scheduled to be essentially removed by bulk earthworks at the start of the 2018-9 earthworks season. The proposed earthworks will remove any potential slip hazard to Lot 27. This will be confirmed via an as-built survey and supplementary certification report which will remove the requirement for specific design. If for some reason the batter remained then the debris risk can be mitigated by an engineer-design retaining wall or debris control measures.

7.5 Building Foundations

Building foundations within Stage 1B can be designed in general accordance with NZS3604:2011 *Timber Framed Buildings*. There may be some isolated instances of slightly lower strength surficial brown ash soils, as is commonly encountered within similar soils elsewhere within the western Bay of Plenty. A reduced bearing capacity of 125 kPa (ultimate limit state conditions, inclusive of a strength reduction factor of 0.5) has therefore been nominated as the default.

The bearing capacity requirement can be assessed on an individual lot basis, as a site-specific assessment and/or ground improvement measures may demonstrate that a bearing capacity of 150 kPa (that is, full NZS3604 level) is available.

Requirements for increased foundation embedment may apply where adjacent to sloping ground, retaining walls or buried pipes.

The subgrade soils for building foundations and any retaining wall should be inspected and approved by a suitably experienced Chartered Professional Engineer familiar with the contents of this report. Any variation from the inferred subsurface model described herein should be referred to a geotechnical engineer to allow assessment of its significance.

7.6 Stormwater Disposal

Concentrated stormwater runoff from low permeability surfaces (e.g. roofs, parking areas, driveways etc.) should be collected and disposed of via council reticulation.

7.7 Ground Retention

The ground conditions are suitable for conventional embedded and/or cantilever type retaining walls. Normal criteria should apply, including the requirement for engineer design and certification.

7.8 Buried Services

The majority of buried services within Stage 1B are located in the road berms, however some are located between Lots. Council development guidelines (WBOPDC Development Code 2009, Drawing W553) require that foundations near buried pipelines extend at least 0.6 metres below a 45° zone of influence from the invert of the pipe. This appears suitable for Stage 1B.

8.0 SUMMARY OF KEY REQUIREMENTS AND RECOMMENDATIONS

Based on the inspections and testing undertaken during construction, it is considered that the completed works give due regard to land slope and foundation stability considerations and the Lots are considered to be geotechnically suitable for building development, subject to the requirements and recommendations given in this report.

A Statement of Professional Opinion and a tabular summary of requirements for each Lot are included in Appendix A of this report.

The only specific restrictions on building development are identified via the SDZ and BRL shown on Drawing 4209-G80 included in Appendix B of this report. Any building or part thereof that extends into a SDZ will need to be subject to specific assessment by a geotechnical engineer. This applies to the Specific Design Zone along the western side of Lots 36, 40, 42 to 45, 63, 64 and 66, and all of Lot 27.

As noted previously, the requirements for specific geotechnical inputs refer to an accredited Category 1 Geotechnical Engineer as defined in the Tauranga City Council Infrastructure Development Code.

9.0 APPLICABILITY

This report has been prepared for Harbour Ridge Developments Ltd with respect to the specific brief given to us, and should not be used in any other context, by any other party or for any other purpose without our prior review and written agreement.

Comments and recommendations given in this report relate to the specific development proposal described to us. Any significant change to the scope of development should be checked for any geotechnical issues arising.

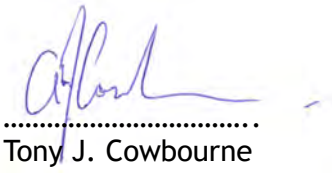
If there is any doubt regarding the applicability of the report or its contents, or the site materials encountered are different from those described herein, it is essential that these issues are discussed with Terrane prior to proceeding with any work based on this document.

Terrane Consultants Ltd

Report prepared by:

.....

Bevan L. Marr
BA(Geog) NZDE(Civil)
ACCREDITED CAT 2 ENGINEERING GEOLOGIST



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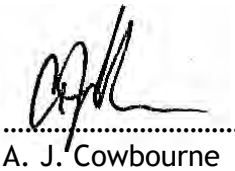
Tony J. Cowbourne
CPEng BE(Hons) MSc(Hons) BSc CMEngNZ
ACCREDITED CAT 1 GEO-PROFESSIONAL

Authorised for release by:



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A. J. Cowbourne
DIRECTOR

4209.St1B GCR.v0.1 S: 20/07/18

APPENDIX A

STATEMENT OF SUITABILITY & LOT SUMMARY TABLE

STATEMENT OF PROFESSIONAL OPINION AS TO THE GEOTECHNICAL SUITABILITY OF LAND FOR BUILDING

Development: ..... *Harbour Ridge Subdivision – Stage 1B* .....

Owner: ..... *Harbour Ridge Developments Ltd* .....

Location: ..... *351 Omokoroa Road, Omokoroa, Western Bay of Plenty* .....

I ... *Anthony John Cowbourne* ..... of ... *Terrane Consultants Ltd* .....
..... *(full name)* .... *(name and address of firm)* .....

Hereby confirm that:

1. I am a professional person, appropriately qualified with experienced in geotechnical engineering to ascertain the suitability of the land for building development and was retained as the Soils Engineer for the above development.

2. An appropriate level of site investigation and construction supervision has been carried out under my direction and is described in my development evaluation report dated: *…19/07/2018, ref: 4209 St1B·GCR, titled "Geotechnical Completion Report, Stage 1B of the Harbour Ridge Subdivision" (GCR)*

3. In my professional opinion, not to be construed as a guarantee, I consider that:
   a) The areas shown in my report dated *...19/07/2018...* of each new allotment or on the development site are suitable for the erection thereon of the building types appropriate to the zoning of the land, provided that: *...refer GCR...*

   b. The completed works give due regard to all land slope and foundation stability considerations. *...refer GCR...*

   c. The earth fills shown on the attached Plan No .. *17-510-Goldstone-Stage 1B AsBuilt, Rev B, titled"AsBuilt Cut and Fill Depths"* have been placed in accordance with the Subdivision and Development Code of Practice of the Western Bay of Plenty District Council *...refer GCR...*

   d. The filled ground is suitable for the erection thereon of residential buildings not requiring specific design in terms of NZS3604:2011 and related documents provided that*: ...refer GCR...*

   e. 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: 1999 and related documents provided that: *...refer GCR...*

4. This professional opinion is furnished to the Council and the owner for their purpose 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 for any dwelling.

Signed: ..... Date: … *19th July 2018* .....
CPEng BE(Hons) MSc(Hons) BSc CMEngNZ

GEOTECHNICAL DATA FOR INDIVIDUAL LOTS

Lot Number	Area (m²)	Subsurface Data						Building Foundations			Building Restriction Line	S/W Specific Design	S/W Soakage	S/W Detention	Designated Building Platform	Minimum Building Platform	Compressible Soils	On-Site Effluent Disposal	Consent Notice	NOTES
		Shear Strength (kPa)	Fill Depth (m)	Cut Depth (m)	Natural Topography Unworked (Y/N)	Natural Topography Earthworked (Y/N)	Natural Topography Earthworked Depth (m)	Conventional Shallow Foundations to NZS3604:2011	Foundations to NZS3604:2011 (with reduced bearing capacity of 125kPa)	Specific Design (Y/N/NA)										
27	-	100 +		7.0	No	Yes	-		✓	Yes										Entire Lot = Specfic Design Zone
28	-	100 +	0.5	6.0	No	Yes	-		✓	No										
29	-	100 +		7.0	No	Yes	-		✓	No										
30	-	100 +	3.0	1.0	No	Yes	-		✓	No										
31	-	100 +	4.0		No	Yes	-		✓	No										
32	-	100 +	4.0		No	Yes	-		✓	No										
33	-	100 +	3.5		No	Yes	-		✓	No										
34	-	100 +	5.0		No	Yes	-		✓	No										
35	-	100 +	5.0		No	Yes	-		✓	No										
36	-	100 +	4.0		No	Yes	-		✓	Yes	✓									Small SDZ adjacent retaining wall
37	-	100 +	3.5		No	Yes	-		✓	No										

Notes:

1. To be read in conjunction with the GCR (Geotechnical Completion Report for Stage 1b prepared by Terrane Consultants Ltd, dated 19th July 2018, reference 4209.St1b GCR, Rev 0.1)
2. Table based on sheet G3 of the Tauranga City Council " Infrastructure Development Code" (rev 1)
3. For "Building Restriction Lines" and Specific Design Zones", refer to Drawing 4209-G80, Rev 0. The extent of each Lots "Specific Design Zone" is usually limited in area (excluding Lot 27).
4. Estimates of cut and fill are derived from the Maven BOP Ltd drawing titled "AsBuilt Cut and Fill Depths Plan - Stage 1B", reference 17-510-Goldstone-Stage 1B-ASBUILT, dated 18th July 2018, Rev B.

F: 4209 Stage 1b Summary Table.xlsx
blm.ajc

GEOTECHNICAL DATA FOR INDIVIDUAL LOTS

Lot Number	Area (m^2)	Subsurface Data						Building Foundations			Building Restriction Line	S/W Specific Design	S/W Soakage	S/W Detention	Designated Building Platform	Minimum Building Platform	Compressible Soils	On-Site Effluent Disposal	Consent Notice	NOTES
		Shear Strength (kPa)	Fill Depth (m)	Cut Depth (m)	Natural Topography Unworked (Y/N)	Natural Topography Earthworked (Y/N)	Natural Topography Earthworked Depth (m)	Conventional Shallow Foundations to NZS3604:2011	Foundations to NZS3604:2011 (with reduced bearing capacity of 125kPa)	Specific Design (Y/N/NA)										
38	-	100 +	3.0		No	Yes	-		✓	No										
39	-	100 +	4.0		No	Yes	-		✓	No										
40	-	100 +	3.5		No	Yes	-		✓	Yes	✓									Small SDZ adjacent retaining wall
41	-	100 +	2.5		No	Yes	-		✓	No										
42	-	100 +	2.0		No	Yes	-		✓	Yes	✓									4m wide SDZ adjacent to Omokoroa Rd
43	-	100 +	3.0		No	Yes	-		✓	Yes	✓									4m wide SDZ adjacent to Omokoroa Rd
44	-	100 +	3.0		No	Yes	-		✓	Yes	✓									4m wide SDZ adjacent to Omokoroa Rd
45	-	100 +	3.0		No	Yes	-		✓	Yes	✓									4m wide SDZ adjacent to Omokoroa Rd
46	-	100 +	2.0		No	Yes	-		✓	No										
47	-	100 +	2.0		No	Yes	-		✓	No										
48	-	100 +	2.0		No	Yes	-		✓	No										

Notes:

1. To be read in conjunction with the GCR (Geotechnical Completion Report for Stage 1b prepared by Terrane Consultants Ltd, dated 19th July 2018, reference 4209.St1b GCR, Rev 0.1)
2. Table based on sheet G3 of the Tauranga City Council " Infrastructure Development Code" (rev 1)
3. For "Building Restriction Lines" and Specific Design Zones", refer to Drawing 4209-G80, Rev 0. The extent of each Lots "Specific Design Zone" is usually limited in area (excluding Lot 27).
4. Estimates of cut and fill are derived from the Maven BOP Ltd drawing titled "AsBuilt Cut and Fill Depths Plan - Stage 1B", reference 17-510-Goldstone-Stage 1B-ASBUILT, dated 18th July 2018, Rev B.

F: 4209 Stage 1b Summary Table.xlsx
blm.ajc

GEOTECHNICAL DATA FOR INDIVIDUAL LOTS

Lot Number	Area (m²)	Subsurface Data						Building Foundations			Building Restriction Line	S/W Specific Design	S/W Soakage	S/W Detention	Designated Building Platform	Minimum Building Platform	Compressible Soils	On-Site Effluent Disposal	Consent Notice	NOTES
		Shear Strength (kPa)	Fill Depth (m)	Cut Depth (m)	Natural Topography Unworked (Y/N)	Natural Topography Earthworked (Y/N)	Natural Topography Earthworked Depth (m)	Conventional Shallow Foundations to NZS3604:2011	Foundations to NZS3604:2011 (with reduced bearing capacity of 125kPa)	Specific Design (Y/N/NA)										
49	-	100 +	2.0		No	Yes	-		✓	No										
50	-	100 +	1.5	1.0	No	Yes	-		✓	No										
51	-	100 +	1.0	2.5	No	Yes	-		✓	No										
52	-	100 +	2.0	2.5	No	Yes	-		✓	No										
53	-	100 +	1.5	2.5	No	Yes	-		✓	No										
63	-	100 +	1.5	2.0	No	Yes	-		✓	Yes	✓									4m wide SDZ adjacent to Omokoroa Rd
64	-	100 +	3.0	0.5	No	Yes	-		✓	Yes	✓									4m wide SDZ adjacent to Omokoroa Rd
65	-	100 +	2.0	0.5	No	Yes	-		✓	No										
66	-	100 +	3.0		No	Yes	-		✓	Yes	✓									4m wide SDZ adjacent to Omokoroa Rd

Notes:

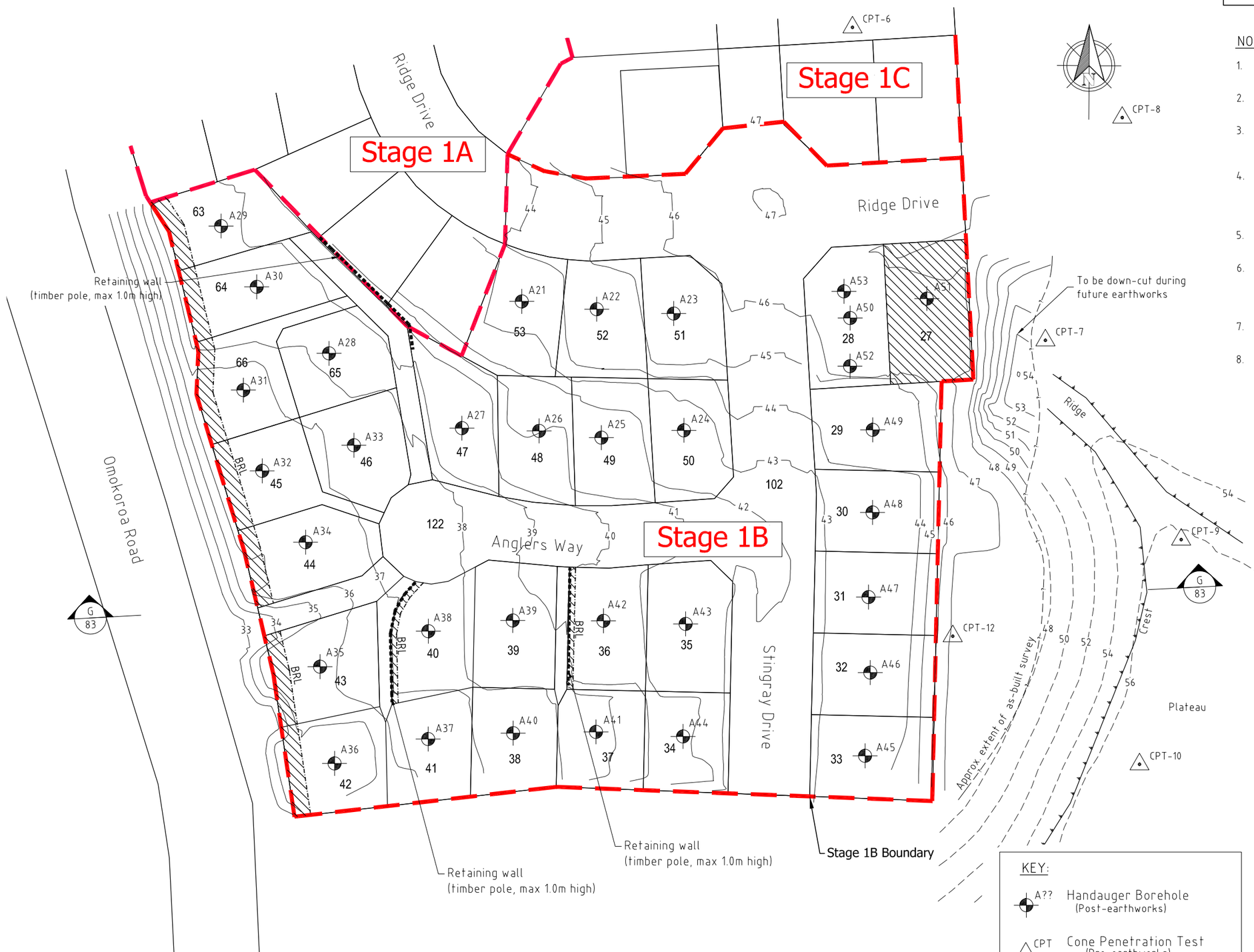
1. To be read in conjunction with the GCR (Geotechnical Completion Report for Stage 1b prepared by Terrane Consultants Ltd, dated 19th July 2018, reference 4209.St1b GCR, Rev 0.1)
2. Table based on sheet G3 of the Tauranga City Council " Infrastructure Development Code" (rev 1)
3. For "Building Restriction Lines" and Specific Design Zones", refer to Drawing 4209-G80, Rev 0. The extent of each Lots "Specific Design Zone" is usually limited in area (excluding Lot 27).
4. Estimates of cut and fill are derived from the Maven BOP Ltd drawing titled "AsBuilt Cut and Fill Depths Plan - Stage 1B", reference 17-510-Goldstone-Stage 1B-ASBUILT, dated 18th July 2018, Rev B.

F: 4209 Stage 1b Summary Table.xlsx
blm.ajc

APPENDIX B

DRAWINGS

Rev no	Revision note	Date	Issued By	Approved By
0	Completion Report	19th July 2018	ajc	



NOTES:

1. This drawing is not to be used for construction purposes unless signed as approved.
2. Dimensions are in metres unless noted otherwise. Levels are in terms of Moturiki Datum 1953.
3. Contours and Lot boundaries from Maven drawing 17-510-Goldstone -Stage 1B-As Built, rev B, dated 18th July 2018. Contours depict the finished ground surface and are at 1 metre intervals.
4. Dashed contours shown outside Stage 1B boundary are from original site survey (Birch Surveyors drawing, ref 3969 EW-02, dated 15th September 2016). Contours are at 2 metre intervals and depict the existing ground surface.
5. Lot numbering from Beyond NZ Ltd drawing, ref: 17-0510-S2-EW-01, Rev A, dated 03/09/2017.
6. The requirements for specific design (geotechnical assessment) refers to an accredited Category 1 Geotechnical Engineer or Engineering Geologist as defined in the Tauranga City Council Infrastructure Development Code.
7. Front-yard and side-yard minimum building setback requirements not shown (refer district plan).
8. All of the residential lots not shaded as "Specific Design Zone" are considered "Zone A", or Non-Specific Design Zone. For details, refer Terrane "Geotechnical Completion Report for Stage 1B of the Harbour Ridge Subdivision", ref: 4209.St1B.GCR, dated 19th July 2018.

Contours shown = Finished Ground Surface

BRL Extents:

1. The BRL on Lot 36 is offset 1.5 metres from the western boundary.
2. The BRL on Lot 40 is offset 1.5 metres from the western boundary.
3. The BRL's on Lots 42, 43, 44, 45, 63, 64 and 66 are all offset 4 metres from the western boundary.

0 10 20 30 40 (m)

SCALE 1:1000

KEY:

- A?? Handauger Borehole (Post-earthworks)
- CPT Cone Penetration Test (Pre-earthworks)
- BRL Building Restriction Line
- Specific Design Zone (Geotechnical assessment)

Client: HarbourRidge

Terrane geotechnical solutions

Terrane Consultants Ltd
PO Box 13-607 TAURANGA
Ph 07-579 9708 Fax 07 579 9702

Des: blm	File ref: 4209-St1b.AB.dwg	Scale: 1:1000 at A3 size
Dwg: blm	Date: July - 2018	Rev: 0
Chk: ajc		

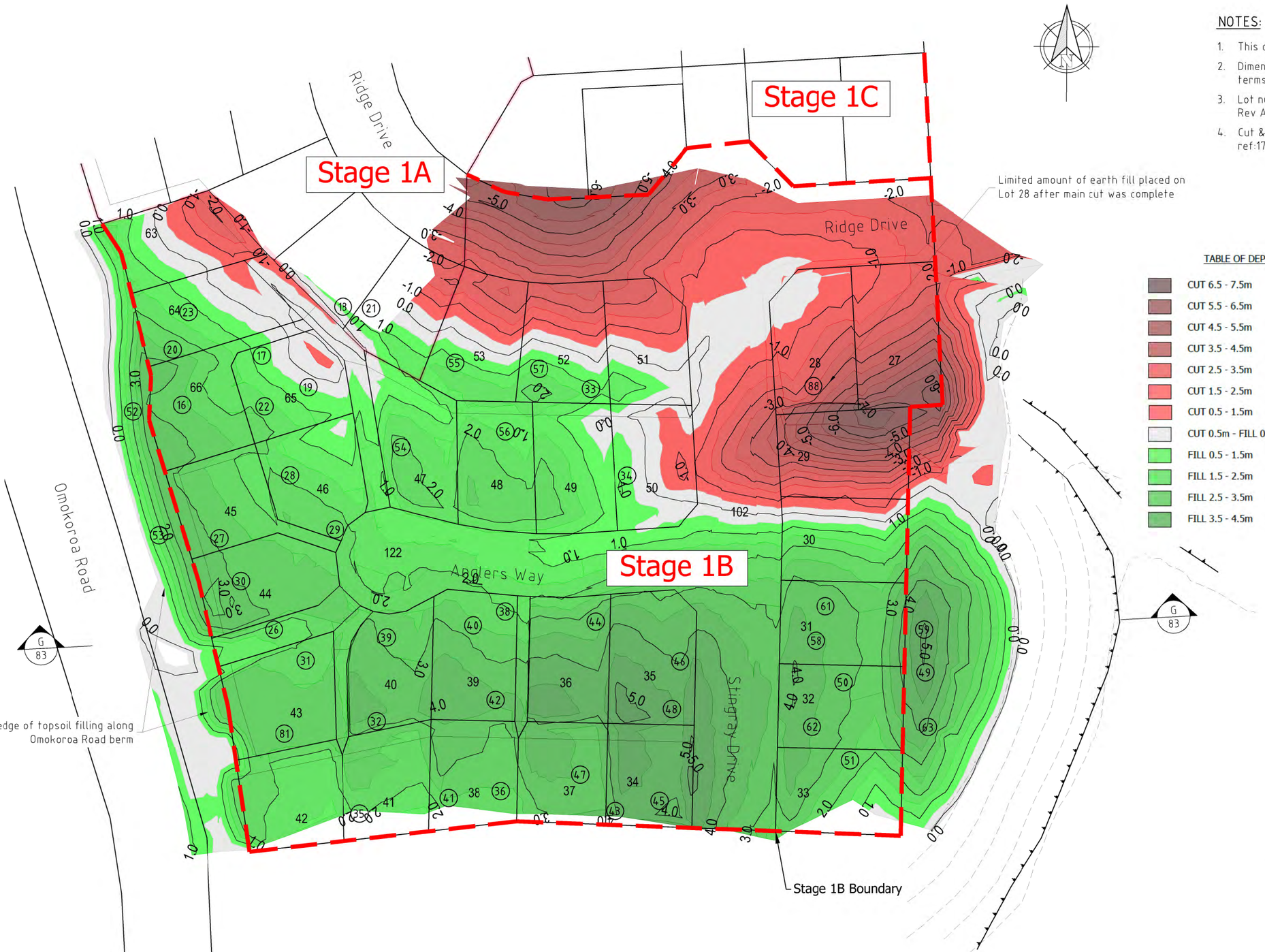
Project:
HARBOUR RIDGE DEVELOPMENTS LTD
351 OMOKOROA ROAD, TAURANGA
HARBOUR RIDGE SUBDIVISION-STAGE 1B

Drawing:
4209 - G80

Title:
STAGE 1B PLAN

2018-7-20 4209.St1b.AB.dwg

Rev no	Revision note	Date	Issued By
0	Completion Report	19th July 2018	ajc



NOTES:

1. This drawing is not to be used for construction purposes.
2. Dimensions are in metres unless noted otherwise. Levels are in terms of Moturiki Datum 1953.
3. Lot numbering from Beyond NZ Ltd drawing, ref: 17-0510-S2-EW-01, Rev A, dated 03/09/2017.
4. Cut & Fill isopachs and subdivision boundaries from Maven drawing, ref:17-510-Goldstone-Stage 1B AsBuilt, Rev B, dated 18th July 2018.

TABLE OF DEPTHS

- CUT 6.5 - 7.5m
- CUT 5.5 - 6.5m
- CUT 4.5 - 5.5m
- CUT 3.5 - 4.5m
- CUT 2.5 - 3.5m
- CUT 1.5 - 2.5m
- CUT 0.5 - 1.5m
- CUT 0.5m - FILL 0.5m
- FILL 0.5 - 1.5m
- FILL 1.5 - 2.5m
- FILL 2.5 - 3.5m
- FILL 3.5 - 4.5m

KEY:
(1) Location of fill test

Client: HarbourRidge

Terrane
geotechnical solutions

Terrane Consultants Ltd
PO Box 13-607 TAURANGA
Ph 07-579 9708 Fax 07 579 9702

Des: blm	File ref: 4209-St1b.AB.dwg	Scale: 1:1000 at A3 size
Dwg: blm	Date: July - 2018	Rev: 0
Chk: ajc		

Project:
HARBOUR RIDGE DEVELOPMENTS LTD
351 OMOKOROA ROAD, TAURANGA
HARBOUR RIDGE SUBDIVISION-STAGE 1B

Drawing:
4209 - G81

Title:
FILL TEST LOCATIONS

2018-7-20 4209.St1b.AB.dwg

Rev no	Revision note	Date	Issued By
0	Completion Report	July-2018	ajc

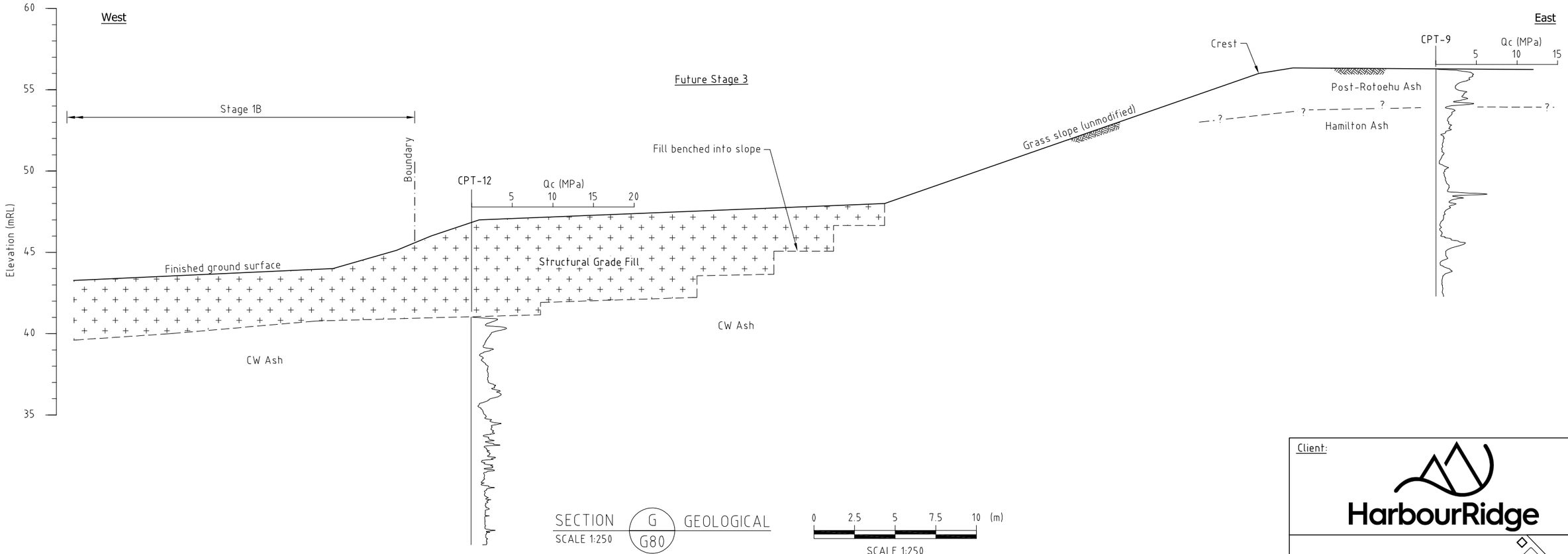
KEY:

HA Handauger borehole

CPT Cone Penetration Test

NOTES:

1. This drawing is not to be used for construction purposes.
2. Dimensions are in metres unless noted otherwise. Levels are in terms of Moturiki Datum 1953.
3. Section derived from Drawing 4209-G80, titled "Stage 1B Plan".
4. The subsurface model described herein is based on interpolation between borehole and other data at discrete locations. Actual subsurface conditions may vary from those inferred.

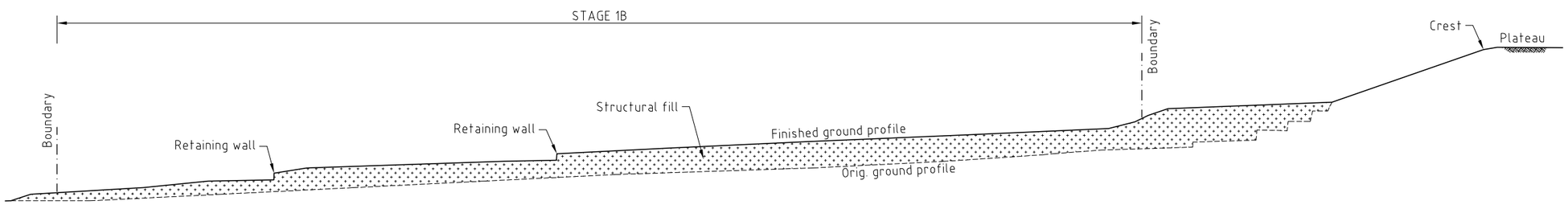


SECTION G G80 GEOLOGICAL

SCALE 1:250

0 2.5 5 7.5 10 (m)

SCALE 1:250



SECTION G G80 TOTAL SLOPE

SCALE 1:750

0 7.5 15 22.5 30 (m)

SCALE 1:750

Client: HarbourRidge

Terrane geotechnical solutions

Terrane Consultants Ltd
PO Box 13-607 TAURANGA
Ph 07-579 9708 Fax 07 579 9702

Des: blm	File ref: 4209-St1b.AB.dwg	Scale: as shown at A3 size
Dwg: blm	Date: July - 2018	Rev: 0
Chk: ajc		

Project:
HARBOUR RIDGE DEVELOPMENTS LTD
351 OMOKOROA ROAD, TAURANGA
HARBOUR RIDGE SUBDIVISION-STAGE 1B

Drawing:
4209 - G82

Title:
SECTION GG

2018-7-20 4209.St1b.AB.dwg

KEY

LOT BOUNDARIES

MAJOR CONTOURS

MINOR CONTOURS

GENERAL NOTES

1) AREAS AND MEASUREMENTS ARE APPROXIMATE ONLY AND SUBJECT TO FINAL SURVEY
2) ROADS SHOWN ARE LEGAL
3) THIS DOCUMENT SHALL BE USED ONLY FOR THE PURPOSE FOR WHICH IT IS SUPPLIED. NO REPRODUCTION, COPYING, REUSE, SALE, HIRE, LOAN OR GIFT OF THIS DOCUMENT DIRECTLY OR INDIRECTLY IS PERMITTED WITHOUT THE PRIOR WRITTEN CONSENT OF BEYOND LTD
4) THIS DOCUMENT IS SUBJECT TO COPYRIGHT
5) ORIGIN OF HEIGHTS: AQ48 HEIGHT: 33.56

CLIENT:

HarbourRidge

ORIGINAL SIZE: A3

FILE NAME:

MAVEN
LEVEL 1, 17 GREY ST, TAURANGA | www.maven.co.nz

LOCAL AUTHORITY	WESTERN BAY OF PLENTY DISTRICT COUNCIL
PLANNING MAP	U63
ZONING	OMOKOROA STRUCTURE PLAN ZONE 2
ACTIVITY	SUBDIVISION
COMPRISED IN	SA47D/986
TOTAL AREA	24.7102ha
REGISTERED OWNERS	LR GOLDSTONE MJ GOLDSTONE

PROJECT NAME

HARBOUR RIDGE

351 OMOKOROA ROAD & 18 GOLDSTONE ROAD
OMOKOROA

SURVEYOR: SG	DATE: 08/16	DRAFTER: PG	DATE: 06/18
DESIGNER: JO	DATE: 06/18	REVIEWER: JG	DATE: 06/18

APPROVER: C.SALMONS
SIGNED: MAVEN
APPROVAL DATE: 11/06/18

PROJECT NO. 16-119

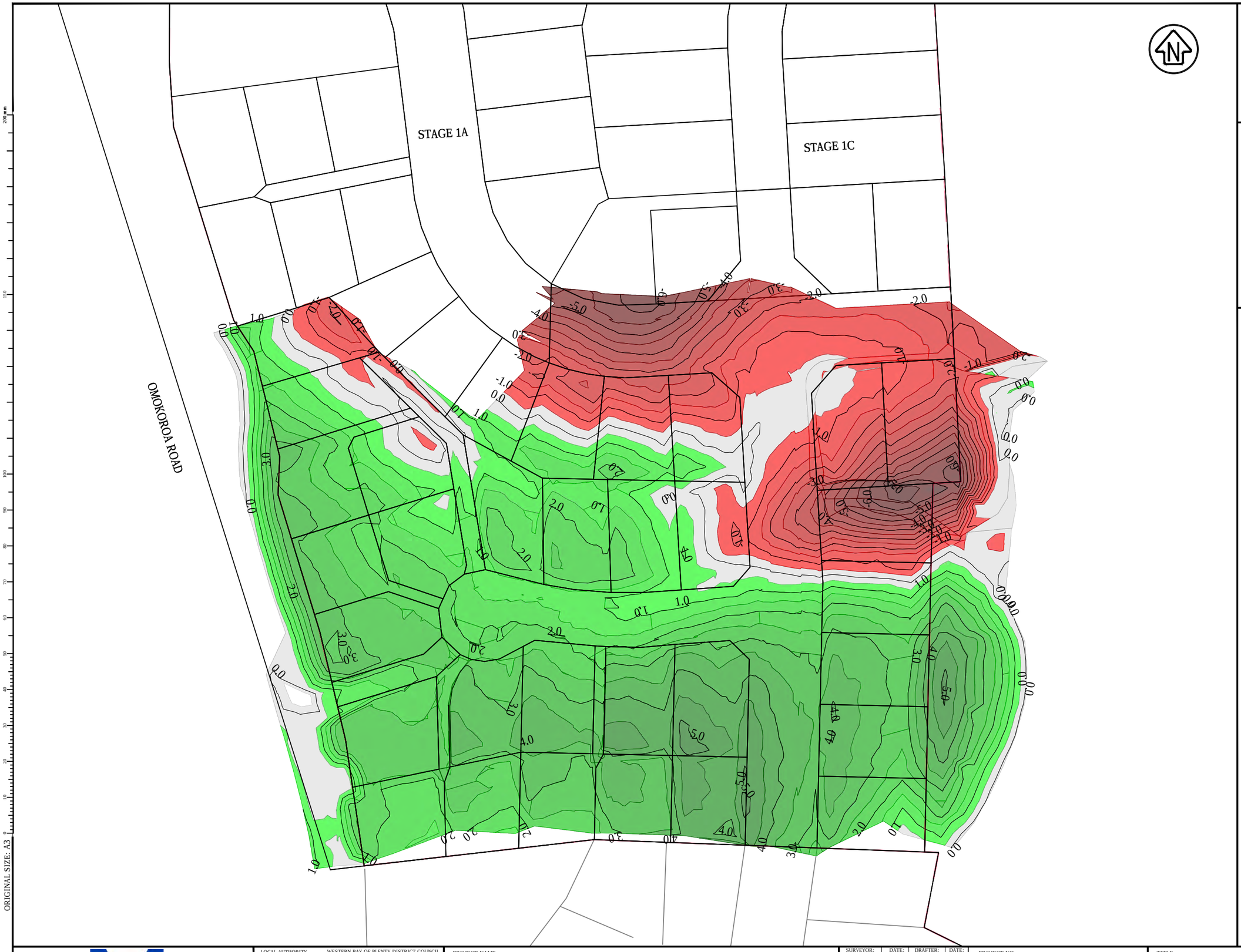
HORIZONTAL SCALE: 1:1000
VERTICAL SCALE: N/A
SHEET SIZE: A3

REV.	BY	DATE	COMMENT
A	PG	11/06/18	ASBUILT
B	JG	18/07/18	UPDATE BATTER OF LOT 27

TITLE

ASBUILT CONTOURS
STAGE 1B

DRAWING NAME: 17-510-GOLDSTONE-STAGE 1B ASBUILT
REV. B



KEY

LOT BOUNDARIES

ABUTTAL BOUNDARIES

DEPTH CONTOURS (1.0M) 51.0

GENERAL NOTES

1) AREAS AND MEASUREMENTS ARE APPROXIMATE ONLY AND SUBJECT TO FINAL SURVEY
2) ROADS SHOWN ARE LEGAL
3) DATUM IS ARBITRARY AND SUBJECT TO FINAL SURVEY
4) THIS DOCUMENT SHALL BE USED ONLY FOR THE PURPOSE FOR WHICH IT IS SUPPLIED. NO REPRODUCTION, COPYING, REUSE, SALE, HIRE, LOAN OR GIFT OF THIS DOCUMENT DIRECTLY OR INDIRECTLY IS PERMITTED WITHOUT THE PRIOR WRITTEN CONSENT OF BEYOND LTD
5) THIS DOCUMENT IS SUBJECT TO COPYRIGHT

TABLE OF DEPTHS

	CUT 6.5 - 7.5m
	CUT 5.5 - 6.5m
	CUT 4.5 - 5.5m
	CUT 3.5 - 4.5m
	CUT 2.5 - 3.5m
	CUT 1.5 - 2.5m
	CUT 0.5 - 1.5m
	CUT 0.5m - FILL 0.5m
	FILL 0.5 - 1.5m
	FILL 1.5 - 2.5m
	FILL 2.5 - 3.5m
	FILL 3.5 - 4.5m

CLIENT:

HarbourRidge

ORIGINAL SIZE: A3

FILE NAME:

MAVEN
LEVEL 1, 17 GREY ST, TAURANGA | www.maven.co.nz

LOCAL AUTHORITY	WESTERN BAY OF PLENTY DISTRICT COUNCIL
PLANNING MAP	U63
ZONING	OMOKOROA STRUCTURE PLAN ZONE 2
ACTIVITY	SUBDIVISION
COMPRISED IN	SA47D/986
TOTAL AREA	24.7102ha
REGISTERED OWNERS	LR GOLDSTONE MJ GOLDSTONE

PROJECT NAME

HARBOUR RIDGE

351 OMOKOROA ROAD & 18 GOLDSTONE ROAD
OMOKOROA

SURVEYOR: SG	DATE: 08/16	DRAFTER: PG	DATE: 06/18
DESIGNER: JO	DATE: 06/18	REVIEWER: JG	DATE: 06/18

APPROVER: C.SALMONS SIGNED: MAVEN

APPROVAL DATE: 11/06/18

PROJECT NO. 16-119

HORIZONTAL SCALE: 1:1000 SHEET SIZE: A3
VERTICAL SCALE: N/A

REV.	BY	DATE	COMMENT
A	PG	11/06/18	ASBUILT
B	JG	18/07/18	UPDATE BATTER OF LOT 27

TITLE

ASBUILT CUT AND FILL DEPTHS STAGE 1B

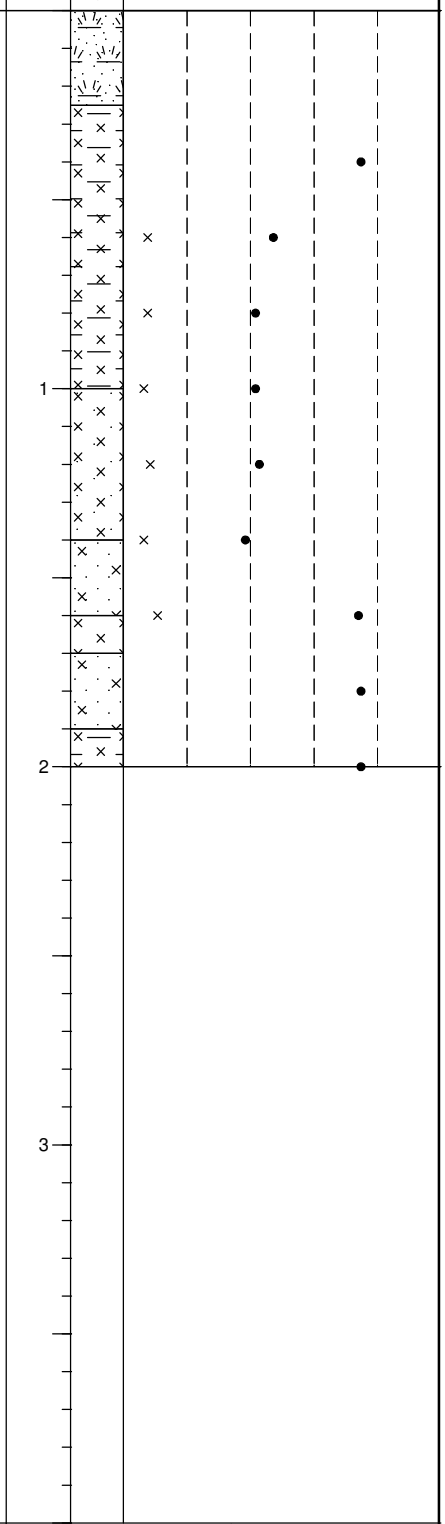
DRAWING NAME: 17-510-GOLDSTONE-STAGE 1B ASBUILT REV. B

APPENDIX C

FACTUAL DATA

CLIENT: Harbour Ridge Developments Ltd		HOLE No: HA-A21	Terrane geotechnical solutions Terrane Consultants Ltd 32 Willow Street, PO-Box 13-607 TAURANGA 07 579 9708
PROJECT: Harbour Ridge Residential Subdivision - Stage 1B		SHEET: 1 of 1	
LOCATION: 351 Omokoroa Road, Tauranga		JOB NO: 4209	

GEOLOGY Soil / Rock Type Stratigraphy	DESCRIPTION OF SOIL	GROUNDWATER
Topsoil	TOPSOIL, dark brown, moist	
Post-Rotoehu Ash	Clayey SILT, orange brown, hard, moist, moderate plasticity - becomes very stiff	
	SILT, traces sand (fine to medium), orange browm, very stiff, moist, slightly cohesive - becomes with minor sand (fine to medium) - becomes with some sand (fine to medium), stiff	
	Silty SAND (fine to medium), yellow brown, medium dense, moist	
	SILT, light yellow, stiff, moist, slightly cohesive	
Rotoehu Ash	Silty SAND (fine to medium), light yellow orange, medium dense, moist	
Hamilton Ash	Clayey SILT, dark orange brown, hard, moist, high plasticity	
	END OF HOLE at 2 m.	



