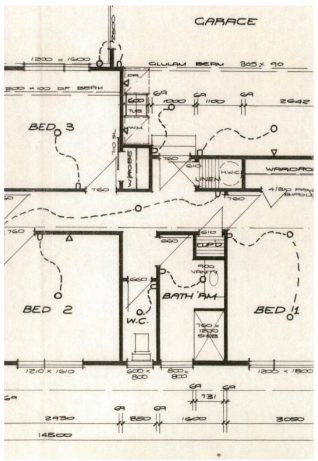
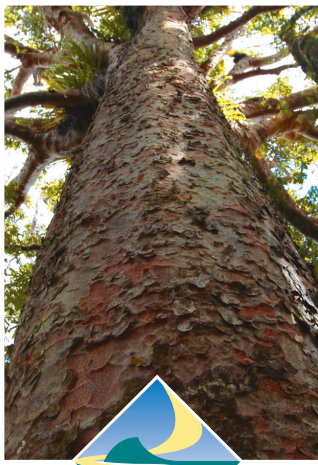
LIM

Land Information Memorandum





Tauranga City

Land Information Memorandum

This L.I.M. has been prepared for:

Applicant	**Phil Smith**
Property Address	**8 Sececio Way** **Papamoa Beach** **Papamoa**
Legal Description	**LOT 123 DP 489916 LOT 912 DP 489916**
Application Date	**28 March 2024**

This Land Information Memorandum has been prepared for the purposes of Section 44A of the Local Government Official Information and Meetings Act 1987 and, in addition to the information provided for under section 44A(2), may contain such other information concerning the land that Council considers, at its discretion, to be relevant. It is based on a search of Council records only. There may be other information relating to the land which is unknown to Council. The Council has not undertaken any inspection of the land or any building on it for the purpose of preparing this Land Information Memorandum. The applicant is solely responsible for ensuring that the land is suitable for a particular purpose.

It is recommended that the Certificate/Record of Title, which is not held by Council, be searched by the purchaser.

Contents

Services Information

Land information which is likely to be relevant includes information on private and public stormwater, water and sewer details. Please refer to the appropriate authorities for further information about network utility services.

Service Record

Copy of Deposited Plan Attached	**Yes**
Service Print Attached	**Yes**
Method of Sewer Disposal	**To Public Sewer**
Existing Method of Stormwater Disposal	**To Soakholes**
Drinking Water Supplied to the Land	**Yes**
Drinking Water Supplier Is:	
(I) Owner of the Land; or	**No Information Available**
(ii) Tauranga City Council [Water Supply Authority Unit (WSA)]; or	**Yes**
(iii) Another Networked Supplier	**No Information Available**
Any Information Notified Under Section 69ZH Health Act 1956	**No Information Available**

Note:

1. Please note that the existence of a watermain along a property frontage does not necessarily mean that a connection is available. This may need to be provided at the applicant's expense.
2. If the land is supplied with drinking water by Tauranga City Council as a Water Supply Authority, any conditions (generally set out in Tauranga City Council's "Supply of Water Bylaw 2019" – copy attached) applicable to that supply are included in this Land Information Memorandum.
3. If the land is supplied with drinking water by a networked supplier other than the WSA, any conditions that are applicable to that supply are included in this Land Information Memorandum.
4. If the land is supplied with drinking water by the owner of the land, any information Council has about the supply is included in this Land Information Memorandum.
5. Any information notified to the territorial authority by a drinking-water supplier under section 69ZH of the Health Act 1956 is included in this Land Information Memorandum.

Rating and Valuation Details

Tauranga City Council rates are billed twice a year on the last business day of August and February. Unpaid rates for each instalment will incur a 10% penalty.

The valuation details are based on a revision date of 1 May 2023. This will be used to assess the rates for Council's financial year beginning 1 July 2024. The rating details below have been assessed from the revision date of 1 July 2021.

Further information on property valuations can be found on Council's website at the following link: Property valuations - Tauranga City Council

Valuation Details

Valuation Reference	**06622 067 94**
Capital Value	**$1,520,000**
Land Value	**$815,000**
Improvement Value	**$705,000**

Rating Details

Current Annual Rates	**$4,656.66**
Paid Until	**30/06/24**
Arrears Owing	**$Nil**
Balance Owing	**$Nil**

Water Meter Details

Water Meter On Property	**Yes**
Date Read	**25/01/24**
Number	**15M1553256**
Last Reading	**02089**
Individual Meter	**Yes**
Shared Meter	**No**
Water Rates Owing	**$Nil**

A separate account is issued for water metered properties. Residential meters are read every three months. Commercial / Industrial meters vary depending on use.

Note:

Council's Water Supply Bylaw requires a final water meter reading to be undertaken when a property is sold. If you are purchasing the property, you may wish to check with the vendor that they have arranged this.

Building Information

This information is sourced from Council records and may not reflect the situation on site if work has been undertaken without consent.

Building Permits: For Building Permits issued prior to 1993 a copy of the inspection records, if these are held by Council, are attached.

Building Consents: For Building Consents issued after 1 January 1993 a Code Compliance Certificate (CCC) will be issued where the building work for which the building consent relates has been completed in accordance with the NZ Building Code.

Swimming / Spa Pools: If the property contains a swimming pool or spa pool that is filled or partly filled with water then the pool must have a physical barrier restricting access to the pool that meets the requirements of the Building Act 2004. For more information, go to https://www.tauranga.govt.nz/living/building-and-renovations/inspections-and-approvals/swimming-pool-safety-barriers.

Solid Fuel Heaters: It is important that any solid fuel heater has been legally installed, either as part of the original dwelling or by way of a separate permit/consent.

Permits and Consents

Building Consents

Date Issued	Description of Work	BC Number	CCC Issued
31/05/16	Erect Dwelling	55206	Yes
17/09/19	Replace Attic Ladder with Permanent Stairs	191389	Yes

Compliance Schedule **N/A**

Requisitions

Any Outstanding Requisitions **No**

City Planning

The Operative Tauranga City Plan

The Tauranga City Plan provides the rules for how people can build or develop the land they own in our city. This can be land that is residential, commercial or industrial. The City Plan covers all subdivision, land use and development, how and where the city grows, how infrastructure is located and how natural and physical resources are managed. It is the blueprint by which any development in Tauranga is managed. It also includes rules on other things that are covered by the Resource Management Act - including hazards, signage, reserves, noise, heritage, etc.

There are specific rules within the City Plan that cover, amongst other matters, building height, earthworks, tree protection, bulk and scale of buildings, setbacks from coastal and harbour margins, and specific residential, commercial and industrial uses depending on location within the City.

Specific rules for each suburb and property can vary depending on the underlying zone of the area and the location of a specific property within that zone.

The majority of the City Plan became 'operative in part' on 9 August 2013. The remaining parts of the City Plan subsequently became operative on 5 July 2014.The City Plan is currently undergoing two Proposed Plan Changes: Plan Change 27 (Flooding from Intense Rainfall Events), and Plan Change 33 (Enabling Housing Supply).

It is advised that prospective purchasers of property review and consider all relevant planning rules for the specific property this Land Information Memorandum applies to prior to purchase.

Copies of the relevant planning maps for the Operative Tauranga City Plan are included in this LIM.

To view the Operative Tauranga City Plan please visit the Tauranga City Council website www.tauranga.govt.nz.

If you have any specific queries on any rules or any existing or proposed use of a property, please contact the Tauranga City Council's Duty Planner (07 577 7000) for further information.

City Planning (cont.)

Development Contributions

Council operates a development contributions policy under the Local Government Act 2002, and also has financial contributions provisions in its City Plan. The broad purpose of these policies is to fund infrastructure costs that relate to the city's growth from those parties that undertake subdivision, building or development. These contributions are required on building consents, resource consents, service connection authorisations and certificates of acceptance. Contributions may remain payable on any property in circumstances where subdivision, building and development projects have not been completed, and in rare occasions where the Council has agreed to defer payment. In addition, further subdivision, building or development of a property may trigger the requirement to pay further development and/or financial contributions.

Council's development contributions team can advise further on these matters in relation to the application of development and financial contributions to the property in question.

Transportation Strategy & Planning and Reserve Management Plans

"As part of Tauranga City Council's Transport strategy and planning activities and Reserves Management Plans, properties neighbouring Council-owned or administered land may be subject to transport network development such as walkways and cycleways or other development, activities or use of the land. The Tauranga Reserves Management Plan is available online at http://www.tauranga.govt.nz/council/council-documents/strategies-plans-and-reports/plans/reserve-management-plans"

Relevant Planning Information

Cross Lease situations differ to Freehold Titles in that any building additions to the property in question may need to have the Cross Lease plan updated. Any unregistered changes could be regarded as not legally part of the lease. For information regarding the updating of a cross lease plan please contact a Surveyor or your Solicitor.

Zone: Operative Tauranga City Plan	**Wairakei Residential * Plan Attached**
	*** Please see Plan Change 33**
Identified Plan Areas	**None Known**
Designations	**None**
Protected Heritage/Notable or Groups of Trees, or Protected Buildings	**None Known**
Archaeological or Heritage Sites	**None Known**

Council Consents, Certificates, Notices, Orders or Bonds Affecting the Land:	**Yes**
Description	**Date Issued**
221 Consent Notice *(Resource Management Act 1991)*	**22/12/15**

Resource Consents *(Resource Management Act 1991)*

Description	**Date Granted**	**RC Number**
Land Use Consent	**11/07/14**	**24098**
Subdivision Consent	**09/10/14**	**24235**
Change of Conditions to RC24235	**19/08/15**	**24235-01**
Change of Conditions to RC24098	**19/05/15**	**24098-02**
Change of Conditions to RC24235	**15/01/16**	**24235-02**
Change of Conditions to RC24098	**15/01/16**	**24098-03**

Comments:

For your information, please find attached a copy of Wairakei Urban Growth Staging Plan Diagram 11, UG6, UG9 and Map Key. Please see also Urban Growth Plans under the Proposed Plan Change 33.

Additional Planning Information

Enabling Housing Supply Plan Change

Proposed Plan Change 33 (Enabling Housing Supply) is in the formal plan change process under Schedule 1 of the Resource Management Act 1991.

Formal notification of the plan change was from 20 August 2022, with a submission period provided until 23 September 2022. A total of 404 submissions and a total of 205 further submissions were received.
The hearings were held on 4-5 July 2023 and 2-10 October 2023. Recommendations from the Independent Hearings Panel are expected in April 2024.

To view the relevant documents please visit https://www.tauranga.govt.nz/council/council-documents/tauranga-city-plan/proposed-plan-changes/plan-change-33-enabling-housing-supply/plan-change-33-key-documents

Proposed Plan Change 33 implements the Resource Management (Enabling Housing Supply and Other Matters) Amendment Act 2021 by:

(i) Applying the Medium Density Residential Standards (MDRS) to urban residential zones (currently identified as Suburban Residential, Wairakei Residential, Large Lot Residential, City Living and High Density Residential zones);

(ii) Giving effect to Policy 3 in the National Policy Statement on Urban Development.

The plan change seeks to enable greater housing choice and density to respond to the demands of increased population, changing demographics in existing urban areas.

> This property is located within the proposed Medium Density Residential Zone where the plan change provides the MDRS as a permitted activity and proposed a rule framework for non-compliance with these rules.
>
> For more information on the plan change (including permitted activity rules) please visit www.tauranga.govt.nz/pc33-medium. To a view a map online, visit https://gisapps.tauranga.govt.nz/plan_change/.

The MDRS will have legal effect from the 20 August 2022, unless a qualifying matter applies. This means that resource consent is not required if the development can meet all the requirements of the MDRS and a qualifying matter does not apply.

For the latest information on proposed Plan Change 33, please visit:
https://www.tauranga.govt.nz/council/council-documents/tauranga-city-plan/proposed-plan-changes/changing-the-city-plan-to-enable-housing-supply

Land Features

This information relates to city-wide studies and may not reflect the on site situation or natural hazard investigations and mitigation done on a property level.

The Tauranga City Council does not act as agent for network utility operators.

The land form and geology within Tauranga City have some features which demand particular attention. These features, which may or may not be relevant to the property in question, are outlined in "General Description of Land Form within Tauranga District" as attached.

Microzoning for Earthquake Hazards

The Council has received reports and results that have assessed Tauranga City's vulnerability to liquefaction when considering a range of earthquake events. These reports and results, and a summary of them, are available by accessing https://www.tauranga.govt.nz/living/natural-hazards/understanding-our-hazards-studies-maps-and-data/earthquakes-and-liquefaction

The reports and results reflect the most up-to-date vulnerability to liquefaction from an earthquake event.

It is important to note that different properties are exposed to different levels of probability that land damage from liquefaction and lateral spread will in fact occur. The reports and results are undertaken at a City-wide scale and may be superseded by detailed, site specific assessments undertaken by qualified and experienced practitioners using improved or higher resolution data than presented in these reports.

The vulnerability and land damage maps are prepared based on an assessment of natural ground conditions and therefore do not take into account the influence of recent human activities that may influence liquefaction response (i.e. earthworks, ground improvement, foundation design), unless specifically stated within the technical reports. As such, the degree of land damage may be less than predicted for a given property where liquefaction risk was addressed during landform or building foundation design.

The presence of liquefaction and lateral spread information on a property may have implications for the use and development of that property including, but not limited to, the requirements for and assessments of building consent applications under the Building Act 2004 and Building Code (refer to the NZ Standard AS/NZ 1170 and design standard outlined in Chapter 10.10.6 Liquefaction of Tauranga City Council's Infrastructure Development Code), subdivision consent applications under the Resource Management Act, and infrastructure design.

The assessed hazard applicable to the area this property has been assessed within, is available by accessing the web-viewer available through the following link: https://www.tauranga.govt.nz/living/natural-hazards/understanding-our-hazards-studies-maps-and-data/earthquakes-and-liquefaction

Landslide Susceptibility

Council has received an assessment of Tauranga City's susceptibility to landslides. Two maps have been prepared, one showing areas susceptible to landsliding triggered by rainfall, and the other by earthquakes. A report detailing the assessment and maps are available on https://www.tauranga.govt.nz/landslide-susceptibility.

Special Land Features Relevant to the Subject Property

Yes

Comments:

1. Refer Consent Notice dated 22 December 2015 together with Geotechnical Completion Report including Recommendations for Building by S & L consultants Ltd dated 27 October 2015 reference 20464-10.

2. Refer Producer Statement and Site inspection Record by The Engineer Limited dated 9 June 2016.

3. Council holds information that shows this property is located in a possible tsunami zone. See attached property file note. Please find attached for your information copy of Tsunami Evacuation Zones Map and Frequently Asked Questions Sheet. For more information, go to https://www.tauranga.govt.nz/community/civil-defence/tsunami

Additional Information

Licences

Licences Affecting the Land or Buildings **No**

Kerbside waste collection service

Council's kerbside waste collections are a rates-funded service. The costs for the services are included as a targeted rate on a property's rates invoice. The targeted rates applicable to the service, including the standard collection service, garden waste and the different bin size bundles will differ and will be set by the Council each year as part of the rates setting process and, as such, may vary from rates year to rates year (1 July to 30 June).

Additional bins

Households can order additional bins on top of their standard set of bins if needed. The charges for additional bins are set each year by Council through its Schedule of User Fees and Charges. The charge for an additional bin to a property's kerbside collections will be a user charge (rather than a rate) and invoiced separately to the property's rates invoice.

Only ratepayers can order garden waste bins, change the size of their bins or order additional bins.

For more information on this service, visit: https://www.tauranga.govt.nz/living/rubbish-and-recycling/kerbside-collections

Signed for and on behalf of the Council:

Shane

Position held: LIM & Property Files Officer

Date: 11 April 2024

Tauranga City

Title Plan - DP 489916

Survey Number	DP 489916
Surveyor Reference	20464 - Palm Springs - Stage 10
Surveyor	Christopher John Roper
Survey Firm	S & L Consultants Ltd
Surveyor Declaration	I Christopher John Roper, 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 23 Dec 2015 08:26 AM

Survey Details

Dataset Description	Lots 5, 87 - 99, 101 - 132 & 912 - 915 Being a Subdivision of Lot 903 DP 478967 & Lots 4 & 5 DP 484164		
Status	Deposited		
Land District	South Auckland	**Survey Class**	Class A
Submitted Date	23/12/2015	**Survey Approval Date**	05/01/2016
		Deposit Date	23/12/2015

Territorial Authorities

Tauranga City

Comprised In

CT 668897

CT 685454

CT 685455

Created Parcels

Parcels	Parcel Intent	Area	CT Reference
Lot 5 Deposited Plan 489916	Fee Simple Title	4.4608 Ha	720423
Area F Deposited Plan 489916	Easement		
Lot 87 Deposited Plan 489916	Fee Simple Title	0.1400 Ha	706244
Lot 88 Deposited Plan 489916	Fee Simple Title	0.2849 Ha	706245
Lot 89 Deposited Plan 489916	Fee Simple Title	0.0640 Ha	706246
Lot 90 Deposited Plan 489916	Fee Simple Title	0.0820 Ha	706247
Lot 91 Deposited Plan 489916	Fee Simple Title	0.0660 Ha	706248
Lot 92 Deposited Plan 489916	Fee Simple Title	0.0640 Ha	706249
Lot 93 Deposited Plan 489916	Fee Simple Title	0.0650 Ha	706250
Lot 94 Deposited Plan 489916	Fee Simple Title	0.0630 Ha	706251
Lot 95 Deposited Plan 489916	Fee Simple Title	0.0870 Ha	706252
Lot 96 Deposited Plan 489916	Fee Simple Title	0.0730 Ha	706253
Lot 97 Deposited Plan 489916	Fee Simple Title	0.0630 Ha	706254
Lot 98 Deposited Plan 489916	Fee Simple Title	0.0650 Ha	706255
Lot 99 Deposited Plan 489916	Fee Simple Title	0.3801 Ha	706256
Lot 101 Deposited Plan 489916	Fee Simple Title	0.0690 Ha	706257
Lot 102 Deposited Plan 489916	Fee Simple Title	0.0710 Ha	706258

Title Plan - DP 489916

Created Parcels

Parcels	Parcel Intent	Area	CT Reference
Lot 103 Deposited Plan 489916	Fee Simple Title	0.0740 Ha	706259
Lot 104 Deposited Plan 489916	Fee Simple Title	0.0600 Ha	706260
Lot 105 Deposited Plan 489916	Fee Simple Title	0.0570 Ha	706261
Lot 106 Deposited Plan 489916	Fee Simple Title	0.0600 Ha	706262
Lot 107 Deposited Plan 489916	Fee Simple Title	0.0610 Ha	706263
Lot 108 Deposited Plan 489916	Fee Simple Title	0.0610 Ha	706264
Lot 109 Deposited Plan 489916	Fee Simple Title	0.0840 Ha	706265
Lot 110 Deposited Plan 489916	Fee Simple Title	0.0850 Ha	706266
Lot 111 Deposited Plan 489916	Fee Simple Title	0.0650 Ha	706267
Lot 112 Deposited Plan 489916	Fee Simple Title	0.0600 Ha	706268
Lot 113 Deposited Plan 489916	Fee Simple Title	0.0660 Ha	706269
Lot 114 Deposited Plan 489916	Fee Simple Title	0.0670 Ha	706270
Lot 115 Deposited Plan 489916	Fee Simple Title	0.0660 Ha	706271
Lot 116 Deposited Plan 489916	Fee Simple Title	0.0660 Ha	706272
Lot 117 Deposited Plan 489916	Fee Simple Title	0.0660 Ha	706273
Lot 118 Deposited Plan 489916	Fee Simple Title	0.0640 Ha	706274
Lot 119 Deposited Plan 489916	Fee Simple Title	0.0650 Ha	706275
Lot 120 Deposited Plan 489916	Fee Simple Title	0.0640 Ha	706276
Lot 121 Deposited Plan 489916	Fee Simple Title	0.0630 Ha	706277
Lot 122 Deposited Plan 489916	Fee Simple Title	0.0800 Ha	706278
Lot 123 Deposited Plan 489916	Fee Simple Title	0.0790 Ha	706279
Lot 124 Deposited Plan 489916	Fee Simple Title	0.0580 Ha	706280
Lot 125 Deposited Plan 489916	Fee Simple Title	0.0600 Ha	706281
Lot 126 Deposited Plan 489916	Fee Simple Title	0.0560 Ha	706282
Lot 127 Deposited Plan 489916	Fee Simple Title	0.0550 Ha	706283
Lot 128 Deposited Plan 489916	Fee Simple Title	0.0690 Ha	706284
Lot 129 Deposited Plan 489916	Fee Simple Title	0.0710 Ha	706285
Lot 130 Deposited Plan 489916	Fee Simple Title	0.1900 Ha	706286
Lot 131 Deposited Plan 489916	Fee Simple Title	0.0760 Ha	706287
Lot 132 Deposited Plan 489916	Fee Simple Title	0.0670 Ha	706288
Lot 912 Deposited Plan 489916	Fee Simple Title	0.0745 Ha	Multiple
Lot 913 Deposited Plan 489916	Fee Simple Title	1.9215 Ha	706289
	Road	0.1286 Ha	
	Road	1.4694 Ha	
Area A Deposited Plan 489916	Easement		
Total Area		11.8068 Ha	

S & L CONSULTANTS LTD
SURVEYORS - ENGINEERS - PLANNERS

S&L File: 20464 – Palm Springs - Stage 10

Plan Number	Territorial Authority	TA Reference
DP 489916	Tauranga City Council	RC24235

Memorandum of Easements			
Purpose	**Shown**	**Servient Tenement**	**Dominant Tenement**
Right of Way & Right to Convey Water, Electricity, Gas, Telecommunications & Computer Media	A	Lot 912 hereon	Lots 118, 119, 120, 121, 122, 123, 124, 125 & 126 hereon

Memorandum of Easements in Gross			
Purpose	**Shown**	**Servient Tenement**	**Grantee**
Right to Convey Water	A	Lot 912 hereon	Tauranga City Council

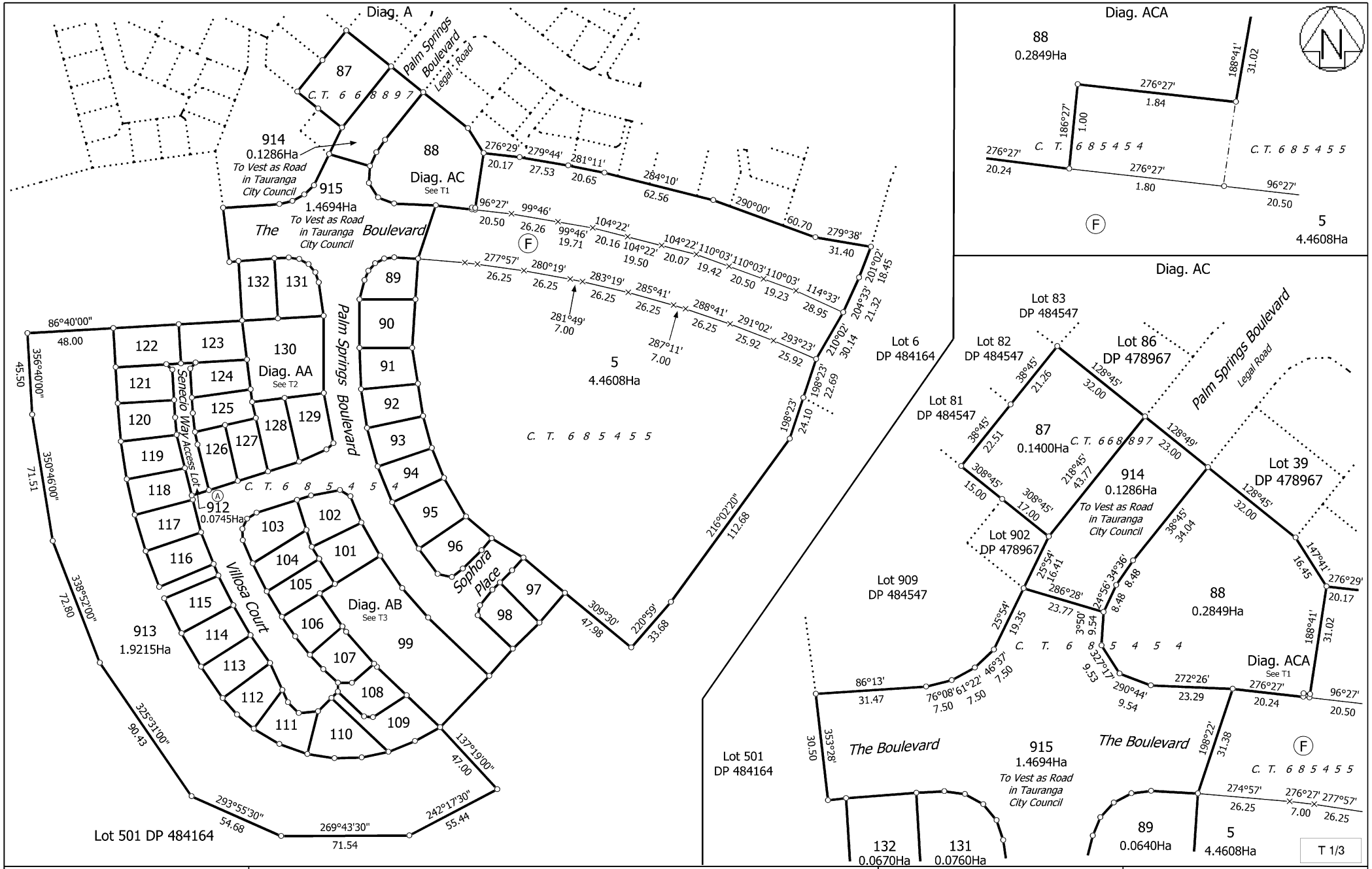
Schedule of Easements in Gross			
Purpose	**Shown**	**Servient Tenement**	**Grantee**
Right to Convey Electricity	A	Lot 912 hereon	Powerco
Right to Convey Telecommunications and Computer Media	A	Lot 912 hereon	Waikato Networks Ltd
Right to Convey Gas	A	Lot 912 hereon	Vector Gas Ltd

Schedule of Existing Easements			
Purpose	**Shown**	**Servient Tenement**	**Created By**
Right of Way & Right to Convey Water, Electricity, Gas, Telecommunications and Computer media & Right to Drain Sewage	F	Lot 5 hereon	E.I 10091298.3

Amalgamation Condition

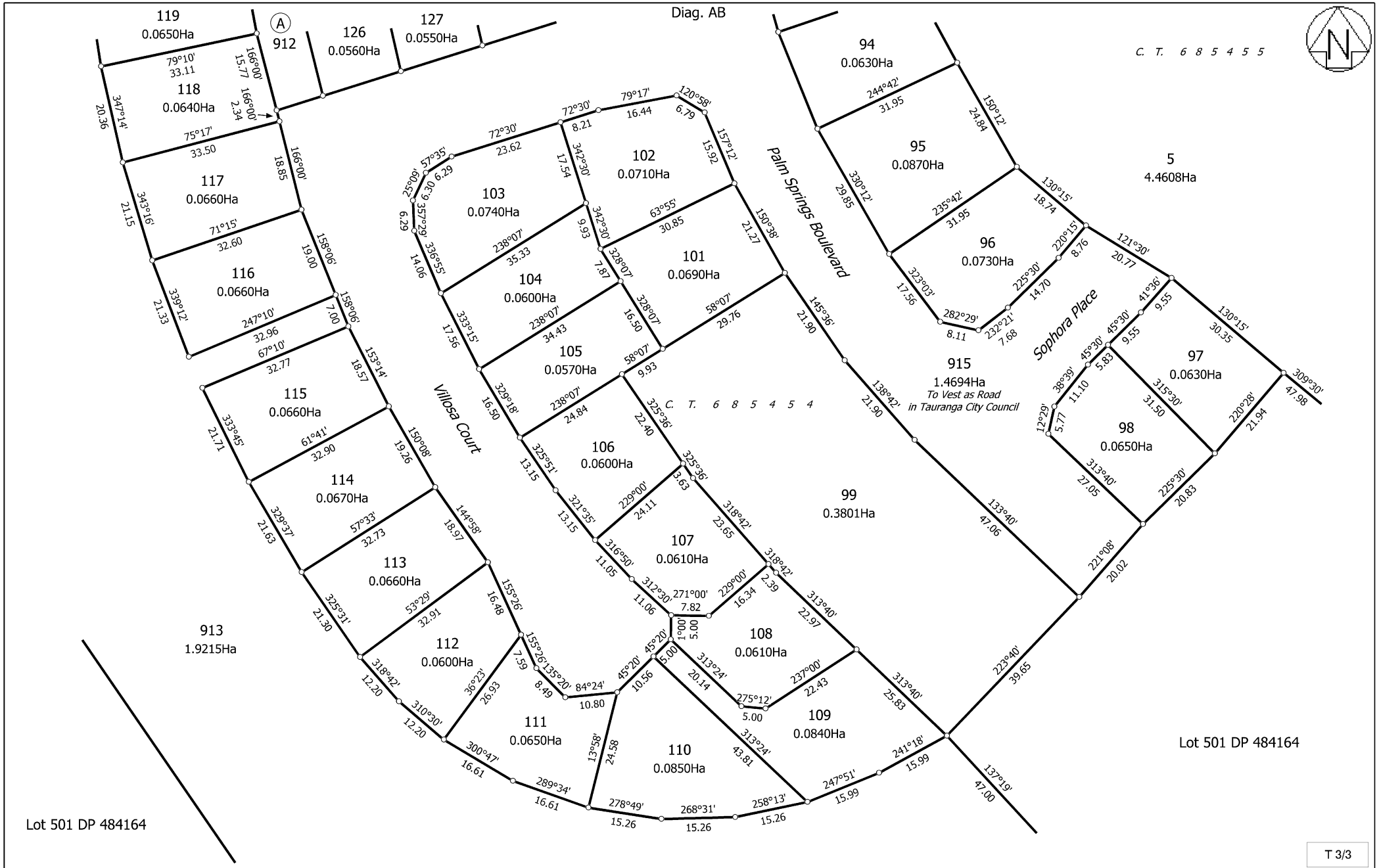
That Lot 912 hereon (legal access) be held as to:
- an undivided 1/9 share with Lot 118
- an undivided 1/9 share with Lot 119
- an undivided 1/9 share with Lot 120
- an undivided 1/9 share with Lot 121
- an undivided 1/9 share with Lot 122
- an undivided 1/9 share with Lot 123
- an undivided 1/9 share with Lot 124
- an undivided 1/9 share with Lot 125
- an undivided 1/9 share with Lot 126

and that individual computer freehold registers be issued in accordance therewith
See LINZ request 1276853

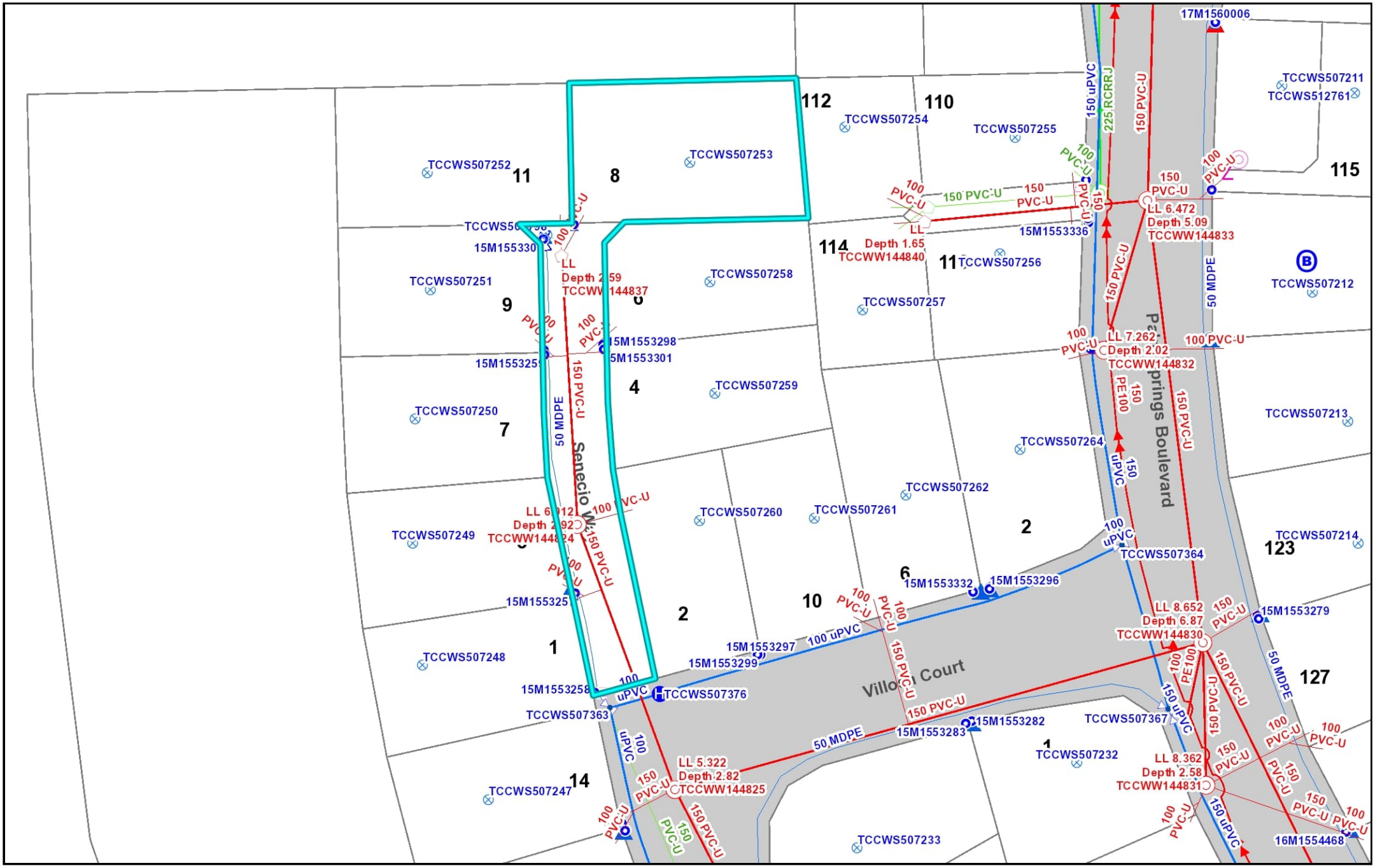


Land District: South Auckland Digitally Generated Plan Generated on: 21/01/2016 09:15am Page 4 of 6	Lots 5, 87 - 99, 101 - 132 & 912 - 915 Being a Subdivision of Lot 903 DP 478967 & Lots 4 & 5 DP 484164	Surveyor: Christopher John Roper Firm: S & L Consultants Ltd	Title Plan DP 489916 Deposited on: 23/12/2015

Land District: South Auckland Digitally Generated Plan Generated on: 21/01/2016 09:15am Page 5 of 6	Lots 5, 87 - 99, 101 - 132 & 912 - 915 Being a Subdivision of Lot 903 DP 478967 & Lots 4 & 5 DP 484164	Surveyor: Christopher John Roper Firm: S & L Consultants Ltd	Title Plan DP 489916 Deposited on: 23/12/2015



Land District: South Auckland Digitally Generated Plan Generated on: 21/01/2016 09:15am Page 6 of 6	Lots 5, 87 - 99, 101 - 132 & 912 - 915 Being a Subdivision of Lot 903 DP 478967 & Lots 4 & 5 DP 484164	Surveyor: Christopher John Roper Firm: S & L Consultants Ltd	Title Plan DP 489916 Deposited on: 23/12/2015



Services Plan

1:750 @A4

0 24.37 48.75 Meters

N

Tauranga City

SmartZoom
Utility Services

Services

Wastewater

- Wastewater Manhole
- Wastewater Chamber
- Wastewater Pump Station
- Wastewater Valve
- Wastewater Node
- Wastewater Service Line
- Odour Duct
- Wastewater Main
- Rising Main
- Reclaimed

Stormwater

- Stormwater Manhole
- Stormwater Chamber
- Stormwater Pump Station
- Sump
- Stormwater Outlet
- Stormwater Inlet
- Stormwater Soakhole
- Stormwater Node
- Stormwater Service Line
- Stormwater Main
- Culvert
- Stormwater Drain
- Overland Flow Path

Water

- Water Scour Valve
- Water Valve
- Water Meter
- Water Service Line
- Water Reservoir
- Water Node
- Hydrant
- Bore
- Rider Main
- Reticulation Main
- Trunk Water Main

Rates Information

Location	8 SENECIO WAY
Valuation Ref	06622 067 94
Legal Description	LOT 123 DP 489916 LOT 912 DP 489916
Area	0.0790
Land Value	815,000
Capital Value	1,520,000

Total rates assessed this year

Tauranga Council	Units	Rate	Annual Amount
Uniform Annual General	1	238.26086957	238.26
Stormwater	1,640,000	0.00001689	27.70
General	1,640,000	0.00167151	2741.28
Resilience	1,640,000	0.00001057	17.33
Transportation	1,640,000	0.00004661	76.44
Community	1,640,000	0.00009751	159.92
Wastewater Connected	1	584.00000000	584.00
Waste Collection Standard	1	204.34782609	204.35
Total			4,049.28
		Includes GST of	*$607.38*
		Total Rates (01 JUL 2023 to 30 JUN 2024)	$4656.66

Water Rates

Metered A/C # 1 Route # M Class # Rate: 0 /m3 Supply Area: METERED WATER

What are rates?

The amount you pay in rates doesn't directly relate to the amount of things Council does for you personally. Rates are not a 'charge for services', they are a tax on the value of your property. It is not a perfect system but it is one of the very few ways the Government allows Councils to collect revenue. Rates provide 55% of the Council's income.

Rates Information

The rating year starts on 1 July each year to 30 June the following year.

- Rates and charges are inclusive of GST.
- Annual Rates are set in July each year.
- Rates are payable in two instalments and are paid in advance.

Each year an assessment is sent out to property owners on 1 August together with the first instalment invoice. Payments are due on the last working day in August. The second instalment invoice is sent out to property owners on 1 February each year and is due on the last working day of February.

What are the charges for rates and how are they calculated?

Rates are a tax on the value of your property. The value of your property is set by an independent agency and is driven by national legislation. Revaluations are done every three years.

What do General Rates pay for?

Rates are used to pay for a wide range of services and capital projects such as new roads, storm water, libraries, reserves and so on. Councils long term plan is a good place to find out more about how Council plans to spend rates income.

Tauranga City Rates Schedule 2023/24		
Description	**Inclusive of GST**	**Charge**
Uniform Annual General	$274.00	per occupancy
Kerbside Waste Service – Standard Use	$235.00	per service bundle
Kerbside Waste Service – Low Use	$200.00	per service bundle
Kerbside Waste Service – High Use	$340.00	per service bundle
Wastewater	$671.60	per residential property or per connection for commercial
Wastewater Availability	$335.80	per property
Stormwater - Residential	$0.00001942	Capital value
Stormwater – Commercial	$0.00003108	Capital value
General Residential	$0.00192224	Capital value
General Commercial	$0.00403671	Capital value
City Mainstreet	$0.00044546	Capital value
Greerton Mainstreet	$0.00151715	Capital value
Papamoa Mainstreet	$0.00029648	Capital value
Mount Mainstreet	$0.00049101	Capital value
Economic Development	$0.00037982	per commercial property
The Lakes Targeted Rate	$102.75	per property in the subdivision
The Coast Targeted Rate	$35.01	per property in the subdivision
Excelsa Targeted Rate	$51.78	per property in the subdivision
Resilience – Residential	$0.00001215	Capital value
Resilience - Commercial	$0.00001944	Capital value
Community – Residential	$0.00011214	Capital value
Community – Commercial	$0.00017943	Capital value
Transportation – Residential	$0.00005360	Capital value
Transportation – Commercial	$0.00027872	Capital value
Garden Waste Service – 2-weekly	$105.00	per service
Garden Waste Service – 4-weekly	$75.00	per service

*From 1 July 2022. Tauranga City no longer collects rates on behalf of Bay of Plenty Regional Council, you will need to contact them directly to find out the rates calculated on this property.

Uniform Annual General Rates (UAGC)
This is a fixed charge per rateable property and is irrespective of the value of a property. For residential properties it is a charge per occupancy.

Each occupancy is defined by physically having a separate living area, bedroom, bathroom facilities, entrance (including shared foyers) and cooking facilities. E.g. a property with a self contained flat on the ground floor would be rated for two UAGC's and two wastewater connections.

(Note: This rate is not based on ability to earn revenue or rent, frequency of use or the relationship of person/s using or able to use the separate area. This does not relieve the owner or occupier of any duty or responsibility under the Building Act 2004 or the Resource Management Act 1991 or the Tauranga City Plan) For commercial properties this is a charge on the number of separate businesses or leases.

General Rate
The General rate provides for the following costs, City and Infrastructure, Community People and partnerships, Arts and Culture, Venues and Events, Community Partnerships, Libraries, Economic Development, Emergency Management, Animal services, Building services, Environmental Planning, Environmental Health and Licensing, Regulation Monitoring, Marine Facilities, Spaces and Places, Support Services, Sustainability and Waste. This variable rate is charged on the capital value of a property. Capital value is land value plus improvements value.

Wastewater Rates
Residential properties connected to Council wastewater pay a uniform annual charge for one toilet per occupancy. Commercial properties connected to Council wastewater pay a uniform annual charge for each toilet or urinal.

Those properties with wastewater available (i.e. they are within 100m of wastewater lines) but not connected will pay an availability charge.

Kerbside Waste Service

The waste collection service provides for the collection and disposal of glass, food, recycling and waste for residential properties. This is a fixed charge per separately used or inhabited part of a rating unit. There are three bundles offered, low user, standard user and high user.

Stormwater

The purpose of this rate is to fund some of the costs of stormwater infrastructure investments. This variable rate is charged on the capital value of a property. Capital value is land value plus improvements value.

Garden Waste Service

The waste collection service provides for the collection and disposal of garden waste material available for residential properties. This is a fixed charge per rating unit. This is an optional service that ratepayers choose to receive. There are two frequencies of collection, these being 2-weekly or 4-weekly.

Please note, that after 1 July until 30 June, ratepayers cannot opt out of the service if they have opted in. An opt-out request will take place in the rating year following this request.

Transportation

The purpose of this rate is to fund transportation infrastructure investments. This variable rate is charged on the capital value of a property. Capital value is land value plus improvements value.

Community

The purpose of this rate is to fund community amenity investments. This variable rate is charged on the capital value of a property. Capital value is land value plus improvements value.

Resilience

The purpose of this rates is to provide some of the costs of resilience infrastructure investments in the water, wastewater, stormwater, transportation, and emergency management activities.

The Lakes, Papamoa Coast and Excelsa Targeted Rate
The Lakes Development at Tauriko/Pyes Pa and Papamoa Coast and Excelsa developments at Papamoa have significantly increased level of service costs as a result of wider roads, more gardens, reserves and streetlights etc. All properties in these subdivisions are charged this targeted rate. This rate is charged on the capital value of a property. Capital value is land value plus improvements value.

Economic Development Rate
This rate is charged on the capital value of a property. It is charged to commercial properties only and funds economic development through Priority One and Tourism Bay of Plenty.

Mainstreet Rates
This rate is charged on the capital value of a property. It is charged to commercial properties only and funds the Tauranga, Papamoa, the Mount and Greerton Village Mainstreet organisations.

WATER SUPPLY BYLAW 2019

First adopted	*22 November 2004*	**Minute reference**	*M04/105.3*
Reviews	*25 September 2007* *16 April 2019*	**Minute references**	*M07/84.15*
Review date	*April 2029*		
Engagement required	*Special Consultative Procedure*		
Associated documents	*Tauranga Water Meter Policy 2019* *Tauranga Large Water Users Policy* *Local Government Act 2002* *Health Act 1956* *Health (Drinking Water) Amendment Act 2007* *Local Government (Rating) Act 2002* *Public Works Act 1981* *Tauranga City Plan* *Tauranga Infrastructure Development Code* *Fire and Emergency New Zealand Act 2017*		
Relevant legislation	*This bylaw is made under the Local Government Act 2002 and the Health Act 1956*		

TABLE OF CONTENTS

1. TITLE

1.1 This bylaw is the "Tauranga Water Supply Bylaw 2019"

2. COMMENCEMENT

2.1 This bylaw comes into force on 22 April 2019.

3. APPLICATION

3.1 This bylaw applies to Tauranga City.

3.2 Any person being supplied with water, or who has made application to be supplied with water, by Council.

4. PURPOSE

4.1 The purpose of this bylaw is to:

(a) protect the health and safety of people using the water supply network;

(b) protect the public water supply network from damage, misuse and interference;

(c) assist in the provision of reliable, safe and efficient water supply in Tauranga.

5. DEFINITIONS

5.1 For the purposes of this bylaw the following definitions shall apply:

Term	Definition
Approved	approved in writing by the Council, either by resolution of the Council or by any authorised officer of Council
Approved Licensed Contractor	contracting company approved by Council under this bylaw to carry out work on Council's Water Supply Network and Wastewater Network, using employees who are licensed by Council to undertake the work
Authorised Agent	a person or company who has been delegated responsibility to act for a customer
Authorised Officer	any officer of the Council or any other person authorised under the Local Government Act 2002 and authorised by the Council to administer and enforce its bylaws
Backflow	means the flow of water or other liquid through any service pipe or supply pipe in a reverse direction to the normal supply flow
Backflow Prevention Device	is a device that prevents backflow
Child Meter	a separate water meter located downstream from a parent meter that records water supplied to a Premises

Term	Definition
Council	Tauranga City Council or any person authorised or delegated to act on its behalf
Cross Connection	any potential direct or indirect connection between the potable water supply and a contaminant
Customer	a person, or the authorised agent, who has been given approval by Council to use water supplied by Council
Dedicated Fire Connection	a connection to the water supply connection that supplies water solely for the purpose of fire protection
Parent Meter	a meter that leads onto a number of supply pipes
Person	a person or body of persons whether corporate or unincorporated, and includes the Crown and any successor of a person
Points of Responsibility	The points on the Water Supply Network located on private property that identify the area and all assets within that area that Council will be responsible for. The Points of Responsibility for each Premises with a Child Meter or any separate Backflow Prevention Device that is located more than one metre away from its associated Meter Box, will be 300mm along the pipe either side of the Child Meter box or separate Backflow Prevention Device.
Point of Supply	The point on the Water Supply Network that marks the boundary of responsibility between the Council and Customer, irrespective of property boundaries. For premises connected to one Water Meter, the Point of Supply is either: (a) 300 mm along the pipe immediately after the Water Meter box (b) or if a separate Backflow Prevention Device is installed, the Point of Supply is 300mm along the pipe immediately after the separate Backflow Prevention device provided the Backflow Prevention Device is located within one meter of the meter box; (c) if the Backflow Prevention Device is located more than one metre from the meter box the Point of Supply is 300mm immediately after the meter box and the responsibility of Council resumes 300mm either side of the separate Backflow Prevention Device. Where two or more Premises share a Parent Meter there will be one Point of Supply at the Parent Meter box and two or more additional Points of Responsibility further along the Supply Pipe. The Point of Supply will be defined as above. The Points of Responsibility for each Premises with a Child Meter will be

Term	Definition
	300mm along the pipe either side of the Child Meter box. Council will be responsible for the Parent and Child Meters/boxes but not the Supply Pipe itself. See ***Attachment A*** of this bylaw.
Premises	means: (a) a property or allotment which is held under separate certificate of title or for which a separate certificate of title may be issued and in respect of which a building consent has or may be issued; or (b) a building that has been defined as an individual unit by cross lease, unit title or company lease and for which a certificate of title exists; or (c) an independent dwelling unit as defined in the Tauranga City Plan.
Restricted Works	any works that will or are likely to damage, or adversely affect the operation of the Water Supply Network as defined by Clause 14.4
Service Pipe	means the section of pipe between a water main and the Point of Supply that is owned and maintained by Council
Supply Pipe	means the section of pipe between the Point of Supply and the Customer's Premises that is installed, owned and maintained by the Customer
Water Meter	a Council-owned meter to measure the flow of water supplied including Parent and Child meters
Water Supply	means the supply of drinking water by network reticulation to the point of supply for dwelling houses, commercial and other premises
Water Supply Network	means all infrastructure components such as pipes, fittings, valves, hydrants, Backflow Prevention Devices, Water Meters, meter manifolds / boxes and other related equipment required of the water supply network between the point of abstraction from the natural environment to the premises

6. APPLICATION FOR SUPPLY AND ACCESS TO THE NETWORK

6.1 Every Person wishing to do any of the actions prescribed in clauses 6.1(a) to 6.1(g) must follow Council's application and pay the prescribed charges:

(a) Obtain a new permanent or temporary connection for the supply of water, including connection for the purposes of dust control and connection to a new subdivision.

