Whangarei District Council
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Land Information Memorandum

Sections 44A-C Local Government Official Information and Meetings Act 1987

LIM number: LM2601190

Received: 20 Jul 2026

Issued: 28 Jul 2026

Applicant

J K Herdman, A K Howse
4051 Far North Road
RD 4
Kaitaia 0484

Site Information

Property ID: 168932

Street Address: 2 Suncrest Lane (Pvt)
Whangarei 0110

Legal Description: LOT 7 DP 525547

Disclaimer

The information included in this LIM is based on a search of Council records only and there may be other information relating to the land which is unknown to the Council.

Please note that other agencies may also have information relevant to the use of the land, for example, the Northland Regional Council, Heritage New Zealand Pouhere Taonga, and Land Information New Zealand.

The applicant is solely responsible for undertaking comprehensive due diligence of this property.

Council records may not show illegal or unauthorised building or works on the property. Council has not carried out an inspection of the land or buildings for the purpose of preparing this LIM.

The LIM also includes information that identifies natural hazards known to Council. The existence of a natural hazard or potential natural hazard does not equal likelihood of that hazard occurring.

The LIM is not a risk assessment and does not quantify risk. The applicant is advised to seek further information to ensure that the land is suitable for a particular purpose.

A LIM is only valid at the date of issue as information is based only on information that was known to the Council at the time of that LIM application being made.

Further information about the property may be available in the Council records or the current Record of Title. The LIM and any attachments should be read together.

You may wish to seek independent advice to aid the understanding of any of the information included in this LIM.

Property details

- Location Map
- Aerial Photo
- Record of Title: 849307
- Deposited Plan: DP 525547

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

- Interest Number 11195068.2 Dated – 02/10/2018

s44A(2)(aa) Information identifying special features or characteristics of the land

Information identified on a site-specific scale for this property is attached for your information.

1. Refer Consent Notice 11195068.2 dated 02/10/2018 together with reports attached:
    a. Geotechnical Completion Report prepared by RS Eng Ltd dated 06/09/2018 reference 15450.
    b. Maintenance and Monitoring of Counterfort Drainage prepared by RS Eng Ltd dated 06/09/2017 reference 15450.
2. Refer also copies of the following reports as attached:
    a. Stage 2 Subdivision Suitability Report prepared by Richardson Stevens Consulting Engineers dated 23/06/2017 from BC1901130 reference 7793.
    b. Whangarei District Council - Advice Memo Kotata Development - Stage 2 prepared by Tonkin + Taylor Ltd dated 18/11/2020 reference 1012149.0010.
    c. Kotata Development Stage 2 Geotechnical Investigations and Engineering Geological Review prepared by INITIA Geotechnical Specialists dated November 2020 reference P-000822 REV B.
    d. FAQ Kotata Development Letter prepared by Whangarei District Council.
    e. Homeowner Letter prepared by Whangarei District Council dated 19/11/2020.

s44A(2)(b) Information on private and public stormwater and sewerage drains; s44A(2)(bb) Information Council holds regarding drinking water supply to the land

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

- Water, Wastewater and Stormwater Map

As-Built, House Connection and/or Drainage Plan for this property from the building file is attached.

- As-Built Services Plan From BC1901130

This property is connected to Council Water Supply, for more information please refer: https://www.wdc.govt.nz/WaterSupply

This property is within the area of benefit of a pressure sewer system.

See map attached and for the Homeowners guide and key requirements for maintaining the system please refer: https://www.wdc.govt.nz/PressureSystems

s44A(2)(c)(ca)(cb) Information relating to any rates owning in relation to the land

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

Outstanding water balance as at today's date is $0.00.

A final reading of the water meter will be required.

s44A(2)(d) Any permit, consent, certificate, notice, order or requisition affecting the land or buildings;
s44A(2)(daa) Information relating to non-consented small stand-alone dwellings
s44A(2)(da) Information provided under s362T of the Building Act 2004;
s44A(2)(e) Certificate issued by a building certifier;
s44A(2)(ea) Information notified under s124 of the Weathertight Homes Resolution Services Act 2006

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

- BC1901130 – New Dwelling
  Building Consent Issued – 23/10/2019
  Code Compliance Certificate Issued – 03/03/2020

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

- PU191345 – Water Meter Only
  Approved – 09/10/2019

- PU191348 – Utility Services Application
  Approved – 16/10/2019

Swimming pool

Council holds no records of a swimming pool or spa at this property.

s44(2)(f) Information relating to the use to which the land may be put and conditions attached to that use

Plan Change 4A and 4C are currently progressing through the statutory planning process and may affect how the District Plan applies to this property.
Further information is available here:
<https://www.wdc.govt.nz/Services/Planning/District-Plan/District-Plan-changes/Current-plan-changes/PC4A-and-PC4C>

As part of Plan Change 4C - Minor Improvements, the Road Hierarchy mapping in the Whangarei District Plan is proposed to be updated. The updated layer identifies road centrelines and their classifications, which in turn influence various transport and setback rules in the District Plan. The proposed mapping updates can be viewed by selecting the “District Plan Changes’ tile here:
<https://gismaps.wdc.govt.nz/GISMapsGallery/>

This property is located in a General Residential Zone.

See map attached and for more information search the property address on Council’s ePlan:
https://eplan.wdc.govt.nz/plan

s44(2)(g) Information regarding the land which has been notified to Council by another statutory organisation

Whangarei District Council is not aware of any classification attached to the land or building/s.

s44(2)(h) Information regarding the land which has been notified to Council by a network utility operator pursuant to Building Act 1991 or Building Act 2004

Information relating to any utility service other than Councils such as telephone, electricity, gas and regional council will need to be obtained from the relevant utility operator.

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

S44A(3) Other information Council considers relevant to the land

Whangarei District Council recommends that all Whangarei District residents visit the Northland Regional Council website for information on Civil Defence hazard response: https://www.nrc.govt.nz.

This information includes Tsunami evacuation zones, maps and community response plans for flooding and extreme weather events etc.

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

s44B(2) Natural Hazards

This LIM includes natural hazard information held by Northland Regional Council and Whangarei District Council, however:

- There may be hazards the Councils do not have information about.
- Some hazard information may be held by other organisations.
- If a hazard is not mentioned in this LIM, it does not necessarily mean the hazard does not exist.

Information about a single hazard (such as flooding, erosion, or land instability) may be included in more than one part of this report. Please check all relevant sections to ensure you have a complete understanding of the hazard.

District Plan Information about Natural Hazards

This property is mapped under PC1 as **High Land Instability**. The Whangarei District Council notified PC1 on 31 May 2023. The Plan Change introduces new provisions relating to natural hazards to the District Plan, including updated hazard maps and rules for land use, development, and subdivision in hazard susceptible areas. As of 4 December 2024 the Decision Version PC1 rules have legal effect.

Refer to map attached and for more information on the proposed plan change please visit https://www.wdc.govt.nz/PlanChanges

Building Act Information about Natural Hazards

No Building Act Information about natural hazards applies to this property.

Flooding

Flooding occurs when rainfall exceeds the capacity of the river, land or urban stormwater systems to hold the water. In steep terrain or around rivers, floods can be fast-moving; in low-lying areas and wetlands, floods can cause ponding.

In coastal areas, storm surges can cause flooding affecting land.

Northland Regional Council has modelled the flood risk across Te Taitokerau Northland and maintains a monitoring and forecasting programme to predict flooding. However, the absence of flooding information contained in this report does not exclude the possibility of site flooding, including from local depressions or overland flow paths on nearby properties.

River flood maps

Modelling by Northland Regional Council does not identify a River Flood Hazard for this property.

A river flood occurs when a river, lake or stream overflows its banks due to excessive rain. The duration and intensity (volume) of rainfall in the catchment area of the river determine the severity of a river flood. Other factors include soil water saturation due to previous rainfall, and the terrain surrounding the river system. In flatter areas, floodwater tends to rise more slowly and be shallower, and it often remains for days. In hilly or mountainous areas, floods can occur within minutes after a heavy rain, drain very quickly, and cause damage due to debris flow.

To determine the probability of river flooding, models consider past precipitation, forecasted precipitation, current river levels, as well as soil and terrain conditions. Flood risk will increase with climate change with the forecast increase in rainfall. Northland Regional Council's flood hazard models include predicted climate change impacts.

Draft river flood reports

Northland Regional Council are continuing with their flood hazard modelling programme to improve the information about the potential for flooding in the region. The reports on these models are not currently published as they are going through peer review and quality checks, however they are available upon request from the Northland Regional Council.

The following reports are available:

- Whangarei Catchment Upgrade and Options Model. Project objectives include providing an appropriate modelling capability for catchment management, asset management and flood risk management. The completed model as well as the Whangarei urban areas detailed level which is closely related to the drainage system management. The report was prepared April 2023 by EWaters and updated in 2025

- Report on the Northern Wairoa Rainfall, Tidal and Storm-Surge Model is designed to simulate rainfall-induced flooding, tidal influences, and storm surge effects for the Northern Wairoa catchment, with a focus on the Dargaville area. The model has been calibrated using multiple flood events at all river gauge locations within the catchment. The report was prepared in September 2025 by Submergent Limited for Northland Regional Council.

Since 2008, Northland Regional Council has undertaken detailed flood modelling of priority catchments, i.e. those catchments and rivers determined present the highest risk to our communities. The flood extent shown on the maps are produced at a catchment scale and is not intended to depict specific flooding details for individual properties. We recommend obtaining site-specific engineering assessments to assess flood risk. Priority catchment flood maps are available on the Northland Regional Council Natural Hazards Map viewer https://www.nrc.govt.nz/environment/natural-hazards-portal/hazard-maps/advanced-hazard-map-viewer/

The priority flood hazard maps include the following flood hazard zones:

- *River Flood Hazards Zone - Priority Rivers (10 year extent).* Flood extent for the most common scenario - a flood with a 10% chance of happening in any year.
- *River Flood Hazards Zone - Priority Rivers (50 year extent).* The extent of a flood that has a 2% annual probability of happening.
- *River Flood Hazards Zone - Priority Rivers (100 year extent CC).* The extent of a flood that has a 1% annual probability of happening, taking the effects of climate change into account.

In 2019 - 2021 Northland Regional Council undertook regionwide flood modelling to model catchments not covered by the priority rivers programme. The flood extent shown on the maps are produced at a catchment scale and is not intended to depict specific flooding details for individual properties. We recommend obtaining site-specific engineering assessments to assess flood risk. The regionwide flood hazard maps are available on the Northland Regional Council Natural Hazards Map viewer https://www.nrc.govt.nz/environment/natural-hazards-portal/hazard-maps/advanced-hazard-map-viewer/

The regionwide flood hazard maps include the following flood hazard zones:

- *River Flood Hazards Zone - Regionwide models (10 year extent).* Flood extent for the most common scenario - a flood with a 10% chance of happening in any year.
- *River Flood Hazards Zone - Regionwide models (50 year extent).* The extent of a flood that has a 2% annual probability of happening.
- *River Flood Hazards Zone - Regionwide models (100 year extent CC).* The extent of a flood that has a 1% annual probability of happening, taking the effects of climate change into account.

Northland Regional Council are continuing with their flood hazard modelling programme and as at October 2025 currently has draft flood models for Whangārei, Kerikeri, Northern Wairoa, Waima and Punakitere, Catchments. These models are not currently published as they go through peer review and quality checks. Flood hazards for these catchments can be requested from Northland Regional Council.

Surveyed and observed flood levels

Northland Regional Council records flood levels during flood and storm events which provides evidence of lands that are effected by flooding.

Surveyed River Flood Levels are available on the Northland Regional Council Natural Hazards Maps viewer.
https://www.nrc.govt.nz/environment/natural-hazards-portal/hazard-maps/advanced-hazard-map-viewer/

Information about observed Coastal Flood Levels is available on the Northland Regional Council's website.
https://www.nrc.govt.nz/media/jtmbbgr1/historicobservedcoastalfloodlevelsnorthland2017.pdf

River Flood Hazard Technical Reports

1. Scope of report:	Whangarei Catchments
2. Report Title:	NRC Priority Rivers Modelling Report and Whangarei Modelling Report
3. Report date:	March 2011, October 2013
4. Report prepared by:	URS
5. Report commissioned by:	Northland Regional Council
6. Purpose of the report:	This report explains the technical aspects relating to the development of the Priority Rivers Flood Risk reduction project and specifically rivers in the Whangarei catchment. The 2013 report details the work that was done to merge the Hatea and Wairarohia/Raumanaga models and to recalibrate the new Hatea model.
7. Where or how to access report:	River modelling technical reports https://www.nrc.govt.nz/resource-library-summary/research-and-reports/river-modelling-technical-reports/

1. Scope of report:	Whangarei Catchment (Catchment M01)
2. Report Title:	Design Modelling Whangarei Catchment (M01)
3. Report date:	May 2021
4. Report prepared by:	Water Technology
5. Report commissioned by:	Northland Regional Council
6. Purpose of the report:	This report documents the calibration and design modelling methodology for Whangarei Catchment (M01), noting that this catchment was calibrated to the July 2020 flood event.
7. Where or how to access report:	River modelling technical reports https://www.nrc.govt.nz/resource-library-summary/research-and-reports/river-modelling-technical-reports/

Land Instability

Whangarei District Council holds indicative information on land stability hazard for Whangārei. Information on land stability.

A landslide is defined as the downslope movement of a mass of earth, rock or debris under the influence of gravity. Whangarei District is susceptible to landslides due to a combination of steep topography, subtropical climate and the underlying geology which includes weak or expansive soil, weak rock and highly weathered, clay rich soils. Landslides are often triggered by intense or prolonged rainfall (as well earthquakes, loss of vegetation cover, leaky water infrastructure and earthworks) which will increase with the effects of climate change.

It is not possible to identify all potential or actual landslides or land instability. The absence of information in this section does not necessarily indicate the absence of a landslide risk.

'Landslide susceptibility' is the relative likelihood of future landsliding occurring based on underlying properties compared with surrounding areas. It does not indicate the size or frequency of potential landslides, or the potential for landslides to cause damage or loss.

This LIM includes maps which indicate Landslide Susceptibility in relation to this property and its surrounds - is **high.** These maps are based on a district wide study entitled 'Landslide Susceptibility Assessment for Whangarei District Council, October 2022.

These maps are a generalisation of available data, and do not represent site specific assessment. They are not intended to be viewed or relied upon on a property-level scale.

The Whangarei District Council may require site-specific investigations before granting future subdivision or building consent for the property, the level of investigation or assessment would depend on the level of stability risk of the area the property is in.

Technical report

1. Report Title:	Landslide Susceptibility Assessment for Whangarei District Council
2. Report date:	October 2022
3. Report prepared by:	Tonkin & Taylor Ltd
4. Report commissioned by:	Whangarei District Council
5. Purpose of the report:	The purpose and outcomes of this analysis and mapping is to: Provide a landslide susceptibility assessment and map that covers the Whangarei District and follows on from the landslide susceptibility assessment and mapping done previously but covered discrete areas of the district only.
6. Scope of report:	Whangarei District
7. Where or how to access report:	You can find the above report under the Land Instability section on our Natural Hazards webpage. Additional reports that may be relevant to Land Instability are also available at: https://www.wdc.govt.nz/NaturalHazards

Liquefaction

This property is located within an area classified as Liquefaction vulnerability category:
- undetermined and can be viewed on the Council Hazard viewer:
https://www.wdc.govt.nz/HazardsGISMap

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

Liquefaction is a natural process where earthquake shaking increases water pressure in the ground in granular soils, resulting in temporary loss of soil bearing capacity. Liquefaction commonly leads to buildings 'sinking' on their foundations during the shaking - in line with that experienced in the 2011 Canterbury earthquakes.