REMARKS	DRILLED BY	LOGGED BY	DATE DRILLED
- Lot 53 - Groundwater not encountered	NI	BLM	5-4-18

TERRANE HA 4209.STAGE 1B AS-BUILT.GPJ TERRANE.GDT 20-7-18

Log scale at A4 - 1:20

CLIENT: Harbour Ridge Developments Ltd

PROJECT: Harbour Ridge Residential Subdivision - Stage 1B

LOCATION: 351 Omokoroa Road, Tauranga

HOLE No: HA-A22

SHEET: 1 of 1

JOB NO: 4209

Terrane geotechnical solutions
Terrane Consultants Ltd
32 Willow Street, PO-Box 13-607
TAURANGA 07 579 9708

GEOLOGY Soil / Rock Type Stratigraphy	DESCRIPTION OF SOIL
Topsoil	TOPSOIL, dark brown, moist
Fill	Clayey SILT, traces sand (fine to medium), orange brown with dark brown mottles, hard, moist, friable
Post-Rotoehu Ash	Clayey SILT, orange brown, very stiff, moist, moderate plasticity
	- becomes stiff
	- becomes very stiff
	SILT, traces sand (fine to medium), orange brown, very stiff, moist, slightly cohesive
	- becomes with minor sand (fine to medium), stiff
	Sandy (fine to medium) SILT, orange brown, stiff, moist, slightly cohesive
	END OF HOLE at 2 m.

GROUNDWATER

DEPTH (m)

GRAPHIC LOG

SHEAR VANE TEST RESULTS

● Peak (kPa)
× Residual (kPa)

0 50 100 150 200 250

1

2

3

REMARKS
- Lot 52
- Groundwater not encountered

DRILLED BY: NI

LOGGED BY: BLM

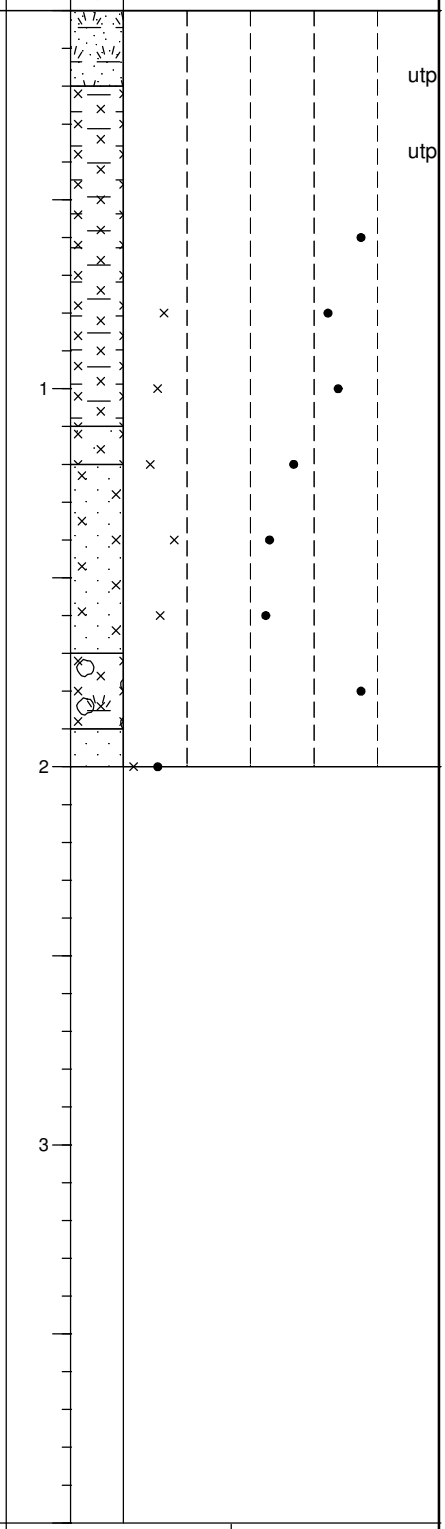
DATE DRILLED: 5-4-18

TERRANE HA 4209.STAGE 1B AS-BUILT.GPJ TERRANE.GDT 20-7-18

Log scale at A4 - 1:20

CLIENT: Harbour Ridge Developments Ltd		HOLE No: HA-A23	Terrane geotechnical solutions Terrane Consultants Ltd 32 Willow Street, PO-Box 13-607 TAURANGA 07 579 9708
PROJECT: Harbour Ridge Residential Subdivision - Stage 1B		SHEET: 1 of 1	
LOCATION: 351 Omokoroa Road, Tauranga		JOB NO: 4209	

GEOLOGY Soil / Rock Type Stratigraphy	DESCRIPTION OF SOIL	GROUNDWATER
Topsoil	TOPSOIL, dark brown, moist	
Fill	Clayey SILT, dark orange brown with dark brown mottles, hard, moist, slightly cohesive	
Post-Rotoehu Ash	Clayey SILT, orange brown, hard, moist, moderate plasticity - becomes very stiff - becomes with traces sand (fine to medium)	
	SILT, minor sand (fine to medium), orange brown, very stiff, moist, slightly cohesive	
	Silty SAND (fine to medium), yellow orange, medium dense, moist	
	SILT, minor sand (fine), light yellow, hard, moist, friable	
Rotoehu Ash	SAND (fine to medium), light brown grey, loose, moist	
	END OF HOLE at 2 m.	



REMARKS
- Lot 51
- Groundwater not encountered

DRILLED BY	LOGGED BY	DATE DRILLED
NI	BLM	5-4-18

TERRANE HA 4209.STAGE 1B AS-BUILT.GPJ TERRANE.GDT 20-7-18

Log scale at A4 - 1:20

CLIENT: Harbour Ridge Developments Ltd

PROJECT: Harbour Ridge Residential Subdivision - Stage 1B

LOCATION: 351 Omokoroa Road, Tauranga

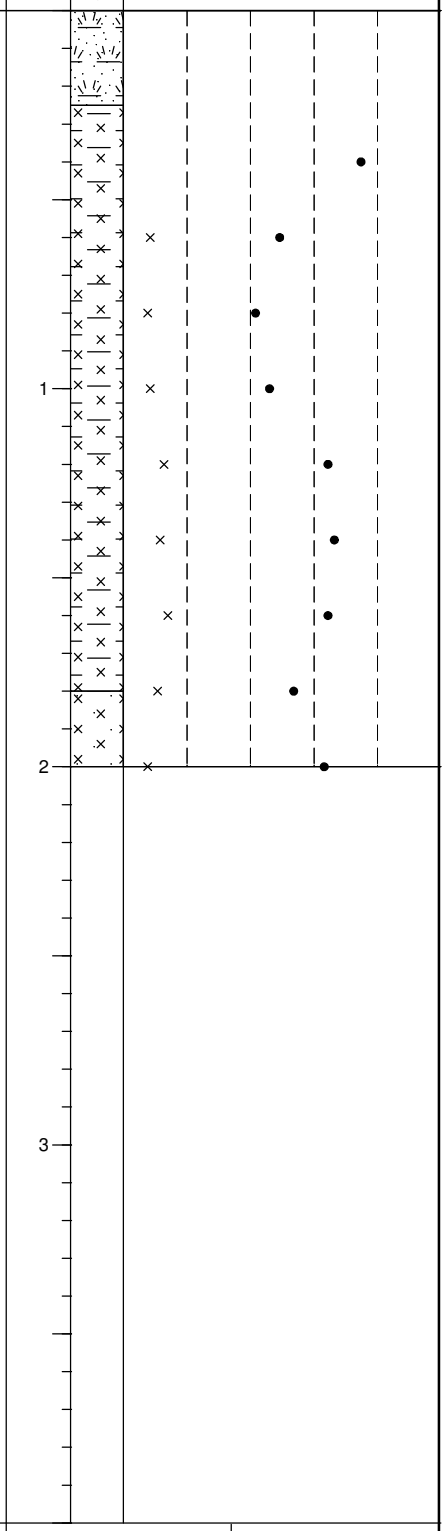
HOLE No: HA-A24

SHEET: 1 of 1

JOB NO: 4209

Terrane
geotechnical solutions
Terrane Consultants Ltd
32 Willow Street, PO-Box 13-607
TAURANGA 07 579 9708

GEOLOGY Soil / Rock Type Stratigraphy	DESCRIPTION OF SOIL	GROUNDWATER
Topsoil	TOPSOIL, dark brown, moist	
Fill	Clayey SILT, brown with dark brown mottles, hard, moist, fraible	
	Clayey SILT, orange brown, very stiff, moist, moderate plasticity	
	SILT, orange brown, stiff, low plasticity, moist	
	END OF HOLE at 2 m.	



REMARKS
- Lot 50
- Groundwater not encountered

DRILLED BY: NI

LOGGED BY: BLM

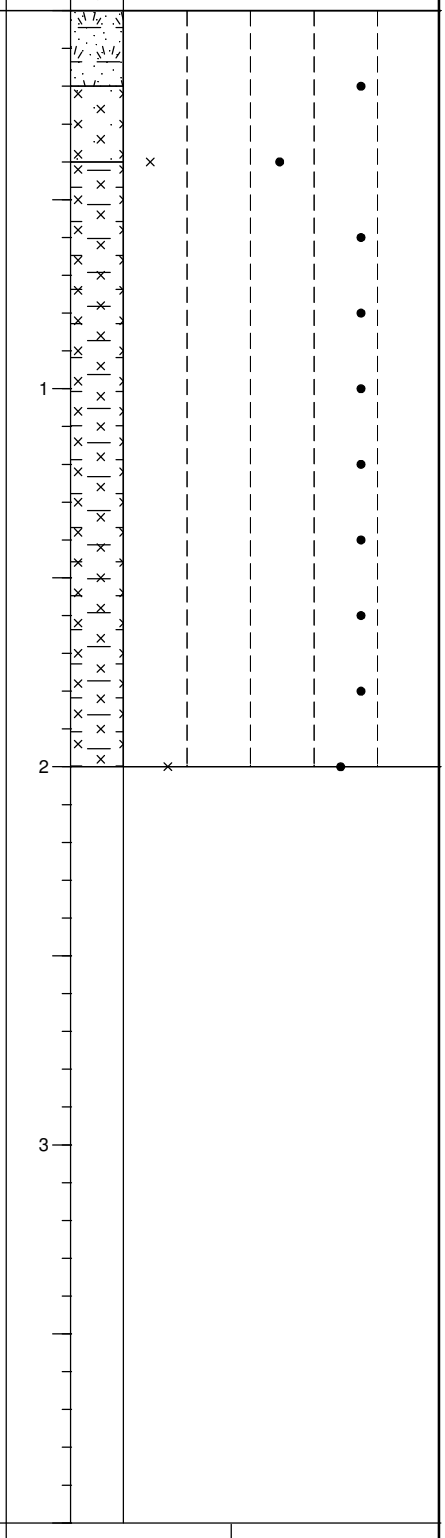
DATE DRILLED: 5-4-18

TERRANE HA 4209.STAGE 1B AS-BUILT.GPJ TERRANE.GDT 20-7-18

Log scale at A4 - 1:20

CLIENT: Harbour Ridge Developments Ltd		HOLE No: HA-A25	Terrane geotechnical solutions Terrane Consultants Ltd 32 Willow Street, PO-Box 13-607 TAURANGA 07 579 9708
PROJECT: Harbour Ridge Residential Subdivision - Stage 1B		SHEET: 1 of 1	
LOCATION: 351 Omokoroa Road, Tauranga		JOB NO: 4209	

GEOLOGY Soil / Rock Type Stratigraphy	DESCRIPTION OF SOIL	GROUNDWATER
Topsoil	TOPSOIL, dark brown, moist	
Fill	SILT, some sand (fine to medium), light brown with dark brown and light grey mottles, hard, moist, friable	
	Clayey SILT, orange brown with dark brown mottles, very stiff, moist, slightly cohesive - becomes hard - becomes with minor sand (fine to medium) - becomes with orange, light grey and dark brown mottles	
Post-Rotoehu Ash	Clayey SILT, orange brown, very stiff, moist, friable	
	END OF HOLE at 2 m.	



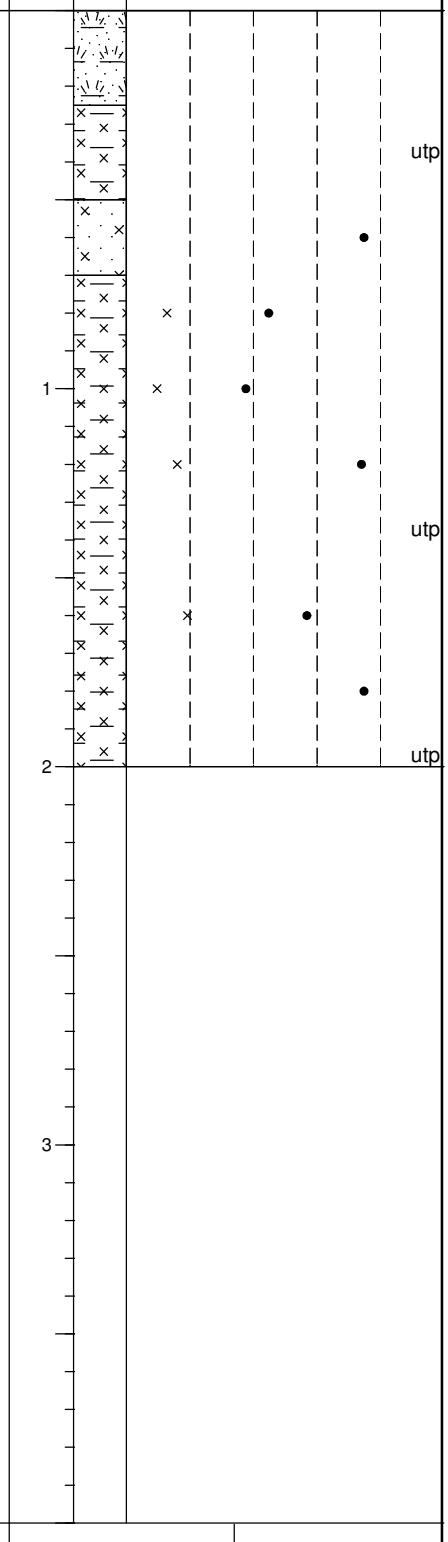
REMARKS	DRILLED BY	LOGGED BY	DATE DRILLED
- Lot 49 - Groundwater not encountered	NI	BLM	5-4-18

TERRANE HA 4209.STAGE 1B AS-BUILT.GPJ TERRANE.GDT 20-7-18

Log scale at A4 - 1:20

CLIENT: Harbour Ridge Developments Ltd		HOLE No: HA-A26	Terrane geotechnical solutions Terrane Consultants Ltd 32 Willow Street, PO-Box 13-607 TAURANGA 07 579 9708
PROJECT: Harbour Ridge Residential Subdivision - Stage 1B		SHEET: 1 of 1	
LOCATION: 351 Omokoroa Road, Tauranga		JOB NO: 4209	

GEOLOGY Soil / Rock Type Stratigraphy	DESCRIPTION OF SOIL	GROUNDWATER
Topsoil	TOPSOIL, dark brown, moist	
Fill	Clayey SILT, minor sand (fine to medium), brown with dark brown and light grey mottles, hard, moist, slightly cohesive	
	Silty SAND (fine to medium), yellow brown with dark brown mottles, medium dense, moist	
	Clayey SILT, orange brown with dark brown and light grey mottles, very stiff, moist, high plasticity - becomes stiff - becomes very stiff - becomes darkish brown with orange and light grey mottles - becomes dark orange brown with dark brown, brown and light grey mottles - becomes hard	
	END OF HOLE at 2 m.	



REMARKS
- Lot 48
- Groundwater not encountered

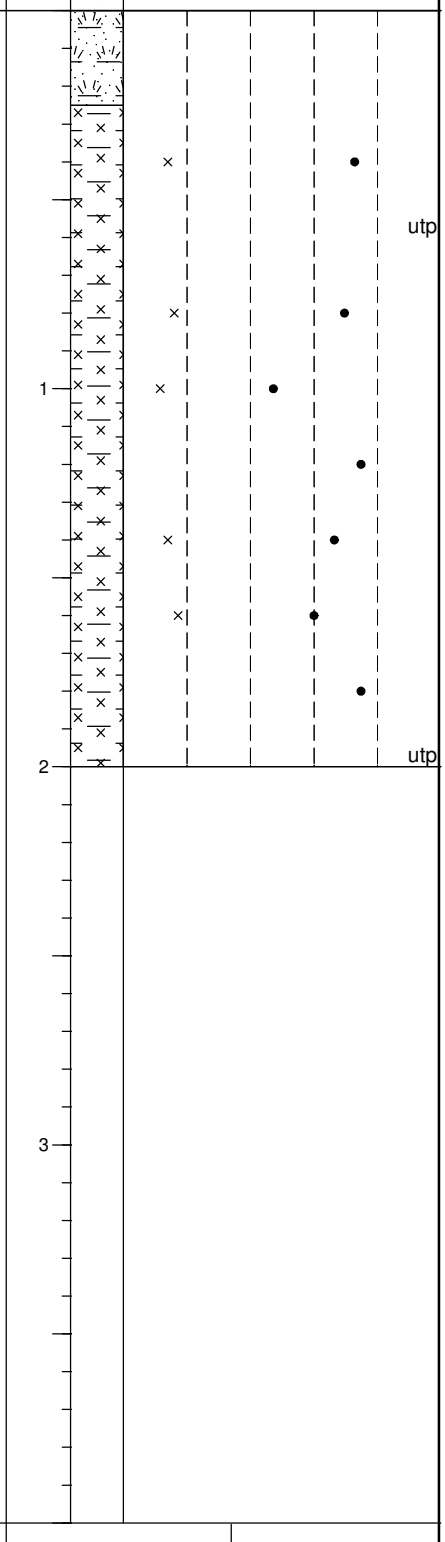
DRILLED BY	LOGGED BY	DATE DRILLED
NI	BLM	5-4-18

TERRANE_HA_4209.STAGE 1B AS-BUILT.GPJ TERRANE.GDT 20-7-18

Log scale at A4 - 1:20

CLIENT: Harbour Ridge Developments Ltd		HOLE No: HA-A27	Terrane geotechnical solutions Terrane Consultants Ltd 32 Willow Street, PO-Box 13-607 TAURANGA 07 579 9708
PROJECT: Harbour Ridge Residential Subdivision - Stage 1B		SHEET: 1 of 1	
LOCATION: 351 Omokoroa Road, Tauranga		JOB NO: 4209	

GEOLOGY Soil / Rock Type Stratigraphy	DESCRIPTION OF SOIL	GROUNDWATER
Topsoil	TOPSOIL, dark brown, moist	
Fill	Clayey SILT, minor sand (fine to medium), orange brown with dark brown and light grey mottles, very stiff, moist, high plasticity	
	- becomes very stiff	
	- becomes hard	
	- becomes very stiff	
	- becomes hard	
	END OF HOLE at 2 m.	



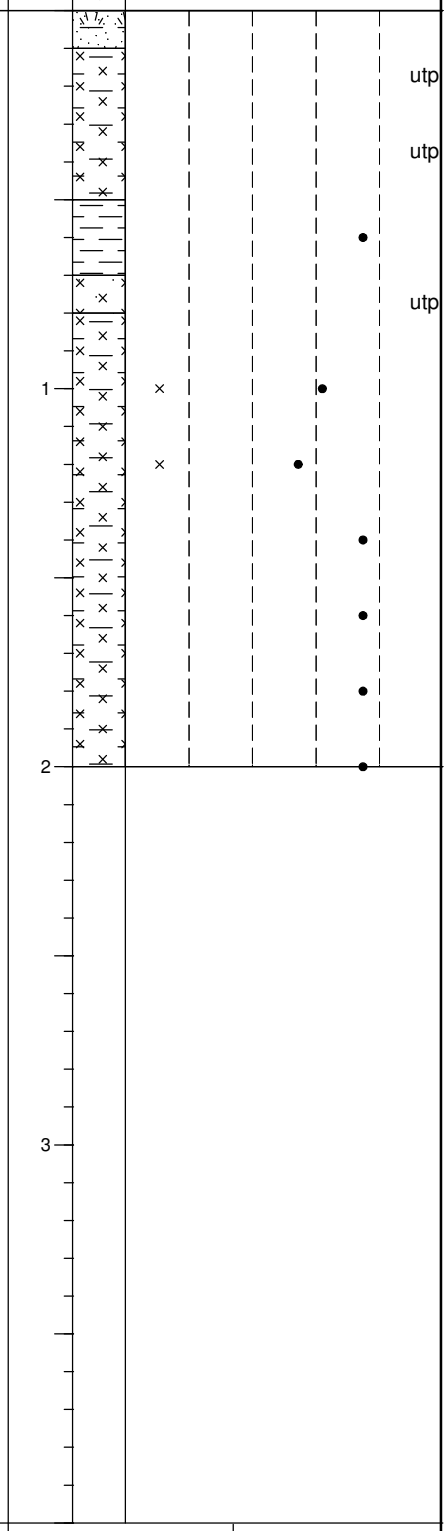
REMARKS
- Lot 47
- Groundwater not encountered

DRILLED BY	LOGGED BY	DATE DRILLED
NI	BLM	5-4-18

Log scale at A4 - 1:20

CLIENT: Harbour Ridge Developments Ltd		HOLE No: HA-A28	Terrane geotechnical solutions Terrane Consultants Ltd 32 Willow Street, PO-Box 13-607 TAURANGA 07 579 9708
PROJECT: Harbour Ridge Residential Subdivision - Stage 1B		SHEET: 1 of 1	
LOCATION: 351 Omokoroa Road, Tauranga		JOB NO: 4209	

GEOLOGY Soil / Rock Type Stratigraphy	DESCRIPTION OF SOIL	GROUNDWATER
Topsoil	TOPSOIL, dark brown, dry	
Fill	Clayey SILT, orange brown with dark brown mottles, hard, dry, friable	
	- becomes darkish brown	
	CLAY, yellow orange brown with dark brown and light grey mottles, hard, moist, high plasticity	
	Sandy (fine to medium) SILT, yellow brown, hard, moist, friable	
	Clayey SILT, orange brown with dark brown mottles, hard, moist, slightly cohesive	
Post-Rotoehu Ash	Clayey SILT, orange brown, very stiff, moist, moderate plasticity	
	- becomes hard	
	- becomes with traces sand (fine)	
	END OF HOLE at 2 m.	



REMARKS
- Lot 65
- Groundwater not encountered

DRILLED BY	LOGGED BY	DATE DRILLED
NI	BLM	5-4-18

TERRANE_HA_4209.STAGE 1B AS-BUILT.GPJ TERRANE.GDT 20-7-18

Log scale at A4 - 1:20

CLIENT: Harbour Ridge Developments Ltd

PROJECT: Harbour Ridge Residential Subdivision - Stage 1B

LOCATION: 351 Omokoroa Road, Tauranga

HOLE No: HA-A29

SHEET: 1 of 1

JOB NO: 4209

Terrane geotechnical solutions
Terrane Consultants Ltd
32 Willow Street, PO-Box 13-607
TAURANGA 07 579 9708

GEOLOGY Soil / Rock Type Stratigraphy	DESCRIPTION OF SOIL
Topsoil	TOPSOIL, dark brown, moist
Fill	Clayey SILT, minor sand (fine to medium), orange brown with dark brown and light grey mottles, hard, moist, friable
Post-Rotoehu Ash	Clayey SILT, orange brown, very stiff, moist, moderate plasticity - becomes hard - becomes very stiff
	SILT, minor sand (fine to medium), orange brown, very stiff, moist, slightly cohesive
	Silty SAND (fine to medium), yellow orange, medium dense, moist
	END OF HOLE at 2 m.

GROUNDWATER

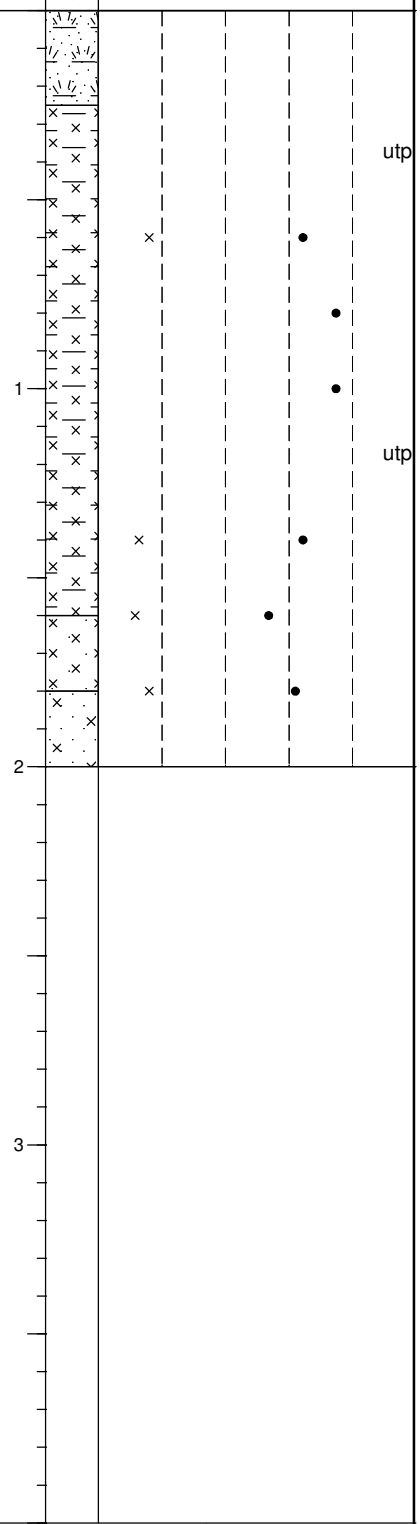
DEPTH (m)

GRAPHIC LOG

SHEAR VANE TEST RESULTS

● Peak (kPa)
× Residual (kPa)

0 50 100 150 200 250



REMARKS
- Lot 63
- Groundwater not encountered

DRILLED BY: NI

LOGGED BY: BLM

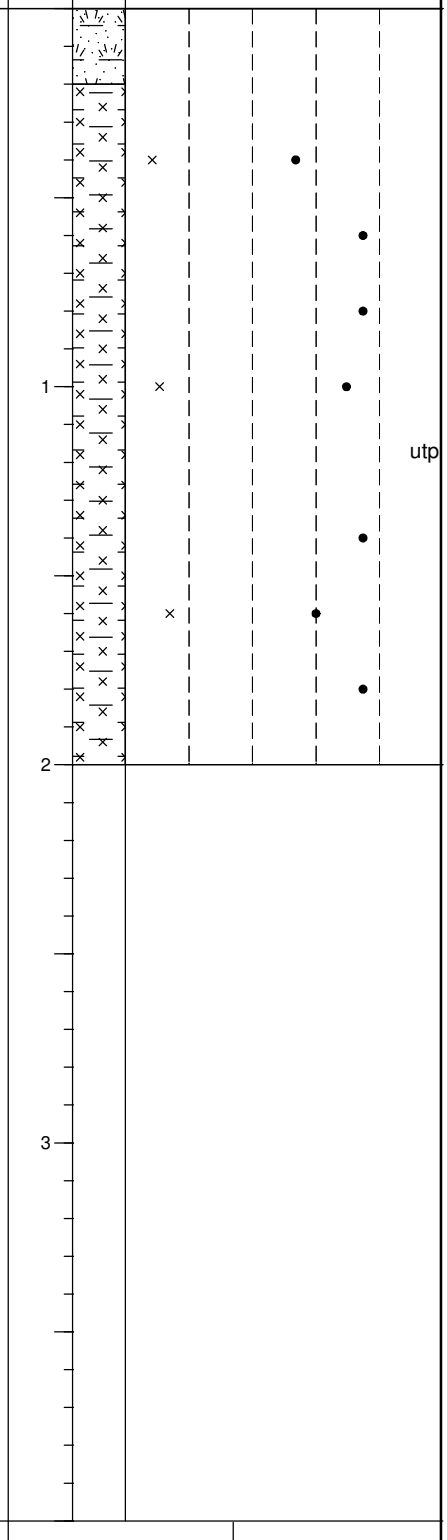
DATE DRILLED: 5-4-18

TERRANE HA 4209.STAGE 1B AS-BUILT.GPJ TERRANE.GDT 20-7-18

Log scale at A4 - 1:20

CLIENT: Harbour Ridge Developments Ltd		HOLE No: HA-A30	Terrane geotechnical solutions Terrane Consultants Ltd 32 Willow Street, PO-Box 13-607 TAURANGA 07 579 9708
PROJECT: Harbour Ridge Residential Subdivision - Stage 1B		SHEET: 1 of 1	
LOCATION: 351 Omokoroa Road, Tauranga		JOB NO: 4209	

GEOLOGY Soil / Rock Type Stratigraphy	DESCRIPTION OF SOIL	GROUNDWATER
Topsoil	TOPSOIL, dark brown, moist	
Fill	Clayey SILT, minor sand (fine to medium), orange brown with dark brown and light grey mottles, hard, moist, slightly cohesive	
	- becomes brown with dark brown and light grey mottles	
	- becomes yellow brown with dark brown and light grey mottles, very stiff	
	- becomes hard	
	- becomes orange brown with dark brown mottles	
	- becomes very stiff	
	- becomes hard	
	END OF HOLE at 2 m.	



REMARKS	DRILLED BY	LOGGED BY	DATE DRILLED
- Lot 64 - Groundwater not encountered	NI	BLM	5-4-18

CLIENT: Harbour Ridge Developments Ltd

PROJECT: Harbour Ridge Residential Subdivision - Stage 1B

LOCATION: 351 Omokoroa Road, Tauranga

HOLE No: HA-A31

SHEET: 1 of 1

JOB NO: 4209

Terrane geotechnical solutions
Terrane Consultants Ltd
32 Willow Street, PO-Box 13-607
TAURANGA 07 579 9708

GEOLOGY Soil / Rock Type Stratigraphy	DESCRIPTION OF SOIL
Topsoil	TOPSOIL, dark brown, moist
Fill	Clayey SILT, minor sand (fine to medium), orange brown with dark brown mottles, hard, moist, friable
	- becomes very stiff
	Clayey SILT, orange brown, very stiff, moist, slightly cohesive
	- becomes moderate plasticity
	- becomes sandy, friable
	- end of sand, moderate plasticity
	- becomes with abundant dark brown mottles
	- becomes with minor sand (fine to medium), minor dark brown mottles
	- becomes very stiff
	- becomes hard
	- becomes very stiff
	END OF HOLE at 2 m.

GROUNDWATER

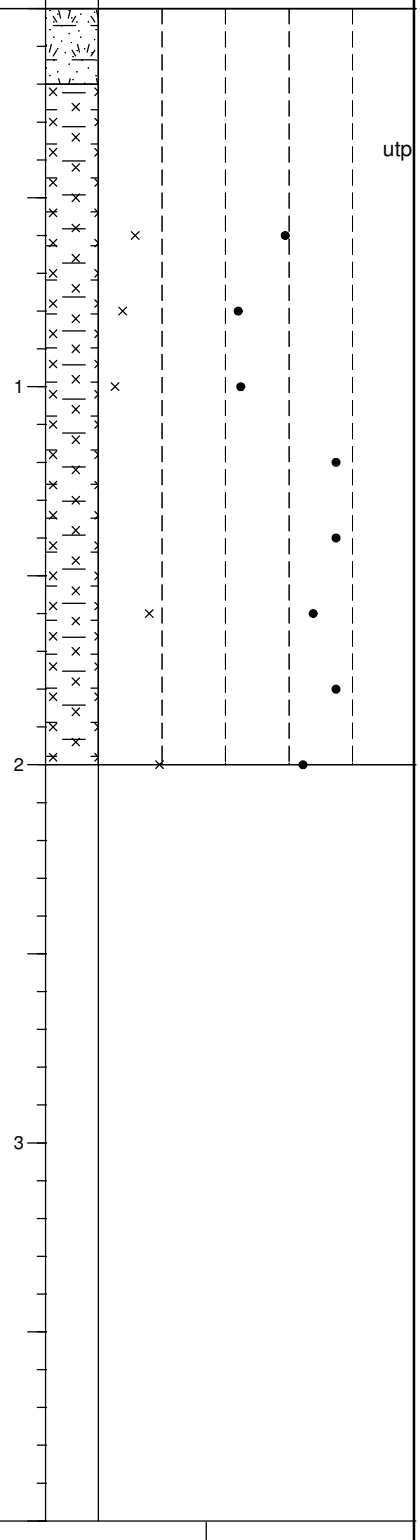
DEPTH (m)

GRAPHIC LOG

SHEAR VANE TEST RESULTS

● Peak (kPa)
× Residual (kPa)

0 50 100 150 200 250



REMARKS
- Lot 66
- Groundwater not encountered

DRILLED BY: NI

LOGGED BY: BLM

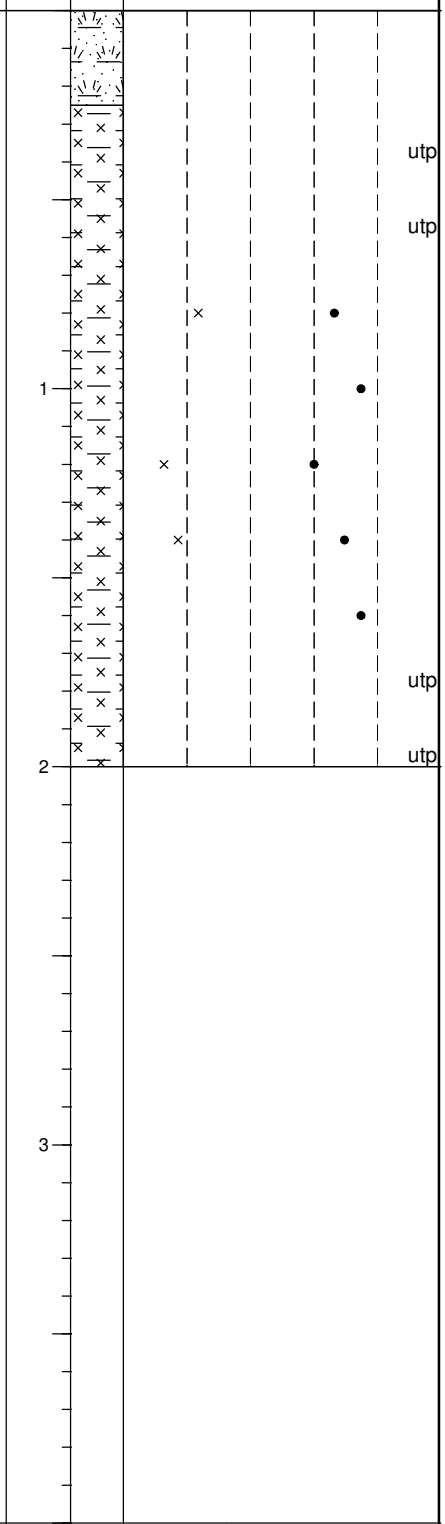
DATE DRILLED: 5-4-18

TERRANE HA 4209.STAGE 1B AS-BUILT.GPJ TERRANE.GDT 20-7-18

Log scale at A4 - 1:20

CLIENT: Harbour Ridge Developments Ltd		HOLE No: HA-A32	Terrane geotechnical solutions Terrane Consultants Ltd 32 Willow Street, PO-Box 13-607 TAURANGA 07 579 9708
PROJECT: Harbour Ridge Residential Subdivision - Stage 1B		SHEET: 1 of 1	
LOCATION: 351 Omokoroa Road, Tauranga		JOB NO: 4209	

GEOLOGY Soil / Rock Type Stratigraphy	DESCRIPTION OF SOIL	GROUNDWATER
Topsoil	TOPSOIL, dark brown, moist	
Fill	Clayey SILT, minor sand (fine to medium), orange brown with dark brown and light grey mottles, hard, moist, slightly cohesive	
	- becomes very stiff	
	- becomes hard	
	- becomes very stiff	
	- becomes hard	
	END OF HOLE at 2 m.	



REMARKS	DRILLED BY	LOGGED BY	DATE DRILLED
- Lot 45 - Groundwater not encountered	NI	BLM	5-4-18

TERRANE HA 4209.STAGE 1B AS-BUILT.GPJ TERRANE.GDT 20-7-18

Log scale at A4 - 1:20

CLIENT: Harbour Ridge Developments Ltd		HOLE No: HA-A33	Terrane geotechnical solutions Terrane Consultants Ltd 32 Willow Street, PO-Box 13-607 TAURANGA 07 579 9708
PROJECT: Harbour Ridge Residential Subdivision - Stage 1B		SHEAR: 1 of 1	
LOCATION: 351 Omokoroa Road, Tauranga		JOB NO: 4209	

GEOLOGY Soil / Rock Type Stratigraphy	DESCRIPTION OF SOIL	GROUNDWATER
Topsoil	TOPSOIL, dark brown, moist	
Fill	Clayey SILT, minor sand (fine to medium), orange brown with dark brown and yellow mottles, very stiff, moist, slightly cohesive	
	END OF HOLE at 2 m.	

DEPTH (m) | GRAPHIC LOG | SHEAR VANE TEST RESULTS

● Peak (kPa)
× Residual (kPa)

0 50 100 150 200 250

1
2
3

utp
utp

REMARKS	DRILLED BY	LOGGED BY	DATE DRILLED
- Lot 46 - Groundwater not encountered	NI	BLM	5-4-18

TERRANE HA 4209.STAGE 1B AS-BUILT.GPJ TERRANE.GDT 20-7-18

Log scale at A4 - 1:20

CLIENT: Harbour Ridge Developments Ltd		HOLE No: HA-A34	Terrane geotechnical solutions Terrane Consultants Ltd 32 Willow Street, PO-Box 13-607 TAURANGA 07 579 9708
PROJECT: Harbour Ridge Residential Subdivision - Stage 1B		SHEET: 1 of 1	
LOCATION: 351 Omokoroa Road, Tauranga		JOB NO: 4209	

GEOLOGY Soil / Rock Type Stratigraphy	DESCRIPTION OF SOIL	GROUNDWATER
Topsoil	TOPSOIL, dark brown, moist	
Fill	Clayey SILT, orange brown with dark brown and light grey mottles, very stiff, moist, moderate plasticity	
	- becomes hard	
	- becomes minor sand (fine to medium)	
	- becomes very stiff	
	- becomes hard	
	- becomes sandy	
	END OF HOLE at 2 m.	