(b) Obtain a new connection and supply for a Dedicated Fire Connection system

(c) Make changes to an existing connection, including

i new owner taking over an existing supply

ii. type of supply

iii. classification type e.g. residential to commercial

iii. location of the Point of Supply

iv. level of service of supply e.g. quantity of supply

(d) Access, operate or work on any part of the Water Supply Network.

(e) Disconnect from the Water Supply Network.

(f) Seek specific Council approval to install quick-closing valves, pumps or any other equipment that may cause pressure surges or fluctuations to be transmitted within the water supply system, or compromise the ability of Council to maintain its level of service.

(g) Supply water from a connected Premises to other Persons outside the ordinary use of the connected Premises.

6.2 Where the applicant is not the owner of the Premises seeking supply, the applicant must produce written evidence of their authority to act on behalf of the owner of the premises for which the supply is sought.

6.3 Council shall either approve the application and inform the applicant of the type of supply, and the conditions applicable to the applicant's supply, or refuse the application and notify the applicant of the decision, giving reasons for the refusal.

7. CUSTOMER RESPONSIBILITIES IN ACCEPTANCE OF SUPPLY

7.1 The Customer must comply with the requirements of this bylaw, including any conditions of approval of an application under clause 6.3.

7.2 The Customer shall not transfer to any other party the rights and responsibilities provided for under this Bylaw or any approval given under this Bylaw.

7.3 Unless specifically approved by Council no Person shall use water or water pressure directly from the Water Supply for:

(a) driving lifts, machinery, generators, condensers or any other similar device; or

(b) a single pass cooling system; or

(c) the dilution of trade waste prior to disposal; or

(d) dust suppression.

7.4 The Customer shall be liable to pay for any Water Supply services.

7.5 A Supply Pipe must serve only one Premises and the Customer must not extend the Supply Pipe, by hose or any other means, to any other Premises.

7.6 In the event of a Premises changing ownership or the Customer wishing to terminate the supply, the outgoing Customer shall give Council seven working days' notice to arrange a final water reading.

7.7 Council does not guarantee an uninterrupted or constant supply of water, or any maximum or minimum pressure.

8. WATER SUPPLY CONNECTION AND INFRASTRUCTURE

8.1 No person other than an Approved Licensed Contractor (under clause 16) shall undertake any works to the Water Supply Network including the connection or disconnection to or the installation of any Service Pipe.

8.2 All works to the Water Supply Network must be in accordance with Council's Infrastructure Development Code.

8.3 No Person shall cause damage to the Water Supply Network.

8.4 No person shall do anything to the Water Supply Network that puts at risk the health and safety of those using the Water Supply Network.

8.5 All connections to the Water Supply shall include a Water Meter and a Backflow Prevention Device in accordance with clause 11.1.

9. RESPONSIBILITIES FOR MAINTENANCE AND REPAIR

9.1 Council is responsible for the Service Pipe, Water Meter box and fittings up to the Point of Supply and in between any Points of Responsibility.

9.2 The Customer is responsible for the Supply Pipe and fittings beyond the Point of Supply excluding the part of the Water Supply Network between any Points of Responsibility.

9.3 Council is responsible for the Parent and Child Meter boxes and all Backflow Prevention Devices but not the Supply Pipe itself, apart from the portion of Supply Pipe that is within the Points of Responsibility.

9.4 Any issues of responsibility past the Point of Supply and excluding the area within the Points of Responsibility within the property boundary are a matter for the property owners.

9.5 The Customer is responsible for repairing any leaks occurring on their side of the Point of Supply but excluding the part of the Water Supply Network between any Points of Responsibility.

9.6 The Customer shall maintain the areas in and around the Point of Supply and the Points of Responsibility, keeping them free of soil, growth or other matter or obstruction, which prevents, or hinders access to the Water Meter box and any separate Backflow Prevention Devices.

9.7 No other devices are permitted to be installed in the Water Meter box or Backflow Prevention device without Council approval.

9.8 Where in the opinion of Council any pipe, fitting or ground levels on the Customer's side of the Point of Supply and Points of Responsibility has been damaged or is causing or likely to cause water to be wasted or is insufficient for the proper supply of water, Council may give the customer notice in writing requiring any work specified in the notice to be carried out.

9.9 Wherever practical Council will make every reasonable attempt to notify the potentially affected Persons of a scheduled maintenance shutdown of the supply network before the work commences. Where immediate action is required and this is not practical, Council may shut down the supply without notification.

10. ACCESS TO POINT OF SUPPLY AND POINTS OF RESPONSIBILITY

10.1 Where the Point of Supply and Points of Responsibility are on private property, the Customer shall allow Council's Authorised Officer unrestricted access to, and about these areas between 7am and 6pm on any day for:

(i) Water Meter reading, or

(ii) checking, testing and maintenance work with advance notice being given where practicable to do so.

10.2 For works outside these hours Council shall give written notice to the Customer 48 hours prior to Council's Authorised Officer entering the Premises except in emergency situations where Council shall be entitled to enter Premises that have a water supply at any hour without notice.

11. BACKFLOW PREVENTION

11.1 Every Customer must install a Backflow Prevention Device appropriate to the level of risk at the Premises as specified by Council.

11.2 The Customer shall provide to Council, on request, any information about any activities carried out on their Premises, which may contribute to the risk of Backflow or Cross Connection.

11.3 The Customer shall notify Council in writing if a change of use or a change of activity occurs that changes the risk of Backflow. Council may require a reassessment of the risk of Backflow at the Premises and if the Backflow Prevention Device requires upgrading this will be at the Customer's cost.

12. DEDICATED FIRE CONNECTIONS

12.1 No person shall install a new Dedicated Fire Connection unless authorised in writing by Council to do so. Any such connection must be installed by an Approved Licensed Contractor at the applicant's expense and shall be subject to any terms and conditions specified by Council.

12.2 Any Dedicated Fire Connection provided to supply water for fire protection shall not be used for any purpose other than firefighting and the testing of the fire protection system.

13 FIRE HYDRANTS

13.1 No Person shall have access to and draw water from fire hydrants unless he or she is:

- An authorised officer of Council or
- A member of the Fire Service for the purposes of testing, training or emergency incidents only or
- Is authorised by Council to do so.

14. WORKS NEAR THE WATER SUPPLY NETWORK

14.1 Any person proposing to carry out excavation work shall view the as-built information to determine whether or not the Water Supply Network is located in close proximity.

14.2 To protect the Water Supply Network from construction plant loading, the location of Council's Water Supply Pipes must be marked out on site before commencing any work with heavy construction plant (above a gross weight of 10 tonnes). Before heavy construction work will be permitted over or within two metres of Council's water pipes, an engineering assessment is to be undertaken and submitted for Council approval.

14.3 At least two working days' notice in writing shall be given to Council of an intention to carry out Restricted Works in close proximity of the Water Supply Network, including the proposed methodology to ensure infrastructure is not impacted. Council may specify in writing any restrictions on the work it considers necessary or require an engineering assessment be undertaken to provide a methodology to protect the Water Supply Network. Council may charge for this service.

14.4 Restricted Works are works of the following type which are carried out closer than the specified distance to the asset type set out in the following table:

Type of works	**Types of Water Supply Network asset**	**Specified distance from the Water Supply Network**
General excavation	Pipes 300mm in diameter and greater, including connected manholes and structures	10 metres
	Pipes less than 300mm in diameter, including connected manholes and structures	2 metres
Piling	Pipes 300mm in diameter and greater, including connected manholes and structures	10 metres
	Pipes less than 300mm in diameter, including connected manholes and structures	2 metres
Blasting	Pipes 300mm in diameter and greater, including connected manholes and structures	15 metres
	Pipes less than 300mm in diameter, including connected manholes and structures	15 metres

14.5 Any Person excavating and working around the Water Supply Network shall take due care to ensure that the network is not damaged and that bedding and backfill is reinstated in accordance with the specifications set out in the Infrastructure Development Code.

14.6 A Person causing damage to the Water Supply Network shall report that damage to Council immediately. Repairs shall be arranged by Council and repair costs may be charged to the person responsible for the damage.

15. RESTRICTIONS ON WATER USE

15.1 Council may impose restrictions on the use of Water Supply where it considers that its ability to maintain an adequate supply of drinking water is or may be at risk because of drought, emergency or increased water demand.

15.2 Any such restriction may apply to all of Tauranga or one or more parts of Tauranga.

15.3 Council will give such public notice as is reasonable in the circumstances of any restriction on water use under clause 15.1.

15.4 No Person may use water contrary to a restriction made under this clause.

15.5 Council may give notice in writing to any Person acting contrary to any restriction made under this clause. Council may restrict Water Supply to any Person that fails to comply with any restrictions made under clause 15.1.

16. APPROVED LICENSED CONTRACTORS

16.1 Only Council Approved Licensed Contractors shall undertake any works to the Water Supply Network.

16.2 The form of any application for and grant of Approved Licensed Contractor status required under this Bylaw will be determined by Council.

16.3 No application for an approval or licence from the Council, and no payment of or receipt for any fee paid in connection with such approval application or licence, shall confer any right, authority or immunity on the person making such application or payment.

16.4 Council may revoke or suspend an approval or licence granted under this Bylaw if it reasonably believes the licence holder:

(a) has acted or is acting in breach of the approval or licence; or

(b) is unfit in any way to hold such an approval or licence.

16.5 Council may require the Approved Contractor or Licence holder to attend a hearing to explain why the approval or licence should not be revoked or suspended. The Council may revoke or suspend the approval or licence at its discretion. If either:

(a) the Approved Contractor or Licence holder does not attend the hearing; or

(b) if after the hearing the Council is satisfied the Approved Contractor or Licence holder has been in breach of the licence or is unfit to hold the approval or licence.

17. OFFENCES AND PENALTIES

17.1 Every person who breaches this Bylaw commits an offence under section 239 of the Local Government Act 2002. Further, every Person commits a breach under this Bylaw who:

(a) Fails, refuses or neglects to comply with any notice duly given to that person under this Bylaw;

(b) Obstructs or hinders any Authorised Officer of the Council or other Council appointed person in performing any duty or in exercising any power under this Bylaw.

17.2 In accordance with section 193 of the Local Government Act 2002, any Person who fails to comply with any part of this Bylaw, may have their Water Supply restricted.

17.3 Subject to any provision to the contrary, any person guilty of an offence against this Bylaw shall be subject to the penalties set out in Section 242(4) of the Local Government Act 2002, and is liable on summary conviction to a fine not exceeding $20,000.

17.4 Council may:

(a) remove or alter any work or thing that is, or has been, constructed in breach of this Bylaw; and

(b) recover on demand the full costs of removal or alteration from the Person who committed the breach.

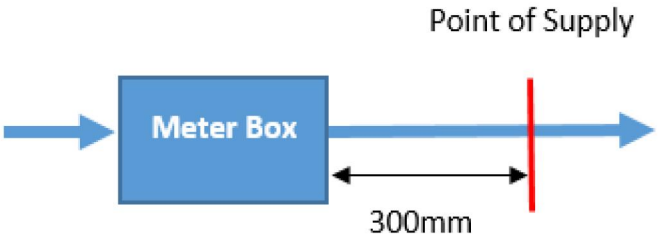
17.5 If a Customer or other Person defaults in undertaking any action required under this Bylaw, the Council may at its discretion, upon giving notice to that Customer or other Person, undertake that action and recover on demand from them the full cost of undertaking the action from that Person.

18. DISPENSING POWERS

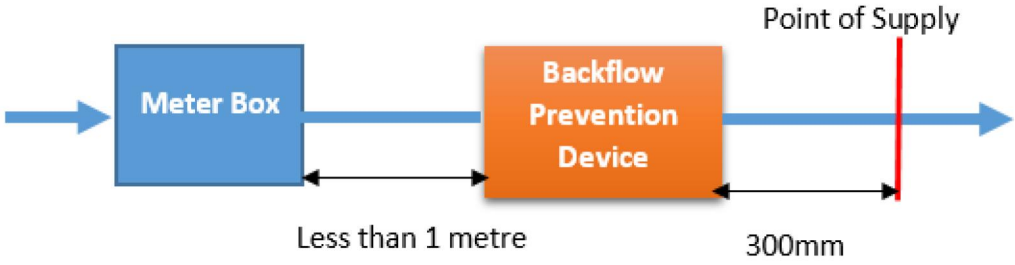
18.1 Council may waive full compliance with any provisions of this Bylaw in a case where Council is of the opinion that full compliance would needlessly cause harm, loss or inconvenience to any person or business without any corresponding benefit to the community. Council may, in its discretion, impose conditions of any such waiver.

Attachment A

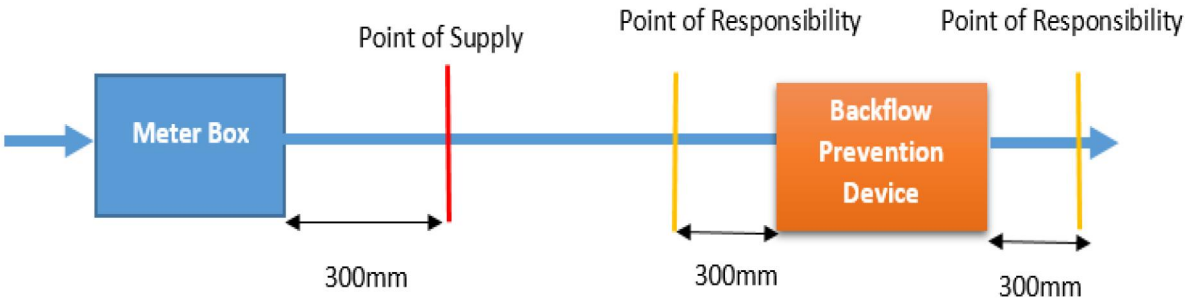
One meter box



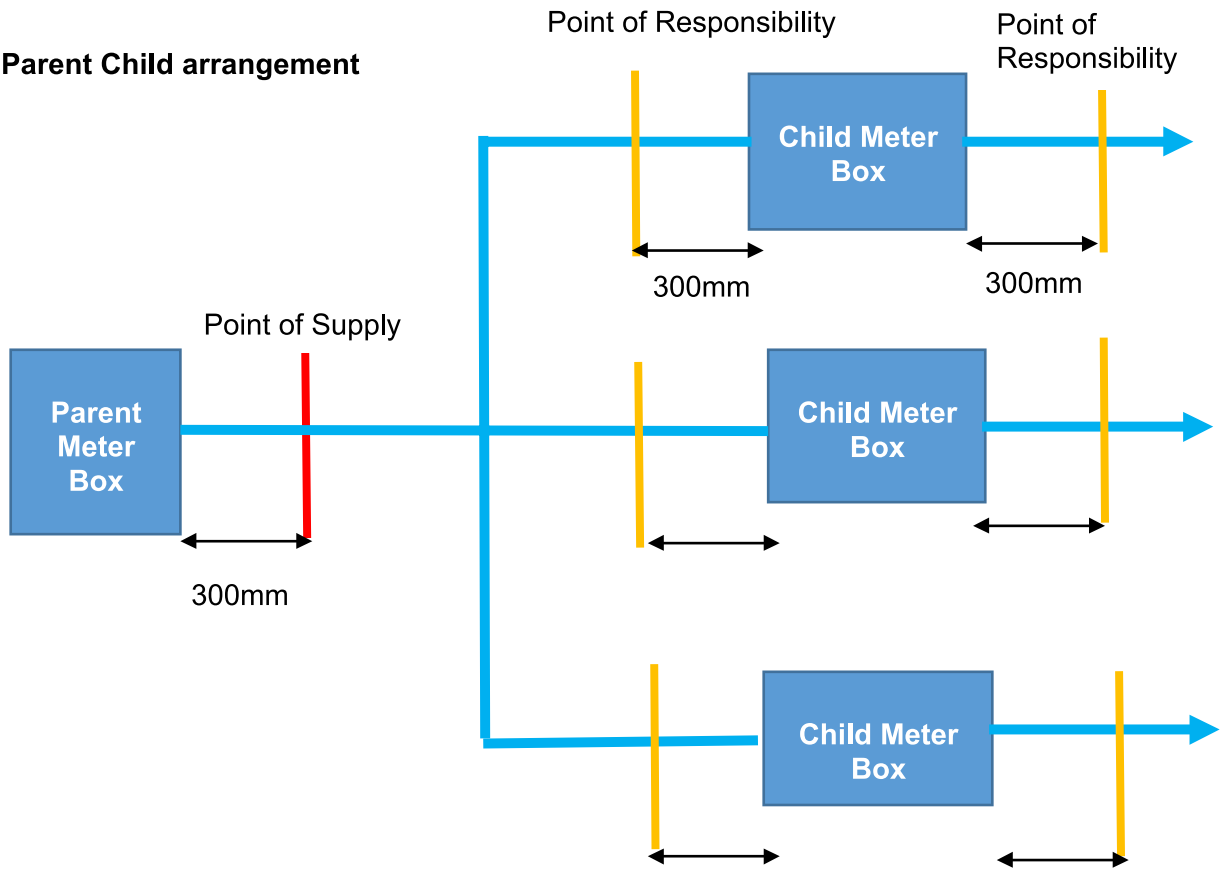
One meter box and a separate backflow prevention device within one metre of the meter box



When the separate backflow prevention device is further than one metre from the meter box



Parent Child arrangement



Tauranga City

Willow Street, Tauranga
Private Bag, Tauranga
Telephone: 07 577 7000. Facsimile 07 577 7034

BUILDING CONSENT Form 5

NO: 55206

Issued By: Tauranga City Council pursuant to Section 51 of the Building Act 2004

THE OWNER	CONTACT PERSON
SMITH, DANIELLE JUSTINE SMITH, PHIL 62 CARROLL PLACE OWHATA ROTORUA 3010	

THE BUILDING		BUILDING WORK
Street Address:	8 SENECIO WAY	The following building work is authorised by this building consent: ERECT DWELLING
Legal Description:	LOT 123 DP489916	

This building consent is issued under Section 51 of the Building Act 2004. This building consent does not relieve the owner of the building (or proposed building) of any duty or responsibility under any other Act relating to or affecting the building (or proposed building). This building consent also does not permit the construction, alteration, demolition, or removal of the building (or proposed building) if that construction, alteration, demolition, or removal would be in breach of any other Act.

This building consent is issued subject to following conditions :

Under Section 90 of the Building Act 2004 agents authorised by the Council (acting as a Building Consent Authority) are entitled, at all times during normal working hours or while building work is being done, to inspect–

ii) land on which building work is being or is proposed to be carried out; and

iii) building work that has been or is being carried out on or off that building site; and

iiii) any building

Compliance Schedule: Not Required

Attachments:

Plans

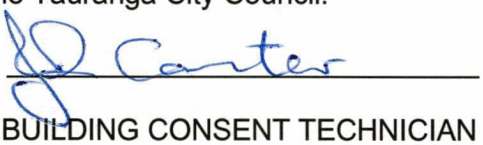
Specifications

Required Items Report

Project Information Memorandum

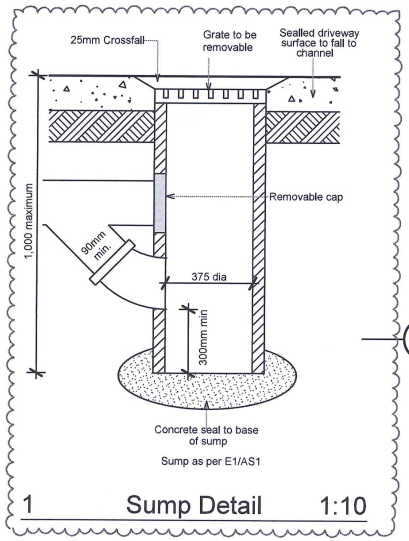
Development Contributions Notice

On behalf of the Tauranga City Council:

Signature 

Position: BUILDING CONSENT TECHNICIAN : BUILDING SERVICES

Date: 31 MAY 2016

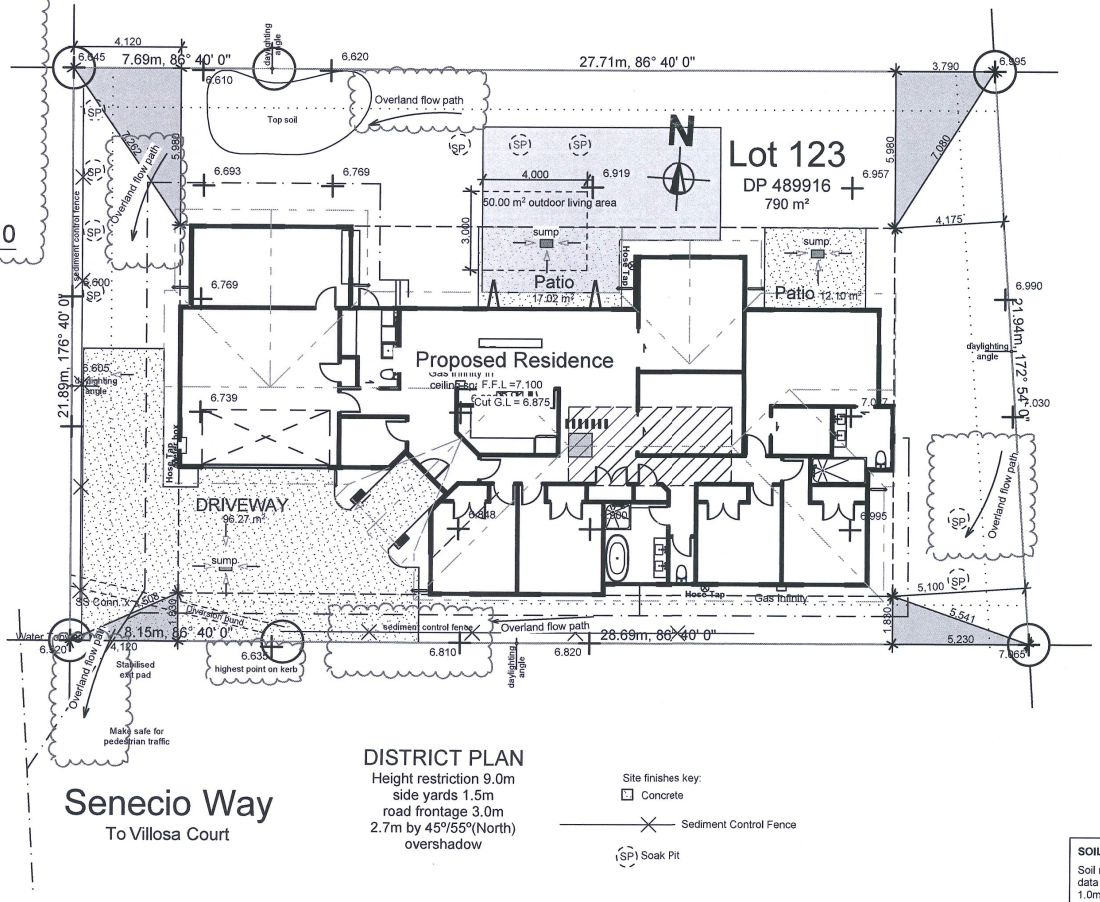


1 Sump Detail 1:10

TAURANGA CITY COUNCIL
PROJECT INFORMATION MEMORANDA
BC 55206
Refer to accompanying documentation

MARK BISHOP
ARCHITECTURE
P O Box 908, ROTORUA
1105 Pukuatua Street, ROTORUA
(m) 021 2440637 (ph)07 929 9807
mark@markbishop.co.nz

APPROVED
These plans are approved in accordance with The NZ Building Code.
These plans must remain on site.
TAURANGA CITY COUNCIL



Senecio Way
To Villosa Court

DISTRICT PLAN
Height restriction 9.0m
side yards 1.5m
road frontage 3.0m
2.7m by 45º/55º(North)
overshadow

Site finishes key:
- Concrete
- Sediment Control Fence
- (SP) Soak Pit

TCC894384

TOTAL FLOOR AREA	272.01	m²
TOTAL ROOF AREA	330.40	m²
SITE AREA:	790	m²
ALLOWABLE SITE COVERAGE:	45	%
SITE COVERAGE AREA:	278.66	m²
SITE COVERAGE PERCENT:	35.47	%

Our calculations exclude the Areas of the existing buildings on site

SITE COVERAGE:
The site coverage of the building is based on the area measured over the foundation line. For covered areas it is based on the area up to 600mm inside the eave line.

ZONES			
Tauranga City Council		ZONE:	Residential
WIND ZONE	High	LEE ZONE:	N/A
EARTHQUAKE ZONE	1	SOIL CLASS	D/E
CORROSION ZONE	C	SNOW ZONE	N0

CONSENT

Client:
Phil & Danielle Smith
Site Address:
8 Senecio Way, Palm Springs, Papamoa,
LEGAL DESCRIPTION
Lot No. **123** **489916**

Job Title
Smith Residence

Drawing Title
Site Plan

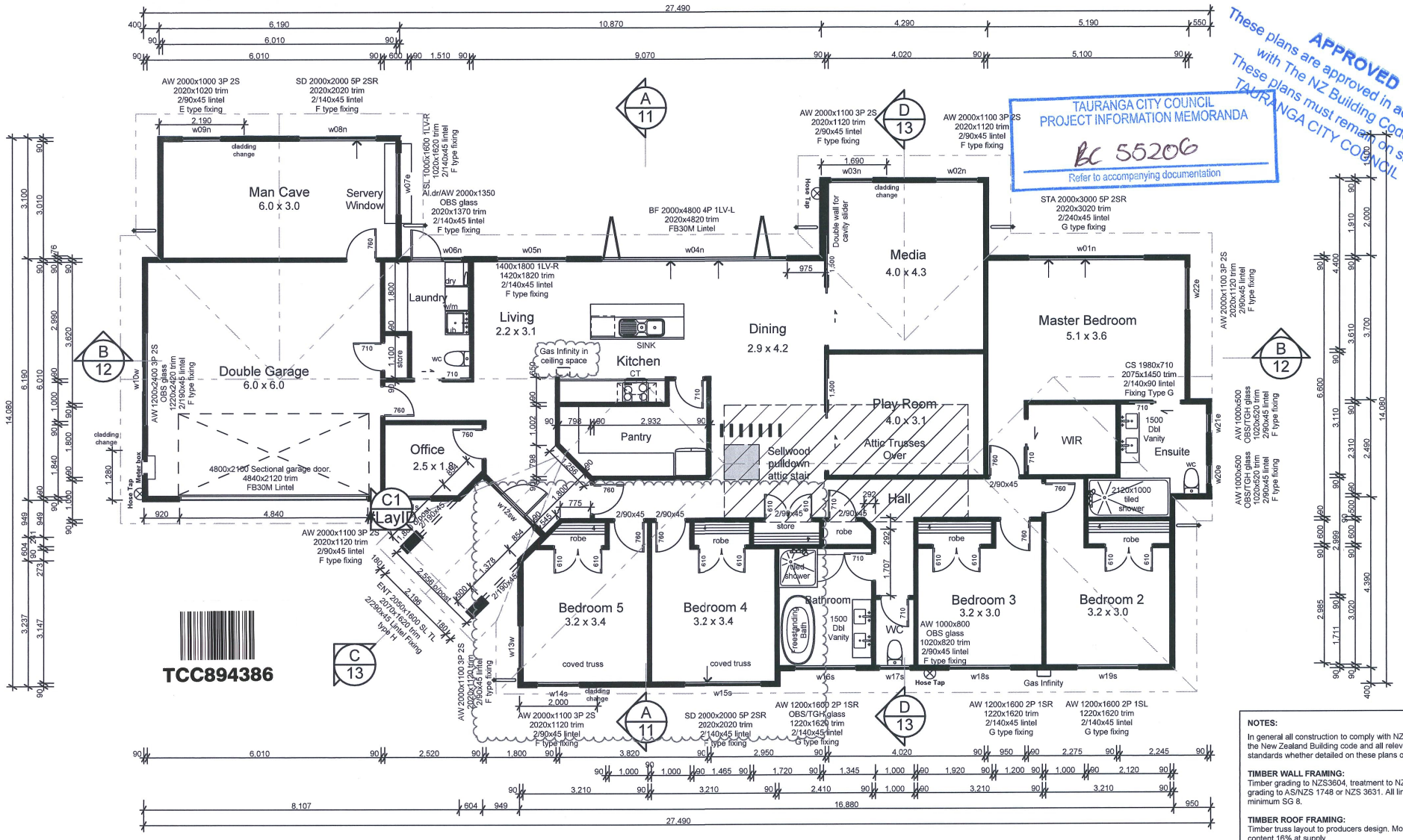
Scale	1:200, 1:1, 1:10
Drawn	DE
Checked	MB
Published	24/05/2016
Drawing Number	01
Job No.	P166 (B)

ALL DIMENSIONS TO BE VERIFIED ON SITE

SOIL MOVEMENTS:
Soil movements have been determined using the contour data provided. Volumes are for the soil movements to 1.0m outside the building platform and excavation to 150mm below natural ground. For detailed excavation requirements refer to the Geotechnical report under excavation recommendations.

AREA		
SOIL MOVEMENT AREA	370.31	m²
SURFACE AREAS OF THE FOLLOWING:		
DRIVE AREA	96.27	m²
HARDSCAPE AREAS	29.12	m²
VOLUME		
SOIL MOVEMENT VOLUME	55.55	m³

F5 Construction and Demolition Hazards
Where work onsite is not completely enclosed and unauthorised entry by children is likely, it is acceptable for the specific hazards to be fenced when workers are absent from the immediate vicinity.
If the potential hazard requires a safety barrier, this barrier must comply with Table 1 of NZBC F5/AS1



APPROVED
These plans are approved in accordance with The NZ Building Code.
These plans must remain on site.
TAURANGA CITY COUNCIL

TAURANGA CITY COUNCIL
PROJECT INFORMATION MEMORANDA
BC 55206
Refer to accompanying documentation

NOTES:

In general all construction to comply with NZS3604 and the New Zealand Building code and all relevant NZ/A standards whether detailed on these plans or not.

TIMBER WALL FRAMING:
Timber grading to NZS3604, treatment to NZS3602 grading to AS/NZS 1748 or NZS 3631. All lintels to be minimum SG 8.

TIMBER ROOF FRAMING:
Timber truss layout to producers design. Moisture content 16% at supply

MARK BISHOP
ARCHITECTURE
P O Box 908, ROTORUA
1105 Pukuatua Street, ROTORUA
(m) 021 2440637 (ph)07 929 9807
mark@markbishop.co.nz

WINDOW CODING
AW/HD/SD/STA - Indicated configuration code
20/12 - Decimetre sizing
1P/1SL/R - Panel configuration
OBS - Obscured glazing
TGH - Toughed safety glass required

ZONES			
Tauranga City Council		ZONE:	Residential
WIND ZONE	High	LEE ZONE:	N/A
EARTHQUAKE ZONE	1	SOIL CLASS	D/E
CORROSION ZONE	C	SNOW ZONE	N0

Garage Area	37.25	m²		
House Area	234.76	m²		
Floor Area	Area 272.01	m²	Perimeter	87.94 m
Roof Area	Area 330.40	m²	Perimeter	90.94 m
TOTAL FLOOR AREA	272.01	m²		
TOTAL ROOF AREA	330.40	m²		
SITE AREA	790	m²		

CONSENT

Client:
Phil & Danielle Smith

Site Address:
8 Senecio Way, Palm Springs, Papamoa,

LEGAL DESCRIPTION
Lot No. **123** **489916**

Job Title
Smith Residence

Drawing Title: **Floor Plan**

Scale: **1:100, 1:1**

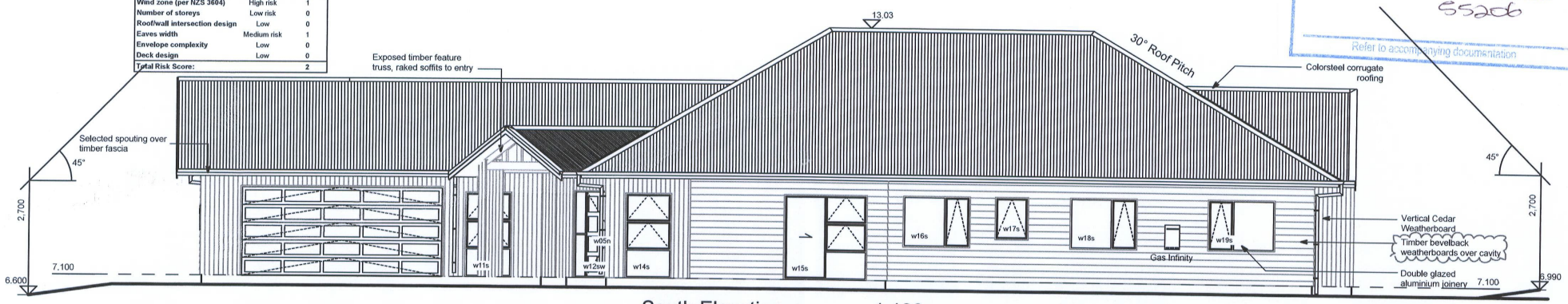
Drawing Number: **03**

Drawn: DE
Checked: MB
Published: 24/05/2016
Job No.: P166 (B)

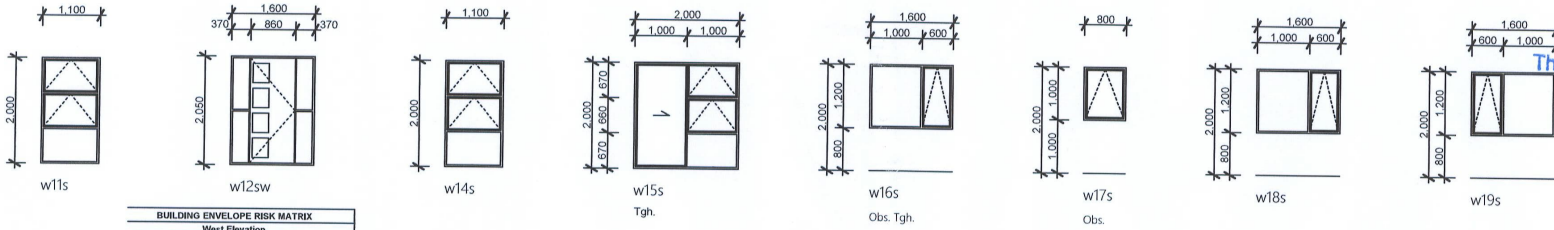
ALL DIMENSIONS TO BE VERIFIED ON SITE

BUILDING ENVELOPE RISK MATRIX		
South Elevation		
Risk Factor	Risk Severity	Risk Score
Wind zone (per NZS 3604)	High risk	1
Number of storeys	Low risk	0
Roof/wall intersection design	Low	0
Eaves width	Medium risk	1
Envelope complexity	Low	0
Deck design	Low	0
Total Risk Score:		2

TAURANGA CITY COUNCIL
PROJECT INFORMATION MEMORANDA
5526
Refer to accompanying documentation



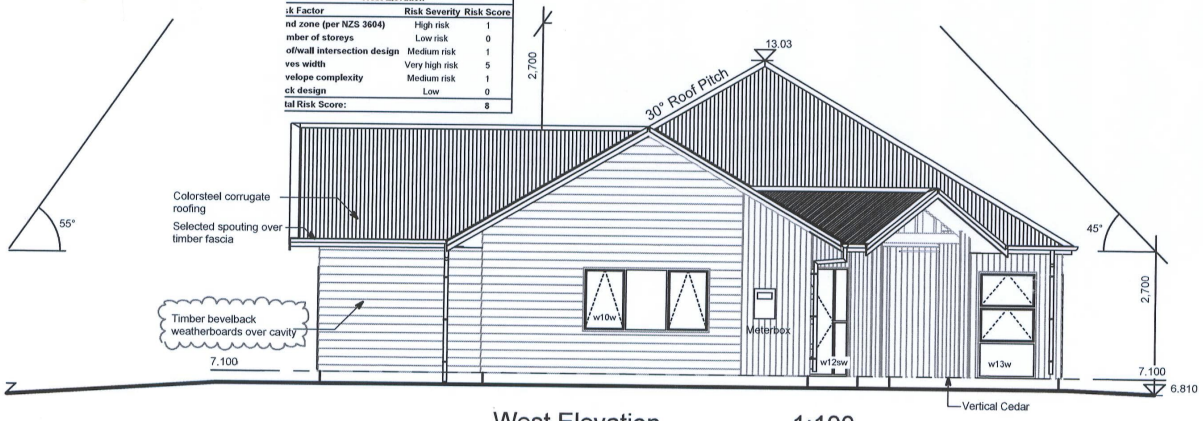
South Elevation 1:100



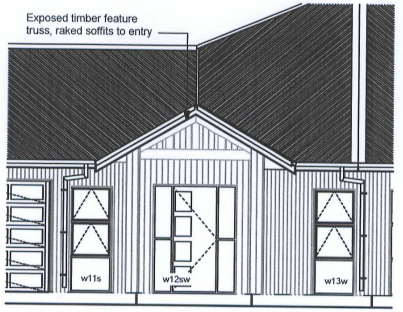
TCC889963

APPROVED
These plans are approved in accordance with The NZ Building Code.
These plans must remain on site.
TAURANGA CITY COUNCIL

BUILDING ENVELOPE RISK MATRIX		
West Elevation		
Risk Factor	Risk Severity	Risk Score
Wind zone (per NZS 3604)	High risk	1
Number of storeys	Low risk	0
Roof/wall intersection design	Medium risk	1
Eaves width	Very high risk	5
Envelope complexity	Medium risk	1
Deck design	Low	0
Total Risk Score:		8



West Elevation 1:100



South-West 1:100

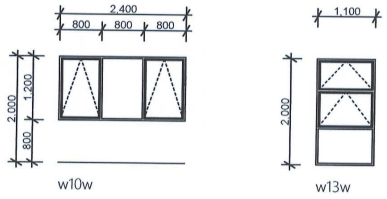
AMENDED PLAN

JOINERY:
All joinery as detailed to comply with NZBC E2/AS1, NZS 4211 & WANZ Aluminium Joinery Handbook
Double glazed units throughout

GLAZING:
All glazing shall be selected by the supplier to comply with NZS4223 for Glazing in Buildings.

ROOFING:
As detailed to comply with NZS3604
NZS E2/AS1.
Metal profiled roofs - AS/NZS 2728

WEATHERBOARD CLADDING:
As detailed on plans to comply with Manufacturers Specifications, Vertical Cedar Weatherboards, Horizontal BevelbackTimber Weatherboards



MARK BISHOP
ARCHITECTURE
P O Box 908, ROTORUA
1105 Pukuatua Street, ROTORUA
(m) 021 2440637 (ph)07 929 9807
mark@markbishop.co.nz

CONSENT

Client: **Phil & Danielle Smith**

Site Address: **8 Senecio Way, Palm Springs, Papamoa,**

LEGAL DESCRIPTION
Lot No. 123 489916

Job Title: **Smith Residence**

Drawing Title: **Elevations**

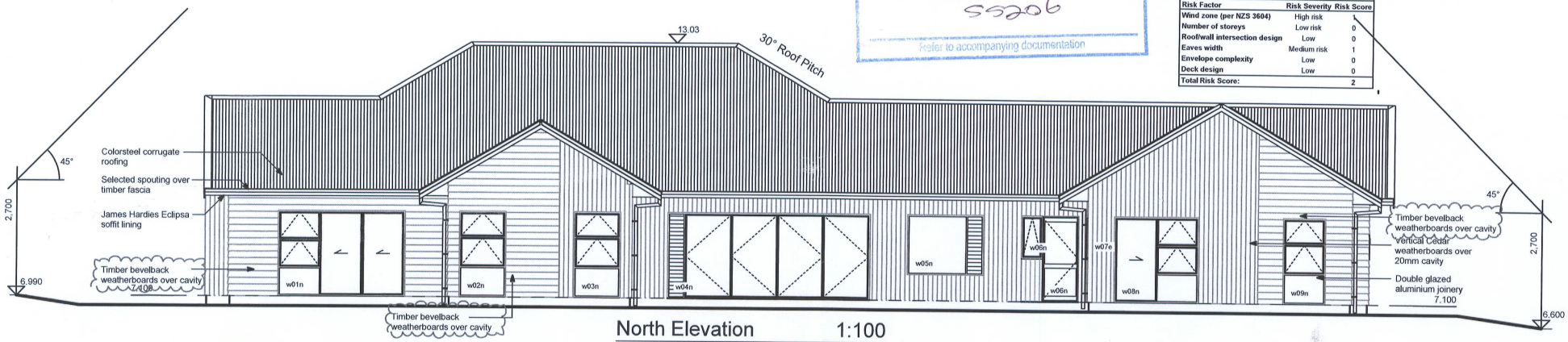
Scale: 1:100

Drawing Number: **05**

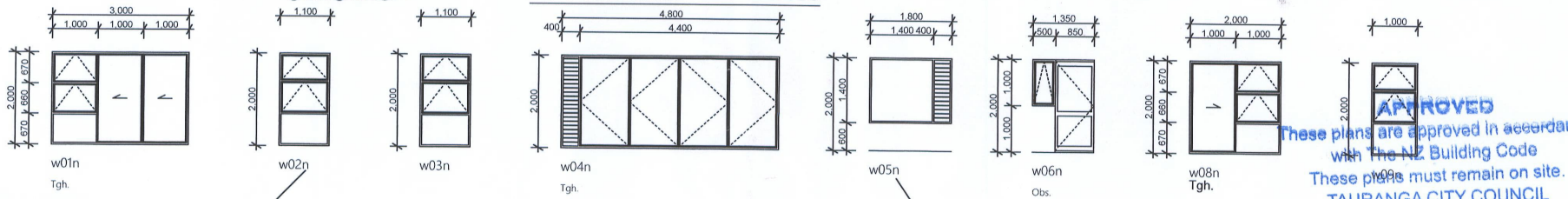
Drawn: DE
Checked: MB
Published: 1/08/2016
Job No. P166 (B)

ALL DIMENSIONS TO BE VERIFIED ON SITE

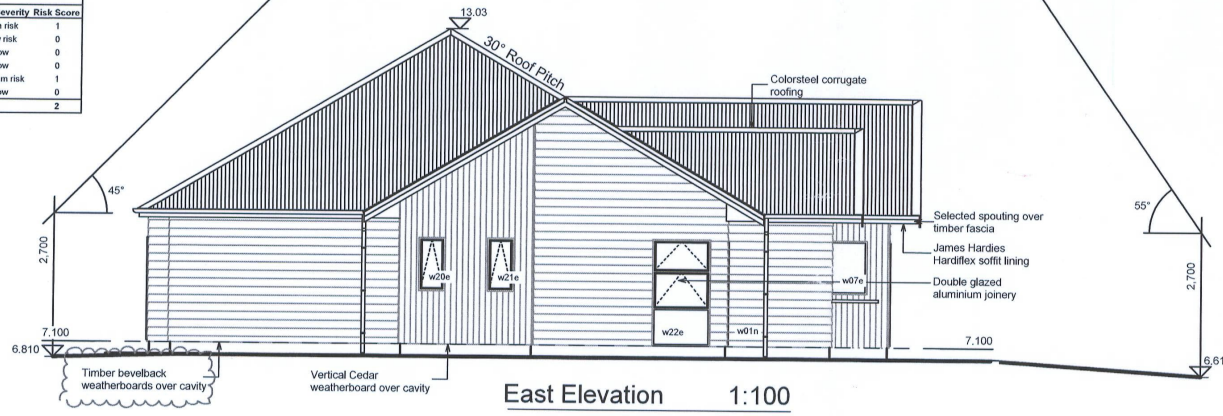
BUILDING ENVELOPE RISK MATRIX		
North Elevation		
Risk Factor	Risk Severity	Risk Score
Wind zone (per NZS 3604)	High risk	1
Number of storeys	Low risk	0
Roof/wall intersection design	Low	0
Eaves width	Medium risk	1
Envelope complexity	Low	0
Deck design	Low	0
Total Risk Score:		2



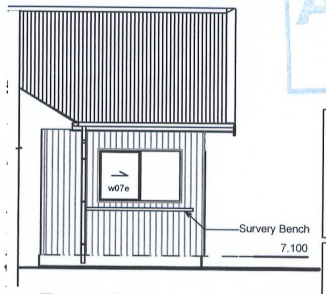
North Elevation 1:100



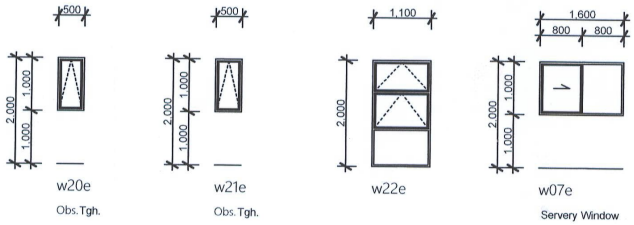
BUILDING ENVELOPE RISK MATRIX		
East Elevation		
Risk Factor	Risk Severity	Risk Score
Wind zone (per NZS 3604)	High risk	1
Number of storeys	Low risk	0
Roof/wall intersection design	Low	0
Eaves width	Low	0
Envelope complexity	Medium risk	1
Deck design	Low	0
Total Risk Score:		2



East Elevation 1:100



East - Part 1:100



JOINERY:
All joinery as detailed to comply with NZBC E2/AS1, NZS 4211 & WANZ Aluminium Joinery Handbook
Double glazed units throughout

GLAZING:
All glazing shall be selected by the supplier to comply with NZS4223 for Glazing in Buildings.