Climate change is expected to cause sea level rise, and in turn an elevation of groundwater levels. Elevated ground water levels are likely to increase liquefaction susceptibility, but the extent of the increase has not been quantified by the report, nor Whangarei District Council.

Whangarei District Council commissioned Tonkin and Taylor Ltd to complete a district wide Liquefaction Vulnerability Study in August 2020. The report identifies and analyses the risk of liquefaction to help inform decisions about future development of land and buildings.

You can find the report under the Liquefaction section on our Natural Hazards web page:
https://www.wdc.govt.nz/NaturalHazards

Tsunami

Tsunami are a series of waves, typically created by submarine or coastal earthquakes, landslides (including underwater landslides) and offshore submarine volcanic eruptions. Tsunami may travel hundreds of kilometres an hour and pass by unnoticed at sea, but slow down and grow as they move to shallow water, causing significant damage when they make landfall.

This property is located in an area identified as **Green Zone - Safe Area**

With funding from the Natural Hazards Commission Northland Civil Defence and Emergency Management have modelled the tsunami risk and created Tsunami Evacuation Zone and Safe Zone map: <https://northlandcdem.maps.arcgis.com/apps/webappviewer/index.html?id=00bf741d369b4eb7802021004d123e3b>

Technical Report for Tsunami Evacuation Zone and Safe Zone map

1. Scope of report	Regional
2. Report Title:	Tsunami Inundation Modelling for Evacuation Planning in Northland
3. Report date:	2024
4. Report prepared by:	Orca Consulting
5. Report commissioned by:	Natural Hazards Commission
6. Purpose of the report:	The objective of this study was to produce tsunami inundation and evacuation zones for the Northland region that are compliant with guidelines set forth in the document 'Tsunami Evacuation Zones: Director's Guidelines for Civil Defence Emergency Management Groups' (MCDEM, 2016). To define these zones, numerical modelling was undertaken to determining the extents of the tsunami inundation zones for the Northland Region. The study used a Level 3/Level 4 modelling approach (as defined in MCDEM 2016) whereby a physics based numerical model was used to model the evolution of the tsunami from source through to inundation. The study used multiple sources, both local and distant.
7. Where or how to access report	A copy is available upon request from Northland Regional Council

Erosion and Landslide

Erosion is any movement of soil, rocks or sand, under the influence of wind, water or gravity. Landslides are a type of erosion. A landslide is the downslope movement of a mass of earth, rock or debris under the influence of gravity. Te Taitokerau Northland is susceptible to landslides due to its steep topography, subtropical climate, and underlying geology. Landslides are often triggered by intense or prolonged rainfall (as well as earthquakes, loss of vegetation cover, leaky water infrastructure and earthworks), which will increase with the effects of climate change. Climate change is expected to increase erosion in Te Taitokerau Northland.

Northland Regional Council has modelled the region's relative risk of erosion and sediment loss to water and these have been published as Erosion and Sediment Risk at this link - <https://experience.arcgis.com/experience/bf65abc23bc144e2a32cd1efd6094167>.
The maps are based on a predictive model created using a range of information, including LiDAR (remote sensing technology that uses lasers to create 3D maps), soil and geology type, slope and climate data. The maps are designed as a tool to help landowners manage risks to water quality as a result of sediment loss to water - they provide an assessment of the relative risk of erosion and risk of sediment reaching waterways across Northland.
The maps do not provide a geotechnical assessment of land suitability for subdivision or built development, nor do they quantify the likelihood of future landslides or slips.

Technical Reports for erosion prone land

1. Scope of report	Regional
2. Report Title:	Northland's Landscape Driven Erosion Map: A Resources for Decision-Makers and Communities
3. Report date:	2025
4. Report prepared by:	Land and Water Science
5. Report commissioned by	Northland Regional Council
6. Purpose of the report:	This report was created for people across Northland-farmers, council staff, iwi and hapū, community leaders, and planners-who want to better understand a new regional tool called the Sediment-Process Attribute Layer, or S-PAL. S-PAL does not replace older soil or geology maps. Instead, it builds on those valuable foundations by adding a new layer of information made possible through modern datasets.
7. Where or how to access report	Northland Regional Council website: <https://www.nrc.govt.nz/media/tr4ng33g/northlands-landscape-driven-erosion-map-lws-2025.pdf>

1. Scope of report	Regional
2. Report Title:	The S-PAL Framework: Technical User Guide for Erosion Susceptibility Assessment and Mitigation
3. Report date:	2026
4. Report prepared by:	Land and Water Science
5. Report commissioned by	Northland Regional Council
6. Purpose of the report:	This User Guide explains how to use the S-PAL v 2.0 Framework to identify land that is prone to erosion across Northland. S-PAL stands for Sediment-Process Attribute Layers - a system that combines detailed maps and measurements to show where the land is most likely to erode and shed sediment into waterways.
7. Where or how to access report	Northland Regional Council website: <https://www.nrc.govt.nz/media/qkofckd2/northland-erosion-and-sediment-risk-map-technical-user-guide-11jan2026.pdf>

Drought

Drought in Te Taitokerau Northland is a complex hazard to define and detect, and its impacts vary from one area to the other.

Technical Report for Northland Drought Assessment

1. Scope of report	Regional
2. Report Title:	Droughts in Northland: A Local and Regional Analysis
3. Report date:	2024
4. Report prepared by:	National Institute of Water and Atmosphere
5. Report commissioned by:	Northland Regional Council
6. Purpose of the report:	Analysis of the development, occurrence and severity of droughts in Northland Region.
7. Where or how to access report	Envirolink website: Droughts in Northland: A local and regional analysis https://www.envirolink.govt.nz/assets/Envirolink/2403-NLRC240-Droughts-in-Northland-A-Local-and-Regional-Analysis.pdf

In September 2024 the Ministry for the Environment and NIWA published national climate projections.

Droughts are expected to become more frequent and more severe in Te Taitokerau Northland by 2090.

Volcanic, Geothermal and Earthquake

There are many processes associated with volcanic eruptions, and these can be hazardous when they interact with people and/or infrastructure. The type and intensity of volcanic process will vary from volcano to volcano. There are two areas of past local volcanic activity in Northland, at Puhipuhi-Whangārei and at Kaikohe-Bay of Islands. While climate change does not affect volcanic eruptions, it can affect the risk from volcanic hazards such as lahars (volcanic mudflows) because of the forecast changes in rainfall.

Earthquakes occur when stress that has built up along a fault - a break in the Earth's crust - is suddenly released. Earthquakes can cause ground shaking, fault rupture, permanent ground movement, subsidence or lateral spreading, liquefaction, landslides, rock falls and tsunami. Although climate change does not affect earthquakes, it can make some of the problems earthquakes cause, such as subsidence, liquefaction, and landslides, more likely or more severe. This is because climate change affects rainfall and groundwater, which play roles in these hazards.

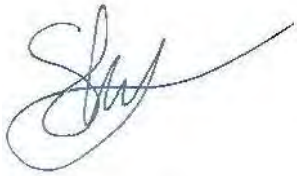
While the earthquake risk in Northland is low, there have been earthquakes recorded in the region.

Northland Regional Council does not have a map of volcanic, geothermal or earthquake risk but did commission information on volcanic hazards as part of the review of natural hazards information for Northland region. This information relates to region-wide studies and may not reflect the on-site situation or natural hazard investigations and mitigation done on a site-specific property level.

Technical Report for earthquake information

1. Scope of report	Regional
2. Report Title:	A review of natural hazards information for Northland region Section 2.0 Seismic Hazards
3. Report date:	2004
4. Report prepared by:	Institute of Geological & Nuclear Sciences Limited
5. Report commissioned by:	Northland Regional Council and Whangarei District Council
6. Purpose of the report:	The aim of this report is to assemble and present a review of existing information on natural hazards, including earthquakes. The report identifies gaps and possible future work. Please note sections on flooding and erosion prone land have been superseded by more recent work and modelling.
7. Where or how to access report:	Northland Regional Council Website https://www.nrc.govt.nz/media/2itixwuo/naturalhazards.pdf

Signed for and on behalf of Council:



Sophia Shaw
Property Information Officer

Property Map

New Subdivisions

- Proposed Pre-223
- 223 Certificate

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

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

28 July 2026

Scale 1:500

Aerial Photography

Whangarei District Council

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

28 July 2026

Scale 1:500

RECORD OF TITLE
UNDER LAND TRANSFER ACT 2017
FREEHOLD

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

R.W. Muir
Registrar-General
of Land

Identifier	**849307**
Land Registration District	**North Auckland**
Date Issued	17 October 2018

Prior References
811575

Estate	Fee Simple
Area	445 square metres more or less
Legal Description	Lot 7 Deposited Plan 525547

Registered Owners

Amy Kate Howse as to a 1/2 share

Jason Kenneth Herdman as to a 1/2 share

Interests

Subject to Section 59 Land Act 1948

11195068.2 Consent Notice pursuant to Section 221 Resource Management Act 1991 - 17.10.2018 at 1:44 pm

Appurtenant hereto is a right of way and right to convey water and a right to drain water and sewage created by Easement Instrument 11195068.3 - 17.10.2018 at 1:44 pm

The easements created by Easement Instrument 11195068.3 are subject to Section 243 (a) Resource Management Act 1991

Land Covenant (in gross) in favour of Kotata Developments Limited created by Land Covenant under s116(1)(a) or (b) Land Transfer Act 2017 11293170.2 - 22.11.2018 at 9:14 am

Fencing Covenant in Transfer 11545661.1 - 23.9.2019 at 3:13 pm

13114028.3 Mortgage to ANZ Bank New Zealand Limited - 4.11.2024 at 2:38 pm

Title Plan - DP 525547

Survey Number	DP 525547
Surveyor Reference	14556 Kotata Stage 2 JG LM
Surveyor	Phillip John Lash
Survey Firm	Reyburn & Bryant 1999 Ltd
Surveyor Declaration	I Phillip John Lash, 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 07 Nov 2018 04:51 PM

Survey Details

Dataset Description	Lots 1 to 37 being a subdivision of Lot 15 DP 513969		
Status	Deposited		
Land District	North Auckland	**Survey Class**	Class A
Submitted Date	07/11/2018	**Survey Approval Date**	08/11/2018
		Deposit Date	17/10/2018

Territorial Authorities

Whangarei District

Comprised In

RT 811575

Created Parcels

Parcels	Parcel Intent	Area	RT Reference
Area V Deposited Plan 525547	Easement		
Area T Deposited Plan 525547	Easement		
Area U Deposited Plan 525547	Easement		
Area W Deposited Plan 525547	Easement		
Area X Deposited Plan 525547	Easement		
Area Y Deposited Plan 525547	Easement		
Area Z Deposited Plan 525547	Land Covenant		
Area AA Deposited Plan 525547	Land Covenant		
Area L Deposited Plan 525547	Easement		
Area O Deposited Plan 525547	Easement		
Area K Deposited Plan 525547	Easement		
Area H Deposited Plan 525547	Easement		
Area J Deposited Plan 525547	Easement		
Area E Deposited Plan 525547	Easement		
Area D Deposited Plan 525547	Easement		
Area A Deposited Plan 525547	Easement		
Area B Deposited Plan 525547	Easement		
Lot 1 Deposited Plan 525547	Fee Simple Title	0.0555 Ha	849301
Lot 2 Deposited Plan 525547	Fee Simple Title	0.0541 Ha	849302
Lot 3 Deposited Plan 525547	Fee Simple Title	0.0624 Ha	849303

Title Plan - DP 525547

Created Parcels

Parcels	Parcel Intent	Area	RT Reference
Lot 4 Deposited Plan 525547	Fee Simple Title	0.0842 Ha	849304
Lot 5 Deposited Plan 525547	Fee Simple Title	0.0546 Ha	849305
Lot 6 Deposited Plan 525547	Fee Simple Title	0.0910 Ha	849306
Lot 7 Deposited Plan 525547	Fee Simple Title	0.0445 Ha	849307
Lot 8 Deposited Plan 525547	Fee Simple Title	0.0472 Ha	849308
Lot 9 Deposited Plan 525547	Fee Simple Title	0.0534 Ha	849309
Lot 10 Deposited Plan 525547	Fee Simple Title	0.0558 Ha	849310
Lot 11 Deposited Plan 525547	Fee Simple Title	0.0779 Ha	849311
Lot 12 Deposited Plan 525547	Fee Simple Title	0.1751 Ha	849312
Lot 13 Deposited Plan 525547	Fee Simple Title	0.0884 Ha	849313
Lot 14 Deposited Plan 525547	Fee Simple Title	0.0653 Ha	849314
Lot 15 Deposited Plan 525547	Fee Simple Title	0.0661 Ha	849315
Lot 16 Deposited Plan 525547	Fee Simple Title	0.0735 Ha	849316
Lot 17 Deposited Plan 525547	Fee Simple Title	0.0545 Ha	849317
Lot 18 Deposited Plan 525547	Fee Simple Title	0.0587 Ha	849318
Lot 19 Deposited Plan 525547	Fee Simple Title	0.0400 Ha	849319
Lot 20 Deposited Plan 525547	Fee Simple Title	0.0534 Ha	849320
Lot 21 Deposited Plan 525547	Fee Simple Title	0.0441 Ha	849321
Lot 22 Deposited Plan 525547	Fee Simple Title	0.1004 Ha	849322
Lot 23 Deposited Plan 525547	Fee Simple Title	0.0705 Ha	849323
Lot 24 Deposited Plan 525547	Fee Simple Title	0.0449 Ha	849324
Lot 25 Deposited Plan 525547	Fee Simple Title	0.0437 Ha	849325
Lot 26 Deposited Plan 525547	Fee Simple Title	0.0428 Ha	849326
Lot 27 Deposited Plan 525547	Fee Simple Title	0.0537 Ha	849327
Lot 28 Deposited Plan 525547	Fee Simple Title	0.0632 Ha	849328
Lot 29 Deposited Plan 525547	Fee Simple Title	0.1301 Ha	849329
Lot 30 Deposited Plan 525547	Fee Simple Title	0.0637 Ha	849330
Lot 31 Deposited Plan 525547	Fee Simple Title	0.0768 Ha	849331
Lot 32 Deposited Plan 525547	Fee Simple Title	0.0500 Ha	849332
Lot 33 Deposited Plan 525547	Fee Simple Title	0.0500 Ha	849333
Lot 34 Deposited Plan 525547	Fee Simple Title	0.0500 Ha	849334
	Road	0.1096 Ha	
Lot 36 Deposited Plan 525547	Fee Simple Title	1.9745 Ha	849335
Lot 37 Deposited Plan 525547	Fee Simple Title	11.2250 Ha	849335
Area C Deposited Plan 525547	Easement		
Area F Deposited Plan 525547	Easement		
Area G Deposited Plan 525547	Easement		
Area I Deposited Plan 525547	Easement		
Area M Deposited Plan 525547	Easement		
Area N Deposited Plan 525547	Easement		
Area P Deposited Plan 525547	Easement		
Area Q Deposited Plan 525547	Easement		
Area R Deposited Plan 525547	Easement		

Title Plan - DP 525547

Created Parcels

Parcels	Parcel Intent	Area	RT Reference
Area S Deposited Plan 525547	Easement		
Total Area		15.5486 Ha	

Schedule / Memorandum

Land Registration District	Plan Number
North Auckland	DP 525547

Territorial Authority (the Council)	Council Reference
Whangarei District	SD1700159 on P54135