DEPTH (m) / GRAPHIC LOG / SHEAR VANE TEST RESULTS

● Peak (kPa)
× Residual (kPa)

0 50 100 150 200 250

1 2 3

utp
utp
utp
utp

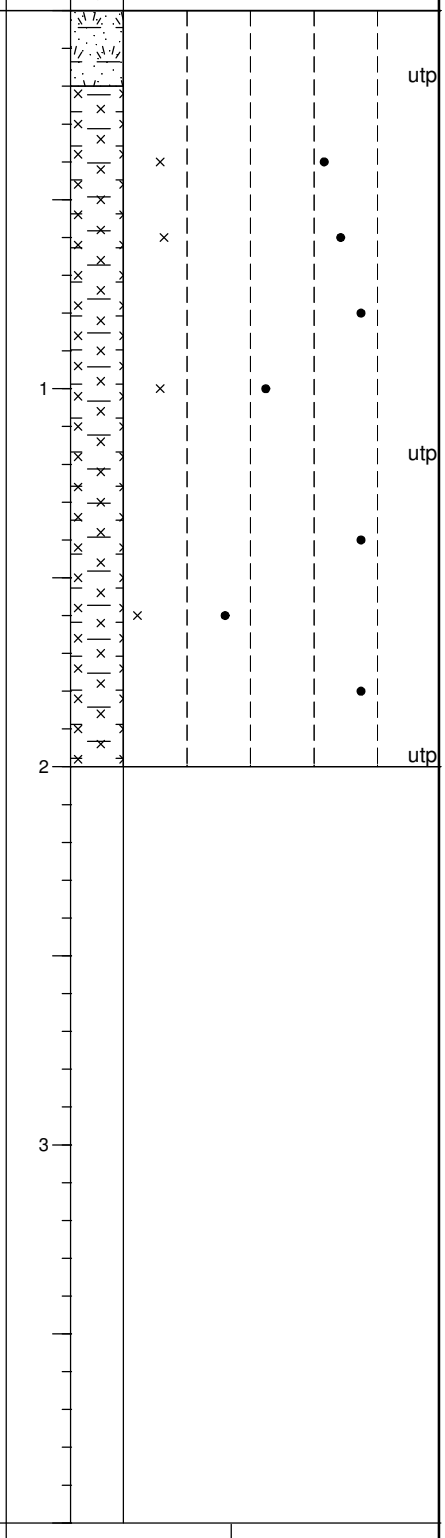
REMARKS	DRILLED BY	LOGGED BY	DATE DRILLED
- Lot 44 - Groundwater not encountered	NI	BLM	5-4-18

TERRANE HA 4209.STAGE 1B AS-BUILT.GPJ TERRANE.GDT 20-7-18

Log scale at A4 - 1:20

CLIENT: Harbour Ridge Developments Ltd		HOLE No: HA-A35	Terrane geotechnical solutions Terrane Consultants Ltd 32 Willow Street, PO-Box 13-607 TAURANGA 07 579 9708
PROJECT: Harbour Ridge Residential Subdivision - Stage 1B		SHEET: 1 of 1	
LOCATION: 351 Omokoroa Road, Tauranga		JOB NO: 4209	

GEOLOGY Soil / Rock Type Stratigraphy	DESCRIPTION OF SOIL	GROUNDWATER
Topsoil	TOPSOIL, dark brown, moist	
Fill	Clayey SILT, trace sand (fine to medium), orange brown with dark brown mottles, very stiff, moist, slightly cohesive	
	- becomes with orange, light grey and dark brown mottles, moderate plasticity	
	- becomes hard	
	- becomes very stiff	
	- becomes hard	
	- becomes stiff	
	- becomes hard	
	END OF HOLE at 2 m.	



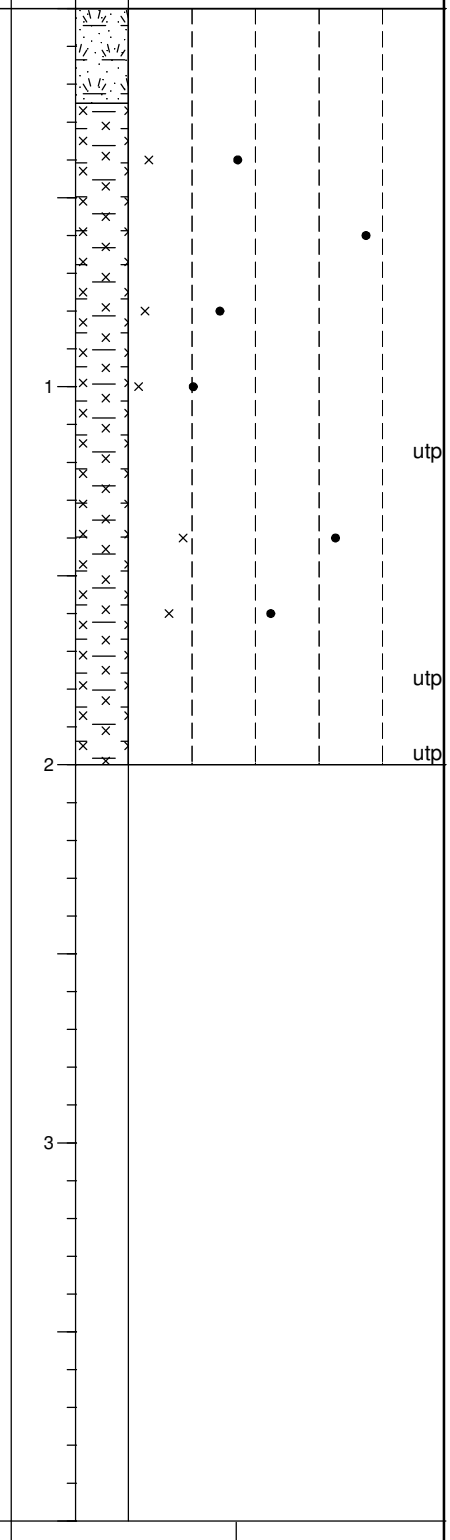
REMARKS	DRILLED BY	LOGGED BY	DATE DRILLED
- Lot 43	NI	BLM	8-5-18

TERRANE_HA 4209.STAGE 1B AS-BUILT.GPJ TERRANE.GDT 20-7-18

Log scale at A4 - 1:20

CLIENT: Harbour Ridge Developments Ltd		HOLE No: HA-A36	Terrane geotechnical solutions Terrane Consultants Ltd 32 Willow Street, PO-Box 13-607 TAURANGA 07 579 9708
PROJECT: Harbour Ridge Residential Subdivision - Stage 1B		SHEET: 1 of 1	
LOCATION: 351 Omokoroa Road, Tauranga		JOB NO: 4209	

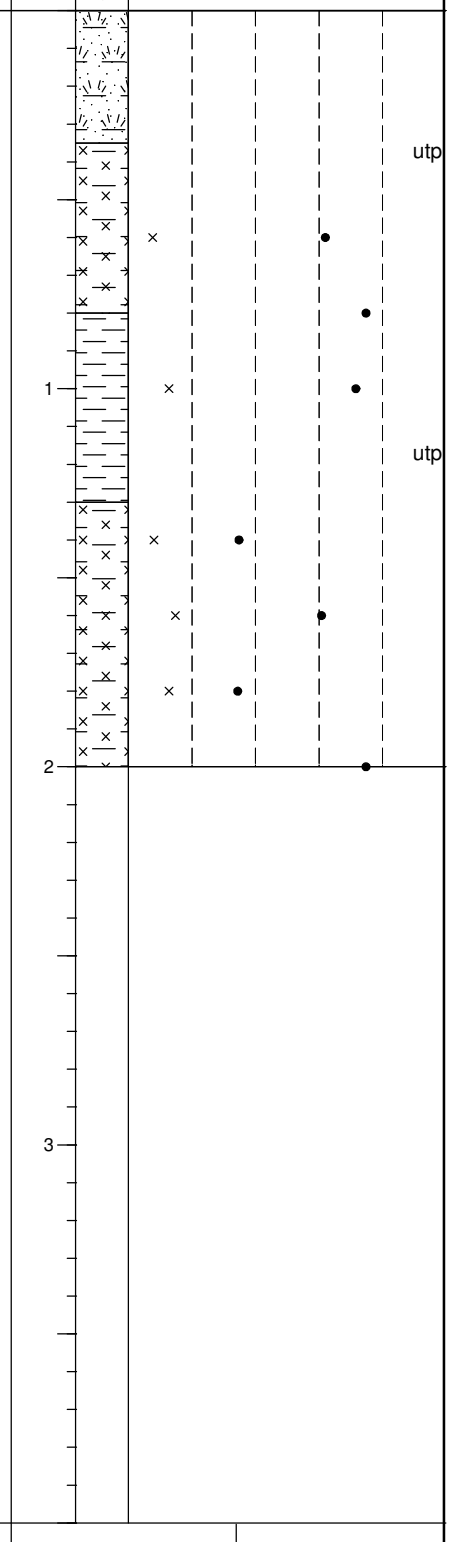
GEOLOGY Soil / Rock Type Stratigraphy	DESCRIPTION OF SOIL	GROUNDWATER
Topsoil	TOPSOIL, dark brown, moist	
Fill	Clayey SILT, orange brown with dark brown and light grey mottles, stiff, moist, moderate plasticity - becomes with some sand (fine to medium), hard - becomes with minor sand (fine to medium) - becomes stiff, wet, low plasticity - becomes hard, moist, slightly cohesive - becomes very stiff - becomes with rare gravels (medium), hard	
	END OF HOLE at 2 m.	



REMARKS	DRILLED BY	LOGGED BY	DATE DRILLED
- Lot 42	NI	BLM	8-5-18

CLIENT: Harbour Ridge Developments Ltd		HOLE No: HA-A37	Terrane geotechnical solutions Terrane Consultants Ltd 32 Willow Street, PO-Box 13-607 TAURANGA 07 579 9708
PROJECT: Harbour Ridge Residential Subdivision - Stage 1B		SHEET: 1 of 1	
LOCATION: 351 Omokoroa Road, Tauranga		JOB NO: 4209	

GEOLOGY Soil / Rock Type Stratigraphy	DESCRIPTION OF SOIL	GROUNDWATER
Topsoil	TOPSOIL, dark brown, moist	
Fill	Clayey SILT, minor sand (fine to medium), orange brown with dark brown, yellow and light grey mottles, very stiff, moist, moderate plasticity	
	CLAY, yellow brown with dark brown and light grey mottles, very stiff, moist, high plasticity - becomes hard	
	Clayey SILT, orange brown with dark brown and light grey mottles, stiff, very moist, low plasticity - becomes very stiff, moist, moderate plasticity - becomes stiff	
	END OF HOLE at 2 m.	



REMARKS
- Lot 41
- Groundwater not encountered

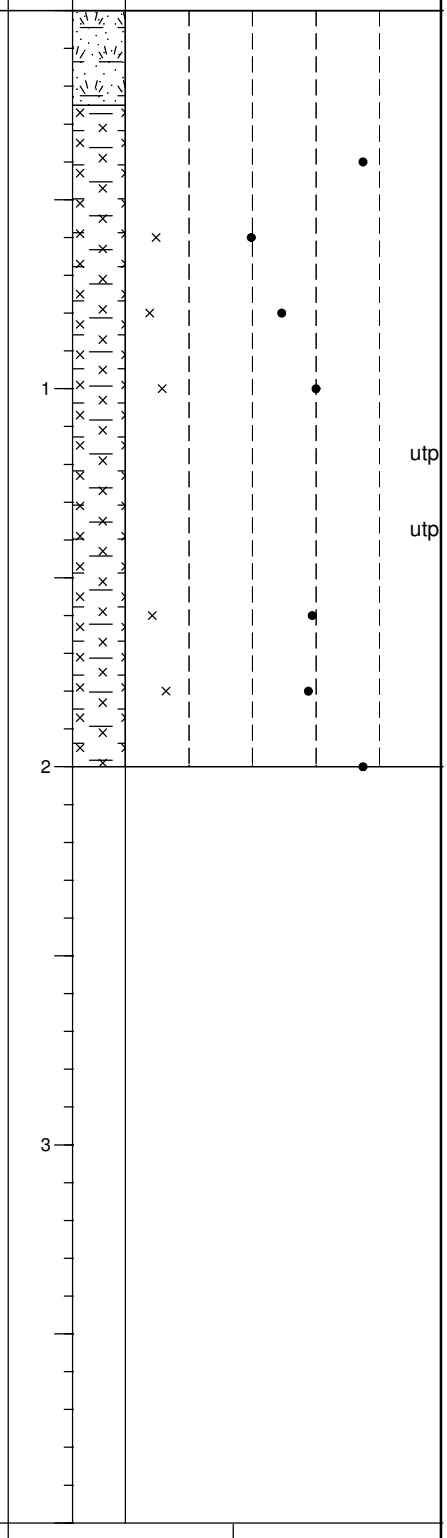
DRILLED BY	LOGGED BY	DATE DRILLED
NI	BLM	10-4-18

TERRANE_HA 4209.STAGE 1B AS-BUILT.GPJ TERRANE.GDT 20-7-18

Log scale at A4 - 1:20

CLIENT: Harbour Ridge Developments Ltd		HOLE No: HA-A38	Terrane geotechnical solutions Terrane Consultants Ltd 32 Willow Street, PO-Box 13-607 TAURANGA 07 579 9708
PROJECT: Harbour Ridge Residential Subdivision - Stage 1B		SHEET: 1 of 1	
LOCATION: 351 Omokoroa Road, Tauranga		JOB NO: 4209	

GEOLOGY Soil / Rock Type Stratigraphy	DESCRIPTION OF SOIL	GROUNDWATER
Topsoil	TOPSOIL, dark brown, wet	
Fill	Clayey SILT, orange brown with dark brown mottles, hard, moist, moderate plasticity - becomes dark brown with dark brown mottles, very stiff, moist, slightly cohesive - becomes yellow orange brown with dark brown and orange mottles, moderate plasticity - becomes hard - becomes with minor sand (fine to medium) - becomes brown with dark brown mottles, very stiff, moist, slightly cohesive	
	END OF HOLE at 2 m.	



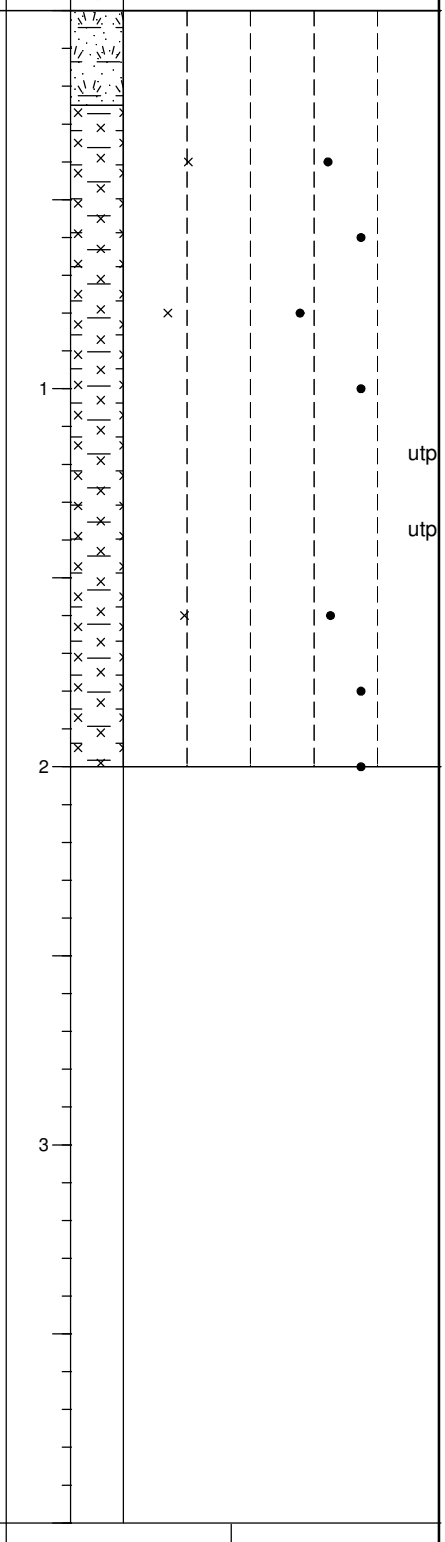
REMARKS	DRILLED BY	LOGGED BY	DATE DRILLED
- Lot 40	NI	BLM	8-5-18

TERRANE_HA 4209.STAGE 1B AS-BUILT.GPJ TERRANE.GDT 20-7-18

Log scale at A4 - 1:20

CLIENT: Harbour Ridge Developments Ltd		HOLE No: HA-A39	Terrane geotechnical solutions Terrane Consultants Ltd 32 Willow Street, PO-Box 13-607 TAURANGA 07 579 9708
PROJECT: Harbour Ridge Residential Subdivision - Stage 1B		SHEET: 1 of 1	
LOCATION: 351 Omokoroa Road, Tauranga		JOB NO: 4209	

GEOLOGY Soil / Rock Type Stratigraphy	DESCRIPTION OF SOIL	GROUNDWATER
Topsoil	TOPSOIL, dark brown, moist	
Fill	Clayey SILT, yellow orange brown with dark brown and light grey mottles, very stiff, moist, moderate plasticity	
	- becomes hard	
	- becomes very stiff	
	- becomes brown with dark brown mottles, hard	
	- becomes orange brown with dark brown mottles, hard, moist, slightly cohesive	
	- becomes with minor sand (fine to medium)	
	- becomes very stiff	
	- becomes hard	
	END OF HOLE at 2 m.	



REMARKS	DRILLED BY	LOGGED BY	DATE DRILLED
- Lot 39	NI	BLM	8-5-18

TERRANE_HA 4209.STAGE 1B AS-BUILT.GPJ TERRANE.GDT 20-7-18

Log scale at A4 - 1:20

CLIENT: Harbour Ridge Developments Ltd		HOLE No: HA-A40	Terrane geotechnical solutions Terrane Consultants Ltd 32 Willow Street, PO-Box 13-607 TAURANGA 07 579 9708
PROJECT: Harbour Ridge Residential Subdivision - Stage 1B		SHEET: 1 of 1	
LOCATION: 351 Omokoroa Road, Tauranga		JOB NO: 4209	

GEOLOGY Soil / Rock Type Stratigraphy	DESCRIPTION OF SOIL	GROUNDWATER
Topsoil	TOPSOIL, dark brown, moist	
Fill	Clayey SILT, minor sand (fine to medium), orange brown with dark brown and light grey mottles, very stiff, moist, moderate plasticity	
	- becomes hard	
	- becomes very stiff	
	- becomes hard	
	- becomes very stiff	
	- becomes hard	
	END OF HOLE at 2 m.	

DEPTH (m) | GRAPHIC LOG | SHEAR VANE TEST RESULTS

● Peak (kPa)
× Residual (kPa)

0 50 100 150 200 250

1 2 3

utp
utp
utp

REMARKS	DRILLED BY	LOGGED BY	DATE DRILLED
- Lot 38 - Groundwater not encountered	NI	BLM	10-4-18

CLIENT: Harbour Ridge Developments Ltd

PROJECT: Harbour Ridge Residential Subdivision - Stage 1B

LOCATION: 351 Omokoroa Road, Tauranga

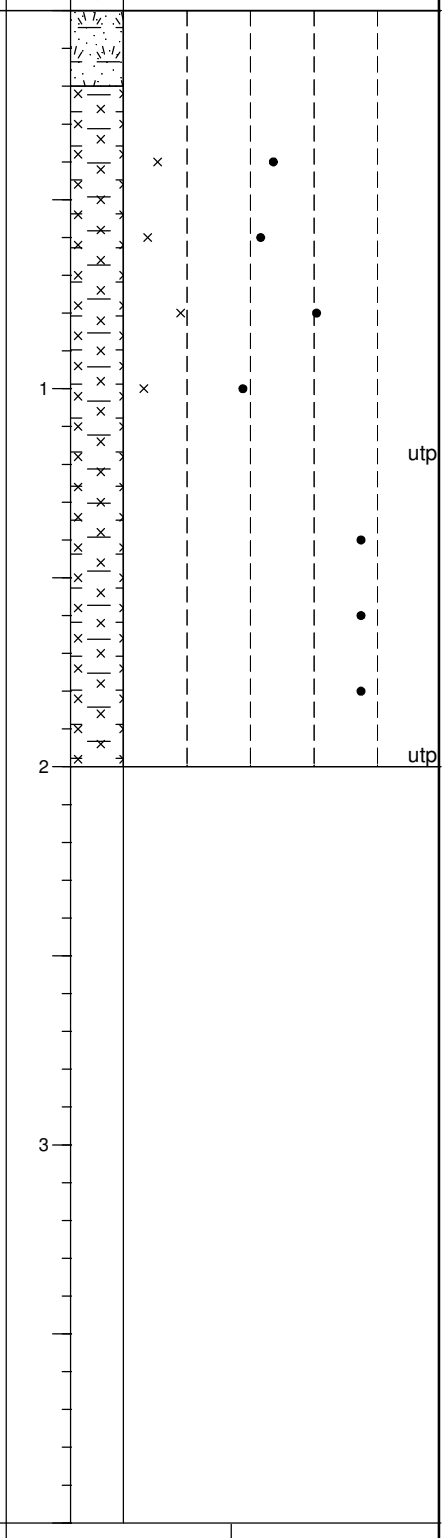
HOLE No: HA-A41

SHEET: 1 of 1

JOB NO: 4209

Terrane geotechnical solutions
Terrane Consultants Ltd
32 Willow Street, PO-Box 13-607
TAURANGA 07 579 9708

GEOLOGY Soil / Rock Type Stratigraphy	DESCRIPTION OF SOIL	GROUNDWATER
Topsoil	TOPSOIL, dark brown, moist	
Fill	Clayey SILT, minor sand (fine to medium), orange brown with dark brown and light grey mottles, very stiff, moist, moderate plasticity	
	- becomes stiff	
	- becomes very stiff	
	- becomes stiff	
	- becomes yellow brown with dark brown, pink and light grey mottles, hard	
	- becomes orange brown with dark brown, yellow and light grey mottles	
	END OF HOLE at 2 m.	



REMARKS
- Lot 37
- Groundwater not encountered

DRILLED BY: NI

LOGGED BY: BLM

DATE DRILLED: 10-4-18

TERRANE HA 4209.STAGE 1B AS-BUILT.GPJ TERRANE.GDT 20-7-18

Log scale at A4 - 1:20

CLIENT: Harbour Ridge Developments Ltd

PROJECT: Harbour Ridge Residential Subdivision - Stage 1B

LOCATION: 351 Omokoroa Road, Tauranga

HOLE No: HA-A42

SHEET: 1 of 1

JOB NO: 4209

Terrane geotechnical solutions
Terrane Consultants Ltd
32 Willow Street, PO-Box 13-607
TAURANGA 07 579 9708

GEOLOGY Soil / Rock Type Stratigraphy	DESCRIPTION OF SOIL	GROUNDWATER
Topsoil	TOPSOIL, dark brown, moist	
Fill	CLAY, minor sand (fine to medium), orange brown with dark brown, light yellow and light grey mottles, hard, moist, high plasticity	
	Clayey SILT, minor sand (fine to medium), orange brown with dark brown and light grey mottles, very stiff, moist, moderate plasticity	
	- becomes hard	
	- becomes very stiff	
	- becomes brown with dark brown mottles, hard, slightly cohesive	
	END OF HOLE at 2 m.	

DEPTH (m) / GRAPHIC LOG / SHEAR VANE TEST RESULTS

● Peak (kPa)
× Residual (kPa)

0 50 100 150 200 250

1
2
3

utp
utp
utp

REMARKS
- Lot 36
- Groundwater not encountered

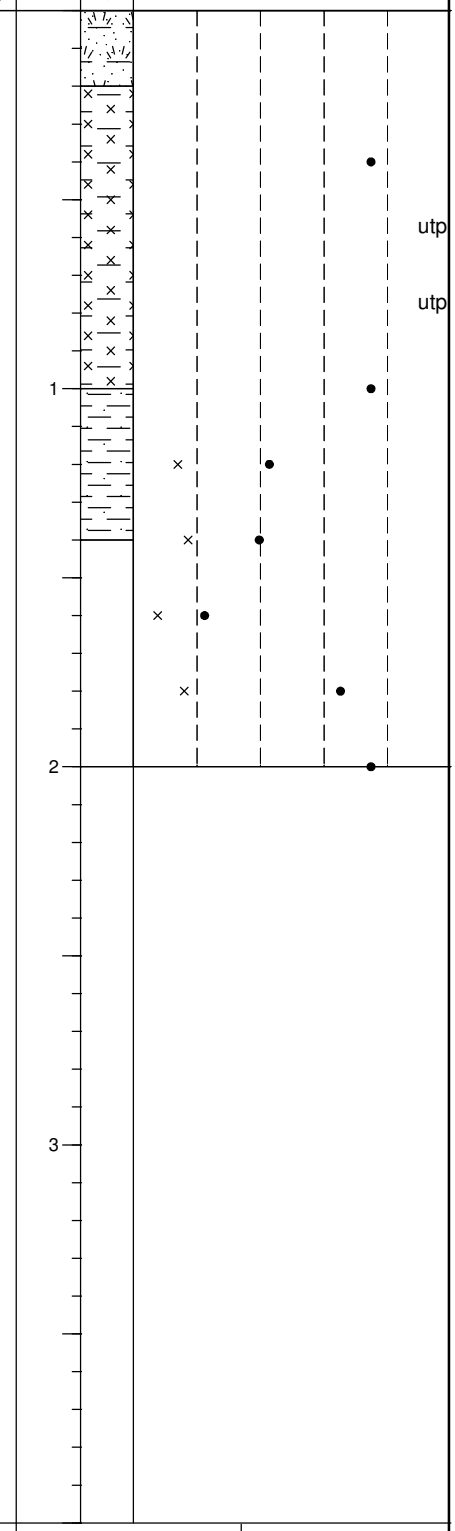
DRILLED BY	LOGGED BY	DATE DRILLED
NI	BLM	6-4-18

TERRANE HA 4209.STAGE 1B AS-BUILT.GPJ TERRANE.GDT 20-7-18

Log scale at A4 - 1:20

CLIENT: Harbour Ridge Developments Ltd		HOLE No: HA-A43	Terrane geotechnical solutions Terrane Consultants Ltd 32 Willow Street, PO-Box 13-607 TAURANGA 07 579 9708
PROJECT: Harbour Ridge Residential Subdivision - Stage 1B		SHEET: 1 of 1	
LOCATION: 351 Omokoroa Road, Tauranga		JOB NO: 4209	

GEOLOGY Soil / Rock Type Stratigraphy	DESCRIPTION OF SOIL	GROUNDWATER
Topsoil	TOPSOIL, dark brown, moist	
Fill	Clayey SILT, minor sand (fine to medium), orange brown with dark brown and light grey mottles, hard, moist, moderate plasticity	
	- becomes with some sand (fine to medium)	
	- becomes with minor sand (fine to medium)	
	CLAY, traces sand (fine), dark orange brown with dark brown, orange and light grey mottles, very stiff, moist, high plasticity	
	- becomes stiff	
	Clayey SILT, yellow brown with brown, orange and dark brown mottles,	
	- becomes brown with dark brown, black and light grey mottles, very stiff	
	- becomes with minor sand (fine to medium)	
	- becomes hard	
	END OF HOLE at 2 m.	



REMARKS
- Lot 35
- Groundwater not encountered

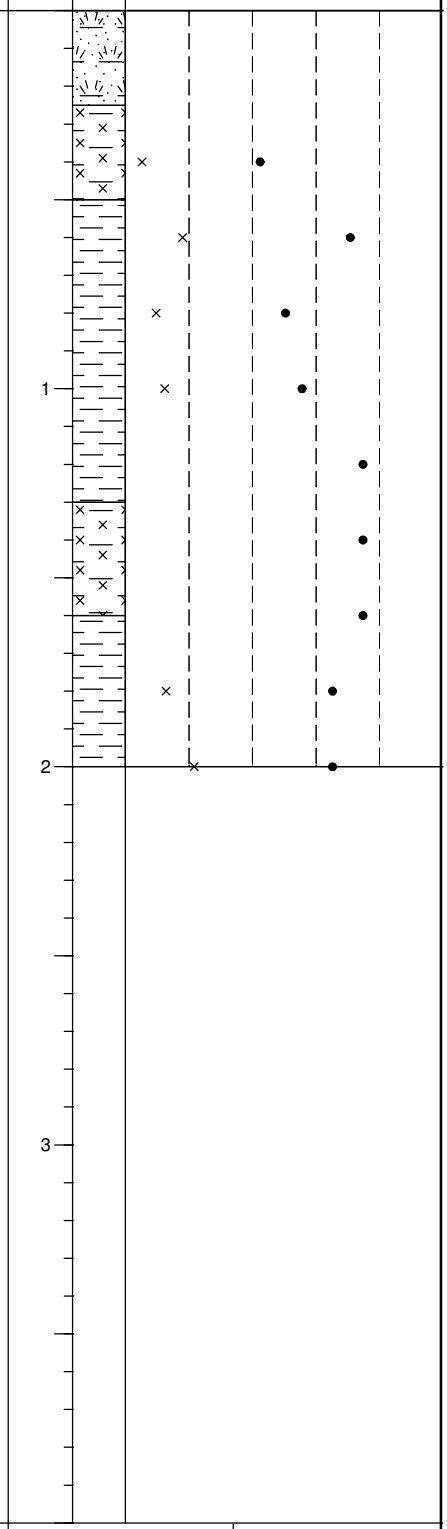
DRILLED BY	LOGGED BY	DATE DRILLED
NI	BLM	6-4-18

TERRANE HA 4209.STAGE 1B AS-BUILT.GPJ TERRANE.GDT 20-7-18

Log scale at A4 - 1:20

CLIENT: Harbour Ridge Developments Ltd		HOLE No: HA-A44	Terrane geotechnical solutions Terrane Consultants Ltd 32 Willow Street, PO-Box 13-607 TAURANGA 07 579 9708
PROJECT: Harbour Ridge Residential Subdivision - Stage 1B		SHEET: 1 of 1	
LOCATION: 351 Omokoroa Road, Tauranga		JOB NO: 4209	

GEOLOGY Soil / Rock Type Stratigraphy	DESCRIPTION OF SOIL	GROUNDWATER
Topsoil	TOPSOIL, dark brown, moist	
Fill	Clayey SILT, orange brown with dark brown and light gray mottles, very stiff, moist, moderate plasticity	
	CLAY, dark orange brown with dark brown and yellow mottles, very stiff, moist, high plasticity - becomes yellow brown with dark brown mottles - becomes stiff, wet, low plasticity - becomes dark orange brown with dark brown and light grey mottles, hard, moist, high plasticity	
	Clayey SILT, orange brown with dark brown and orange mottles, hard, moist, moderate plasticity	
	CLAY, yellow brown, very stiff, moist, high plasticity, contains pyrites - becomes brown with dark orange brown and dark brown mottles	
	END OF HOLE at 2 m.	



REMARKS
- Lot 34
- Groundwater not encountered

DRILLED BY	LOGGED BY	DATE DRILLED
NI	BLM	10-4-18

TERRANE_HA 4209.STAGE 1B AS-BUILT.GPJ TERRANE.GDT 20-7-18

Log scale at A4 - 1:20

CLIENT: Harbour Ridge Developments Ltd

PROJECT: Harbour Ridge Residential Subdivision - Stage 1B

LOCATION: 351 Omokoroa Road, Tauranga

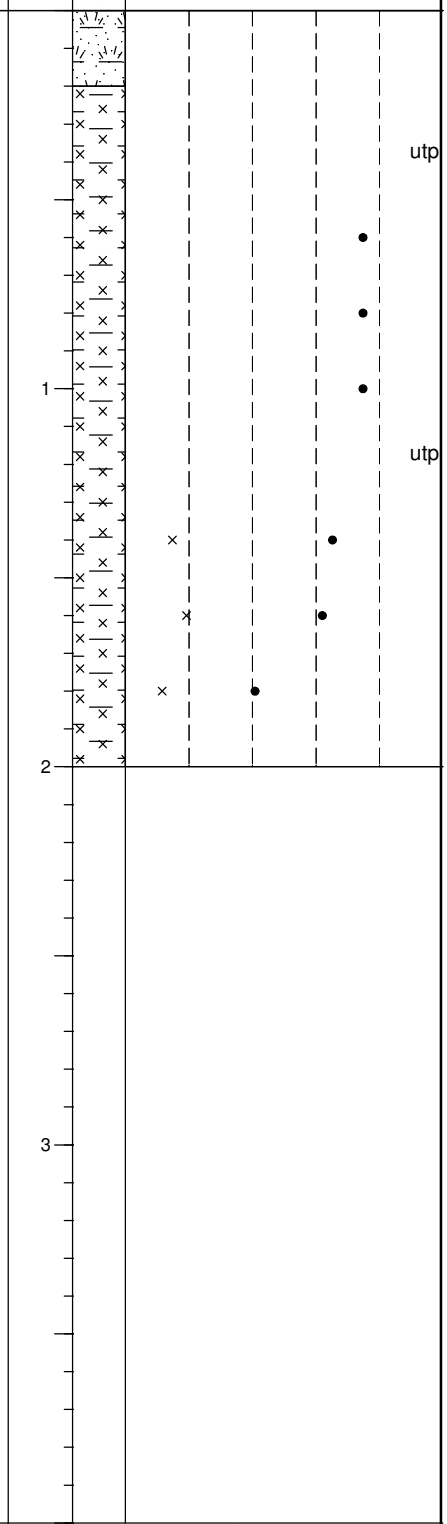
HOLE No: HA-A45

SHEET: 1 of 1

JOB NO: 4209

Terrane geotechnical solutions
Terrane Consultants Ltd
32 Willow Street, PO-Box 13-607
TAURANGA 07 579 9708

GEOLOGY Soil / Rock Type Stratigraphy	DESCRIPTION OF SOIL	GROUNDWATER
Topsoil	TOPSOIL, dark brown, moist	
Fill	Clayey SILT, minor sand (fine to medium), orange brown with dark brown and light grey mottles, hard, moist, moderate plasticity	
	- becomes with minor sand (fine to medium)	
	- becomes very stiff	
	- becomes with light yellow, pink and dark brown mottles, stiff	
	END OF HOLE at 2 m.	



REMARKS
- Lot 33
- Groundwater not encountered

DRILLED BY: NI

LOGGED BY: BLM

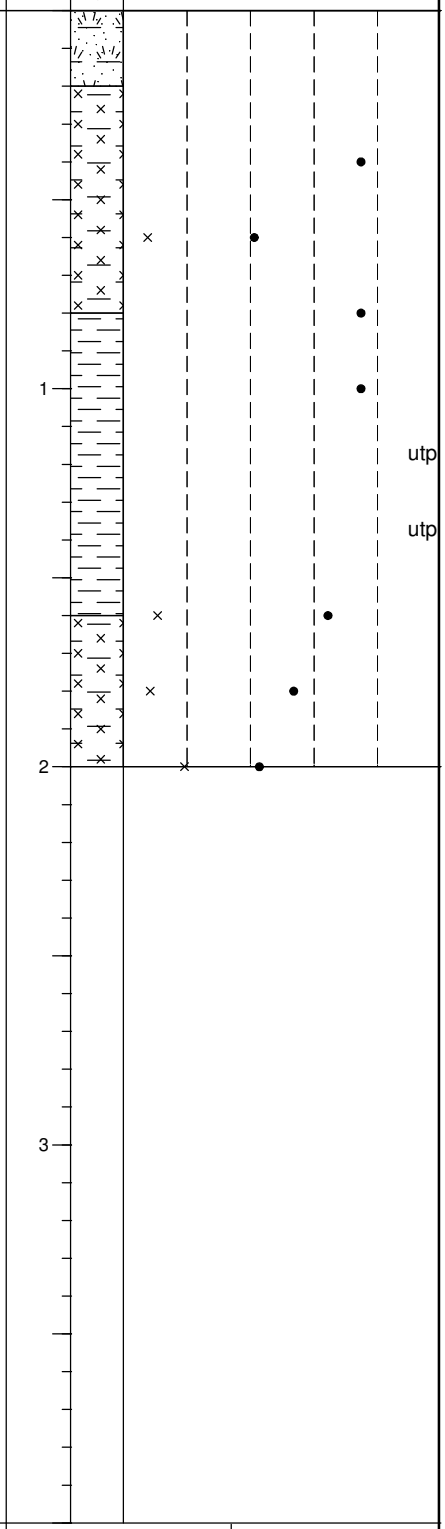
DATE DRILLED: 6-4-18

TERRANE HA 4209.STAGE 1B AS-BUILT.GPJ TERRANE.GDT 20-7-18

Log scale at A4 - 1:20

CLIENT: Harbour Ridge Developments Ltd		HOLE No: HA-A46	Terrane geotechnical solutions Terrane Consultants Ltd 32 Willow Street, PO-Box 13-607 TAURANGA 07 579 9708
PROJECT: Harbour Ridge Residential Subdivision - Stage 1B		SHEET: 1 of 1	
LOCATION: 351 Omokoroa Road, Tauranga		JOB NO: 4209	

GEOLOGY Soil / Rock Type Stratigraphy	DESCRIPTION OF SOIL	GROUNDWATER
Topsoil	TOPSOIL, dark brown, moist	
Fill	Clayey SILT, minor sand (fine to medium), yellow brown with pink yellow and dark brown mottles, hard, moist, moderate plasticity	
	- becomes stiff, very moist	
	- becomes brown with dark brown and orange mottles, hard, moist, moderate plasticity	
	CLAY, dark orange brown with dark brown and light grey mottles, hard, moist, high plasticity	
	- becomes with minor sand (fine to medium)	
	- becomes very stiff	
	Clayey SILT, minor sand (fine to medium), brown with dark brown, yellow and orange mottles, very stiff, moist, moderate plasticity	
	END OF HOLE at 2 m.	



REMARKS	DRILLED BY	LOGGED BY	DATE DRILLED
- Lot 32 - Groundwater not encountered	NI	BLM	6-4-18

CLIENT: Harbour Ridge Developments Ltd

PROJECT: Harbour Ridge Residential Subdivision - Stage 1B

LOCATION: 351 Omokoroa Road, Tauranga

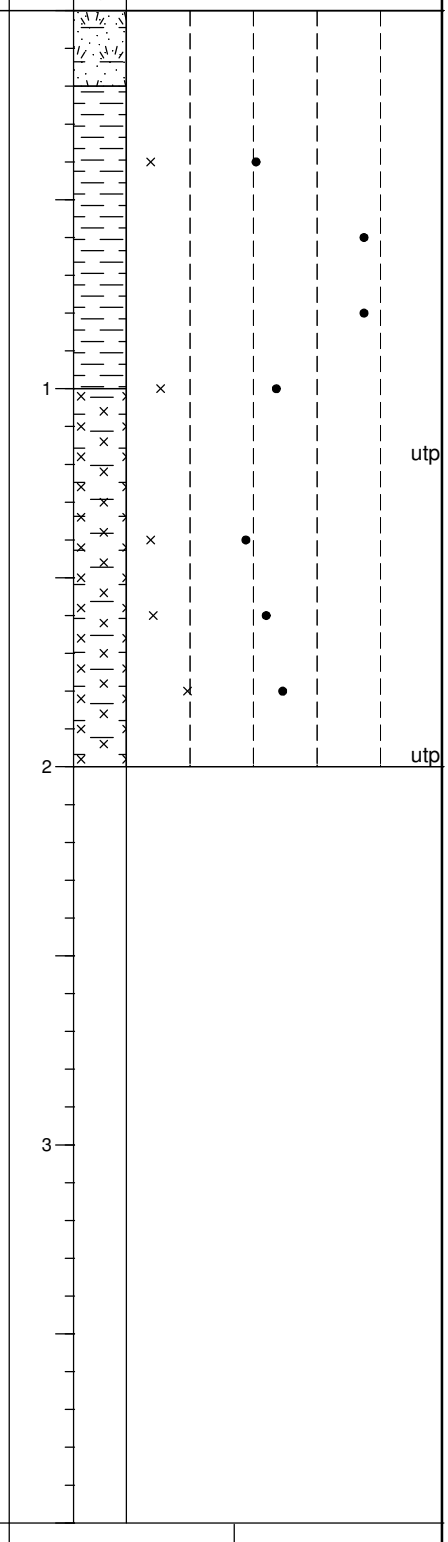
HOLE No: HA-A47

SHEET: 1 of 1

JOB NO: 4209

Terrane geotechnical solutions
Terrane Consultants Ltd
32 Willow Street, PO-Box 13-607
TAURANGA 07 579 9708

GEOLOGY Soil / Rock Type Stratigraphy	DESCRIPTION OF SOIL	GROUNDWATER
Topsoil	TOPSOIL, dark brown, moist	
Fill	CLAY, yellow brown with pink, dark brown and light grey mottles, very stiff, moist, high plasticity	
	- becomes hard	
	- becomes very stiff	
	Clayey SILT, orange brown with pink, dark brown and light grey mottles, hard, moist, moderate plasticity	
	- becomes stiff, very moist, low plasticity	
	- rare gravels (medium)	
	- becomes very stiff	
	- becomes hard	
	END OF HOLE at 2 m.	