ROOFING:
As detailed to comply with NZS3604
NZS E2/AS1.
Metal profiled roofs - AS/NZS 2728

WEATHERBOARD CLADDING:
As detailed on plans to comply with Manufacturers Specifications, Vertical Cedar Weatherboards, Horizontal BevelbackTimber Weatherboards

TCC889962

MARK BISHOP
ARCHITECTURE
P.O.Box 908, ROTORUA
1105 Pukuatua Street, ROTORUA
(m) 021 2440637 (ph)07 929 9807
mark@markbishop.co.nz

CONSENT

Client:
Phil & Danielle Smith
Site Address:
8 Senecio Way, Palm Springs, Papamoa,

LEGAL DESCRIPTION
Lot No. 123 489916

Job Title
Smith Residence

Drawing Title
Elevations

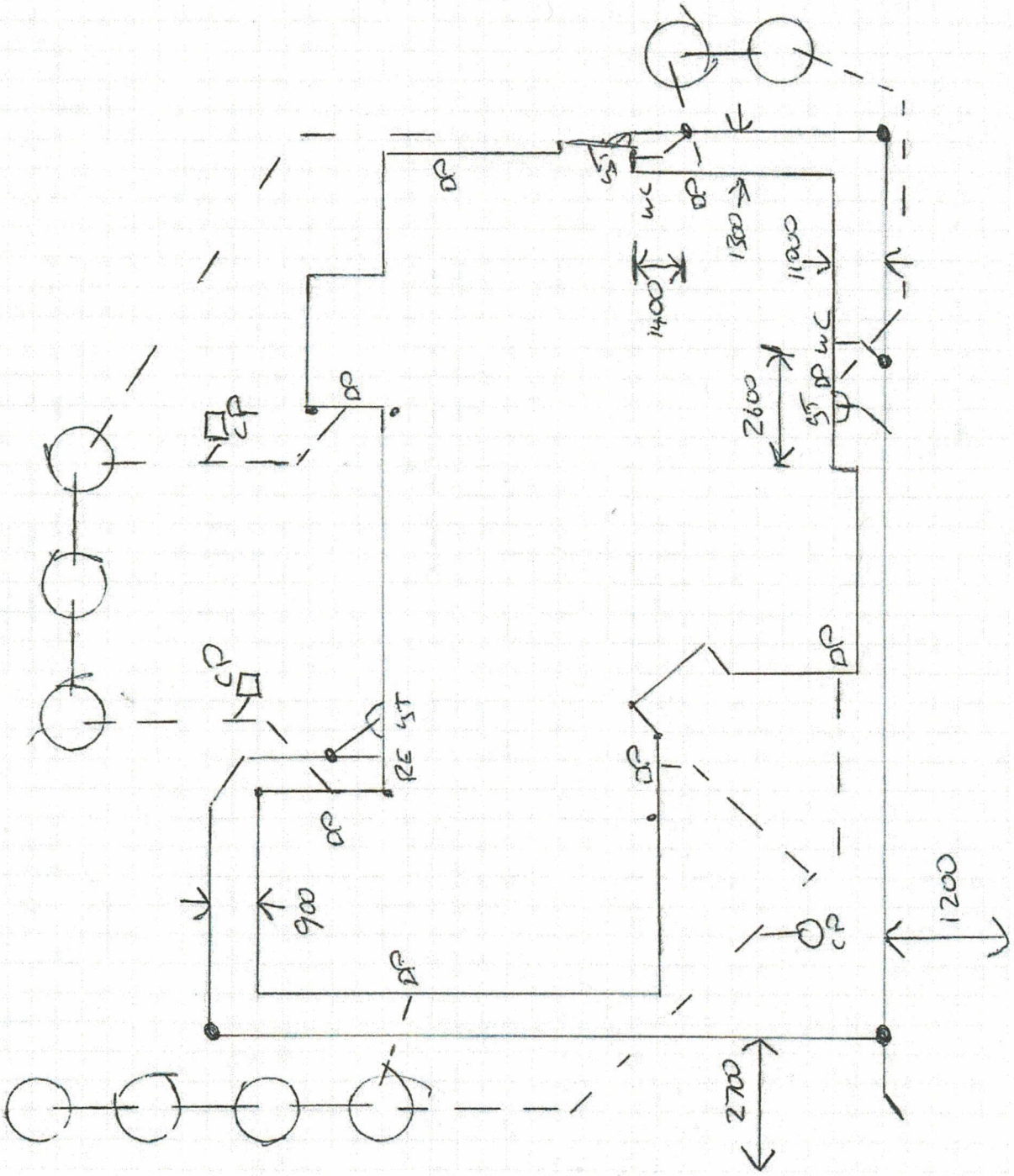
Scale **1:100**
Drawn DE
Checked MB
Published 1/08/2016

Drawing Number **04**
Job No. P166 (B)

ALL DIMENSIONS TO BE VERIFIED ON SITE

Services As Laid Plan

Western Bay of Plenty District Council



Owner Name	Consent Number
Phil & Danielle Smith	BC 55206

Project Location
8 Senecio Way Papamoa

Details – Plumber/Drainlayer	Registration Number
P Fitzgerald.	20035

A139541

Tauranga City

Willow Street, Tauranga
Private Bag 12022, Tauranga 3143
Telephone: 07 577 7000. Facsimile 07 577 7034

COPY

CODE COMPLIANCE CERTIFICATE NO: 55206/A1

Section 95, Building Act 2004

THE OWNER	CONTACT PERSON
SMITH, PHIL SMITH, DANIELLE 8 SENECIO WAY PAPAMOA BEACH PAPAMOA 3118	MARK BISHOP ARCHITECTURE PO BOX 908 ROTORUA 3040 Ph Email/website:

The building

Street address of building: 8 SENECIO WAY

Legal description of land where building is located: LOT 123 DP489916

Building name: N/A

Current, lawfully established use: DETACHED DWELLING

Year first constructed: 2016

First point of contact for communications with the council/building consent authority: Tauranga City Council, Building Services, Private Bag 12002, Tauranga 3143, phone 07 5777000, fax 07 5777034, info@tauranga.govt.nz

Building work: ERECT DWELLING

Amendment: A1 - CHANGE TO CLADDING

Building consent number: 55206

Issued by: Tauranga City Council

Code compliance

The building consent authority named below is satisfied, on reasonable grounds, that -

a) the building work complies with the building consent

Compliance Schedule: N/A

Signature

BUSINESS AND PROJECT MANAGER: BUILDING SERVICES
On behalf of: Tauranga City Council

Date: 01 Mar 2018

Form 5
Building consent - BC191389

Section 51, Building Act 2004

The building

Street address of building:	8 SENECIO WAY PAPAMOA BEACH PAPAMOA 3118
Legal description of land where building is located:	LOT 123 DP 489916
Building name:	
Location of building within site/block number:	8 SENECIO WAY PAPAMOA BEACH PAPAMOA 3118
Level/unit number:	0

The owner

Name of owner:	Bay Building Services LTD
Customer number:	566852
Contact person:	Phil Smith
Mailing address:	8 Senecio Way Papamoa Bay Of Plenty Papamoa 3118
Street address/registered office:	
Phone number:	Landline: 021884777 Mobile: 021884777
Daytime:	No information provided
After hours:	No information provided
Facsimile number:	No information provided
Email address:	info@baybuilding.co.nz
Website:	No information provided

First point of contact for communications with the building consent authority:
Bay Building Services LTD; Mailing Address: 8 Senecio Way
Papamoa
Bay Of Plenty
Papamoa 3118; Phone: 021884777; Email: info@baybuilding.co.nz

Building work

The following building work is authorised by this building consent:
Replace attic ladder with permanent stairs

This building consent is issued under section 51 of the Building Act 2004. This building consent does not

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

This building consent is subject to the following conditions:

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

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

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

Compliance schedule
A compliance schedule is not required for the building.

Inspections
The following inspections are required:

- Preline Building
- Building Final
- Post Line

Copies of all site reports/records must be provided to the Building Consent Authority as work proceeds for their records, please upload these to your consent.

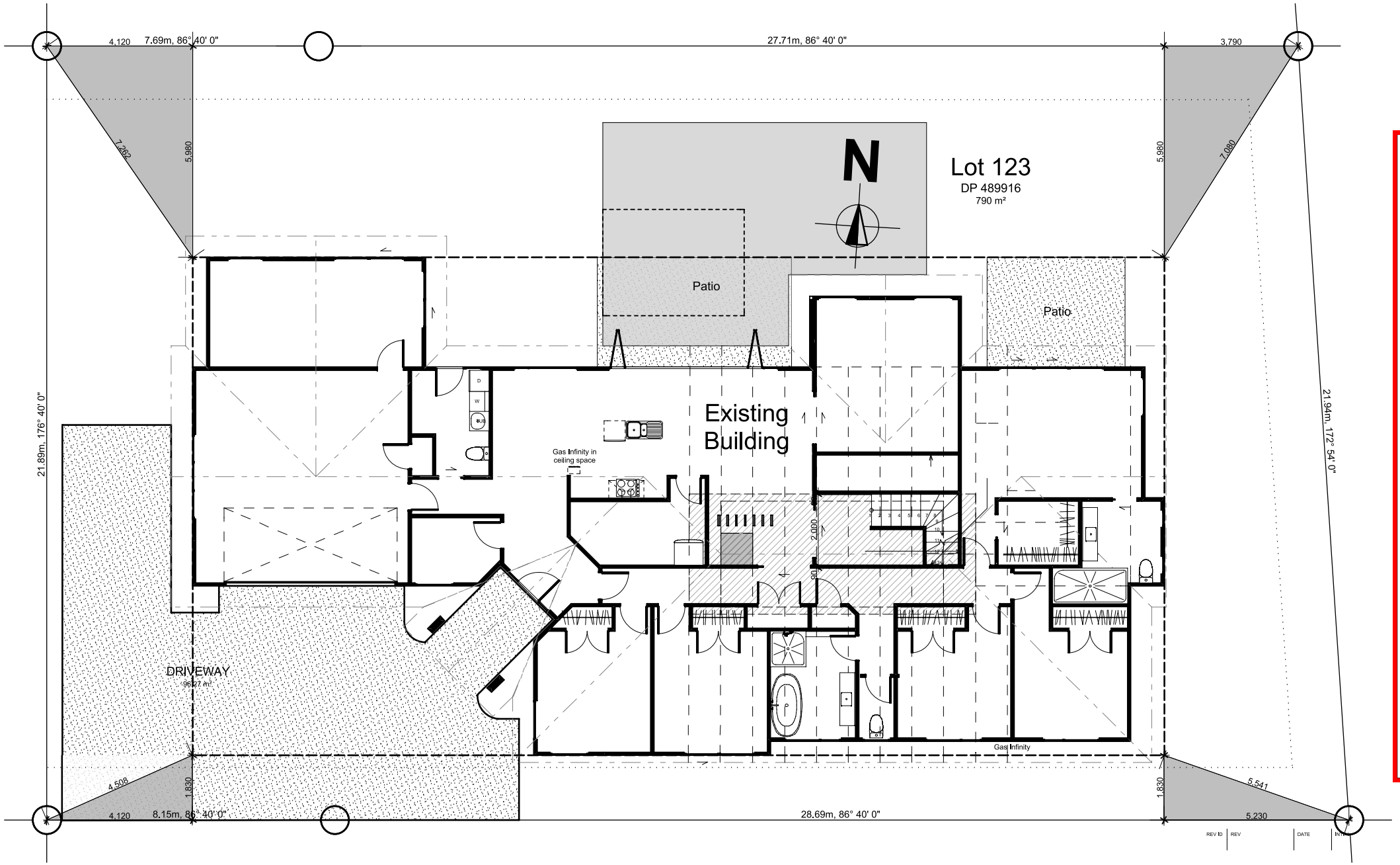
Attachments
Copies of the following documents are attached to this building consent:

- Advice notes / Endorsements

Signature: Garth Carruthers
Position: Senior Building Control Officer - Processing
On behalf of: Tauranga City Council
Issue Date: 17 September 2019

Advice notes / Endorsements

As-Built Truss Layout: An 'as built' truss layout, showing truss and top plate connectors, along with design verification data and lintel sizes outside the scope of NZS 3604 must be available on site at the Prewrap Inspection for the Building Consent Authority officer to collect to facilitate the inspection and retain for record purposes.
Under section 92 (2A) of the Building Act 2004, If applicable, the owner must include with the application for Code Compliance Certificate, any records of work provided by licensed building practitioners under section 88(1).



REV ID | REV | DATE | INITIALS

BISHOP ARCHITECTURE
Level 1, 1109 Pukuatua Street
PO Box 908
Rotorua 3010
www.bishoparch.co.nz
email jobs@bishoparch.co.nz
tel 07 929 9807

CLIENT
Phil and Danielle Smith

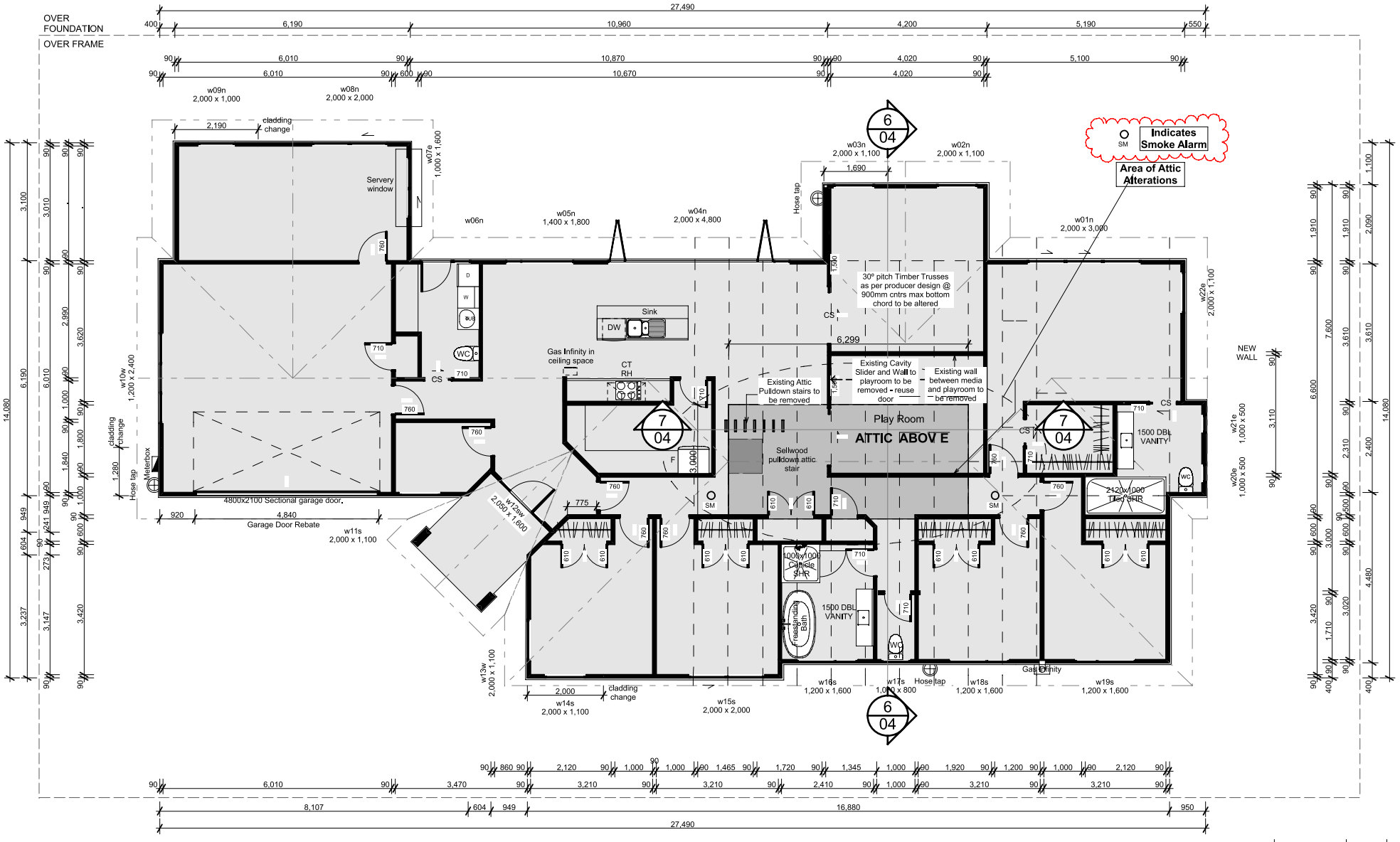
SITE ADDRESS:
8 Senecio Way Papamoa Papamoa Beach
3118 New Zealand

Site Plan

CONCEPT
Stair Alteration

SCALE @ A3 1:100, 1:1
DATE 18/07/2019
JOB NO P298
DRAWING NO 01
REVISION

ALL DIMENSIONS TO BE VERIFIED ON SITE BEFORE SHOP DRAWINGS OR COMMENCING ANY WORK



REV ID | REV | DATE | INITIAL

BISHOP ARCHITECTURE
Level 1, 1109 Pukuatua Street
PO Box 908
Rotorua 3010
www.bishoparch.co.nz
email jobs@bishoparch.co.nz
tel 07 929 9807

CLIENT
Phil and Danielle Smith

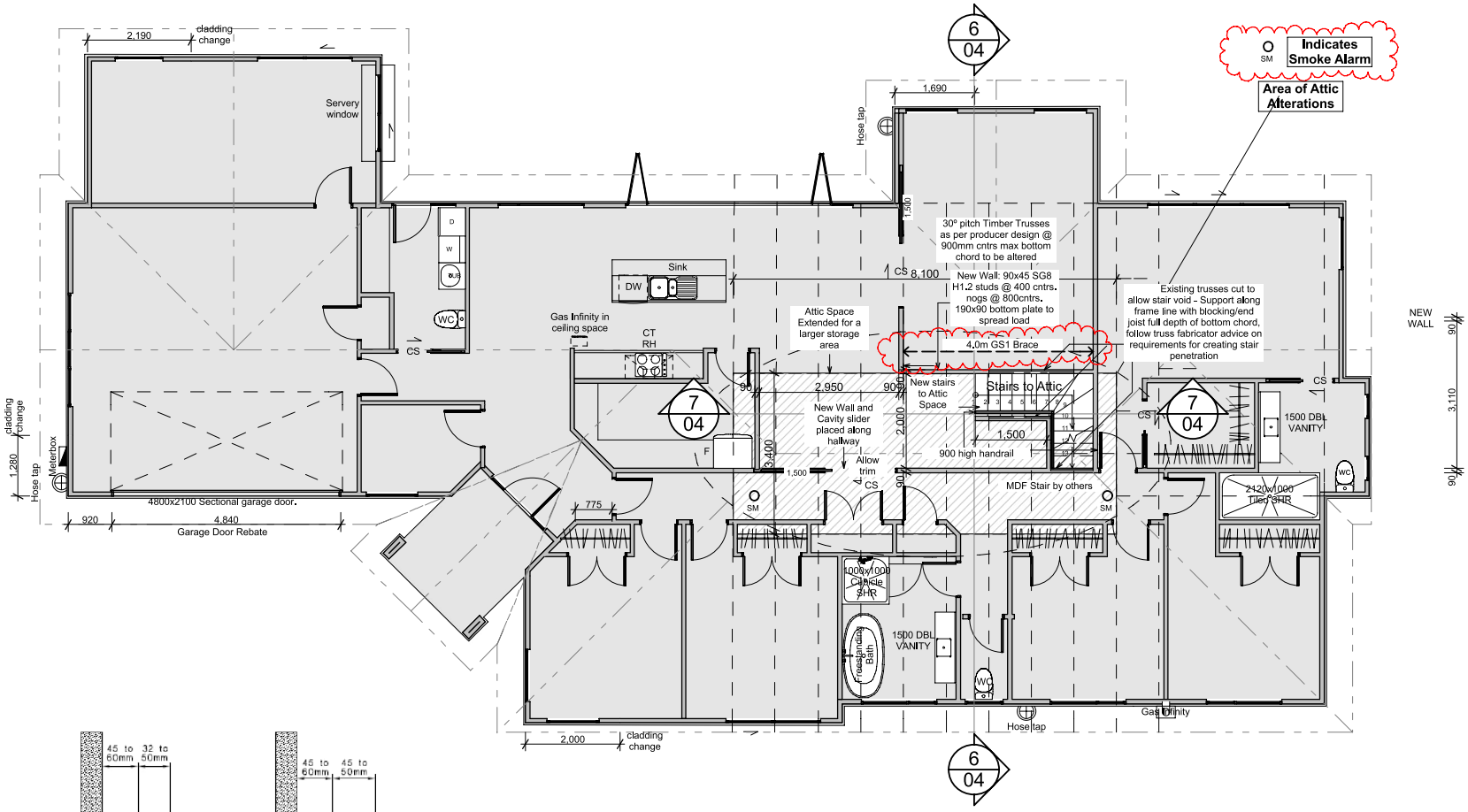
SITE ADDRESS:
8 Senecio Way Papamoa Papamoa Beach
3118 New Zealand

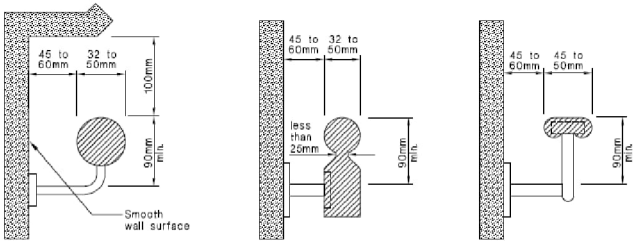
Existing Ground Floorplan

CONCEPT
Stair Alteration

SCALE @ A3 1:100, 1:1
DATE 18/07/2019
JOB NO P298
DRAWING NO 02
REVISION

ALL DIMENSIONS TO BE VERIFIED ON SITE BEFORE SHOP DRAWINGS OR COMMENCING ANY WORK





The profiles shown comply with the provisions for accessible handrails.

The clearances apply to all handrails and the maximum dimension must be used for rough textured wall surfaces.

(b) Acceptable profiles and clearances for accessible stairways

REV ID	REV	DATE	INITIAL

BISHOP ARCHITECTURE
Level 1, 1109 Pukuatua Street
PO Box 908
Rotorua 3010
www.bishoparch.co.nz
email jobs@bishoparch.co.nz
tel 07 929 9807

CLIENT
Phil and Danielle Smith

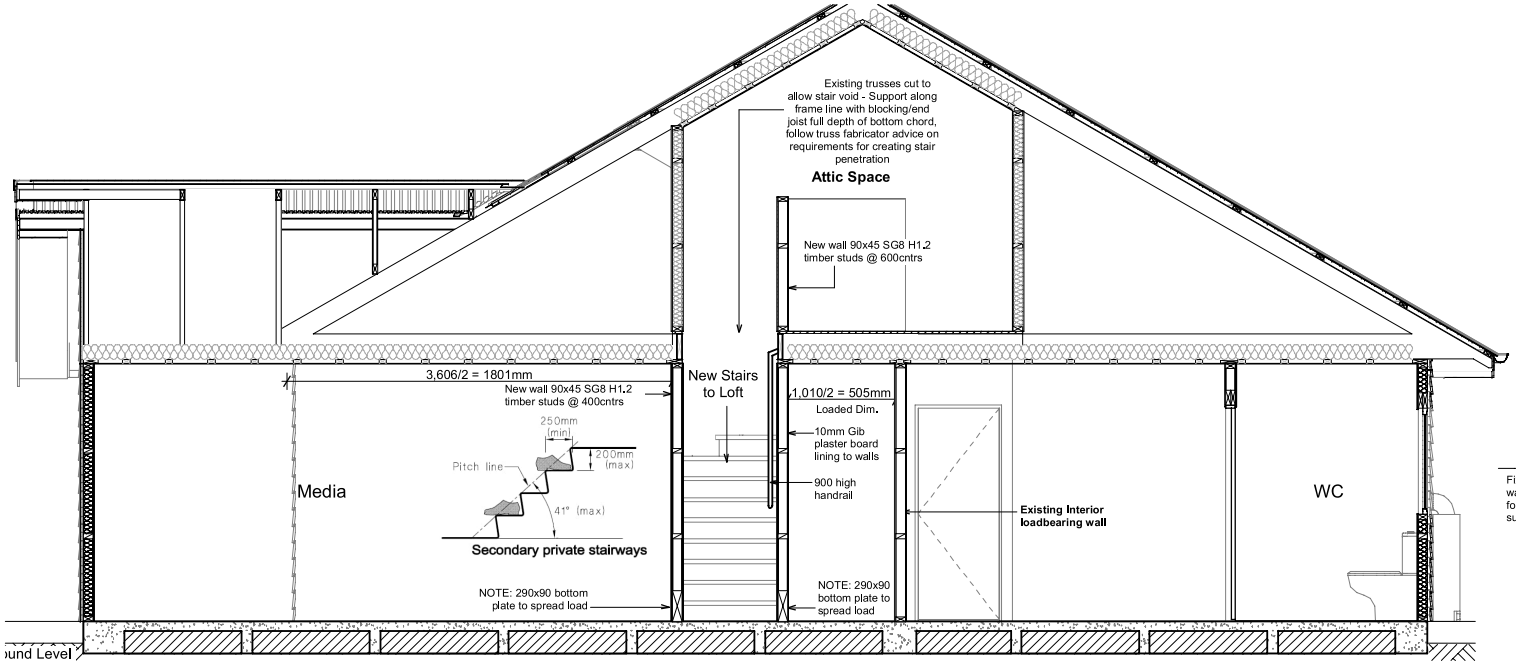
SITE ADDRESS:
8 Senecio Way Papamoa Papamoa Beach
3118 New Zealand

Proposed Ground Floorplan

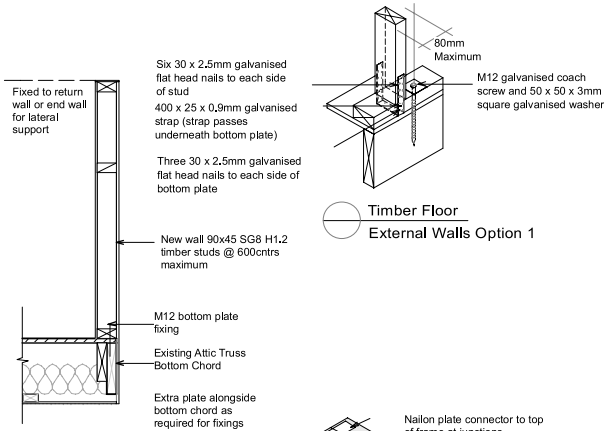
CONCEPT
Stair Alteration

SCALE @ A3 1:1, 1:100
DATE 2/08/2019
JOB NO P298
DRAWING NO 03
REVISION

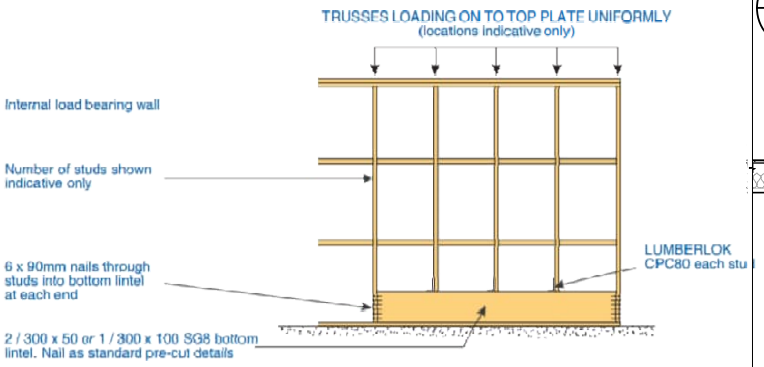
ALL DIMENSIONS TO BE VERIFIED ON SITE BEFORE SHOP DRAWINGS OR COMMENCING ANY WORK

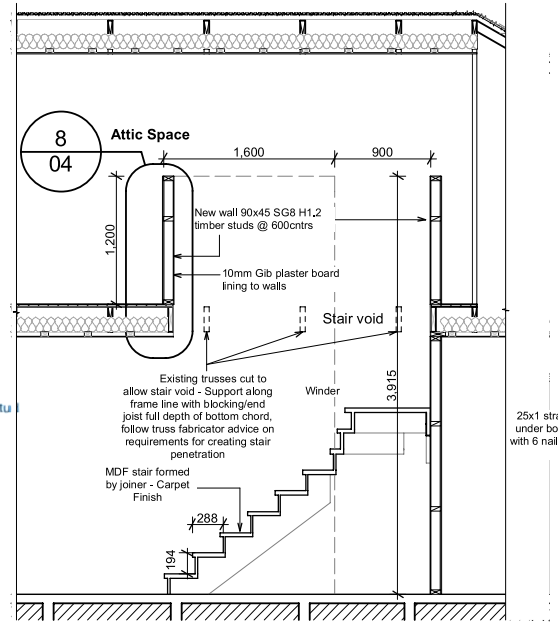


6 Section AA 1:50

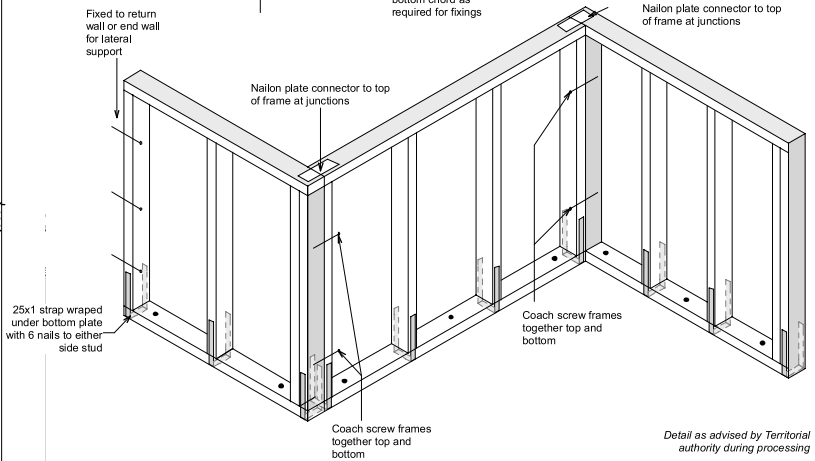


Uniformly Distributed Loads





7 Section 1B 1:50



Detail as advised by Territorial authority during processing

Balustrade fixing

REV ID | REV | DATE | INITIAL

BISHOP ARCHITECTURE
Level 1, 1109 Pukuatua Street
PO Box 908
Rotorua 3010
www.bishoparch.co.nz
email jobs@bishoparch.co.nz
tel 07 929 9807

CLIENT
Phil and Danielle Smith

SITE ADDRESS:
8 Senecio Way Papamoa Papamoa Beach
3118 New Zealand

Cross Section

CONCEPT
Stair Alteration

SCALE @ A3 1:50, 1:25
DATE 13/09/2019
JOB NO P298
DRAWING NO 04
REVISION

ALL DIMENSIONS TO BE VERIFIED ON SITE BEFORE SHOP DRAWINGS OR COMMENCING ANY WORK

Form 7
Code compliance certificate

Section 95, Building Act 2004

The building

Street address of building:	8 SENECIO WAY, PAPAMOA BEACH, PAPAMOA 3118
Legal description of land where building is located:	LOT 123 DP 489916
Building name:	N/A
Location of building within site/block number:	8 SENECIO WAY PAPAMOA BEACH PAPAMOA 3118
Level/unit number:	N/A
Current, lawfully established, use:	2.0 Housing: 2.0.2 Detached Dwelling
Year first constructed:	2016

The owner

Name of owner:	Bay Building Services LTD
Customer number:	566852
Contact person:	Phil Smith
Mailing address:	8 Senecio Way, Papamoa, Bay Of Plenty, Papamoa
Street address/registered office:	N/A
Phone number:	Landline: 021884777 Mobile: 021884777
Daytime:	Landline: 021884777 Mobile: 021884777
After hours:	Landline: 021884777 Mobile: 021884777
Facsimile number:	No information provided
Email address:	info@baybuilding.co.nz
Website:	No information provided

First point of contact for communications with the council/building consent authority:
Bay Building Services LTD; Mailing Address: 8 Senecio Way
Papamoa
Bay Of Plenty
Papamoa 3118; Phone: 021884777; Email: info@baybuilding.co.nz

Building work

Building consent number:	BC191389
Description:	Replace attic ladder with permanent stairs
Issued by:	Tauranga City Council

Code compliance

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

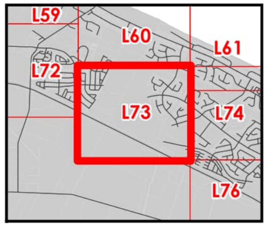
No Compliance Schedule

Signature: Ray Day
Position: Manager Building Consent Services
On behalf of: Tauranga City Council
Date: 16 July 2020

City Plan

Planning Map

L73



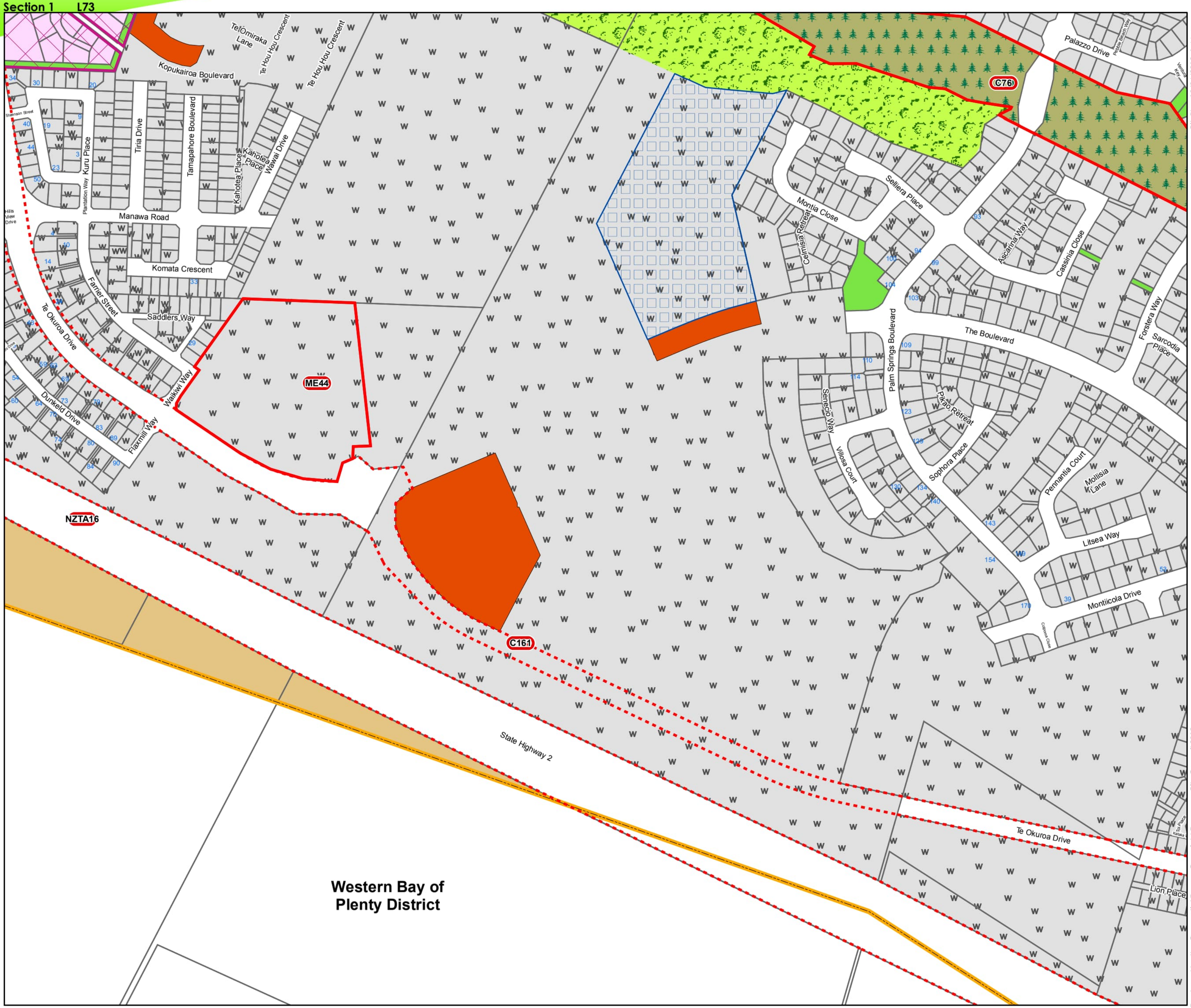
0 50 100 200 300

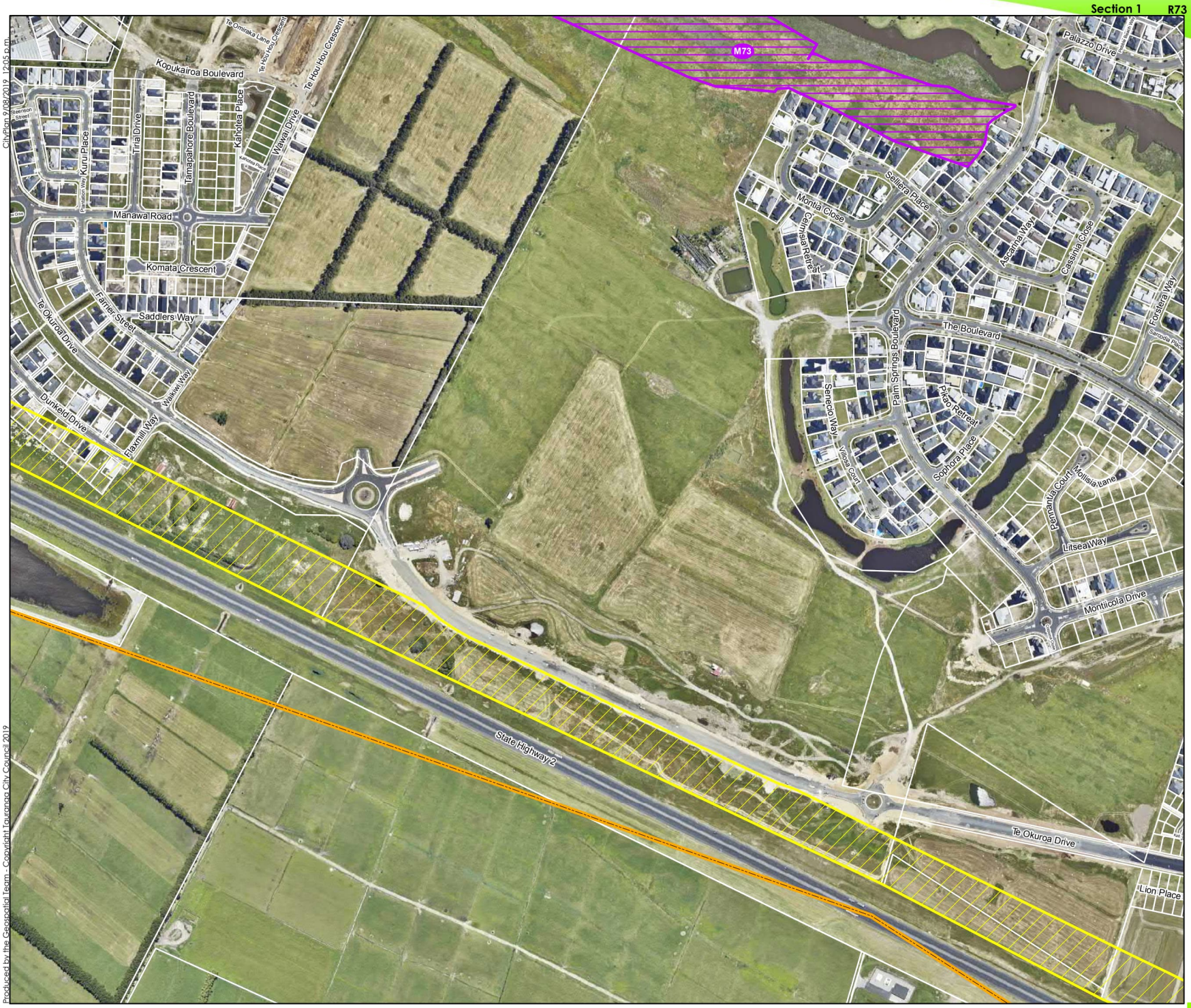
Metres

Scale = 1:5,000

Tauranga City

Section 1 L73



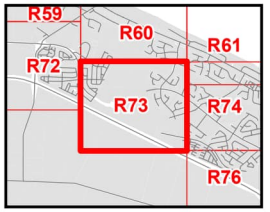


N

City Plan

Planning Map

R73



0 50 100 200 300

Metres

Scale = 1:5,000

Tauranga City

Tauranga City Plan
Planning Maps Key (1 of 2)

Jurisdiction

1) The rules of this City Plan only apply landward of Mean High Water Springs.
2) The Bay of Plenty Regional Council is the consent authority for activities seaward of Mean High Water Springs and for activities on the surface of waterbodies.
3) The line of the coast shown on this map represents the position of Mean High Water Springs basedon aerial mapping (2007). It does not necessarily represent the current position of Mean High Water Springs.
4) The Bay of Plenty Regional Council should be consulted before undertaking any activity in the vicinity of Mean High Water to establish the actual line of Mean High Water Springs.

Planning Zones

- City Centre Zone
- City Centre Waterfront Subzones
- Commercial
- City Living – Mixed Use (CLMU)
- City Living – Mixed Use (CLMR) 19 metre max. height
- City Living – Residential (CLR) 9 metre max. height
- City Living – Residential (CLR)
- Suburban Residential
- Residential Large Lot
- High Density Residential

Planning Zones (continue)

- Port Industry
- Tauriko Industry
- Tauriko Commercial
- Industry
- Rural Residential
- Rural
- Education Centre
- Passive Open Space
- Active Open Space
- Active Open Space (Major)
- Conservation
- Greenbelt

Planning Zones (continue)

- Te Tumu Future Urban
- Rural Marae Community
- Urban Marae Community
- Ngati Kahu Papakainga
- Special Use Baypark
- Wairakei Town Centre (Core)
- Wairakei Town Centre (Fringe)
- Neighbourhood Centre (Wairakei)
- Papamoa East Employment
- Wairakei Residential
- Rail
  1. The rail designation has the underlying zoning of the adjoining zone measured from the centreline of the designation
  2. Where the rail designation crosses a public road, the underlying zoning is Road. The rail designation does not cross all public roads.
- Road
  All Public Roads and Service Lanes are Road Zone

Plan Areas

- Current Erosion Risk Zone (CERZ)
- 50 year (2060) Erosion Risk Zone (50 year ERZ)
- 100 year (2100) Erosion Risk Zone (100 year ERZ)
- Scheduled Site
- Commercial Plan Area
- High Rise Plan Area
- Medium Rise Plan Area
- Flood Hazard Plan Area
- Special Ecological Area (Category 1)
- Special Ecological Area (Category 2)
- Outstanding Natural Features and Landscapes Plan Area
- Important Amenity Landscapes Plan Area
- Kiwi Rail Reverse Sensitivity Plan Area
- NZTA Reverse Sensitivity Plan Area

Tauranga City Plan
Planning Maps Key (2 of 2)

1) The rules of this City Plan only apply landward of Mean High Water Springs.
2) The Bay of Plenty Regional Council is the consent authority for activities seaward of Mean High Water Springs and for activities on the surface of waterbodies.
3) The line of the coast shown on this map represents the position of Mean High Water Springs based on aerial mapping (2007). It does not necessarily represent the current position of Mean High Water Springs.
4) The Bay of Plenty Regional Council should be consulted before undertaking any activity in the vicinity of Mean High Water to establish the actual line of Mean High Water Springs.

Other Symbols

- Legal Parcel Boundary as at Date Printed on Map
- Mean High Water Springs
- Sub Zone Boundary
- Pedestrian Environment Street Frontage
- Pedestrian Link Requirement
- Coastal Protection Area
- Special Noise Rule Applies (Courtney Road, Bethlehem Town Centre)
- Territorial Authority Boundary

Utilities

Note: While only transmission and key electric lines are identified on the Planning Maps, works in close proximity to all electric lines can be dangerous. Compliance with the New Zealand Electrical Code of Practice 34:2001 is mandatory for buildings, earthworks and mobile plants within close proximity to all electric lines. Compliance with the Electricity (Hazards from Trees) Regulations 2003 is also mandatory for tree trimming and planting. To discuss works, including tree planting, near electrical lines especially within 20m of those lines, contact the line operator.