Amalgamation Condition (Pursuant to s220 Resource Management Act 1991)
That Lots 36 & 37 DP 525547 (CFR 849335) be held in the same computer register See Linz ref 1474236

Memorandum of Easements
(Pursuant to s243 Resource Management Act 1991)

Purpose	Shown	Servient Tenement	Dominant Tenement
Right of Way, Right to convey Water & Right to drain Water & Sewage	P	Lot 6 DP 525547	Lots 1, 2, 3, 4 & 5 DP 525547
	Q	Lot 12 DP 525547	Lots 7, 8, 9, 10, 11, 13 & 14 DP 525547
	R	Lot 22 DP 525547	Lots 19, 20, 21, 23, 24 & 25 DP 525547
	S	Lot 29 DP 525547	Lots 27, 28, 30, 31, 32, 33 & 34 DP 525547
Right to drain Sewage	J	Lot 34 DP 525547	Lot 22 DP 525547
Right to drain Water	O	Lot 32 DP 525547	Lot 31 DP 525547

Memorandum of Easements in Gross
(Pursuant to s243 Resource Management Act 1991)

Purpose	Shown	Servient Tenement	Grantee
Right to convey Electricity, Telecommunications & Computer Media	P	Lot 6 DP 525547	Northpower Limited & Northpower Fibre Limited
	Q	Lot 12 DP 525547	
	R	Lot 22 DP 525547	
	S	Lot 29 DP 525547	
Right to convey Telecommunications & Computer Media	P	Lot 6 DP 525547	Chorus New Zealand Limited
	Q	Lot 12 DP 525547	
	R	Lot 22 DP 525547	
	S	Lot 29 DP 525547	

Memorandum of Easements in Gross continued on next page

Schedule / Memorandum

Land Registration District	Plan Number
North Auckland	DP 525547

Memorandum of Easements in Gross (Pursuant to s243 Resource Management Act 1991)			
Purpose	**Shown**	**Servient Tenement**	**Grantee**
Right to drain Water	A	Lot 26 DP 525547	Whangarei District Council
	B	Lot 25 DP 525547	
	H	Lot 23 DP 525547	
	L	Lot 32 DP 525547	
	P	Lot 6 DP 525547	
	Q	Lot 12 DP 525547	
	R & W	Lot 22 DP 525547	
	S	Lot 29 DP 525547	
	U	Lot 19 DP 525547	
	V & Y	Lot 11 DP 525547	
	X	Lot 15 DP 525547	
Right to drain Sewage	D	Lot 25 DP 525547	Whangarei District Council
	E	Lot 24 DP 525547	
	K	Lot 27 DP 525547	
	P	Lot 6 DP 525547	
	Q	Lot 12 DP 525547	
	R	Lot 22 DP 525547	
	S	Lot 29 DP 525547	
	T	Lot 1 DP 525547	

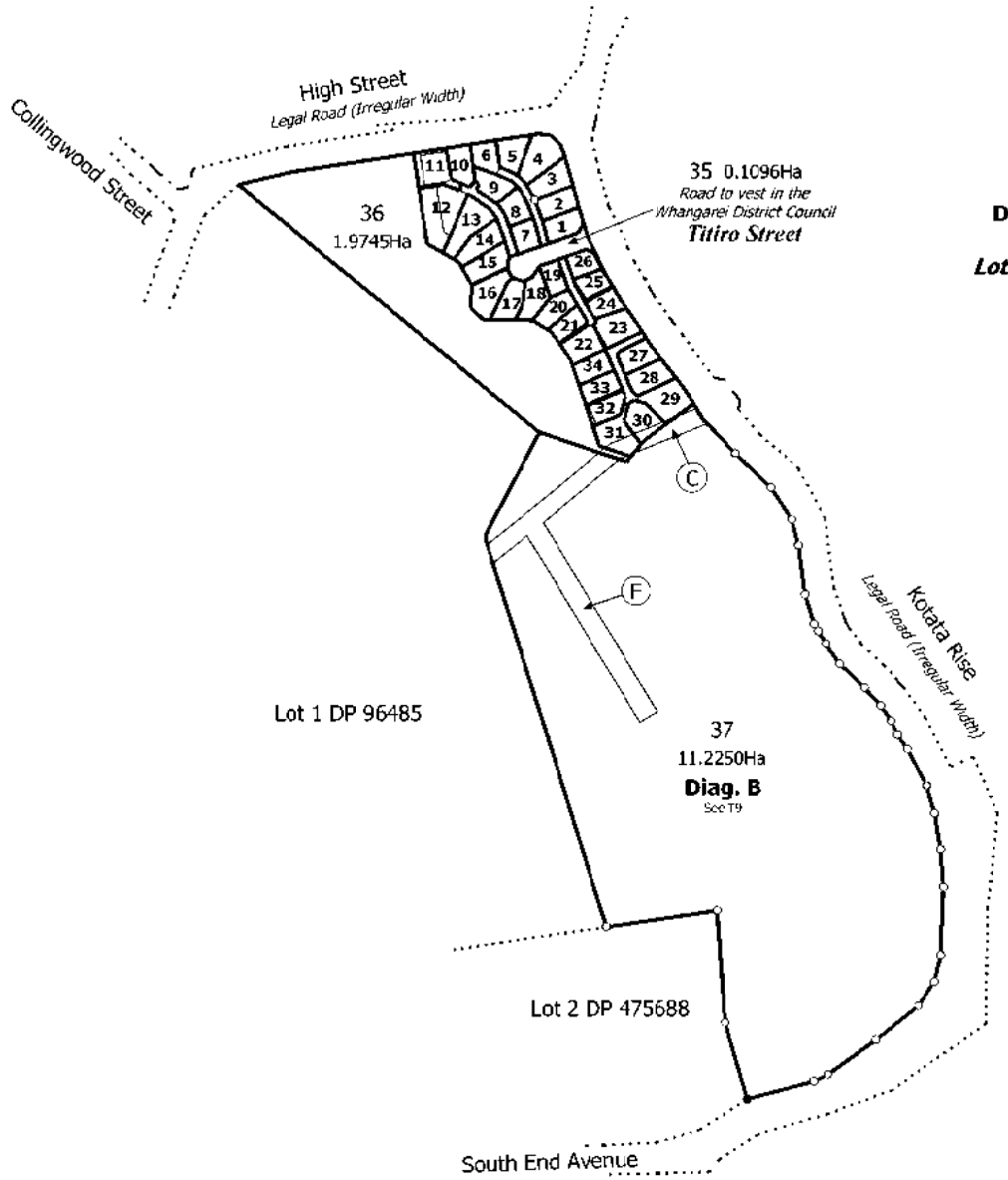
Land Registration District	Plan Number
North Auckland	DP 525547

Proposed Land Covenant			
Purpose	Shown	Underlying Parcel	Area
No building within these areas	Y	Lot 11 DP 525547	0.0010 Ha
	Z	Lot 11 DP 525547	0.0182 Ha
	AA	Lot 12 DP 525547	0.0697 Ha

Existing Lease

Lot 37 DP 525547 is subject to a lease in L10329211.2

Schedule of Existing Easements in Gross			
Purpose	Shown	Servient Tenement	Created by
Right to convey Electricity, Telecommunications & Computer Media	C & F	Lot 37 DP 525547	11011109.6
	G	Lot 29 DP 525547	
	I	Lot 30 DP 525547	
	M	Lot 31 DP 525547	
	N	Lot 36 DP 525547	

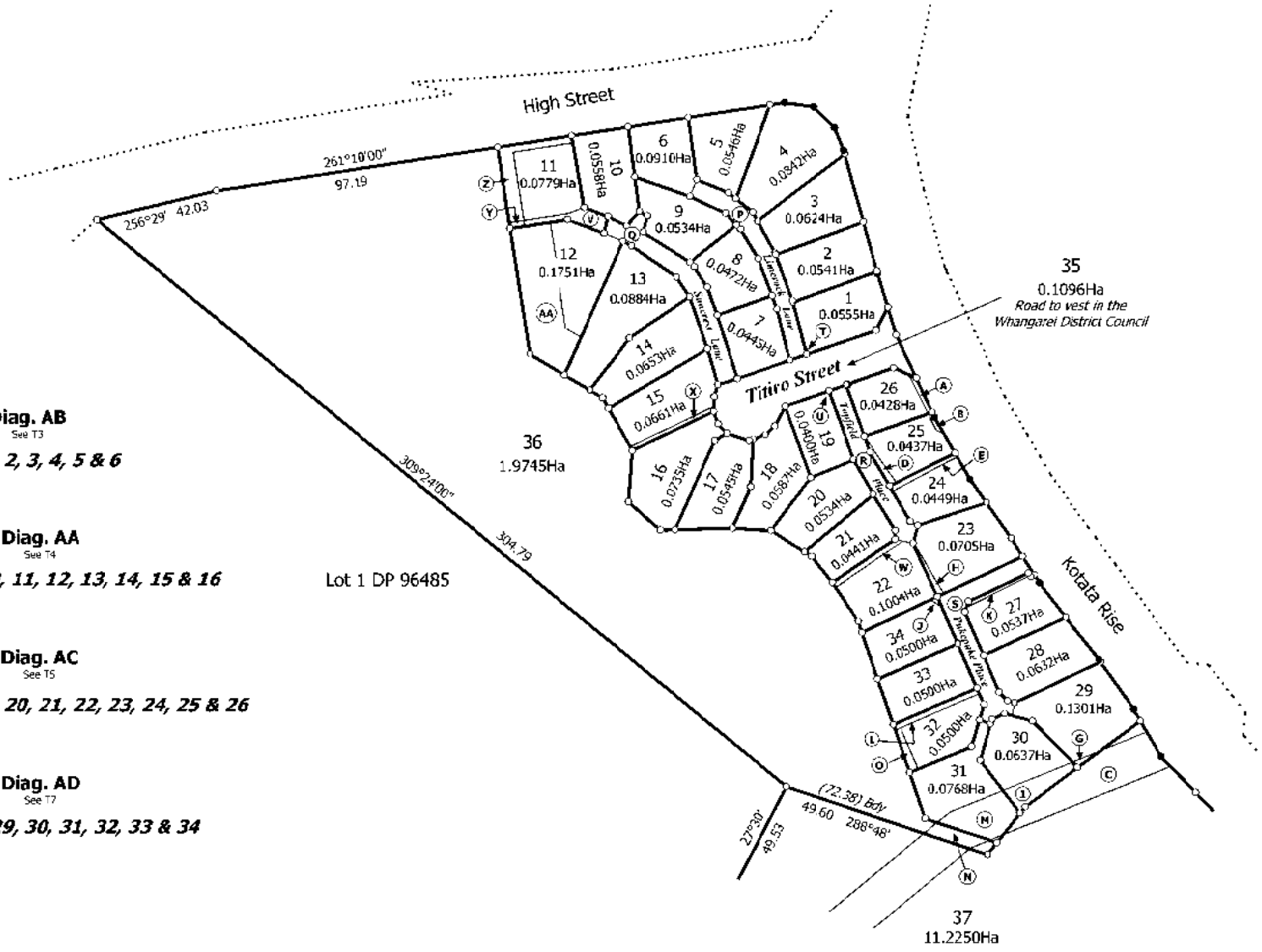


14556 Kotata Developments Stage 2 lm/jg

T 1/9

Land District: North Auckland **Digitally Generated Plan** Generated on: 14/11/2016 11:18am Page 7 of 15	Lots 1 to 37 being a subdivision of Lot 15 DP 513969	Surveyor: Phillip John Lash Firm: Reyburn & Bryant 1999 Ltd	Title Plan DP 525547 Deposited on: 17/10/2018

Diag. A



Diag. AB
See T3
Lots 1, 2, 3, 4, 5 & 6

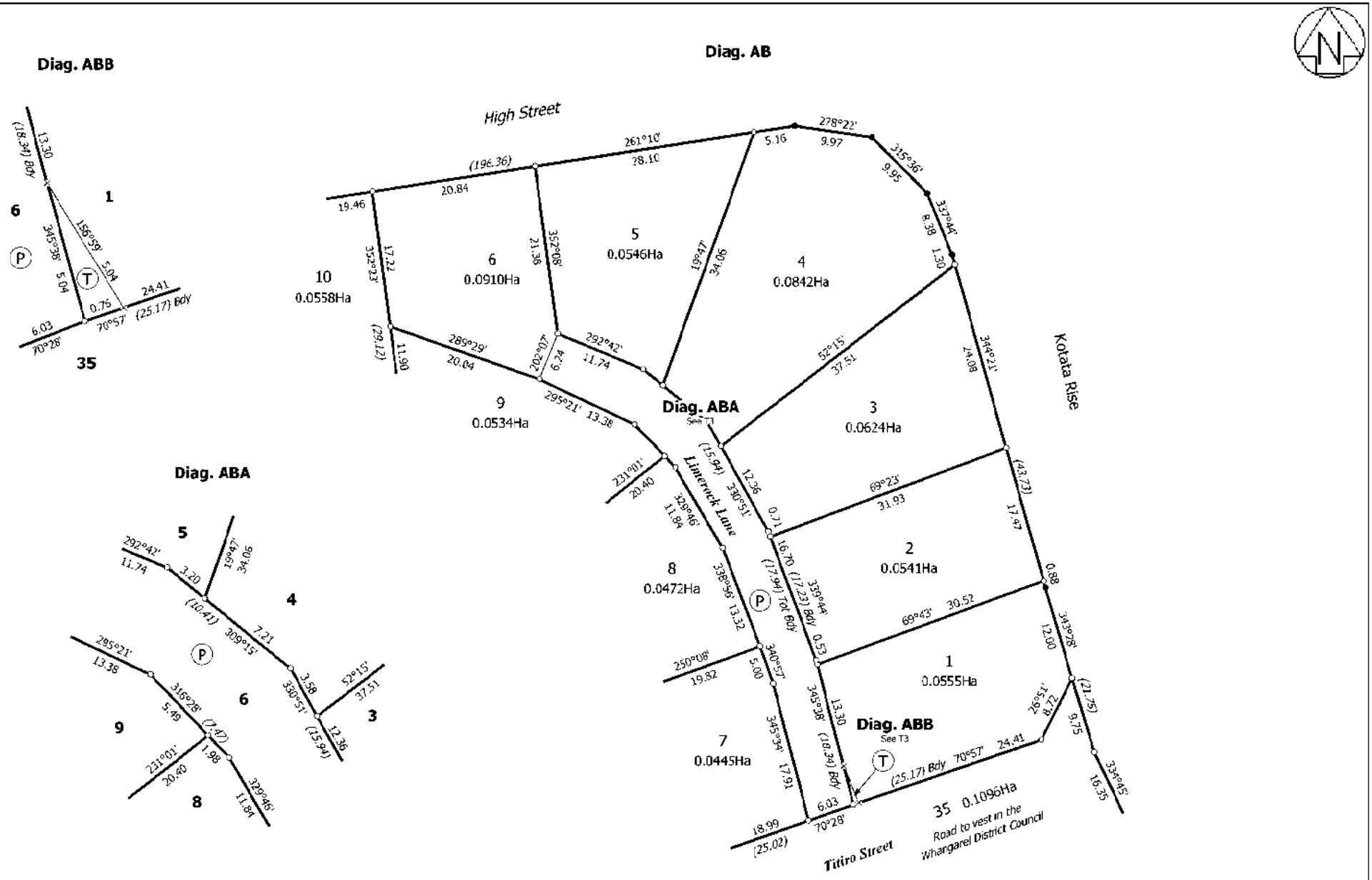
Diag. AA
See T4
Lots 7, 8, 9, 10, 11, 12, 13, 14, 15 & 16