REMARKS
- Lot 31
- Groundwater not encountered

DRILLED BY: NI

LOGGED BY: BLM

DATE DRILLED: 6-4-18

TERRANE HA 4209.STAGE 1B AS-BUILT.GPJ TERRANE.GDT 20-7-18

Log scale at A4 - 1:20

CLIENT: Harbour Ridge Developments Ltd		HOLE No: HA-A48	Terrane geotechnical solutions Terrane Consultants Ltd 32 Willow Street, PO-Box 13-607 TAURANGA 07 579 9708
PROJECT: Harbour Ridge Residential Subdivision - Stage 1B		SHEET: 1 of 1	
LOCATION: 351 Omokoroa Road, Tauranga		JOB NO: 4209	

GEOLOGY Soil / Rock Type Stratigraphy	DESCRIPTION OF SOIL	GROUNDWATER
Topsoil	TOPSOIL, dark brown, moist	
Fill	Clayey SILT, minor sand (fine to medium), orange brown withdark brown, pink and light grey mottles, very stiff, moist, moderate plasticity	
	- becomes hard	
	- becomes very stiff	
	- becomes with some sand (fine to medium), hard, slightly cohesive	
	- becomes with minor sand (fine to medium)	
	END OF HOLE at 2 m.	

DEPTH (m) / GRAPHIC LOG / SHEAR VANE TEST RESULTS

● Peak (kPa)
× Residual (kPa)

0 50 100 150 200 250

1
2
3

utp
utp
utp
utp

REMARKS	DRILLED BY	LOGGED BY	DATE DRILLED
- Lot 30 - Groundwater not encountered	NI	BLM	6-4-18

TERRANE HA 4209.STAGE 1B AS-BUILT.GPJ TERRANE.GDT 20-7-18

Log scale at A4 - 1:20

CLIENT: Harbour Ridge Developments Ltd

PROJECT: Harbour Ridge Residential Subdivision - Stage 1B

LOCATION: 351 Omokoroa Road, Tauranga

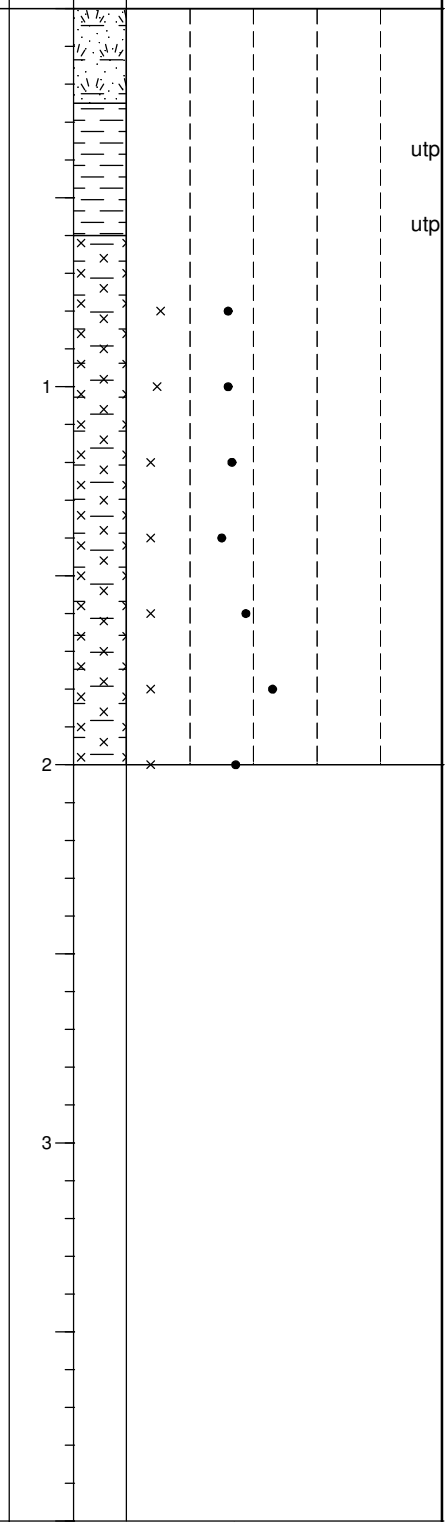
HOLE No: HA-A49

SHEET: 1 of 1

JOB NO: 4209

Terrane geotechnical solutions
Terrane Consultants Ltd
32 Willow Street, PO-Box 13-607
TAURANGA 07 579 9708

GEOLOGY Soil / Rock Type Stratigraphy	DESCRIPTION OF SOIL	GROUNDWATER
Topsoil	TOPSOIL, dark brown, moist	
Post-Rotoehu Ash	CLAY, dark orange brown, hard, moist, high plasticity	
	Clayey SILT, yellow orange brown, stiff, moist, moderate plasticity	
	- becomes very moist, low plasticity	
	- becomes very stiff	
	- becomes stiff, wet, low plasticity	
	END OF HOLE at 2 m.	



REMARKS
- Lot 29
- Groundwater not encountered

DRILLED BY: NI

LOGGED BY: BLM

DATE DRILLED: 6-4-18

TERRANE HA 4209.STAGE 1B AS-BUILT.GPJ TERRANE.GDT 20-7-18

Log scale at A4 - 1:20

CLIENT: Harbour Ridge Developments Ltd

PROJECT: Harbour Ridge Residential Subdivision - Stage 1B

LOCATION: 351 Omokoroa Road, Tauranga

HOLE No: HA-A50

SHEET: 1 of 1

JOB NO: 4209

Terrane geotechnical solutions
Terrane Consultants Ltd
32 Willow Street, PO-Box 13-607
TAURANGA 07 579 9708

GEOLOGY Soil / Rock Type Stratigraphy	DESCRIPTION OF SOIL
Topsoil	TOPSOIL, dark brown, moist
Fill	SAND (fine to medium), light grey, dense, moist
Rotoehu Ash	Silty SAND (fine to coarse), light yellow orange, medium dense, moist
	Clayey SILT, minor sand (fine to medium), brown, very stiff, moist, moderate plasticity - end of sand
Hamilton Ash	CLAY, dark orange brown, very stiff, moist, high plasticity - becomes hard - becomes with light brown mottles
	END OF HOLE at 2 m.

GROUNDWATER

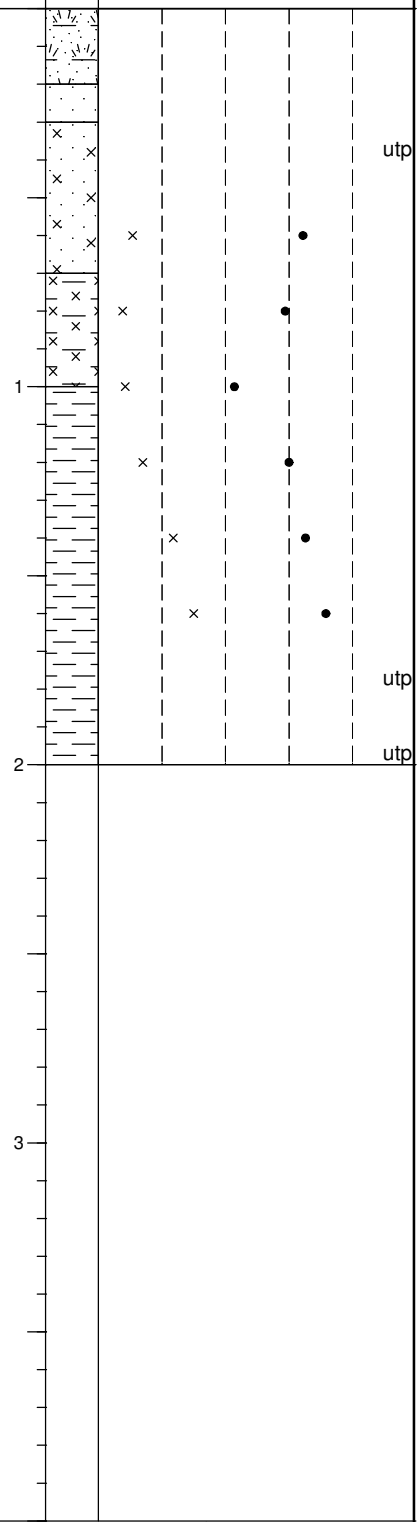
DEPTH (m)

GRAPHIC LOG

SHEAR VANE TEST RESULTS

● Peak (kPa)
× Residual (kPa)

0 50 100 150 200 250



REMARKS
- Lot 28
- Groundwater not encountered

DRILLED BY: NI

LOGGED BY: BLM

DATE DRILLED: 10-4-18

TERRANE HA 4209.STAGE 1B AS-BUILT.GPJ TERRANE.GDT 20-7-18

Log scale at A4 - 1:20

CLIENT: Harbour Ridge Developments Ltd

PROJECT: Harbour Ridge Residential Subdivision - Stage 1B

LOCATION: 351 Omokoroa Road, Tauranga

HOLE No: HA-A51

SHEET: 1 of 1

JOB NO: 4209

Terrane geotechnical solutions
Terrane Consultants Ltd
32 Willow Street, PO-Box 13-607
TAURANGA 07 579 9708

GEOLOGY Soil / Rock Type Stratigraphy	DESCRIPTION OF SOIL
Topsoil	TOPSOIL, dark brown, moist
Hamilton Ash	CLAY, brown, hard, moist, high plasticity
	- becomes dark orange brown
	- becomes with light brown and orange mottles
	- becomes light grey with red orange mottles
	- becomes orange brown
	END OF HOLE at 2 m.

GROUNDWATER

DEPTH (m)

GRAPHIC LOG

SHEAR VANE TEST RESULTS

● Peak (kPa)
× Residual (kPa)

0 50 100 150 200 250

utp
utp
utp
utp
utp
utp

1
2
3

REMARKS
- Lot 27
- Groundwater not encountered

DRILLED BY: NI

LOGGED BY: BLM

DATE DRILLED: 10-4-18

TERRANE HA 4209.STAGE 1B AS-BUILT.GPJ TERRANE.GDT 20-7-18

Log scale at A4 - 1:20

CLIENT: Harbour Ridge Developments Ltd

PROJECT: Harbour Ridge Residential Subdivision - Stage 1B

LOCATION: 351 Omokoroa Road, Tauranga

HOLE No: HA-A52

SHEET: 1 of 1

JOB NO: 4209

Terrane geotechnical solutions

GEOLOGY Soil / Rock Type Stratigraphy	DESCRIPTION OF SOIL	GROUNDWATER
Fill	SILT minor sand, orange and yellow, very stiff, low plasticity, very moist, pumiceous	
CW Ash	SILT, orange, very stiff, low plasticity, moist	
	END OF HOLE at 0.8 m.	

DEPTH (m) | GRAPHIC LOG | SHEAR VANE TEST RESULTS

● Peak (kPa)
× Residual (kPa)

0 50 100 150 200 250

1
2
3

REMARKS
- Lot 28

DRILLED BY: NI

LOGGED BY: BLM

DATE DRILLED: 18-7-18

TERRANE_HA 4209.STAGE 1B AS-BUILT.GPJ TERRANE.GDT 20-7-18

Log scale at A4 - 1:20

CLIENT:	Harbour Ridge Developments Ltd	HOLE No:	HA-A53
PROJECT:	Harbour Ridge Residential Subdivision - Stage 1B	SHEET:	1 of 1
LOCATION:	351 Omokoroa Road, Tauranga	JOB NO:	4209

Terrane geotechnical solutions

GEOLOGY Soil / Rock Type Stratigraphy	DESCRIPTION OF SOIL	GROUNDWATER
Fill	SILT minor sand, orange and yellow, very stiff, low plasticity, very moist, pumiceous	
CW Ash	SILT, orange-brown, very stiff, low plasticity, moist	
	END OF HOLE at 0.8 m.	

DEPTH (m) | GRAPHIC LOG | SHEAR VANE TEST RESULTS

● Peak (kPa)
× Residual (kPa)

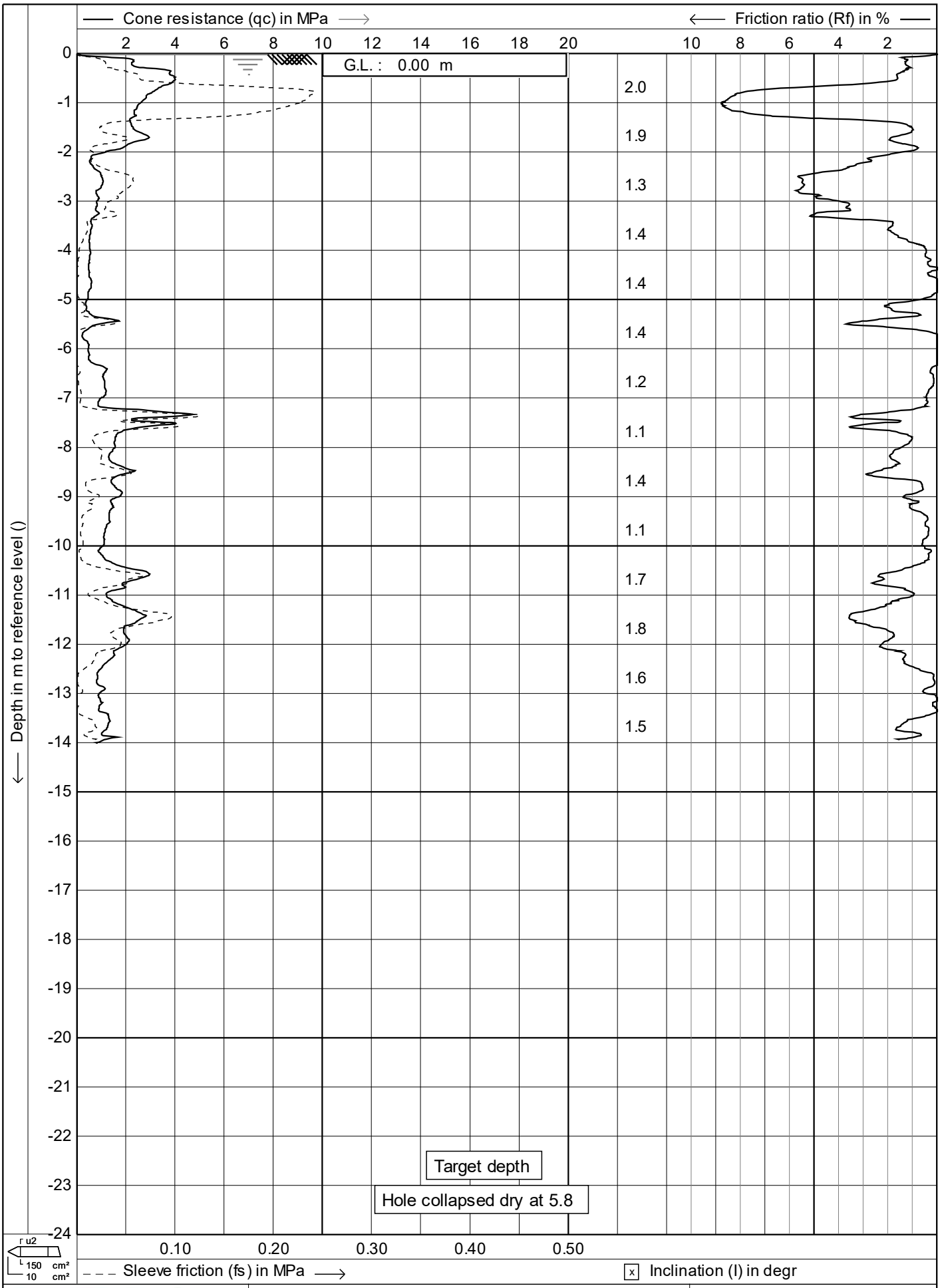
0 50 100 150 200 250

1
2
3

REMARKS	DRILLED BY	LOGGED BY	DATE DRILLED
- Lot 28	NI	BLM	18-7-18

TERRANE_HA 4209.STAGE 1B AS-BUILT.GPJ TERRANE.GDT 20-7-18

Log scale at A4 - 1:20



PERRY GEOTECH

Test according A.S.T.M Standard D 5778-12

Project : **Site Investigations**

Location: **Omokoroa Rd - Omokoroa**

Position: **0, 0 RD**

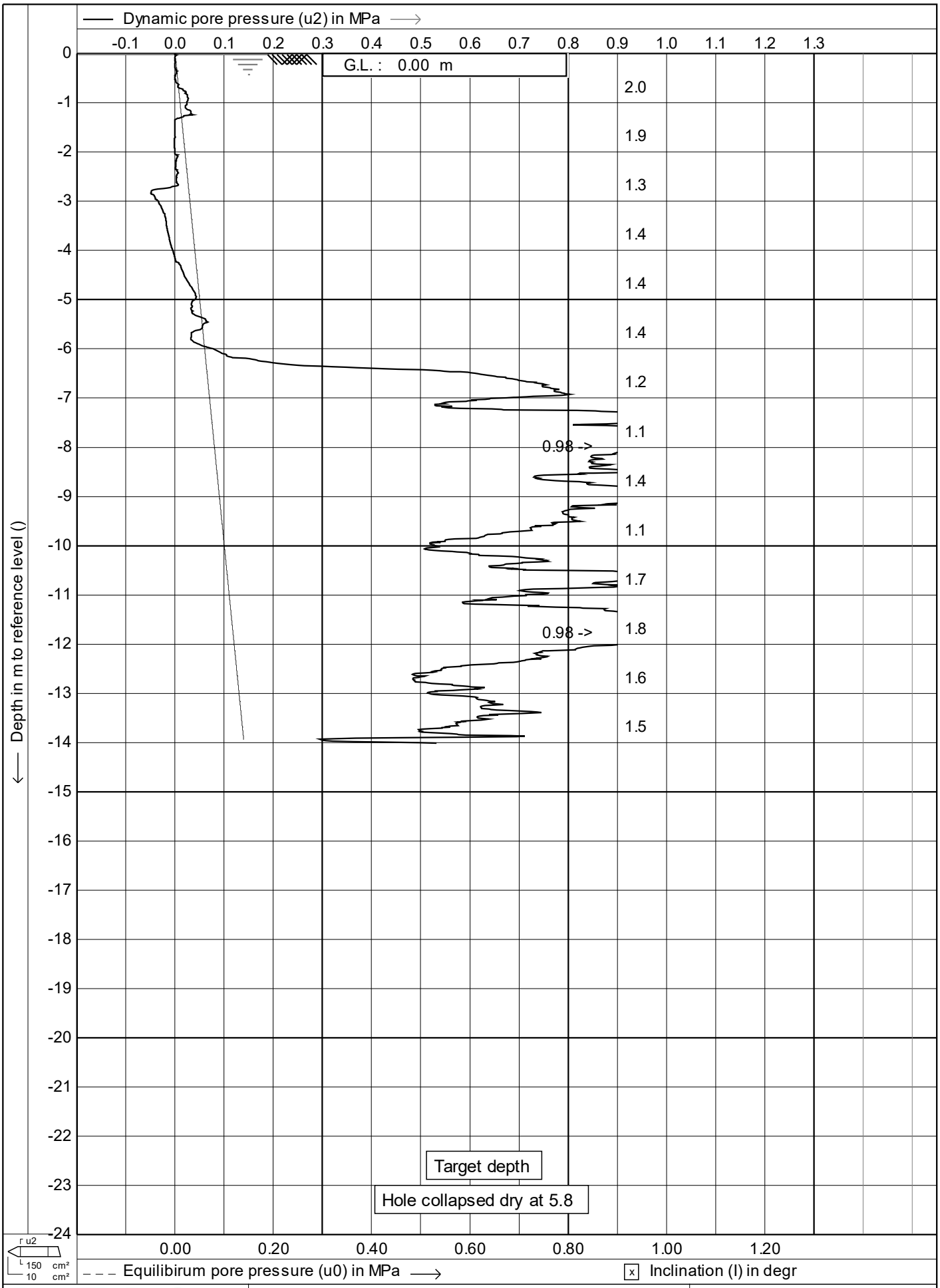
Date : **24/01/2017**

Cone no. : **C10CFIIP.C13068**

Project no. : **05TC1**

CPT no. : **06**

1.43



PERRY GEOTECH

Test according A.S.T.M Standard D 5778-12

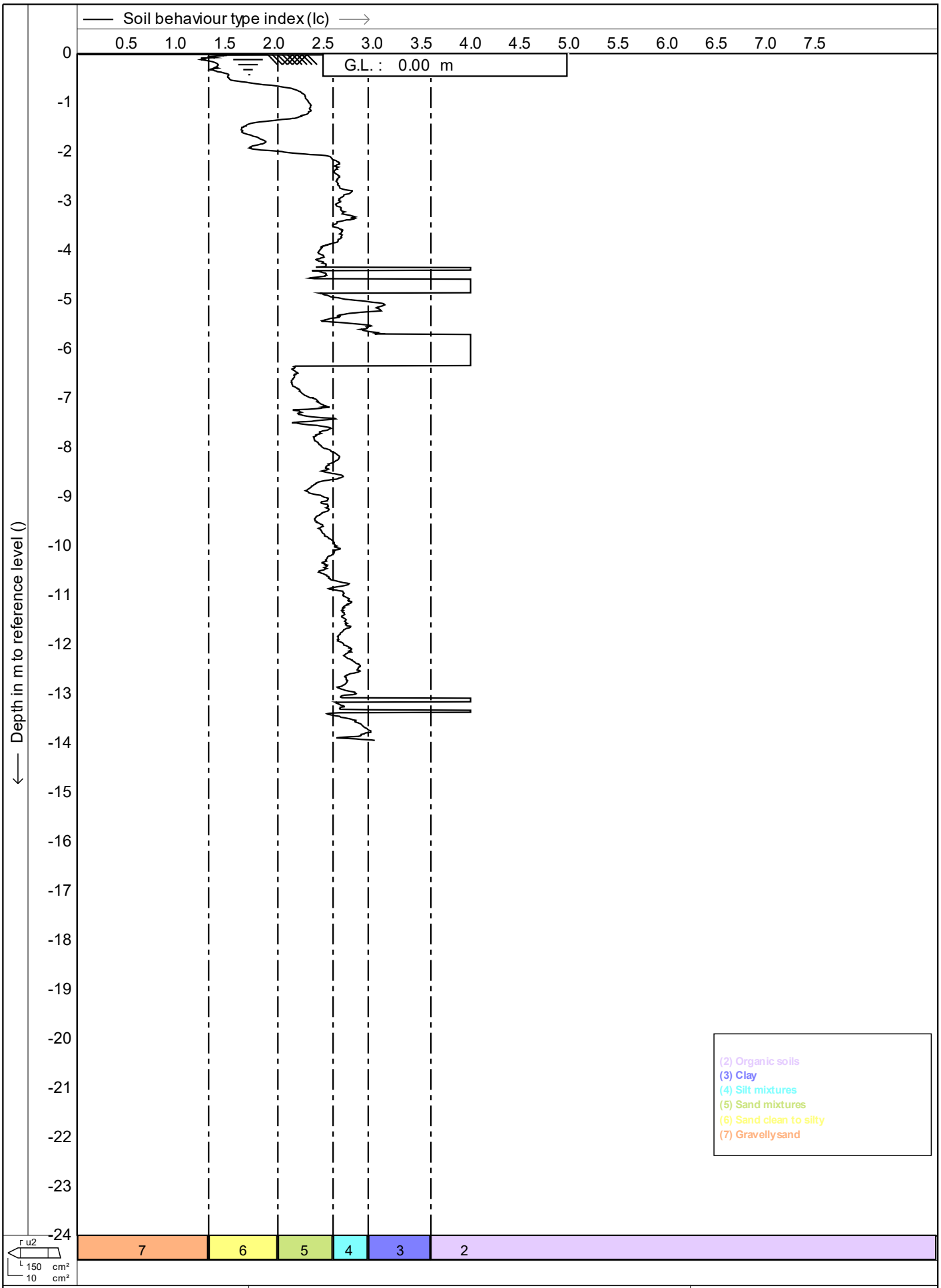
Project : **Site Investigations**

Location: **Omokoroa Rd - Omokoroa**

Position: **0, 0 RD**

Date	: **24/01/2017**
Cone no.	: **C10CFIIP.C13068**
Project no.	: **05TC1**
CPT no.	: **06**