- High Voltage Transmission Plan Area-Support Structure
- High Voltage Transmission Plan Area-Electric Line
- High Voltage Transmission Plan Area
- Powerco Structure
- Powerco Overhead Electric Line
- Powerco Underground Cable
- Trustpower Structure
- Trustpower Electric Line
- Gas Transmission Pipeline

Heritage

- Built Heritage Site Number
  (Refer Heritage Register, Chapter 7) NOTE: tree canopy and number within it indicates tree(s) on this legal parcel, but not necessarily at the marked location within the parcel.
- Notable Tree
  (Refer Notable Tree Register, Chapter 6) NOTE: tree canopy and number within it indicates tree(s) on this legal parcel, but not necessarily at the marked location within the parcel.
- Heritage Tree
  (Refer Heritage Tree Register, Chapter 7) NOTE: tree canopy and number within it indicates tree(s) on this legal parcel, but not necessarily at the marked location within the parcel.
- Signficant Groups of Trees
  (Refer Signficant Groups of Trees Register, Chapter 6) NOTE: Tree canopies should be sighted on site to determine actual extent
- Significant Maori Areas
  (Refer Chapter 7, Appendix 7B: Register of Significant Maori Areas)
- Significant Archaelogical Areas
  (Refer Chapter 7, Appendix 7D: Register of Significant Archaeological Areas)
- Te Tumu Archaeological Management Areas
  (Refer Chapter 7, Appendix 7E: Te Tumu Archaeological Management Areas)

Designations

- Designated Site Boundary (other than Road Designation)
- Designated Road or Road Widening
- Designated Site Number (Refer Appendix 10C:Designations)
- Limited Access Road
- Proposed Designated Site Boundary (other than Road Designation)
- Proposed Designated Road or Proposed Road Widening
- Proposed Designated Site Number (Refer Appendix 10C:Designations)

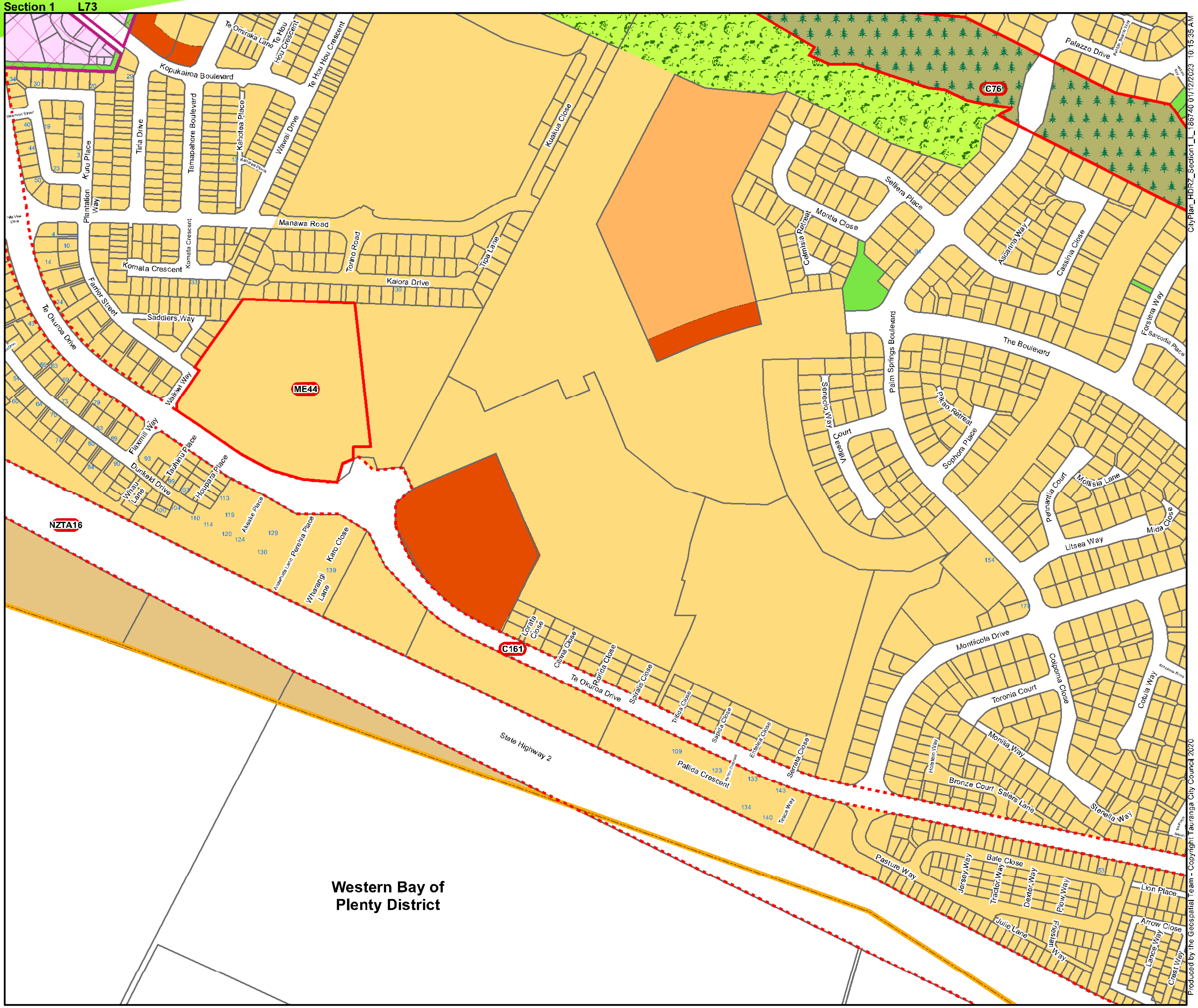
Requiring Authority Abbreviations

C	Tauranga City Council
MJ	Ministry for Courts
DR	Department of Corrections
MD	Ministry of Defence
ME	Ministry of Education
MH	Ministry of Health
MS	Meteorological Service of New Zealand
NP	New Zealand Police
NZTA	New Zealand Transport Agency
PC	PowerCo Limited
RC	New Zealand Railways Corporation
TNZ	Telecom New Zealand Ltd and Telecom Mobile Communications Ltd
TW	Transpower New Zealand Limited
WB	Western Bay of Plenty District Council
CH	Chorus Limited

Other Abbreviations

AW	Accessway - Zoned Passive Open Space
SL	Service Lane
C.M.A	Coastal Marine Area covered by Regional Coastal Environment Plan

Section 1 L73



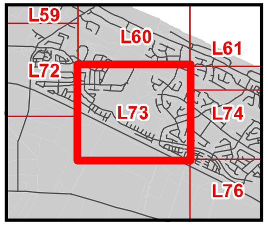
N

City Plan

Planning Map

L73

Proposed Plan Change 33,
Recommendations December 2023



0 50 100 200 300

Metres

Scale = 1:5,000

Tauranga City

Tauranga City Plan
Planning Maps Key (1 of 3)

Jurisdiction

1) The rules of this City Plan only apply landward of Mean High Water Springs.
2) The Bay of Plenty Regional Council is the consent authority for activities seaward of Mean High Water Springs and for activities on the surface of waterbodies.
3) The line of the coast shown on this map represents the position of Mean High Water Springs basedon aerial mapping (2007). It does not necessarily represent the current position of Mean High Water Springs.
4) The Bay of Plenty Regional Council should be consulted before undertaking any activity in the vicinity of Mean High Water to establish the actual line of Mean High Water Springs.

Planning Zones

- City Centre Zone
- ~~City Centre Waterfront Subzones~~
- Commercial
- ~~City Living – Mixed Use (CLMU)~~
- ~~City Living – Mixed Use (CLMR) 19 metre max. height~~
- ~~City Living – Residential (CLR) 9 metre max. height~~
- ~~City Living – Residential (CLR)~~
- ~~Suburban Residential~~
- ~~Residential Large Lot~~
- ~~High Density Residential~~

Planning Zones (continue)

- Port Industry
- Tauriko Industry
- Tauriko Commercial
- Industry
- Rural Residential
- Rural
- Education Centre
- Passive Open Space
- Active Open Space
- Active Open Space (Major)
- Conservation
- Greenbelt

Planning Zones (continue)

- Te Tumu Future Urban
- Rural Marae Community
- Urban Marae Community
- Ngati Kahu Papakainga
- Special Use Baypark
- Wairakei Town Centre (Core)
- Wairakei Town Centre (Fringe)
- Neighbourhood Centre (Wairakei)
- Papamoa East Employment
- ~~Wairakei Residential~~
- Rail
  1. The rail designation has the underlying zoning of the adjoining zone measured from the centreline of the designation
  2. Where the rail designation crosses a public road, the underlying zoning is Road. The rail designation does not cross all public roads.
- Road
  All Public Roads and Service Lanes are Road Zone

Plan Areas

- Current Erosion Risk Zone (CERZ)
- 50 year (2060) Erosion Risk Zone (50 year ERZ)
- 100 year (2100) Erosion Risk Zone (100 year ERZ)
- Scheduled Site
- Commercial Plan Area
- High Rise Plan Area
- ~~Medium Rise Plan Area~~
- Flood Hazard Plan Area
- Special Ecological Area (Category 1)
- Special Ecological Area (Category 2)
- Outstanding Natural Features and Landscapes Plan Area
- Important Amenity Landscapes Plan Area
- Kiwi Rail Reverse Sensitivity Plan Area
- NZTA Reverse Sensitivity Plan Area

Tauranga City Plan
Planning Maps Key (2 of 3)

Jurisdiction

1) The rules of this City Plan only apply landward of Mean High Water Springs.
2) The Bay of Plenty Regional Council is the consent authority for activities seaward of Mean High Water Springs and for activities on the surface of waterbodies.
3) The line of the coast shown on this map represents the position of Mean High Water Springs basedon aerial mapping (2007). It does not necessarily represent the current position of Mean High Water Springs.
4) The Bay of Plenty Regional Council should be consulted before undertaking any activity in the vicinity of Mean High Water to establish the actual line of Mean High Water Springs.

Planning Zones

Medium Density Residential Zone

High Density Residential Zone

City Centre Waterfront Precinct

Plan Areas

City Living – Mixed Use Precinct

City Living – Residential Precinct

Mount Maunganui Precinct

Other Areas

Vibration Alert Layer

Tauranga City Plan
Planning Maps Key (3 of 3)

1) The rules of this City Plan only apply landward of Mean High Water Springs.
2) The Bay of Plenty Regional Council is the consent authority for activities seaward of Mean High Water Springs and for activities on the surface of waterbodies.
3) The line of the coast shown on this map represents the position of Mean High Water Springs based on aerial mapping (2007). It does not necessarily represent the current position of Mean High Water Springs.
4) The Bay of Plenty Regional Council should be consulted before undertaking any activity in the vicinity of Mean High Water to establish the actual line of Mean High Water Springs.

Other Symbols

- Legal Parcel Boundary as at Date Printed on Map
- Mean High Water Springs
- Sub Zone Boundary
- Pedestrian Environment Street Frontage
- Pedestrian Link Requirement
- Coastal Protection Area
- Special Noise Rule Applies (Courtney Road, Bethlehem Town Centre)
- Territorial Authority Boundary

Utilities

Note: While only transmission and key electric lines are identified on the Planning Maps, works in close proximity to all electric lines can be dangerous. Compliance with the New Zealand Electrical Code of Practice 34:2001 is mandatory for buildings, earthworks and mobile plants within close proximity to all electric lines. Compliance with the Electricity (Hazards from Trees) Regulations 2003 is also mandatory for tree trimming and planting. To discuss works, including tree planting, near electrical lines especially within 20m of those lines, contact the line operator.

- High Voltage Transmission Plan Area-Support Structure
- High Voltage Transmission Plan Area-Electric Line
- High Voltage Transmission Plan Area
- Powerco Structure
- Powerco Overhead Electric Line
- Powerco Underground Cable
- Trustpower Structure
- Trustpower Electric Line
- Gas Transmission Pipeline

Heritage

- Built Heritage Site Number
  (Refer Heritage Register, Chapter 7) NOTE: tree canopy and number within it indicates tree(s) on this legal parcel, but not necessarily at the marked location within the parcel.
- Notable Tree
  (Refer Notable Tree Register, Chapter 6) NOTE: tree canopy and number within it indicates tree(s) on this legal parcel, but not necessarily at the marked location within the parcel.
- Heritage Tree
  (Refer Heritage Tree Register, Chapter 7) NOTE: tree canopy and number within it indicates tree(s) on this legal parcel, but not necessarily at the marked location within the parcel.
- Signficant Groups of Trees
  (Refer Signficant Groups of Trees Register, Chapter 6) NOTE: Tree canopies should be sighted on site to determine actual extent
- Significant Maori Areas
  (Refer Chapter 7, Appendix 7B: Register of Significant Maori Areas)
- Significant Archaelogical Areas
  (Refer Chapter 7, Appendix 7D: Register of Significant Archaeological Areas)
- Te Tumu Archaeological Management Areas
  (Refer Chapter 7, Appendix 7E: Te Tumu Archaeological Management Areas)

Designations

- Designated Site Boundary (other than Road Designation)
- Designated Road or Road Widening
- Designated Site Number (Refer Appendix 10C:Designations)
- Limited Access Road
- Proposed Designated Site Boundary (other than Road Designation)
- Proposed Designated Road or Proposed Road Widening
- Proposed Designated Site Number (Refer Appendix 10C:Designations)

Requiring Authority Abbreviations

C	Tauranga City Council
MJ	Ministry for Courts
DR	Department of Corrections
MD	Ministry of Defence
ME	Ministry of Education
MH	Ministry of Health
MS	Meteorological Service of New Zealand
NP	New Zealand Police
NZTA	New Zealand Transport Agency
PC	PowerCo Limited
RC	New Zealand Railways Corporation
TNZ	Telecom New Zealand Ltd and Telecom Mobile Communications Ltd
TW	Transpower New Zealand Limited
WB	Western Bay of Plenty District Council
CH	Chorus Limited

Other Abbreviations

AW	Accessway - Zoned Passive Open Space
SL	Service Lane
C.M.A	Coastal Marine Area covered by Regional Coastal Environment Plan

TAURANGA CITY COUNCIL

CONSENT NOTICE PURSUANT TO SECTION 221 RESOURCE MANAGEMENT ACT 1991

TCC Ref. RC24235
Surveyors Reference: 20464 – 10 (Palm Springs Stage 10)

IN THE MATTER OF DP 489916

AND

IN THE MATTER OF Subdivision Consent Pursuant to Sections 105, 108, 220 & 221 of the Resource Management Act 1991

Pursuant to section 221 of the Resource Management Act 1991, the Tauranga City Council, hereby certifies that by way of resolutions passed under delegated authority on 09 October 2014 and 19 August 2015 the following condition were imposed on the subdivision consent for Lot 4 DP 484164:

For Lots 87 – 99 and 101 – 132 inclusive:

The design and construction of any buildings or structures requiring a Building Consent in accordance with the Building Act 2004 shall comply with the recommendations contained in the Geotechnical Report by S & L Consultants Limited entitled Palm Springs Residential Subdivision – Stage 10 referenced 20646 – 10 dated 27 October 2015.

For Lots 97 – 99 and 109 – 122 inclusive:

The owners are required to meet the full cost of any fencing along the common boundary between this lot and any adjoining reserve to be vested in Tauranga City Council as Local Purpose (Stormwater) Reserve upon future stages.

DATED at Tauranga this 22nd day of December 2015.

.....
Authorised Officer

Objective ID: A6751407

Hawridge Developments Ltd
C/- S & L Consultants Ltd
PO Box 231
Tauranga 3110

DECISION ON RESOURCE CONSENT APPLICATION: RC24098

Tauranga City Council resolves:

That pursuant to Sections 104 and 104C of the Resource Management Act 1991, the Restricted Discretionary Activity consent application by Hawridge Developments Ltd for a Comprehensive Development Consent for Independent Dwelling Units and associated Infrastructure within Area 1A of the Wairakei Residential Zone at Palm Springs Boulevard, Papamoa legally described as Sec 4 SO 428937 and thereon Lots 4, 5, 6, and 501 (RC24168), is granted.

That pursuant to Section 113 of the RMA – the reasons for the decision are as per the recommendation:

The proposed activity will not be contrary to the purposes and principles of the RMA.

The actual and potential adverse effects of the proposal on the environment are considered to be acceptable.

The proposal will be reasonably consistent with the relevant objectives and policies of the Tauranga City Plan.

That pursuant to sections 108 of the RMA, the granting of this consent is subject to the following conditions:

1. *Except as modified by the conditions of this consent the proposed activity shall proceed in accordance with the following plans and information submitted as part of the application, including:*

   - *the report prepared by S&L Consultants Ltd entitled "Application for Comprehensive Development Consent – Stages 10 – 15 Area 1A Wairakei UGA – Hawridge Developments Limited" referenced 20464 –CDC2 and dated April 2014;*
   - *the plan prepared by S&L Consultants Ltd entitled "Comprehensive Development Stage 10, 11 and 12" referenced 20464-CDC5A Rev 2 and dated May 2014.*

- *Modified Local Road Cross Section referenced 20464 – HAW115 Rev 1 dated April 2014;*
- *The following emails From Pete Linde entitled:*
  - *RE: Hawridge Stages 27 – 29 S92 Further Information Request dated 06 June 2014.*
  - *Reserves Query dated 11 July 2014.*

Capacity

2. Development of land within Area 1A is subject to the requirements of 14B.6.13.3 (Papamoa Beach Road capacity) and 14B.6.13.8 (water supply capacity).

Development Yield

3. All development within Area 1A shall comply with the yield requirements for residential development set out under Rule 12B.3.1.2 of the City Plan.

Roading

4. Local Roads within Stages 10 - 12 shall be designed and constructed in accordance with the Councils Infrastructure Development Code (IDC) or to the modified cross section DWG 20464 – HAW115; – 20m/18m T115 –

Stage 8 → Roundabout.

5. The Palm Springs Boulevard extension shall be designed and constructed in accordance with the Councils Infrastructure Development Code (IDC) Drawing T111.

6. The construction of "the Boulevard' shall be designed and constructed in accordance with the Councils Infrastructure Development Code (IDC) Drawing T108.

7. The Palm Springs Boulevard/ The Boulevard roundabout shall be constructed within Stage 10 and shall comprise four legs. Final design is to be approved prior to any subdivision application being made for these stages.

8. Any development on land adjoining the Boulevard within stage 10 - 12 shall have that section of the road adjoining the development site constructed to its full width.

Wastewater

9. Prior to development of land within Stages 10 – 12 Pump Station 10 must be constructed and operational and include the rising main to Pump Station 95 (Golden Sands) in the location consistent with Structure Plan 15 subject to any change to this alignment approved in consultation with Councils Asset Delivery team.

Reserves and Open Space

10. The reserve and open space is to be provided in accordance with the Council's Open Space Level of Service Policy and had been calculated to account for stages 8 - 12. The minimum reserve contribution for Stages 8 - 12 is to be 10219m2 to serve 608 people.

(a) 50% of the 10219m2 reserve contribution (5109m2) shall be neighbourhood reserves and can include the walkway/access ways (total approx. 1464m2).

(b) The other 50% of the reserve requirement can include "other" reserves. The other reserves can include the Stormwater Swale Areas shown on DWG 20464-CDC5A Rev 2 dated 05/14;

(c) A plan must be provided to the Councils Manager: City Parks confirming the location of the reserves, including the access ways and links proposed within Area Stages 8, 9, 10, 11 and 12 demonstrating the area described above satisfies the Open Space Level of Service Policy prior to any subdivision application being made for these stages.

11. Linkages and/or access ways for pedestrians and cyclists shall be provided generally in accordance with DWG 20464-CDC5A Rev 2 dated 05/14. All access ways to be vested in Tauranga City Council shall be a minimum 7.0m wide.

Earthworks

12. Earthworks associated with the further development of land within Stages 10 - 12 incorporate a combination of sediment control measures that are consistent with Appendix 4N: Erosion and Sediment Control Measures.

Site Development Controls (SDC)

13. All residential development of the application on the land comprising Stages 10 - 12, must be in accordance with the following SDCs;

I. **Subdivision –**

For nominated "**Regular Lots**" within Stages 10 - 12, no further subdivision shall be undertaken and shall contain Independent Dwelling Unit only.

For nominated "**Sub-dividable Lots**", within Stages 10 - 12 the minimum lot size shall be no less than 325m^2 nett site area and shall contain no more than one independent dwelling unit.

For nominated "**Larger Builder's Block's**" shall achieve the following minimum yields:

Stage 10:	Lot No. 129	21 Dwelling Unit Equivalents (DUE's)
	Lot No. 145	4 DUE's
	Lot No. 88	6 DUE's
	Lot No. 87	3 DUES's
Stage 11:	Lot No. 98	18 DUE's
	Lot No. 110	9 DUE's

II. **Frontage** – to provide physical and legal access to a public road, lots for residential use shall have a minimum road frontage of 3.0m.

III. **Maximum Building Height** - 9.5m above approved subdivision ground level;

IV. All new buildings on lots to have **minimum building platform level** of RL 4.8m for non habitable residential buildings and RL 5.1m for habitable buildings (including attached garages);

V. **Streetscape** - all buildings to be setback at least 3.0m from legal road boundaries; (except for the buildings eaves that can intrude no more than 0.6m into this streetscape setback);

VI. **Other setbacks** - all buildings and structures to be a minimum of 1.5m from side or rear boundaries (except for building eaves that can intrude no more than 0.6m into this 1.5m setback).

For "Sub-dividable Lots" and "Larger Builder's Block's", this setback requirement can be reduced to less than 1.5m along the internal boundaries of the nominated lot, provided the written consent of the property owner/s where this setback reduction will occur is obtained and endorsed on the relevant building plans or other plans that show the encroachment;

VII. Where a site adjoins an Open Space Zone, local reserve, access way, or stormwater swale, fencing within the side, rear or streetscape setbacks adjoining the Open Space, local reserve, accessway or stormwater swale to be no greater than 1.2m in height, or no greater than 1.8m in height provided the part of the fencing between 1.2m to 1.8m is a minimum 75% visually permeable.

VIII. All **garages or carports** designed with direct vehicle access onto a road shall be setback at least 4.5m from the road boundary. Garages and carports can be located no less than 3.0m from the road boundary, provided they do not have direct entry access onto the road.

IX. **Outdoor Living Area** – development on lots for residential use shall provide an outdoor living area of at least $20m^2$ that will include minimum dimensions of 3m x 4m. The minimum outdoor living area can include uncovered balconies or decks where they are at least $6m^2$ in area and have a minimum diameter dimension of 1.5m. Outdoor living area's shall be free of buildings, driveways, vehicle access, manoeuvring and parking areas. The nominated 3m x 4m portion of the Outdoor Living Area shall be located where it will receive at least 4 hours of sunlight on the 21st of June that can be demonstrated on the relevant building consent plans.

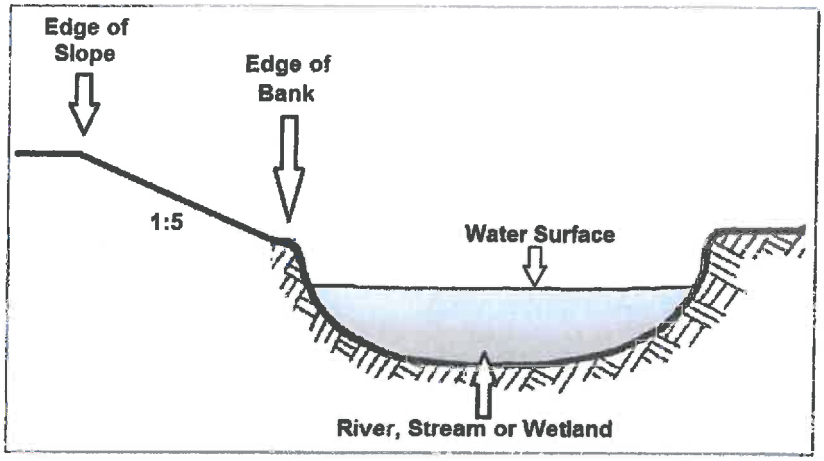
X. **Site coverage** - The maximum site coverage of nett site area by buildings is 55% on lots less than 500m2 and 45% on lots greater than

500m2, provided the other Site Development Controls are complied with.

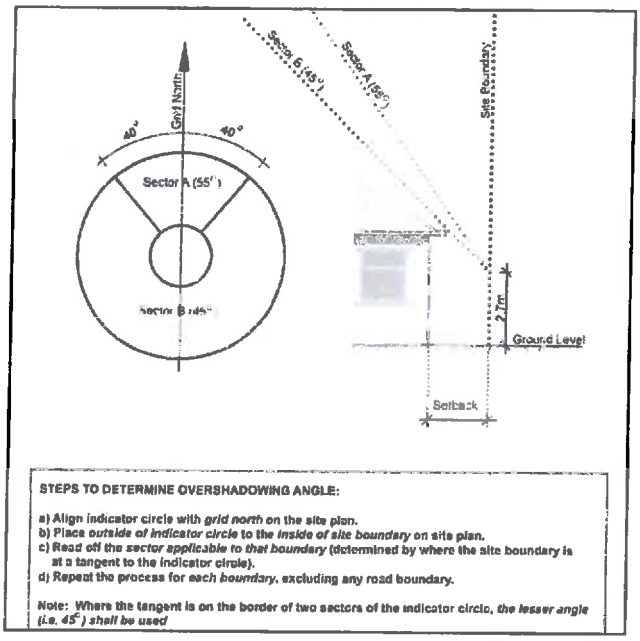
Note: The definition of ***"nett site area"*** *is* the area of a lot less any area of that lot that is solely for the purpose of providing access to the site and for clarity also excludes:

a) An entrance strip owned in common with the owners of other lots;
b) Any area in a cross-lease, company lease or unit title subdivision that is not covered by an independent dwelling unit, the accessory buildings of that independent dwelling unit, or other area set aside for the exclusive use of the occupants of that independent dwelling unit.

XI. All buildings, excluding minor structures and activities, shall be setback a minimum of 10.0m from the edge of a bank of a permanently flowing river or stream, or wetland;



XII. All buildings shall be within an envelope calculated in accordance with the diagram below. For "Sub-dividable Lots" and "Larger Builder's Block's", this envelope can be penetrated by building/s along the internal boundaries of the nominated lot upon further subdivision, provided the written consent of the property owner/s where the penetration occurs is obtained and endorsed on the relevant building plans;



XIII. Each lot for residential use shall provide sufficient area for two 90 percentile onsite car parks;

XIV. For lots with frontage to Palm Springs Boulevard or the Boulevard, on site manoeuvring shall be provided in accordance with Rule 4B.2.5 – On Site Manoeuvring.

XV. After a dwelling is constructed, within 12 months of the Code Compliance Certificate (CCC) being issued, the following to be completed: disturbed ground on the property shall be reinstated with either grass, paving or decking, 10m^2 of landscaping and at least 1 tree greater than 2m in height shall be planted.

XVI. Minimum gross floor area for dwelling comprising two or more bedrooms to be 90.0m^2;

XVII. Planning rules / controls for transportation, earthworks, signage, noise, lighting, glare and servicing shall be in accordance with Suburban Residential Zone where applicable.

Recommended and Assessed by:

Stacey Hikairo
Senior Environmental Planner

Delegated Authorisation by:

Bradley Bellamy
Acting Team Leader: Consents

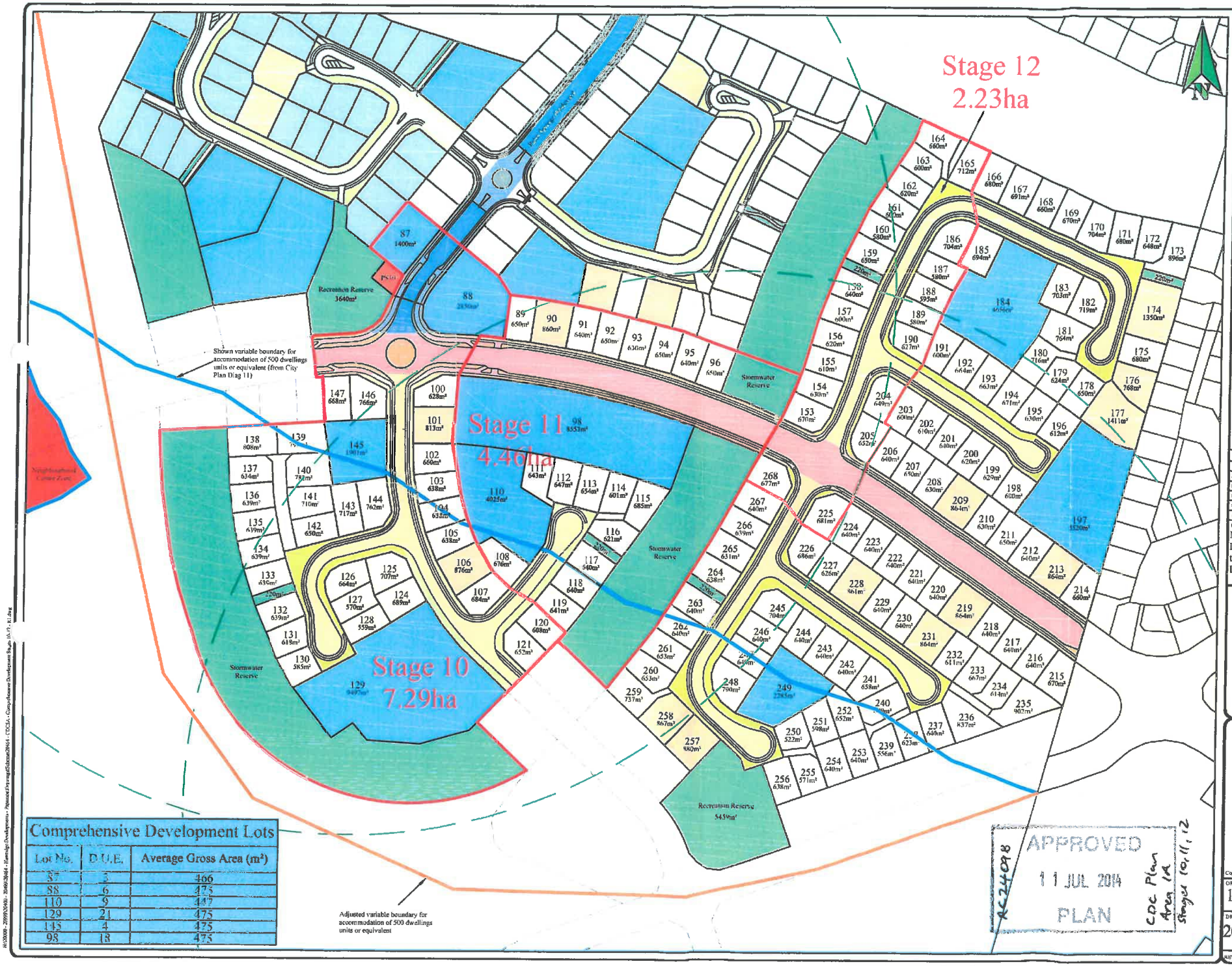
Date: 11th July 2014

Advice Notes:

1. *Under section 357 of the RMA, you can object to this consent by serving written notice on the Council within 15 working days of receiving this decision, detailing the reasons for and what would satisfy the objection.*

2. *Should the actual processing cost exceed the deposit fee paid at lodgement, if not already accompanying this decision, an invoice may be sent at a later date.*

3. *This resource consent does not constitute any form of approval in terms of the Building Act 2004 or the New Zealand Building Code. Where any building or drainage works are required to satisfy conditions of this consent, all consents required under the Building Act 2004 must be obtained prior to the works being carried out.*



Comprehensive Development Lots		
Lot No.	D.U.E.	Average Gross Area (m²)
87	5	466
88	6	475
110	9	447
129	21	475
145	4	475
98	18	475

APPROVED
11 JUL 2014
PLAN
RC24098
CDC Plan Area 1A
Stages 10, 11, 12

REV No.	DESCRIPTION	DATE
2	Bdy Update 10,11,12	05/14
1	Issued for RC	04/14

CKD BY	NAME	DATE	SIGNED
Surveyed			
Designed			
Drawn	NDP	05/14	
Checked			
Approved			

REFERENCES

Note:
Lot areas and dimensions are subject to Local Authority approval and Land Transfer Survey

S & L CONSULTANTS LTD
SURVEYORS - ENGINEERS
PLANNERS
102 Hamilton Street, Tauranga
New Zealand
P.O. Box 231 Ph.(07)577-6069
Fax(07)577-6065
Email: slconsultants@sltga.co.nz
Web Site: www.sltga.co.nz

TITLE

Palm Springs

Comprehensive Development Stages 10, 11 & 12

ORIGINAL SCALES	DATE
1:2500 @ A3	05/14

DRAWING No
20464 - CDC5A

REVISION: 1 2

DECISION ON NOTIFICATION
RESOURCE CONSENT APPLICATION – RC24235

Tauranga City Council resolves:

That pursuant to Sections 95A – 95E of the Resource Management Act 1991, the restricted discretionary activity subdivision consent application by Hawridge Developments Ltd to undertake a freehold subdivision of land in the Wairakei Residential Zone to create freehold allotments within Stages 10 & 11 being 61 Palm Springs Boulevard, Papamoa legally described as Lot 500 DP 471626 (and thereon Proposed Lots 4 and 5 RC2168), be processed without notification.

Reasons – are as per the recommendation:

The Tauranga City Plan makes provision under Rule 12B.4.2 that the activity need not be publicly notified and that notice need not be served on affected persons.

In relation to Section 95A of the Act it is considered that the adverse effects of the activity on the environment are less than minor.

Having considered the proposed activity in terms of Section 95E of the Act, it is concluded that there are no persons affected by the activity's adverse effects.

In relation to this proposal it is considered that no special circumstances exist that would lead the Council to decide to publicly notify this application.

Recommended and Assessed by:

Stacey Hikairo
Senior Environmental Planner

Delegated Authorisation by:

Bradley Bellamy
Team Leader: Environmental Planning
Date: 9th October 2014

RESOURCE MANAGEMENT ACT 1991
DECISION ON SUBDIVISION CONSENT APPLICATION – RC24235

Tauranga City Council resolves:

That pursuant to Sections 104 and 104C of the Resource Management Act 1991, the restricted discretionary activity subdivision consent application by Hawridge Developments Ltd to undertake a freehold subdivision of land in the Wairakei Residential Zone to create freehold allotments within Stages 10 & 11 being 61 Palm Springs Boulevard, Papamoa legally described as Lot 500 DP 471626 (and thereon Proposed Lots 4 and 5 RC2168), is granted.

That pursuant to Section 113 of the RMA – the reasons for the decision are as per the recommendation:

The proposed activity has been assessed as being consistent with the purpose and principles of the Resource Management Act 1991.

Regard has been given to the relevant matters set out under section 104 of the RMA including any actual and potential effects on the environment of allowing the activity along with all relevant provisions of the Regional Policy Statement and City Plan. Overall it is considered that this activity will be acceptable when considered against these matters.

That pursuant to Section 108 and 220 of the RMA, the granting of this consent is subject to the following conditions:

1. *Except as modified by the conditions of this consent the proposed activity shall proceed in general accordance with the plans and all information (including proposed mitigation and conditions) submitted as part of this application, including:*

    - *AEE prepared by S & L Consultants Ltd entitled "Subdivision Resource Consent - Stages 10 & 11, Area 1A Wairakei UGA – Palm Springs Limited", referenced 20464 – SUB 10&11, dated August 2014;*

    - *Scheme Plans:*
        - *Stage 10 Proposed Subdivision of Lot 903 RC 23979 & Lot 4 RC24168 referenced 20464 – RC7A Rev 2 dated 07/14.*
        - *Stage 11 Proposed Subdivision of Lot 5 RC 24168 (Lot 500 DP 471626) referenced 20464 – RC7B Rev 1 dated 07/14.*

2. *Prior to any application for certification pursuant to section 224 RMA, the applicant shall confirm title has issued for Lots 4 and 5 RC24168.*

Servicing/Development Plan approvals:

3. *All matters and works relating to the servicing and accessing of the subdivision, shall be designed, supervised, constructed and certified in accordance with requirements of the Council's' Infrastructure Development Code.*

4. *All residential lots shall be provided with a separate underground connection to the sanitary sewer, water and electricity reticulation system in accordance with the Council's Infrastructure Development Code*

5. *Local Roads within Stages 10 & 11 shall be designed and constructed in accordance with the Councils Infrastructure Development Code (IDC) or to the modified cross section DWG 20464 – HAW115.*

6. *Prior to any works commencing on the site (exclusive of site clearance or bulk earthworks associated with any Environment Bay of Plenty earthworks consent) the consent holder shall submit, to the Team Leader: Development Engineering, plans of the proposed activity to and obtain Development Works Approval. Including the following:*

    - *The information and plans required by the Infrastructure Development Code;*
    - *All flood risk areas;*
    - *Details of the construction of the roads to vest and the proposed traffic management measures*
    - *Details of proposed street landscaping*
    - *Details of ROW areas A and B*
    - *Details of the extension of the sewer rising main from Palm Springs Boulevard to the sewerage reticulation located in Golden Sands Drive*
    - *Details of the proposed sanitary sewer pump station including interim and ultimate rising main locations and access construction.*
    - *Details of Fire Fighting system.*
    - *Details of any overland flowpaths.*
    - *Details of the works required to establish a suitable building platform on each proposed lot.*

7. *Prior to paving of road surfaces, stormwater mitigation volume requirements shall be provided and certified by a Chartered Professional Engineer.*

8. *Prior to an application for s224 approval being made, the sewer rising main extension approved under condition 6 above shall be completed and operational.*

9. *The consent holder shall supply to the Council a set of 'as built' plans of all engineering, landscaping and reserve works in accordance with the Council's Infrastructure Development Code.*

10. *All earthworks design, testing and construction shall be undertaken in accordance with Infrastructure Development Code and the specific requirements of the consent holders appointed Geo-Professional.*

11. *The Consent Holder shall undertake works to establish a minimum building platform level of RL 5.1 m Moturiki Datum on each proposed lot to avoid the effects of inundation.*

12. *A Licensed Cadastral Surveyor shall certify, in writing, that all building platforms are constructed to the required minimum level set out under condition 11.*

13. *The Consent Holder shall provide to the Council a "Geotechnical Completion Report" (GCR) complied by a Category 1 Geo-Professional. The GCR shall:*

    - *Comply with the Council's Infrastructure Development Code QA4 requirements;*
    - *Display the position of all designated building platforms and building restriction lines where applicable;*
    - *Determine minimum flooring/foundation requirements to mitigate potential effects of liquefaction and/or lateral spread*
    - *Provide recommendations for the on-site disposal of stormwater;*
    - *Provide recommendations for the ongoing development of the lots*
    - *Confirm earthworks and/or building platforms have been constructed to comply with the New Zealand Building Code requirements;*
    - *Determine the minimum floor level required for each allotment to avoid the effects of inundation and/or localised ponding.*
    - *Comment on removal or amendment of existing land feature/s displayed on Council's GIS.*

    Upon receipt of the GCR required by condition 12 above, all matters set out within the GCR will be reviewed and if necessary, a consent notice, pursuant to section 221 of the Resource Management Act 1991, may be registered on the Certificate of Title of all relevant allotments advising that the design and construction of any building or structures requiring Building Consent in accordance with the Building Act 2004 must comply with the recommendations contained in that report on a continuing basis.

14. *All building line restrictions or designated building platforms shall be clearly identified and dimensioned on the survey plan prior to certification pursuant to Section 223 of the Resource Management Act 1991.*

15. *The consent holder shall enter into a landscape maintenance bond for a minimum period of 18 months prior to vesting for vegetation planted within road lots 914 and 917.*

16. *Prior to the approval of any survey plan pursuant to section 223 of the RMA 1991 the consent holder must submit to Council three (3) alternative street names for each proposed new road in the subdivision. Street names must be provided in accordance with Council's Naming of Streets, Reserves and Community Facilities Policy and include all information required under this policy including evidence of the significance of the proposed names.*

17. *The authorised street name signs will be manufactured and erected by the consent holder at the consent holder's expense.*

18. *All traffic and pedestrian access signage shall be manufactured by an approved certifier and erected by the consent holder at the consent holder's expense.*

<u>Easements/Amalgamations/Vesting/Fencing:</u>

19. *The following amalgamation conditions shall be recorded on the survey plan prior to certification pursuant to Section 223 of the Resource Management Act 1991 (LINZ Request 1238901):*

i. *"That Lot 912 hereon (legal Access) be held as to 8 undivided one eighth shares by the owners of Lots 134, 135, 136, 137, 138, 139, 140 & 141hereon and individual certificates of title be issued in accordance therewith."*

ii. *"That Lot 915 hereon (legal Access) be held as to two undivided one half shares by the owners of Lots 114 and 115 hereon and individual certificates of title be issued in accordance therewith."*

20. *All easements required for underground services and rights of way serving lots within the subdivision shall be duly granted or reserved.*

21. *The consent holder shall register an easement in gross in favour of the Council over any stormwater overland flowpath located on private property, including those resulting from overload of the roading primary stormwater system under extreme rainfall conditions.*

22. *The overland flowpath easement shall be shown on the survey plan prior to certification pursuant to Section 223 of the Resource Management Act 1991 and shall be shown as the "Right to Drain Stormwater" and shall be registered on the survey plan under a "Memorandum of Easements in Gross".*

23. *The consent holder shall vest in the Council the following allotments as shown on the scheme plan:*

    - *Lots 601, 914 and 917 as Road*

24. *The lot(s) to vest shall be shown on the survey plan prior to certification pursuant to Section 223 of the Resource Management Act 1991.*

25. *Pursuant to Section 221 of the Resource Management Act 1991, a consent notice shall be registered on the Certificate of Title of any property that is intended to share a common boundary with any of the following local purpose reserves:*

    - *Accessway*
    - *Recreation*
    - *Wastewater*
    - *Stormwater*

    The consent notice shall advise the owners and subsequent owners thereof, of the following requirement to be complied with on a continuing basis: The owners are required to meet the full cost of any fencing along the common boundary between the lot and adjoining land that are intended to be vested in Tauranga City Council as local purpose reserve.

26. *Upon application for the s223 certificate for the subdivision the consent holder shall confirm in writing to Council which property boundaries require a fencing consent notice to be registered on its title.*

Recommended and Assessed by:

Stacey Hikairo
Senior Environmental Planner

Delegated Authorisation by:

Bradley Bellamy
Team Leader: Environmental Planning

Date: 9th October 2014

Advice Notes

1. *Under sections 357A and 357B of the Resource Management Act 1991, you have a right of objection to the consent authority in respect of the above decision or any additional fees and charges required in respect of this decision. In accordance with section 357C notice of any such objection must be in writing to the Council within 15 working days of receiving this decision and/or the date on which the invoice is received. The objection should describe the reasons for the objection.*

2. *This proposal forms part of the Comprehensive Development Consent approved under Tauranga City Council ref: RC24098. The Consent Holder is advised that the requirements of that consent (specifically the site development controls, any staging requirements, and further subdivision of builder blocks and sub dividable lots) must be met in respect to the development of allotments and infrastructure under this consent.*

3. *The consent holder is advised the proposed stormwater reserve areas are subject to a lower level of service for mowing of grassed areas compared to recreation reserves. Mowing to a higher level of service may be achieved through the imposition of targeted rates.*

4. *Development contributions under LGA 2002 –*

   Requirement for development contribution: Pursuant to section 198(1)(a) of the Local Government Act 2002, Council requires that a development contribution provided for and in accordance with Council's Development Contributions Policy (which is subject to change), be made (paid) by the consent holder to Council.

5. *All archaeological sites whether recorded or unrecorded under Subpart 2 of the Heritage New Zealand Pouhere Taonga Act 2014 cannot be destroyed, damaged or modified without the consent of Heritage New Zealand. In the event that an archaeological site(s) and/or koiwi are unearthed, the consent holder is advised to immediately stop work on the part of the site that the archaeological site(s) is located, and contact Heritage New Zealand for advice. Contact Details: email - infolowernorthern@heritage.org.nz; phone - 07 577 4530*

6. *Construction noise from starting up and operation of construction equipment and all other construction activities on the site of the subdivision are required to meet the limits recommended in NZS6803:1999 Acoustics – Construction Noise.*

7. *Where any building or drainage works are required to satisfy conditions of this consent, all consents required under the Building Act 2004 must be obtained prior to the works being carried out.*

8. *Dust management and silt runoff is to be controlled in accordance with the City Plan and Infrastructure Development Code. The Consent Holder is advised that they are required by the Bay of Plenty Regional Council's Land Management Plan to take the appropriate measures to prevent or minimise sediment generation and yield (sediment discharge).*

Hawridge Developments Limited
C/- S & L Consultants Ltd
P O Box 231
Tauranga 3140

DECISION ON CHANGE OF CONSENT CONDITIONS
APPLICATION – RC24235-01
Under the Resource Management Act 1991

Tauranga City Council resolves:

That pursuant to Sections 104B, 127 and 108 of the Resource Management Act 1991, the application to change Conditions 1, 6, 8, 19 and 23 to align with changes made under RC24098 that enable a revised Stages 10, 11 and 12 lay out, including new amalgamation conditions at Palm Springs Boulevard legally described as Lot 500 DP 471626 and hereon Lots 4, 5and 6 RC24168, is granted.

That pursuant to Section 113 of the RMA – the reasons for the decision are as per the recommendation:

It has been decided that allowing the change of conditions as detailed I the application by S&L Consultants will not result in any unacceptable actual and potential effects on the environment.

The changes provide an update to the scheme plan for subdivision to give effect to the corresponding land use consent for this part of the urban growth area and is considered to be consistent with the subdivision originally consented and the Tauranga City Plan. The change sought will not be inconsistent with the purpose and principles of the Act as set out under Part 2.

The granting of this application is subject to the following conditions (and amendments) under section 108 of the Resource Management Act:

1. *Except as modified by the conditions of this consent the proposed activity shall proceed in general accordance with the plans and all information (including proposed mitigation and conditions) submitted as part of this application, including:*

    - *AEE prepared by S & L Consultants Ltd entitled "Subdivision Resource Consent - Stages 10 & 11, Area 1A Wairakei UGA – Palm Springs Limited", referenced 20464 – SUB 10&11, dated August 2014;*

    Except where varied by:
    - *AEE prepared by S & L Consultants Ltd entitled "Application to Change Conditions of Consent RC24235 – Stages 10 & 11 Subdivision Variation", referenced 20464 – Sub Variation and dated January 2015;*

    - *Scheme Plans:*
        - *Stage 10 Proposed Subdivision of Lot 903 RC 23979 & Lot 4 RC24168 referenced 20464 – RC7A Rev ~~2~~ 3 dated ~~07/14~~ 01/15.*

Tauranga City Council
91 Willow Street, Private Bag 12022, Tauranga 3143, New Zealand
Phone 07 577 7000 **Fax** 07 577 7193 **Email** info@tauranga.govt.nz **www.tauranga.govt.nz**

- *Stage 11 Proposed Subdivision of Lot 5 RC 24168 (Lot 500 DP 471626) referenced 20464 – RC7B Rev ~~1~~ 2 dated ~~07/14~~ 01/15.*

1(a) Any staging of subdivision consent by way of s223 / 224 certificates issued on separate survey for this subdivision is appropriate subject to that staging complying with all relevant conditions as listed for that stage within this subdivision consent.

2. Prior to any application for certification pursuant to section 224 RMA, the applicant shall confirm title has issued for Lots 4 and 5 RC24168.

Servicing/Development Plan approvals:

3. All matters and works relating to the servicing and accessing of the subdivision, shall be designed, supervised, constructed and certified in accordance with requirements of the Council's' Infrastructure Development Code.

4. All residential lots shall be provided with a separate underground connection to the sanitary sewer, water and electricity reticulation system in accordance with the Council's Infrastructure Development Code.

5. Local Roads within Stages 10 & 11 shall be designed and constructed in accordance with the Councils Infrastructure Development Code (IDC) or to the modified cross section DWG 20464 – HAW115.

6. Prior to any works commencing on the site (exclusive of site clearance or bulk earthworks associated with any Environment Bay of Plenty earthworks consent) the consent holder shall submit, to the Team Leader: Development Engineering, plans of the proposed activity to and obtain Development Works Approval. Including the following:

- *The information and plans required by the Infrastructure Development Code;*
- *All flood risk areas;*
- *Details of the construction of the roads to vest and the proposed traffic management measures*
- *Details of proposed street landscaping*
- *Details of ROW areas A and B*
- *Details of the extension of the sewer rising main from Palm Springs Boulevard to the sewerage reticulation located in Golden Sands Drive*
- *Details of the proposed sanitary sewer pump station including interim and ultimate rising main locations and access construction.*
- *Details of Fire Fighting system.*
- *Details of any overland flowpaths.*
- *Details of the works required to establish a suitable building platform on each proposed lot.*

7. Prior to paving of road surfaces, stormwater mitigation volume requirements shall be provided and certified by a Chartered Professional Engineer.

~~8. Prior to an application for s224 approval being made, the sewer rising main extension approved under condition 6 above shall be completed and operational.~~

8. *Prior to an application for s224 Approval being made for Stage 11, the sewer rising main extension approved under condition 6 above shall be completed and operational.*

9. *The consent holder shall supply to the Council a set of 'as built' plans of all engineering, landscaping and reserve works in accordance with the Council's Infrastructure Development Code.*

10. *All earthworks design, testing and construction shall be undertaken in accordance with Infrastructure Development Code and the specific requirements of the consent holders appointed Geo-Professional.*

11. *The Consent Holder shall undertake works to establish a minimum building platform level of RL 5.1 m Moturiki Datum on each proposed lot to avoid the effects of inundation.*

12. *A Licensed Cadastral Surveyor shall certify, in writing, that all building platforms are constructed to the required minimum level set out under condition 11.*

13. *The Consent Holder shall provide to the Council a "Geotechnical Completion Report" (GCR) complied by a Category 1 Geo-Professional. The GCR shall:*

    - *Comply with the Council's Infrastructure Development Code QA4 requirements;*
    - *Display the position of all designated building platforms and building restriction lines where applicable;*
    - *Determine minimum flooring/foundation requirements to mitigate potential effects of liquefaction and/or lateral spread*
    - *Provide recommendations for the on-site disposal of stormwater;*
    - *Provide recommendations for the ongoing development of the lots*
    - *Confirm earthworks and/or building platforms have been constructed to comply with the New Zealand Building Code requirements;*
    - *Determine the minimum floor level required for each allotment to avoid the effects of inundation and/or localised ponding.*
    - *Comment on removal or amendment of existing land feature/s displayed on Council's GIS.*

    Upon receipt of the GCR required by condition 12 above, all matters set out within the GCR will be reviewed and if necessary, a consent notice, pursuant to section 221 of the Resource Management Act 1991, may be registered on the Certificate of Title of all relevant allotments advising that the design and construction of any building or structures requiring Building Consent in accordance with the Building Act 2004 must comply with the recommendations contained in that report on a continuing basis.