Diag. AC
See T5
Lots 17, 18, 19, 20, 21, 22, 23, 24, 25 & 26

Diag. AD
See T7
Lots 27, 28, 29, 30, 31, 32, 33 & 34

14556 Kotata Developments Stage 2 bm/jg

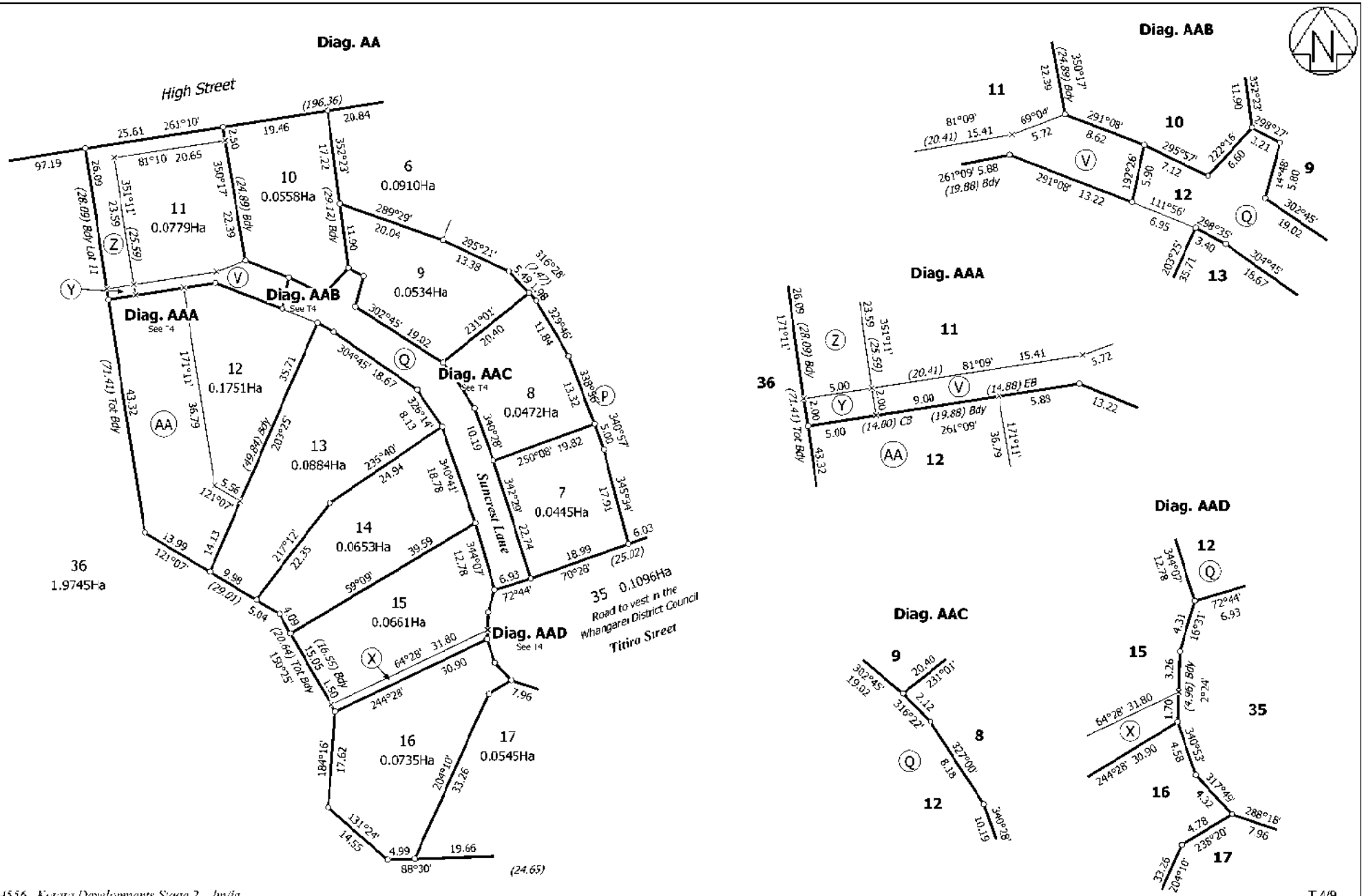
Land District: North Auckland Digitally Generated Plan Generated on: 14/11/2018 11:18am Page 9 of 15	Lots 1 to 37 being a subdivision of Lot 15 DP 513969	Surveyor: Phillip John Lash Firm: Reyburn & Bryant 1999 Ltd	Title Plan DP 525547 Deposited on: 17/10/2018



14556 Kotata Developments Stage 2 lm/jg

T 3/9

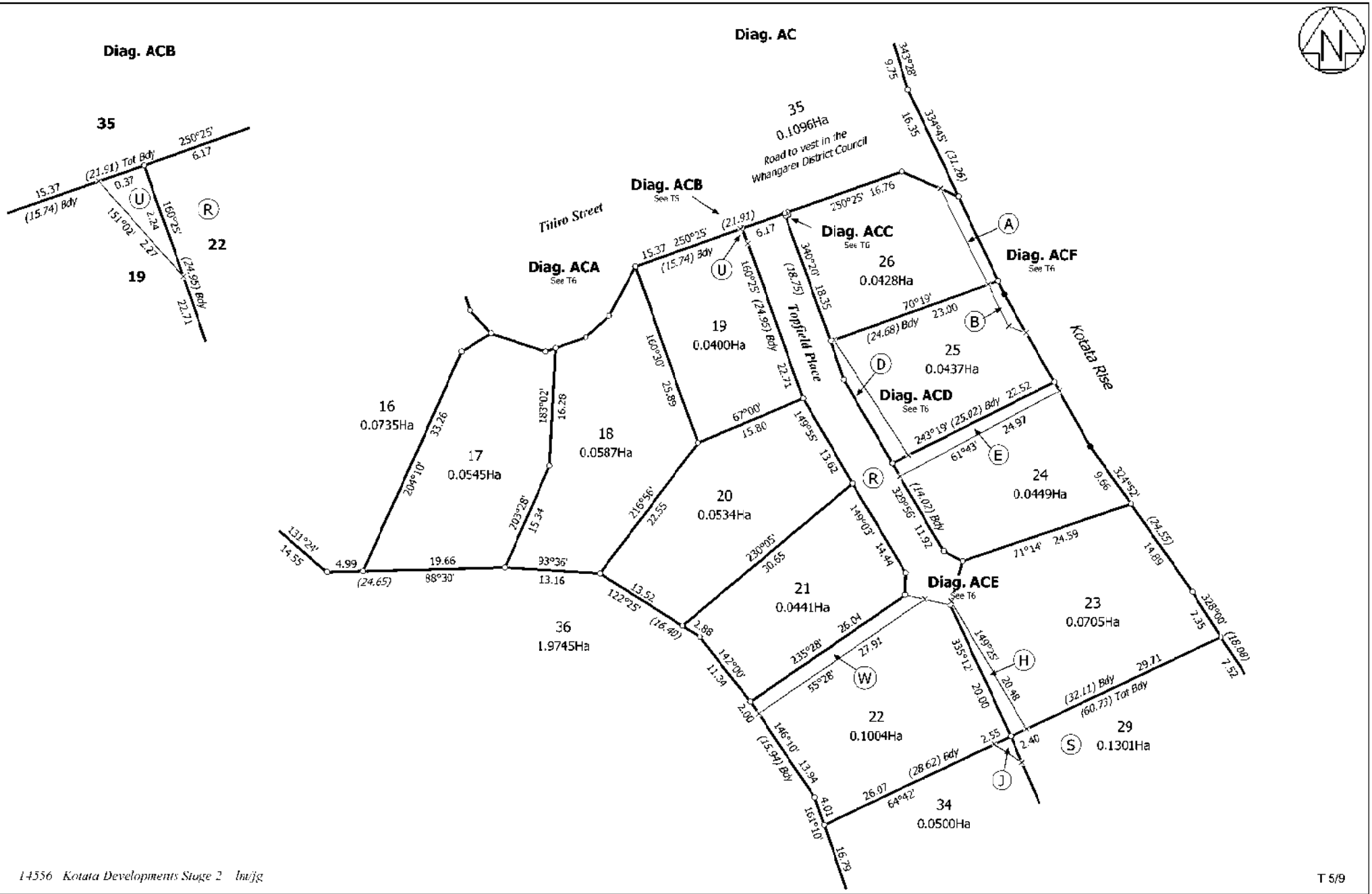
Land District: North Auckland Digitally Generated Plan Generated on: 14/11/2018 11:18am Page 9 of 15	Lots 1 to 37 being a subdivision of Lot 15 DP 513969	Surveyor: Phillip John Lash Firm: Reyburn & Bryant 1999 Ltd	Title Plan DP 525547 Deposited on: 17/10/2018



14556 Kotara Developments Stage 2 lm/jg

T 4/9

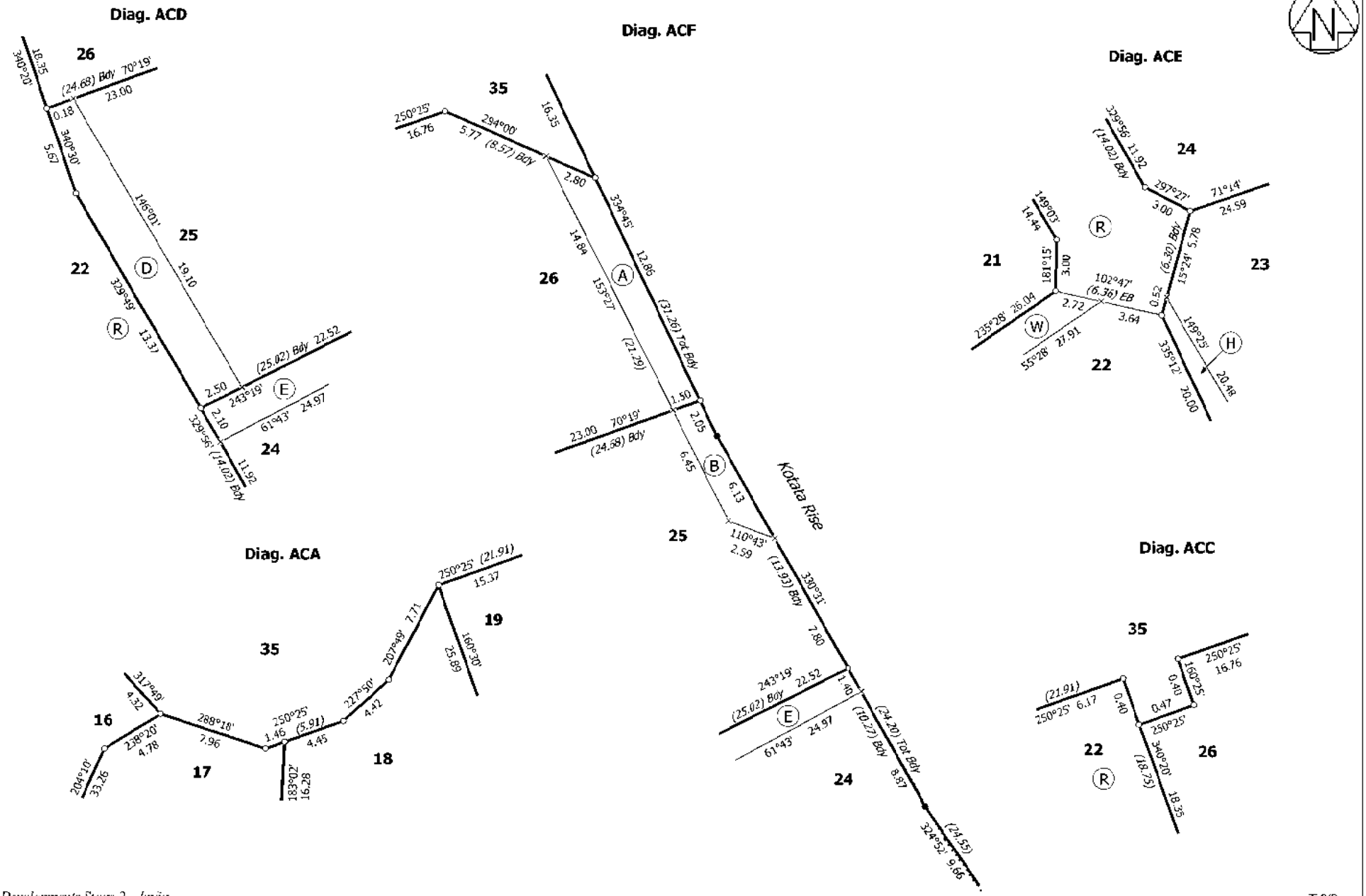
Land District: North Auckland Digitally Generated Plan Generated on: 14/11/2018 11:18am Page 10 of 15	Lots 1 to 37 being a subdivision of Lot 15 DP 513969	Surveyor: Phillip John Lash Firm: Reyburn & Bryant 1999 Ltd	Title Plan DP 525547 Deposited on: 17/10/2018



14556 Kotata Developments Stage 2 lm/jg

T 5/9

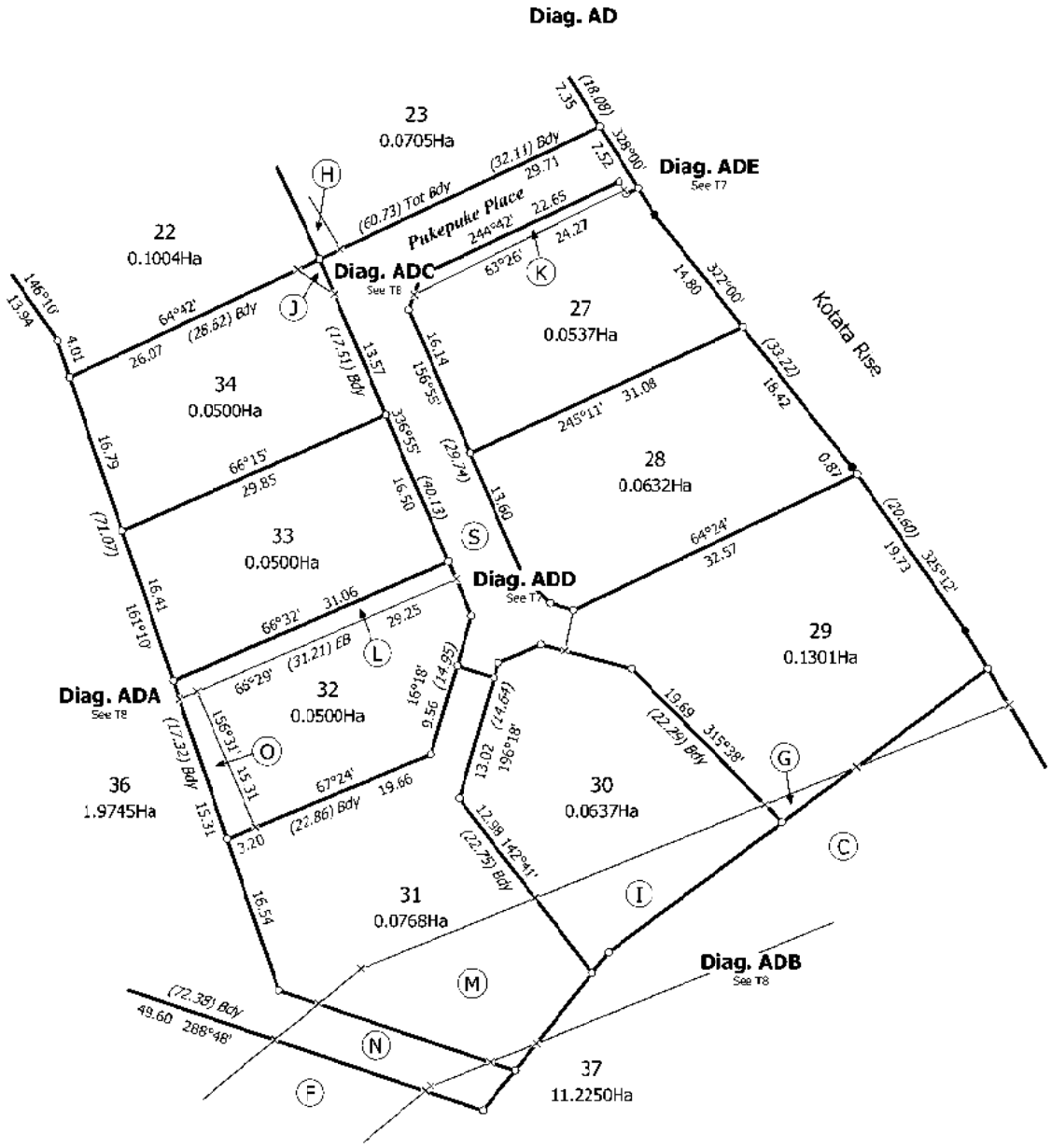
Land District: North Auckland Digitally Generated Plan Generated on: 14/11/2018 11:18am Page 11 of 15	Lots 1 to 37 being a subdivision of Lot 15 DP 513969	Surveyor: Phillip John Lash Firm: Reyburn & Bryant 1999 Ltd	Title Plan DP 525547 Deposited on: 17/10/2018