1.43



PERRY GEOTECH

Test according A.S.T.M Standard D 5778-12

Project : **Site Investigations**

Location: **Omokoroa Rd - Omokoroa**

Position: **0, 0 RD**

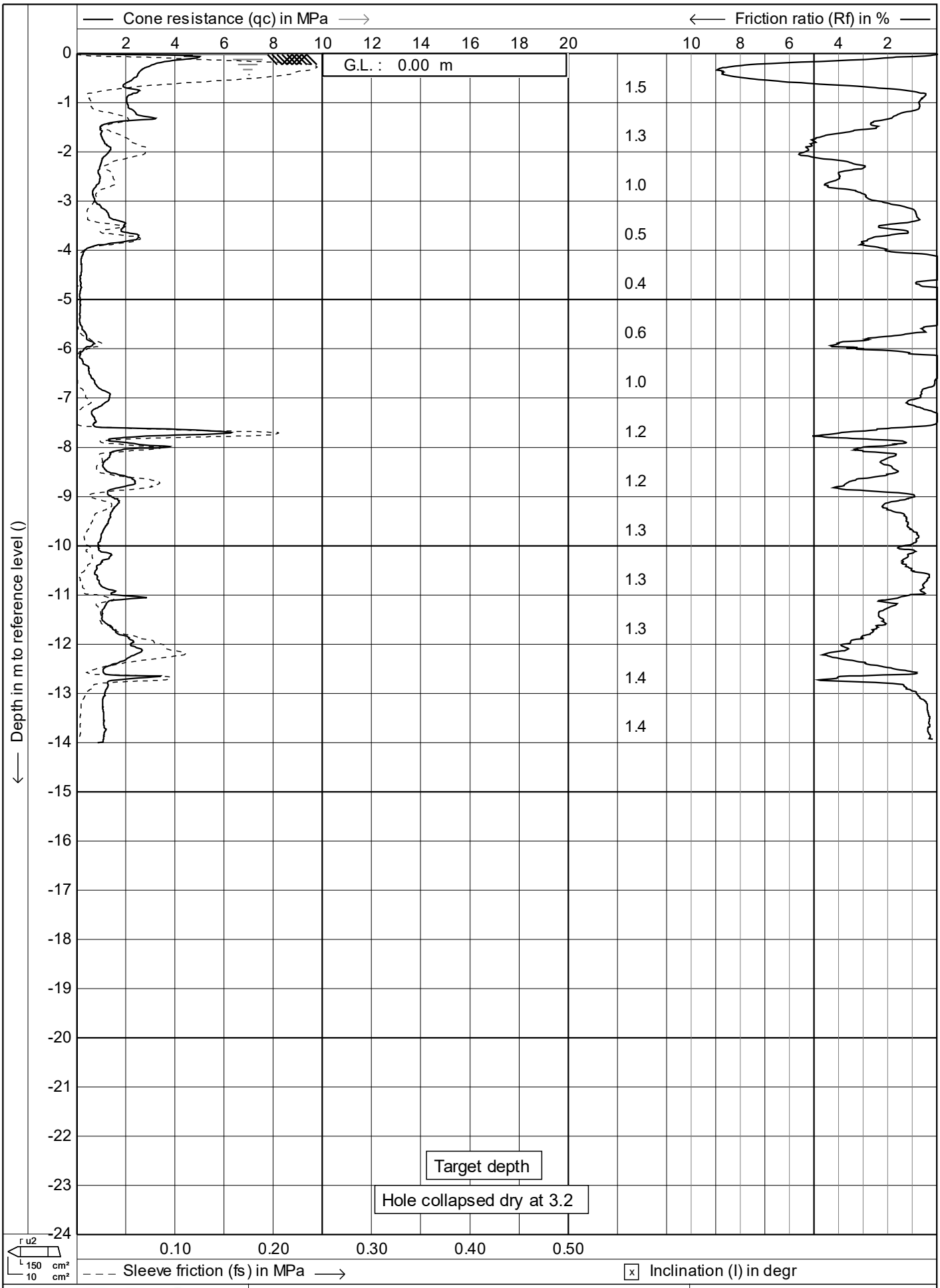
Date : **24/01/2017**

Cone no. : **C10CFIIP.C13068**

Project no. : **05TC1**

CPT no. : **06**

1.43



PERRY GEOTECH

Test according A.S.T.M Standard D 5778-12

Project : **Site Investigations**

Location: **Omokoroa Rd - Omokoroa**

Position: **0, 0 RD**

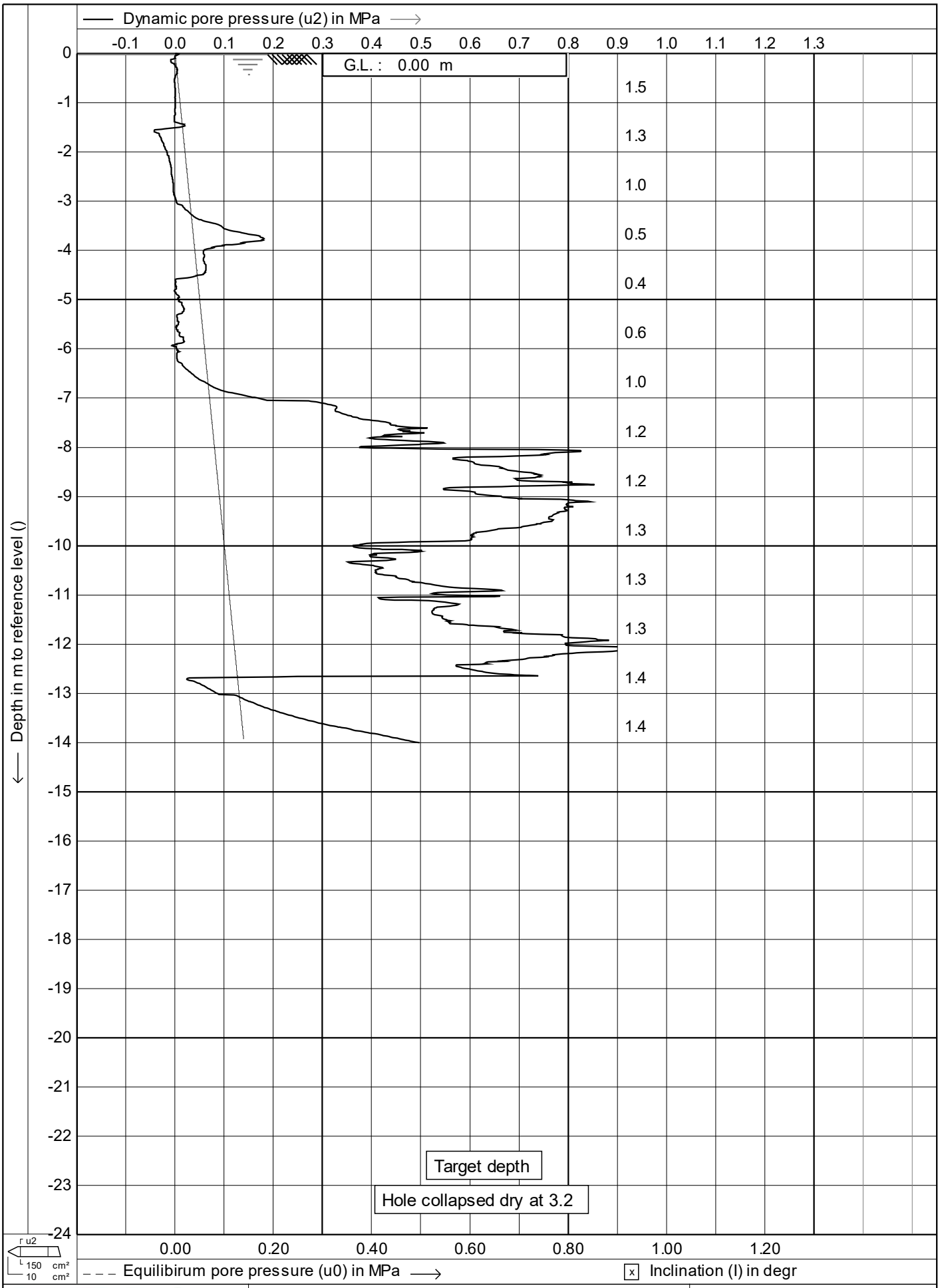
Date : **24/01/2017**

Cone no. : **C10CFIIP.C13068**

Project no. : **05TC1**

CPT no. : **07**

1.43



PERRY GEOTECH

Test according A.S.T.M Standard D 5778-12

Project : **Site Investigations**

Location: **Omokoroa Rd - Omokoroa**

Position: **0, 0 RD**

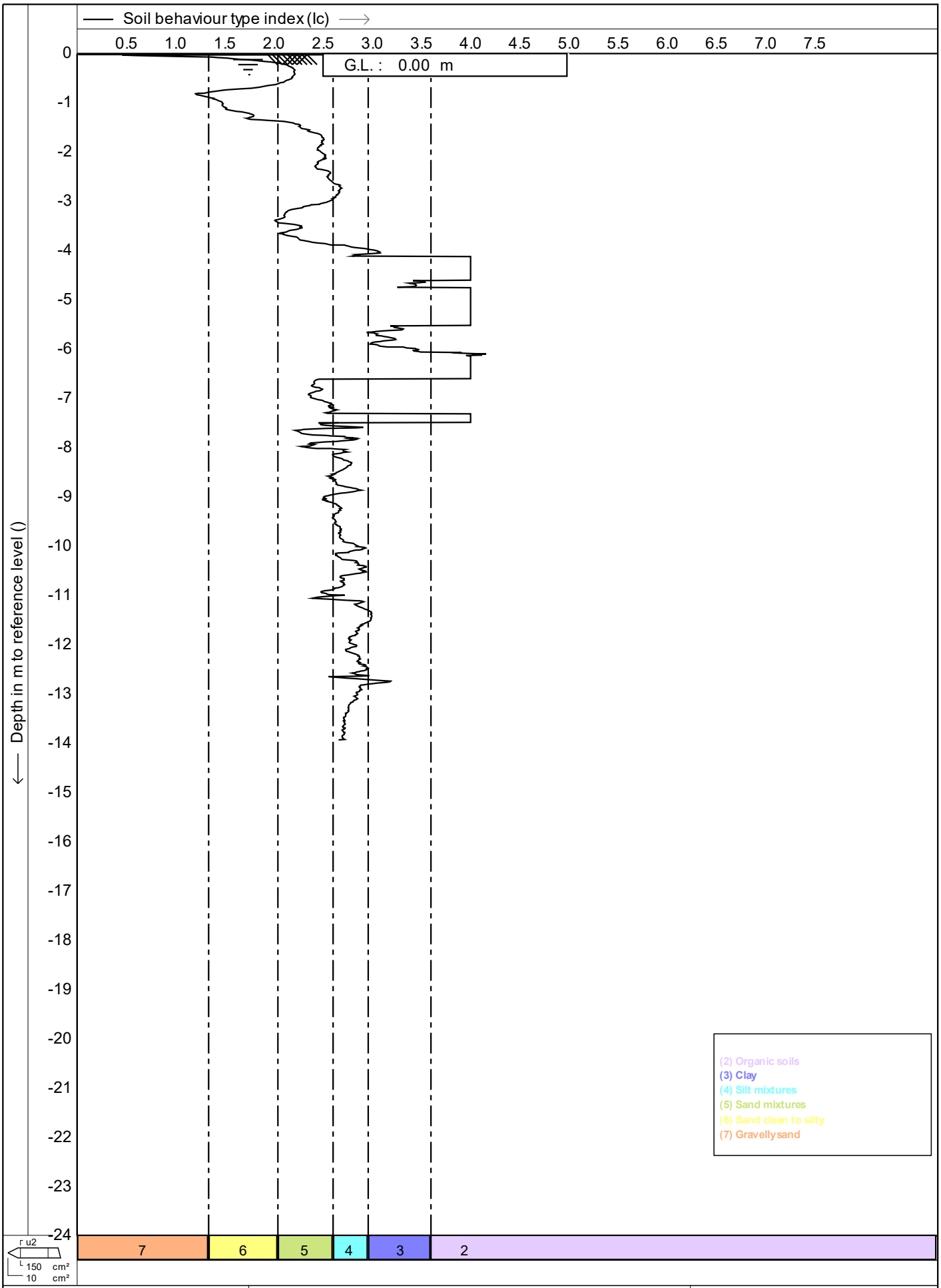
Date : **24/01/2017**

Cone no. : **C10CFIIP.C13068**

Project no. : **05TC1**

CPT no. : **07**

1.43



PERRY GEOTECH

Test according A.S.T.M Standard D 5778-12

Project : **Site Investigations**

Location: **Omokoroa Rd - Omokoroa**

Position: **0, 0 RD**

Date : **24/01/2017**

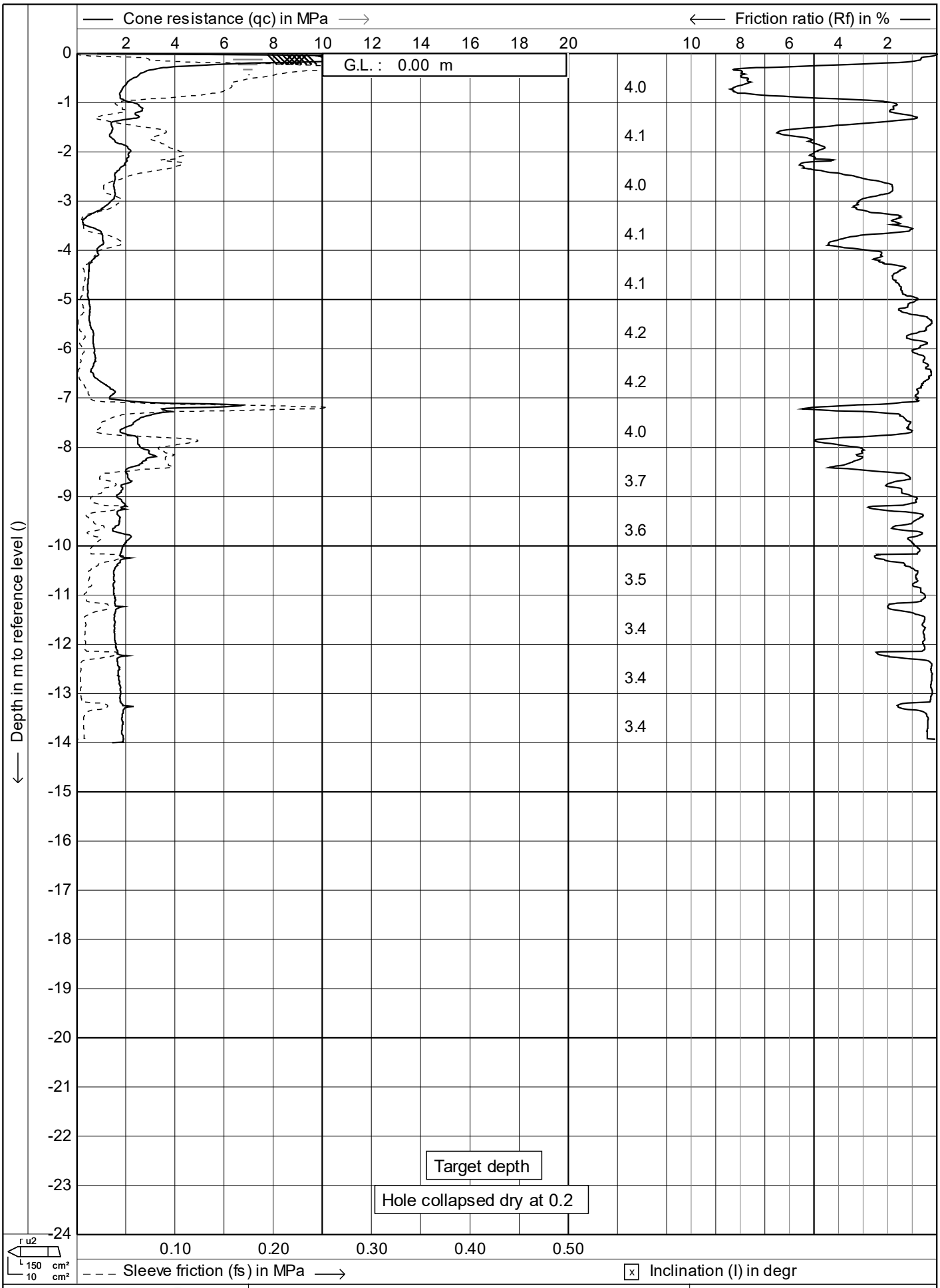
Cone no. : **C10CFIIP.C13068**

Project no. : **05TC1**

CPT no. : **07**

9/14

1.43



PERRY GEOTECH

Test according A.S.T.M Standard D 5778-12

Project : **Site Investigations**

Location: **Omokoroa Rd - Omokoroa**

Position: **0, 0 RD**

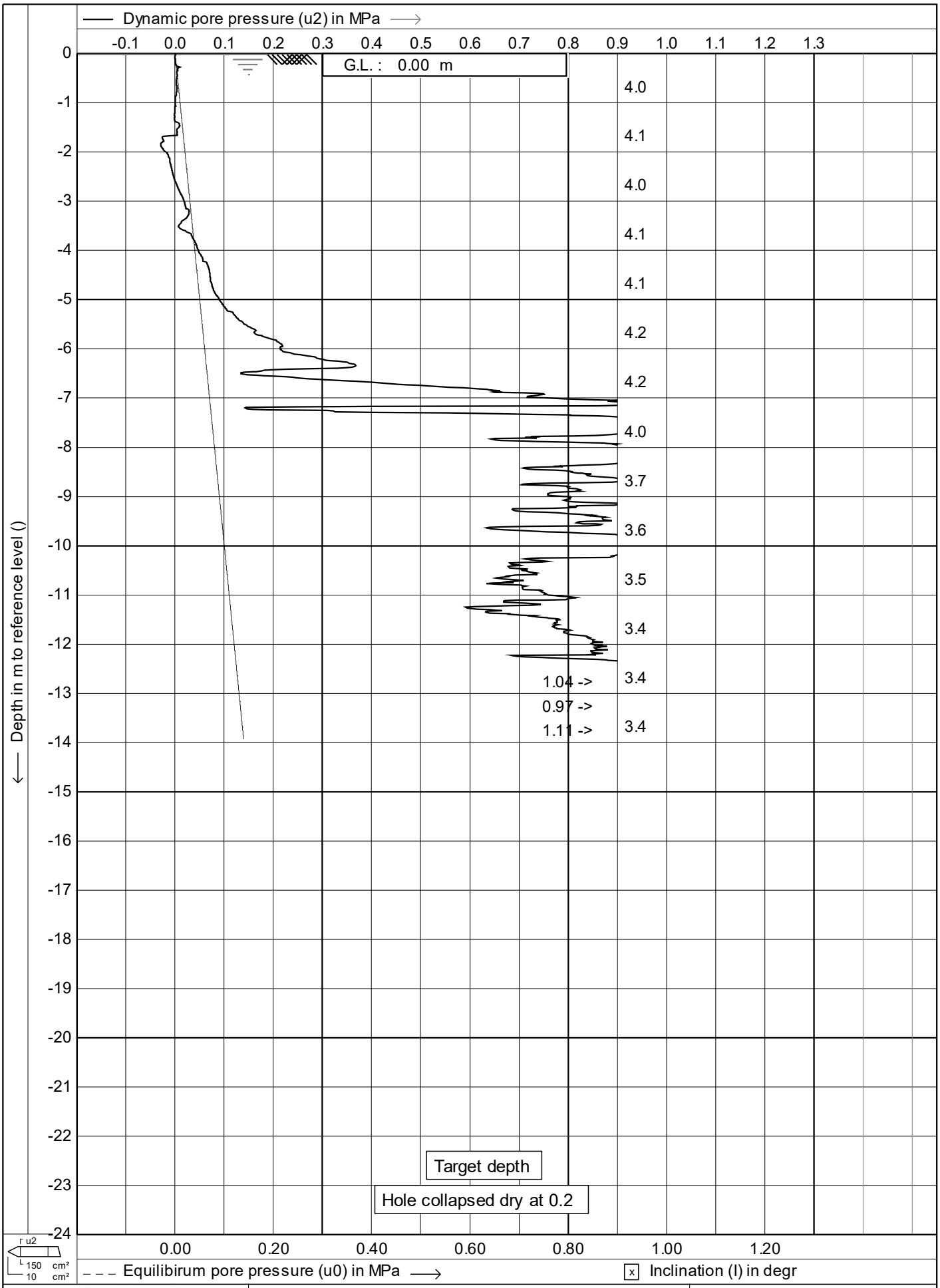
Date : **24/01/2017**

Cone no. : **C10CFIIP.C13068**

Project no. : **05TC1**

CPT no. : **08**

1.43



PERRY GEOTECH

Test according A.S.T.M Standard D 5778-12

Project : **Site Investigations**

Location: **Omokoroa Rd - Omokoroa**

Position: **0, 0 RD**

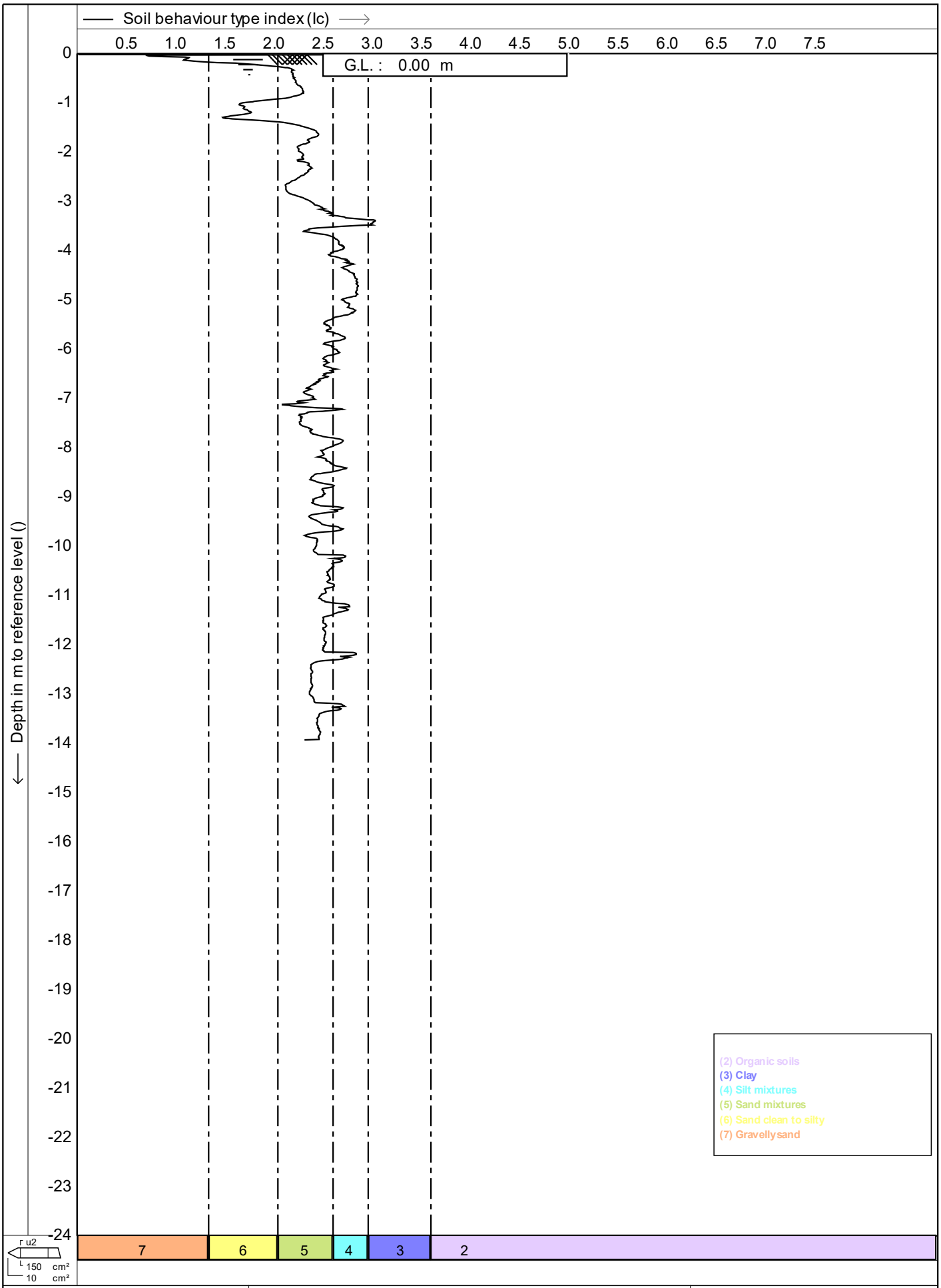
Date : **24/01/2017**

Cone no. : **C10CFIIP.C13068**

Project no. : **05TC1**

CPT no. : **08**

1.43



PERRY GEOTECH

Test according A.S.T.M Standard D 5778-12

Project : **Site Investigations**

Location: **Omokoroa Rd - Omokoroa**

Position: **0, 0 RD**

Date : **24/01/2017**

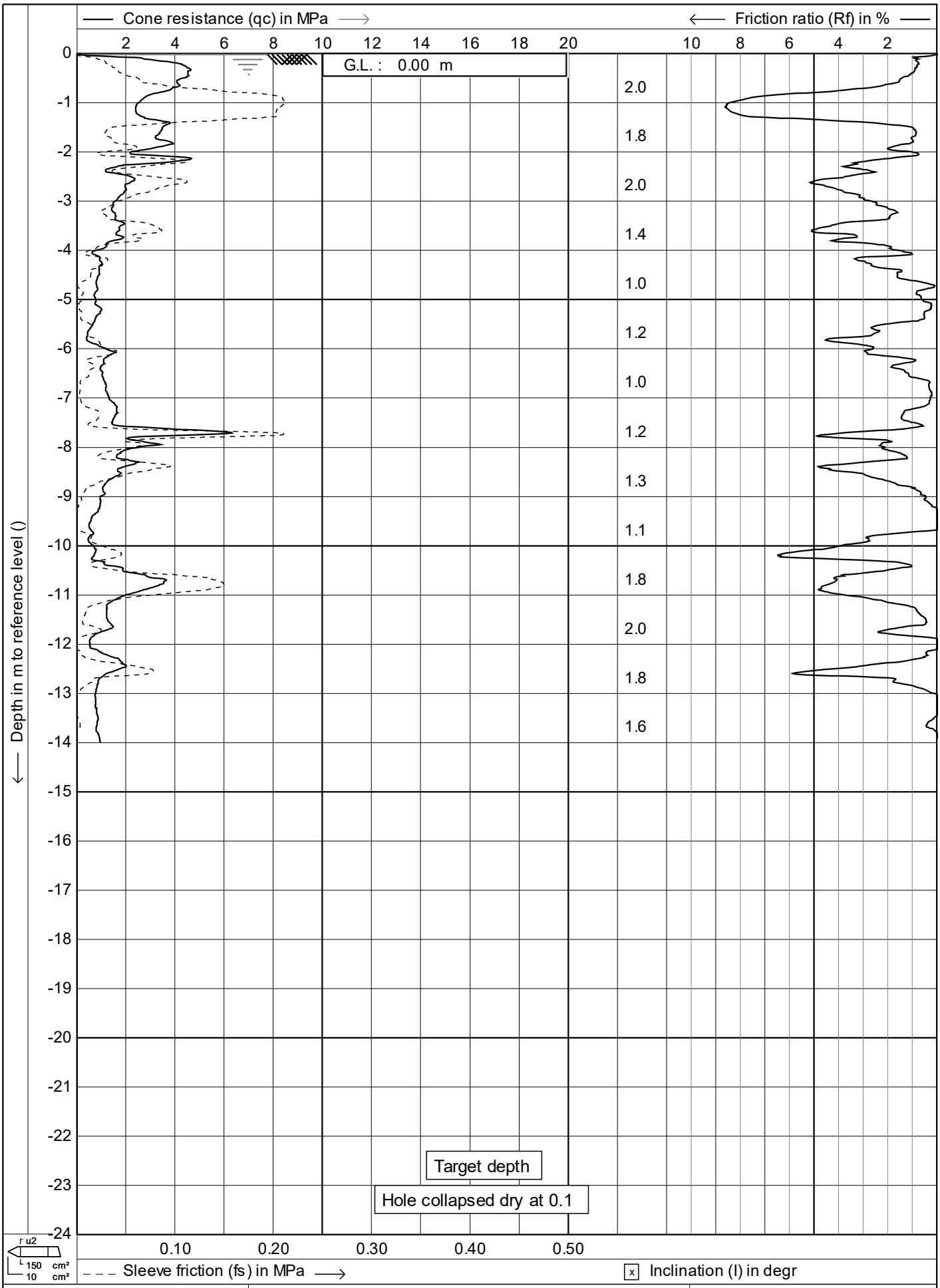
Cone no. : **C10CFIIP.C13068**

Project no. : **05TC1**

CPT no. : **08**

9/14

1.43



PERRY GEOTECH

Test according A.S.T.M Standard D 5778-12

Project : **Site Investigations**

Location: **Omokoroa Rd - Omokoroa**

Position: **0, 0 RD**

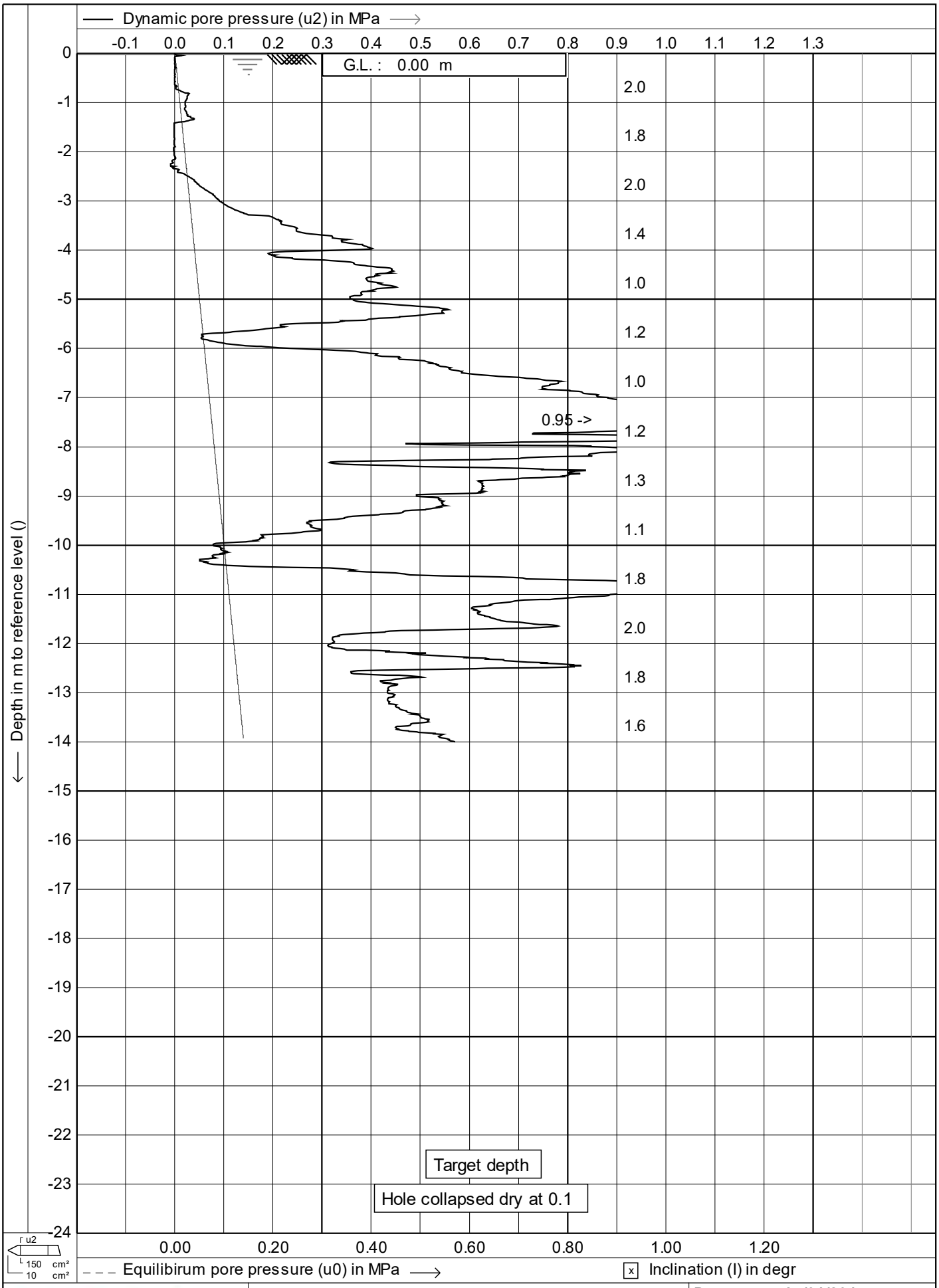
Date : **24/01/2017**

Cone no. : **C10CFIIP.C13068**

Project no. : **05TC1**

CPT no. : **09**

1.43



PERRY GEOTECH

Test according A.S.T.M Standard D 5778-12

Project : **Site Investigations**

Location: **Omokoroa Rd - Omokoroa**

Position: **0, 0 RD**

Date : **24/01/2017**

Cone no. : **C10CFIIP.C13068**

Project no. : **05TC1**

CPT no. : **09**

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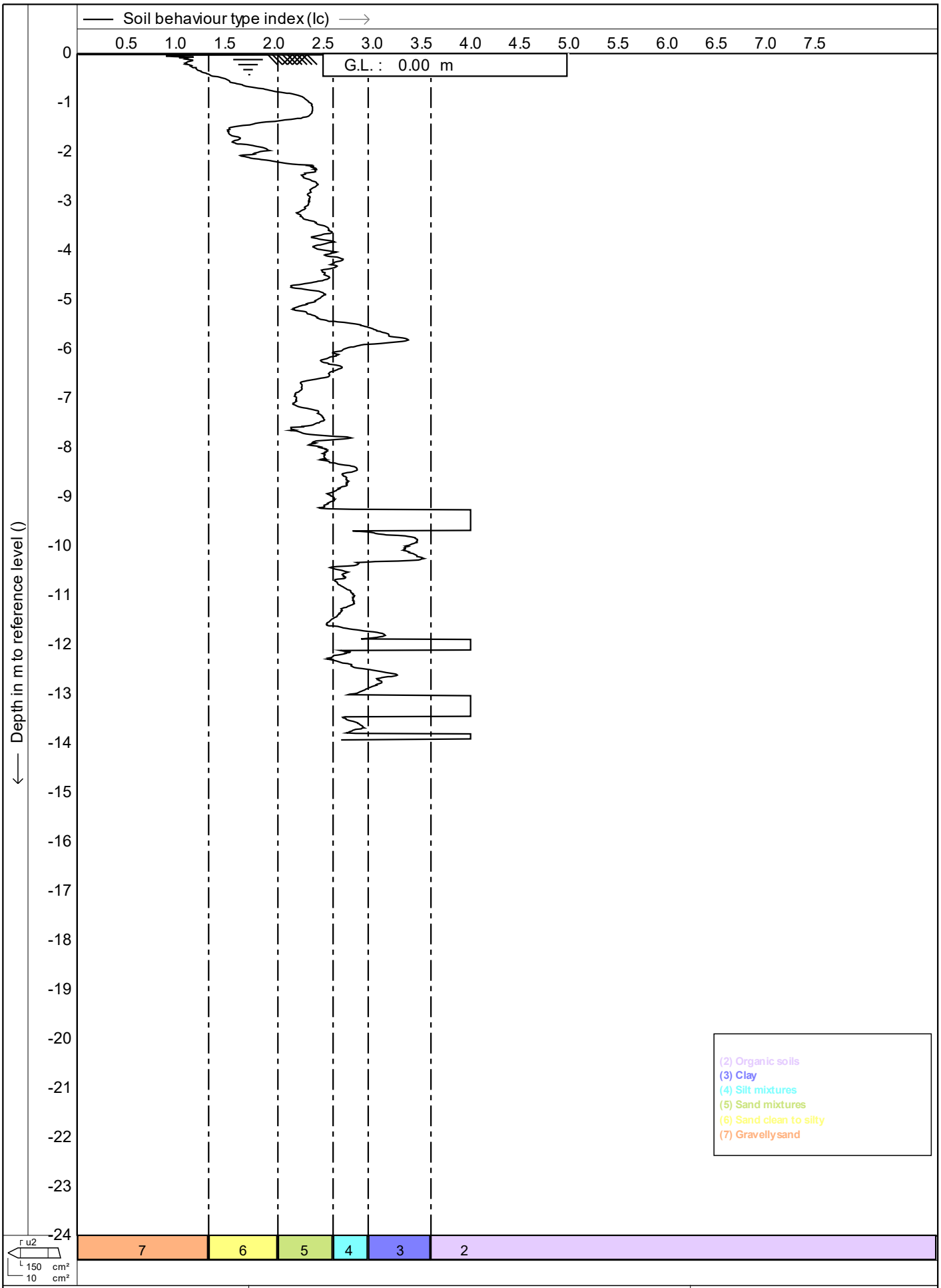


PERRY GEOTECH

Test according A.S.T.M Standard D 5778-12

Project : **Site Investigations**

Location: **Omokoroa Rd - Omokoroa**

Position: **0, 0 RD**

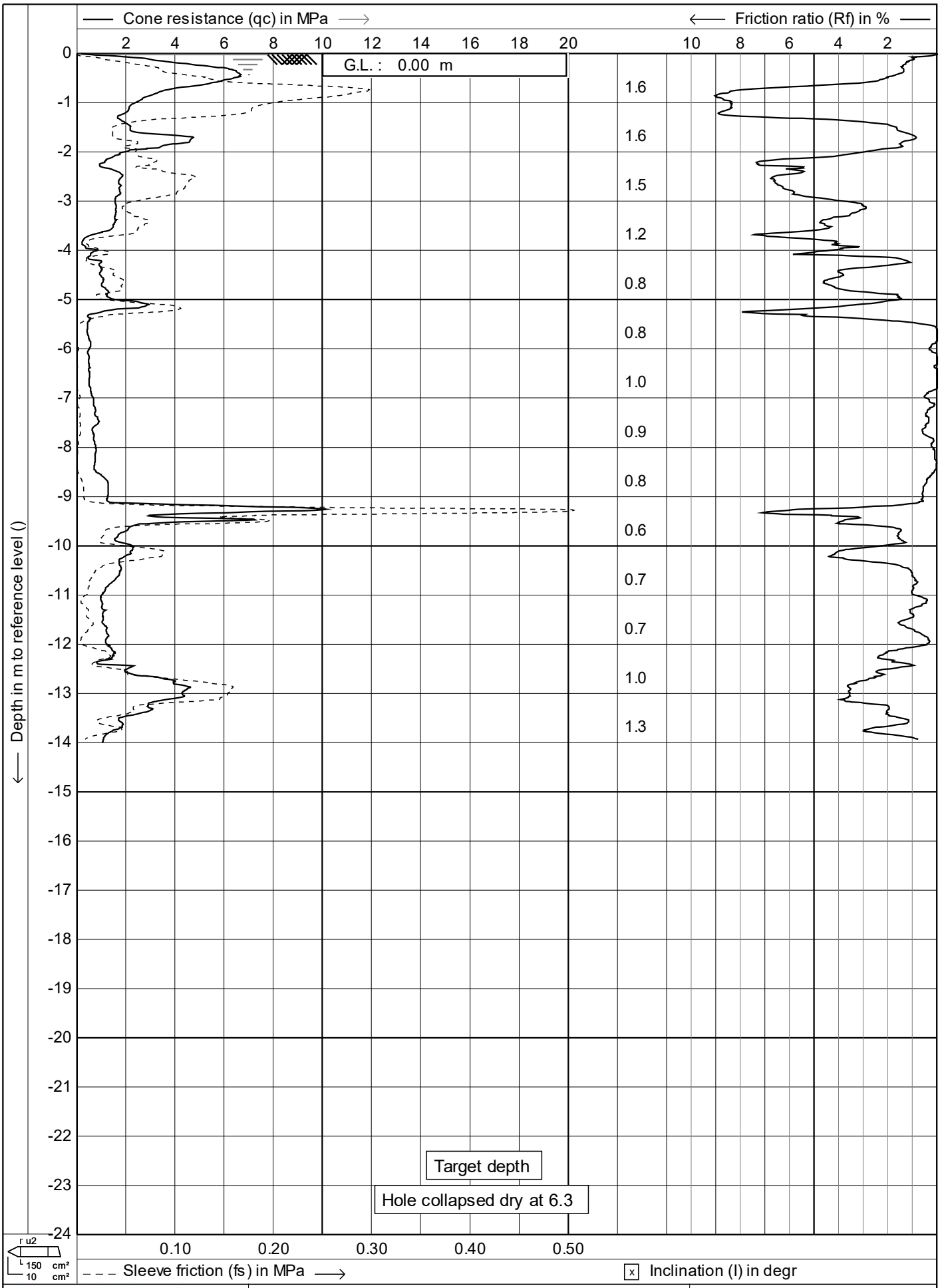
Date : **24/01/2017**

Cone no. : **C10CFIIP.C13068**

Project no. : **05TC1**

CPT no. : **09**

1.43



PERRY GEOTECH

Test according A.S.T.M Standard D 5778-12

Project : **Site Investigations**

Location: **Omokoroa Rd - Omokoroa**

Position: **0, 0 RD**

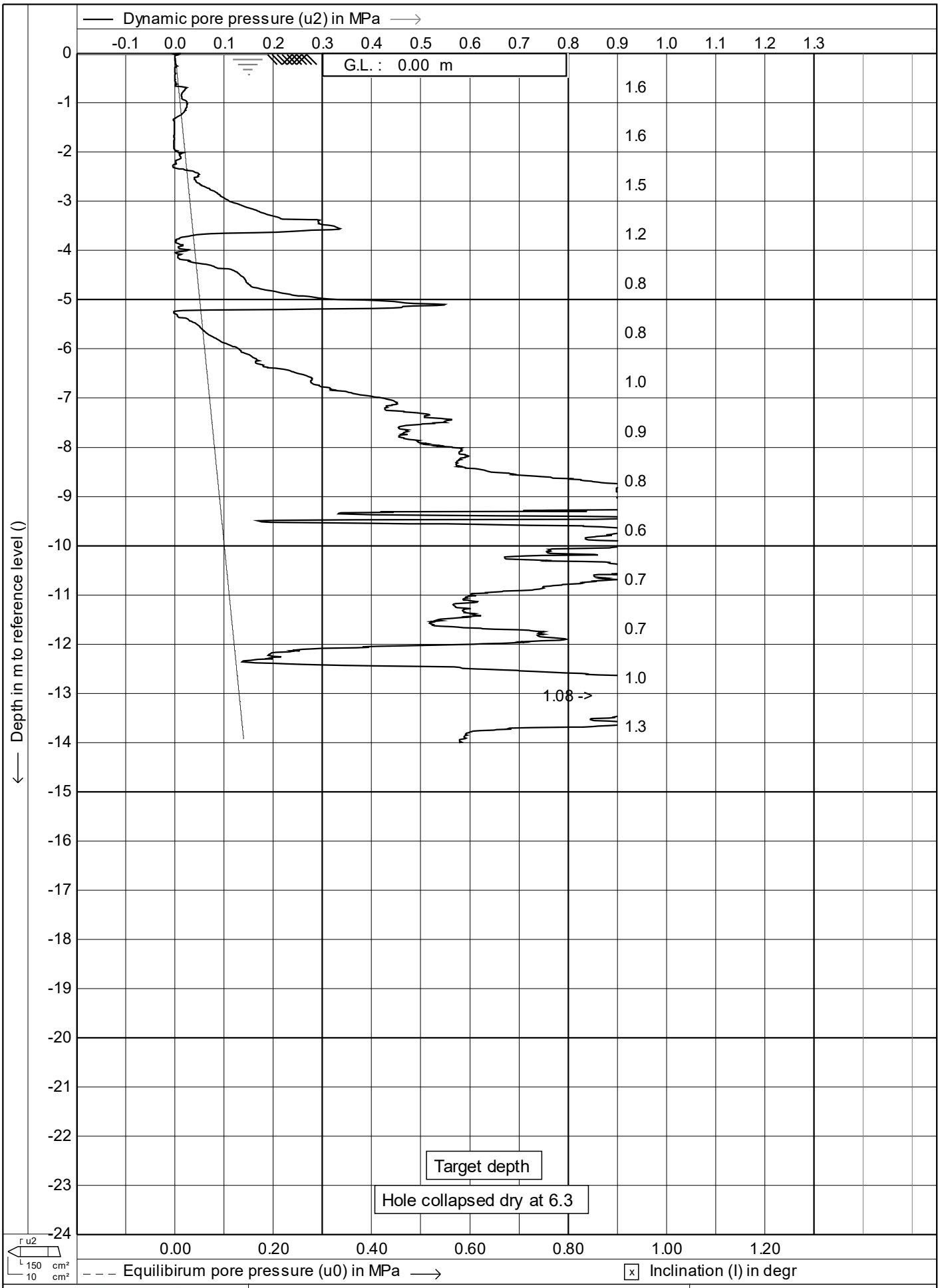
Date : **24/01/2017**

Cone no. : **C10CFIIP.C13068**

Project no. : **05TC1**

CPT no. : **10**

1.43



PERRY GEOTECH

Test according A.S.T.M Standard D 5778-12

Project : **Site Investigations**

Location: **Omokoroa Rd - Omokoroa**

Position: **0, 0 RD**

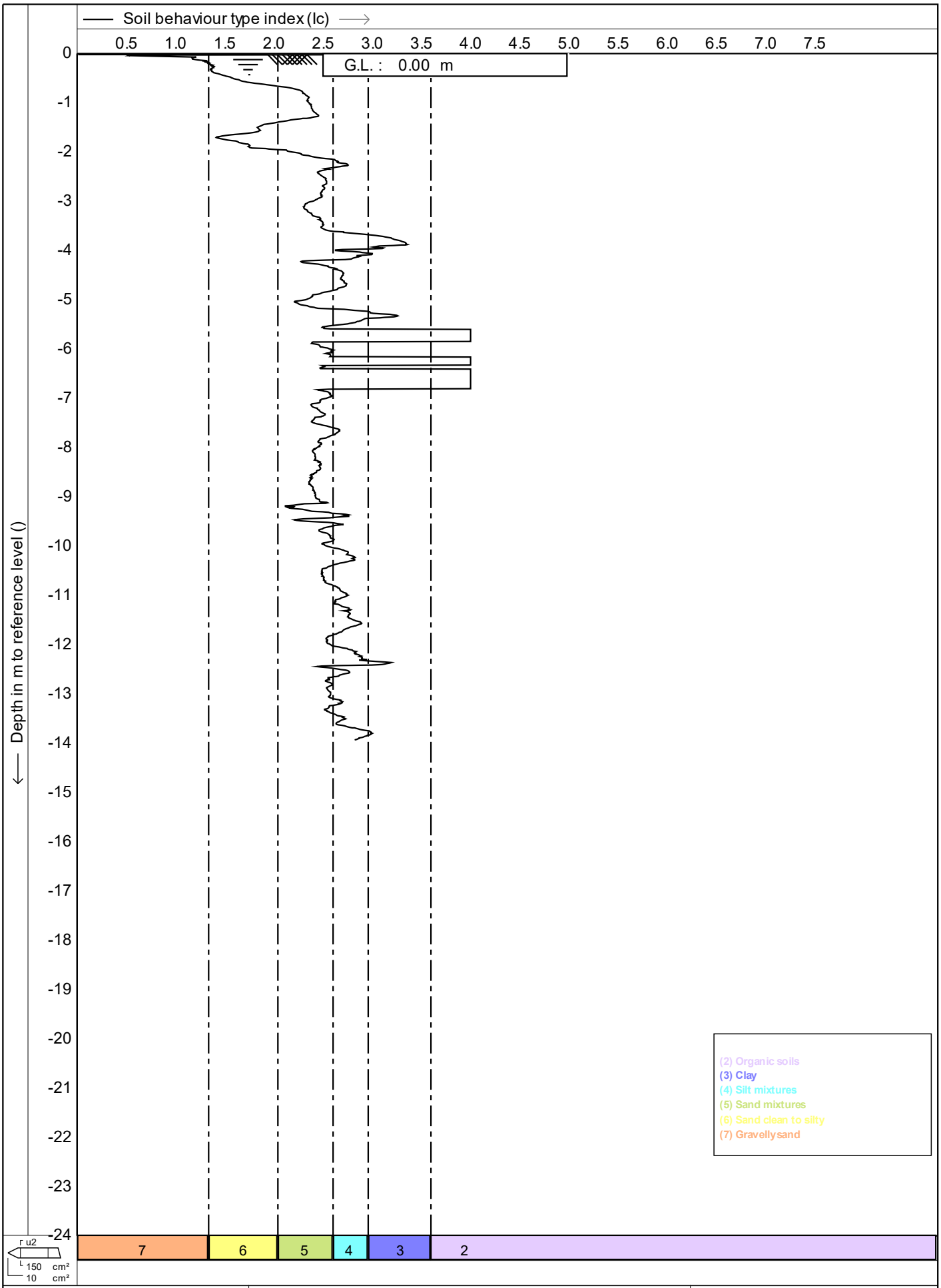
Date : **24/01/2017**

Cone no. : **C10CFIIP.C13068**

Project no. : **05TC1**

CPT no. : **10**

1.43



PERRY GEOTECH

Test according A.S.T.M Standard D 5778-12

Project : **Site Investigations**

Location: **Omokoroa Rd - Omokoroa**

Position: **0, 0 RD**

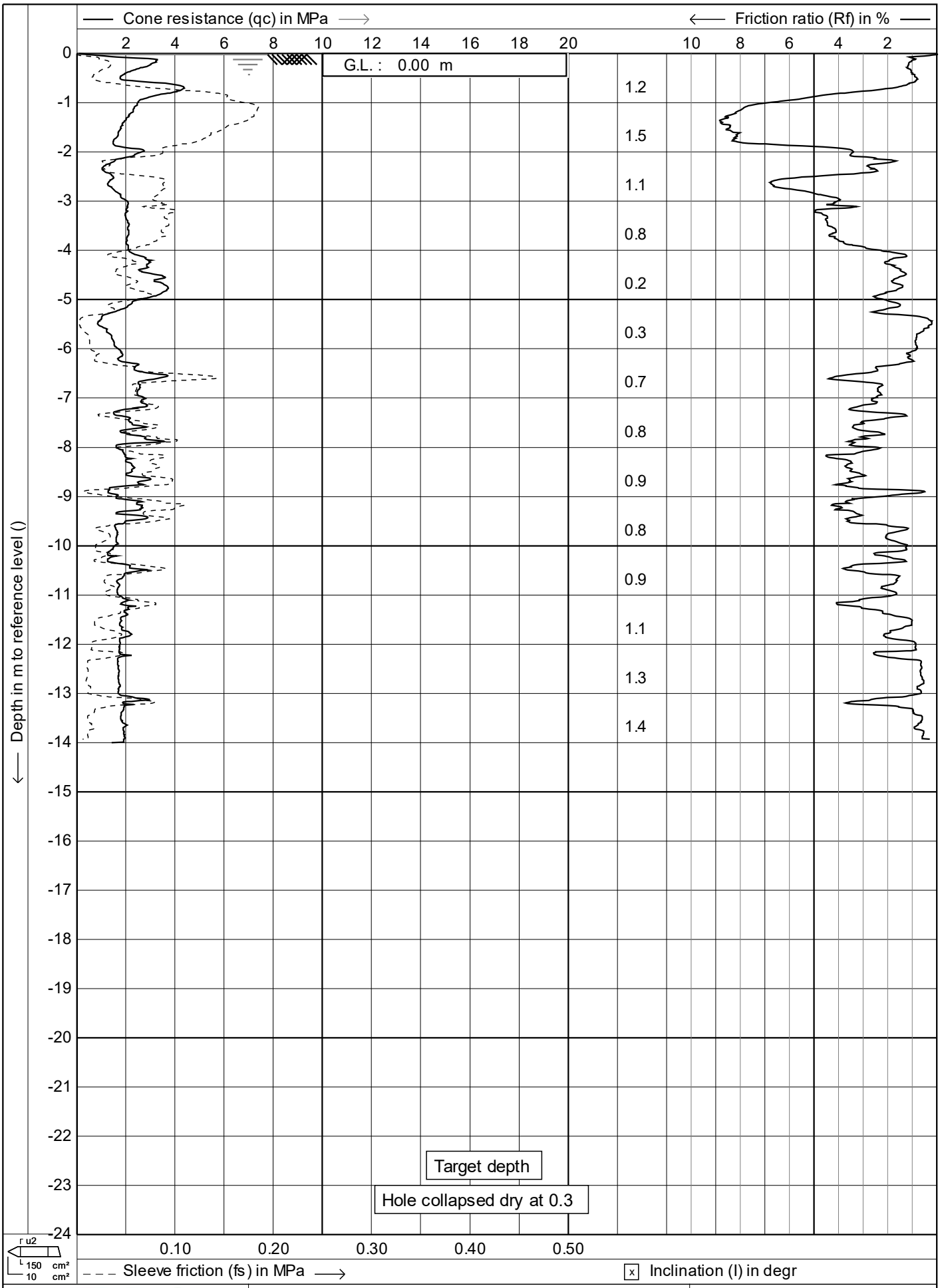
Date : **24/01/2017**

Cone no. : **C10CFIIP.C13068**

Project no. : **05TC1**

CPT no. : **10**

1.43



PERRY GEOTECH

Test according A.S.T.M Standard D 5778-12

Project : **Site Investigations**

Location: **Omokoroa Rd - Omokoroa**

Position: **0, 0 RD**

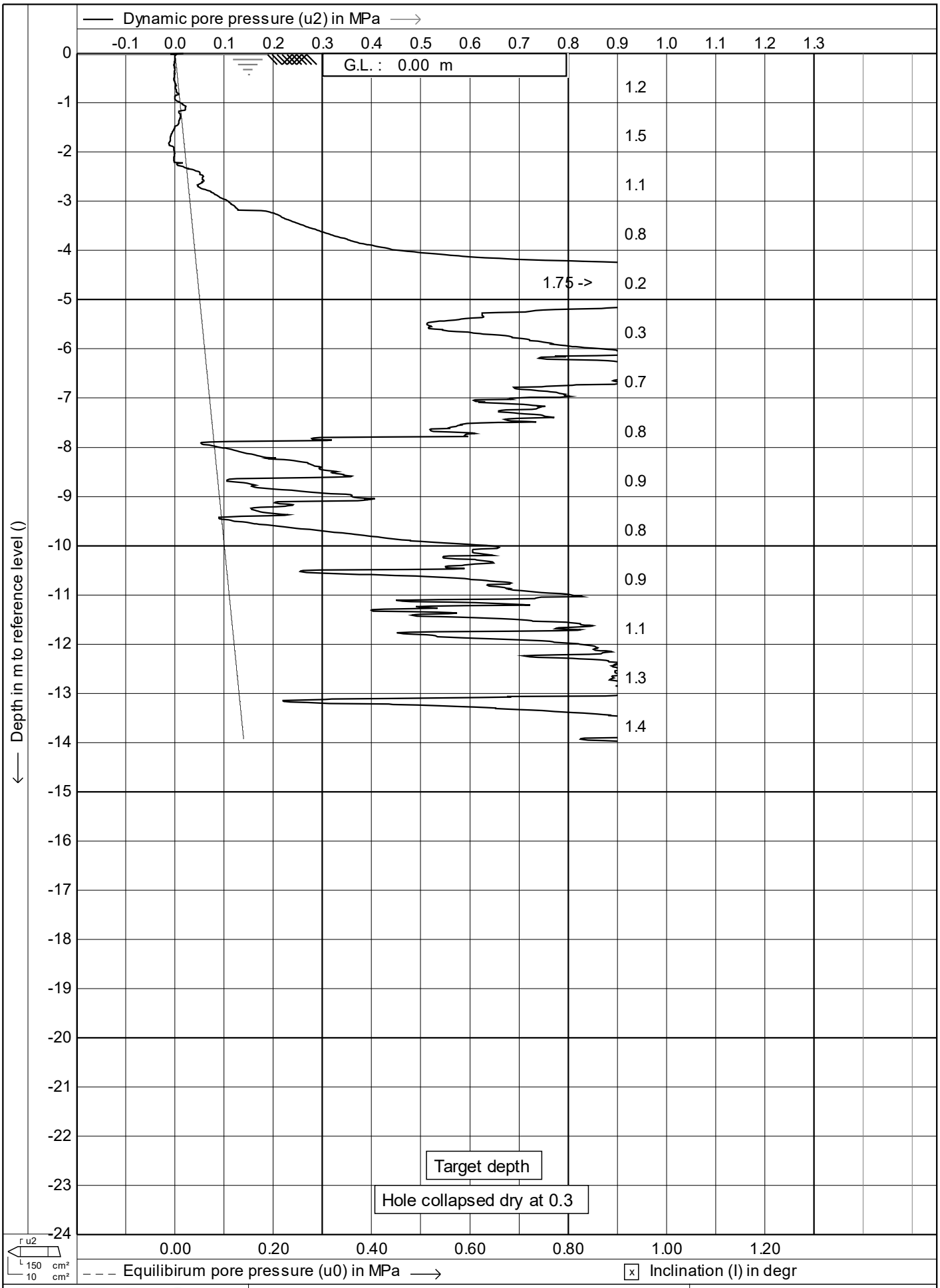
Date : **24/01/2017**

Cone no. : **C10CFIIP.C13068**

Project no. : **05TC1**

CPT no. : **12**

1.43



PERRY GEOTECH

Test according A.S.T.M Standard D 5778-12

Project : **Site Investigations**

Location: **Omokoroa Rd - Omokoroa**

Position: **0, 0 RD**

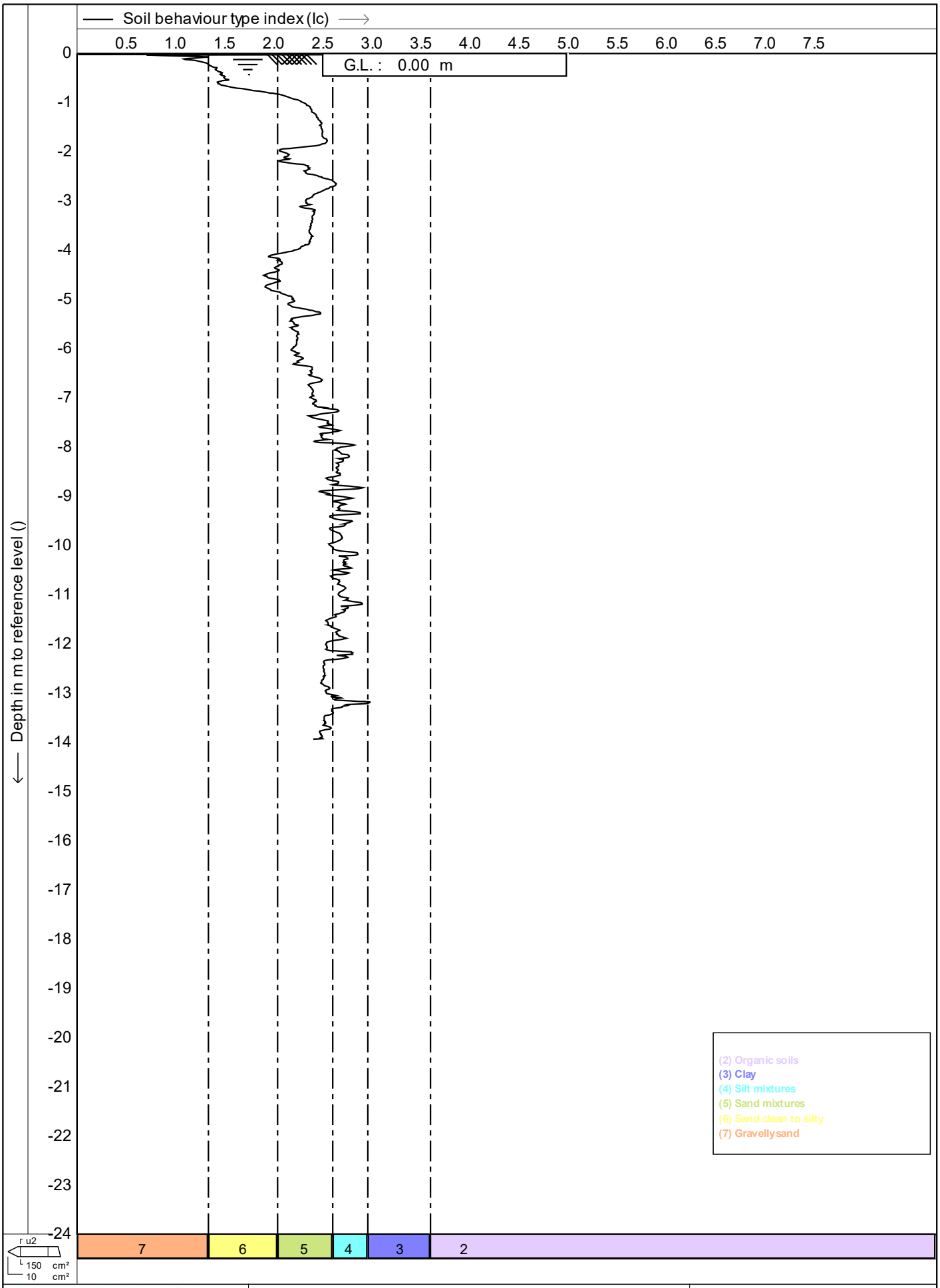
Date : **24/01/2017**

Cone no. : **C10CFIIP.C13068**

Project no. : **05TC1**

CPT no. : **12**

1.43



PERRY GEOTECH

Test according A.S.T.M Standard D 5778-12

Project : **Site Investigations**

Location: **Omokoroa Rd - Omokoroa**

Position: **0, 0 RD**

Date : **24/01/2017**

Cone no. : **C10CFIIP.C13068**

Project no. : **05TC1**

CPT no. : **12** **9/14**

1.43

APPENDIX D

FILL TEST RESULTS

FILL TESTING SUMMARY

Terrane geotechnical solutions
32 Willow Street, Tauranga Ph (07) 579 9708

Client: Harbour Ridge Developments Ltd
Project: Harbour Ridge Subdivision - Stage 1B
Location: 351 Omokoroa Rd, Western Bay of Plenty