14. *All building line restrictions or designated building platforms shall be clearly identified and dimensioned on the survey plan prior to certification pursuant to Section 223 of the Resource Management Act 1991.*

15. *The consent holder shall enter into a landscape maintenance bond for a minimum period of 18 months prior to vesting for vegetation planted within road lots 914 and 917.*

16. *Prior to the approval of any survey plan pursuant to section 223 of the RMA 1991 the consent holder must submit to Council three (3) alternative street names for each*

proposed new road in the subdivision. Street names must be provided in accordance with Council's Naming of Streets, Reserves and Community Facilities Policy and include all information required under this policy including evidence of the significance of the proposed names.

17. *The authorised street name signs will be manufactured and erected by the consent holder at the consent holder's expense.*

18. *All traffic and pedestrian access signage shall be manufactured by an approved certifier and erected by the consent holder at the consent holder's expense.*

Easements/Amalgamations/Vesting/Fencing:

19. *The following amalgamation conditions shall be recorded on the survey plan prior to certification pursuant to Section 223 of the Resource Management Act 1991 (LINZ Request ~~1238901~~ 1276853):*

    i. ~~*"That Lot 912 hereon (legal Access) be held as to 8 undivided one eighth shares by the owners of Lots 134, 135, 136, 137, 138, 139, 140 & 141hereon and individual certificates of title be issued in accordance therewith."*~~

    ii. ~~*"That Lot 915 hereon (legal Access) be held as to two undivided one half shares by the owners of Lots 114 and 115 hereon and individual certificates of title be issued in accordance therewith."*~~

    i. *(Stage 10)*
    That Lot 912 hereon (legal access) be held as to:
    - *an undivided 1/9 share with Lot 118*
    - *an undivided 1/9 share with Lot 119*
    - *an undivided 1/9 share with Lot 120*
    - *an undivided 1/9 share with Lot 121*
    - *an undivided 1/9 share with Lot 122*
    - *an undivided 1/9 share with Lot 123*
    - *an undivided 1/9 share with Lot 124*
    - *an undivided 1/9 share with Lot 125*
    - *an undivided 1/9 share with Lot 126*

    and that individual computer freehold registers be issued in accordance therewith – pursuant to Section 220(1)(b)(iv) Resource Management Act 1991

    ii. *(Stage 11)*
    - *That Lot 916 hereon (legal access) be held as to:*
    - *an undivided 1/2 share with Lot 149*
    - *an undivided 1/2 share with Lot 150*

    and that individual computer freehold registers be issued in accordance therewith – pursuant to Section 220(1)(b)(iv) Resource Management Act 1991

20. *All easements required for underground services and rights of way serving lots within the subdivision shall be duly granted or reserved.*

21. *The consent holder shall register an easement in gross in favour of the Council over any stormwater overland flowpath located on private property, including those resulting*

from overload of the roading primary stormwater system under extreme rainfall conditions.

22. *The overland flowpath easement shall be shown on the survey plan prior to certification pursuant to Section 223 of the Resource Management Act 1991 and shall be shown as the "Right to Drain Stormwater" and shall be registered on the survey plan under a "Memorandum of Easements in Gross".*

23. *The consent holder shall vest in the Council the following allotments as shown on the scheme plan:*

    - ~~*Lots 601, 914 and 917 as Road*~~
    - *Lots 914, 915, 918, and 919*

24. *The lot(s) to vest shall be shown on the survey plan prior to certification pursuant to Section 223 of the Resource Management Act 1991.*

25. *Pursuant to Section 221 of the Resource Management Act 1991, a consent notice shall be registered on the Certificate of Title of any property that is intended to share a common boundary with any of the following local purpose reserves:*

    - *Accessway*
    - *Recreation*
    - *Wastewater*
    - *Stormwater*

    The consent notice shall advise the owners and subsequent owners thereof, of the following requirement to be complied with on a continuing basis: The owners are required to meet the full cost of any fencing along the common boundary between the lot and adjoining land that are intended to be vested in Tauranga City Council as local purpose reserve.

26. *Upon application for the s223 certificate for the subdivision the consent holder shall confirm in writing to Council which property boundaries require a fencing consent notice to be registered on its title.*

Recommended and Assessed by:

Stacey Hikairo
Senior Environmental Planner

Delegated Authorisation by:

Bradley Bellamy
Team Leader: Environmental Planning

Date: 19/05/15

Advice Notes

1. *Under sections 357A and 357B of the Resource Management Act 1991, you have a right of objection to the consent authority in respect of the above decision or any additional fees and charges required in respect of this decision. In accordance with*

section 357C notice of any such objection must be in writing to the Council within 15 working days of receiving this decision and/or the date on which the invoice is received. The objection should describe the reasons for the objection.

2. *This proposal forms part of the Comprehensive Development Consent approved under Tauranga City Council ref: RC24098. The Consent Holder is advised that the requirements of that consent (specifically the site development controls, any staging requirements, and further subdivision of builder blocks and sub dividable lots) must be met in respect to the development of allotments and infrastructure under this consent.*

3. *The consent holder is advised the proposed stormwater reserve areas are subject to a lower level of service for mowing of grassed areas compared to recreation reserves. Mowing to a higher level of service may be achieved through the imposition of targeted rates.*

4. *Development contributions under LGA 2002 –*

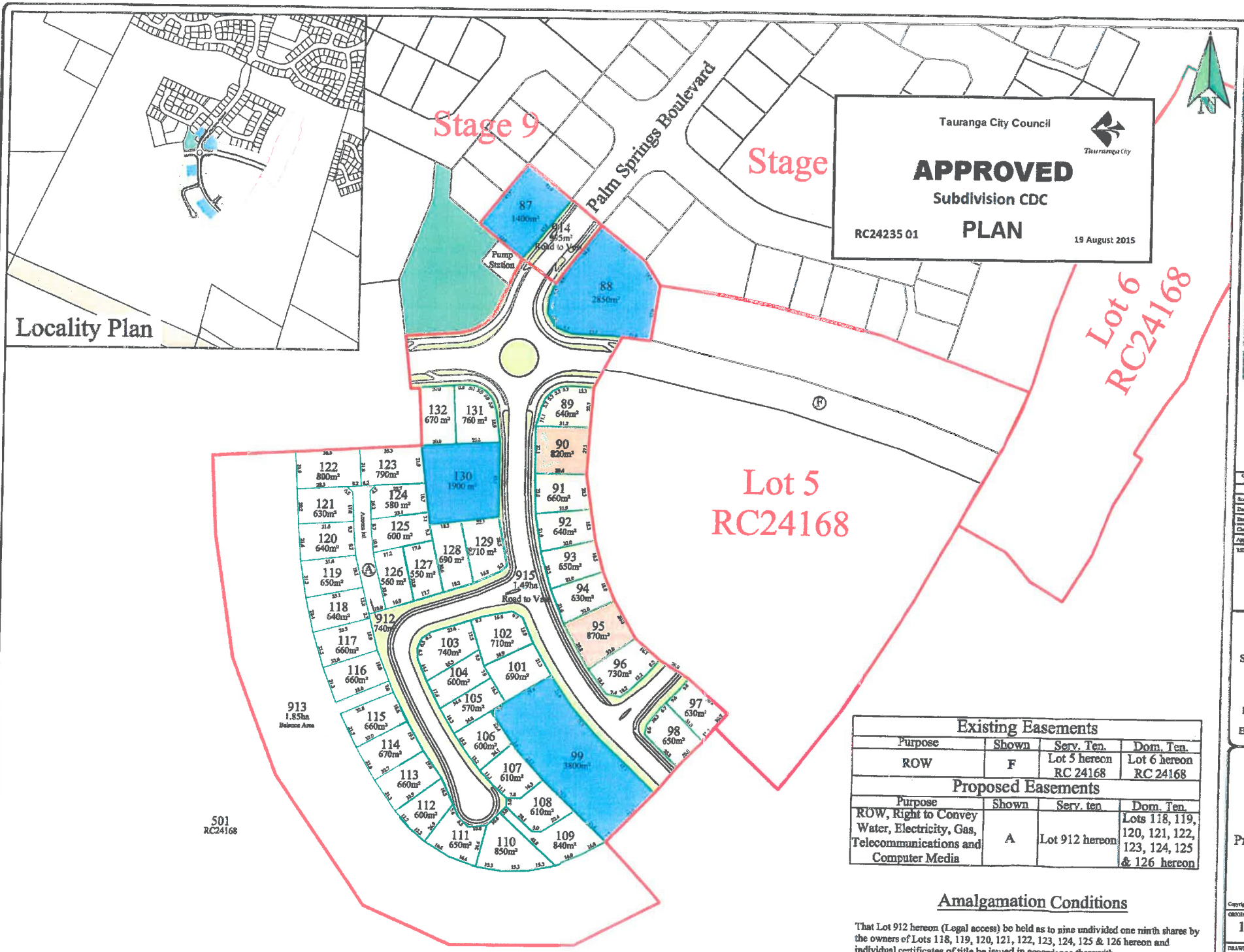
   Requirement for development contribution: Pursuant to section 198(1)(a) of the Local Government Act 2002, Council requires that a development contribution provided for and in accordance with Council's Development Contributions Policy (which is subject to change), be made (paid) by the consent holder to Council.

5. *All archaeological sites whether recorded or unrecorded under Subpart 2 of the Heritage New Zealand Pouhere Taonga Act 2014 cannot be destroyed, damaged or modified without the consent of Heritage New Zealand. In the event that an archaeological site(s) and/or koiwi are unearthed, the consent holder is advised to immediately stop work on the part of the site that the archaeological site(s) is located, and contact Heritage New Zealand for advice. Contact Details: email - infolowernorthern@heritage.org.nz; phone - 07 577 4530*

6. *Construction noise from starting up and operation of construction equipment and all other construction activities on the site of the subdivision are required to meet the limits recommended in NZS6803:1999 Acoustics – Construction Noise.*

7. *Where any building or drainage works are required to satisfy conditions of this consent, all consents required under the Building Act 2004 must be obtained prior to the works being carried out.*

8. *Dust management and silt runoff is to be controlled in accordance with the City Plan and Infrastructure Development Code. The Consent Holder is advised that they are required by the Bay of Plenty Regional Council's Land Management Plan to take the appropriate measures to prevent or minimise sediment generation and yield (sediment discharge).*



Areas and dimensions are approximate only and subject to survey.

This plan has been prepared for the purposes of Section 88 of the Resource Management Act 1991 and should not be relied on for any other purpose.

- Regular Lots
- Larger Builder Blocks
- Sub-dividable Lots
- Reserves

CLD BY	REV No.	DESCRIPTION	DATE
	3	Lots Redesigned	01/15
	2	Road Updated	08/14
	1	Issued for RC	07/14

	NAME	DATE	SIGNED
Surveyed			
Designed			
Drawn	NDP	07/14	
Checked			
Approved			

REFERENCES

Existing Easements

Purpose	Shown	Serv. Ten.	Dom. Ten.
ROW	F	Lot 5 hereon RC 24168	Lot 6 hereon RC 24168

Proposed Easements

Purpose	Shown	Serv. ten	Dom. Ten.
ROW, Right to Convey Water, Electricity, Gas, Telecommunications and Computer Media	A	Lot 912 hereon	Lots 118, 119, 120, 121, 122, 123, 124, 125 & 126 hereon

Amalgamation Conditions

That Lot 912 hereon (Legal access) be held as to nine undivided one ninth shares by the owners of Lots 118, 119, 120, 121, 122, 123, 124, 125 & 126 hereon and individual certificates of title be issued in accordance therewith.

S & L CONSULTANTS LTD
SURVEYORS - ENGINEERS
PLANNERS
102 Hamilton Street, Tauranga
New Zealand
P.O. Box 231 Ph.(07)577-6069
Fax(07)577-6065
Email: slconsultants@slnz.co.nz
Web Site: www.slnz.co.nz

Palm Springs

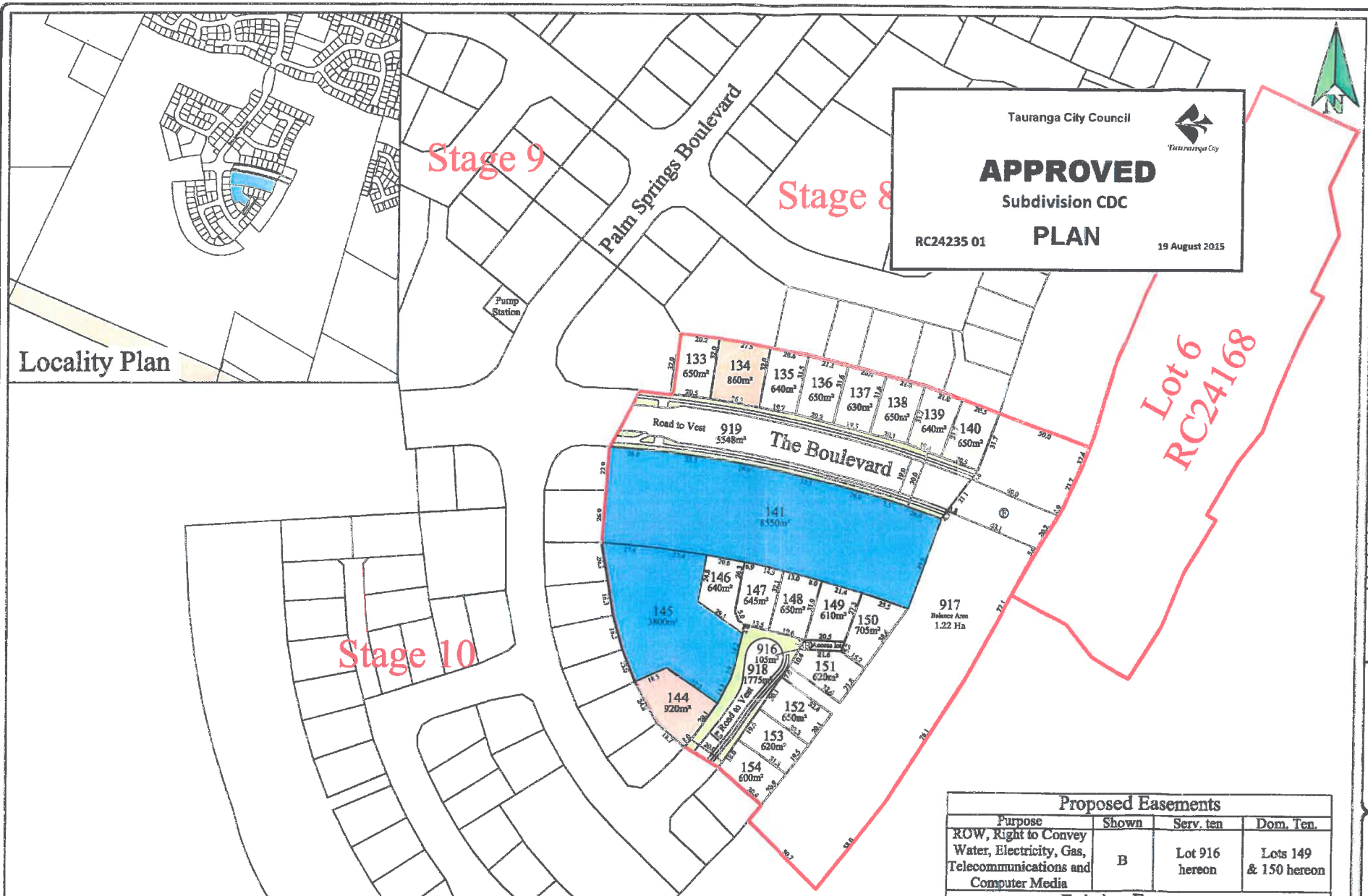
Stage 10
Proposed Subdivision of
Lot 903 RC23979
& Lot 4 RC24168

ORIGINAL SCALE	DATE
1:2000 @ A3	01/15

DRAWING No
20464 - RC7A

REVISION: 1 2 3

METRIC DESIGN



Areas and dimensions are approximate only and subject to survey.

This plan has been prepared for the purposes of Section 88 of the Resource Management Act 1991 and should not be relied on for any other purpose.

- Regular Lots
- Larger Builder Blocks
- Sub-dividable Lots
- Reserves

REV No.	DESCRIPTION	DATE
2	Lots Redesigned	01/15
1	Issued for RC	07/14

	NAME	DATE	ENDRSD
Surveyed			
Designed			
Drawn	NDF	07/14	
Checked			
Approved			

REFERENCES

S & L CONSULTANTS LTD
SURVEYORS - ENGINEERS
PLANNERS
102 Hamilton Street, Tauranga
New Zealand
P.O. Box 231 Ph.(07)577-6069
Fax(07)577-6065
Email: slconsultants@sltga.co.nz
Web Site: www.sltga.co.nz

Proposed Easements			
Purpose	Shown	Serv. ten	Dom. Ten.
ROW, Right to Convey Water, Electricity, Gas, Telecommunications and Computer Media	B	Lot 916 hereon	Lots 149 & 150 hereon

Existing Easements			
Purpose	Shown	Serv. Ten.	Dom. Ten.
ROW	F	Lot 917 hereon	Lot 6 RC 24168

Amalgamation Conditions

That Lot 916 hereon (Legal access) be held as to two undivided one half shares by the owners of Lots 149 & 150 hereon and individual certificates of title be issued in accordance therewith.

Palm Springs

Stage 11
Proposed Subdivision of
Lot 5 RC24168
(Lot 500 DP 471626)

ORIGINAL SCALE	DATE
1:2000 @ A3	01/15

DRAWING No: 20464 - RC7B

REVISION 1 2

METRIC DESIGN

Hawridge Developments Limited
C/- S & L Consultants Ltd
P O Box 231
Tauranga 3140

DECISION ON CHANGE OF CONSENT CONDITIONS
APPLICATION – RC24098 02
Under the Resource Management Act 1991

Tauranga City Council resolves:

That pursuant to Sections 104B, 127 and 108 of the Resource Management Act 1991, the discretionary variation application to change Conditions 1, 5, 9, 10, 11 and 13 to enable a revised Stages 10, 11 and 12 lay out at Palm Springs Boulevard legally described as Lot 500 DP 471626 and hereon Lots 4, 5and 6 RC24168, is granted.

That pursuant to Section 113 of the RMA – the reasons for the decision are as per the recommendation:

It has been decided that allowing the change of conditions as detailed I the application by S&L Consultants will not result in any unacceptable actual and potential effects on the environment.

The change of conditions to provide for a revised lay out and arrangement of residential activities including timing of infrastructure within these stages will be consistent with the City Plan. The changes sought will not be inconsistent with the purpose and principles of the Act as set out under Part 2.

The granting of this application is subject to the following conditions (and amendments) under section 108 of the Resource Management Act:

1. *Except as modified by the conditions of this consent the proposed activity shall proceed in accordance with the following plans and information submitted as part of the application, including:*

   - *the report prepared by S&L Consultants Ltd entitled "Application for Comprehensive Development Consent – Stages 10 – 15 Area 1A Wairakei UGA – Hawridge Developments Limited" referenced 20464 –CDC2 and dated April 2014;*
   - ~~*the plan prepared by S&L Consultants Ltd entitled "Comprehensive Development Stage 10, 11 and 12" referenced 20464-CDC5A Rev 2 and dated May 2014.*~~

   - *Modified Local Road Cross Section referenced 20464 – HAW115 Rev 1 dated April 2014;*
   - *The following emails From Pete Linde entitled:*
     - *RE: Hawridge Stages 27 – 29 S92 Further Information Request dated 06 June 2014.*
     - *Reserves Query dated 11 July 2014.*

Tauranga City Council
91 Willow Street, Private Bag 12022, Tauranga 3143, New Zealand
Phone 07 577 7000 **Fax** 07 577 7193 **Email** info@tauranga.govt.nz **www.tauranga.govt.nz**

Unless altered by the following:

- *The report prepared by S & L Consultants Ltd entitled Application to Change Conditions of Consent RC24098 – Stages 10 , 11 & 12 CDC Variation – Hawridge Developments Limited" referenced 20464 – S10, 11 & 12 CDC Variation dated January 2015.*
- *Scheme Plan prepared by S & L Consultants entitled "Comprehensive Development Stages 10, 11 & 12" referenced 20464 – CDC5A rev 3.*

Capacity

2. Development of land within Area 1A is subject to the requirements of 14B.6.13.3 (Papamoa Beach Road capacity) and 14B.6.13.8 (water supply capacity).

Development Yield

3. All development within Area 1A shall comply with the yield requirements for residential development set out under Rule 12B.3.1.2 of the City Plan.

Roading

4. Local Roads within Stages 10 - 12 shall be designed and constructed in accordance with the Councils Infrastructure Development Code (IDC) or to the modified cross section DWG 20464 – HAW115;

5. The Palm Springs Boulevard extension from Stage 8 south to the Boulevard shall be designed and constructed in accordance with the Councils Infrastructure Development Code (IDC) Drawing T111.

6. The construction of "the Boulevard' shall be designed and constructed in accordance with the Councils Infrastructure Development Code (IDC) Drawing T108.

7. The Palm Springs Boulevard/ The Boulevard roundabout shall be constructed within Stage 10 and shall comprise four legs. The application for subdivision consent for Stage 10 shall include roundabout detail design.

8. Any development on land adjoining the Boulevard within stage 10 - 12 shall have that section of the road adjoining the development site constructed to its full width.

Wastewater

9. Development of Stages 11 – 12 will require installation of a rising main to Pump Station 95 (Golden Sands) in the location consistent with Structure Plan 15 subject to any change to this alignment in consultation with Councils Asset Delivery team. This rising main shall be constructed and operational prior to certification pursuant to 224(c) being issued for the Stage 11.

Reserves and Open Space

10. The reserve and open space is to be provided in accordance with the Council's Open Space Level of Service Policy and ~~had been~~ calculated to account for stages 8 - 12. ~~The minimum reserve contribution for Stages 8 – 12 is to be 10219m2 to serve 608 people.~~

(a) 50% of the ~~10219m2~~ reserve contribution ~~(5109m2)~~ shall be neighbourhood reserves and can include the walkway/access ways ~~(total approx. 1464m^2)~~.

~~(b)~~ The other 50% of the reserve requirement can include "other" reserves. The other reserves can include the Stormwater Swale Areas. ~~shown on DWG 20464-CDC5A Rev 2 dated 05/14;~~

(c) A plan must be provided to the Councils Manager: City Parks confirming the location of the reserves, including the access ways and links proposed within Area Stages 8, 9, 10, 11 and 12 demonstrating the area described above satisfies the Open Space Level of Service Policy prior to any subdivision application being made for these stages.

11. Linkages and/or access ways for pedestrians and cyclists shall be provided generally in accordance with DWG 20464-CDC5A Rev ~~2~~ 3 dated ~~05/14~~ 01/15. All access ways to be vested in Tauranga City Council shall be a minimum 7.0m wide.

Earthworks

12. Earthworks associated with the further development of land within Stages 10 - 12 incorporate a combination of sediment control measures that are consistent with Appendix 4N: Erosion and Sediment Control Measures.

Site Development Controls (SDC)

13. All residential development of the application on the land comprising Stages 10 - 12, must be in accordance with the following SDCs;

I. **Subdivision** –

For nominated **"Regular Lots"** within Stages 10 - 12, no further subdivision shall be undertaken and shall contain Independent Dwelling Unit only.

For nominated "sub-dividable lots" within Stages 10 – 12, the minimum lot size shall be no less than 325m2 nett site area per 1 independent dwelling.
For nominated **"Larger Builder's Block's"** shall achieve the following minimum yields:

Stage 10:	Lot No. ~~129~~ 99	~~21~~ 8Dwelling Unit Equivalents (DUE's)
	Lot No. ~~145~~ 130	4 DUE's
	Lot No. 88	6 DUE's
	Lot No. 87	3 DUES's
Stage 11:	Lot No. ~~98~~ 141	18 DUE's
	Lot No. ~~110~~ 145	~~9~~ 8 DUE's

II. **Frontage** – to provide physical and legal access to a public road, lots for residential use shall have a minimum road frontage of 3.0m.

III. **Maximum Building Height** - 9.5m above approved subdivision ground level;

IV. All new buildings on lots to have **minimum building platform level** of RL 4.8m for non habitable residential buildings and RL 5.1m for habitable buildings (including attached garages);

V. **Streetscape** - all buildings to be setback at least 3.0m from legal road boundaries; (except for the buildings eaves that can intrude no more than 0.6m into this streetscape setback);

VI. **Other setbacks** - all buildings and structures to be a minimum of 1.5m from side or rear boundaries (except for building eaves that can intrude no more than 0.6m into this 1.5m setback).

For "Sub-dividable Lots" and "Larger Builder's Block's", this setback requirement can be reduced to less than 1.5m along the internal boundaries of the nominated lot, provided the written consent of the property owner/s where this setback reduction will occur is obtained and endorsed on the relevant building plans or other plans that show the encroachment;

VII. Where a site adjoins an Open Space Zone, local reserve, access way, or stormwater swale, fencing within the side, rear or streetscape setbacks adjoining the Open Space, local reserve, accessway or stormwater swale to be no greater than 1.2m in height, or no greater than 1.8m in height provided the part of the fencing between 1.2m to 1.8m is a minimum 75% visually permeable.

VIII. All **garages or carports** designed with direct vehicle access onto a road shall be setback at least 4.5m from the road boundary. Garages and carports can be located no less than 3.0m from the road boundary, provided they do not have direct entry access onto the road.

IX. **Outdoor Living Area** – development on lots for residential use shall provide an outdoor living area of at least $20m^2$ that will include minimum dimensions of 3m x 4m. The minimum outdoor living area can include uncovered balconies or decks where they are at least $6m^2$ in area and have a minimum diameter dimension of 1.5m. Outdoor living area's shall be free of buildings, driveways, vehicle access, manoeuvring and parking areas. The nominated 3m x 4m portion of the Outdoor Living Area shall be located where it will receive at least 4 hours of sunlight on the 21st of June that can be demonstrated on the relevant building consent plans.

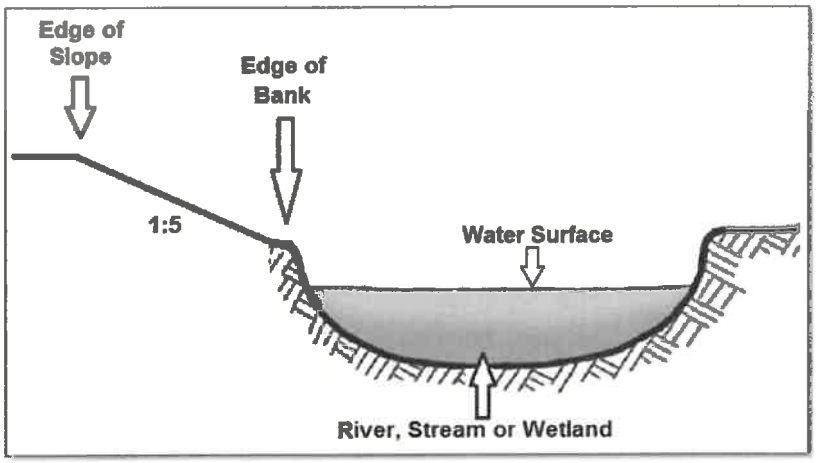
X. **Site coverage** - The maximum site coverage of nett site area by buildings is 55% on lots less than 500m2 and 45% on lots greater than 500m2, provided the other Site Development Controls are complied with.

Note: The definition of "***nett site area"*** *is* the area of a lot less any area of that lot that is solely for the purpose of providing access to the site and for clarity also excludes:

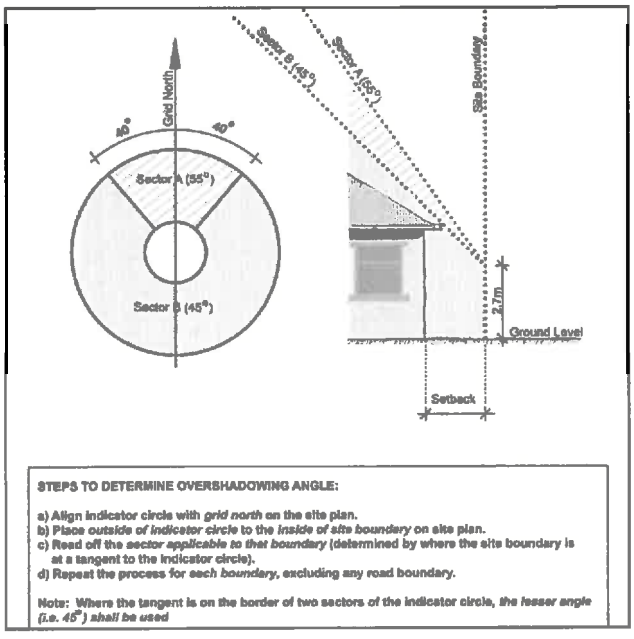
a) An entrance strip owned in common with the owners of other lots;

b) Any area in a cross-lease, company lease or unit title subdivision that is not covered by an independent dwelling unit, the accessory buildings of that independent dwelling unit, or other area set aside for the exclusive use of the occupants of that independent dwelling unit.

XI. All buildings, excluding minor structures and activities, shall be setback a minimum of 10.0m from the edge of a bank of a permanently flowing river or stream, or wetland;



XII. All buildings shall be within an envelope calculated in accordance with the diagram below. For "Sub-dividable Lots" and "Larger Builder's Block's", this envelope can be penetrated by building/s along the internal boundaries of the nominated lot upon further subdivision, provided the written consent of the property owner/s where the penetration occurs is obtained and endorsed on the relevant building plans;



XIII. Each lot for residential use shall provide sufficient area for two 90 percentile onsite car parks;

XIV. For lots with frontage to Palm Springs Boulevard or the Boulevard, on site manoeuvring shall be provided in accordance with Rule 4B.2.5 – On Site Manoeuvring.

XV. After a dwelling is constructed, within 12 months of the Code Compliance Certificate (CCC) being issued, the following to be completed: disturbed ground on the property shall be reinstated with either grass, paving or decking, 10m^2 of landscaping and at least 1 tree greater than 2m in height shall be planted.

XVI. Minimum gross floor area for dwelling comprising two or more bedrooms to be 90.0m^2;

XVII. Planning rules / controls for transportation, earthworks, signage, noise, lighting, glare and servicing shall be in accordance with Suburban Residential Zone where applicable.

Recommended and Assessed by:

Stacey Hikairo
Senior Environmental Planner

Delegated Authorisation by:

Bradley Bellamy
Team Leader: Environmental Planning

Date: 19/08/15

Advice Notes:

1. *Under section 357 of the RMA, you can object to this consent by serving written notice on the Council within 15 working days of receiving this decision, detailing the reasons for and what would satisfy the objection.*

2. *Should the actual processing cost exceed the deposit fee paid at lodgement, if not already accompanying this decision, an invoice may be sent at a later date.*

3. *This resource consent does not constitute any form of approval in terms of the Building Act 2004 or the New Zealand Building Code. Where any building or drainage works are required to satisfy conditions of this consent, all consents required under the Building Act 2004 must be obtained prior to the works being carried out.*

DECISION ON NOTIFICATION
RESOURCE CONSENT APPLICATION – RC24235 01 & RC24098 02
Under the Resource Management Act 1991

Tauranga City Council resolves:

That pursuant to Sections 95A – 95E of the Resource Management Act 1991, the discretionary activity landuse and subdivision consent applications by the Hawridge Development Ltd to make changes to conditions 1, 5, 10 and 11 of landuse RC24098, and conditions 1, 6, 8, 19, and 23 of subdivision RC24235 at Palm Springs Boulevard legally described as Lot 500 DP 471626 and hereon Lots 4, 5 and 6 RC24168, be processed without notification.

Reasons – are as per the recommendation:

In relation to the matters set out under section 95A (including s95D) of the Act (public notification) it is considered that the adverse effects on the environment of the activity will not be more than minor; that the applicant has not requested the application be publicly notified; and that no special circumstances exist in relation to the application. For these reasons public notification of the application is not required or considered necessary.

Having considered the effects of the activity under sections 95B, 95E and 95F of the Act it is concluded that there are no persons affected by the activity and that limited notification of the application is not necessary.

Recommended and Assessed by:

Stacey Hikairo
Senior Environmental Planner

Delegated Authorisation by:

Bradley Bellamy
Team Leader: Environmental Planning

Date: 19/08/15

Tauranga City Council
91 Willow Street, Private Bag 12022, Tauranga 3143, New Zealand
Phone 07 577 7000 **Fax** 07 577 7193 **Email** info@tauranga.govt.nz **www.tauranga.govt.nz**

Palm Springs Limited
C/- S & L Consultants Ltd
P O Box 231
Tauranga 3140

DECISION ON CHANGE OF CONSENT CONDITIONS
APPLICATION – RC24235-02
Under the Resource Management Act 1991

Tauranga City Council resolves:

That pursuant to Sections 104B, 127 and 108 of the Resource Management Act 1991, the application to change Conditions 1 and 8 to allow further subdivision of Builder Blocks 141 and 145, prior to the completion of Stage 11, at Palm Springs Boulevard legally described as Lot 500 DP 471626 and hereon Lots 4, 5 and 6 RC24168, is granted.

That pursuant to Section 113 of the RMA – the reasons for the decision are as per the recommendation:

It has been decided that allowing the change of conditions as detailed I the application by S&L Consultants will not result in any unacceptable actual and potential effects on the environment.

The changes provide an update to the scheme plan for subdivision to give effect to the corresponding land use consent for this part of the urban growth area and is considered to be consistent with the subdivision originally consented and the Tauranga City Plan. The change sought will not be inconsistent with the purpose and principles of the Act as set out under Part 2.

The granting of this application is subject to the following conditions (and amendments) under section 108 of the Resource Management Act:

1. *Except as modified by the conditions of this consent the proposed activity shall proceed in general accordance with the plans and all information (including proposed mitigation and conditions) submitted as part of this application, including:*

   - *AEE prepared by S & L Consultants Ltd entitled "Subdivision Resource Consent - Stages 10 & 11, Area 1A Wairakei UGA – Palm Springs Limited", referenced 20464 – SUB 10&11, dated August 2014;*

   Except where varied by:
   - *AEE prepared by S & L Consultants Ltd entitled "Application to Change Conditions of Consent RC24235 – Stages 10 & 11 Subdivision Variation", referenced 20464 – Sub Variation and dated January 2015;*

   - *Scheme Plans:*

Tauranga City Council
91 Willow Street, Private Bag 12022, Tauranga 3143, New Zealand
Phone 07 577 7000 **Fax** 07 577 7193 **Email** info@tauranga.govt.nz **www.tauranga.govt.nz**

- *Stage 10 Proposed Subdivision of Lot 903 RC 23979 & Lot 4 RC24168 referenced 20464 – RC7A Rev ~~2~~ 3 dated ~~07/14~~ 01/15.*
- *Stage 11 Proposed Subdivision of Lot 5 RC 24168 (Lot 500 DP 471626) referenced 20464 – RC7B Rev ~~1~~ 2 dated ~~07/14~~ 01/15.*
- *The report prepared by S & L Consultants entitled "Application for Change of Conditions for Stage 11, Subdivision & Land Use, Stage 11, Palm Springs Limited" reference 20464, dated November 2015.*

1(a) *Any staging of subdivision consent by way of s223 / 224 certificates issued on separate survey for this subdivision is appropriate subject to that staging complying with all relevant conditions as listed for that stage within this subdivision consent.*

2. *Prior to any application for certification pursuant to section 224 RMA, the applicant shall confirm title has issued for Lots 4 and 5 RC24168.*

Servicing/Development Plan approvals:

3. *All matters and works relating to the servicing and accessing of the subdivision, shall be designed, supervised, constructed and certified in accordance with requirements of the Council's' Infrastructure Development Code.*

4. *All residential lots shall be provided with a separate underground connection to the sanitary sewer, water and electricity reticulation system in accordance with the Council's Infrastructure Development Code.*

5. *Local Roads within Stages 10 & 11 shall be designed and constructed in accordance with the Councils Infrastructure Development Code (IDC) or to the modified cross section DWG 20464 – HAW115.*

6. *Prior to any works commencing on the site (exclusive of site clearance or bulk earthworks associated with any Environment Bay of Plenty earthworks consent) the consent holder shall submit, to the Team Leader: Development Engineering, plans of the proposed activity to and obtain Development Works Approval. Including the following:*

   - *The information and plans required by the Infrastructure Development Code;*
   - *All flood risk areas;*
   - *Details of the construction of the roads to vest and the proposed traffic management measures*
   - *Details of proposed street landscaping*
   - *Details of ROW areas A and B*
   - *Details of the extension of the sewer rising main from Palm Springs Boulevard to the sewerage reticulation located in Golden Sands Drive*
   - *Details of the proposed sanitary sewer pump station including interim and ultimate rising main locations and access construction.*
   - *Details of Fire Fighting system.*
   - *Details of any overland flowpaths.*
   - *Details of the works required to establish a suitable building platform on each proposed lot.*

7. *Prior to paving of road surfaces, stormwater mitigation volume requirements shall be provided and certified by a Chartered Professional Engineer.*

8. *Prior to an application for s224 Approval being made for Stage 11, the sewer rising main extension approved under condition 6 above shall be completed and operational, except that for the purposes of further subdivision of the prescribed larger Builders Blocks Lots 141 and 145, 224(c) certification may be issued for that sub-stage, subject to compliance with all other conditions.*

9. *The consent holder shall supply to the Council a set of 'as built' plans of all engineering, landscaping and reserve works in accordance with the Council's Infrastructure Development Code.*

10. *All earthworks design, testing and construction shall be undertaken in accordance with Infrastructure Development Code and the specific requirements of the consent holders appointed Geo-Professional.*

11. *The Consent Holder shall undertake works to establish a minimum building platform level of RL 5.1 m Moturiki Datum on each proposed lot to avoid the effects of inundation.*

12. *A Licensed Cadastral Surveyor shall certify, in writing, that all building platforms are constructed to the required minimum level set out under condition 11.*

13. *The Consent Holder shall provide to the Council a "Geotechnical Completion Report" (GCR) complied by a Category 1 Geo-Professional. The GCR shall:*

    - *Comply with the Council's Infrastructure Development Code QA4 requirements;*
    - *Display the position of all designated building platforms and building restriction lines where applicable;*
    - *Determine minimum flooring/foundation requirements to mitigate potential effects of liquefaction and/or lateral spread*
    - *Provide recommendations for the on-site disposal of stormwater;*
    - *Provide recommendations for the ongoing development of the lots*
    - *Confirm earthworks and/or building platforms have been constructed to comply with the New Zealand Building Code requirements;*
    - *Determine the minimum floor level required for each allotment to avoid the effects of inundation and/or localised ponding.*
    - *Comment on removal or amendment of existing land feature/s displayed on Council's GIS.*

    Upon receipt of the GCR required by condition 12 above, all matters set out within the GCR will be reviewed and if necessary, a consent notice, pursuant to section 221 of the Resource Management Act 1991, may be registered on the Certificate of Title of all relevant allotments advising that the design and construction of any building or structures requiring Building Consent in accordance with the Building Act 2004 must comply with the recommendations contained in that report on a continuing basis.

14. *All building line restrictions or designated building platforms shall be clearly identified and dimensioned on the survey plan prior to certification pursuant to Section 223 of the Resource Management Act 1991.*

15. *The consent holder shall enter into a landscape maintenance bond for a minimum period of 18 months prior to vesting for vegetation planted within road lots 914 and 917.*

16. *Prior to the approval of any survey plan pursuant to section 223 of the RMA 1991 the consent holder must submit to Council three (3) alternative street names for each proposed new road in the subdivision. Street names must be provided in accordance with Council's*

Naming of Streets, Reserves and Community Facilities Policy and include all information required under this policy including evidence of the significance of the proposed names.

17. *The authorised street name signs will be manufactured and erected by the consent holder at the consent holder's expense.*

18. *All traffic and pedestrian access signage shall be manufactured by an approved certifier and erected by the consent holder at the consent holder's expense.*

Easements/Amalgamations/Vesting/Fencing:

19. *The following amalgamation conditions shall be recorded on the survey plan prior to certification pursuant to Section 223 of the Resource Management Act 1991 (LINZ Request 1276853):*

    i. *(Stage 10)*
    That Lot 912 hereon (legal access) be held as to:
    - *an undivided 1/9 share with Lot 118*
    - *an undivided 1/9 share with Lot 119*
    - *an undivided 1/9 share with Lot 120*
    - *an undivided 1/9 share with Lot 121*
    - *an undivided 1/9 share with Lot 122*
    - *an undivided 1/9 share with Lot 123*
    - *an undivided 1/9 share with Lot 124*
    - *an undivided 1/9 share with Lot 125*
    - *an undivided 1/9 share with Lot 126*

    and that individual computer freehold registers be issued in accordance therewith – pursuant to Section 220(1)(b)(iv) Resource Management Act 1991

    ii. *(Stage 11)*
    - *That Lot 916 hereon (legal access) be held as to:*
    - *an undivided 1/2 share with Lot 149*
    - *an undivided 1/2 share with Lot 150*

    and that individual computer freehold registers be issued in accordance therewith – pursuant to Section 220(1)(b)(iv) Resource Management Act 1991

20. *All easements required for underground services and rights of way serving lots within the subdivision shall be duly granted or reserved.*

21. *The consent holder shall register an easement in gross in favour of the Council over any stormwater overland flowpath located on private property, including those resulting from overload of the roading primary stormwater system under extreme rainfall conditions.*

22. *The overland flowpath easement shall be shown on the survey plan prior to certification pursuant to Section 223 of the Resource Management Act 1991 and shall be shown as the "Right to Drain Stormwater" and shall be registered on the survey plan under a "Memorandum of Easements in Gross".*

23. *The consent holder shall vest in the Council the following allotments as shown on the scheme plan:*

    - *Lots 914, 915, 918, and 919*

24. *The lot(s) to vest shall be shown on the survey plan prior to certification pursuant to Section 223 of the Resource Management Act 1991.*

25. *Pursuant to Section 221 of the Resource Management Act 1991, a consent notice shall be registered on the Certificate of Title of any property that is intended to share a common boundary with any of the following local purpose reserves:*

    - *Accessway*
    - *Recreation*
    - *Wastewater*
    - *Stormwater*

    The consent notice shall advise the owners and subsequent owners thereof, of the following requirement to be complied with on a continuing basis: The owners are required to meet the full cost of any fencing along the common boundary between the lot and adjoining land that are intended to be vested in Tauranga City Council as local purpose reserve.

26. *Upon application for the s223 certificate for the subdivision the consent holder shall confirm in writing to Council which property boundaries require a fencing consent notice to be registered on its title.*

Recommended and Assessed by:

Sam Hurley
Intermediate Environmental Planner

Delegated Authorisation by:

Stacey Hikairo
Senior Environmental Planner

Date: 15.01.2016

Advice Notes

1. *Under sections 357A and 357B of the Resource Management Act 1991, you have a right of objection to the consent authority in respect of the above decision or any additional fees and charges required in respect of this decision. In accordance with section 357C notice of any such objection must be in writing to the Council within 15 working days of receiving this decision and/or the date on which the invoice is received. The objection should describe the reasons for the objection.*

2. *This proposal forms part of the Comprehensive Development Consent approved under Tauranga City Council ref: RC24098. The Consent Holder is advised that the requirements of that consent (specifically the site development controls, any staging requirements, and further subdivision of builder blocks and sub dividable lots) must be met in respect to the development of allotments and infrastructure under this consent.*

3. *The consent holder is advised the proposed stormwater reserve areas are subject to a lower level of service for mowing of grassed areas compared to recreation reserves. Mowing to a higher level of service may be achieved through the imposition of targeted rates.*

4. *Development contributions under LGA 2002 –*

   Requirement for development contribution: Pursuant to section 198(1)(a) of the Local Government Act 2002, Council requires that a development contribution provided for and in accordance with Council's Development Contributions Policy (which is subject to change), be made (paid) by the consent holder to Council.

5. *All archaeological sites whether recorded or unrecorded under Subpart 2 of the Heritage New Zealand Pouhere Taonga Act 2014 cannot be destroyed, damaged or modified without the consent of Heritage New Zealand. In the event that an archaeological site(s) and/or koiwi are unearthed, the consent holder is advised to immediately stop work on the part of the site that the archaeological site(s) is located, and contact Heritage New Zealand for advice. Contact Details: email - infolowernorthern@heritage.org.nz; phone - 07 577 4530*

6. *Construction noise from starting up and operation of construction equipment and all other construction activities on the site of the subdivision are required to meet the limits recommended in NZS6803:1999 Acoustics – Construction Noise.*

7. *Where any building or drainage works are required to satisfy conditions of this consent, all consents required under the Building Act 2004 must be obtained prior to the works being carried out.*

8. *Dust management and silt runoff is to be controlled in accordance with the City Plan and Infrastructure Development Code. The Consent Holder is advised that they are required by the Bay of Plenty Regional Council's Land Management Plan to take the appropriate measures to prevent or minimise sediment generation and yield (sediment discharge).*

DECISION ON NOTIFICATION
RESOURCE CONSENT APPLICATION – RC24235-02 & RC24098-03
Under the Resource Management Act 1991

Tauranga City Council resolves:

That pursuant to Sections 95A – 95E of the Resource Management Act 1991, the discretionary activity landuse and subdivision consent applications by the Hawridge Development Ltd to make changes to conditions 1 and 9 of land use RC24098, and conditions 1 and 8 of subdivision RC24235, at Palm Springs Boulevard legally described as Lot 500 DP 471626 and hereon Lots 141 and 145 DP492714, be processed without notification.

Reasons – are as per the recommendation:

In relation to the matters set out under section 95A (including s95D) of the Act (public notification) it is considered that the adverse effects on the environment of the activity will not be more than minor; that the applicant has not requested the application be publicly notified; and that no special circumstances exist in relation to the application. For these reasons public notification of the a pplication is not required or considered necessary.

Having considered the effects of the activity under sections 95B, 95E and 95F of the Act it is concluded that there are no persons affected by the activity and that limited notification of the application is not necessary.

Recommended and Assessed by:

Sam Hurley
Intermediate Environmental Planner

Delegated Authorisation by:

Stacey Hikairo
Senior Environmental Planner

Date: 15.01.2016

Tauranga City Council
91 Willow Street, Private Bag 12022, Tauranga 3143, New Zealand
Phone 07 577 7000 **Fax** 07 577 7193 **Email** info@tauranga.govt.nz **www.tauranga.govt.nz**

Palm Springs Limited
C/- S & L Consultants Ltd
P O Box 231
Tauranga 3140

DECISION ON CHANGE OF CONSENT CONDITIONS
APPLICATION – RC24098 03
Under the Resource Management Act 1991

Tauranga City Council resolves:

That pursuant to Sections 104B, 127 and 108 of the Resource Management Act 1991, the discretionary variation application to change Conditions 1 and 9 to allow further subdivision of Builder Blocks 141 and 145, prior to the completion of stage 11, at Palm Springs Boulevard, legally described as Lot 500 DP 471626 and hereon Lots 4, 5and 6 RC24168, is granted.