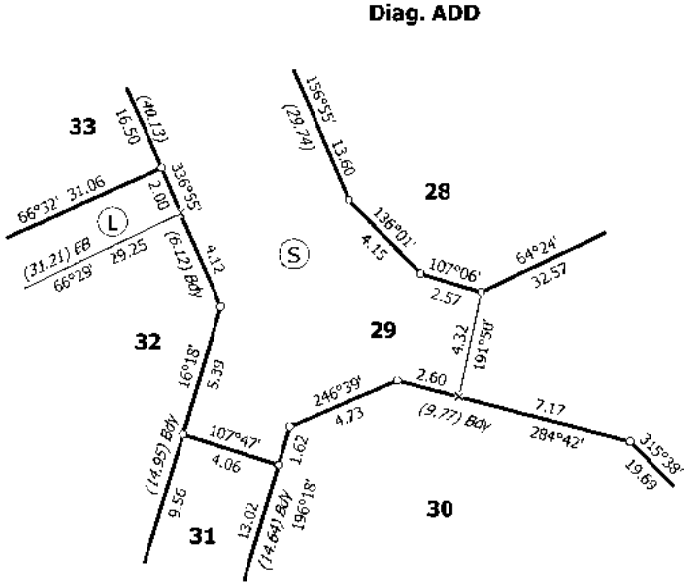


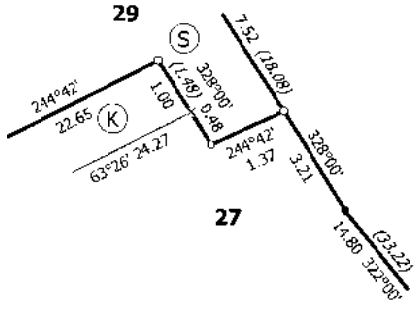
14556 Kotata Developments Stage 2 lm/jg

T 6/9

Land District: North Auckland Digitally Generated Plan Generated on: 14/11/2018 11:18am Page 12 of 15	Lots 1 to 37 being a subdivision of Lot 15 DP 513969	Surveyor: Phillip John Lash Firm: Reyburn & Bryant 1999 Ltd	Title Plan DP 525547 Deposited on: 17/10/2018



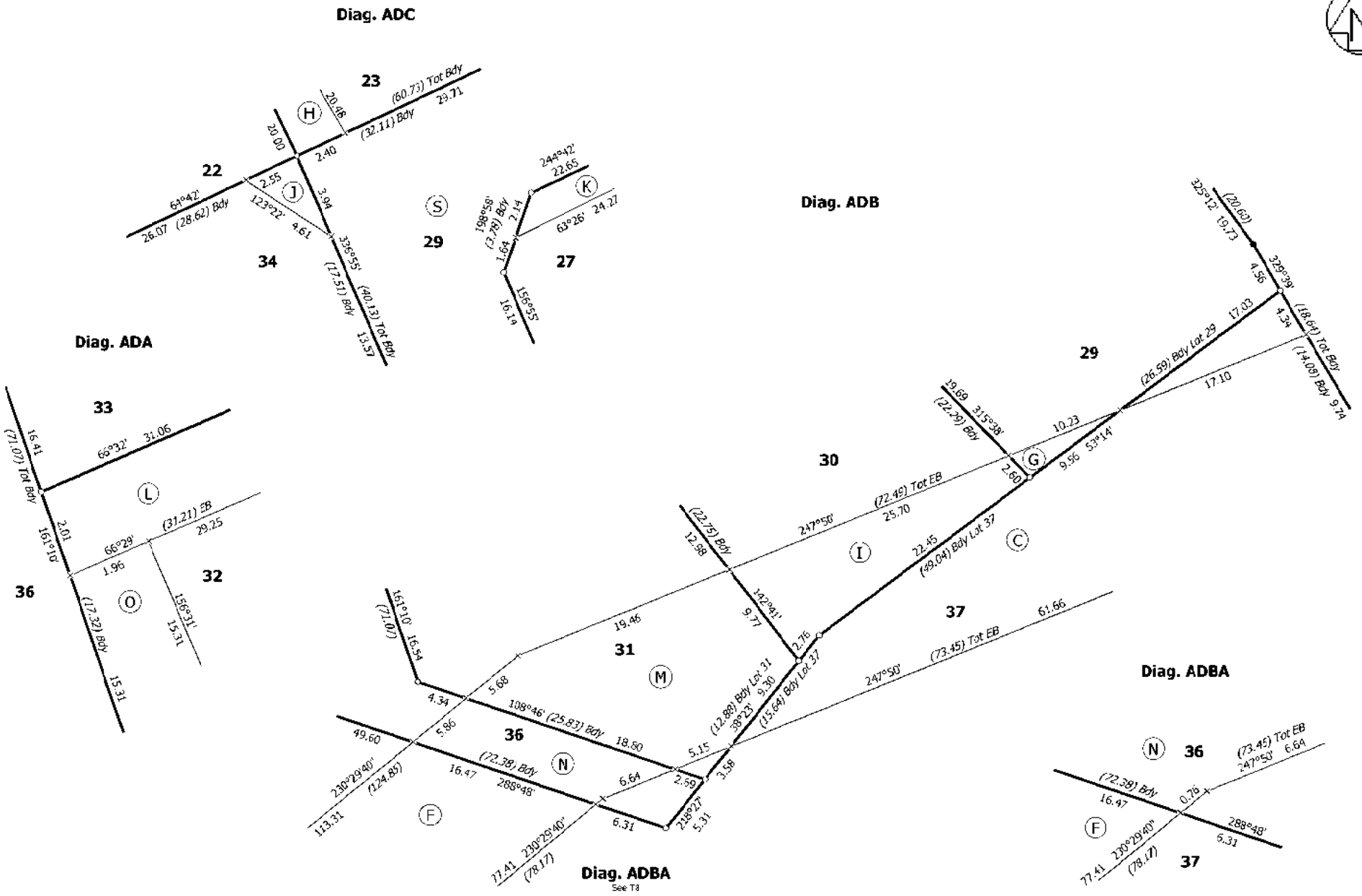




14556 Kotata Developments Stage 2 lm/jg

T 7/9

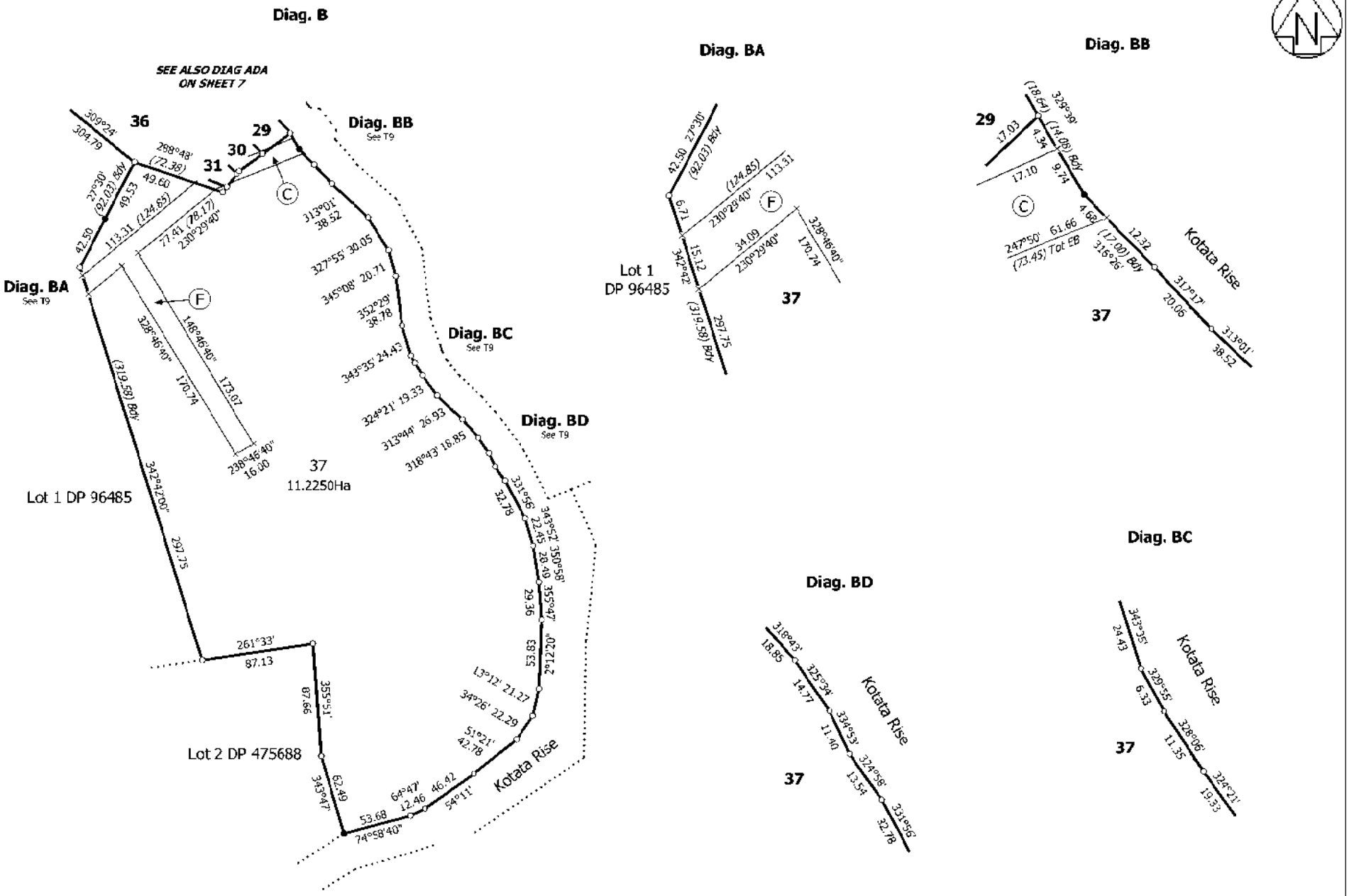
Land District: North Auckland Digitally Generated Plan Generated on: 14/11/2018 11:18am Page 13 of 15	Lots 1 to 37 being a subdivision of Lot 15 DP 513969	Surveyor: Phillip John Lash Firm: Reyburn & Bryant 1999 Ltd	Title Plan DP 525547 Deposited on: 17/10/2018



14556 Kotata Developments Stage 2 lm/jg

T 8/9

Land District: North Auckland Digitally Generated Plan Generated on: 14/11/2018 11:18am Page 14 of 15	Lots 1 to 37 being a subdivision of Lot 15 DP 513969	Surveyor: Phillip John Lash Firm: Reyburn & Bryant 1999 Ltd	Title Plan DP 525547 Deposited on: 17/10/2018



14556 Kotata Developments Stage 2 lm/jg

T 9/9

Land District: North Auckland Digitally Generated Plan Generated on: 14/11/2018 11:18am Page 15 of 15	Lots 1 to 37 being a subdivision of Lot 15 DP 513969	Surveyor: Phillip John Lash Firm: Reyburn & Bryant 1999 Ltd	Title Plan DP 525547 Deposited on: 17/10/2018

CONSENT NOTICE PURSUANT TO SECTION 221

RESOURCE MANAGEMENT ACT 1991

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

AND

IN THE MATTER a subdivision consent as evidenced by Deposited Plan No 525547

AND

IN THE MATTER of a Consent Notice issued pursuant to s221 of the Act by the Whangarei District Council ("the Council")

IT IS HEREBY CERTIFIED that the following conditions, to be complied with on a continuing basis by the subdividing owner and subsequent owners, were imposed as conditions of the subdivision consent SD1700159 ("the consent") as effected by Deposited Plan No 525547 ("the Plan").

1) Road Access:

   a) Future owners of Lots 1 – 6 shall be advised that legal access to the Lots can be obtained only from the right of way 'P', Limerock Lane. No vehicle crossing from these Lots shall be formed directly onto Kotata Rise or High Street.

   b) Future owners of Lots 7 - 14 shall be advised that legal access to the Lots can be obtained only from the right of way 'Q', Suncrest Lane. No vehicle crossing from these Lots shall be formed directly onto High Street.

   c) Future owners of Lots 19 - 26 shall be advised that legal access to the Lots can be obtained only from the right of way 'R', Topfield Place. No vehicle crossing from these Lots shall be formed directly onto Kotata Rise or Titiro Street.

   d) Future owners of Lots 27 – 34 shall be advised that legal access to the Lots can be obtained only from the right of way 'S', Pukepuke Place. No vehicle crossing from these Lots shall be formed directly onto Kotata Rise.

2) All Lot owners shall comply with the following conditions on a continuing basis:

   a) At the time of building consent for any building on the site, the owner shall obtain the necessary vehicle crossing permit, and construct the vehicle entrance crossing in accordance with Sheet 20 Residential Single Width Crossing also in accordance with Sheets 22 & 33 of Council's Environmental Engineering Standards 2010 Edition, to the satisfaction of the Council.

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b) Any development shall comply with the restrictions and recommendations identified in the RS Eng report entitled "Geotechnical Completion Report – Stage 2 Kotata Heights", ref 15450, dated 06 September 2018, unless an alternative engineering report prepared by a suitably experienced Chartered Professional Engineer is approved in writing by Council.

c) Any built development to be constructed on the lots shall comply with the following restrictions:

(1) The land use activity associated with this site shall be restricted to a single residential unit and associated 'residential activity' defined in the Whangarei District Plan.

(2) The height of any building shall not exceed 8 metres above existing ground level.

(3) All buildings are to comply with the following setback requirements:

(i) 4.5 metre setback from Kotata Rise and High Street;

(ii) 2 metres from Titiro Street

(iii) 1 metre setback from all other (internal) boundaries, except a 1.5 metre setback is required from any internal boundaries adjoining a right-of-way easement. There shall be a nil setback requirement on a boundary between adjoining sites where both of those sites accommodate an attached residential unit (for the purpose of this provision 'attached' is defined as adjoining at the boundary)

(iv) Site coverage (as defined in the District Plan) shall not exceed 50% per Lot.