Job: 4209
Date: 19/07/2018
Rev: 0

Date (sampled)	Test number	Location	Material Type	Water Content (%)	Dry Density (t/m^3)	Air Voids (%)	Shear Vane (kPa)						Pass/ Fail	Notes
							1	2	3	4	Mean	Range		
9-Nov-16	1	See Plan	SILT, brown and orange	49.7	1.05	7.7	202+	202+	202+	202+	-	0	Pass	
	2	See Plan	CLAY, brown and orange	44.7	1.18	1.7	202+	202+	202+	202+	-	0	Pass	
12-Jan-17	16	See Plan	SILT, minor sand,orange brown	52.9	0.97	11.7	220	220	220	220	220	0	Pass	
	17	See Plan	SILT, minor sand,orange brown	53.6	0.97	11.2	182	176	185	173	179	12	Pass	
13-Jan-17	18	See Plan	SILT, minor sand,orange brown	48.1	1.01	12.7	163	160	173	170	167	13	Pass	Approved using alternative criteria
	19	See Plan	SILT, minor sand,orange brown	52.6	1.02	7.0	UTP	UTP	UTP	UTP	-	-	Pass	
	20	See Plan	SILT, minor sand,orange brown and yellow	48.0	1.05	9.5	UTP	UTP	UTP	UTP	-	-	Pass	
17-Jan-17	21	See Plan	SILT, minor sand, brown and orange	39.6	1.12	13.1	220	220	220	220	220	0	Pass	Approved using alternative criteria
	22	See Plan	SILT, trace sand, orange brown	51.1	1.07	4.3	220	220	220	220	220	0	Pass	
	23	See Plan	SILT, trace sand, orange brown orange and yellow	44.4	1.15	4.6	220	220	220	220	220	0	Pass	
19-Jan-17	26	See Plan	SILT, minor sand, orange brown	45.0	1.1	9.3	129	220	173	173	174	91	Pass	
	27	See Plan	SILT, minor sand, orange brown	47.3	1.1	10.5	192	170	138	154	164	54	Pass	
	28	See Plan	SILT, minor sand, orange brown	55.2	1.0	8.1	220	182	185	220	202	38	Pass	
24-Jan-17	29	See Plan	SILT, minor clay, orange brown	45.2	1.29	1.6	165	159	189	186	175	30	Pass	
	30	See Plan	SILT, orange brown	48.2	1.15	0.4	202	202	202	202	202	0	Pass	
1-Feb-17	31	See Plan	SILT, orange brown	53.8	1.05	3.0	170	160	182	176	172	22	Pass	
	32	See Plan	SILT, orange brown	44.8	1.13	6.4	UTP	UTP	UTP	UTP	-	0	Pass	
7-Feb-17	33	See Plan	SILT, orange brown	49.1	1.04	9.0	220	220	220	220	220	0	Pass	
	34	See Plan	SILT, orange brown	55.1	0.96	10.4	UTP	UTP	UTP	UTP	-	0	Pass	
10-Feb-17	35	See Plan	SILT, orange brown	55.7	0.94	11.8	180	189	202	202	193	22	Pass	Approved using alternative criteria

NOTES:

1. UTP = Unable To Penetrate (indicates undrained shear strength is greater than 202 kPa)
2. Assumed solid density of soil particles ranged from 2.61 to 2.65 t/m3, based on a visual assessment of the pumice content.

FILL TESTING SUMMARY

Terrane geotechnical solutions
32 Willow Street, Tauranga Ph (07) 579 9708

Client: Harbour Ridge Developments Ltd
Project: Harbour Ridge Subdivision - Stage 1B
Location: 351 Omokoroa Rd, Western Bay of Plenty

Job: 4209
Date: 19/07/2018
Rev: 0

Date (sampled)	Test number	Location	Material Type	Water Content (%)	Dry Density (t/m^3)	Air Voids (%)	Shear Vane (kPa)						Pass/ Fail	Notes
							1	2	3	4	Mean	Range		
10-Feb-17	36	See Plan	SILT, orange brown	47.2	0.98	16.3	202	202	201	195	200	7	Pass	Approved using alternative criteria
	37	See Plan	SILT, orange brown	48.6	0.98	15.2	202	202	202	202	202	0	Pass	Approved using alternative criteria
14-Feb-17	38	See Plan	SILT, minor sand, orange brown	53.6	0.91	16.5	220	220	189	220	212	31	Pass	Approved using alternative criteria
	39	See Plan	SILT, minor sand, orange brown	49.7	1.00	12.1	220	220	220	220	220	0	Pass	Approved using alternative criteria
	40	See Plan	SILT, minor sand, orange brown	49.2	0.96	15.6	132	129	129	138	132	9	Pass	Approved using alternative criteria
21-Feb-17	41	See Plan	SILT, minor sand, brown and orange	46.0	1.10	7.0	134	140	132	140	137	8	Pass	
	42	See Plan	SILT, minor sand, brown and orange	55.9	0.99	6.4	185	172	172	177	177	13	Pass	
24-Feb-17	43	See Plan	SILT, yellow-brown, pumiceous	43.6	1.15	5.9	188	188	188	188	-	0	Pass	
	44	See Plan	SILT, orange and brown, pumiceous	44.9	1.12	7.1	188	188	188	188	-	0	Pass	
27-Feb-17	45	See Plan	SILT, orange, brown and black	46.7	1.14	3.3	188	188	188	188	-	0	Pass	
	46	See Plan	SILT, orange and brown, pumiceous	47.7	1.1	7.0	188	188	188	188	-	0	Pass	
	47	See Plan	SILT, orange	51.4	1.1	1.5	188	188	188	188	-	0	Pass	
17-Mar-17	48	See Plan	SILT, brown, moist, slightly sandy	46.2	1.1	5.8	203	203	203	203	-	0	Pass	
	49	See Plan	SILT, orange and brown, moist	50.2	1.07	5.5	203	203	203	203	-	0	Pass	
	50	See Plan	SILT, brown, moist, slightly sandy	46.2	1.11	5.8	203	203	203	203	-	0	Pass	
	51	See Plan	SILT, orange and brown, moist	50.2	1.07	5.5	203	203	203	203	-	0	Pass	
22-Mar-17	52	See Plan	Silt, minor sand, orange brown	48.5	1.01	12.4	188	188	188	188	188	0	Pass	Approved using alternative criteria
	53	See Plan	Silt, minor sand, orange brown	41.7	1.14	8.7	145	116	118	137	129	29	Pass	
9-May-17	54	See Plan	SILT, minor sand, brown and orange brown	48.4	1.07	7.4	148	156	150	153	152	8	Pass	
	55	See Plan	Clay SILT, light orange and yellow	55.4	1.04	2.1	155	142	175	175	162	33	Pass	

NOTES:
1. UTP = Unable To Penetrate (indicates undrained shear strength is greater than 202 kPa)
2. Assumed solid density of soil particles ranged from 2.61 to 2.65 t/m3, based on a visual assessment of the pumice content.

FILL TESTING SUMMARY

Terrane geotechnical solutions
32 Willow Street, Tauranga Ph (07) 579 9708

Client: Harbour Ridge Developments Ltd
Project: Harbour Ridge Subdivision - Stage 1B
Location: 351 Omokoroa Rd, Western Bay of Plenty

Job: 4209
Date: 19/07/2018
Rev: 0

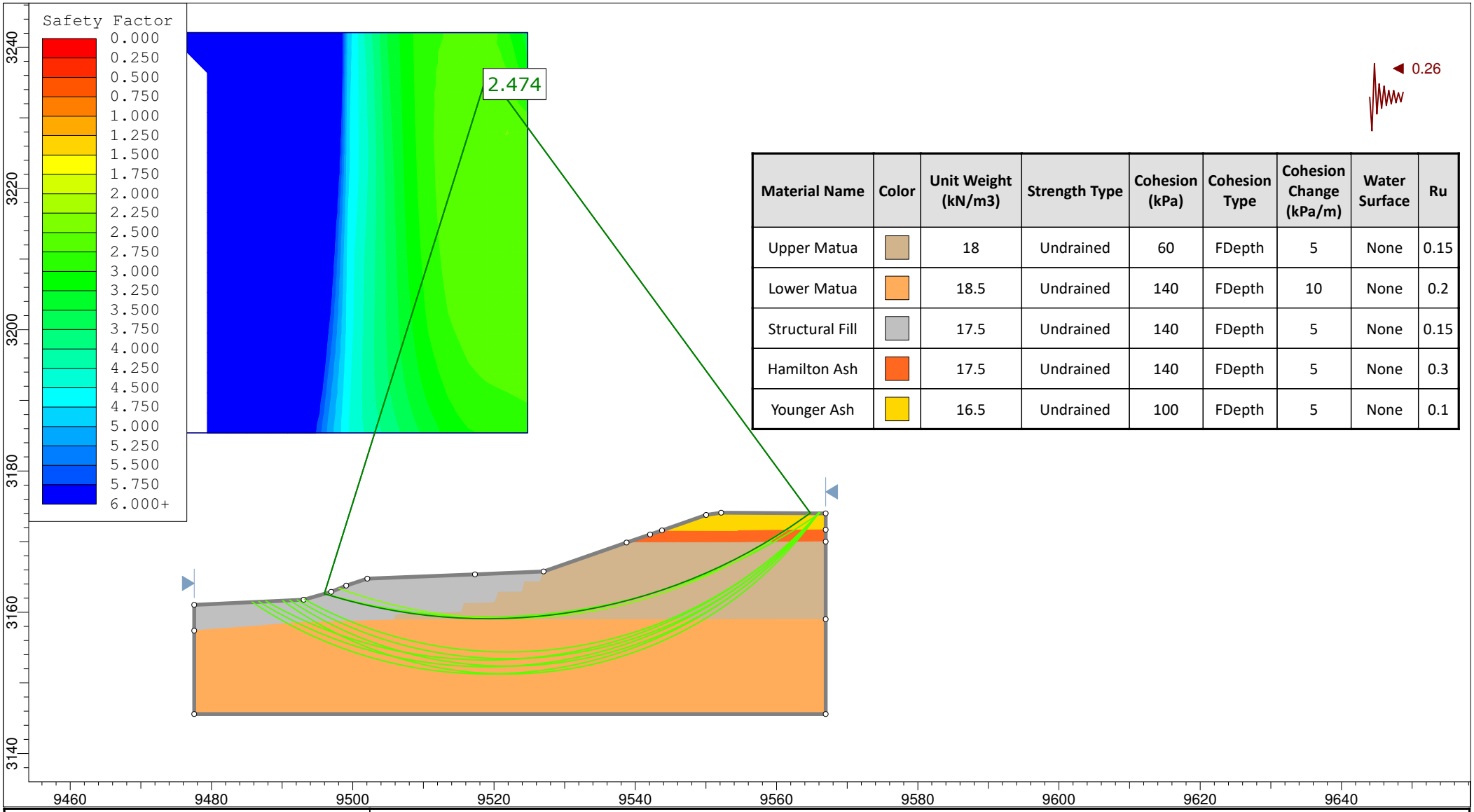
Date (sampled)	Test number	Location	Material Type	Water Content (%)	Dry Density (t/m^3)	Air Voids (%)	Shear Vane (kPa)						Pass/ Fail	Notes
							1	2	3	4	Mean	Range		
9-May-17	56	See Plan	Silt, minor sand, orange brown	44.1	1.13	7.1	137	132	124	134	132	13	Pass	
	57	See Plan	Clay SILT, dark brown	57.5	0.94	9.8	161	161	148	156	157	13	Pass	
16-Oct-17	58	See Plan	SILT minor clay, orange, yellow and brown, moist	51.2	1.10	1.7	173	140	148	160	155	33	Pass	
	59	See Plan	SILT minor clay, orange and brown, moist,	40.3	1.23	3.7	220	220	220	220	220	0	Pass	
20-Nov-17	60	See Plan	SILT, orange, pink and grey, moist	40.7	1.18	7.0	UTP	UTP	UTP	UTP	-	0	Pass	
	61	See Plan	SILT, brown, mosit	37.1	1.26	4.7	UTP	UTP	UTP	UTP	-	0	Pass	
27-Nov-17	62	See Plan	Clay SILT, orange, moist	46.5	1.14	3.0	185	185	152	171	-	33	Pass	
	63	See Plan	Clay SILT, orange, moist	43.2	1.1	7.4	UTP	UTP	UTP	UTP	-	0	Pass	
	64	See Plan	Clay SILT, orange-brown, moist, trace pumice	44.3	1.1	7.7	UTP	UTP	UTP	UTP	-	0	Pass	
	65	See Plan	SILT, brown, moist, trace pumice	44.7	1.1	6.4	UTP	UTP	UTP	UTP	-	0	Pass	
11-Dec-17	66	See Plan	Bulk Fill - brown ash	65.1	0.99	8.9	UTP	UTP	UTP	UTP	-	0	Pass	
	67	See Plan	Bulk Fill - brown ash	64.0	0.96	2.8	UTP	UTP	UTP	UTP	-	0	Pass	
	68	See Plan	Bulk Fill - brown ash	47.4	1.21	0.0	UTP	UTP	UTP	UTP	-	0	Pass	
	69	See Plan	Bulk Fill - brown ash	45.1	1.18	11.1	UTP	UTP	UTP	UTP	-	0	Pass	
	70	See Plan	SILT, brown, moist, trace pumice	54.4	1.02	8.9	UTP	UTP	UTP	UTP	-	0	Pass	
	71	See Plan	SILT, brown, moist, trace pumice	54.1	1.05	9.4	UTP	UTP	UTP	UTP	-	0	Pass	
	72	See Plan	Bulk Fill - brown ash	54.3	0.97	1.1	UTP	UTP	UTP	UTP	-	0	Pass	
	73	See Plan	Bulk Fill - brown ash	48.2	1.05	1.7	UTP	UTP	UTP	UTP	-	0	Pass	
20-Mar-18	81	See Plan	Clayey SILT, brown	50.0	1.1	2.8	UTP	UTP	UTP	UTP	-	0	Pass	
18-Jul-18	88	See Plan	SILT minor sand, yellow brown, pumiceous	49.2	1.10	3.7	161	174	181	174	173	20	Pass	

NOTES:

1. UTP = Unable To Penetrate (indicates undrained shear strength is greater than 202 kPa)
2. Assumed solid density of soil particles ranged from 2.61 to 2.65 t/m3, based on a visual assessment of the pumice content.

APPENDIX E

ANALYSIS



Material Name	Color	Unit Weight (kN/m3)	Strength Type	Cohesion (kPa)	Cohesion Type	Cohesion Change (kPa/m)	Water Surface	Ru
Upper Matua		18	Undrained	60	FDepth	5	None	0.15
Lower Matua		18.5	Undrained	140	FDepth	10	None	0.2
Structural Fill		17.5	Undrained	140	FDepth	5	None	0.15
Hamilton Ash		17.5	Undrained	140	FDepth	5	None	0.3
Younger Ash		16.5	Undrained	100	FDepth	5	None	0.1

Terrane geotechnical solutions

SLIDEINTERPRET 7.030

Project HARBOUR RIDGE SUBDIVISION (Stage 1B): 351 Omokoroa Road, Omokoroa

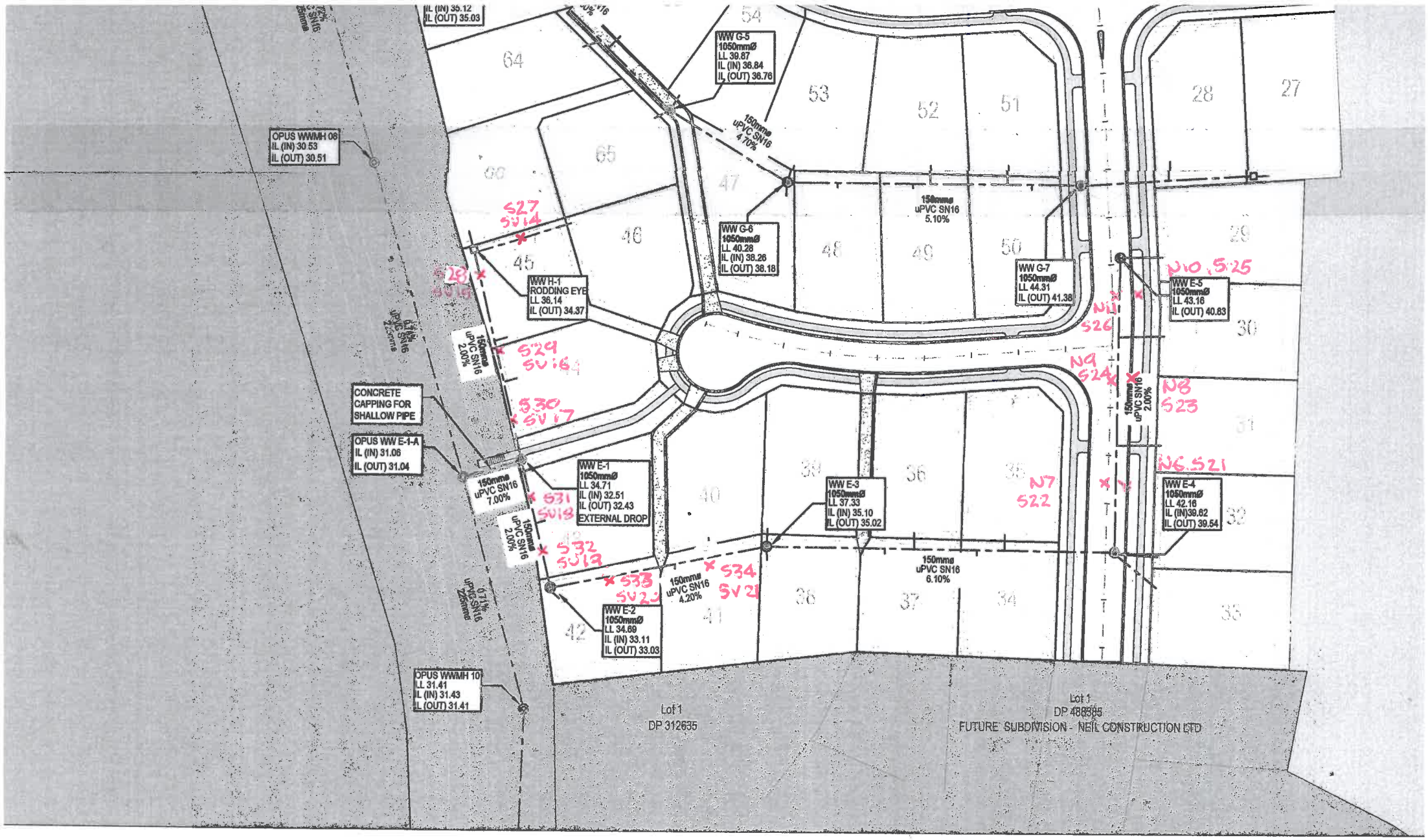
Analyses Section GG - Finished Profile, slip circles with 10 lowest FoS shown. includes seismic load

Drawn By blm | *Scale* 1:750 | *Company* Terrane Consultants Ltd

Date 15-Jun-18 | *File Name* 4209 Sect GG.v1.slim

APPENDIX F

TRENCH BACKFILL TEST RESULTS



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PROJECT NAME

HARBOUR RIDGE

351 OMOKOROA ROAD
OMOKOROA

SURVEYOR: BM	DATE: 12/16	DRAFTER: JG	DATE: 03/17	PROJECT NO. 3969	HORIZONTAL SCALE: 1: 1000 - A3 1: 500 - A1
DESIGNER: JG	DATE: 02/17	REVIEWER: KR	DATE: 03/17		
APPROVER: BEYOND		SIGNED: CS			
APPROVAL DATE:		13/04/17			

REV.	BY	DATE	COMMENT
A	JG	27/03/17	ISSUED FOR COUNCIL CONSENT
B	JG	13/04/17	ISSUED FOR COUNCIL CONSENT

Scala Field Sheet

HIGGINS®

Job Name:	Harbour Ridge Subdivision	**From Meterage:**	See Plan
Job Number:	5006400	**To Meterage:**	
Site:	Drainage trenches	**Recorded by:**	E J West
Layer:	Subgrade (backfill)	**Date:**	5/04/18

Test No	**S27**		**Test No**	**S28**		**Test No**	**S29**		**Test No**	**S30**	
Meterage:	**See Plan**		**Meterage:**	**See Plan**		**Meterage:**	**See Plan**		**Meterage:**	**See Plan**	
Offset:			**Offset:**			**Offset:**			**Offset:**		
Depth (m)	**Blows**	**Inf. CBR**	**Depth (m)**	**Blows**	**Inf. CBR**	**Depth (m)**	**Blows**	**Inf. CBR**	**Depth (m)**	**Blows**	**Inf. CBR**
0.1	1	**2**	0.1	1	**2**	0.1	2	**4**	0.1	2	**4**
0.2	2	**4**	0.2	3	**6**	0.2	2	**4**	0.2	1	**2**
0.3	1	**2**	0.3	3	**6**	0.3	5	**10**	0.3	5	**10**
0.4	2	**4**	0.4	3	**6**	0.4	5	**10**	0.4	5	**10**
0.5	1	**2**	0.5	5	**10**	0.5	3	**6**	0.5	3	**6**
0.6	1	**2**	0.6	2	**4**	0.6	4	**8**	0.6	3	**6**
0.7	2	**4**	0.7	1	**2**	0.7	4	**8**	0.7	7	**16**
0.8	1	**2**	0.8	1	**2**	0.8	3	**6**	0.8	3	**6**
0.9	1	**2**	0.9	2	**4**	0.9	3	**6**	0.9	2	**4**
1			1			1.0			1.0		
1.1			1.1			1.1			1.1		
1.2			1.2			1.2			1.2		
1.3			1.3			1.3			1.3		
1.4			1.4			1.4			1.4		
1.5			1.5			1.5			1.5		
1.6			1.6			1.6			1.6		
1.7			1.7			1.7			1.7		
1.8			1.8			1.8			1.8		

Test No	**S31**		**Test No**	**S32**		**Test No**	**S33**		**Test No**	**S34**	
Meterage	**See Plan**		**Meterage**	**See Plan**		**Meterage**	**See Plan**		**Meterage**	**See Plan**	
Offset			Offset			Offset			**Offset**		
Depth (m)	**Blows**	**Inf. CBR**	**Depth (m)**	**Blows**	**Inf. CBR**	**Depth (m)**	**Blows**	**Inf. CBR**	**Depth (m)**	**Blows**	**Inf. CBR**
0.1	8	**18**	0.1	5	**10**	0.1	3	**6**	0.1	2	**4**
0.2	4	**8**	0.2	2	**4**	0.2	3	**6**	0.2	1	**2**
0.3	1	**2**	0.3	2	**4**	0.3	2	**4**	0.3	0.5	**<1**
0.4	2	**4**	0.4	4	**8**	0.4	2	**4**	0.4	0.5	**<1**
0.5	3	**6**	0.5	3	**6**	0.5	2	**4**	0.5	2	**4**
0.6	3	**6**	0.6	2	**4**	0.6	2	**4**	0.6	1	**2**
0.7	4	**8**	0.7	3	**6**	0.7	2	**4**	0.7	0.5	**<1**
0.8	3	**6**	0.8	2	**4**	0.8	2	**4**	0.8	0.5	**<1**
0.9	3	**6**	0.9	2	**4**	0.9	3	**6**	0.9	1	**2**
1.0			1			1.0			1.0		
1.1			1.1			1.1			1.1		
1.2			1.2			1.2			1.2		
1.3			1.3			1.3			1.3		
1.4			1.4			1.4			1.4		
1.5			1.5			1.5			1.5		
1.6			1.6			1.6			1.6		
1.7			1.7			1.7			1.7		
1.8			1.8			1.8			1.8		

Notes:

Scala Field Sheet

HIGGINS

Job Name:	Harbour Ridge Subdivision	**From Meterage:**	See Plan
Job Number:	5006400	**To Meterage:**	
Site:	Drainage trenches, Road 4	**Recorded by:**	E J West
Layer:	Subgrade (backfill)	**Date:**	5/04/18

Test No	**S21**		**Test No**	**S22**		**Test No**	**S23**		**Test No**	**S24**	
Meterage:	**See Plan**		**Meterage:**	**See Plan**		**Meterage:**	**See Plan**		**Meterage:**	**See Plan**	
Offset:			**Offset:**			**Offset:**			**Offset:**		
Depth (m)	**Blows**	**Inf. CBR**	**Depth (m)**	**Blows**	**Inf. CBR**	**Depth (m)**	**Blows**	**Inf. CBR**	**Depth (m)**	**Blows**	**Inf. CBR**
0.1	8	**18**	0.1	9	**20**	0.1	7	**16**	0.1	12	**28**
0.2	7	**16**	0.2	8	**18**	0.2	3	**6**	0.2	10	**23**
0.3	2	**4**	0.3	6	**13**	0.3	2	**4**	0.3	8	**18**
0.4	2	**4**	0.4	5	**10**	0.4	3	**6**	0.4	6	**13**
0.5	3	**6**	0.5	7	**16**	0.5	2	**4**	0.5	6	**13**
0.6	3	**6**	0.6	6	**13**	0.6	2	**4**	0.6	7	**16**
0.7	3	**6**	0.7	5	**10**	0.7	7	**16**	0.7	6	**13**
0.8	2	**4**	0.8	3	**6**	0.8	3	**6**	0.8	5	**10**
0.9	3	**6**	0.9	3	**6**	0.9	3	**6**	0.9		
1			1			1.0			1.0		
1.1			1.1			1.1			1.1		
1.2			1.2			1.2			1.2		
1.3			1.3			1.3			1.3		
1.4			1.4			1.4			1.4		
1.5			1.5			1.5			1.5		
1.6			1.6			1.6			1.6		
1.7			1.7			1.7			1.7		
1.8			1.8			1.8			1.8		

Test No	**S25**		**Test No**	**S26**		**Test No**			**Test No**		
Meterage	**See Plan**		**Meterage**	**See Plan**		**Meterage**	**See Plan**		**Meterage**	**See Plan**	
Offset			Offset			Offset			**Offset**		
Depth (m)	**Blows**	**Inf. CBR**	**Depth (m)**	**Blows**	**Inf. CBR**	**Depth (m)**	**Blows**	**Inf. CBR**	**Depth (m)**	**Blows**	**Inf. CBR**
0.1	3	**6**	0.1	7	**16**	0.1			0.1		
0.2	4	**8**	0.2	8	**18**	0.2			0.2		
0.3	8	**18**	0.3	6	**13**	0.3			0.3		
0.4	4	**8**	0.4	5	**10**	0.4			0.4		
0.5	3	**6**	0.5	5	**10**	0.5			0.5		
0.6	6	**13**	0.6	5	**10**	0.6			0.6		
0.7	3	**6**	0.7	5	**10**	0.7			0.7		
0.8	1	**2**	0.8	4	**8**	0.8			0.8		
0.9	2	**4**	0.9	4	**8**	0.9			0.9		
1.0			1			1.0			1.0		
1.1			1.1			1.1			1.1		
1.2			1.2			1.2			1.2		
1.3			1.3			1.3			1.3		
1.4			1.4			1.4			1.4		
1.5			1.5			1.5			1.5		
1.6			1.6			1.6			1.6		
1.7			1.7			1.7			1.7		
1.8			1.8			1.8			1.8		

Notes:

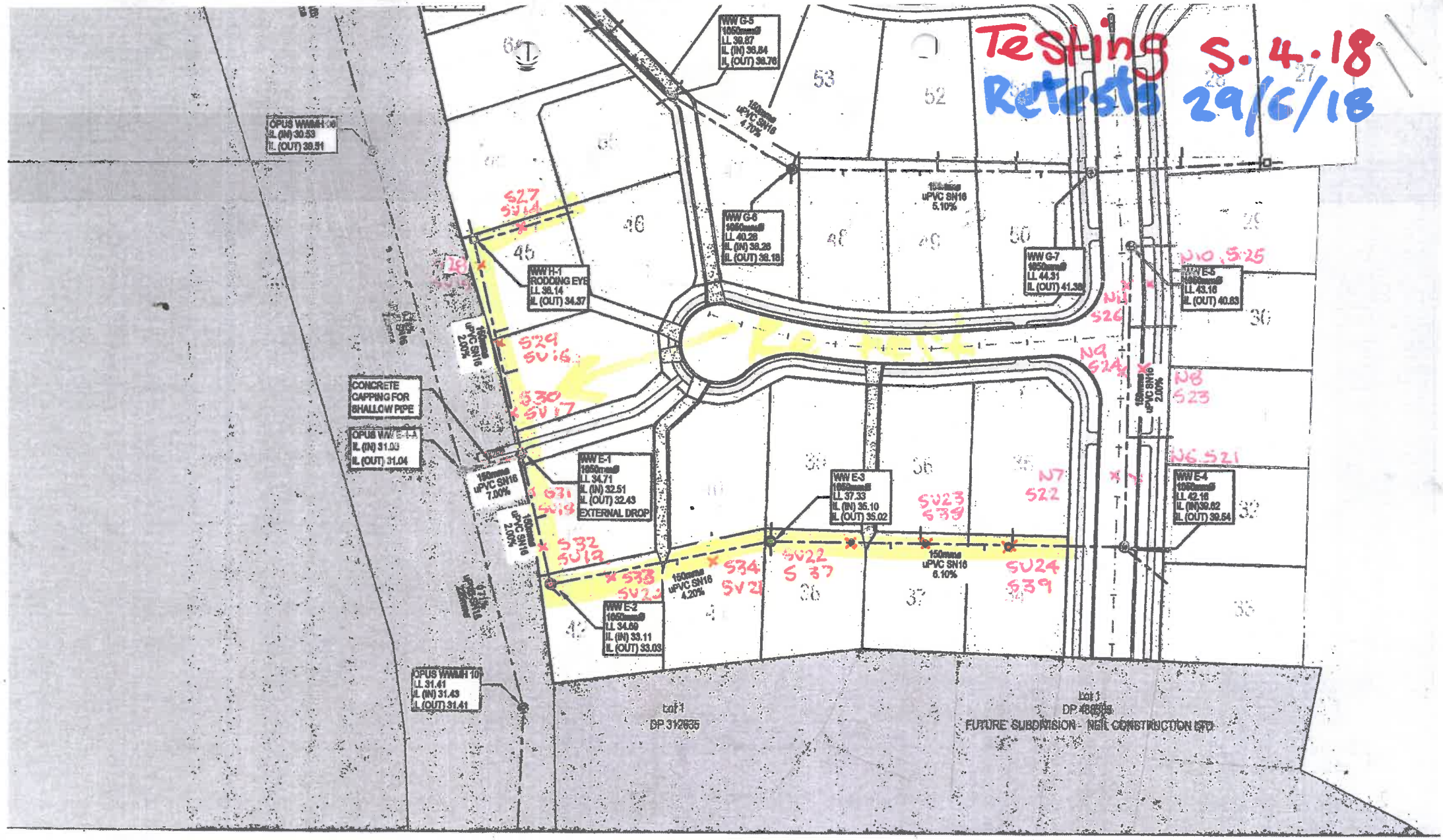
SEAR VANE TEST RESULTS

HIGGINS

Job Name:	Harbour Ridge Subdivision		
Job Number:	5006400	**From Meterage:**	See Plan
Site:	Trench Fills	**To Meterage:**	
Material:	Subgrade Fill	**Recorded by:**	E J West
Correction factor:	1.376	**Date:**	5/04/17
Shear Vane No:	1621		

Test No	Depth m	Gauge Reading	Shear Value kPa	Test No	Depth m	Gauge Reading	Shear Value kPa
SV14	0.2	120	165				
	0.5	86	118				
	1.0	43	59				
SV15	0.2	Ref	>193				
	0.5	*Sand*	NA				
	1.0	*Sand*	NA				
SV16	0.2	UTP	unable to penentrate				
	0.5	110	151				
	1.0	52	72				
SV17	0.2	Ref	>193				
	0.5	Ref	>193				
	1.0	Ref	>193				
SV18	0.2	112	154				
	0.5	110	151				
	1.0	42	58				
SV19	0.2	80	>193				
	0.5	58	80				
	1.0	38	52				
SV20	0.2	78	107				
	0.5	82	113				
	1.0	*Sand*	NA				
SV21	0.2	58	80				
	0.5	32	44				
	1.0	16	22				

Notes:



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PROJECT NAME

HARBOUR RIDGE

351 OMOKOROA ROAD
OMOKOROA

SURVEYOR: BM	DATE: 12/16	DRAFTER: JG	DATE: 03/17	PROJECT NO. 3969	HORIZONTAL SCALE: 1: 1000 - A3 1: 500 - A1
DESIGNER: JG	DATE: 02/17	REVIEWER: KR	DATE: 03/17		
APPROVER: BEYOND	SIGNED: CS				
APPROVAL DATE:	13/04/17				

REV.	BY	DATE	COMMENT
A	JG	27/03/17	ISSUED FOR COUNCIL CONSENT
B	JG	13/04/17	ISSUED FOR COUNCIL CONSENT

Scala Field Sheet

HIGGINS®

Job Name:	Harbour Ridge Subdivision	**From Meterage:**	See Plan
Job Number:	5006400	**To Meterage:**	
Site:	Drainage trenches	**Recorded by:**	E J West
Layer:	Backfill	**Date:**	29/06/18

Test No	**S27R**		**Test No**	**S28R**		**Test No**	**S29R**		**Test No**	**S30R**	
Meterage:	**See Plan**		**Meterage:**	**See Plan**		**Meterage:**	**See Plan**		**Meterage:**	**See Plan**	
Offset:			**Offset:**			**Offset:**			**Offset:**		
Depth (m)	**Blows**	**Inf. CBR**	**Depth (m)**	**Blows**	**Inf. CBR**	**Depth (m)**	**Blows**	**Inf. CBR**	**Depth (m)**	**Blows**	**Inf. CBR**
0.1	2	**4**	0.1	1	**2**	0.1	1.5	**3**	0.1	1	**2**
0.2	1	**2**	0.2	2	**4**	0.2	1.5	**3**	0.2	3	**6**
0.3	1.5	**3**	0.3	3	**6**	0.3	2	**4**	0.3	5	**10**
0.4	1.5	**3**	0.4	3	**6**	0.4	4	**8**	0.4	3	**6**
0.5	1	**2**	0.5	1	**2**	0.5	2	**4**	0.5	5	**10**
0.6	1.5	**3**	0.6	2	**4**	0.6	2	**3**	0.6	5	**10**
0.7	1.5	**3**	0.7	3	**6**	0.7	2	**3**	0.7	6	**13**
0.8	3	**6**	0.8	2	**4**	0.8	1	**2**	0.8	6	**13**
0.9	2	**4**	0.9	2	**4**	0.9	2	**4**	0.9	5	**10**
1			1			1.0			1.0		
1.1			1.1			1.1			1.1		
1.2			1.2			1.2			1.2		
1.3			1.3			1.3			1.3		
1.4			1.4			1.4			1.4		
1.5			1.5			1.5			1.5		
1.6			1.6			1.6			1.6		
1.7			1.7			1.7			1.7		
1.8			1.8			1.8			1.8		

Test No	**S31R**		**Test No**	**S32R**		**Test No**	**S33R**		**Test No**	**S34R**	
Meterage	**See Plan**		**Meterage**	**See Plan**		**Meterage**	**See Plan**		**Meterage**	**See Plan**	
Offset			Offset			Offset			**Offset**		
Depth (m)	**Blows**	**Inf. CBR**	**Depth (m)**	**Blows**	**Inf. CBR**	**Depth (m)**	**Blows**	**Inf. CBR**	**Depth (m)**	**Blows**	**Inf. CBR**
0.1	1	**2**	0.1	0.5	**<1**	0.1	1	**<1**	0.1	1	**<1**
0.2	1	**2**	0.2	0.5	**<1**	0.2	1	**<1**	0.2	1	**<1**
0.3	1	**2**	0.3	0.3	**<1**	0.3	1	**2**	0.3	1	**2**
0.4	2	**4**	0.4	0.3	**<1**	0.4	3	**6**	0.4	2	**4**
0.5	2	**4**	0.5	0.3	**<1**	0.5	5	**10**	0.5	2	**4**
0.6	2	**4**	0.6	1	**2**	0.6	6	**13**	0.6	2	**4**
0.7	3	**6**	0.7	2	**4**	0.7	6	**13**	0.7	2	**4**
0.8	4	**8**	0.8	3	**6**	0.8	3	**6**	0.8	3	**6**
0.9	4	**8**	0.9	4	**8**	0.9	5	**10**	0.9	5	**10**
1.0			1			1.0			1.0		
1.1			1.1			1.1			1.1		
1.2			1.2			1.2			1.2		
1.3			1.3			1.3			1.3		
1.4			1.4			1.4			1.4		
1.5			1.5			1.5			1.5		
1.6			1.6			1.6			1.6		
1.7			1.7			1.7			1.7		
1.8			1.8			1.8			1.8		

Notes:

Scala Field Sheet

HIGGINS®

Job Name:	Harbour Ridge Subdivision	**From Meterage:**	See Plan
Job Number:	5006400	**To Meterage:**	
Site:	Drainage trenches	**Recorded by:**	E J West
Layer:	Backfill	**Date:**	29/06/18

Test No	**S37**		**Test No**	**S38**		**Test No**	**S39**		**Test No**		
Meterage:	**See Plan**		**Meterage:**	**See Plan**		**Meterage:**	**See Plan**		**Meterage:**	**See Plan**	
Offset:			**Offset:**			**Offset:**			**Offset:**		
Depth (m)	**Blows**	**Inf. CBR**	**Depth (m)**	**Blows**	**Inf. CBR**	**Depth (m)**	**Blows**	**Inf. CBR**	**Depth (m)**	**Blows**	**Inf. CBR**
0.1	1	**2**	0.1	1	**2**	0.1	0.5	**<1**	0.1		
0.2	1	**2**	0.2	1.5	**3**	0.2	0.5	**<1**	0.2		
0.3	1	**2**	0.3	1.5	**3**	0.3	1	**2**	0.3		
0.4	4	**8**	0.4	1	**2**	0.4	2	**4**	0.4		
0.5	4	**8**	0.5	1	**2**	0.5	2	**4**	0.5		
0.6	4	**8**	0.6	2	**4**	0.6	2	**4**	0.6		
0.7	4	**8**	0.7	3	**6**	0.7	1	**2**	0.7		
0.8	6	**13**	0.8	4	**8**	0.8	1	**2**	0.8		
0.9	6	**13**	0.9	5	**10**	0.9	1	**2**	0.9		
1			1			1.0			1.0		
1.1			1.1			1.1			1.1		
1.2			1.2			1.2			1.2		
1.3			1.3			1.3			1.3		
1.4			1.4			1.4			1.4		
1.5			1.5			1.5			1.5		
1.6			1.6			1.6			1.6		
1.7			1.7			1.7			1.7		
1.8			1.8			1.8			1.8		

Test No			**Test No**			**Test No**			**Test No**		
Meterage	**See Plan**		**Meterage**	**See Plan**		**Meterage**	**See Plan**		**Meterage**	**See Plan**	
Offset			Offset			Offset			**Offset**		
Depth (m)	**Blows**	**Inf. CBR**	**Depth (m)**	**Blows**	**Inf. CBR**	**Depth (m)**	**Blows**	**Inf. CBR**	**Depth (m)**		**Inf. CBR**
0.1			0.1			0.1			0.1		
0.2			0.2			0.2			0.2		
0.3			0.3			0.3			0.3		
0.4			0.4			0.4			0.4		
0.5			0.5			0.5			0.5		
0.6			0.6			0.6			0.6		
0.7			0.7			0.7			0.7		
0.8			0.8			0.8			0.8		
0.9			0.9			0.9			0.9		
1.0			1			1.0			1.0		
1.1			1.1			1.1			1.1		
1.2			1.2			1.2			1.2		
1.3			1.3			1.3			1.3		
1.4			1.4			1.4			1.4		
1.5			1.5			1.5			1.5		
1.6			1.6			1.6			1.6		
1.7			1.7			1.7			1.7		
1.8			1.8			1.8			1.8		

Notes:

SEAR VANE TEST RESULTS

HIGGINS

Job Name:	Harbour Ridge Subdivision		
Job Number:	5006400	**From Meterage:**	See Plan
Site:	Trench Fills	**To Meterage:**	
Material:	Subgrade Fill	**Recorded by:**	E J West
Correction factor:	1.376	**Date:**	22/01/17
Shear Vane No:	1621		

Test No	Depth m	Gauge Reading	Shear Value kPa	Test No	Depth m	Gauge Reading	Shear Value kPa
SV1	0.2	50	69		SV10	UTP	unable to penentrate
	0.5	52	72			UTP	unable to penentrate
	1.0	126	173			UTP	unable to penentrate
SV2	0.2	72	99				
	0.5	138	190				
	1.0	46	63				
SV3	0.2	Ref	>193				
	0.5	Ref	>193				
	1.0	70	96				
SV4	0.2	Ref	>193				
	0.5	Ref	>193				
	1.0	101	139				
SV5	0.2	120	139				
	0.5	Ref	>193				
	1.0	120	165				
SV6	0.2	Ref	>193				
	0.5	88	121				
	1.0	39	54				
SV7	0.2	140	193				
	0.5	74	102				
	1.0	54	74				
SV8	0.2	58	80				
	0.5	100	138				
	1.0	Ref	>193				
SV9	0.2	Ref	>193				
	0.5	Ref	>193				
	1.0	104	143				

Notes:

SEAR VANE TEST RESULTS

HIGGINS

Job Name:	Harbour Ridge Subdivision		
Job Number:	5006400	**From Meterage:**	See Plan
Site:	Trench Fills	**To Meterage:**	
Material:	Subgrade Fill	**Recorded by:**	E J West
Correction factor:	1.376	**Date:**	29/06/18
Shear Vane No:	1621		

Test No	Depth m	Gauge Reading	Shear Value kPa	Test No	Depth m	Gauge Reading	Shear Value kPa
SV14R	0.2	110	151		SV23	132	182
	0.5	90	124			122	168
	1.0	104	143			Ref	>193
SV15R	0.2	Ref	>193		SV24	122.0	168
	0.5	114	157			72.0	99
	1.0	92	127			90.0	124
SV16R	0.2	94	>193				
	0.5	78	>193				
	1.0	74	102				
SV17R	0.2	139	>193				
	0.5	UTP	unable to penentrate				
	1.0	Ref	>193				
SV18R	0.2	98	139				
	0.5	128	176				
	1.0	Ref	>193				
SV19R	0.2	60	83				
	0.5	122	168				
	1.0	90	124				
SV20R	0.2	Ref	>193				
	0.5	Ref	>193				
	1.0	132	182				
SV21R	0.2	116	160				
	0.5	106	146				
	1.0	138	190				
SV22	0.2	Ref	>193				
	0.5	138	190				
	1.0	86	118				

Notes: R = Repeat Test

Western Bay of Plenty
District Council

Consent Notice Pursuant to Section 221 Resource Management Act 1991

File Ref: S/B/12041

IN THE MATTER OF: Deposited Plan 525703

A N D

IN THE MATTER OF: Subdivision Consent pursuant to Sections 108, 220 and 221 of the Resource Management Act 1991.

I, CHRIS WATT, Authorised Officer of the Western Bay of Plenty District Council, hereby certify that by way of resolution passed under delegated authority on 22 February 2017, the following condition was imposed on the subdivision consent for formally Lot 2 Deposited Plan S 85676, Lot 1 Deposited Plan S 58259, Part allot 63 Survey Office Plan 423 Te Puna Parish (now – Lot 203 Deposited Plan 519381) :

THAT pursuant to section 221 of the Resource Management Act 1991 consent notices are registered against the titles of Lot 27, 28, 35, 49, 52,63,64,205-209 Deposited Plan 525703 such that:

a) any future building development be in accordance with the recommendations of the geotechnical report prepared by Terrane Consultants Ltd dated 19th July 2018 reference: 4209.st1B.GCR or subsequent geotechnical reports prepared by a Chartered Professional Engineer or Engineering Geologist, suitably experienced to the satisfaction of the Principal Administrative Officer.

Dated at Tauranga this 26th day of October 2018

Authorised Officer

Western Bay of Plenty
District Council

Consent Notice Pursuant to Section 221 Resource Management Act 1991

File Ref: S/B/12041

IN THE MATTER OF: Deposited Plan 525703

A N D

IN THE MATTER OF: Subdivision Consent pursuant to Sections 108, 220 and 221 of the Resource Management Act 1991.

I, CHRIS WATT, Authorised Officer of the Western Bay of Plenty District Council, hereby certify that by way of resolution passed under delegated authority on 22 February 2017, the following condition was imposed on the subdivision consent for Lot 2 Deposited Plan S 85676, Lot 1 Deposited Plan S 58259, Part allot 63 South Auckland 423 Te Puna Parish (now Lot 203 Deposited Plan 519381):

> THAT pursuant to section 221 of the Resource Management Act 1991 consent notices are registered against the titles of any lots identified wholly or partially within Future-Urban land stating that the Residential Zone requirements of the Operative District Plan shall apply to that lot.

Dated at Tauranga this 26th day of October 2018

Authorised Officer

14 February 2019

RC11230

Western Bay of Plenty District Council

Policy, Planning & Regulatory Services

Application for Land Use Consent – Non-Notified – Harbour Ridge Developments

Delegated Authority **P/1195/18**

Recommendation

a) THAT pursuant to sections 95A (8) (b) and 95D of the Resource Management Act 1991, the Western Bay of Plenty District Council resolves that the adverse effects of the proposal will be no more than minor and the application need not be publicly notified; and

b) THAT the Western Bay of Plenty District Council is satisfied after taking into due consideration the requirements of sections 95E and 95F of the Resource Management Act 1991 that there are no persons or order holders affected by the activity, and the land is not affected by Statutory Acknowledgment, and therefore limited notification in accordance with section 95B (8) of the Resource Management Act 1991 is not required; and

c) THAT the Western Bay of Plenty District Council is satisfied that no special circumstances exist that require notification of this consent application in accordance with section 95A (9) of the Resource Management Act 1991; and

d) THAT pursuant to sections 104, 104C and 108 of the Resource Management Act 1991, the Western Bay of Plenty District Council grants resource consent to the application made by Harbour Ridge Developments for a land use consent being a restricted discretionary activity to reduce the minimum front yard setback requirement for all buildings (including dwellings and garages) to 3 m for Lots 3, 4, 5 and 7 DP 519381 within Stage 1A of the Harbour Ridge Development as they relate to Te Kaha Place only, and for all lots within Stage 1B of the Harbour Ridge Development with a road boundary, subject to the following conditions:

1. THAT the activity be carried out in accordance with the application prepared by Maven, dated November 2018 and referenced J000067, including the following (except where modified by any conditions of consent):

    a) Section 92 request response received via email from Alice O'Brien on 07/02/2019 at 3:54 pm.

2. THAT the following minimum front yard setbacks apply, subject to compliance with conditions 3-10 below. Compliance with the below conditions is to be demonstrated with the building consent application:

    a) Dwelling – 3m

b) Garage – 3m

c) Other Structures/Buildings – 5m

3. THAT any garage established under this consent shall not be directly accessible from the road but shall be perpendicular to the road boundary (refer to example diagram prepared by Maven Bay of Plenty, referenced 16-199-EX.GARAGE-[A], dated 11/18)

4. THAT any garage or dwelling established under this consent shall include glazing within the road front elevation equal to, or greater than, 20% of the total area (m^2) of the road front elevation.

5. THAT a landscape strip is to be provided which complies with the following requirements:

   a) THAT the landscape strip shall have a minimum depth of 2 m

   b) THAT the minimum landscape strip length shall be equal to 50% of the length of the properties front (road) boundary, and shall be provided in front of the length of a wall of any building that is located within the front yard.

   c) THAT the landscape strip shall comprise a mixture of ground cover, shrubs and specimen trees, selected from the Species Schedule prepared by Maven Bay of Plenty, titled: Schedule of Plant Species – Landscaping in the Front Yard – Harbour Ridge, and dated 7 February 2019. The landscape strip shall at a minimum, comprise the following;

      - 2 plants of different species from the list of groundcover
      - 2 plants of different species from the list of shrubs
      - 2 plants of difference species from the list of trees

   d) THAT any trees required to be provided through condition 5 c) above shall be planted a minimum of 5 m apart. Shrubs shall be planted no more than 2 m apart. Shrubs and groundcover may be planted individually or in groups.

   e) THAT any fences, walls or continuous hedging which permeable or impermeable, shall be no greater than 1.2 m in height.

6. THAT a landscape development plan which demonstrates compliance with condition 5 above shall be submitted to Council for approval prior to commencement of any works under the relevant building consent. This landscape development plan shall also include the following:

   a) Identification of any retaining walls required within the front yard (including those under 1.5 m high which do not require land use consent).

   b) The methodology for establishment and post establishment maintenance of the planting.

7. THAT the approved landscape development plan (required through condition 6 above) shall be fully implemented thereafter within the first planting season (autumn or spring) following completion of works (or before completion if desired by the consent holder), and the landscaping shall be retained and maintained thereafter in perpetuity to the satisfaction of the Western Bay of Plenty District Council Monitoring Team.

8. THAT the landscaping required through condition 5 shall be established and maintained in accordance with the landscape development plan required through condition 6.

9. THAT the consent holder shall provide written advice to Council confirming commencement and completion dates for the landscaping works required by condition 7 above.

REASONS FOR DECISION

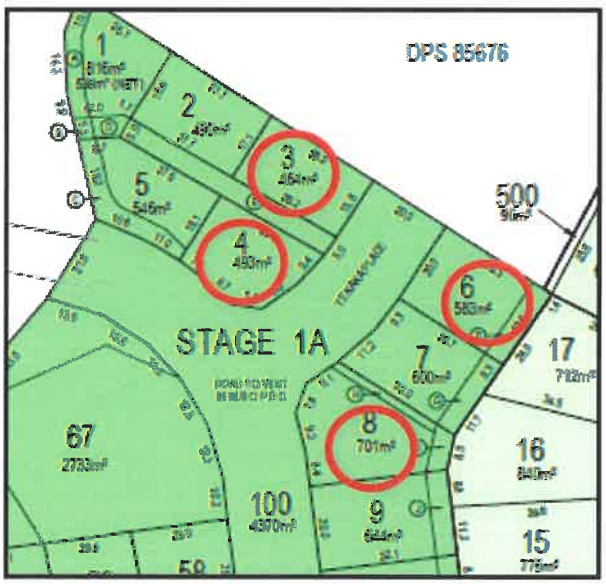
1. The notification date of the Operative District Plan 2012 was 18 June 2012 and all appeals have been resolved. However, Council has notified several plan changes. Those Plan Change provisions which have not been appealed, or where any appeals have been resolved, or where no submission has been received, have been treated as if they were operative in accordance with Section 86F of the Resource Management Act 1991. Those Plan Changes where a submission or appeal has been lodged, but not determined or resolved, have been considered but are found to have no relevance to this application.

Site and Proposal

The Site

2. The lots subject to this application include lots within Stage 1A and 1B of the Harbour Ridge development, located at 351 Omokoroa Road, Omokoroa.

3. The lots within Stage 1A of the development which are the subject of this application include Lots 3, 4, 6 and 8 DP 519381, as they relate to Te Kaha Place only. These lots are identified in red on the below image, and titles have been recently issued for these lots.



4. The lots within Stage 1B of the development that are the subject of this application include all lots within Stage 1B with frontage to a road boundary, as identified on the below table.

Lot	Applies?	Lot	Applies?	Lot	Applies?	Lot	Applies?	Lot	Applies?	Lot	Applies?
27	✓	33	✓	39	✓	45	No	51	✓	66	No
28	✓	34	✓	40	✓	46	✓	52	✓		
29	✓	35	✓	41	No	47	✓	53	✓		
30	✓	36	✓	42	No	48	✓	63	No		
31	✓	37	No	43	No	49	✓	64	No		
32	✓	38	No	44	✓	50	✓	65	No		

5. The sites are located within the residential zone (District Plan Map U63) and Stage 2 of the Omokoroa Structure Plan.

6. Council's GIS system identifies an archaeological site (being U14/3105) as being present in a northern portion of the site.

7. The surrounding area is part of the overall Harbour Ridge Development which will over time be developed into residential properties. There are numerous existing consents associated with stages within the Harbour Ridge Development including the following; S/B/12028, S/B/12041, RC10182L, RC10826L and RC10914S – S/B/12246.

8. Access to Stages 1A and 1B of the development is via Ridge Drive, which connects to Omokoroa Road. Access and services to the lots are detailed in S/B/12041, and the proposal will not impact access or servicing.

9. The site has been extensively modified as it has been subject to extensive earthworks, and Stage 1A has been completed.

10. Consent notice 11188262.10 is registered against the subject lots located within Stage 1A and relates to access onto Omokoroa Road, fencing and road setbacks along the boundary with Lot 202 (Omokoroa Road) and geotechnical requirements. Consent notices registered against the titles of lots within Stage 1B include 11226777.8, 11226777.9 and 11226777.10. These consent notices also relate to geotechnical requirements, access onto Omokoroa Road, fencing and road setback along the boundary with Lot 202 as well as other fencing requirements.

<u>The Proposal</u>

11. The applicant is proposing to reduce the minimum front yard setback requirement for all buildings (including dwellings and garages) within Stages 1A and 1B of the Harbour Ridge development at Omokoroa to 3 m.

12. The application states that the reduction in yard setbacks is sought because the lots within Stage 1A and 1B that are the subject of this application have a very limited building platform, constraining the design and location of dwellings. The application indicates that these constraints are a result of the following:

- Covenants requiring dwellings to have a minimum covered floor area of 140 m^2 (excluding garages)

- Easements for conveying services
- Provision of an outdoor living space
- District Plan yard setbacks

13. As part of a s92 request response the applicant has proposed numerous conditions of consent which are to be imposed as conditions of consent, as is discussed below.

Activity Status

14. Rule 13.4.1 (c) (i) states that front yards shall be no less than 4 m for residential dwellings, and 5 m for other buildings/structures including all garages. The applicant is proposing for the front yards of all buildings (including dwellings and garages) for the lots subject to this application to have a front yard setback of 3 m which is not in accordance with this rule. As per Rule 13.4.1, non-compliance with this activity performance standard is required to be assessed as a restricted discretionary activity.

15. None of the other activity performance standards included within Rule 13.4.1 are considered relevant, given that no dwelling designs are being proposed as part of this application.

16. Overall, the application is a restricted discretionary activity.

Assessment of Effects on the Environment

Yards

17. In considering a restricted discretionary activity under Rule 13.4.1 (c) (i), Council's discretion is restricted to the matters included in Rule 13.6.1 which states: *Council's discretion is restricted to the actual or potential adverse effects arising from the particular non-compliance, having regard to the extent and nature of the non-compliance.*

18. It is considered that the actual and potential adverse effects associated with the proposed font yard reduction relate to; residential character and amenity; safety and surveillance of the street. Each of these are addressed below.

Extent of the non-compliance

19. The application states the following: *in this instance, the extent of the non-compliance is reasonable. The proposed 3 m front yard, where landscaping and fencing is carefully considered, will achieve a similar, or more attractive outcome compared to a dwelling with a 4 m front yard and high, solid wall with lack of landscaping.* I agree with this statement made by the applicant.

Residential character and amenity

20. The applicant has proposed numerous conditions of consent which have all been incorporated as conditions of consent. Notably, the conditions of consent require landscaping to be provided, and prevent high walls, fences or hedges which will assist in ensuring residential character and amenity of the surrounding environment is maintained.

21. A condition of consent has been included requiring landscaping to be provided within the first 2 m of the front yard. This landscaping is to meet numerous requirements such as the requirement for a mixture of ground cover, shrubs and specimen trees to be provided. This landscaping will provide a buffer between the street environment and the buildings that are to be located closer to the front yard.

22. A condition of consent has been included requiring a landscape development plan to be provided to Council for approval. This will demonstrate compliance with other landscaping conditions and shall contain a methodology for establishment and post establishment maintenance of the planting. This will assist in ensuring that effects are mitigated on an ongoing basis, for the life of the consented building.

23. A condition has been included requiring any garage established under this consent to not be directly accessible from the road, but to be perpendicular to the road boundary. This will ensure that garage doors to not dominate the streetscape.

24. It was noted in the s92 request that retaining walls below 1.5 m in height would not require land use consent but could impact on the proposed landscaping. The applicant responded stating: *the earthworks undertaken have created large building platforms (up 300 m^2) which are geotechnically certified, and un-restricted in their current form. The subdivision has been specifically designed in this manner so that there is no need for retaining walls to support future development.* An advice note has been included which states that the landscaping conditions are based on the understanding that no retaining walls are to be constructed within the front yard. Additionally, if any retaining walls are proposed within the front yard, they are required to be identified on the landscape development plan.

25. It is considered that the conditions of consent which have been included will mitigate adverse effects associated with buildings being located closer to the front yard and ensure that any effects of the proposal relating to residential character and amenity will be less than minor.

Safety and surveillance

26. A condition of consent has been including restricting the height of any fences, walls or hedging to no greater than 1.2 m in height. Preventing high walls will assist in ensuring that the streetscape remains open. This condition will also prevent solid visual barriers separating dwellings and the street, ensuring there is a level of openness along each front boundary.

27. A condition of consent has been included requiring a garages or dwellings to include glazing within the front road elevation equal to, or greater than 20% of the total are of the road front elevation. This will enable surveillance of the street from dwellings and garages and vice versa.

28. The proposed conditions discussed in paragraphs 26-27 above will ensure a good visual connection is provided with the street and enable passive surveillance between properties and the street which will subsequently promote safety. For the reasons discussed above it is considered that any adverse effects of the proposal on safety and surveillance will be less than minor.

Summary

29. Given the discussion in paragraphs 19-29 above, and the conditions of consent that have been included, it is considered that any adverse effects of the proposed front yard reduction will be less than minor, with no persons considered affected.

Consent Notice

30. As discussed in paragraph 8 above, consent notices are registered against the certificate of titles of the lots subject to this application, and relate to the likes of

geotechnical requirements, access to Omokoroa Road, fencing and restrictions for Lot 202. The proposal will be in accordance with the requirements of the consent notices.

Affected Parties

31. Given the assessment provided in paragraphs 17-30 above, and the conditions of consent that have been included, it is considered that there are no parties to be affected by this proposal.

Notification Summary

32. In accordance with the assessment following the steps set out in Sections 95A and 95C to 95D of the Act, the application need not be publicly notified because:

- Under Step 1, in considering Section 95A 'Public Notification of Consent Applications',
    - The applicant does not request the application proceed with notice (S95A (3) (a); and
    - Public notification is not anticipated to be required under Section 95C of the Act; and
    - Section 95A (3) (c) does not apply in this instance.
- Under Step 2,
    - The proposal meets Section 95 (5) (b) (ii); therefore public notification is precluded;
    - Step 3 is not required through satisfying Step 2; and
    - There are no special circumstances arising from this proposal and public notification is not deemed necessary.

33. In accordance with an assessment following the steps set out in Sections 95B and 95E to 95G the application need not be limited notified because:

- Under Step 1,
    - There are no protected customary rights groups involved or affected;
    - There are no customary marine title groups involved or affected; and
    - The land is not on or adjacent to, or on land subject to a statutory acknowledgement.
- Under Step 2,
    - The proposal is not precluded through Section 95B (6) of the Act.
- Under Step 3,
    - In accordance with Section 95E of the Act, there are no persons to be affected by the proposal, as discussed in paragraph 31, and therefore Limited Notification is not required.
- Under Step 4,
    - There are no special circumstances arising from this proposal and limited notification is not deemed necessary.

34. In conclusion, public or limited notification is not required, as detailed above.

Section 104 Assessment

Section 104 (1) (a)

35. Having regard to the matters over which discretion is restricted which are set out through Rule 13.6.1, it is considered that the actual and potential effects on the environment of the proposal will be less than minor and acceptable for the reasons discussed above.

36. Rule 13.4.1 (c) (i), Council's discretion is restricted to the matters included in Rule 13.6.1.

Section 104 (1) (ab)

37. The conditions of consent that have been included will offset any adverse effects on the environment.

Section 104 (1) (b)

38. There are no matters in the proposal that require assessment under section 104 (1) (b) (i-vi).

39. The relevant objectives and policies of the District Plan are as follows:

- *12.3.1 – Objectives - Residential*
- *13.2.2 – Policies – Residential*

40. The proposed development is considered to be consistent with the outcomes sought by the objectives and policies in Chapter 13 (Residential) of the District Plan for the reasons discussed above.

Conclusion

41. In having regard to the above matters, the proposal is considered to generate adverse effects which are acceptable in this environment. The proposal is considered to be consistent with the relevant objectives and policies of the Operative District Plan and the purpose and principles of Part 2 of the Resource Management Act 1991. Accordingly Council has granted the consent.

ADVICE NOTES:

1. The consent holder shall notify the Council, in writing, of their intention to begin works prior to commencement. Such notification should be sent to Council's Compliance and Monitoring Team (consentsadmin@westernbay.govt.nz) and include the following details:

   - Name and telephone number of the project manager and the site owner
   - Site address to which the consent relates
   - Expected duration of works

2. Notifying the Council of the intended start date enables cost effective monitoring to take place. The consent holder is advised that additional sites visits and administration required by Council officers to determine compliance with the consent conditions will be charged to the consent holder on an actual and reasonable basis.

3. Full compliance with the conditions of consent is necessary to carry out the activity to which the consent relates. Your progress towards satisfying the conditions of consent will be monitored by a Council representative and failure to meet these conditions may

result in enforcement action being taken in accordance with Council's Monitoring Compliance and Enforcement Strategy. This may involve the issuing of an Infringement Notice (instant fine) and/or a monitoring fee.

4. You may object to this decision, including any conditions of consent, by notifying Council within 15 working days of receipt of this decision. However, you are advised that you may not commence the activity authorised by this consent until your objection/appeal is resolved.

5. Any lack of recorded archaeological sites on the property may be due to one of two factors. This may be because there are no sites present, or there has not been an archaeological survey undertaken on the site. work that may modify, damage or destroy any archaeological site(s), such as earthworks, fencing or landscaping, is subject to a consenting process under the Heritage New Zealand Pouhere Taonga Act 2014.

6. Conditions 2-10 above are based on the understanding that no retaining walls are to be constructed within the front yard, as per the s.92 request response provided.

Lauren Ford
Consultant Planner
14 February 2019

Approved under Delegated Authority
Chris Watt
Consents Manager

Date: 14/02/2019

Western Bay of Plenty District Council

Head Office Barkes Corner, 1484 Cameron Rd, Greerton, Tauranga
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RC11303*L

22 February 2019

Western Bay of Plenty District Council
Policy, Planning and Regulatory Services Group

Application for Resource Consent – Non-Notified – VOGUE HOMES LTD

Delegated Authority **P/1226/4/2**

Recommendation:

(a) THAT pursuant to sections 95A and 95D of the Resource Management Act 1991 Western Bay of Plenty District Council resolves that the adverse effects of the proposal will be no more than minor and the application need not be publicly notified.

(b) THAT the Council is satisfied after taking into due consideration the requirements of section 95E and 95F of the Resource Management Act 1991 that there are no persons or order holders affected by the activity and therefore limited notification in accordance with section 95B of the Resource Management Act 1991 is not required.

(c) THAT Council is satisfied that no special circumstances exist that require notification of this consent application in accordance with section 95A(9) of the Resource Management Act 1991.

(d) THAT pursuant to Sections 104, 104D and 108 of the Resource Management Act 1991 the Western Bay of Plenty District Council **GRANTS** consent to the application by Vogue Homes Ltd for a land use consent being a non-complying activity to establish and operate a showhome located at 24 Stingray Drive, Omokoroa, legally described as Lot 28 DP 525703 subject to the following conditions:

1. THAT the dwelling be sited and constructed in accordance with the following documents and information submitted as part of this application except where modified by any conditions of this consent:

   (a) Drawings prepared by Signature Homes, entitled "Proposed Residence at : Lot 28 Stage 1B, Harbour Ridge, 351 Omokoroa Road, Omokoroa. Lot : 28 / D.P. Number : 58259 for : SH Omokoroa Showhome", project number 18017 and dated 19/11/2018 including;

i.	Drawing A01	"Presentation Plan"
ii.	Drawing A06	"Site Setout Plan"
iii.	Drawing A07	"Site Plan"
iv.	Drawing A10	"Floor Plan - Dims"
v.	Drawing A15	"Elevations 1"
vi.	Drawing A16	"Elevations 2"

2. THAT the hours of operation for the showhome shall be 1pm to 4pm Monday to Sunday.

3. THAT there shall be a maximum of one staff member on site at any one time.

4. THAT the showhome shall be used for no longer than four years from when it is first established and operational, at which time it shall be used as a residential dwelling.

5. THAT car parking for two vehicles shall be provided on-site, adjacent to the garage for the sole use of visitors of the consented activity.

6. THAT the signage associated with the activity be limited to one freestanding sign with a maximum area of 1.44m^2, located in the north western corner of the site, with the display limited to the consented activity.

7. THAT the signage not be illuminated.

8. THAT the landscape planting as setout on the plan prepared by Signature Homes, entitled "Presentation Plan", project no. 18017 and dated 19/11/18 shall be established within six months of the issue of this consent.

9. THAT the landscaping required by Condition (8) shall be maintained and retained on an ongoing basis.

ADVICE NOTES:

1. The above consent lapses on the expiry of 5 years after the date of receiving this letter, unless the consent is given effect to. In accordance with Condition (4) above, once given effect to the consent shall expire after four years.

2. A Building Consent will be required for all building work including stormwater and effluent disposal systems and has been applied for under BC92233.

3. The consent holder should notify Council, in writing, of their intention to begin works prior to commencement. Such notification should be sent to the Council's Compliance Monitoring Team (consentsadmin@westernbay.govt.nz) and include the following details:
   - name and telephone number of the project manager and site owner
   - site address to which the consent relates
   - activity to which the consent relates
   - expected duration of works.

   Notifying Council of the intended start date enables cost effective monitoring to take place. The consent holder is advised that additional visits and administration required by Council officers to determine compliance with consent conditions will be charged to the consent holder on an actual and reasonable basis.

4. There are no archaeological sites identified on the property. Nevertheless, there remains the potential for an unrecorded archaeological site on the property being discovered. The consent holder is advised that work that may modify, damage or destroy any archaeological site(s), such as earthworks or landscaping, is subject to a consenting process under Heritage New Zealand Pouhere Taonga Act 2014 (previously the Historic Places Act 1993).

Should the proposed activity uncover an archaeological site(s), Heritage New Zealand confirms that an Archaeological Authority is required prior to any works commencing on the site. The applicant is advised to contact the Heritage New Zealand for further information. Please contact the Lower Northern Area Archaeologist, on (07) 577 4534 or AsstArchaeologistLN@historic.org.nz. It is an offence to modify, damage or destroy a site for any purpose without an Authority and the Heritage New Zealand Pouhere Taonga Act 2014 contains penalties for unauthorised site damage.

5. Full compliance with the conditions of consent is necessary to carry out the activity to which this consent relates. Your progress towards satisfying the conditions of consent will be monitored by a Council representative and failure to meet these conditions may result in enforcement action being taken in accordance with Council's Monitoring Compliance and Enforcement Strategy. This may involve the issuing of an Infringement Notice (instant fine) and/or a monitoring fee.

6. You may object to this decision, including any conditions of consent, by notifying Council within 15 working days of receipt of this decision. However, you are advised that you may not commence the activity authorized by this consent until your objection/appeal is resolved.

REASONS FOR DECISION:

1. The notification date of the Operative District Plan 2012 was 18 June 2012 and all appeals have been resolved. The Council has however notified several plan changes. Those plan change provisions which have not been appealed, or where any appeals have been resolved, or where no submission has been received, have been treated as if they were operative in accordance with Section 86F of the Resource Management Act 1991. Those plans changes where a submission or appeal has been lodged, but not determined or resolved, have been considered but are found to have no relevance to this application.

Site and Proposal

2. The application site is zoned Residential, comprises 655m^2 (Lot 28 DP 525703) and is currently vacant. It is located on the corner of Ridge Drive and Stingray Drive. The site is located within the Harbour Ridge subdivision and was created under subdivision consent S/B/12041, granted on 22 February 2017. Council's online mapping tool has not identified constraints, overlays or any other applicable designations on the property.

3. The applicant proposes to establish and operate a showhome within a new subdivision in Omokoroa. The single-storey building will have the appearance of a standard residential dwelling, with four bedrooms, an attached double garage and a total floor area of 243m^2 (building coverage 37.1%). Vehicle access to the site will be from Stingray Drive. The showhome will operate as a sales office for up to four years, at which time is will be utilised for residential purposes.

4. Hours of operation of 1pm to 4pm are requested by the applicant, with one sales person associated with the showhome. There is to be no amplified noise or outdoor lighting, other than security lighting associated with the display home. When onsite, the staff member will park their car in the garage. Two off street parking spaces are proposed in front of the garage.

5. A sign measuring 1.8m wide x 0.8m high is proposed next to the 'outdoor room' on the north western corner of the property. The sign will have a total area of 1.44m^2 and is to be utilised for advertising purposes as it will display the 'Signature Homes' logo. It does not include lighting nor will it be illuminated. It is to be removed when the showhome concludes and the building reverts to a residential dwelling.

Activity Status

6. The Operative District Plan 2012 does not provide for a combined showhome and sales office within Section 13.3 as either a permitted, controlled, restricted discretionary or discretionary activity. In accordance with Rule 4A.1.4 of the Operative District Plan, the proposal is required to be considered as a **non-complying** activity.

7. The low intensity advertising sign (total area 1.44m^2) that is to be located in the north western corner of the site does not comply with the maximum permitted size as it will exceed 0.5m^2. Therefore resource consent is required for the sign as **non-complying** activity under Rule 4A.1.4.

8. The proposed building complies with Rules 13.4.1(a) (Height), 13.4.1(b) (Daylight), 13.4.1(c) (Yards) and 13.4.1(d) (Maximum Building Coverage).

9. *Property file review – (1226/4)*
A review of the property file identifies no relevant information relating to the proposed activity.

Notification Assessment

10. In accordance with an assessment following the steps set out in sections 95A and 95C to 95D of the Act, the application need not be publically notified because:

- Under step 1, in considering Section 95A "Public Notification of Consent Applications",
    - The applicant does not request the application proceed with notice (S95A(3)(a); and
    - Public Notification is not anticipated to be required under Section 95C of the Act; and
    - Section 95A(3)(c) does not apply in this instance.
- Under step 2,
    - The proposal meets Section 95(5)(a) and (b); therefore, public notification is precluded.
    - Step 3 not required through satisfying Step 2.
    - There are no special circumstances arising from this proposal and public notification is not deemed necessary.

11. In accordance with an assessment following the steps set out in sections 95B and 95E to 95G the application need not be limited notified because:
    - Under step 1,
        - There are no protected customary rights groups involved or affected; and
        - There are no customary marine title groups involved or affected; and
        - The land does not adjacent to or affect land subject to a statutory acknowledgment.
    - Under step 2,
        - The proposal is precluded through Section 95B(6)(a) of the Act.
    - Under step 3,
        - In accordance with Section 95E of the Act we do not consider any persons to be affected by the proposal and therefore Limited Notification is not required.
    - Under step 4,
        - There are no special circumstances arising from this proposal and Limited Notification is not deemed necessary.

12. Turning to Section 95D of the Act, we note that our assessment concludes the effects are "*less than minor*".

Assessment of Effects

13. Section 13.6.6 of the District Plan provides an assessment criteria for development that requires consent as a discretionary activity and has been used as a guide for the proposal. These matters are:

    - *The extent of non-compliance with the Permitted Activity performance standards and the actual and potential effects on the environment.*
    - *How well the development integrates with the surrounding development, landuse and zoning.*
    - *How the development meets the design outcomes of adopted town centre plans and the Built Environment Strategy.*
    - *Any national standards for urban design.*
    - *What provision is made for pedestrian and vehicular access.*
    - *The effect on the amenity values of adjoining residential and reserve land.*

Objectives and Policies of the Western Bay of Plenty Operative District Plan

14. The objectives and policies of the District Plan relevant to this application are as follows and are discussed below:

4B.2.1.1 – 4B.2.1.3 Objectives – Transportation, Access, Parking and Loading
4B.2.2.2 – 4B.2.2.12 - Policies – Transportation, Access, Parking and Loading

4D.2.1.1 – 4D.2.1.3 Objectives – Signs
4D.2.2.1 – 4D.2.2.3 - Policies – Signs

12.2.1.1 – 12.2.1.7 Objectives – Subdivision & Development
12.2.2.4 – 12.2.2.9 Policies – Subdivision & Development
13.2.1.1 – 13.2.1.10 Objectives – Residential Zone
13.2.2.1 – 13.2.2.10 Policies – Residential Zone

Residential Amenity and Character

15. The properties that surround the site are zoned Residential and were part of a recent greenfield subdivision (S/B/12041). The subject site has an area of 655m^2 and is currently vacant. The proposal will show case a housing design and typology that will be in accordance with the future residential environment. The establishment and operation of the showhome and associated sales office presents a low impact non-residential use of the site. It is considered that the proposal does not detract from the existing and future character of the area and residential development occurs.

16. Further, the showhome will be used for temporary display purposes and is not unusual for a new residential subdivision as it showcases the design standards for the housing company within the subdivision. Excluding the one free standing advertising sign located in the north western corner of the site, the external appearance of the building will be that of a standard dwelling. As conditioned above, the showhome will cease operation no later than four years from when it is established. The building will then revert to a dwelling.

17. The building meets the applicable performance standards set out in section 13.4.1 of the District Plan, including height, yards, daylighting and building coverage. No adverse visual effects are anticipated from the proposed building. The nature of the activity is not expected to generate high levels of noise. This consent would not impede potential residential development on neighbouring properties. As such, the effects on the residential amenity and character of the immediate area from the proposal are considered to be no more than minor.

Transportation and Parking

18. The showhome is to be used by a maximum of one staff member onsite each day. The staff member will utilise the garage for parking. Two off street car parking spaces located adjacent to the garage are to be provided for visitors that visit the site between 1pm – 4pm. The nature of the business it such that it will not result in continuous activity associated with vehicles and people visiting and leaving the site in an ongoing basis.

19. The applicant states that using their existing showhomes as a guide, 10-12 visitors per week are anticipated. As such, the two car parking spaces are considered to be adequate to meet the projected demand, and will not adversely effect anticipated traffic and parking demand on either Ridge Drive or Stingray Drive.

Signage

20. The proposed advertising signage relates directly to the activity on-site, that being the showhome. The 1.44m^2 free standing sign is to be located within the front yard on the north western corner of the site. The sign is to be removed up to four years from when the activity is established. It has been conditioned above that the low intensity sign is not to be illuminated. With regard to scale, it is not considered to be out of character in the Residential zone. Therefore, it is considered that there will be no adverse visual effects generated by the sign.

Conclusion

21. The activity is considered to be in general accordance with objectives and policies of District Plan and with the requirements of the Residential zone. On balance, it is considered that the location of the activity within the wider environment, the limited scale and limited duration will result in effects on the environment that are no more than minor.

Referrals

The application was referred to;

- Council's Senior Land Development Engineer, who, following a review of the application is satisfied that the proposed activity is acceptable for the site. No conditions of consent recommended.
- Council's Senior Building Control Officer, advised that no comments required for this application.
- Council's Senior Policy Analyst Resource Management, advised that no comments required for this application.

22. In considering a resource consent application for a non-complying activity the Council is required to consider the "gateway test" under Section 104D of the Resource Management Act 1991. The Council has had regard to Sections 104D(a) and 104D(b) where it is considered that both arms of the test have been met which are as follows:

> *(a) the adverse effects of the activity on the environment (other than any effect to which section 104(3)(a)(ii) applies) will be minor; or*
> *(b) the application is for an activity that will not be contrary to the objectives and policies of—*
> *(i) the relevant plan, if there is a plan but no proposed plan in respect of the activity; or*
> *(ii) the relevant proposed plan, if there is a proposed plan but no relevant plan in respect of the activity; or*
> *(iii) both the relevant plan and the relevant proposed plan, if there is both a plan and a proposed plan in respect of the activity.*

23. As outlined above, Council has given regard to the effects of the proposal on the environment and considers that the activity meets both limbs of the "gateway test" in that the effects are less than minor and the activity is not contrary to the Objectives and Policies of the District Plan. On this basis Council can grant resource consent subject to appropriate conditions of consent.

NESCS

24. Consideration has been given to the National Environmental Standard for Assessing and Managing Contaminants in Soil to Protect Human Health ("NESCS"). In this instance the NES regulations would not apply as the building is to be sited in an area that has been used for pastoral grazing purposes and a HAIL activity is unlikely to have been undertaken on the subject site. Further, NESCS was addressed as part of S/B/12041.