That pursuant to Section 113 of the RMA – the reasons for the decision are as per the recommendation:

It has been decided that allowing the change of conditions as detailed I the application by S&L Consultants will not result in any unacceptable actual and potential effects on the environment.

The change of conditions to provide for a revised lay out and arrangement of residential activities including timing of infrastructure within these stages will be consistent with the City Plan. The changes sought will not be inconsistent with the purpose and principles of the Act as set out under Part 2.

The granting of this application is subject to the following conditions (and amendments) under section 108 of the Resource Management Act:

1. *Except as modified by the conditions of this consent the proposed activity shall proceed in accordance with the following plans and information submitted as part of the application, including:*

    - *The report prepared by S&L Consultants Ltd entitled "Application for Comprehensive Development Consent – Stages 10 – 15 Area 1A Wairakei UGA – Hawridge Developments Limited" referenced 20464 –CDC2 and dated April 2014;*
    - *Modified Local Road Cross Section referenced 20464 – HAW115 Rev 1 dated April 2014;*
    - *The following emails From Pete Linde entitled:*
        - *RE: Hawridge Stages 27 – 29 S92 Further Information Request dated 06 June 2014.*
        - *Reserves Query dated 11 July 2014.*

    Unless altered by the following:

Tauranga City Council
91 Willow Street, Private Bag 12022, Tauranga 3143, New Zealand
Phone 07 577 7000 **Fax** 07 577 7193 **Email** info@tauranga.govt.nz **www.tauranga.govt.nz**

- *The report prepared by S & L Consultants Ltd entitled Application to Change Conditions of Consent RC24098 – Stages 10 , 11 & 12 CDC Variation – Hawridge Developments Limited" referenced 20464 – S10, 11 & 12 CDC Variation dated January 2015.*
- *Scheme Plan prepared by S & L Consultants entitled "Comprehensive Development Stages 10, 11 & 12" referenced 20464 – CDC5A rev 3.*
- *The report prepared by S & L Consultants entitled "Application for Change of Conditions for Stage 11, Subdivision & Land Use, Stage 11, Palm Springs Limited" reference 20464, dated November 2015.*

Capacity

2. *Development of land within Area 1A is subject to the requirements of 14B.6.13.3 (Papamoa Beach Road capacity) and 14B.6.13.8 (water supply capacity).*

Development Yield

3. *All development within Area 1A shall comply with the yield requirements for residential development set out under Rule 12B.3.1.2 of the City Plan.*

Roading

4. *Local Roads within Stages 10 - 12 shall be designed and constructed in accordance with the Councils Infrastructure Development Code (IDC) or to the modified cross section DWG 20464 – HAW115;*

5. *The Palm Springs Boulevard extension from Stage 8 south to the Boulevard shall be designed and constructed in accordance with the Councils Infrastructure Development Code (IDC) Drawing T111.*

6. *The construction of "the Boulevard' shall be designed and constructed in accordance with the Councils Infrastructure Development Code (IDC) Drawing T108.*

7. *The Palm Springs Boulevard/ The Boulevard roundabout shall be constructed within Stage 10 and shall comprise four legs. The application for subdivision consent for Stage 10 shall include roundabout detail design.*

8. *Any development on land adjoining the Boulevard within stage 10 - 12 shall have that section of the road adjoining the development site constructed to its full width.*

Wastewater

9. *Development of Stages 11 – 12 will require installation of a rising main to Pump Station 95 (Golden Sands) in the location consistent with Structure Plan 15 subject to any change to this alignment in consultation with Councils Asset Delivery team. This rising main shall be constructed and operational prior to certification pursuant to 224(c) being issued for the Stage 11, except that for the purposes of further subdivision of the prescribed larger Builders Blocks Lots 141 and 145, 224(c) certification may be issued for that sub-stage, subject to compliance with all other conditions.*

Reserves and Open Space

10. *The reserve and open space is to be provided in accordance with the Council's Open Space Level of Service Policy and had been calculated to account for stages 8 - 12. The minimum reserve contribution for Stages 8 - 12 is to be 10219m2 to serve 608 people.*

    (a) *50% of the 10219m2 reserve contribution (5109m2) shall be neighbourhood reserves and can include the walkway/access ways (total approx. 1464m^2).*

    (b) *The other 50% of the reserve requirement can include "other" reserves. The other reserves can include the Stormwater Swale Areas. shown on DWG 20464-CDC5A Rev 2 dated 05/14;*

    (c) *A plan must be provided to the Councils Manager: City Parks confirming the location of the reserves, including the access ways and links proposed within Area Stages 8, 9, 10, 11 and 12 demonstrating the area described above satisfies the Open Space Level of Service Policy prior to any subdivision application being made for these stages.*

11. *Linkages and/or access ways for pedestrians and cyclists shall be provided generally in accordance with DWG 20464-CDC5A Rev 2 3 dated 05/14 01/15. All access ways to be vested in Tauranga City Council shall be a minimum 7.0m wide.*

Earthworks

12. *Earthworks associated with the further development of land within Stages 10 - 12 incorporate a combination of sediment control measures that are consistent with Appendix 4N: Erosion and Sediment Control Measures.*

Site Development Controls (SDC)

13. *All residential development of the application on the land comprising Stages 10 - 12, must be in accordance with the following SDCs;*

    I. ***Subdivision*** *–*

    *For nominated "**Regular Lots**" within Stages 10 - 12, no further subdivision shall be undertaken and shall contain Independent Dwelling Unit only.*

    For nominated "sub-dividable lots" within Stages 10 – 12, the minimum lot size shall be no less than 325m2 nett site area per 1 independent dwelling.
    *For nominated "**Larger Builder's Block's**" shall achieve the following minimum yields:*

Stage 10:	*Lot No. 129 99*	*21 8Dwelling Unit Equivalents (DUE's)*
	Lot No. 145 130	*4 DUE's*
	Lot No. 88	*6 DUE's*
	Lot No. 87	*3 DUES's*
Stage 11:	*Lot No. 98 141*	*18 DUE's*
	Lot No. 110 145	*9 8 DUE's*

II. ***Frontage*** *– to provide physical and legal access to a public road, lots for residential use shall have a minimum road frontage of 3.0m.*

III. ***Maximum Building Height*** *- 9.5m above approved subdivision ground level;*

IV. *All new buildings on lots to have* ***minimum building platform level*** *of RL 4.8m for non habitable residential buildings and RL 5.1m for habitable buildings (including attached garages);*

V. ***Streetscape*** *- all buildings to be setback at least 3.0m from legal road boundaries; (except for the buildings eaves that can intrude no more than 0.6m into this streetscape setback);*

VI. ***Other setbacks*** *- all buildings and structures to be a minimum of 1.5m from side or rear boundaries (except for building eaves that can intrude no more than 0.6m into this 1.5m setback).*

For "Sub-dividable Lots" and "Larger Builder's Block's", this setback requirement can be reduced to less than 1.5m along the internal boundaries of the nominated lot, provided the written consent of the property owner/s where this setback reduction will occur is obtained and endorsed on the relevant building plans or other plans that show the encroachment;

VII. *Where a site adjoins an Open Space Zone, local reserve, access way, or stormwater swale, fencing within the side, rear or streetscape setbacks adjoining the Open Space, local reserve, accessway or stormwater swale to be no greater than 1.2m in height, or no greater than 1.8m in height provided the part of the fencing between 1.2m to 1.8m is a minimum 75% visually permeable.*

VIII. *All* ***garages or carports*** *designed with direct vehicle access onto a road shall be setback at least 4.5m from the road boundary. Garages and carports can be located no less than 3.0m from the road boundary, provided they do not have direct entry access onto the road.*

IX. ***Outdoor Living Area*** *– development on lots for residential use shall provide an outdoor living area of at least 20m^2 that will include minimum dimensions of 3m x 4m. The minimum outdoor living area can include uncovered balconies or decks where they are at least 6m^2 in area and have a minimum diameter dimension of 1.5m. Outdoor living area's shall be free of buildings, driveways, vehicle access, manoeuvring and parking areas. The nominated 3m x 4m portion of the Outdoor Living Area shall be located where it will receive at least 4 hours of sunlight on the 21st of June that can be demonstrated on the relevant building consent plans.*

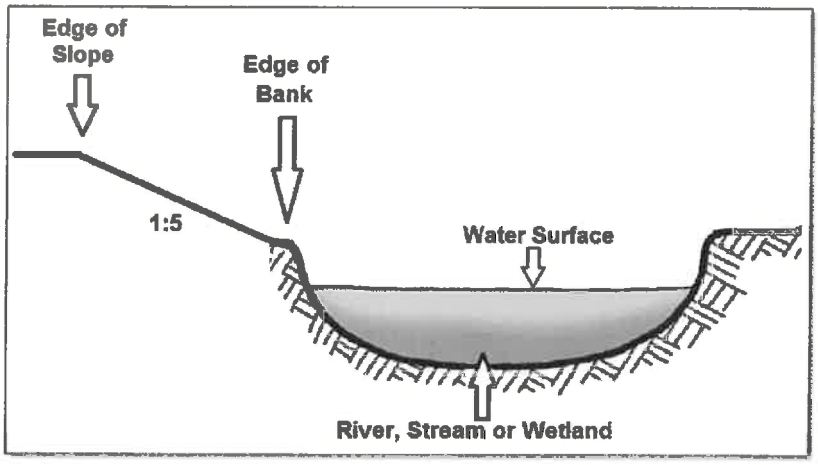
X. ***Site coverage*** *- The maximum site coverage of nett site area by buildings is 55% on lots less than 500m2 and 45% on lots greater than 500m2, provided the other Site Development Controls are complied with.*

Note: *The definition of* ***"nett site area"*** *is the area of a lot less any area of that lot that is solely for the purpose of providing access to the site and for clarity also excludes:*

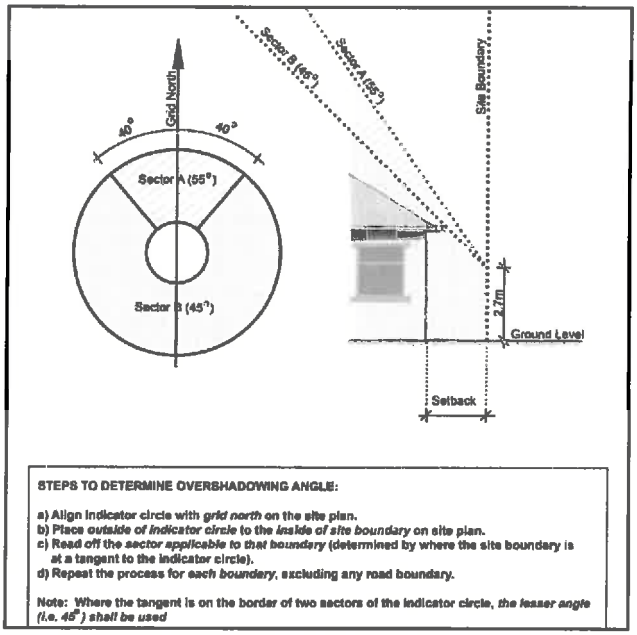
a) An entrance strip owned in common with the owners of other lots;

b) *Any area in a cross-lease, company lease or unit title subdivision that is not covered by an independent dwelling unit, the accessory buildings of that independent dwelling unit, or other area set aside for the exclusive use of the occupants of that independent dwelling unit.*

XI. *All buildings, excluding minor structures and activities, shall be setback a minimum of 10.0m from the edge of a bank of a permanently flowing river or stream, or wetland;*



XII. *All buildings shall be within an envelope calculated in accordance with the diagram below. For "Sub-dividable Lots" and "Larger Builder's Block's", this envelope can be penetrated by building/s along the internal boundaries of the nominated lot upon further subdivision, provided the written consent of the property owner/s where the penetration occurs is obtained and endorsed on the relevant building plans;*



XIII. *Each lot for residential use shall provide sufficient area for two 90 percentile onsite car parks;*

XIV. *For lots with frontage to Palm Springs Boulevard or the Boulevard, on site manoeuvring shall be provided in accordance with Rule 4B.2.5 – On Site Manoeuvring.*

XV. *After a dwelling is constructed, within 12 months of the Code Compliance Certificate (CCC) being issued, the following to be completed: disturbed ground on the property shall be reinstated with either grass, paving or decking, 10m^2 of landscaping and at least 1 tree greater than 2m in height shall be planted.*

XVI. *Minimum gross floor area for dwelling comprising two or more bedrooms to be 90.0m^2;*

XVII. *Planning rules / controls for transportation, earthworks, signage, noise, lighting, glare and servicing shall be in accordance with Suburban Residential Zone where applicable.*

Recommended and Assessed by:

Sam Hurley
Intermediate Environmental Planner

Delegated Authorisation by:

Stacey Hikairo
Senior Environmental Planner

Date: 15.01.2016

Advice Notes:

1. *Under section 357 of the RMA, you can object to this consent by serving written notice on the Council within 15 working days of receiving this decision, detailing the reasons for and what would satisfy the objection.*

2. *Should the actual processing cost exceed the deposit fee paid at lodgement, if not already accompanying this decision, an invoice may be sent at a later date.*

3. *This resource consent does not constitute any form of approval in terms of the Building Act 2004 or the New Zealand Building Code. Where any building or drainage works are required to satisfy conditions of this consent, all consents required under the Building Act 2004 must be obtained prior to the works being carried out.*

DECISION ON NOTIFICATION
RESOURCE CONSENT APPLICATION – RC24235-02 & RC24098-03
Under the Resource Management Act 1991

Tauranga City Council resolves:

That pursuant to Sections 95A – 95E of the Resource Management Act 1991, the discretionary activity landuse and subdivision consent applications by the Hawridge Development Ltd to make changes to conditions 1 and 9 of land use RC24098, and conditions 1 and 8 of subdivision RC24235, at Palm Springs Boulevard legally described as Lot 500 DP 471626 and hereon Lots 141 and 145 DP492714, be processed without notification.

Reasons – are as per the recommendation:

In relation to the matters set out under section 95A (including s95D) of the Act (public notification) it is considered that the adverse effects on the environment of the activity will not be more than minor; that the applicant has not requested the application be publicly notified; and that no special circumstances exist in relation to the application. For these reasons public notification of the a pplication is not required or considered necessary.

Having considered the effects of the activity under sections 95B, 95E and 95F of the Act it is concluded that there are no persons affected by the activity and that limited notification of the application is not necessary.

Recommended and Assessed by:

Sam Hurley
Intermediate Environmental Planner

Delegated Authorisation by:

Stacey Hikairo
Senior Environmental Planner

Date: 15.01.2016

Tauranga City Council
91 Willow Street, Private Bag 12022, Tauranga 3143, New Zealand
Phone 07 577 7000 **Fax** 07 577 7193 **Email** info@tauranga.govt.nz **www.tauranga.govt.nz**

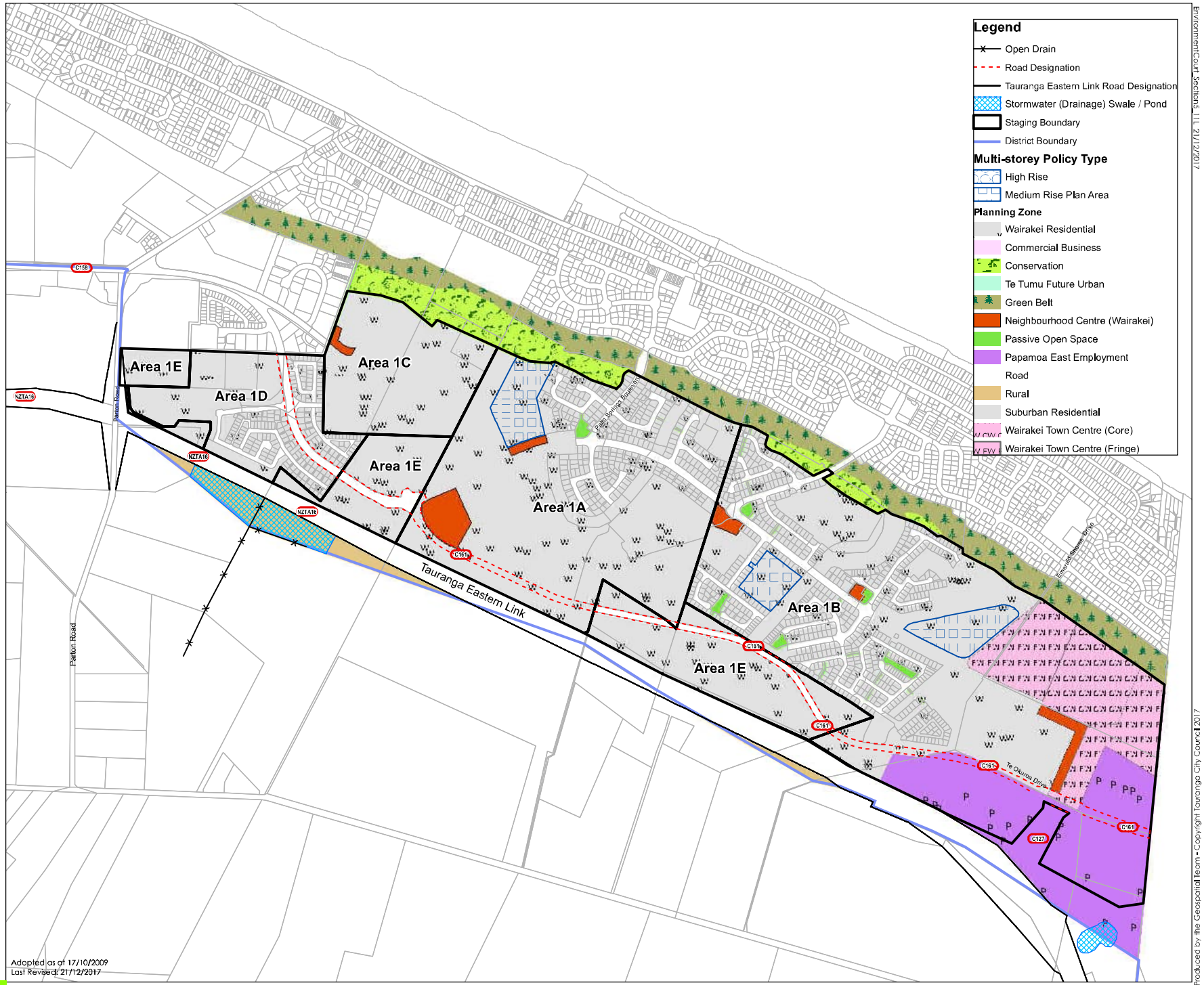
N

Diagram 11

City Plan

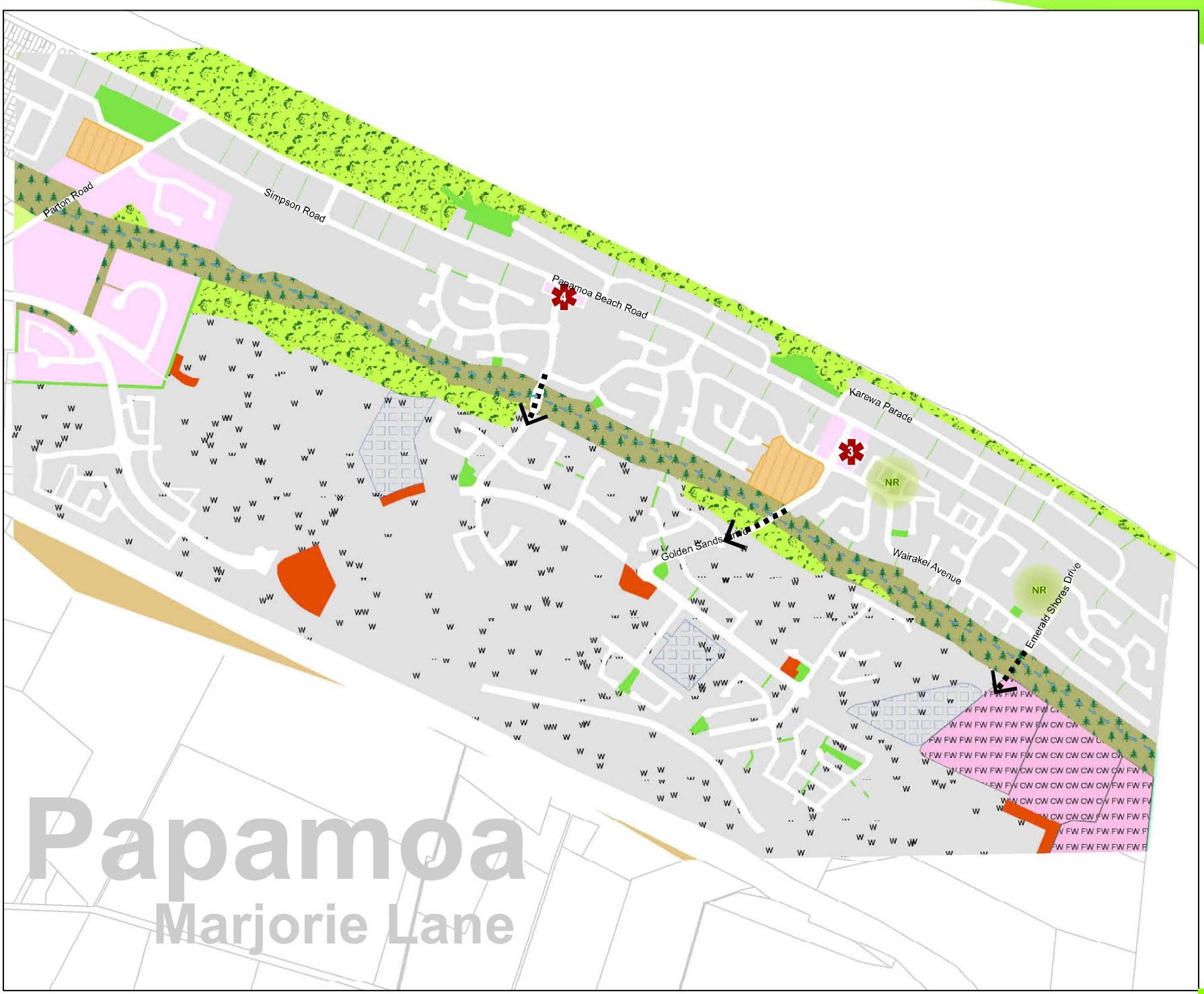
Section 5

Wairakei Urban Growth Area Staging Plan



Not to Scale

Tauranga City



N

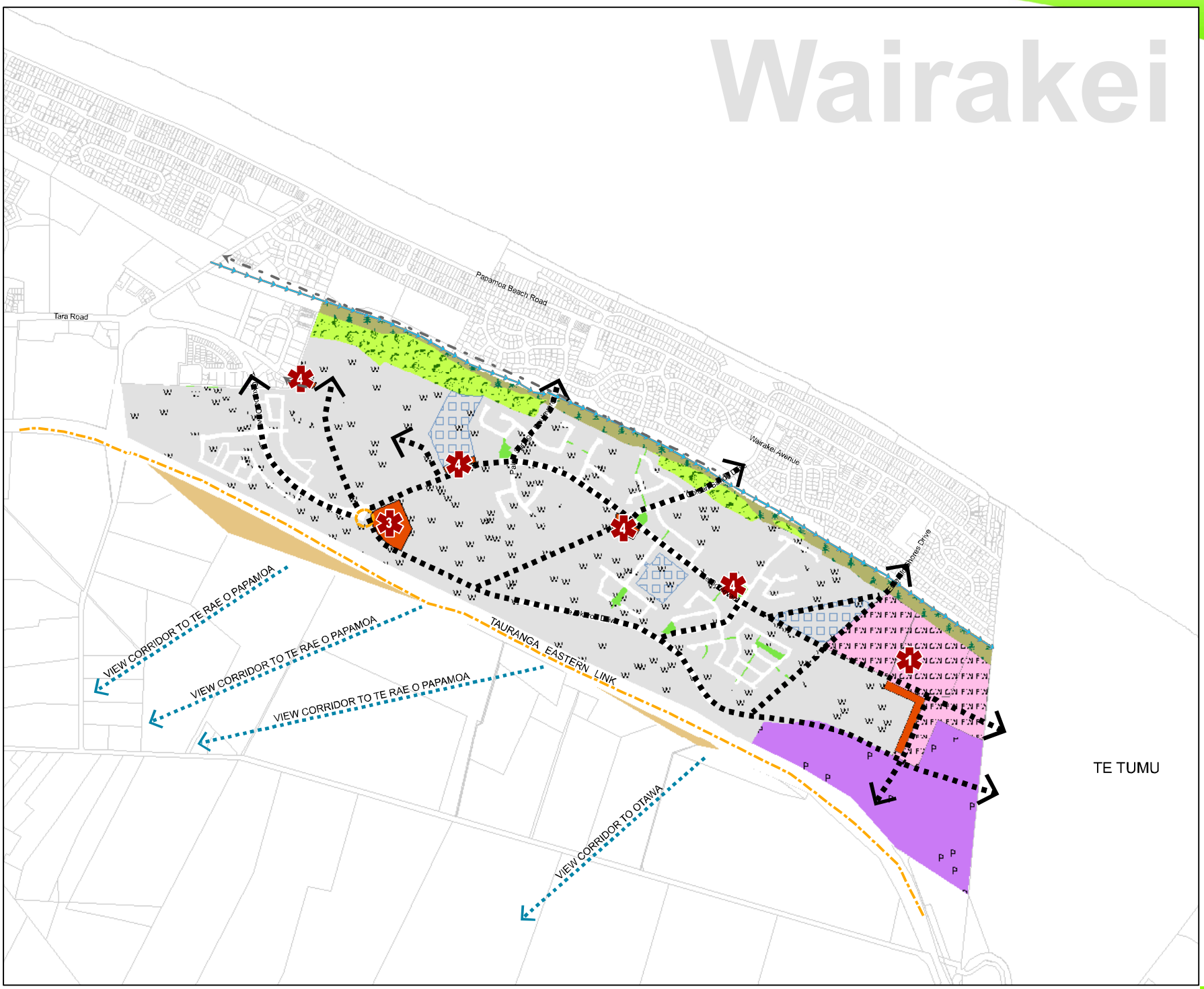
City Plan

Urban Growth Plan

UG6

Tauranga City

Wairakei



N

City Plan

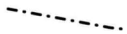
Urban Growth Plan

UG9

Tauranga City

SYMBOLS


Roading Links


Local Roads


State Highway


Walkway and Cycleway Links


Roundabouts


Stormwater Drain


Stormwater Pond


Water Reservoir


Landscaped Swale and Noise Buffer


School

Active Reserve

Future Neighbourhood Reserve


Escarpment

Sub-Regional Centre

Town Centre

Neighbourhood Centre

Local Centre

Convenience Centre

Trustpower Structure

Trustpower Electric Line


Urban Growth Yield Area Boundary

Boundary Line


Landmark Entry Treatment Area

Scheduled Site

Building Setback Line

Gas Transmission Pipeline

10m Amenity Planting Strip


Pedestrian and Cycle Overpass

Note: Colours on Urban Growth Plans relate to anticipated land use within the zones identified by the same colours on Zoning Maps.

Tauranga City

Tauranga City Plan
Urban Growth Plan Map Key

N

Diagram 11

City Plan

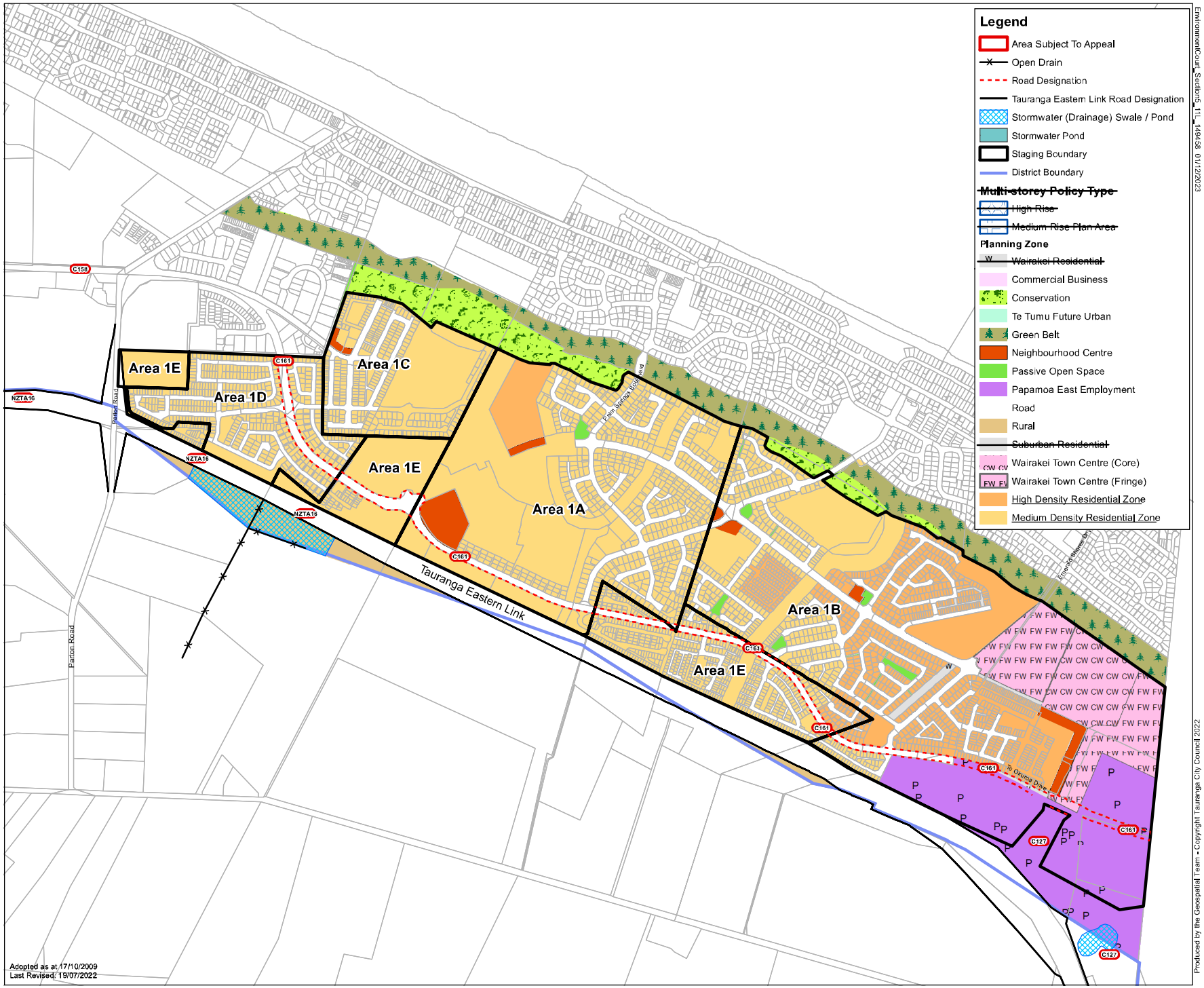
Section 5

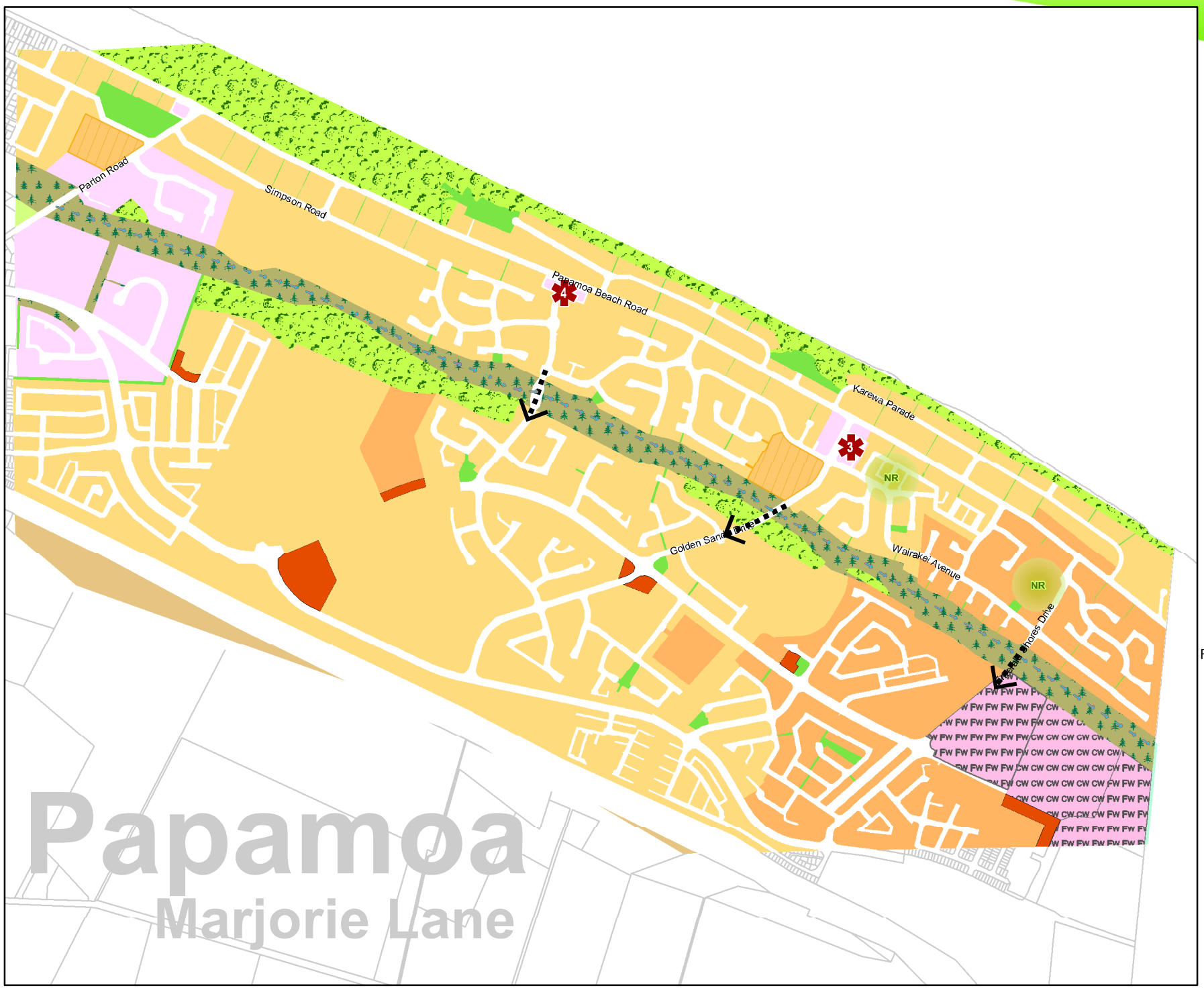
Wairakei Urban Growth Area Staging Plan

Proposed Plan Change 33,
Recommendations December 2023

Not to Scale

Tauranga City





City Plan

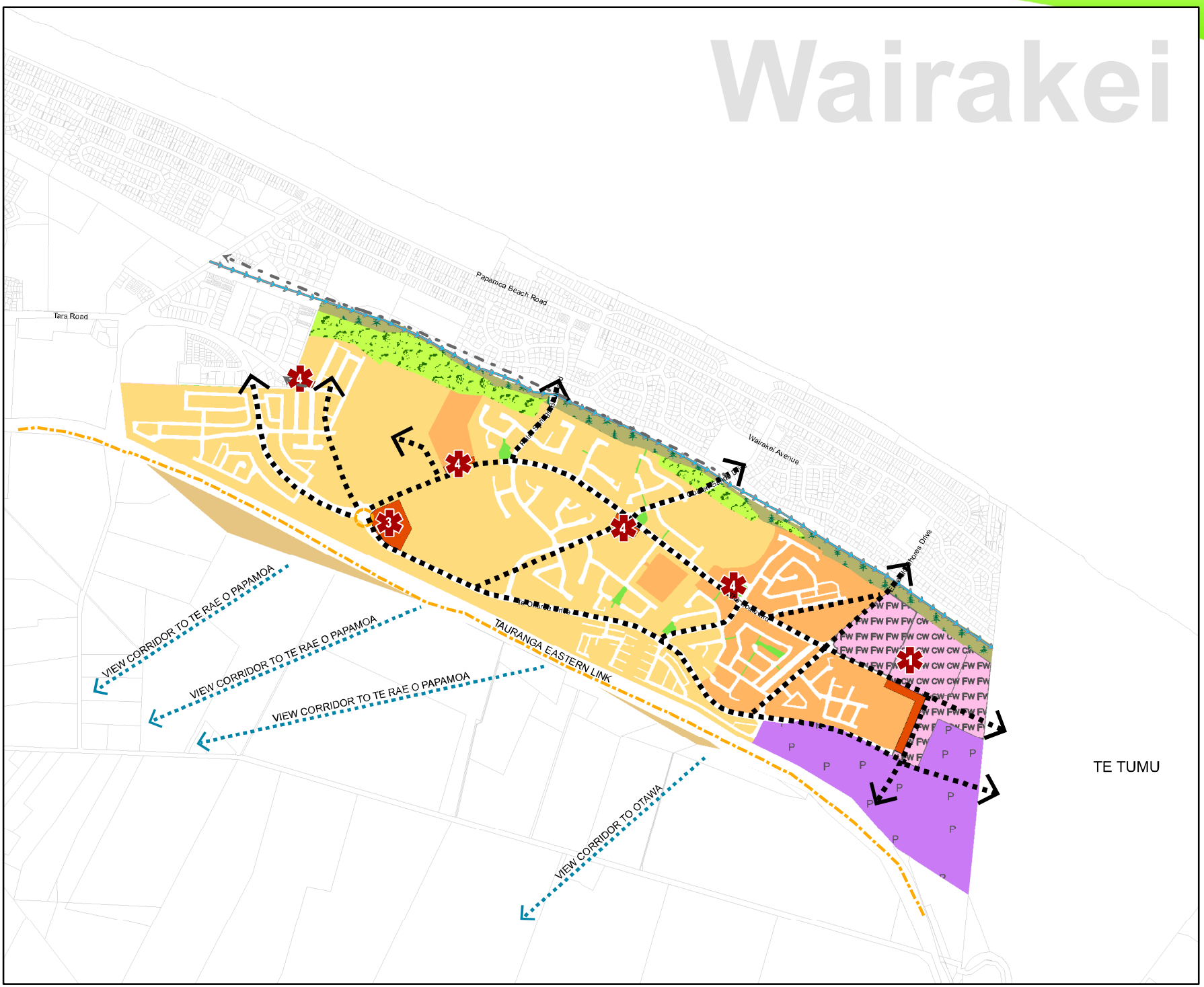
Urban Growth Plan

UG6

Proposed Plan Change 33, Recommendations December 2023

Tauranga City

Wairakei



City Plan

Urban Growth Plan

UG9

Proposed Plan Change 33, Recommendations December 2023

Tauranga City

General Description of Land Form within Tauranga District

The land form and geology within Tauranga District have some features which demand particular attention.

(a) Minimum Building Platform Levels

Significant areas of Tauranga District are at risk of flooding through sea level rise, tidal surges within the harbour, storm-wave runup on the ocean coastline and the flooding of streams, sewer drains, ponding areas and overland flow paths in extreme climatic conditions. Council has some "broadbrush" information on many possibly flood prone areas. More detailed investigations by appropriately qualified people may be required to be submitted in support of Resource and Building consents. Building Platforms should be constructed with adequate freeboard above flood levels. Council has adopted a minimum floor level policy. This level is available from Council on request from Council's Development Engineer. However due to the dynamic nature of the environment and the ongoing investigative work these levels may be reviewed at any time. For the purposes of this clause, a "building platform" is defined as the area of ground within a line 1.0m outside the perimeter of the building proper.

(b) Low-lying Land

There are many areas of low-lying land (often adjacent to the harbour) which comprise soft or very soft foundation conditions. These conditions are characterised by normally consolidated fine grained alluvial sediments (silts and clays) which have been deposited in marine or estuarine environments. In many areas they have been subject to random and non-engineered fillings. The materials are prone to settlement caused by consolidation under even minor loadings. These areas require particular care and appropriate geotechnical investigation and advice prior to development concepts being prepared. Whilst most of the Mount Maunganui/Papamoa area has an underlying sand formation, pockets of peat and "black sand" occur which exhibit poor foundation support qualities. These should be removed from building platforms and roading subgrades.

(c) Sloping Ground

The foundation conditions of the low-lying areas in the District have been described in (b) above. The near surface geology of the higher ground within the District comprises a series of weathered fine grained rhyothic ashes known locally as the Older Ashes. The Older Ashes consist of the Pahoia Tuffs overlain by the Hamilton Ash (the top of which is known locally as the "chocolate" layer).

Overlying the Older Ashes is a series of coarse friable silts, sands and pumice lapilli which tends to mantle the topography formed within the Older Ashes and are known locally as the Younger Ashes.

On some sloping ground, particularly the present and relic slips adjacent to the harbour, the ashes often have marginal stability and there are numerous examples of past and recent instability. Deep seated failures are generally confined to the steep banks which are or have in their history been subjected to active toe erosion. Development must be set back from the top of such steep banks, with the set back distance being determined by appropriate geotechnical investigations carried out by a Person who has pre-qualified with Council as a Specialist Geotechnical Advisor.

The majority of other failures on modest to steeply sloping ground are shallow failures (involving the top 1m to 3m of soil), but are nonetheless of serious consequence to any building development. Such failures are usually initiated by extreme climatic conditions. Any sloping ground greater than 15 degree gradient should be subject to appropriate geotechnical investigations to determine whether the ground is adequately stable for development.

PALM SPRINGS
RESIDENTIAL SUBDIVISION

STAGE 10

The Boulevard (part), Palm Springs Boulevard (part), Villosa Court, Sophora Place (part), Senecio Way, Papamoa

GEOTECHNICAL COMPLETION REPORT INCLUDING

RECOMMENDATIONS FOR BUILDING

Our Ref: 20464-10

Prepared for Palm Springs Ltd

27 October 2015

S&L CONSULTANTS LTD - SURVEYORS - ENGINEERS - PLANNERS
102 Hamilton Street PO Box 231 Tauranga 3140 New Zealand Phone 07 577 6069 Fax 07 577 6065 Email slconsultants@sltga.co.nz

Contents

Appendices

1.0 Subdivision Development Earthworks

1.1 Introduction

Stage 10 comprises forty five residential lots numbered 87 to 99 and 101 to 132 inclusive as shown on DP 489916.

These lots have been formed following bulk earthworks which have levelled and re-contoured the relic sand dune formations present within the Palm Springs Wairakei Development by Palm Springs Ltd.

The construction of an extension of Palm Springs Boulevard, the first section of The Boulevard, the first section of local road Sophora Place, the local road Villosa Court and the private road of Senecio Way were included in the development of this stage.

This report summarises the observations and testing undertaken during the development of Stage 10, discusses the suitability of the ground for the support of buildings that may be constructed and contains recommendations for the disposal of stormwater runoff generated on individual sites. Stormwater disposal will be mostly undertaken on the individual lots by ground soakage. Smaller lots are provided with stormwater reticulation.

Included in Appendix I of this report are

- parts of deposited plan DP 489916 which show the relevant lot sizes and locations in Stage 10
- reference plans 20464-AB21 and AB22 which show the extent of the earthworks undertaken, depths of cut and filling, test positions in the areas of cut and filling and road and lot locations.

1.2 Earthworks in the Subdivision

The earthworks for this stage of the subdivision were undertaken during the first half of 2015.

These earthworks comprised

- the lowering of ground levels in cut on parts of Lots **88, 90, 91, 97, 98, 99, 109 to 122, 131 and 132**. Depths of cut were up to 1.0 m
- the lowering of original ground levels at the road subgrades along the alignment of The Boulevard and the roundabout at The Boulevard – Palm Springs Boulevard intersection and along the southern end of Villosa Court. Depths of cut were up to 2.0 m
- the placement of the sands taken from areas of cut as filling over the remainder of the Stage 10 area to depths of up to 3.0 m
- the formation of a stormwater mitigation reserve in cut that will be vested in the Council at a later time. This reserve has been formed to the west of Lots 112 to 122 and to the south of Lots 97, 98, 99 and 109 to 111. The earthworks have created decorative ponds with mowable slopes. The ponds will eventually pass stormwater runoff from the reserve area adjacent to Stage 9 to the north around the southern sides of Stage 10 and

past future Stage 11 to discharge into the ponds to the east of Stage 8 and eventually into the Wairakei Stream.

Most of the lots in stage 10 have been constructed to ensure that overland flow paths for surface water runoff are towards the road boundaries and pavements. For lots 97, 98 and 109 to 122 the ground on these lots has been shaped so that slopes fall to the stormwater swales that are to be vested in the Council at a later time.

The depths of cut and filling placed are shown on 20464-AB 21 and AB 22. With the removal of topsoil and any disturbed soils that may have been encountered, the actual depths of cut or filling on some lots may vary slightly from those shown.

The soils encountered during the formation of the lots and road subgrades were a mixture of uniform and graded beach sands, typical of soils in the Papamoa coastal strip.

The earthworks undertaken on the stage described in this report involved the following;

- The stripping and stockpiling of the surface topsoil to expose clean sands.
- The undertaking of the earthworks in cut and filling to achieve required finished grades with testing in the filling to verify compaction to acceptable standards.
- The reinstatement of the surface topsoil layer. Topsoil depths on the lots were generally re-established to be around 200 mm. No guarantee is implied or given that the topsoil on any part of any lot is actually 200 mm deep or less and it is recommended that future owners or builders check topsoil depths when preparing site development plans and cost schedules or planning site redevelopment earthworks.
- Testing was undertaken in both the areas of filling and in the areas of cut with a Scala penetrometer by Fulton Hogan Ltd, by representatives of their Tauranga based soils laboratory. For testing of the filling, the Scala penetrometer had been calibrated from trial compaction tests undertaken prior to the earthworks commencing. 4 blows per 100 mm of penetration were determined as the monitoring standards to achieve the minimum compaction standard of 95% of maximum dry density as specified in the Infrastructure Development Code (IDC).
- Testing for the suitability of the sand based soils for the on site disposal of stormwater by ground soakage to service future houses

All of the building platforms in the Stage 10 area are above RL 5.1 m in terms of Moturiki datum to meet the requirement of Condition 11 of Subdivision Resource Consent RC 23979 issued by the Tauranga City Council on 7 March 2014. The actual levels of the building platforms are described in Section 1.6 of this report.

1.3 Earthworks Standards

The earthworks in filling were undertaken using insitu sands gained from areas of cut. The standards for the placement of filling, as stated in the earthworks contract documents, were to comply with NZS 4431:1989 "Code of Practice for Earthfill for Residential Development"

and the IDC. Filling placed to these standards may be considered as good ground in terms of NZS 3604:2011 "Timber Framed Structures." With such compliance NZS 3604 may therefore be adopted for the detailing of residential buildings within the subdivision not withstanding foundation requirements in 1.6.3 below.

Adequate compaction of the filling that was placed, was determined by the tests that were done while the filling was being placed and compacted.