(v) No building shall exceed a height equal to 3 metres plus the shortest horizontal distance between that part of the building and any side or rear boundary, except that there shall be no daylight angle requirement on a boundary between adjoining sites where both of those sites accommodate an attached residential unit (for the purpose of this provision 'attached' is defined as adjoining at the boundary).

(vi) All land, other than accesses, is to be planted in lawns, trees, or shrubs within 2.0 metres of the road boundary.

(vii) Fences within 2 metres of a boundary shall be no higher than 2 metres above existing ground level and shall not be fortified with barbed wire, broken glass or any form of electrification.

3) The owners of Lots 7 – 18, and balance 36 shall comply with the following conditions on a continuing basis:

a) At the time of building consent for any building requiring connection to reticulated sewer, the property owner shall arrange to supply and install (at their own cost) a pressure sewer system of an approved make, brand or type (including all its constituent components) to the satisfaction of Council. After

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approval by the Council's Waste and Drainage Manager, and connection of the pressure sewer system to the council's reticulated system, the Council shall own and maintain the pressure sewer system in accordance with the Council's Pressure Sewer Policy. The owner shall continue to own and maintain the property's gravity drain to the pump chamber. The owner shall be responsible for paying the power consumption of the pumping unit in accordance with Council pressure sewer policy.

b) If a low pressure sewer boundary kit is installed on private property, the owner shall be responsible for the maintenance of the fence erected around/behind the boundary kit to protect it.

4) The owner(s) of Lot 36 shall comply with the following conditions on a continuing basis:

a) Shall abide by the management and maintenance of private subsoil/counterfort drainage, which has been installed to ensure suitable land stability in accordance with section 3.3 Counterfort Drainage within the RS Eng 'Geotechnical Completion Report Stage 2 Kotata Heights' ref 15450 dated 06 September 2018. The Council shall not be responsible for the drainage on any privately owned or for drains within public land and up to the point where they connect to Council stormwater infrastructure.

5) The owners of Lots 11 and 12 shall comply with the following conditions on a continuing basis:

a) No building is to be constructed within the areas marked Y, Z and AA on the Plan, unless supported by a report from a suitably experienced chartered professional engineer which is approved in writing by council.

Dated the 02 ND day of OCTOBER 2018

Signed by Whangarei District Council pursuant to the authority of the Council given pursuant to the Local Government Act 2002 and the Resource Management Act 1991:

Authorised Signatory

GEOTECHNICAL COMPLETION REPORT
STAGE 2 KOTATA HEIGHTS

Kotata Rise

Morningside

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

GEOTECHNICAL COMPLETION REPORT

STAGE 2 KOTATA HEIGHTS

Kotata Rise

Morningside

Report prepared for: Kotata Developments

Report prepared by: Matthew Jacobson

Report reviewed by: Max Haag

Report reference: 15450

Date: 6 September 2018

THE TRUSTED ADVISOR
THE ASSOCIATION FOR CONSULTING AND ENGINEERING PROFESSIONALS
ACENZ

Issue	Details	Date
1	Building Consent Issue	6 September 2018

Contents

1.0 Introduction 1

2.0 Previous Engineering Reports 1

3.0 Construction 1

3.1 Earthworks 2

3.2 Soldier Pile Wall 2

3.3 Counterfort Drainage 2

4.0 Residential Foundations 3

5.0 Conclusion 3

6.0 Limitations 4

Appendices

A Earthworks As-Built Drawings

B Counterfort Drainage As-Builts

C WDCEES PS4

D WDC EES-PO1

E Contractor PS3

F Maintenance and Monitoring of Counterfort Drainage

File: 15450
6 September 2018
Issue: 1

GEOTECHNICAL COMPLETION REPORT

STAGE 2 KOTATA HEIGHTS

High Street, Morningside

1.0 Introduction

RS Eng has carried out audits during and after the construction of Stage 2 Kotata Heights, a residential subdivision at Kotata Rise, Morningside. This report is being prepared as part of the completion of Stage 2, summarising the construction review of stability improvement works.

2.0 Previous Engineering Reports

This firm has previously report on the suitability of this subdivision in a report which is entitled *"Stage 2 Subdivision Suitability, High Street, Morningside"* dated *23 June 2017*. This report required the construction of a soldier pile wall and a program of counterfort drainage.

3.0 Construction

The development and earthworks of the subdivision have been completed in varying stages since the summer of 2007/08 with the servicing, soldier pile wall and the counterfort drain construction completed in 2017 and 2018.

3.1 Earthworks

Earthworks previously undertaken, as detailed in our previous engineering reports, have been supplement by new cuts and fills of up to 0.7m and 1.3m respectively.

To maintain the quality of compaction during the placement of these fills, Pilcon Shear Vane (SV) testing was undertaken. The following compaction criteria were set as per NZS4431:1989, In-situ Undrained Shear Strengths of greater than 150kPa. SV readings were taken at regular intervals during the placement of fills, achieving minimum results of greater than 150kPa.

3.2 Soldier Pile Wall

Construction of the soldier pile wall was undertaken during November and December 2017. An inspection undertaken on 24 November 2017, viewed the excavated piles holes to the correct depth ready for concrete backfill, as per our design.

3.3 Counterfort Drainage

To provide an adequate Factor of Safety against slope instability counterfort drainage was also designed. Construction of the counterfort drains was undertaken during July 2018. The as-builts and contractor PS3 (attached in Appendix B and E) show the drains in the correct locations, excavated to the required depths.

The counterfort drains have been constructed in accordance with our specification in the locations required by the design, wholly contained with individual property boundaries. These are anticipated to operate maintenance free for a minimum of 50 years. Attached in Appendix F is a report outlining the maintenance and monitoring of counterfort drains and the as-built drawings.

4.0 Residential Foundations

As outlined in our Subdivision Suitability report we consider that dwellings within the proposed lots can be generally designed in accordance with NZS3604. Due to the variable nature of the underlying subsoil we recommend that an investigation and site specific assessments are undertaken at the building consent stage for Lots 11 and 12. To ensure overall long term slope stability is maintained across Stage 2 of Kotata Heights and adequate foundations for residential development we have made the following recommendations:

- The building site on Lot 11 is either setback a minimum of 5m from its western boundary or protected by a soldier pile wall specifically designed by a Chartered Professional Engineer to account for a minimum retained depth of 2.0m.
- The building site on Lot 12 is either setback a minimum of 14m from its western boundary or protected by a soldier pile wall specifically designed by a Chartered Professional Engineer to account for a minimum retained depth of 4.0m
- On Lots 11-22 and 31-34, no new fills shall be placed on or within 5m of slopes >14° without further geotechnical review.
- Cuts and fills are limited to 1.0m in depth without further geotechnical assessment.
- Cut and fill batters shall be sloped at a minimum grade of 1V to 2.5H or be suitably retained.
- As a minimum, foundations should be designed to account for moderately expansive soil, Class M as per AS2870.
- Any foundations within 5m of slopes >14° shall be specifically designed to account for up to 1.0m of shallow soil creep.
- Any buildings should be setback from steep batter slopes as required by Table 2 in our previous report, which is attached in Appendix D.

5.0 Conclusion

It is the conclusion of RS Eng Ltd that earthworks have been undertaken to a suitable standard, the soldier pile wall and counterfort drainage has been constructed appropriately, as per the design. We further conclude that the lots are suitable for residential construction provided that the recommendations of this report are complied with.

6.0 Limitations

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

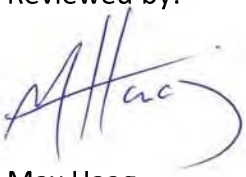
Recommendations and opinions in this report are based on data obtained as previously detailed. The nature and continuity of subsoil conditions away from the test locations are inferred and it should be appreciated that actual conditions could vary from those assumed.

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

Prepared by:

Matthew Jacobson
Senior Engineering Technician
NZDE(Civil)

Reviewed by:

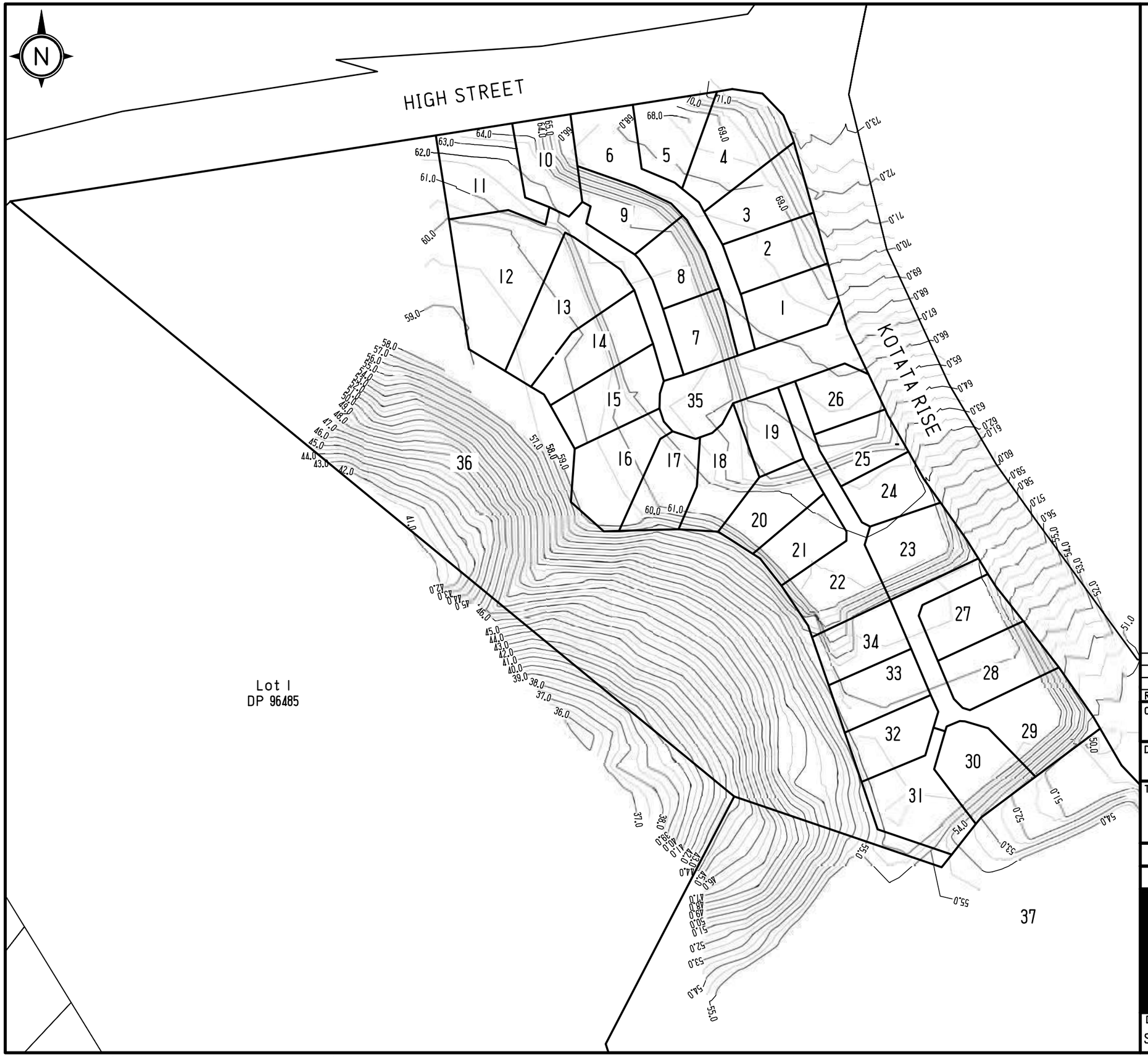


Max Haag
Chartered Professional Engineer
NZCE(Civil), BE(Civil), CPEng, CMEngNZ

RS Eng Ltd

Appendix A

Earthworks As-Built Drawings



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- COORDINATES IN TERMS OF: NZ TRANSVERSE MERCATOR 2000
- LEVELS IN TERMS OF: ONE TREE POINT (1964) DATUM

SHEET SCHEDULE

ORIGINAL CONTOURS	-	SHEET 1
FINAL CONTOURS	-	SHEET 2
CUT/FILL PLAN	-	SHEET 3

REV	DATE	AMENDMENTS
A	30.07.18	FIRST ISSUE - SB

CLIENT: KOTATA DEVELOPMENTS LTD
HIGH STREET, MORNINGSIDE WHANGAREI

DESCRIPTION: LOTS 1 - 37 BEING A PROPOSED SUBDIVISION OF LOT 1 DP 513969

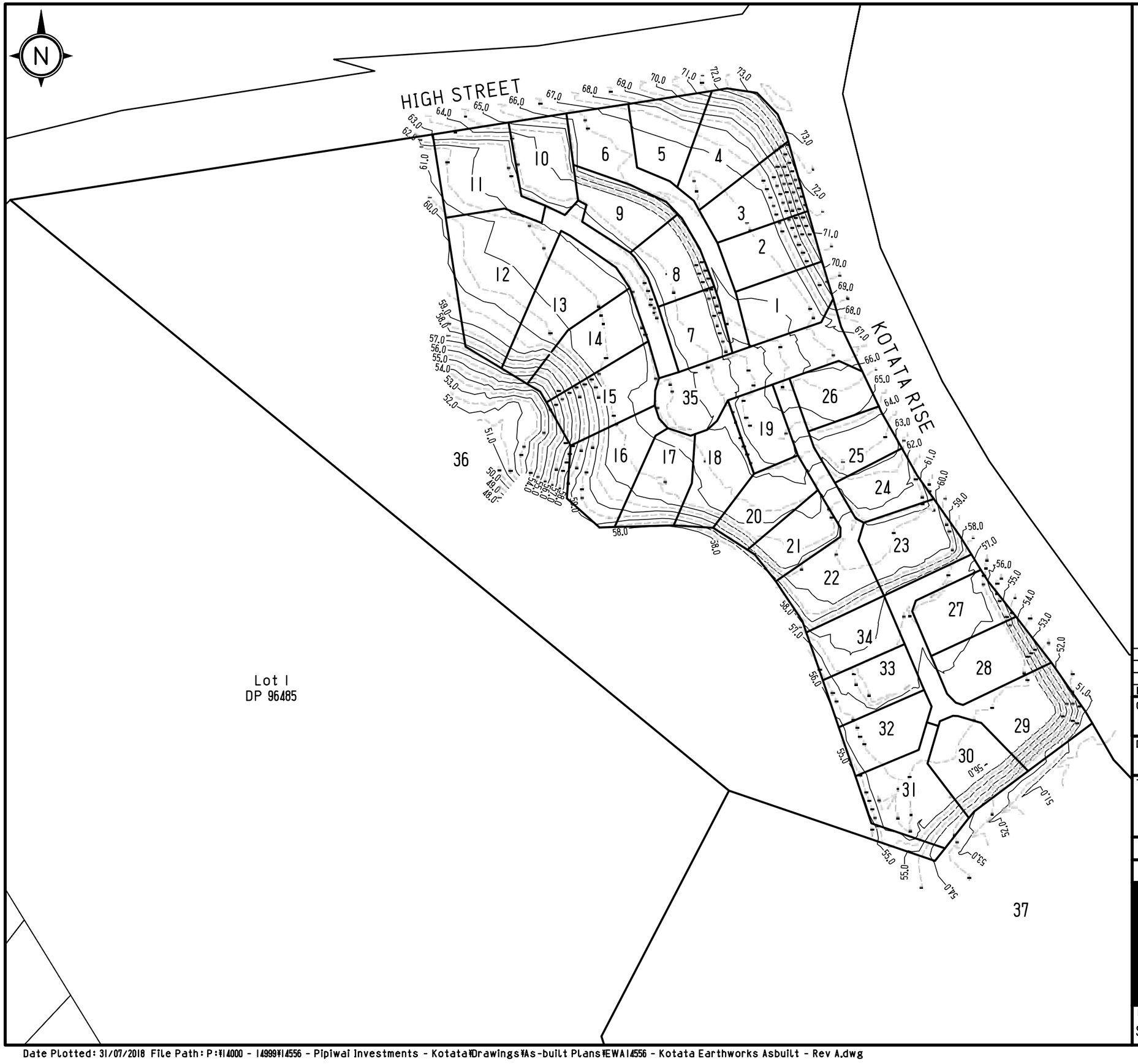
TITLE: EARTHWORKS ASBUILT
STAGE 2: ORIGINAL CONTOURS

SCALE: 1:1250 @A3

COUNCIL REFERENCE: SD1700159

reyburn & bryant
Ph: 09 438 3563
7 Selwyn Ave, Whangarei
PO Box 191, Whangarei 0140
www.reyburnandbryant.co.nz