Conclusion

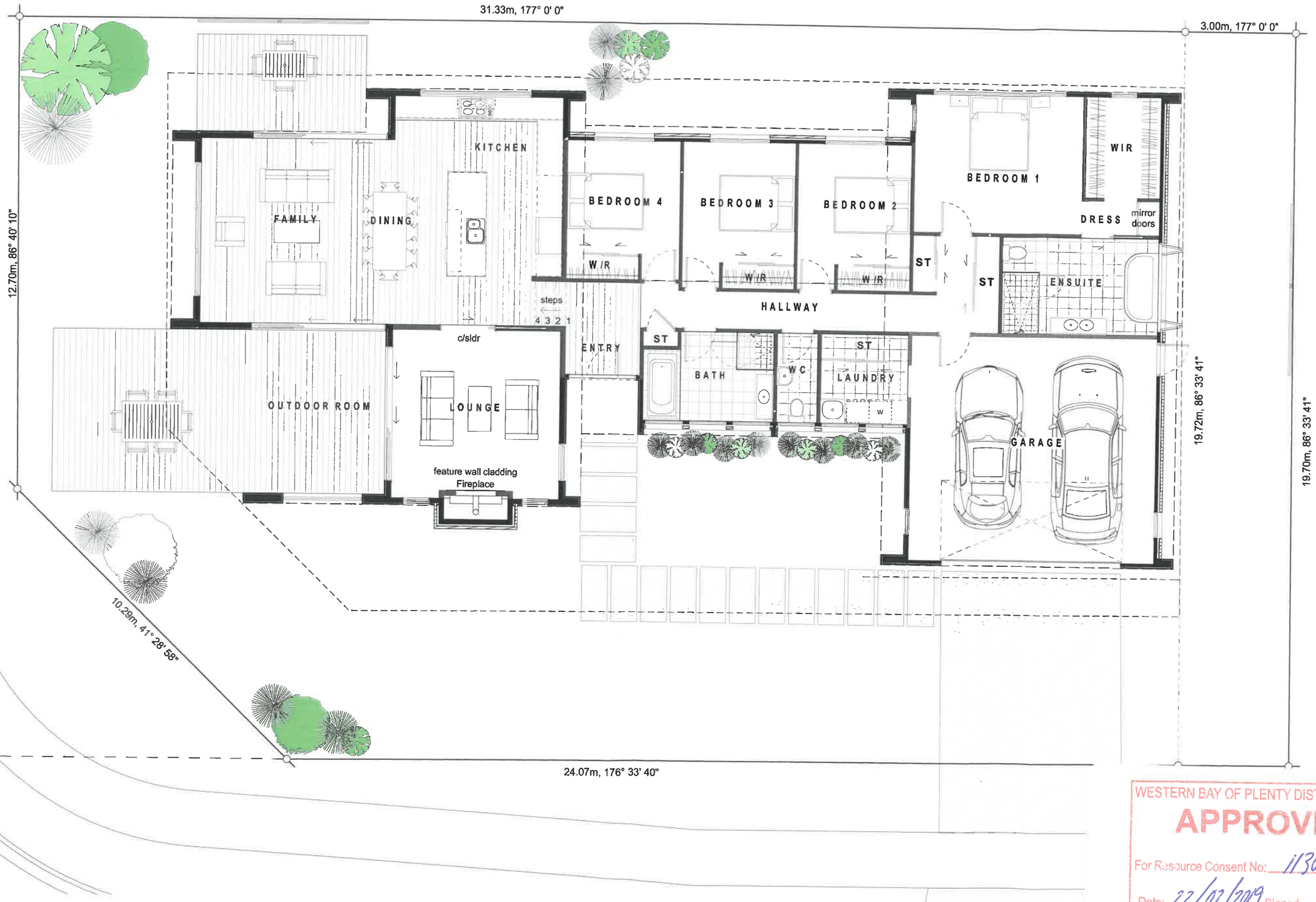
25. In having regard to the above, the Council is satisfied that any adverse effects on this property and the wider environment less than minor and are adequately avoided, remedied or mitigated by the conditions of consent and the performance standards required to be met and do not adversely affect any other parties.

26. The proposal is also considered to be consistent with the relevant objectives and policies of the Operative District Plan and the purpose and principles of Part II of the Resource Management Act 1991 and accordingly Council has granted the consent.

Roger Foxley
Consents Planner
22 February 2019

Approved under Delegated Authority
Chris Watt
Environmental Consents Manager

Date: 22/2/2019



WESTERN BAY OF PLENTY DISTRICT COUNCIL
APPROVED
For Resource Consent No: 11303
Date: 22/02/2019 Signed:

Signature HOMES Est. 1983
Vogue Homes Ltd : t/a Signature Homes
Corner 16th Ave & Fraser Street
P.O.Box 2617, Tauranga 3140
Phone: +64 7 578 1000 Fax: +64 7 578 1100
www.signaturehomes.co.nz
Copyright: Signature Homes Limited 2009

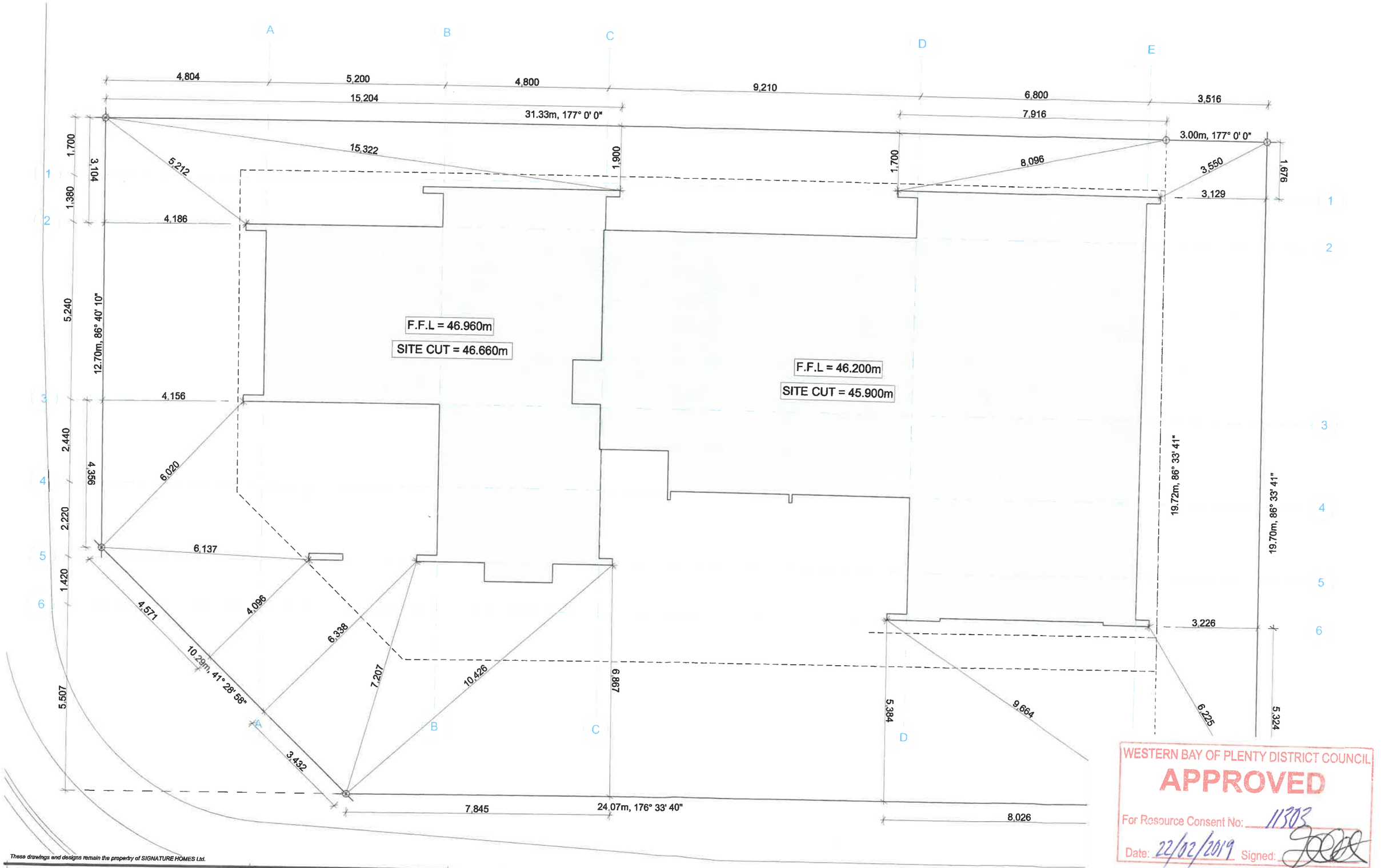
PROPOSED RESIDENCE
at : Lot 28 STAGE 1B , HARBOUR RIDGE ,
351 Omokoroa Road, Omokoroa
Lot : 28 / D.P. Number : 58259
for : SH Omokoroa Showhome

Presentation Plan

Scale @ A3 1:100 | Designer: AJO / JMAC Ltd. | Date of Issue: 19/11/18

REV	DATE	AMENDMENT
00	19/11/2018	Building Consent Issue

Project No : 18017
DWG No : A01
REV No : 00



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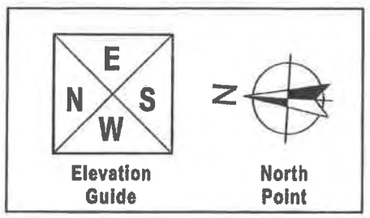
PROPOSED RESIDENCE
at : Lot 28 STAGE 1B , HARBOUR RIDGE ,
351 Omokoroa Road, Omokoroa
Lot : 28 / D.P. Number : 58259
for : SH Omokoroa Showhome

Site Setout Plan

Scale @ A3 1:100 | Designer:AJO / JMAC Ltd | Date of Issue: 19/11/18

REV	DATE	AMENDMENT
00	19/11/2018	Building Consent Issue

Project No : 18017
DWG No : A06
REV No : 00



SITE INFORMATION

Lot: 28 DP: 58259	**Site Nett Area: 654.5m²**		
Local Authority:	Western Bay Of Plenty		
Planning Zone:	Suburban Residential		
Wind Zone:	VERY HIGH	**EQ zone:**	Zone 1
Exposure zone:	Zone D	**Climate zone:**	Zone 2
Rainfall Intensity:	126mm/hr	**Snow load:**	NO

Legal Description: Lot 28 DP 58259
Address:
Lot 28 STAGE 1B HARBOUR RIDGE
351 Omokoroa Road Omokoroa
Site Area: 654.5m²

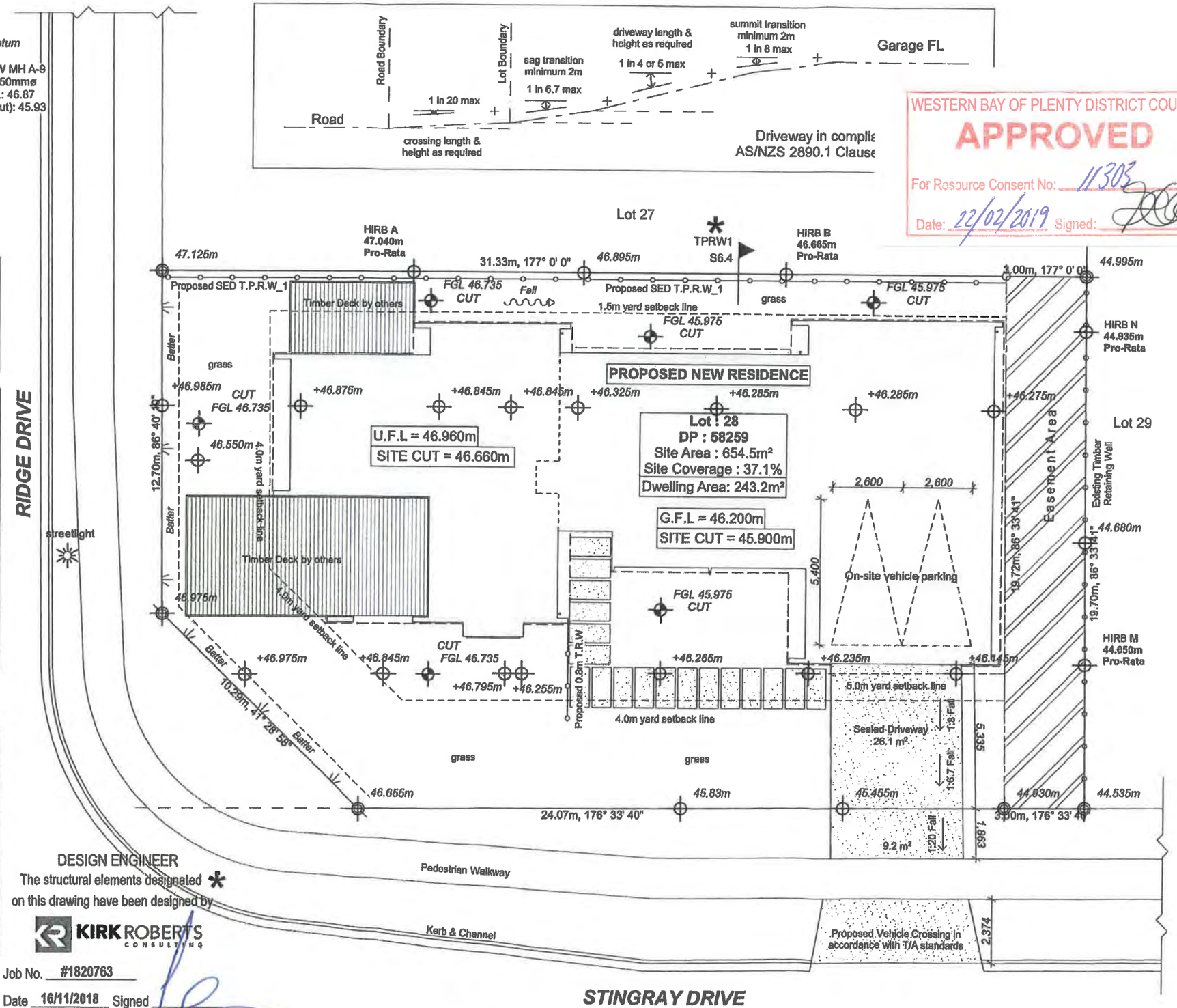
WESTERN BAY OF PLENTY COUNCIL PLANNING CONTROLS:

Zone: Residential	Control	Result
Site Coverage - Lot 28	Maximum 45% of Nett site area	*37.1%*
Building Height	Maximum 8m height restriction	*Complies*
Yard Setbacks (to roof structure)	Side Yard: 1.5m Rear Yard: 1.5m Front Yard: 4.0m Front Yard - Direct Garage: 5.0m	*Complies* *Complies* *Complies* *Complies*
Overshadowing	North, South, East, West: 2.0m @ 45 Degrees	*Complies* *Complies*
Car Parking	2 on-site	*Complies*

WIND ZONE MATRIX

Wind Factor	Reference	Value
Wind Region	Fig 5.1 (A or W)	A
Lee Zone	Fig 5.1 (Y or N)	N
Ground Roughness	5.2.3 Urban/Open	*Urban*
Site Exposure	5.2.4 Sheltered/Exposed	Sheltered
Topographic Class	5.2.5 (T1-T4)	T2
BRANZ Map	Very High	VH
Wind Zone:	Table 5.4	Very High

WESTERN BAY OF PLENTY DISTRICT COUNCIL
APPROVED
For Resource Consent No: 11303
Date: 22/02/2019 Signed:



DESIGN ENGINEER
The structural elements designated * on this drawing have been designed by
KIRK ROBERTS CONSULTING

Job No. #1820763
Date 16/11/2018 Signed

Signature HOMES Est 1980
Vogue Homes Ltd : t/a Signature Homes
Corner 16th Ave & Fraser Street
P.O.Box 2617, Tauranga 3140
Phone: +64 7 578 1000 Fax: +64 7 578 1100
www.signaturehomes.co.nz

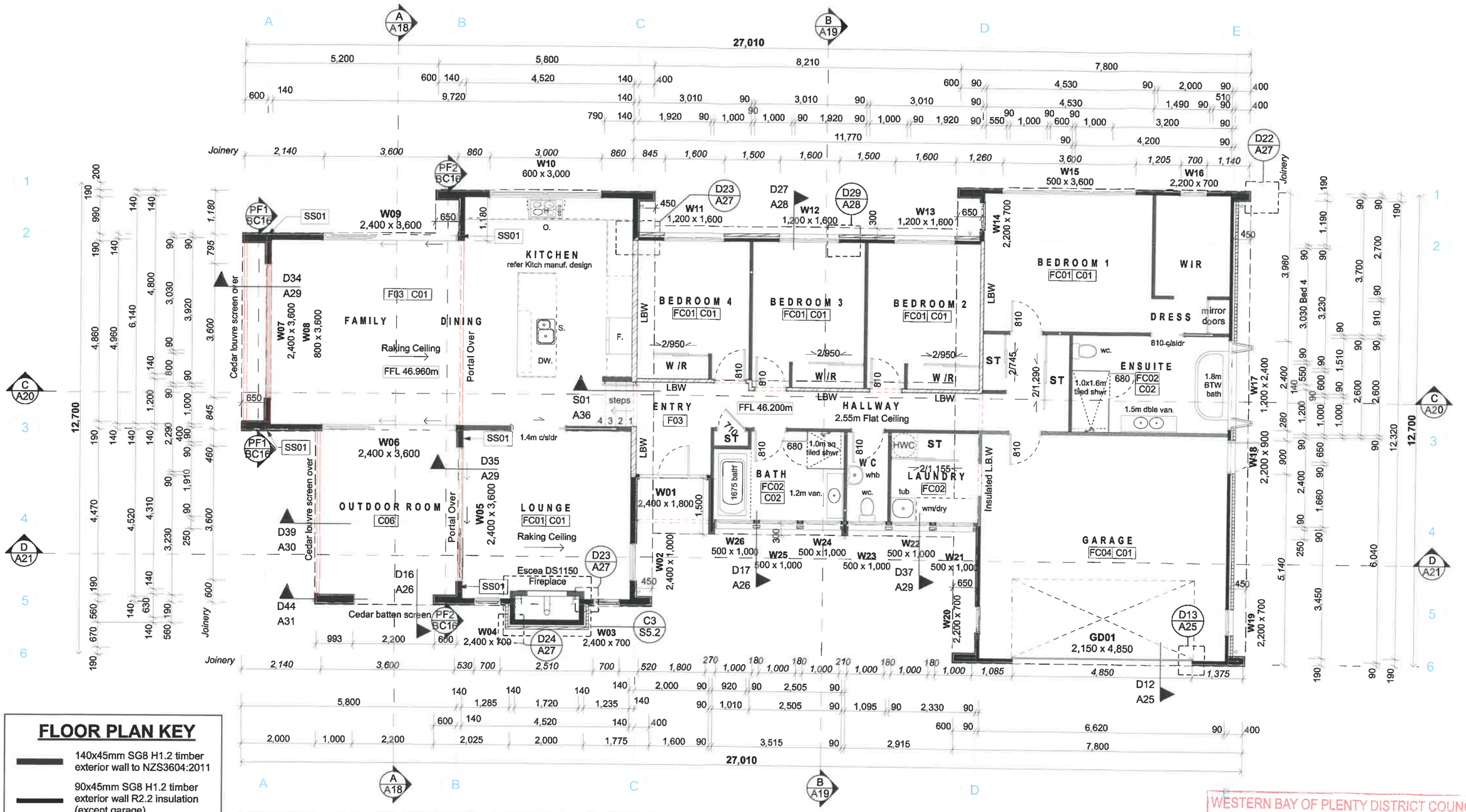
PROPOSED RESIDENCE
at : Lot 28 STAGE 1B , HARBOUR RIDGE ,
351 Omokoroa Road, Omokoroa
Lot : 28 / D.P. Number : 58259
for : SH Omokoroa Showhome

Site Plan

Scale @ A3 1:150 | Designer: AJO / JMAC Ltd | Date of Issue: 13/11/18

REV	DATE	AMENDMENT
00	13/11/2018	Building Consent Issue

Project No : 18017
DWG No : A07
REV No : 00



FLOOR PLAN KEY

- 140x45mm SG8 H1.2 timber exterior wall to NZS3604:2011
- 90x45mm SG8 H1.2 timber exterior wall R2.2 insulation (except garage)
- 90x45mm SG8 H1.2 timber interior wall
- 90x45mm SG8 H1.2 timber interior wall with R2.2 insulation
- LBW — SG8 H1.2 timber interior Load Bearing Wall

GROUND FLOOR AREA O/CLADDING: 243.2m²

SITE INFORMATION
Lot: 28 **DP:** 58259 **Site Nett Area: 654.5m²**
Local Authority: Western Bay Of Plenty
Planning Zone: Suburban Residential
Wind Zone: VERY HIGH **EQ zone:** Zone 1
Exposure zone: Zone D **Climate zone:** Zone 2
Rainfall intensity: 126mm/hr **Snow load:** NO

Note: Site measure all openings. Preliminary dimensions only. Joinery supplier to confirm all sizes and joinery types with client before construction.

WESTERN BAY OF PLENTY DISTRICT COUNCIL
APPROVED
For Resource Consent No. 11303
Date: 22/02/2019 Signed:

Vogue Homes Ltd : t/a Signature Homes
Corner 16th Ave & Fraser Street
P.O.Box 2617, Tauranga 3140
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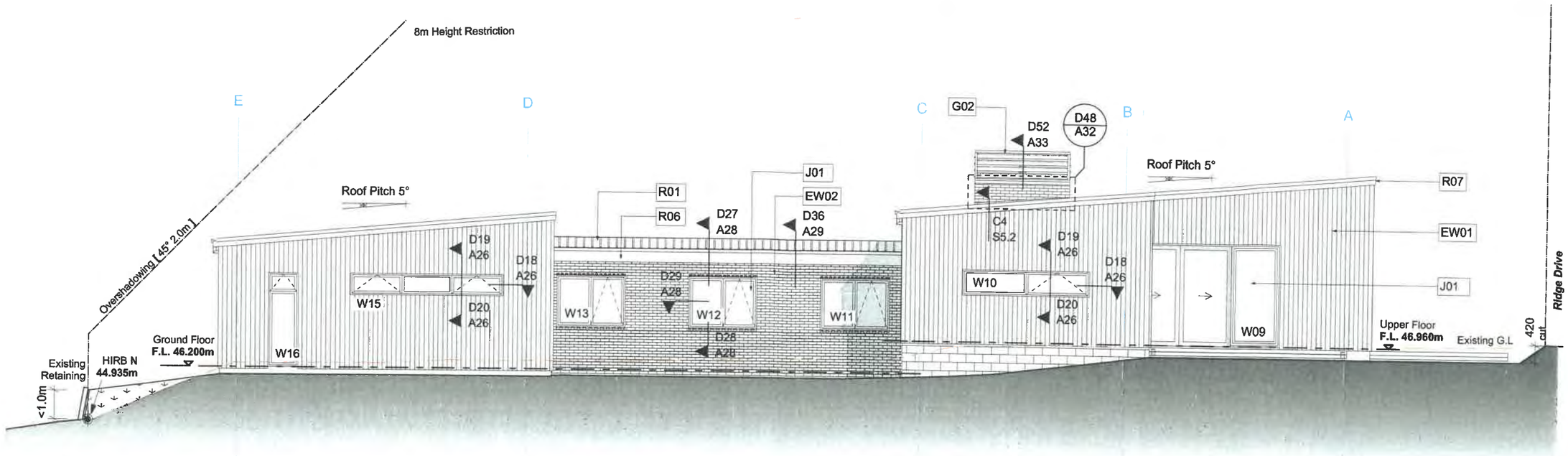
PROPOSED RESIDENCE
at : Lot 28 STAGE 1B , HARBOUR RIDGE ,
351 Omokoroa Road, Omokoroa
Lot : 28 / D.P. Number : 58259
for : SH Omokoroa Showhome

Floor Plan - Dims

Scale @ A3 1:100 | Designer: AJO / JMAC Ltd. | Date of Issue: 19/11/18

REV	DATE	AMENDMENT
00	19/11/2018	Building Consent Issue

Project No : 18017
DWG No : A10
REV No : 00



E
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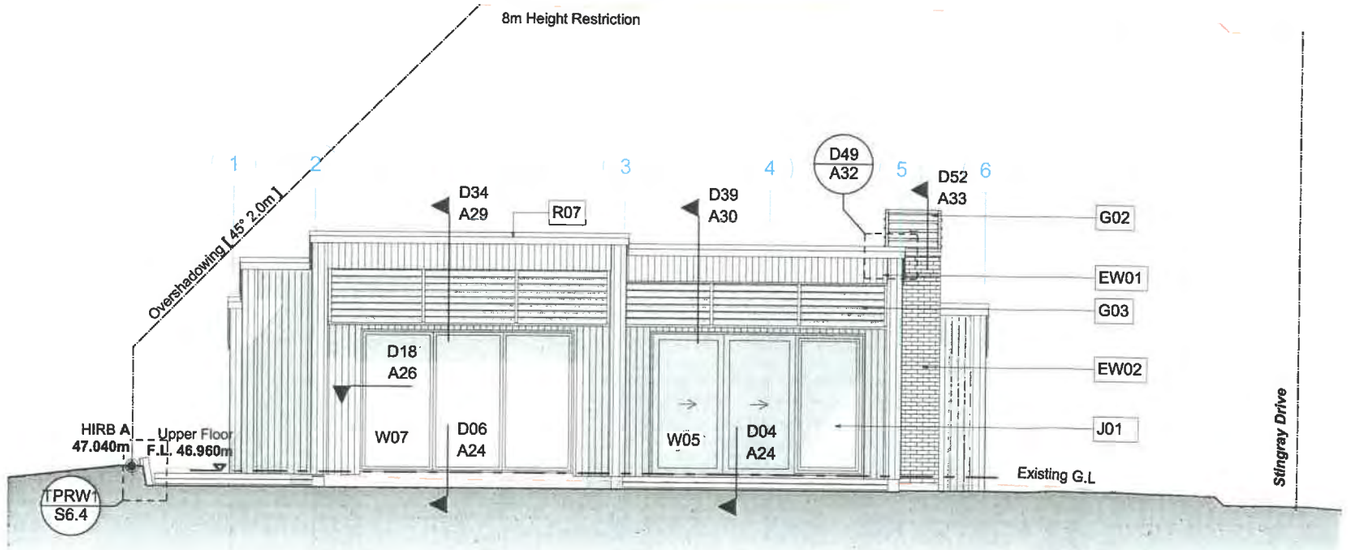
East Elevation
Scale @ A3: 1:100



N
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North Elevation
Scale @ A3: 1:100

Masonry Veneer Lintel Size as per NZBC Table 18E

Refer Calculations on Sheet BC31

Durability subject to table 18b E2/AS1

W11	60x60x6L HDG Lintel
W12	60x60x6L HDG Lintel
W13	60x60x6L HDG Lintel
CHIMNEY	100x75x6L S/S Lintel (SED - C4/S5.2)

BUILDING ENVELOPE RISK MATRIX
East Elevation

Risk Factor	Risk Severity	Risk Score
Wind zone (per NZS 3604)	Very high risk	2
Number of storeys	Medium risk	1
Roof/wall intersection design	Medium risk	1
Eaves width	Very high risk	5
Envelope complexity	Medium risk	1
Deck design	Low risk	0
Total Risk Score:		**10**

BUILDING ENVELOPE RISK MATRIX
North Elevation

Risk Factor	Risk Severity	Risk Score
Wind zone (per NZS 3604)	Very high risk	2
Number of storeys	Medium risk	1
Roof/wall intersection design	Low risk	0
Eaves width	Medium risk	1
Envelope c		
Deck desig		
Total Risk S		

WESTERN BAY OF PLENTY DISTRICT COUNCIL
APPROVED
For Resource Consent No: 11303
Date: 22/02/2019 Signed:

Vogue Homes Ltd : t/a Signature Homes
Corner 16th Ave & Fraser Street
P.O.Box 2617, Tauranga 3140
Phone: +64 7 578 1000 Fax: +64 7 578 1100
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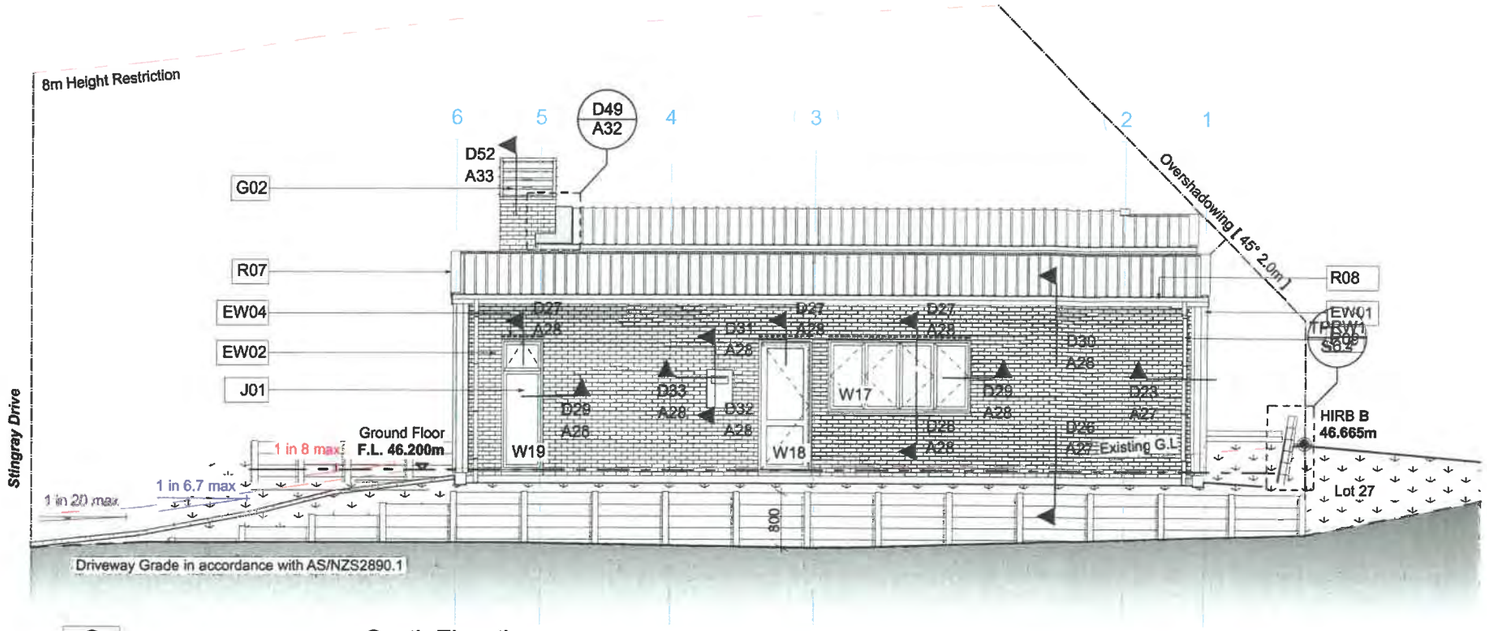
PROPOSED RESIDENCE
at : Lot 28 STAGE 1B , HARBOUR RIDGE ,
351 Omokoroa Road, Omokoroa
Lot : 28 / D.P. Number : 58259
for : SH Omokoroa Showhome

Elevations 1

Scale @ A3 1:100 | Designer:AJO / JMAC Ltd. | Date of Issue: 19/11/18

REV	DATE	AMENDMENT
00	19/11/2018	Building Consent Issue

Project No : 18017
DWG No : A15
REV No : 00



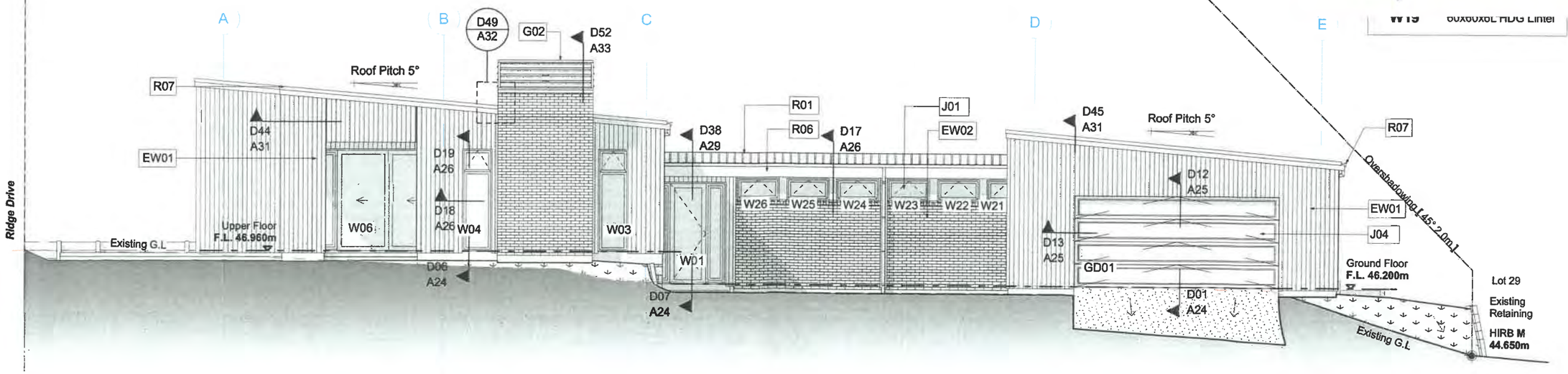
S
-

South Elevation
Scale @ A3: 1:100

BUILDING ENVELOPE RISK MATRIX		
South Elevation		
Risk Factor	**Risk Severity**	**Risk Score**
Wind zone (per NZS 3604)	Very high risk	2
Number of storeys	Medium risk	1
Roof/wall intersection design	Medium risk	1
Eaves width	Very high risk	5
Envelope complexity	Medium risk	1
Deck design	Low risk	0
Total Risk Score:		**10**

BUILDING ENVELOPE RISK MATRIX		
West Elevation		
Risk Factor	**Risk Severity**	**Risk Score**
Wind zone (per NZS 3604)	Very high risk	2
Number of storeys	Medium risk	1
Roof/wall intersection design	Medium risk	1
Eaves width	Very high risk	5
Envelope complexity	Medium risk	1
Deck design	Low risk	0
Total Risk Score:		**10**

WESTERN BAY OF PLENTY DISTRICT COUNCIL
APPROVED
For Resource Consent No: 11303
Date: 22/02/2019 Signed:



W
-

West Elevation
Scale @ A3: 1:100

Vogue Homes Ltd : t/a Signature Homes
Corner 16th Ave & Fraser Street
P.O.Box 2617, Tauranga 3140
Phone: +64 7 578 1000 Fax: +64 7 578 1100
www.signaturehomes.co.nz

PROPOSED RESIDENCE
at : Lot 28 STAGE 1B , HARBOUR RIDGE ,
351 Omokoroa Road, Omokoroa
Lot : 28 / D.P. Number : 58259
for : SH Omokoroa Showhome

Elevations 2

Scale @ A3 1:100 | Designer: AJO / JMAC Ltd | Date of Issue: 19/11/18

REV	DATE	AMENDMENT
00	19/11/2018	Building Consent Issue

Project No : 18017
DWG No : A16
REV No : 00

As Built
Drainage Plan

Tauranga City

Drainage Plan for:

Street Number 351 Street Name omokoroa rd

Lot 28 DP 53259

Suburb omokoroa

Owner SIGNATURE SHOWHOME

Type of Building DWELLING

Drainlayer Robin Vander Lem 24588, PAUL GARTNER 15029

Date of Inspection 29/5/19 Inspector WBOPDC

Drainage Permit No 92233

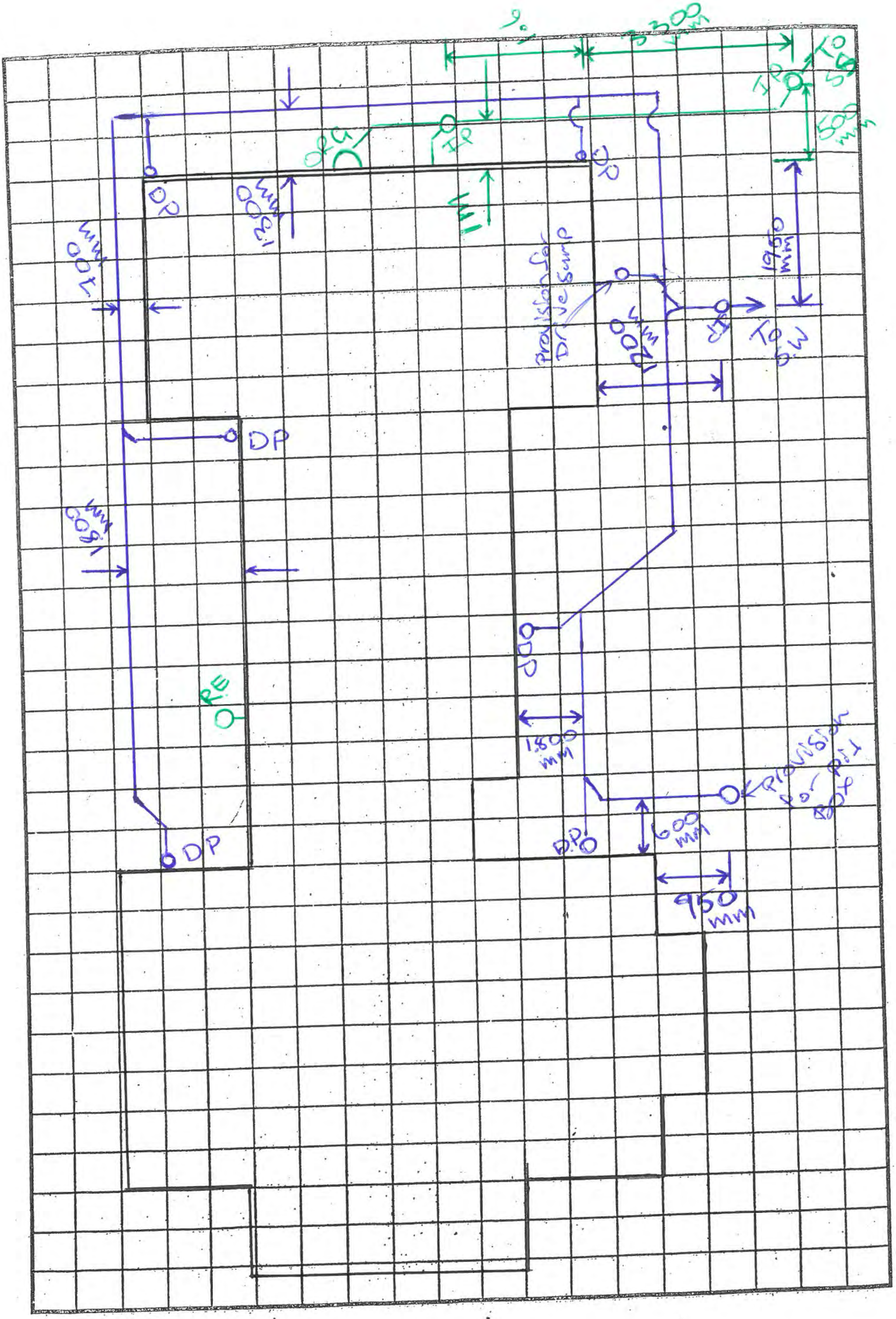
WAIOTAHI CONTRACTORS LTD
PO BOX 3113
TAURANGA
PH (07) 543 5296

Note : Plan to be drawn in black ballpoint on graph opposite

WAIOTAHI CONTRACTORS LTD
WATER TEST COMPLETED
AND PASSED
DATE: 13/6/19
SIGN:
PAUL GARTNER
CERT # 15029

Plan to include:

1. The correct position of the drains in relation to the building and boundaries.
2. The position of the street frontage.
3. Depth of drains at connection point.
4. Both foulwater and stormwater drains to be drawn.
5. Clearly define all inspection openings, with accurate measurements from two points.
6. Clearly define all buildings and boundaries.
7. Refer to example drain plan back page.



9.1
3300 mm
To SS
IP
500 mm
OPG
IP
DP
DP
1300 mm
IL
1950 mm
Provision for Drive Sump
1200 mm
IP
To SW
1400 mm
DP
1800 mm
DP
RE
1800 mm
Provision for Pit Box
DP
600 mm
DP
950 mm

Head Office: 1484 Cameron Road, Greerton, Tauranga 3143
Private Bag 12803, Tauranga Mail Centre, Tauranga 3143
Telephone: 07 571 8008. F: 07 577 9820
Email: customerservice@westernbay.govt.nz
Offices at: Waihi Beach, Katikati, Omokoroa and Te Puke

TAX INVOICE

REGISTRATION NO. 52-544-300

HICKMAN, JOSEPHINE ANNE
184E PRESTIDGE ROAD
RD 4
KATIKATI 3181

Invoice No: 353790
Date: 05 Dec 2022
Customer No: 122787
Your Reference: LIM22338

DETAILS	GST	Excl	Amount
LIM APPLICATION AND DELIVERY FEES LIM Address: 24 STINGRAY DRIVE CENTRAL			
LIM FEE	31.30	208.70	240.00
LESS DEPOSIT FEE ALREADY PAID (RECEIPT NO: 2023 100405)	31.30cr	208.70cr	240.00cr
Standard 10 working day service			

Please pay on this invoice. No statement will be issued.

EXCL	0.00
GST	0.00
TOTAL	$0.00
Less already paid	
TOTAL NOW DUE	$

REMITTANCE ADVICE: Online payments can be made by credit card at www.westernbay.govt.nz/invoice-payment or deposit to: ANZ Tauranga 010434 0180600 00, please enter SI353790 in your payment reference. If paying by post, please detach and return with your payment to Private Bag 12803, Tauranga 3143.

CUSTOMER: HICKMAN, JOSEPHINE ANNE
INVOICE NO: 353790
TOTAL DUE: $
PAYMENT MADE: $