At all test sites the test results in the upper 200 mm were discounted as the required compaction could not generally be achieved because of the sands drying and moving under the compaction equipment. The tests undertaken from the finished ground level were with the topsoil in place. If required after the removal of the topsoil, the surface sands can be recompacted as part of the site preparation for building foundations which are likely to comprise surface raft type structures (refer to section 1.6.3 on page 8 of this report). Testing was also undertaken in the areas of cut with a Scala penetrometer after the earthworks had been completed.

1.4 Filled Ground

During the placement of the filling that took place on all lots**,** the subcontractor, McPherson Earthmovers Ltd, was observed by S & L Consultants Ltd to strip and remove all topsoil and other organics to stockpiles for reuse. Filling was then observed to be placed in discrete layers with the compactive effort mostly applied through systematic movements with the loaded motorscraper earthmoving equipment over the filled areas, along with a large vibrating drum roller.

Fulton Hogan Ltd, on behalf of the head contractor, HEB Construction Ltd, undertook Scala penetrometer testing throughout the contract works to verify that the filling had been placed with adequate compaction to the contract specifications. These tests results are attached and were reviewed by S & L Consultants Ltd for compliance at project site meetings.

These tests are referred to on drawing 20464-AB21 and AB22 by colours. Tests coloured yellow were undertaken in the first 750 mm of filling placed, tests coloured blue were in the second 750 mm lift and tests coloured green were undertaken from the finished ground surface.

The tests undertaken by the contractor confirmed that the construction filling standards had been achieved.

1.5 Areas of Cut

Areas developed on lots or parts of lots **88, 90, 91, 97, 98, 99, 109 to 122, 131 and 132** in cut are shown on 20464-AB21 and AB22. In all areas of cut, the ground at formation levels was observed to be the same sands that had been used for filling elsewhere and as identified by pre subdivision tests. Before the placement of the surface topsoil, the sand surfaces were rolled with at least four passes of the compaction equipment used to densify the surface sands in the filling elsewhere.

Tests undertaken by Fulton Hogan in the areas of cut are referred to as red on these drawings. Based on the test results, good ground, in terms of NZS 3604, was confirmed as being present in the areas of cut.

1.6 Land Hazards

1.6.1 Land Stability

There are no **land form stability** issues within Stage 10 of the Palm Springs Subdivision even though some lots have been formed at the south end of Stage 10 to create ground slopes of 1 m fall across the lots (1 in 30 or 2 degrees). Sloping ground is also present below lots 97 to 99 and 109 to 122 where slopes of 1 in 5 have been formed down to the pond water level in the future reserve areas.

The stability of these slopes is such that buildings located adjacent to them are unlikely to be subject to the future natural hazard of slippage as described in the latest edition of The Building Act 2004.

1.6.2 Flooding

For the **prevention of a flooding hazard,** lot levels have been constructed to be above potential flooding levels which may occur in the lower sections of the roads. In the resource consent, one of the requirements for this geotechnical completion report is that "the minimum finished floor level required for each lot is to be advised to avoid the effects of inundation and/or local flooding."

In terms of section DS-5.4.5 of the IDC, building floor levels are to be determined by clearances above ponding levels in roads during storm events in excess of 10% AEP with the "top water level" being defined as the level of ponding on the road. On Stage 10, ponding may occur

- to minor depths around The Boulevard roundabout in front of lots 88, 89 and 131. The top water level opposite these lots is estimated to be RL 5.68 m. Finished ground levels have been confirmed by survey to be RL 6.6 m on lot 88, and RL 6.8 m on lots 89 and 131. The IDC requires a freeboard of at least 500 mm above the top water level to the underside of a floor slab (RL 6.18 m). There is therefore no flooding hazard on these lots provided that existing ground levels are not reduced below RL 6.18 m

- above catchpits adjacent to lots 115, and 116 where overland flows take place over the flat berm and down the walkway between those lots. The top water level is estimated to be RL 5.04 m. Finished ground levels have been confirmed by survey to be RL 5.80 m on lot 115 and RL 5.60 m on lot 116. The required freeboard of 500 mm will be present to the underside of the floor slabs on these lots.

- above the double catchpit outside lot 96. The top water level may establish to RL 6.14 m if the catchpit should become blocked. Finished ground levels have been confirmed by survey on lot 96 to be RL 7.20 m and therefore the required freeboard of 500 mm will be present.

Acceptable solution E1/AS1 of Compliance Document for New Zealand Building Code, E1 "Surface Water," is also relevant. This publication recommends that "for sites level with or above the road crown, suspended floors or slabs on the ground shall be no less than 150 mm above the road crown." On the frontages to the lots in Stage 10, the water levels on the roads are not expected to be above kerb levels. Building floor levels in terms of E1/AS1 are to be at least 150 mm above the kerb levels and this clearance has been established on all lots.

1.6.3 Liquefaction Potential

The **hazard of liquefaction potential** for Stage 10 has been assessed. Data from CPT tests were used in the analyses. The CPTs in close proximity or within Stage 10 are 20 to 25 inclusive which were undertaken in July 2014. These test positions are shown on 20076-AB21 and AB22.

These assessments were based on

(a) Being undertaken in accordance with the publication "Geotechnical Earthquake Engineering Practice – Module 1, Guidelines for Identification, Assessment or Mitigation of Liquefaction Hazards" by the New Zealand Geotechnical Society, July 2010.

(b) Seismic events for the ultimate limit state (ULS) (1 in 500 year event) and the serviceability limit state (SLS) (1 in 25 year event) being considered in accordance with NZS 1170.5:2004 "Structural Design Actions Part 5." Peak ground accelerations were derived for both seismic events to be 0.22g in the ULS and 0.06g in the SLS based on buildings having an importance category of 2.

(c) A seismic magnitude of 7.5 to the Richter Scale as recommended by NZGS.

(d) Analyses undertaken by software CLiq by Geologismiki

Liquefaction may occur below groundwater levels. The groundwater levels in the boreholes adjacent to the CPT test positions of November 2013 have been modified to suit the depths below finished ground levels in some instances.

The results of the analyses are contained in Appendix V and are summarised on the table below

CPT Position	Date Tested	Depth Analysed To Refusal (m)	Potential Liquefaction Level (m) (below GL)	Vertical Settlement ULS (mm)	Vertical Settlement SLS (mm)	Lateral Spread ULS (mm)
20	24.7.14	13	3(gwl)- 4.7, below 8.5	75	Not checked	0
21	24.7.14	30	3(gwl) - 5, below 8	120	"	220
22	24.7.14	13.2	2.5(gwl)- 4.6, 9- 11	105	"	0
23	24.7.14	14	1.8 (gwl)- 4.5, 12.5	55	"	430
24	24.7.14	14	3.0(gwl)- 5.75,11.5	125	0.5	8
25	24.7.14	16	3(gwl)- 5.2, 14	75	Not checked	0
26	24.7.14	13	3.4(gwl)- 5, 5.5- 6.5, 9.5- 11.	142	1.5	0

In the SLS, the only data analysed was for test positions 24 and 26 where the maximum vertical settlements were derived. At those positions, no significant liquefaction is likely to occur and no discernible ground settlements are considered likely.

These results show that

(i) CPT cone resistances varied at each test position. At test positions 20 and 22 to 26, the tests were terminated in the depth range of 13 m to 16 m when the soil densities resisted the penetration of the probe. At test position 21, the probe reached a depth of 30 m.

(ii) The subsoils comprise mostly sands or silty sands. For CPT 21 where the probe penetrated to 30 m, lower strength clayey silts and silty clays are present in the depth range of 17 m to 27 m.

(iii) The computed liquefaction potential index (LPI) indicates that the risk of liquefaction is low at CPT sites 20 to 23 and 25 but becomes high risk at CPT sites 24 and 26

(iv) The effects of cyclic seismic loadings are that cohesionless (sand based) soils can be resorted as groundwater is released and drainage and consolidation of the soils take place. The software has estimated cumulative vertical settlements based on the liquefaction effects at each level.

Plots showing these settlements are in Appendix V. No significant vertical settlements were estimated in the serviceability limit state.

The effects of liquefaction immediately below the groundwater levels and in the lower strata in the ULS would be suppressed due to the presence of the surface raft of sands which will be present naturally or as placed as part of the subdivision earthworks. Ishihara (1985) indicated that in layered deposits, a liquefied layer below a non-liquefied layer does not contribute to settlements at the ground surface provided that that the liquefiable layer is less thick than the upper non liquefied layer, such as would be present at the ground surfaces within Stage 10.

In the SLS, no subsurface liquefaction is likely to occur and no discernible vertical ground settlements are considered likely.

CPT 21, 22 and 23 were located close to the stormwater swales in the future reserves to the west and south of Stage 10. The presence of the 1 in 5 batters in the reserve was input into the liquefaction assessment software from which a lateral spread distance of up to 430 mm in the ULS was derived at CPT 23. Such a displacement will be resisted by the construction of a stiffened raft foundation for buildings as described below.

In the absence of any local or other adopted guidelines for assessing the effects of liquefaction in the Papamoa area, the likely building sites on Stage 10 can be categorized as TC1 or TC2 in terms of the definitions in the publication "Repairing and Rebuilding Houses Affected by the Canterbury Earthquakes" dated December 2012, current at the time of this report, by the Ministry of Business, Innovation & Employment.

In using the Ministry guidelines for Christchurch in assessing any mitigation measures for liquefaction risk at Papamoa, it is recommended that the guidelines for a TC2 designation be adopted whereby slab on the ground construction can be undertaken in the manner

described for **enhanced foundation slabs.** On all sites in Stage 10, the ultimate bearing capacity is in excess of 200 kPa (the minimum value specified in Christchurch) and therefore MBIE guidelines, options 3 or 4, would be appropriate. Such a construction for Option 4 is available as a Firth RibRaftEQ detail or similar. This construction requires a specific design to take into account the number of storeys and the wall and roof cladding on the buildings as well as the need for the flooring system to span specified distances.. The use of such a tied slab system will be more resistant to any effects of seismically induced differential settlements or lateral movements.

Alternatively, the use of a **timber framed subfloor on shallow piles,** in accordance with NZS 3910:2011 can be adopted as described for Types A and B for TC2 applications in the MBIE guidelines

1.7 Building Foundations

The observations undertaken during the subdivision earthworks and the results of subsequent testing have determined that the ground on Stage 10 is suitable for the support of low rise buildings on good ground as defined in NZS 3604:2011 (an ultimate bearing capacity in the limit state of 300 kPa), notwithstanding that foundations would be detailed in accordance with 1.6.3 above. As such, this same bearing capacity may be used for any specific design of building foundations by chartered professional engineers. Loads would be factored in accordance with NZS 1170.0:2002 and the ultimate bearing capacity would be modified by a capacity reduction factor of 0.5 for gravity loads and 0.8 for seismic loads.

In the development of building sites the surface sands may be found to be loose immediately below the topsoil layer. Ground preparation for buildings with slab foundations should include the recompaction of any loose surficial sands.

2.0 Disposal of Stormwater

2.1 Introduction

For the residential lots in Stage 10 the soils present on the subdivision are generally considered suitable for the disposal of stormwater generated on the lots by ground soakage as is generally adopted in the Papamoa area.

A reticulation system has been installed to capture and remove surface water runoff from the roads through Stage 10, and the runoff from larger lots such as 88, 99 and 130 as these lots will be further subdivided into smaller lots where housing densities would preclude the installation of soakpits.

2.2 Design of the Stormwater Reticulation System

The piped reticulation system, as installed, has been designed for the road reserve catchments and also an allowance for runoff from a 3 m wide strip along the road frontage of each lot from which runoff could discharge to the road berms as well as discharges from the lots listed in 2.1 above.

Overland flow design for routes shown on the submitted as built drawings is based on a 1% AEP event and allows for the total runoff in such an event from the residential lots as it is possible that some soakage systems may be overloaded at that time. Individual lot owners

should ensure that any overland flow from their properties, when the site soakage system is overloaded, should be directed to the roadways and not on to adjacent properties.

2.3 Soakage Testing and Design

Testing of ground soakage rates for the detailing of on site soakage systems on the lots within Stage 10 was undertaken to determine catchment areas that can be serviced by soakpits constructed of perforated concrete cylinders as is standard practice in the Mount Maunganui and Papamoa areas.

For Stage 10, soakage tests were undertaken on the boundaries of lots 131/132 (test 1), 90/91 (test 2), 124/125 (test 3), 116/117 (test 4), 94/95 (test 5), 97/98 and 112/113 (test 7). The locations of these tests are shown on drawing 20076-AB21 and AB22. Test location 1 was located in an area of cut while the remainder are in areas of filling although it is probable that the depths of the test holes 2, 3, 4, 6 and 7 were in natural ground below the surface filling.

The trial soakpits were constructed of two 450 mm deep x 500 mm ID standard soak rings (nom. 600mm diameter) set at a depth of 0.7 m below the finished ground level. Each test soakpit was filled and allowed to empty, then refilled three more times. The soakage rate to empty was remeasured over these periods. Plots of the falling head water level – time relationships are contained in Appendix IV.

The determined soakage rates were

Test Position	Soakage Rate	Subsoils
1	2100 mm/hr	In filled area 1 m deep
2	1650 mm/hr	In natural sands in cut
3	1950 mm/h	In filled area 1 m deep
4	1650 mm/h	In natural sands in cut
5	1800 mm/h	In filling 3 m deep
6	2400 mm/h	In filled area 1 m deep
7	1950 mm/h	In filled area 1 m deep

2.4 Soakage Calculations

The analysis for soakage suitability and the number or size of soakpits required for housing development was based on the requirements of Section 9.0 of Verification Method E1/VM1 of Compliance Document for the New Zealand Building Code Clause E1 of the Ministry of Business, Innovation & Employment.

The calculations in Appendix IV show the method of analysis for a soakage rate of **1650 mm/h.** Contributing catchments for the capacities of soakpits constructed of three vertically stacked perforated concrete soakrings of 500 mm and 800 mm internal diameters were derived, based on:

- A runoff factor of 1.0 applicable to roofs or hardstand areas.
- A storm return period of 10 years (10% AEP).
- Drainage out of the soakrings through the floor and the side wall areas.
- A 60 minute duration storm and a rainfall intensity of 65 mm/h

A soakage rate of 825 mm/h being the minimum derived test rate of 1650 mm/h reduced by 50% as required in the IDC.

The analysis of the soakage test results in Appendix 3 showed that the runoff from roofs or hardstand areas for a 10% AEP 60 minute duration storm can be disposed of by soakage with

A contributing catchment area of 30 m^2 for 500mm internal diameter soakrings, 3 deep, or
A contributing catchment area of 55 m^2 for 800mm internal diameter soakrings, 3 deep

2.5 Recommendations for Stormwater Disposal On Individual Sites

Two means of the disposal of stormwater runoff on the individual lots within Stage 10 may be undertaken using ground soakage in the sand based soils that are present namely,

(A) By the use of **soakpits** as has generally been undertaken in the Papamoa area and described in 2.4 above, whereby

(i) The soakpits would be constructed of three vertically stacked perforated rings, unless ground water conditions dictate otherwise. The maximum contributing catchment areas, as listed in 2.4 above, are not to be exceeded. Such soakage systems may be duplicated and interconnected in parallel if the catchment areas are exceeded. The soakpit locations are to observe a clear distance of 0.4 m from any boundary and the soakpits are not to be spaced closer than 1.5 m centres.

(ii) The drainlayer shall examine the soils present and, after consideration of ground water levels and the soil compaction present, make a judgement on whether good soakage is present to proceed with construction as in (1) above. The drainlayer is to take notice of the actual ground conditions in which the soakpits are to be installed. If hardpans are encountered they are to be broken up or the pit sites are to be subexcavated to the sands below the hardpan.

If ground conditions vary across a property the drainlayer may also connect the pits with a high level pipe so that pits with a slower loss rate may be helped by others that are more efficient.

(iii) Where considered necessary because of identified soakage limitations, the drainlayer may install larger diameter or more frequent or deeper pits as appropriate.

(iv) If the drainlayer installs a system as in (1) above, they shall advise the building inspector in writing of this decision and also provide dimensioned as-built details of the installation in the same format to that used for the sanitary sewer. Such documentation will be required before the issue of the Code Compliance Certificate.

(v) The pits are specified for a 10% AEP storm event. For more intense storm events, any excess runoff should be directed to discharge to the street by pipework or overland flow paths. A direct pipeline from downpipes to the street will not be approved unless the drainlayer can demonstrate that on site soakage is not

available. Where the soakage may be limited, an overflow pipe network may be installed to discharge at a convenient location on the property and not at the street kerb. The most appropriate construction would be a bubble up chamber in the driveway so that surface overflow can occur to the street via the kerb crossing.

(vi) Pits are to be located where lids can be removed for maintenance. The drainlayer is to discuss with the builder and owner where future hard-standing and landscaping developments will occur so that soakpits can be located away from these areas. Overland flow paths for any spillage at downpipe droppers should be determined in these discussions.

(vii) The runoff from driveways and paved vehicle parking areas can be significant. Sumps and soakpits are to be installed as part of the building work. The soakpits are not to be installed under permanent paved surfaces.

(viii) Sumps may be installed in rear yards where required to prevent surface runoff from flowing into adjacent properties. If these sumps are required they should be installed at the time of the construction of houses and associated soakpits to service those houses.

(B) By the use of **other soakage systems** such as Atlantis or similar drainage cells in which both storage and soakage loss conditions can be determined, or by rock filled soakage trenches where storage would be minimal but soakage loss may be more significant.

A soakage loss rate of 825 mm per hour, as derived above, would be the basis of the specific design of a suitable alternative system by a professional civil engineer.

3.0 Professional Opinion

A statement in the format of Council's Infrastructure Development Code (Form G2) that all lots are suitable for building is contained in Appendix II. This statement is accompanied by Form G3 which summaries the information and recommendations in this report.

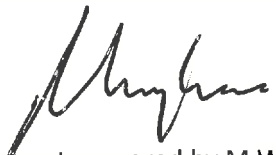
4.0 Applicability

Recommendations contained in this document are based on data from observations of site earthworks, boreholes and test results. Inferences about the nature and continuity of subsoils away from these locations are made but cannot be guaranteed.

In all circumstances, if variations in the subsoils occur which differ from those described or are assumed to exist, the site should be inspected by an engineer suitably qualified to make an informed judgement and provide advice on appropriate improvement measures.

This report has been prepared specifically for Stage 10 as shown on DP 489916 within the Palm Springs Subdivision and no responsibility is accepted by S & L Consultants Ltd for the use of any part of this report for other development sites without their written approval.

S & L Consultants Ltd
Consulting Engineers, Surveyors, Planners



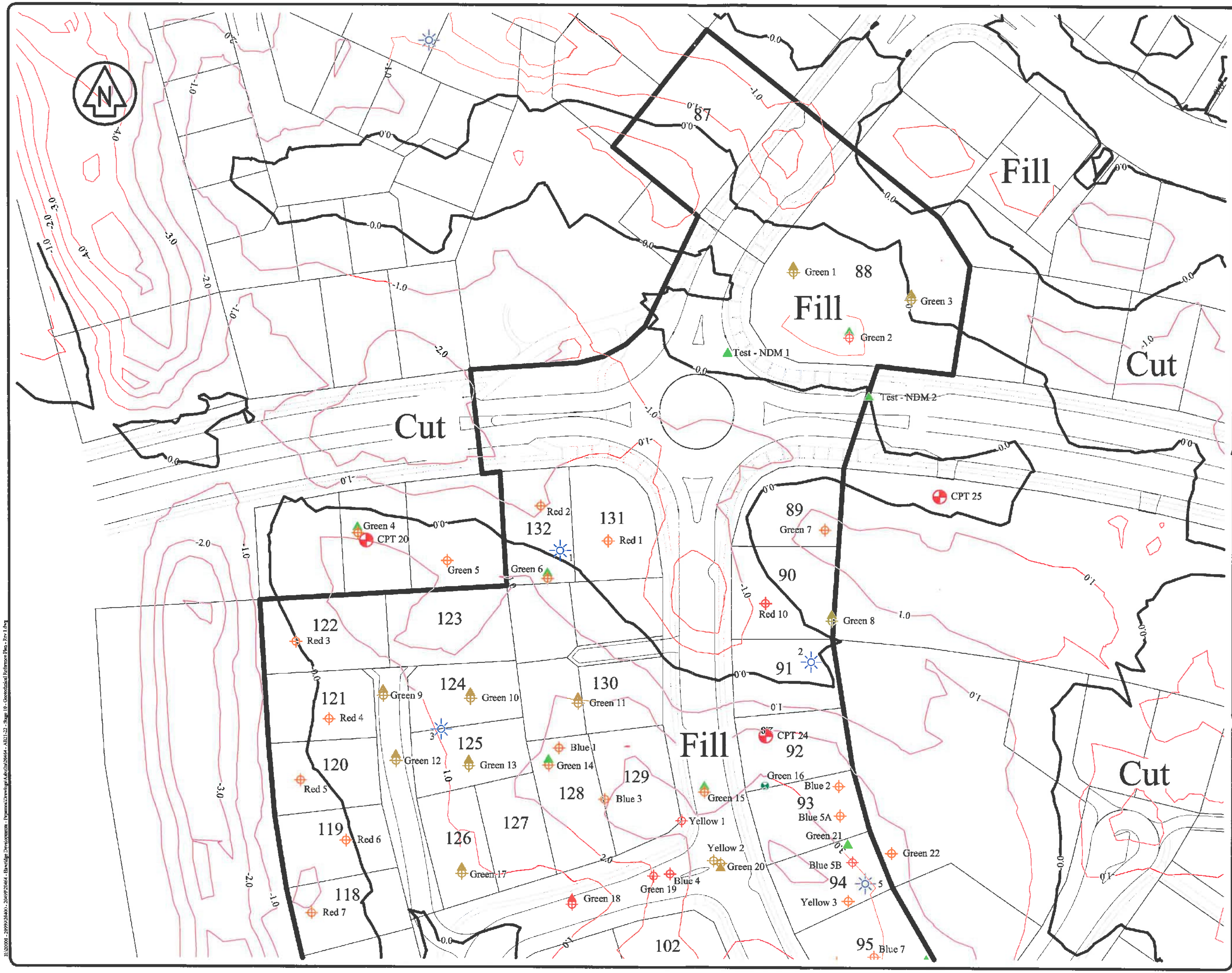
Report prepared by M W Hughes CPEng MIPENZ
Geotechnical Engineer

27 October 2015

APPENDIX I

Reference Drawings: 20464-AB 21
20464-AB 22

DP 489916 (part)



Key

-2.0- Cut - Fill Contours - 1.0m Contour Interval

Cut - Fill Boudary

CPT and Borehole Test Locations (07/14)

Scala Penetrometer Tests. (Fulton Hogan) (04/15-06/15)

Nuclear Densometer Test (Fulton Hogan) (04/15-06/15)

Geotech Soakage Test (S&L) (10/15)

CKD BY	REV No	DESCRIPTION	DATE
	1	Issued for 224 Application	10/15

	NAME	DATE	SIGNED
Surveyed	MJH	11/13	
Designed	CJH	05/14	
Drawn	TM	10/15	
Checked	MWH	10/15	
Approved	MWH	10/15	

REFERENCES
Heights are in terms with Moturiki Datum.
Origin : TCC BM 830 RL 4.37

S & L CONSULTANTS LTD
SURVEYORS - ENGINEERS PLANNERS
102 Hamilton Street, Tauranga
New Zealand
P.O. Box 231 Ph.(07)577-6069
Email: slconsultants@sltga.co.nz
Web Site: www.sltga.co.nz

TITLE

Palm Springs

Stage 10

Geotechnical Reference Plan

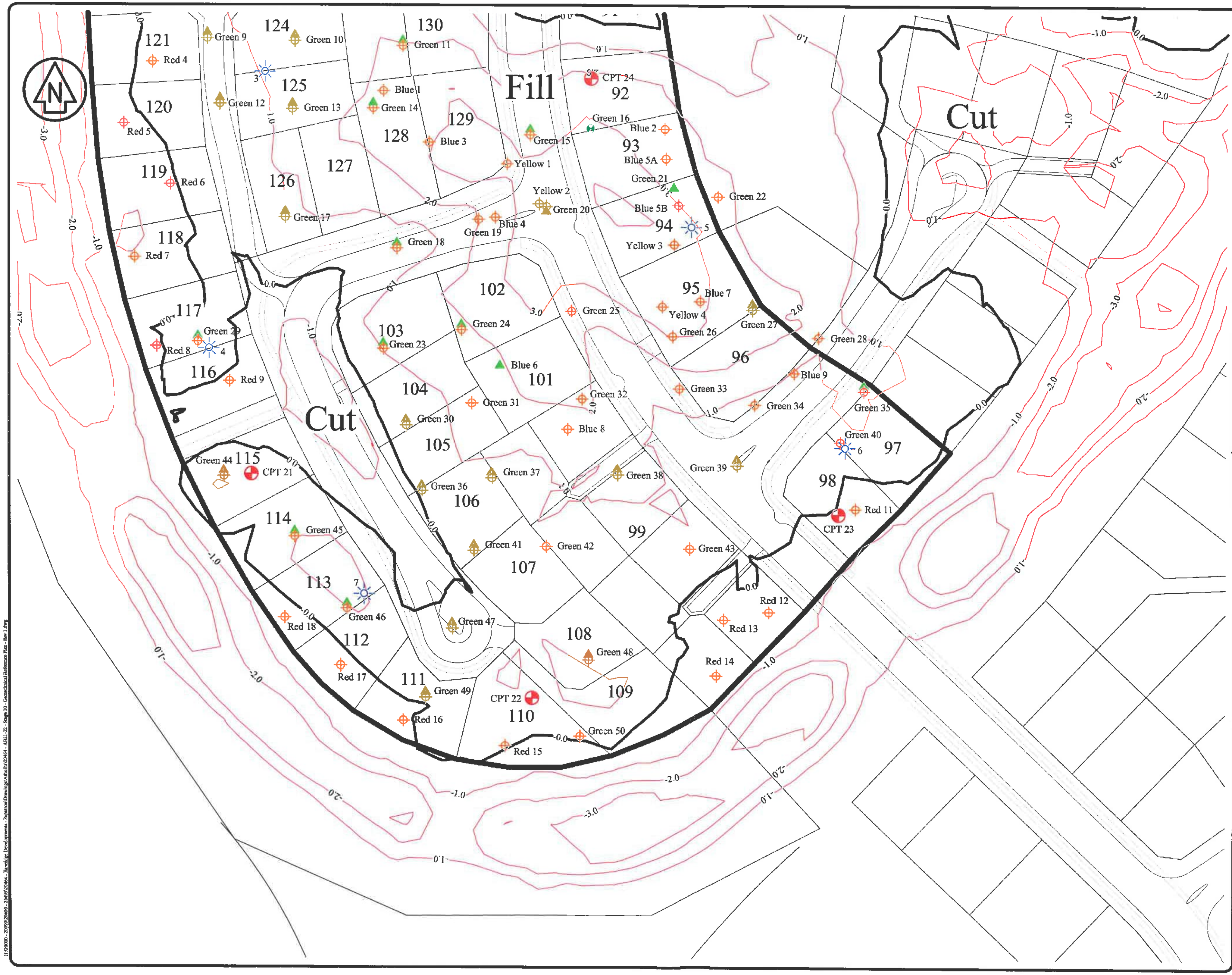
ORIGINAL SCALES 1:1000 @ A3

DATE 10/15

DRAWING No 20464 - AB21

REVISION 1

METRIC DESIGN



Key

- Cut - Fill Contours - 1.0m Contour Interval
- Cut - Fill Boudary
- CPT and Borehole Test Locations (07/14)
- Scala Penetrometer Tests. (Fulton Hogan) (04/15-06/15)
- Nuclear Densometer Test (Fulton Hogan) (04/15-06/15)
- Geotech Soakage Test (S&L) (10/15)

REV No.	DESCRIPTION	DATE
1	Issued for 224 Application	10/15

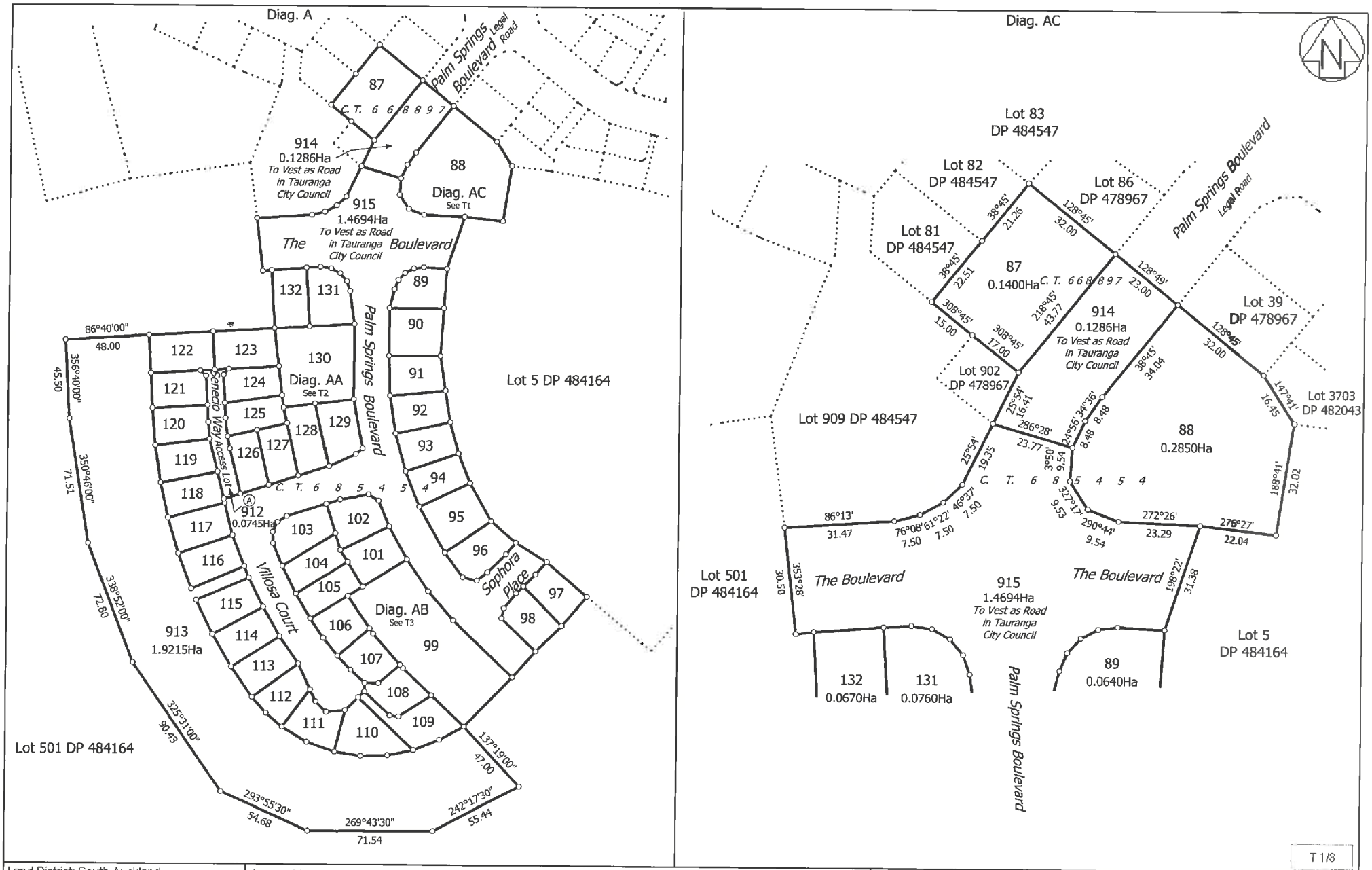
	NAME	DATE	SIGNED
Surveyed	MJH	11/13	
Designed	CJH	05/14	
Drawn	TM	10/15	
Checked	MWH	10/15	
Approved	MWH	10/15	

REFERENCES
Heights are in terms with Moturiki Datum.
Origin : TCC BM 830 RL 4.37

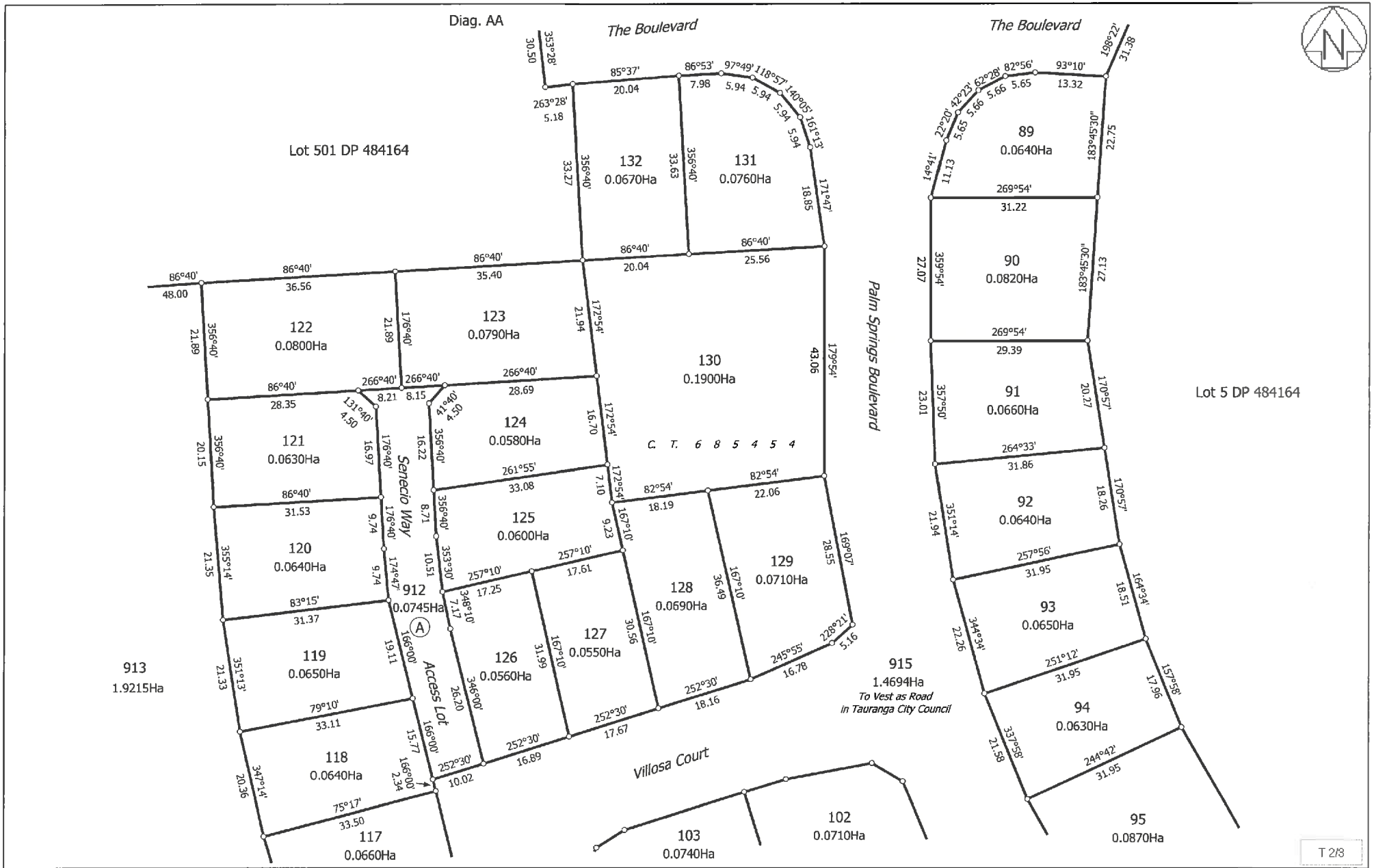
S & L CONSULTANTS LTD
SURVEYORS - ENGINEERS
PLANNERS
102 Hamilton Street, Tauranga
New Zealand
P.O. Box 231 Ph.(07)577-6069
Email: slconsultants@sltga.co.nz
Web Site: www.sltga.co.nz

TITLE
Palm Springs
Stage 10
Geotechnical Reference Plan

ORIGINAL SCALES: 1:1000 @ A3
DATE: 10/15
DRAWING No: 20464 - AB22
REVISION: 1
METRIC DESIGN

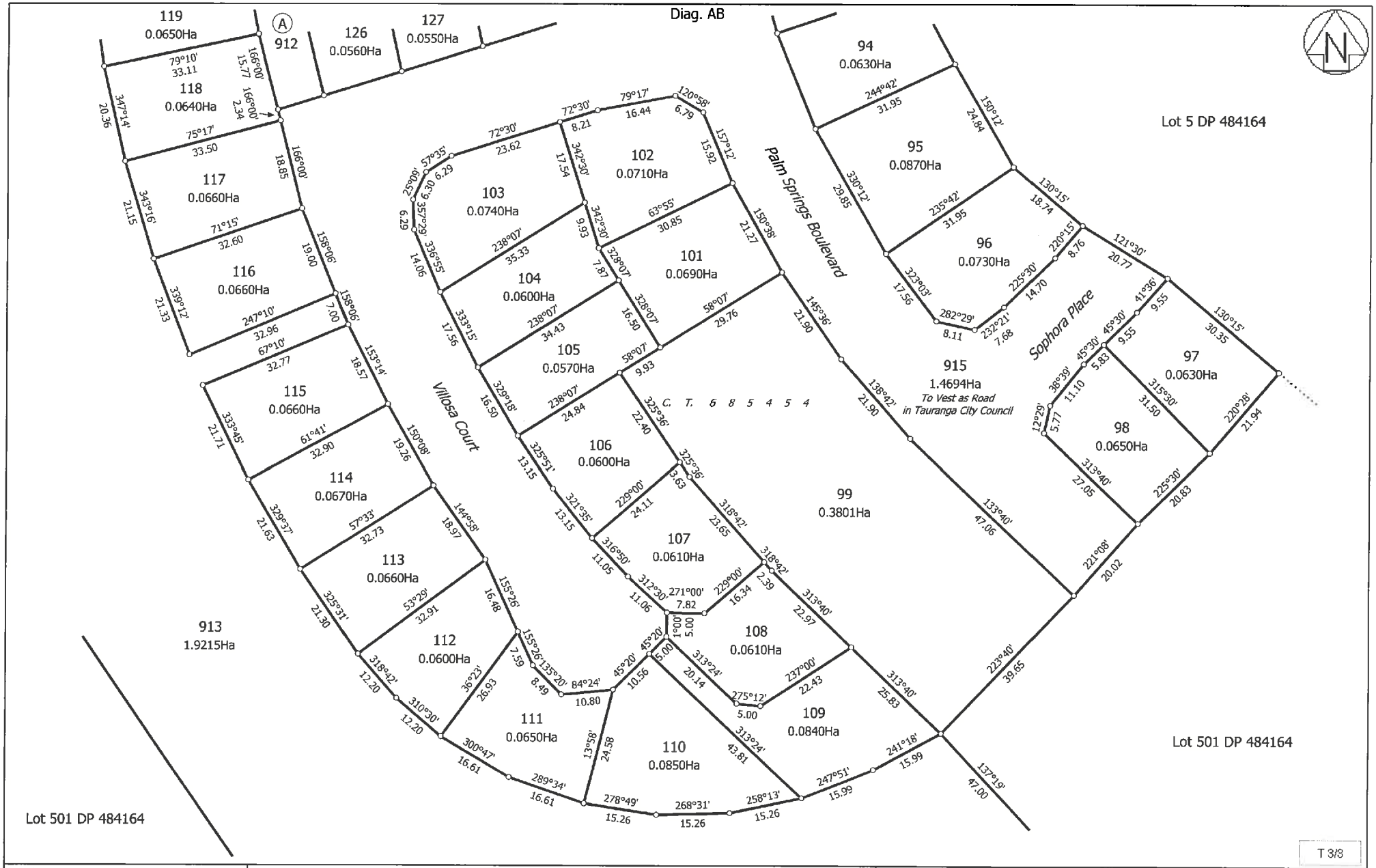


Land District: South Auckland Digitally Generated Plan Generated on: 25/08/2015 5:32pm Page 4 of 6	Lots 87 - 99, 101 - 132 & 912 - 915 Being a Subdivision of Lot 903 DP 478967 & Lot 4 DP 484164	Surveyor: Christopher John Roper Firm: S & L Consultants Ltd	Title Plan LT 489916 DRAFT



T 2/3

Land District: South Auckland Digitally Generated Plan Generated on: 25/08/2015 5:32pm Page 5 of 6	Lots 87 - 99, 101 - 132 & 912 - 915 Being a Subdivision of Lot 903 DP 478967 & Lot 4 DP 484164	Surveyor: Christopher John Roper Firm: S & L Consultants Ltd	Title Plan LT 489916 DRAFT



T 3/3

Land District: South Auckland Digitally Generated Plan Generated on: 25/08/2015 5:32pm Page 6 of 6	Lots 87 - 99, 101 - 132 & 912 - 915 Being a Subdivision of Lot 903 DP 478967 & Lot 4 DP 484164	Surveyor: Christopher John Roper Firm: S & L Consultants Ltd	Title Plan LT 489916 DRAFT

APPENDIX II

Statement of Professional Opinion

Lot Summary Report

To: The Manager: City Development

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

DEVELOPMENT: **Palm Springs Sub-division Stage 10**

OWNER: **Palm Springs Ltd**

LOCATION: **The Boulevard, Palm Springs Boulevard, Villosa Court, Sophora Place Senecio Way**

I, **Michael William Hughes** of , PO Box 231, Tauranga

hereby confirm that;

1) I am a professional person appropriately qualified with experience in geotechnical engineering to ascertain the suitability of the land for building development and was retained as the Soils Engineer to 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 dated 27 October 2015

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

(a) The earth fills shown on the attached Plan Nos. 20464-AB21 and AB22 have been placed in accordance with the Infrastructure Development Code of the Tauranga City Council.

(b) The completed works give due regard to all land slope, flooding and foundation stability considerations provided that minimum building platform levels are observed as stated in my report.

(c) The filled ground is suitable for the erection thereon of residential buildings supported on enhanced foundation slabs as described in Section 1.6.3 of my report or on shallow piles as detailed in NZS 3604:2011.

(d) The original ground in cut that is not affected by filling is suitable for the erection thereon of residential buildings on enhanced foundation slabs as described in the report, or on shallow piles as detailed in NZS 3604:2011.

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

Signed ..... Date 27 October 2015

Tauranga City

Producer Statement – Suitability of Land For Building Development

INFRASTRUCTURE DEVELOPMENT CODE

G2

SUMMARY OF GEOTECHNICAL DATA/RECOMMENDATIONS FOR INDIVIDUAL LOTS
FROM IDC _ G3 Page 1

Subdivision: Palm Springs Stage 10 TCC Ref: RC24235

Location: The Boulevard, Palm Springs Boulevard, Villosa Court, Sophora Place S&L Ref: 20464-St10
Senecio Way, Papamoa

The comments and notations included on this summary sheet are outlined in the support documents
These shall be read in conjunction with this summary.

		Subsurface Data						Foundations												
		Shear Strength *	Subdivision Filling		Natural Topography Unworked	Natural Topography earthworked		Conventional shallow	Specific Design	Building Restriction Line	S/W Specific Design	S/W Soakage	S/W Reticulate	Designated Building Platform	Minimum Building Platform **	Compressible Soils	on-site effluent disposal	consent notice	Recommendations /Restrictions
Lot No.	Area (m2)	(kPa)	Y/N	Depth (m)	Y/N	Y/N	Depth (m)	Y/N/NA	*** Y/N										
87	1400		Y	0-1.0	N	Y	0-1.0	Y	Y	N	N	Y	N	N	Y	N	N	y	See
88	2850		y	0--1.0	N	Y	0-0.50	Y	Y	N	N	N	Y	N	Y	N	N	y	Below
89	640		Y	0-1.20	N	Y	0-0.50	Y	Y	N	N	y	N	N	Y	N	N	y	"
90	820		Y	0-1.20	N	Y	0-1.0	Y	Y	N	N	y	N	N	Y	N	N	y	"
91	660		Y	0-1.50	N	Y	0-1.50	Y	Y	N	N	y	N	N	Y	N	N	y	"
92	640		Y	0.50-3.0	Y	N		Y	Y	N	N	y	N	N	Y	N	N	y	"
93	650		y	2.0-3.50	Y	N		Y	Y	N	N	y	N	N	Y	N	N	y	"
94	630		Y	2.50-3.50	Y	N		Y	Y	N	N	y	N	N	Y	N	N	y	"
95	870		Y	2.50-3.0	Y	N		Y	Y	N	N	Y	N	N	Y	N	N	y	"
96	730		y	1.0-3.0	Y	N		Y	Y	N	N	y	N	N	Y	N	N	y	"
97	630		y	0-1.0	N	Y	0-1.0	Y	Y	N	N	y	N	N	Y	N	N	y	"
98	650		Y	0-1.0	N	Y	0-1.0	Y	Y	N	N	y	N	N	Y	N	N	y	"
99	3801		Y	0-2.0	N	Y	0-1.0	Y	Y	N	N	N	Y	N	Y	N	N	y	"
101	690		Y	1.0-2.0	y	N		Y	Y	N	N	y	N	N	Y	N	N	y	"
102	710		Y	1.50-3.0	y	N		Y	Y	N	N	Y	N	N	Y	N	N	y	"
103	740		Y	0-1.50	N	y	0-1.0	Y	Y	N	N	y	N	N	Y	N	N	y	"
104	600		Y	0-1.0	N	y	0-1.50	Y	Y	N	N	y	N	N	Y	N	N	y	"
105	570		Y	0-1.20	N	y	0-0.50	Y	Y	N	N	y	N	N	Y	N	N	y	"
106	600		Y	0-0.70	Y	N		Y	Y	N	N	y	N	N	Y	N	N	y	"
107	610		Y	1	Y	N		Y	Y	N	N	y	N	N	Y	N	N	y	"
108	610		Y	0-1.50	N	Y	0-0.50	Y	Y	N	N	y	N	N	Y	N	N	y	"
109	840		Y	0-1.0	N	Y	0-0.50	Y	Y	N	N	y	N	N	Y	N	N	y	"
110	850		Y	0-1.20	N	Y	0-1.0	Y	Y	N	N	y	N	N	Y	N	N	y	"
111	650		Y	0-0.5	N	y	0-1.5	Y	Y	N	N	y	N	N	Y	N	N	y	"
112	600		Y	0-1.50	N	Y	0-1.0	Y	Y	N	N	y	N	N	Y	N	N	y	"
113	660		Y	0-1.50	N	Y	0-1.0	Y	Y	N	N	y	N	N	Y	N	N	y	"
114	670		Y	0-1.50	N	Y	0-0.70	Y	Y	N	N	y	N	N	Y	N	N	y	"

Tauranga City

SUMMARY OF GEOTECHNICAL DATA FOR INDIVIDUAL LOTS

INFRASTRUCTURE DEVELOPMENT CODE

G3
VERSION

*** not applicable in Palm Springs** **** Refer to Section 1.6.2 in report** ***** Enhanced foundation slabs. Refer to section 1.6.3 in report**

SUMMARY OF GEOTECHNICAL DATA/RECOMMENDATIONS FOR INDIVIDUAL LOTS
FROM IDC _ G3 Page 2

Subdivision: Palm Springs Stage 10 TCC Ref: RC24235

Location: The Boulevard, Palm Springs Boulevard, Villosa Court, Sophora Place Senecio Way, Papamoa S&L Ref: 20464-st 10

The comments and notations included on this summary sheet are outlined in the support documents
These shall be read in conjunction with this summary.