DRAWING REF.	SHEET	REV
STAGE: 2 EWA 14556	01 OF 03	A



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REV	DATE	AMENDMENTS
A	30.07.18	FIRST ISSUE - SB

CLIENT: KOTATA DEVELOPMENTS LTD
HIGH STREET, MORNINGSIDE WHANGAREI

DESCRIPTION: LOTS 1 - 37 BEING A PROPOSED SUBDIVISION OF LOT 1 DP 513969

TITLE

EARTHWORKS ASBUILT

STAGE 2: FINAL CONTOURS

SCALE: 1:1250 @A3

COUNCIL REFERENCE: SD1700159

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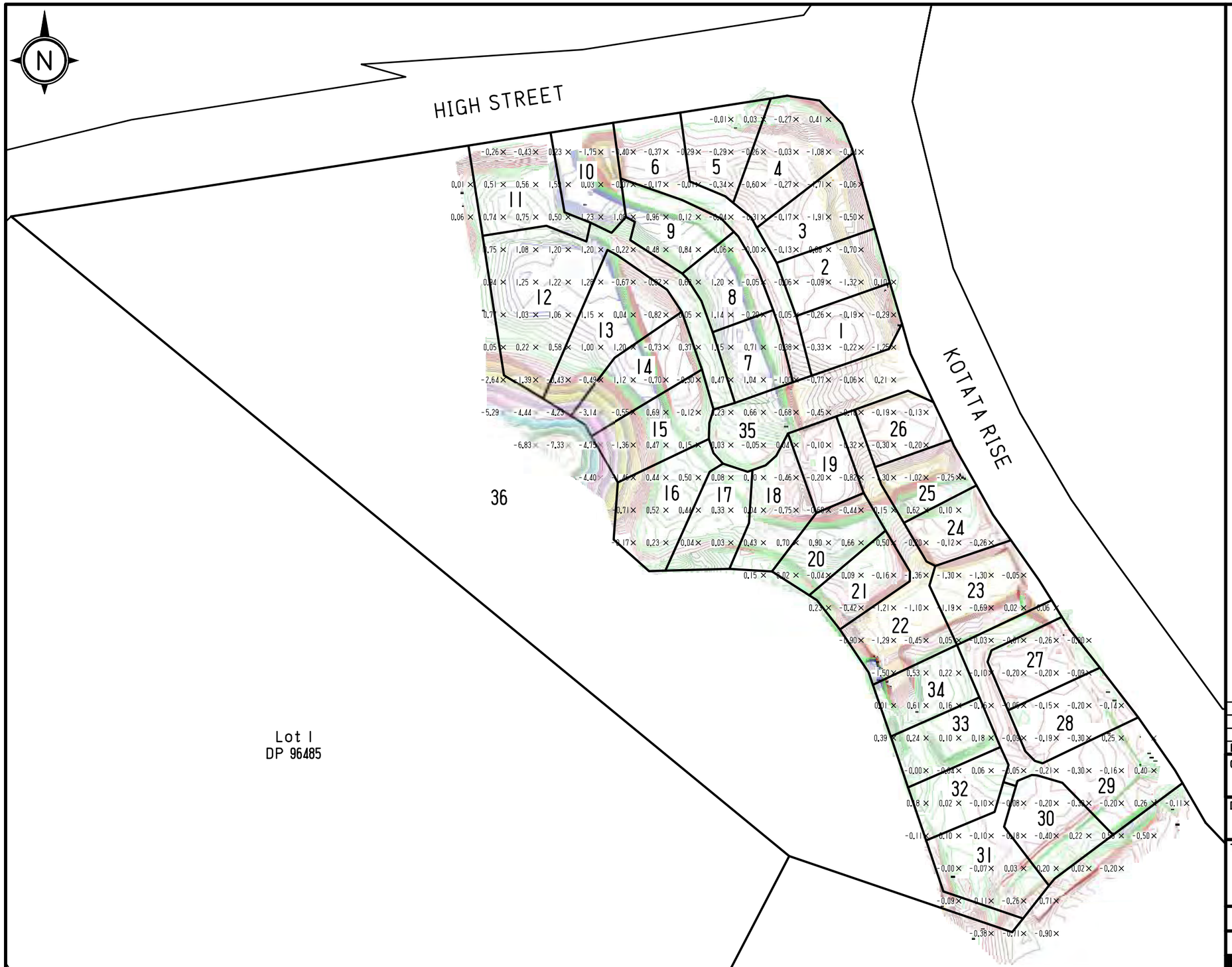
DRAWING REF.	SHEET	REV
STAGE: 2 EWA 14556	02 OF 03	A

Date Plotted: 31/07/2018 File Path: P:¥14000 - 14999¥14556 - Pipiwai Investments - Kotata¥Drawings¥As-built Plans¥EWA14556 - Kotata Earthworks Asbuilt - Rev A.dwg



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-3.90 TO -4.00			

REV	DATE	AMENDMENTS
A	30.07.18	FIRST ISSUE - SB

CLIENT
KOTATA DEVELOPMENTS LTD
HIGH STREET, MORNINGSIDE WHANGAREI

DESCRIPTION
LOTS 1 - 37 BEING A PROPOSED SUBDIVISION OF LOT 1 DP 513969

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EARTHWORKS ASBUILT
STAGE 2: CUT/FILL PLAN

SCALE: 1:1250 @A3

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DRAWING REF.
STAGE: 2 EWA 14556

SHEET
03 OF 03

REV
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Appendix C

WDCEES PS4

WHANGAREI DISTRICT COUNCIL
Forum North · Private Bag 9023 · Whangarei 0148 · New Zealand
Telephone (09) 430 4200 · 0800 WDC INFO · 0800 932 463 · Facsimile (09) 438 7632
Website http//www.wdc.govt.nz · E-mail mailroom@wdc.govt.nz

Creating the ultimate living environment

Form EES-PS4
Producer Statement – Construction
Certificate of Works carried out under Resource Consent

Issued By *(print)* Max Hagg
(Suitably Qualified Professional/IQP)

To **Whangarei District Council**

In respect of Stage 2 Kotata Developments
(Description of sub divisional/Development work)

at Kotata Rise
(Address)

Lot 15 DP 513969 SO

RS Eng Ltd has been engaged by Kotata Developments
(Consultants Firm) *(Developer/Owner)*

to provide certification for the following works approved under Resource Consent number SD170015

Issued on _____ and described on drawings titled Proposed Subdivision of Lots 15-17 SD 100015.02

and numbered 1/1 and dated June 2017

Works subject to *(provide description of work/extent of certification)*

i Earthfills

ii Cuntenfort Drainage

iii Soldier Pile Wall

iv

v

We have sighted the Resource Consent issued and the conditions attached to it

On the basis of review(s), supervision and information supplied by the contractor(s) during the course of the works, as an independent professional **I believe on reasonable grounds** that the construction works as specified above have been completed in terms of the approved drawings, specifications and other documents approved under the Resource Consent process

Signature *sional* 4/9/18
Date

BE (civil) CPEng MIPENZ
Professional Qualifications

2 Seaview Rd, Whangarei
Address

Member of ☑ ACENZ ☑ IPENZ ☐ NZIS IQP Registered ☑ Yes ☐ No

Note
This statement is to be accompanied by proof of current Professional Indemnity Insurance to a value of not less than that stated in Council's Environmental Engineering Standards (2009)

Appendix D

WDC EES-PO1

WHANGAREI DISTRICT COUNCIL
Forum North · Private Bag 9023 · Whangarei 0148 · New Zealand
Telephone (09) 430 4200 · 0800 WDC INFO · 0800 932 463 · Facsimile (09) 438 7632
Website http//www.wdc.govt.nz · E-mail mailroom@wdc.govt.nz

Statement of Professional Opinion on Suitability of Land for Building Construction

Form EES-PO1

Development Stage 2 Kotata Rise

Developer Kotata Developments

Location Kotata Rise, Whangarei

I *(full name)* Max Haag

of *(Name and address of firm)* RS Eng Ltd

Hereby confirm that

1 I am a geo-professional as defined in **Section 1.2** of the WDC EES and was retained by the developer as the geo-professional on the above development

2 The extent of my preliminary investigations are described in my Report(s) number 7753 dated 23 June 2017 & the conclusions and recommendations of that/those document(s) have been re-evaluated in the preparation of this report. The extent of my inspections during construction, & the results of all tests and/or re-evaluations carried out are as described in my geotechnical completion report dated 3 September 2017

3 In my professional opinion, not to be construed as a guarantee, I consider that *(delete as appropriate):*

a The earth fills shown on the attached Plan No EWA 14556 have been placed in compliance with the requirements of the WDC EES ~~Council~~ & my specification

~~(However, lots _____ & _____ did not pass final fill specification testing & as a result, specific site investigations & foundation designs will be required here at the time of building consent application)~~

b The completed works take into account land slope & foundation stability considerations, subject to the appended foundation recommendations and earthworks restrictions, *(which should be read in conjunction with the appended final site contour plan)*

c Subject to 3(a) and 3(b) above, the original ground not affected by filling satisfies the description of 'good ground' as described in NZS3604/NZS4229 ☐ Yes ☑ No

(If **no**, a specific foundation investigation/design will be required at the time of Building Consent)

d Subject to 3(a) & 3(b) above, the filled ground satisfies the description of 'good ground' as described in NZS3604/NZS4229 ☐ Yes ☑ No

(If **no**, a specific foundation investigation/design will be required at the time of Building Consent)

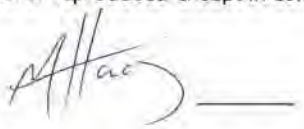
e The original ground not affected by filling & the filled ground are not subject to erosion, subsidence, or slippage in accordance with the provisions of section 106 of the Resource Management Act 1991provided that:

i The RS Eng Ltd Geotechnical Completion Report dated 3 September 2018, # 15450 is complied with.

~~ii~~

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

5 This certificate shall be read in conjunction with my geotechnical report referred to in clause 2 above & shall not be copied or reproduced except in conjunction with the full geotechnical completion report



BE (Civil) CPEng NZIPENZ — *Professional Qualifications*

4/9/18 — *Date*

Appendix E

Contractor PS3

SCHEDULE 1B

CONTRACTOR'S CERTIFICATE UPON COMPLETION OF LAND DEVELOPMENT/SUBDIVISION

ISSUED BY: BOX- GROUP
(Contractor)

TO: KOTATA DEVELOPMENTS LTD.
(Principal)

TO BE SUPPLIED TO: WHANGAREI DISTRICT COUNCIL
(Territorial authority)

FOR: KOTATA STAGE - 2
(Description of land development/subdivision)

AT: KOTATA DEVELOPMENTS, KOTATA RISE, WHANGAREI
(Address)

BOX - GROUP has contracted to KOTATA DEVELOPMENTS
(Contractor) *(Principal)*

to carry out and complete certain land development and/or subdivision construction in accordance with a contract, titled Contract No. ..... for .....('the contract').

I ..... a duly authorised representative of BOX - GROUP
(Duly authorised agent) *(Contractor)*

hereby certify that BOX GROUP has carried out and completed
(Contractor)

the construction, other than those outstanding works listed below, in accordance with the contract and in accordance with approved engineering drawings and specifications.

Construction of Counterfort Drains, by laying the novaflow pipes at mudstone level & completing works related to CF Drains

..... Date 29/8/18

(Signature of authorised agent on behalf of)

... .
(Contractor)

BOX- Group. 32 - LOGYARD ROAD, PORT WHANGAREI 0148
(Address)

Outstanding works

- Nil

Appendix F

Maintenance and Monitoring of Counterfort Drainage

File: 15450
6 September 2017
Issue: 1

MAINTENACE AND MONITORING OF COUNTERFORT DRAINAGE

Kotata Rise, Morningside

1.0 Introduction

RS Eng Ltd has previously report on the suitability and completion of Stage 2 Kotata Heights. These reports are entitled as follows, *"Stage 2 Subdivision Suitability Report"* dated 23 June 2017 and *"Geotechnical Completion Report, Stage 2 Kotata Heights"* dated 6 September 2018.

Counterfort drainage has been constructed on Lot 36 as part of stabilisation works to increase the Factor of Safety against slope instability to an acceptable level. As-built drawings of the proposed drains are attached in Appendix A.

2.0 Maintenance, Monitoring and Replacement

In this firms 30 years of experience we are not aware of any failure of counterfort drainage. The drains installed in Lot 36 are expected to operate maintenance free for 50 years, however we recommend that inspections are made on a 5 yearly basis to monitor ongoing performance with reporting to the Whangarei District Council. The inspections shall keep record of outlet flow, and inlet and outlet condition.

In the unlikely event of failure of the counterfort drainage, the drain shall be replaced under the supervision of a Chartered Professional Engineer with experience in their construction.

3.0 Stormwater Disposal

Outlets from the counterfort drains have been constructed to discharge stormwater to the surface. Future development of this property will need to ensure appropriate collection and discharge within a storm water network.

4.0 Limitations

This report has been prepared solely for the benefit of our client and the Whangarei District Council. The reliance by other parties on the information or opinions contained therein shall, without our prior review and agreement in writing, do so at their own risk.

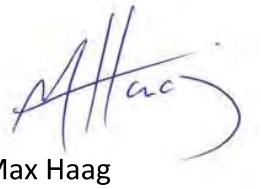
Recommendations and opinions in this report are based on data obtained as previously detailed.

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

Prepared by:

Matthew Jacobson
Senior Engineering Technician
NZDE(Civil)

Reviewed by:



Max Haag
Chartered Professional Engineer
BE(Civil), CPEng, CMEngNZ

RS Eng Ltd

Tonkin+Taylor

Job No: 1012149.0010
18 November 2020

Whangarei District Council
Email: Simon.Weston@wdc.govt.nz

Attention: Simon Weston

Dear Simon

Whangarei District Council - Advice Memo
Kotata Development - Stage 2

The following letter has been prepared in line with the Engineering Panel Agreement between Whangarei District Council (WDC) and Tonkin & Taylor Ltd (T+T).

WDC has received geotechnical information and reporting, provided by the Kotata Developments Ltd (KDL) geotechnical consultant, for Stage 2 of the Kotata Development, summarising the results of a further investigation of the stability of this area. This letter summarises T+T's geotechnical review of the information contained within the report[1] on Stage 2 (dated 6 November 2020), received by WDC. The objective of our review was to advise WDC on the information and assessment presented within the report, and to outline key points of concern with respect to Stage 2.

1 Summary information

1.1 Initia reporting

Initia Limited (Initia) provided a report summarising the findings of recent deep borehole investigations. This report focuses on Stage 2 of the Kotata Development, west of High Street, Whangarei. The report separates out the Stage 2 lots into two separate areas, Northern and Southern. The Northern area has been defined as Stage 2 lots 1-15. The southern area has been defined as Stage 2 lots 16-34.

Details of this report focus only on the presence or absence of deep-seated slope instability under Stage 2 of the subdivision. WDC has previously granted resource consent for Stage 2. It is noted that all but Stage 2 Lots 5, 14 and 15 have established dwellings with Stage 2 Lots 14 and 15 actively seeking building consent.

[1] Initia Limited, 6 November 2020. Kotata Development Stage 2, Geotechnical Investigations and Engineering Geological Review (ref: P-000822).

Tonkin & Taylor Ltd | 105 Carlton Gore Rd, Newmarket, Auckland 1023, New Zealand
PO Box 5271, Victoria Street West, Auckland 1142 P +64-9-355 6000 F +64-9-307 0265 E akl@tonkintaylor.co.nz

During the investigations undertaken by Initia, inclinometers were installed upon completion in selected investigation boreholes. Data obtained from monitoring between 14 July 2020 and 9 September 2020 has not indicated signs of active slope movement.

1.2 Northern Stage 2 (Lots 1-15)

Initia has indicated that this area is not considered to have been subject to deep-seated instability. They note that the investigations undertaken identified a "*lack of deep sheared surfaces within MBH19 and MB33"* (Section 10.3[1]) and that, "*the overall geomorphology suggests a constrained southwest direction of movement, while structure is interpreted to be northwest dipping*" (Section 10.3[1]*).*

Initia do, however, note *"localised parts of the lower slopes are clearly more active based on pre-construction aerial photography and underlying mudstone in these areas may present a more complex failure mechanism"* (Section 10.3[1]*),* with recent tension cracking identified downslope of Lots 14 and 15 and "*is considered to present an ongoing risk of slope failure"* (Section 10.3[1]).

Initia note that the soldier pile wall constructed downslope of lots 12-15 was designed by RS Eng to mitigate an inferred failure at the soil/rock interface. They note that "*it is possible that the instability was controlled by the underlying mudstone unit rather than a shallower failure surface as inferred by RS Eng*" (Section 10.3[1]*),* and "*if this alternative instability mechanism exists, then the solider pile wall would not be embedded sufficiently deeply to address the long-term instability risk. In this case, the western most lots in this area are likely to have a level of stability below that commonly accepted, despite their performance over the last 4-5 years"* (Section 10.3[1]).

Initia conclude that;

"*The existing soldier pile wall constructed here may have reduced some of the residual risk for this instability"* (Section 11[1]*). However, "there is a potential for slope displacements to occur beneath the wall piles which are only 6 m deep. Therefore, it cannot be definitively demonstrated that these achieve commonly accepted levels of slope stability for development*" (Section 11[1]). As such, "*Based on the depth of mudstone encountered in the boreholes, geomorphology and slope geometry, this risk of instability is expected to be limited to the western most lots, specifically Lots 12 to 15"* (Section 11[1]).

"Lot 11 has been provisionally identified as having a potential risk of instability" (Section 11[1]) on the basis that *"similar ground conditions are anticipated"* (Section 11[1]) and, *"The lack of specific slope instability mitigation measures employed during earthworks and the geomorphology of the slope pre-development define this risk"* (Section 11[1]*).* Though it is noted that "*specific targeted future investigation may confirm a risk profile lower than that provisionally indicated*" (Section 11[1]).

Lots 1 to 10 *"are not considered to have an elevated risk of deep seated slope instability due to their location*" (Section 11[1]).

1.3 Southern Stage 2 (Lots 16-34)

Initia has indicated that *"Due to historic instability and regression, the overall slope angle has been reduced to approximately 12° (for western slopes) and appears to have reached an equilibrium geometry. While the geomorphology does suggest that shallow slope movement processes are ongoing, the geometry of the slope and dominant structural orientation is such that we do not consider the area to be at significant risk of further large scale deep-seated instability episodes "* (Section 10.2[1]). However it is also noted that, "*there is the potential for localised regression to continue where the weaker Mudstone Mélange is present on the upper slopes*" (Section 11[1]) and that, "*there is considered to be a risk of local instability affecting house sites" (*Section 10.2[1]*).*

Initia conclude that;

Lots 20-22 and 31-34 are potentially subject to the identified local instability risk. However, "*The risk of deep-seated instability could be confirmed or discounted on these lots (or areas of lots) by further geotechnical investigation. It is noted that ground conditions in MBH20 (located on Lot 21) are consistent with an elevated risk of deep-seated instability*"(Section 11[1]).

Lots 16-18 "*are provisionally identified as having an elevated risk of deep-seated slope instability. Based on the geomorphology, and inferred geological model"* (Section 11[1]), though it is noted that, *"these lots have been included in the elevated risk category as no investigation has been carried out in proximity to the lots to adequately qualify the risk of instability"* (Section 11[1]).

Lots 19, and 23 to 30 *"are not considered to have an elevated risk of deep-seated instability based on the assessment undertaken. These lots generally are generally sited on the ridge crest or eastern side of the pre-development Kotata ridgeline which has been reduced in elevation by cut earthworks"* (Section 11[1]).

1.4 Other recommendations

Initia has observed that "*stormwater discharge and runoff appear to be occurring over the western slopes below both Northern and Southern Stage 2*" (Section 11[1]), to which they have recommended that "*stormwater flows be diverted away from the slope / or formalised / piped to the base of (and beyond) the slopes to reduce the risk of instability associated with surface water infiltration* " (Section 11[1]).

Initia also recommends that inclinometers *"continue to be monitored regularly to provide more information on the performance of the slopes*" (Section 11[1]), however note that *"Monitoring may need to extend over a period of years"* (Section 11[1]).

2 T+T Geotechnical review

Following our review of the information presented within the Initia report (including borehole logs, inclinometer data and groundwater data), as well as Initia's assessment of this information, we consider that future instability of Stage 2 is a concern. Initia's assessment of the level of stability of potential failure surfaces identified within the rock mass, indicate the potential for future slope movement on the slopes to the west of this stage.

The borehole logs indicate sheared mudstone at approximately 7 m – 8 m depth, which is notably below the embedded depth of the existing Stage 2 palisade wall (6 m). We note that this sheared mudstone layer is relatively thin (approximately 300mm) however is bounded by 'core loss' and therefore the investigation log may underestimate the in-situ thickness of this layer. These materials are typically associated with failure surfaces identified within this geology, which is present in several areas in Whangarei.

Inita's assessment of the potential failure mechanism downslope of Lots 12-15 (and potentially also impacting Lot 11, Lots 16-18, Lots 20-22, and Lots 31-34) suggests current mitigations that have been implemented may not provide an adequate factor of safety in line with WDC's published standards for residential developments.. The presence of the tension crack down slope of the indicated palisade wall location suggests that the land in the area of the palisade wall is unstable or only marginally stable in its current condition. Given the tension cracks are indicated to be in front of the wall, at this stage, the wall may be resisting movement upslope.

The indicated potential instability risk to Lot 11, Lots 16-18, Lots 20-22 and Lots 31-34 has not been as clearly identified as that of Lots 12-15, due to the uncertainties in the ground conditions between borehole locations, and the lack of investigation data within these Lots. However, the indication

from initia is that the borehole data available (MBH20, located on Lot 21) shows geology that could be susceptible to deep-seated instability. Therefore, at this stage, these Lots should be considered similarly to Lots 12-15 until further information or investigation can confirm the underlying ground conditions.

The remainder of the Lots (1-10, 19, 23-30) are not considered by Initia to have an elevated risk of deep-seated slope instability.

Inclinometer results presented within the Initia report show no obvious signs of movement since installation, indicating that there has been no land movement at the locations of these boreholes during the monitoring period. Continued monitoring of the inclinometers could identify gradual or early signs of movement if it occurs in the future, and may be able to identify movement at depth before it is visible at the ground surface; however, such early warning signs may not occur and monitoring should not be solely relied upon to manage the instability risk. With the sheared mudstone materials Initia has identified, we would expect any future movement to be intermittent and involve slow displacement as the shear surfaces are likely to be at their residual strengths.

As identified in Initia's report, the discharge of stormwater onto the slope and the location of the existing drain outfalls is not considered to be suitable given the underlying potential for slope failure. The discharge of stormwater onto the slope may increase the risk of slope failure through saturation of the overlying soils, inadvertently surcharging the slope and reducing the shear strength of potential failure surfaces within the rock and along the soil/rock interface.

3 Key points of concern

Based on the review by Initia, the geotechnical evidence they have provided suggests that a potential failure mechanism may exist on the slopes below Lots 12-15, which may also impact Lot 11, Lots 16-18, Lots 20-22, and Lots 31-34. The failure mechanism identified comprises failure through an underlying weak mudstone layer on which a failure surface may develop. The existing palisade wall is inferred to have been designed to mitigate a shallower failure mechanism and is considered to be insufficiently embedded to mitigate this deeper mode of failure. In conjunction with this the factor of safety for the slope is likely to be less than required by WDC's published standards for residential development.

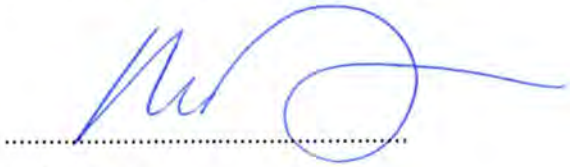
On this basis there exists an increased potential risk to land/homeowners of Lots 11-18, Lots 20-22, and Lots 31-34 of land slippage. In the event of future slope movement, underneath or adjacent to these Lots, the land supporting the dwellings may become unstable resulting in loss of strength in foundations and subsequent damage to residential land, buildings and possibly infrastructure.

4 Applicability

This report has been prepared for the exclusive use of our client Whangarei District Council, with respect to the particular brief given to us and it may not be relied upon in other contexts or for any other purpose, or by any person other than our client, without our prior written agreement.

Tonkin & Taylor Ltd

Environmental and Engineering Consultants

Report prepared by:	Authorised for Tonkin & Taylor Ltd by:
	
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Jen Smith Geotechnical Engineer	Nick Rogers Project Director

18-Nov-20
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INITIA
GEOTECHNICAL SPECIALISTS

KOTATA DEVELOPMENTS LIMITED

KOTATA DEVELOPMENT, STAGE 2

GEOTECHNICAL INVESTIGATIONS AND ENGINEERING GEOLOGICAL REVIEW

INITIA REF P-000822 REV B

NOVEMBER 2020

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1. Introduction

1.1 General

Initia Limited (Initia) has been engaged by Kotata Developments Limited (KDL) to provide geotechnical consultancy services for the Kotata Development. Our scope of services has been limited to:

- An assessment of deep-seated slope stability for Stages 3 and 4 of the development (including geotechnical investigations). This work has been reported separately in the Initia Report titled "Kotata Development, Stages 3 and 4 – Geotechnical Assessment of Deep-Seated Slope Stability", Initia Ref P-000822, Rev B, dated July 2020.
- Geotechnical investigations and development of an engineering geological model for Stages 1 and 2. This includes the assessment of deep-seated slope instability for the Stage 1 and 2 areas.

The purpose of the investigations and assessment for Stages 1 and 2 is, on behalf of Kotata Developments Limited, to assist Whangarei District Council's Building Consent processing and risk assessment for this area of the site. On this basis, the work has included the identification of lots and areas of the site considered to have higher risk / uncertainty associated with deep seated instability that may not have been addressed as part of the original subdivision design, as well as lots/areas that are not considered to have an elevated risk of deep seated slope instability.

This report outlines the findings of the geotechnical investigation and assessment carried out within the "Stage 2" area of the development. Previous reporting for Stage 1 has been provided in two separate letter reports for the southern and northern parts of Stage 1, dated 31 July 2020 and 18 September 2020, respectively.

1.2 Scope of Initia Study for Stages 2

Initia's scope of work for Stage 2 includes:

- A review of historical aerial photography;
- A review of previous reporting;
- A site walkover by Senior Geotechnical Engineers and Engineering Geologists;
- Geotechnical investigations comprising deep boreholes, together with installation of geotechnical instrumentation;
- Interpretation and development of an engineering geological model for the purposes of assessing deep seated slope stability.

In addition to the specific ground investigations undertaken for Stage 2, a series of boreholes have also been completed for Stages 1, 3 and 4. The locations of all ground investigations completed by Initia are set out on Drawing 822-S2-001 in Appendix A, along with relevant historical ground investigation locations for the Kotata Rise site and adjacent Semenoff site, where similar ground conditions exist.

2. Background

2.1 Kotata Development

Based on the plans and information provided to us, the Kotata development comprises a multistage residential subdivision on an area of land south of High Street in Morningside, Whangarei. The development includes subdivision earthworks and the construction of civil infrastructure including, roading, stormwater and other services. It is understood the bulk earthworks for the development were completed in the early 2010's. Stages 1 and 2 of the development have been completed with titles issued. Bulk earthworks for Stages 3 and 4 have been completed with construction of the civil infrastructure in progress.

Most of the lots within Stages 1 and 2 have now been developed with standalone residential dwellings, however several lots remain undeveloped. It is understood that Building Consent applications for residential construction on some of the remaining lots have been suspended by WDC based on a review of the development by Tonkin + Taylor on behalf of WDC.

We have not sighted the documented reasoning for suspending the building consent applications for individual lots. However, based on our discussions with WDC and T+T, recent slope failures at the Semenoff site immediately to the West of Kotata Rise, has led to concern that global slope stability and deep seated failure mechanisms for Stages 1 and 2 may not have been adequately addressed as part of the original subdivision development design.

2.2 Previous Geotechnical Reporting

The findings of our work to date for Stages 1A, 1B, 3 and 4 have been issued in the following reports:

- Kotata Development Stage 1 – Southern Stage 1 Investigations and Engineering Geological Review, Letter Report. Dated 24 September 2020. Initia Ref. P-000822.
- Kotata Development Stage 1 – Northern Stage 1 Investigations and Engineering Geological Review, Preliminary Letter Report. Dated 31 July 2020. Initia Ref. P-000822.
- Kotata Development, Stages 3 and 4 – Geotechnical Assessment of Deep-Seated Slope Stability, Revision B. Dated 24 July 2020. Initia Ref. P-000822.

2.3 Referenced Documents and Information

The following documents and information have been referenced in this study:

1. Cook Costello "Geotechnical report for rezoning Lot 1 DP 96485 & Pt Lot 3 DP 100672, Southend Avenue, Whangarei" Dated 21 September 2006, Cook Costello reference 7873-004;
2. Riley Consultants Limited "Geotechnical assessment for proposed rezoning High Street, Morningside Whangarei" Dated 13 June 2008, Riley reference 07310-A
3. Riley Consultants Limited "Preliminary review, proposed earthworks, High Street/Morningside Drive, Whangarei" Dated 03 October 2008, Riley reference 07310-B
4. Riley Consultants Limited "Response to geotechnical review, High Street, Morningside, Whangarei" Dated 29 October 2008, Riley reference 07310-C
5. Riley Consultants Limited "Summary of geotechnical peer review assessment, proposed subdivision, High Street, Morningside, Whangarei" Dated 10 November 2011, Riley reference 07310/1-A
6. Richardson Stevens "Geotechnical assessment for proposed subdivision, High Street, Morningside" Dated 17 June 2016, Richardson Stevens Reference 7793.
7. Richardson Stevens "Stage 2 subdivision suitability report, High Street, Morningside" Dated 23 June 2017, Richardson Stevens Reference 7793.
8. RS Eng "Geotechnical Completion Report – Stage 2 Kotata Heights, Kotata Rise, Morningside" Dated 6 September 2018, RS Eng reference 15450