		Subsurface Data						Foundations		Building Restriction Line	S/W Specific Design	S/W Soakage	S/W Reticulate	Designated Building Platform	Minimum Building Platform **	Compressible Soils	on-site effluent disposal	consent notice	Recommendations /Restrictions
		Shear Strength *	Subdivision Filling		Natural Topography Unworked	Natural Topography earthworked		Conventional shallow	Specific Design										
Lot No.	Area (m2)	(kPa)	Y/N	Depth (m)	Y/N	Y/N	Depth (m)	Y/N/NA	*** Y/N										
115	660		y	0-1.0	N	Y	0-0.50	Y	Y	N	N	y	N	N	Y	N	N	Y	See
116	660		y	0-0.50	N	Y	0-0.50	Y	Y	N	N	y	N	N	Y	N	N	Y	Below
117	660		y	0-0.50	N	Y	0-0.80	Y	Y	N	N	y	N	N	Y	N	N	Y	"
118	640		y	0-0.50	N	Y	0-0.50	Y	Y	N	N	y	N	N	Y	N	N	Y	"
119	650		Y	0-0.50	N	Y	0-1.0	Y	Y	N	N	y	N	N	Y	N	N	Y	"
120	640		Y	0-0.50	N	y	0-1.0	Y	Y	N	N	y	N	N	Y	N	N	Y	"
121	630		y	0-0.50	N	y	0-1.0	Y	Y	N	N	Y	N	N	Y	N	N	Y	"
122	800		y	0-1.0	N	Y	0-1.0	Y	Y	N	N	y	N	N	Y	N	N	Y	"
123	790		Y	0.50-1.50	Y	N		Y	Y	N	N	Y	N	N	Y	N	N	Y	"
124	580		y	O.50-2.0	Y	N		Y	Y	N	N	Y	N	N	Y	N	N	Y	"
125	600		y	0.50-2.0	Y	N		Y	Y	N	N	y	N	N	Y	N	N	Y	"
126	560		Y	0.50-2.0	Y	N		Y	Y	N	N	y	N	N	Y	N	N	Y	"
127	550		Y	0.50-2.0	y	N		Y	Y	N	N	y	N	N	Y	N	N	Y	"
128	690		Y	1.0-3.0	y	N		Y	Y	N	N	y	N	N	Y	N	N	Y	"
129	710		Y	2.50-3.0	y	N		Y	Y	N	N	Y	N	N	Y	N	N	Y	"
130	1900		Y	0-2.50	N	Y	0-2.0	Y	Y	N	N	N	Y	N	Y	N	N	Y	"
131	760		N		N	Y	0-1.0	Y	Y	N	N	Y	N	N	Y	N	N	Y	"
132	670		Y	0-1.0	N	Y	0-1.5	Y	Y	N	N	Y	N	N	Y	N	N	Y	"

Tauranga City

SUMMARY OF GEOTECHNICAL DATA FOR INDIVIDUAL LOTS

INFRASTRUCTURE DEVELOPMENT CODE

G3
VERSION

*** not applicab ble in Palm Springs** **** Refer to Section 1.6.2 in report** ***** Enhanced foundation slabs. Refer to section 1.6.3 in report**

APPENDIX III

Trial compaction test results (Fulton Hogan) 1 April 2015

Insitu density tests (Fulton Hogan)

Scala penetrometer test results in filling (Fulton Hogan)

Scala penetrometer test results in cut (Fulton Hogan)

Trial Compaction Test Results (Fulton Hogan)

Bay of Plenty Laboratory

Poplar Lane, Te Puke
Private Bag 12016, Tauranga 3143
Telephone: +64 7 542 9672
Facsimile: +64 7 542 2245
www.fultonhogan.com
0800 LABORATORY

Maximum Dry Density Report

Report No: MDD:BOP15S-01053
Issue No: 1

Client: Gareth Brown
HEB Construction Ltd
PO Box 226

Drury 2247
NZ

Project: Palm Springs Boulevard

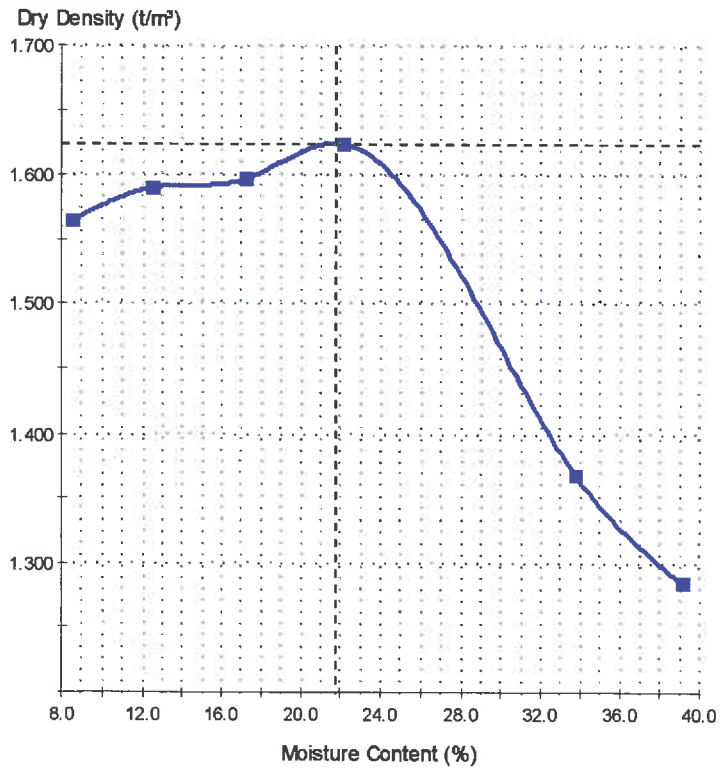
IANZ ACCREDITED LABORATORY

Approved Signatory: Rob Ermens
(Lab Manager)
IANZ Accreditation No:749
Date of Issue: 28/04/15

Sample Details

Sample ID:	BOP15S-01053	**Client Sample ID:**	
Material:	Insitu Fill Sand	**Sample Source:**	Palm Springs Boulevard
Site/Sampled From:	Stage 10	**Date Sampled:**	01/04/2015
Specification:	Contract Specification	**Sampled By:**	Rob Ermens
Sampling Method:	Not Advised - Not Accredited	**Date Tested:**	14/04/2015
Technician:	Barrack Carle	**Sampling Endorsed?:**	No

Dry Density - Moisture Relationship



Test Results

NZS 4402:1986 Test 4.1.1 - 1986

Maximum Dry Density (t/m³): 1.62
Optimum Moisture Content (%): 22
Oversize Sieve (mm):
Oversize Material (%):
Sample History: <19mm

Comments

Bay of Plenty Laboratory

Poplar Lane, Te Puke
Private Bag 12016, Tauranga 3143
Telephone: +64 7 542 9672
Facsimile: +64 7 542 2245
www.fultonhogan.com
0800 LABORATORY

Nuclear Density Report

Report No: ND:BOP15W0566
Issue No: 1

Client: Gareth Brown
HEB Construction Ltd
PO Box 226

Drury 2247
NZ

Project: Palm Springs Boulevard

Approved Signatory: Rob Ermens
(Lab Manager)
IANZ Accreditation No:749
Date of Issue: 28/04/15

Testing Details

Site Tested: Stage 10 - NDM-Scala Correlation
Tested By: Rob Ermens
Date Tested: 01/04/15
Time Tested: 10:00
Material: Insitu Fill Sand
Specification: Contract Specification
Field Methods: NZS 4407:1991 Test 4.2.1
Lab Methods: NZS 4402:1986 Test 2.1, NZS 4402:1986 Test 4.1.1 - 1986

Compaction Target Details

Material Sample ID: BOP15S-01053
MDD Method: NZS 4402:1986 Test 4.1.1 - 1986
Max. Dry Density: 1.62 t/m³ @ 22 %
Min. Dry Density (t/m³):
Solid Density Type: Measured

Test Results

Site No	Moisture (%)	Wet Density (t/m³)	Dry Density (t/m³)	Relative Compaction (%)
NDM A	8.5	1.71	1.57	96.9
NDM B	5.5	1.72	1.63	100.6

Comments

Correlation with Scala tests on reports BOP15S-01247 & BOP15S-01248.

Bay of Plenty Laboratory

Poplar Lane, Te Puke
Private Bag 12016, Tauranga 3143
Telephone: +64 7 542 9672
Facsimile: +64 7 542 2245
www.fultonhogan.com
0800 LABORATORY

Penetration Resistance

Report No: PR:BOP15S-01247
Issue No: 1

Client: Gareth Brown
HEB Construction Ltd
PO Box 226

Drury 2247
NZ

Project: Palm Springs Boulevard

Approved Signatory: Rob Ermens
(Lab Manager)
IANZ Accreditation No:749
Date of Issue: 28/04/15

Test Details

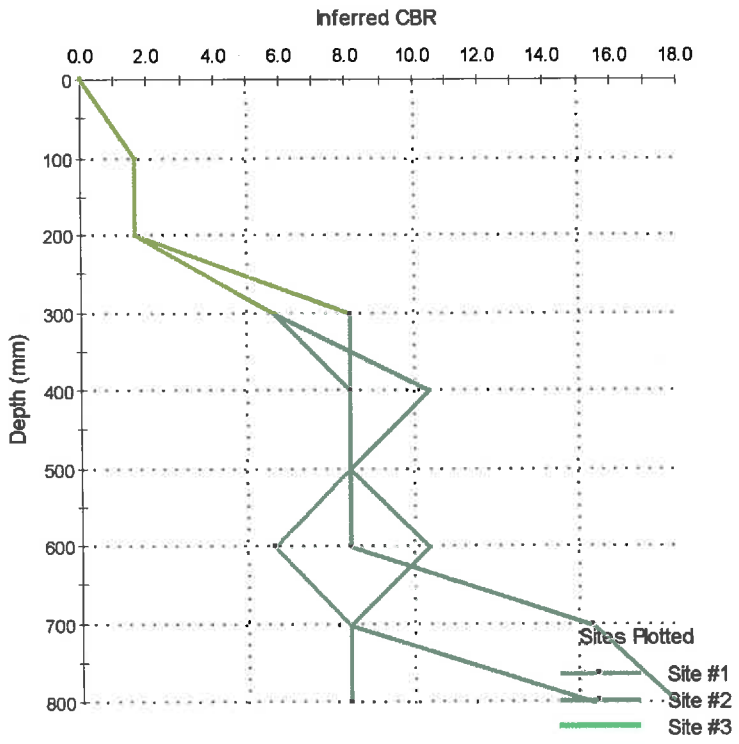
Sample ID: BOP15S-01247
Tested By: Rob Ermens
Material: Insitu Fill Sand
Location: NDM A
Date Tested: 01/04/15
Specification: Contract Specification

Test Results

NZS 4402:1988 Test 6.5.2

Depth of Excavation to surface (mm): 0
Depth at the Commencement (mm): 0

Penetration vs Inferred CBR



Inferred CBR values are based on Austroads Pavement Design:
Guide to the Structural Design of Road Pavements Section 5.5.2 & Fig 5.2

Comments

The inferred CBR calculation is not accredited, and is excluded from the endorsement of this test report.
Correlation with NDM test on report BOP15W0566.

Bay of Plenty Laboratory

Poplar Lane, Te Puke
Private Bag 12016, Tauranga 3143
Telephone: +64 7 542 9672
Facsimile: +64 7 542 2245
www.fultonhogan.com
0800 LABORATORY

Penetration Resistance

Report No: PR:BOP15S-01247
Issue No: 1

Client: Gareth Brown
HEB Construction Ltd
PO Box 226

Drury 2247
NZ

Project: Palm Springs Boulevard

Approved Signatory: Rob Ermens
(Lab Manager)
IANZ Accreditation No:749
Date of Issue: 28/04/15

Penetration Resistance Test Results

Site	Blows	Depth (mm)	Inferred CBR
1	1	100	1.7
1	1	200	1.7
1	4	300	8.1
1	4	400	8.1
1	4	500	8.1
1	3	600	5.8
1	4	700	8.1
1	4	800	8.1
2	1	100	1.7
2	1	200	1.7
2	3	300	5.8
2	4	400	8.1
2	4	500	8.1
2	4	600	8.1
2	7	700	15.4
2	8	800	18.0
3	1	100	1.7
3	1	200	1.7
3	3	300	5.8
3	5	400	10.5
3	4	500	8.1
3	5	600	10.5
3	4	700	8.1
3	7	800	15.4

Comments

The inferred CBR calculation is not accredited, and is excluded from the endorsement of this test report.
Correlation with NDM test on report BOP15W0566.

Bay of Plenty Laboratory

Poplar Lane, Te Puke
Private Bag 12016, Tauranga 3143
Telephone: +64 7 542 9672
Facsimile: +64 7 542 2245
www.fultonhogan.com
0800 LABORATORY

Penetration Resistance

Report No: PR:BOP15S-01248
Issue No: 1

Client: Gareth Brown
HEB Construction Ltd
PO Box 226

Drury 2247
NZ

Project: Palm Springs Boulevard

Approved Signatory: Rob Ermens
(Lab Manager)
IANZ Accreditation No:749
Date of Issue: 28/04/15

Test Details

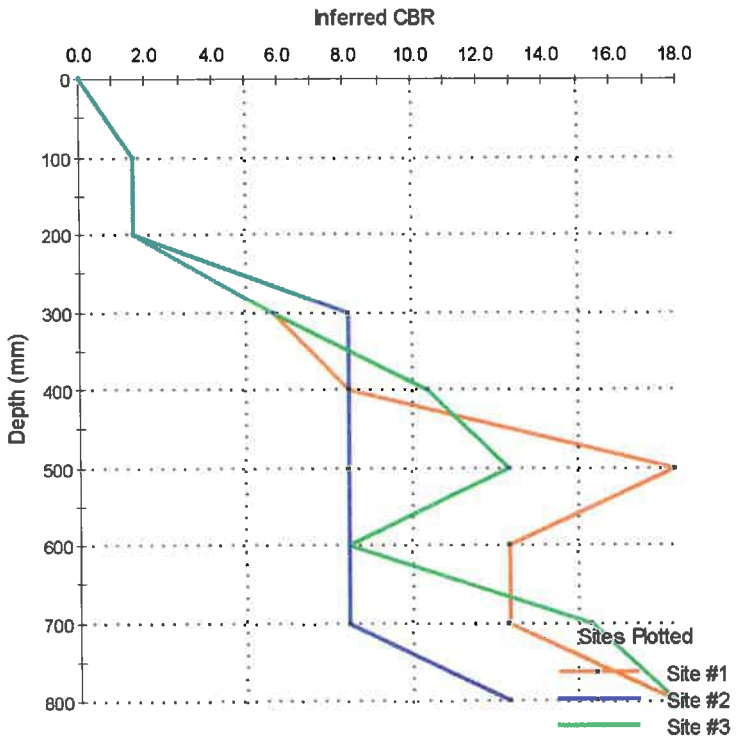
Sample ID: BOP15S-01248
Tested By: Rob Ermens
Material: Insitu Fill Sand
Location: NDM B
Date Tested: 01/04/15
Specification: Contract Specification

Test Results

NZS 4402:1988 Test 6.5.2

Depth of Excavation to surface (mm): 0
Depth at the Commencement (mm): 0

Penetration vs Inferred CBR



Inferred CBR values are based on Austroads Pavement Design:
Guide to the Structural Design of Road Pavements Section 5.5.2 & Fig 5.2

Comments

The inferred CBR calculation is not accredited, and is excluded from the endorsement of this test report.
Correlation with NDM test on report BOP15W0566.

Bay of Plenty Laboratory

Poplar Lane, Te Puke
Private Bag 12016, Tauranga 3143
Telephone: +64 7 542 9672
Facsimile: +64 7 542 2245
www.fultonhogan.com
0800 LABORATORY

Penetration Resistance

Report No: PR:BOP15S-01248
Issue No: 1

Client: Gareth Brown
HEB Construction Ltd
PO Box 226

Drury 2247
NZ

Project: Palm Springs Boulevard

Approved Signatory: Rob Ermens
(Lab Manager)
IANZ Accreditation No:749
Date of Issue: 28/04/15

Penetration Resistance Test Results

Site	Blows	Depth (mm)	Inferred CBR
1	1	100	1.7
1	1	200	1.7
1	3	300	5.8
1	4	400	8.1
1	8	500	18.0
1	6	600	12.9
1	6	700	12.9
1	8	800	18.0
2	1	100	1.7
2	1	200	1.7
2	4	300	8.1
2	4	400	8.1
2	4	500	8.1
2	4	600	8.1
2	4	700	8.1
2	6	800	12.9
3	1	100	1.7
3	1	200	1.7
3	3	300	5.8
3	5	400	10.5
3	6	500	12.9
3	4	600	8.1
3	7	700	15.4
3	8	800	18.0

Comments

The inferred CBR calculation is not accredited, and is excluded from the endorsement of this test report.
Correlation with NDM test on report BOP15W0566.

Bay of Plenty Laboratory

Poplar Lane, Te Puke
Private Bag 12016, Tauranga 3143
Telephone: +64 7 542 9672
Facsimile: +64 7 542 2245
www.fultonhogan.com
0800 LABORATORY

Penetration Resistance

Report No: PR:BOP15S-01325
Issue No: 1

Client: Gareth Brown
HEB Construction Ltd
PO Box 226

Drury 2247
NZ

Project: Palm Springs Boulevard

Approved Signatory: Rob Ermens
(Lab Manager)
IANZ Accreditation No:749
Date of Issue: 08/05/15

Test Details

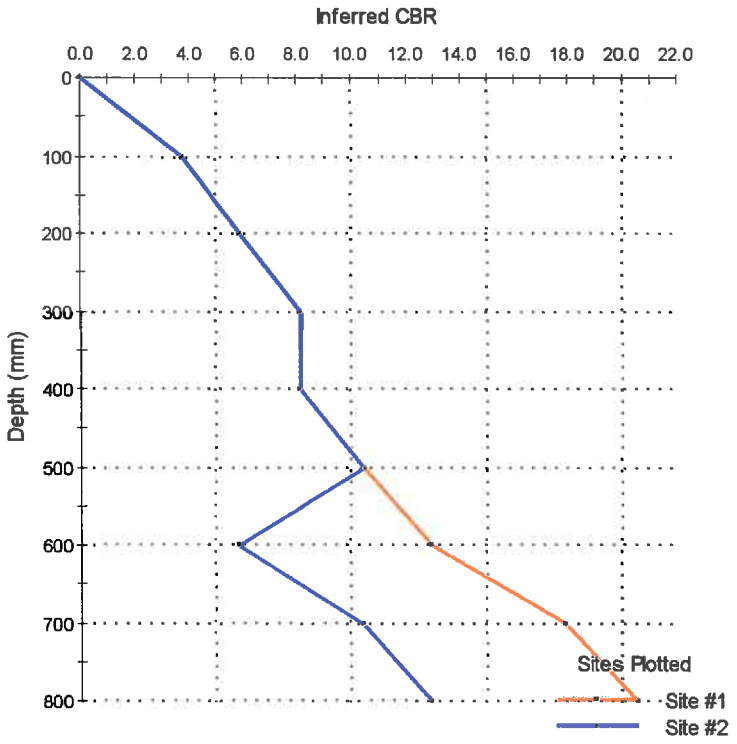
Sample ID: BOP15S-01325
Tested By: Rob Ermens
Material: Insitu Fill Sand
Location: NDM #1
Date Tested: 24/04/15
Specification: Contract Specification

Test Results

NZS 4402:1988 Test 6.5.2

Depth of Excavation to surface (mm): 0
Depth at the Commencement (mm): 0

Penetration vs Inferred CBR



Inferred CBR values are based on Austroads Pavement Design:
Guide to the Structural Design of Road Pavements Section 5.5.2 & Fig 5.2

Comments

The inferred CBR calculation is not accredited, and is excluded from the endorsement of this test report.

Bay of Plenty Laboratory

Poplar Lane, Te Puke
Private Bag 12016, Tauranga 3143
Telephone: +64 7 542 9672
Facsimile: +64 7 542 2245
www.fultonhogan.com
0800 LABORATORY

Penetration Resistance

Report No: PR:BOP15S-01325
Issue No: 1

Client: Gareth Brown
HEB Construction Ltd
PO Box 226

Drury 2247
NZ

Project: Palm Springs Boulevard

IANZ ACCREDITED LABORATORY

Approved Signatory: Rob Ermens
(Lab Manager)
IANZ Accreditation No:749
Date of Issue: 08/05/15

Penetration Resistance Test Results

Site	Blows	Depth (mm)	Inferred CBR
1	2	100	3.7
1	3	200	5.8
1	4	300	8.1
1	4	400	8.1
1	5	500	10.5
1	6	600	12.9
1	8	700	18.0
1	9	800	20.6
2	2	100	3.7
2	3	200	5.8
2	4	300	8.1
2	4	400	8.1
2	5	500	10.5
2	3	600	5.8
2	5	700	10.5
2	6	800	12.9

Comments

The inferred CBR calculation is not accredited, and is excluded from the endorsement of this test report.

Bay of Plenty Laboratory

Poplar Lane, Te Puke
Private Bag 12016, Tauranga 3143
Telephone: +64 7 542 9672
Facsimile: +64 7 542 2245
www.fultonhogan.com
0800 LABORATORY

Penetration Resistance

Report No: PR:BOP15S-01326
Issue No: 1

Client: Gareth Brown
HEB Construction Ltd
PO Box 226

Drury 2247
NZ

Project: Palm Springs Boulevard

IANZ ACCREDITED LABORATORY

Approved Signatory: Rob Ermens
(Lab Manager)
IANZ Accreditation No:749
Date of Issue: 08/05/15

Test Details

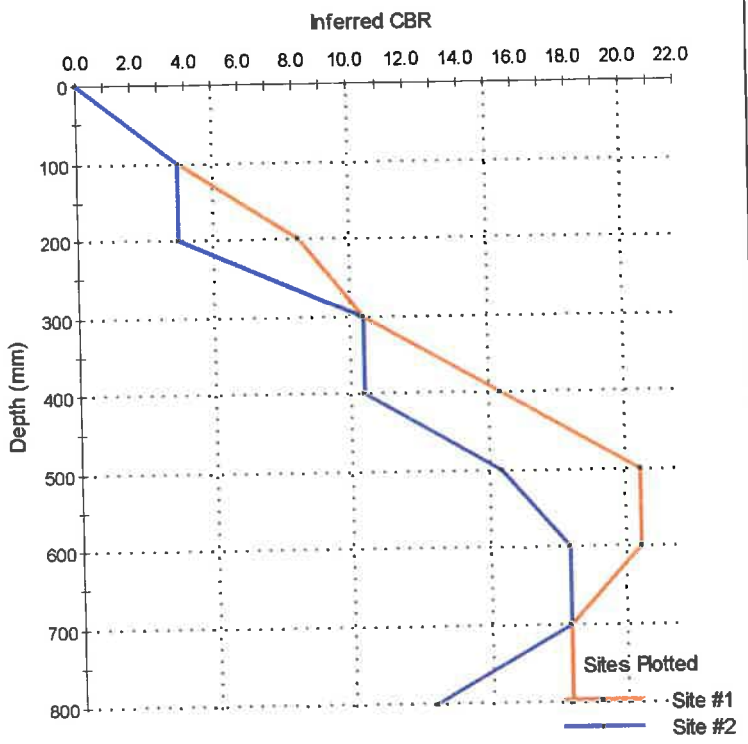
Sample ID: BOP15S-01326
Tested By: Rob Ermens
Material: Insitu Fill Sand
Location: NDM #2
Date Tested: 24/04/15
Specification: Contract Specification

Test Results

NZS 4402:1988 Test 6.5.2

Depth of Excavation to surface (mm): 0
Depth at the Commencement (mm): 0

Penetration vs Inferred CBR



Inferred CBR values are based on Austroads Pavement Design:
Guide to the Structural Design of Road Pavements Section 5.5.2 & Fig 5.2

Comments

Bay of Plenty Laboratory

Poplar Lane, Te Puke
Private Bag 12016, Tauranga 3143
Telephone: +64 7 542 9672
Facsimile: +64 7 542 2245
www.fultonhogan.com
0800 LABORATORY

Penetration Resistance

Report No: PR:BOP15S-01326
Issue No: 1

Client: Gareth Brown
HEB Construction Ltd
PO Box 226

Drury 2247
NZ

Project: Palm Springs Boulevard

IANZ ACCREDITED LABORATORY

Approved Signatory: Rob Ermens
(Lab Manager)
IANZ Accreditation No:749
Date of Issue: 08/05/15

Penetration Resistance Test Results

Site	Blows	Depth (mm)	Inferred CBR
1	2	100	3.7
1	4	200	8.1
1	5	300	10.5
1	7	400	15.4
1	9	500	20.6
1	9	600	20.6
1	8	700	18.0
1	8	800	18.0
2	2	100	3.7
2	2	200	3.7
2	5	300	10.5
2	5	400	10.5
2	7	500	15.4
2	8	600	18.0
2	8	700	18.0
2	6	800	12.9

Comments

Insitu Density Tests (Fulton Hogan)

Bay of Plenty Laboratory

Poplar Lane, Te Puke
Private Bag 12016, Tauranga 3143
Telephone: +64 7 542 9672
Facsimile: +64 7 542 2245
www.fultonhogan.com
0800 LABORATORY

Nuclear Density Report

Report No: ND:BOP15W0608
Issue No: 1

Client: Gareth Brown
HEB Construction Ltd
PO Box 226

Drury 2247
NZ

Project: Palm Springs Boulevard

The test (s) reported herein (unless otherwise indicated) have been performed in accordance with the laboratory's scope of accreditation. This report may only be reproduced in full.

IANZ ACCREDITED LABORATORY

Approved Signatory: Rob Ermens
(Lab Manager)
IANZ Accreditation No:749
Date of Issue: 06/05/15

Testing Details

Site Tested: Stage 10
Tested By: Rob Ermens
Date Tested: 23/04/15
Time Tested: 15:00
Material: Insitu Fill Sand
Specification: Contract Specification
Field Methods: NZS 4407:1991 Test 4.2.1
Lab Methods: NZS 4402:1986 Test 2.1, NZS 4402:1986 Test 4.1.1 - 1986

Compaction Target Details

Material Sample ID: BOP15S-01053
MDD Method: NZS 4402:1986 Test 4.1.1 - 1986
Max. Dry Density: 1.62 t/m³ @ 22 %
Min. Dry Density (t/m³):
Solid Density Type: Measured

Test Results

Site No	Moisture (%)	Wet Density (t/m³)	Dry Density (t/m³)	Relative Compaction (%)
Green #8	15.5	1.85	1.60	98.8
Green #9	13.5	1.79	1.58	97.5
Green #10	9.5	1.80	1.64	101.2
Green #12	8.5	1.82	1.68	103.7
Green #13	12.5	1.81	1.60	98.8
Green #17	11.5	1.85	1.66	102.5

Statistical Data

Mean Relative Compaction %: 100.4

Comments

Relative compaction results and averages are not IANZ accredited.

Bay of Plenty Laboratory

Poplar Lane, Te Puke
Private Bag 12016, Tauranga 3143
Telephone: +64 7 542 9672
Facsimile: +64 7 542 2245
www.fultonhogan.com
0800 LABORATORY

Nuclear Density Report

Report No: ND:BOP15W0612
Issue No: 1

Client: Gareth Brown
HEB Construction Ltd
PO Box 226

Drury 2247
NZ

Project: Palm Springs Boulevard

Approved Signatory: Rob Ermens
(Lab Manager)
IANZ Accreditation No:749
Date of Issue: 08/05/15

Testing Details

Site Tested: Stage 10
Tested By: Rob Ermens
Date Tested: 24/04/15
Time Tested: 11:00
Material: Insitu Fill Sand
Specification: Contract Specification
Field Methods: NZS 4407:1991 Test 4.2.1
Lab Methods: NZS 4402:1986 Test 2.1, NZS 4402:1986 Test 4.1.1 - 1986

Compaction Target Details

Material Sample ID: BOP15S-01053
MDD Method: NZS 4402:1986 Test 4.1.1 - 1986
Max. Dry Density: 1.62 t/m³ @ 22 %
Min. Dry Density (t/m³):
Solid Density Type: Measured

Test Results

Site No	Moisture (%)	Wet Density (t/m³)	Dry Density (t/m³)	Relative Compaction (%)
Green #6	8.0	1.78	1.65	101.9
Green #11	12.5	1.74	1.54	95.1
Green #14	13.0	1.72	1.52	93.8
NDM #1	8.5	1.81	1.67	103.1
NDM #2	6.0	1.69	1.59	98.1

Statistical Data

Mean Relative Compaction %: 98.4

Comments

Relative compaction results and averages are not IANZ accredited
NDM #2 density measurement is not accredited due to being outside of NDM range of calibration.

Bay of Plenty Laboratory

Poplar Lane, Te Puke
Private Bag 12016, Tauranga 3143
Telephone: +64 7 542 9672
Facsimile: +64 7 542 2245
www.fultonhogan.com
0800 LABORATORY

Nuclear Density Report

Report No: ND:BOP15W0657
Issue No: 2
This report replaces all previous issues of report no 'ND:BOP15W0657'

Client: Gareth Brown
HEB Construction Ltd
PO Box 226

Drury 2247
NZ

Project: Palm Springs Boulevard

Approved Signatory: Rob Ermens
(Lab Manager)

Date of Issue: 22/05/15

Testing Details

Site Tested: Stage 10
Tested By: William Rodda
Date Tested: 12/05/15
Time Tested: 09:00
Material: Insitu Fill Sand
Specification: Contract Specification
Field Methods: NZS 4407:1991 Test 4.2.1
Lab Methods: NZS 4402:1986 Test 2.1, NZS 4402:1986 Test 4.1.1 - 1986

Compaction Target Details

Material Sample ID: BOP15S-01053
MDD Method: NZS 4402:1986 Test 4.1.1 - 1986
Max. Dry Density: 1.62 t/m³ @ 22 %
Min. Dry Density (t/m³):
Solid Density Type: Measured

Test Results

Site No	Moisture (%)	Wet Density (t/m³)	Dry Density (t/m³)	Relative Compaction (%)
Green #18	7.5	1.63	1.52	93.8
Green #23	8.0	1.71	1.58	97.5
Green #24	10.0	1.62	1.48	91.4
Green #29	10.0	1.84	1.67	103.1
Green #30	7.0	1.64	1.53	94.4
Green #36	7.5	1.64	1.53	94.4
Green #37	11.5	1.74	1.56	96.3
Green #41	10.0	1.72	1.56	96.3
Green #44	6.5	1.66	1.55	95.7
Green #45	11.0	1.67	1.51	93.2
Green #46	9.0	1.66	1.52	93.8
Green #47	10.0	1.65	1.50	92.6
Green #49	12.0	1.69	1.51	93.2

Statistical Data

Mean Relative Compaction %: 95.1

Comments

Report not IANZ endorsed due to density measurements being outside of NDM range of calibration
Report re-issued with IANZ endorsement removed.

Bay of Plenty Laboratory

Poplar Lane, Te Puke
Private Bag 12016, Tauranga 3143
Telephone: +64 7 542 9672
Facsimile: +64 7 542 2245
www.fultonhogan.com
0800 LABORATORY

Nuclear Density Report

Report No: ND:BOP15W0666
Issue No: 1

Client: Gareth Brown
HEB Construction Ltd
PO Box 226

Drury 2247
NZ

Project: Palm Springs Boulevard

The test results reported herein are not accredited. Contact the laboratory for further information. Samples are tested as received unless stated otherwise. This report may only be reproduced in full.

Approved Signatory: Rob Ermens
(Lab Manager)

Date of Issue: 22/05/15

Testing Details

Site Tested:	Stage 10
Tested By:	Rob Ermens
Date Tested:	13/05/15
Time Tested:	10:30
Material:	Insitu Fill Sand
Specification:	Contract Specification
Field Methods:	NZS 4407:1991 Test 4.2.1
Lab Methods:	NZS 4402:1986 Test 2.1, NZS 4402:1986 Test 4.1.1 - 1986

Compaction Target Details

Material Sample ID:	BOP15S-01053
MDD Method:	NZS 4402:1986 Test 4.1.1 - 1986
Max. Dry Density:	1.62 t/m³ @ 22 %
Min. Dry Density (t/m³):	
Solid Density Type:	Measured

Test Results

Site No	Moisture (%)	Wet Density (t/m³)	Dry Density (t/m³)	Relative Compaction (%)
Green #24 Retest	8.0	1.59	1.48	91.4
Green #47 Retest	12.5	1.85	1.64	101.2

Comments

Report not IANZ endorsed due to density measurements being outside of NDM range of calibration.

Bay of Plenty Laboratory

Poplar Lane, Te Puke
Private Bag 12016, Tauranga 3143
Telephone: +64 7 542 9672
Facsimile: +64 7 542 2245
www.fultonhogan.com
0800 LABORATORY

Nuclear Density Report

Report No: ND:BOP15W0721
Issue No: 1

Client: Gareth Brown
HEB Construction Ltd
PO Box 226

Drury 2247
NZ

Project: Palm Springs Boulevard

The test (s) reported herein (unless otherwise indicated) have been performed in accordance with the laboratory's scope of accreditation. This report may only be reproduced in full.

IANZ ACCREDITED LABORATORY

Approved Signatory: Rob Ermens
(Lab Manager)
IANZ Accreditation No:749
Date of Issue: 09/06/15

Testing Details

Site Tested: Stage 10
Tested By: Barrack Carle
Date Tested: 26/05/15
Time Tested: 12:15
Material: Insitu Fill Sand
Specification: Contract Specification
Field Methods: NZS 4407:1991 Test 4.2.1
Lab Methods: NZS 4402:1986 Test 4.1.1 - 1986, NZS 4402:1986 Test 2.1

Compaction Target Details

Material Sample ID: BOP15S-01053
MDD Method: NZS 4402:1986 Test 4.1.1 - 1986
Max. Dry Density: 1.62 t/m³ @ 22 %
Min. Dry Density (t/m³):
Solid Density Type: Measured

Test Results

Site No	Moisture (%)	Wet Density (t/m³)	Dry Density (t/m³)	Relative Compaction (%)
Green #48	13.0	1.75	1.55	95.7
Green #38	13.5	1.80	1.59	98.1

Comments

Relative compaction results and averages are not IANZ accredited

Bay of Plenty Laboratory

Poplar Lane, Te Puke
Private Bag 12016, Tauranga 3143
Telephone: +64 7 542 9672
Facsimile: +64 7 542 2245
www.fultonhogan.com
0800 LABORATORY

Nuclear Density Report

Report No: ND:BOP15W0781
Issue No: 1

Client: Gareth Brown
HEB Construction Ltd
PO Box 226

Drury 2247
NZ

Project: Palm Springs Boulevard

Approved Signatory: Rob Ermens
(Lab Manager)

Date of Issue: 25/06/2015

Testing Details

Site Tested: Stage 10
Tested By: William Rodda
Date Tested: 16/06/2015
Time Tested: 10:00
Material: Insitu Fill Sand
Specification: Contract Specification
Field Methods: NZS 4407:1991 Test 4.2.1
Lab Methods: NZS 4402:1986 Test 4.1.1 - 1986, NZS 4402:1986 Test 2.1

Compaction Target Details

Material Sample ID: BOP15S-01053
MDD Method: NZS 4402:1986 Test 4.1.1 - 1986
Max. Dry Density: 1.62 t/m³ @ 22 %
Min. Dry Density (t/m³):
Solid Density Type: Measured

Test Results

Site No	Moisture (%)	Wet Density (t/m³)	Dry Density (t/m³)	Relative Compaction (%)
Green #20	8.0	1.73	1.60	98.8
Green #21	10.5	1.71	1.55	95.7
Green #27	5.5	1.66	1.57	96.9
Green #35	6.5	1.70	1.59	98.1
Green #39	9.5	1.89	1.73	106.8

Comments

Report not IANZ endorsed due to density measurements being outside of NDM range of calibration.

Bay of Plenty Laboratory

Poplar Lane, Te Puke
Private Bag 12016, Tauranga 3143
Telephone: +64 7 542 9672
Facsimile: +64 7 542 2245
www.fultonhogan.com
0800 LABORATORY

Nuclear Density Report

Report No: ND:BOP15W0842
Issue No: 1

Client: Gareth Brown
HEB Construction Ltd
PO Box 226

Drury 2247
NZ

Project: Palm Springs Boulevard

The test results reported herein are not accredited. Contact the laboratory for further information. Samples are tested as received unless stated otherwise. This report may only be reproduced in full.

Approved Signatory: Rob Ermens
(Lab Manager)

Date of Issue: 7/07/2015

Testing Details

Site Tested: Earthworks
Tested By: Barrack Carle
Date Tested: 24/06/2015
Time Tested: 15:00
Material: Insitu Fill Sand
Specification: Contract Specification
Field Methods: NZS 4407:1991 Test 4.2.1
Lab Methods: NZS 4402:1986 Test 4.1.1 - 1986, NZS 4402:1986 Test 2.1

Compaction Target Details

Material Sample ID: BOP15S-01053
MDD Method: NZS 4402:1986 Test 4.1.1 - 1986
Max. Dry Density: 1.62 t/m³ @ 22 %
Min. Dry Density (t/m³):
Solid Density Type: Measured

Test Results

Site No	Moisture (%)	Wet Density (t/m³)	Dry Density (t/m³)	Relative Compaction (%)
Green #10	6.5	1.73	1.62	100.0
Green #11	7.0	1.65	1.55	95.7
Green #13	7.0	1.66	1.55	95.7
Green #15	6.5	1.76	1.65	101.9

Statistical Data

Mean Relative Compaction %: 98.3

Comments

Report not IANZ endorsed due to density measurements being outside of NDM range of calibration

Bay of Plenty Laboratory

Poplar Lane, Te Puke
Private Bag 12016, Tauranga 3143
Telephone: +64 7 542 9672
Facsimile: +64 7 542 2245
www.fultonhogan.com
0800 LABORATORY

Nuclear Density Report

Report No: ND:BOP15W0895
Issue No: 1

Client: Gareth Brown
HEB Construction Ltd
PO Box 226

Drury 2247
NZ

Project: Palm Springs Boulevard

IANZ ACCREDITED LABORATORY

Approved Signatory: Rob Ermens
(Lab Manager)
IANZ Accreditation No:749
Date of Issue: 27/07/2015

Testing Details

Site Tested: Stage 10
Tested By: Rob Ermens
Date Tested: 14/07/2015
Time Tested: 14:00
Material: Insitu Fill Sand
Specification: Contract Specification
Field Methods: NZS 4407:1991 Test 4.2.1
Lab Methods: NZS 4402:1986 Test 2.1, NZS 4402:1986 Test 4.1.1 - 1986

Compaction Target Details

Material Sample ID: BOP15S-01053
MDD Method: NZS 4402:1986 Test 4.1.1 - 1986
Max. Dry Density: 1.62 t/m³ @ 22 %
Min. Dry Density (t/m³):
Solid Density Type: Measured

Test Results

Site No	Moisture (%)	Wet Density (t/m³)	Dry Density (t/m³)	Relative Compaction (%)
Green #1	8.5	1.79	1.65	101.9
Green #2	15.5	1.90	1.65	101.9
Green #3	8.0	1.85	1.71	105.6
Green #4	7.0	1.69	1.58	97.5
Green #6	11.5	1.79	1.61	99.4
Green #8	9.5	1.79	1.64	101.2
Green #9	10.0	1.85	1.68	103.7

Statistical Data

Mean Relative Compaction %: 101.6

Comments

Relative compaction results and averages are not IANZ accredited.

Scala Penetrometer Tests in Filling (Fulton Hogan)

Test positions referred to as yellow, blue or green on

20464-AB20 and 20464-AB21

Bay of Plenty Laboratory

Poplar Lane, Te Puke
Private Bag 12016, Tauranga 3143
Telephone: +64 7 542 9672
Facsimile: +64 7 542 2245
www.fultonhogan.com
0800 LABORATORY

Penetration Resistance

Report No: PR:BOP15S-01269
Issue No: 1

Client: Gareth Brown
HEB Construction Ltd
PO Box 226

Drury 2247
NZ

Project: Palm Springs Boulevard

IANZ ACCREDITED LABORATORY

Approved Signatory: Rob Ermens
(Lab Manager)
IANZ Accreditation No:749
Date of Issue: 04/05/15

Penetration Resistance Test Results

Site	Blows	Depth (mm)	Inferred CBR
1	2	100	3.7
1	4	200	8.1
1	4	300	8.1
1	6	400	12.9
1	5	500	10.5
1	5	600	10.5
1	5	700	10.5
1	4	800	8.1
2	2	100	3.7
2	2	200	3.7
2	3	300	5.8
2	5	400	10.5
2	7	500	15.4
2	9	600	20.6
2	10	700	23.2
2	13	800	31.3
3	1	100	1.7
3	3	200	5.8
3	3	300	5.8
3	5	400	10.5
3	6	500	12.9
3	7	600	15.4
3	10	700	23.2
3	11	800	25.9

Comments

The inferred CBR calculation is not accredited, and is excluded from the endorsement of this test report.
Site 1 = Yellow #1, Site 2 = Blue #1, Site 3 = Blue #3.

Bay of Plenty Laboratory

Poplar Lane, Te Puke
Private Bag 12016, Tauranga 3143
Telephone: +64 7 542 9672
Facsimile: +64 7 542 2245
www.fultonhogan.com
0800 LABORATORY

Penetration Resistance

Report No: PR:BOP15S-01340
Issue No: 1

Client: Gareth Brown
HEB Construction Ltd
PO Box 226

Drury 2247
NZ

Project: Palm Springs Boulevard

IANZ ACCREDITED LABORATORY

Approved Signatory: Rob Ermens
(Lab Manager)
IANZ Accreditation No:749
Date of Issue: 08/05/15

Penetration Resistance Test Results

Site	Blows	Depth (mm)	Inferred CBR
1	1	100	1.7
1	0	200	0.0
1	2	300	3.7
1	5	400	10.5
1	6	500	12.9
1	8	600	18.0
1	9	700	20.6
1	8	800	18.0
2	1	100	1.7
2	1	200	1.7
2	3	300	5.8
2	2	400	3.7
2	5	500	10.5
2	6	600	12.9
2	9	700	20.6
2	9	800	20.6
3	1	100	1.7
3	2	200	3.7
3	3	300	5.8
3	5	400	10.5
3	7	500	15.4
3	11	600	25.9
3	12	700	28.6
3	17	800	42.6

Comments

The inferred CBR calculation is not accredited, and is excluded from the endorsement of this test report.
Site #1 = Yellow #2, Site #2 = Blue #4, Site #3 = Blue #2

Bay of Plenty Laboratory

Poplar Lane, Te Puke
Private Bag 12016, Tauranga 3143
Telephone: +64 7 542 9672
Facsimile: +64 7 542 2245
www.fultonhogan.com
0800 LABORATORY

Penetration Resistance

Report No: PR:BOP15S-01583
Issue No: 1

Client: Gareth Brown
HEB Construction Ltd
PO Box 226

Drury 2247
NZ

Project: Palm Springs Boulevard

IANZ ACCREDITED LABORATORY

Approved Signatory: Rob Ermens
(Lab Manager)
IANZ Accreditation No:749
Date of Issue: 09/06/15

Penetration Resistance Test Results

Site	Blows	Depth (mm)	Inferred CBR
1	1	100	1.7
1	1	200	1.7
1	3	300	5.8
1	4	400	8.1
1	7	500	15.4
1	9	600	20.6
1	12	700	28.6
1	15	800	36.9

Yellow 3

Comments

The inferred CBR calculation is not accredited, and is excluded from the endorsement of this test report.

Bay of Plenty Laboratory

Poplar Lane, Te Puke
Private Bag 12016, Tauranga 3143
Telephone: +64 7 542 9672
Facsimile: +64 7 542 2245
www.fultonhogan.com
0800 LABORATORY

Penetration Resistance

Report No: PR:BOP15S-01584
Issue No: 1

Client: Gareth Brown
HEB Construction Ltd
PO Box 226

Drury 2247
NZ

Project: Palm Springs Boulevard

The test (s) reported herein (unless otherwise indicated) have been performed in accordance with the laboratory's scope of accreditation. This report may only be reproduced in full.

IANZ ACCREDITED LABORATORY

Approved Signatory: Rob Ermens
(Lab Manager)
IANZ Accreditation No:749
Date of Issue: 09/06/15

Penetration Resistance Test Results

Site	Blows	Depth (mm)	Inferred CBR
1	1	100	1.7
1	2	200	3.7
1	4	300	8.1
1	5	400	10.5
1	7	500	15.4
1	10	600	23.2
1	13	700	31.3
1	13	800	31.3

Yellow 4

Comments

The inferred CBR calculation is not accredited, and is excluded from the endorsement of this test report.

Bay of Plenty Laboratory

Poplar Lane, Te Puke
Private Bag 12016, Tauranga 3143
Telephone: +64 7 542 9672
Facsimile: +64 7 542 2245
www.fultonhogan.com
0800 LABORATORY

Penetration Resistance

Report No: PR:BOP15S-01389
Issue No: 1

Client: Gareth Brown
HEB Construction Ltd
PO Box 226

Drury 2247
NZ

Project: Palm Springs Boulevard

IANZ ACCREDITED LABORATORY

Approved Signatory: Rob Ermens
(Lab Manager)
IANZ Accreditation No:749
Date of Issue: 21/05/15

Penetration Resistance Test Results

Site	Blows	Depth (mm)	Inferred CBR
1	1	100	1.7
1	1	200	1.7
1	2	300	3.7
1	4	400	8.1
1	8	500	18.0
1	9	600	20.6
1	9	700	20.6
1	14	800	34.1
2	1	100	1.7
2	0	200	0.0
2	2	300	3.7
2	4	400	8.1
2	7	500	15.4
2	10	600	23.2
2	10	700	23.2
2	13	800	31.3

1 - Blue 53 1 - Blue 54

Comments

The inferred CBR calculation is not accredited, and is excluded from the endorsement of this test report.

Bay of Plenty Laboratory

Poplar Lane, Te Puke
Private Bag 12016, Tauranga 3143
Telephone: +64 7 542 9672
Facsimile: +64 7 542 2245
www.fultonhogan.com
0800 LABORATORY

Penetration Resistance

Report No: PR:BOP15S-01612
Issue No: 1

Client: Gareth Brown
HEB Construction Ltd
PO Box 226

Drury 2247
NZ

Project: Palm Springs Boulevard

IANZ ACCREDITED LABORATORY

Approved Signatory: Rob Ermens
(Lab Manager)
IANZ Accreditation No:749
Date of Issue: 11/06/15

Penetration Resistance Test Results

Site	Blows	Depth (mm)	Inferred CBR
1	1	100	1.7
1	1	200	1.7
1	3	300	5.8
1	4	400	8.1
1	7	500	15.4
1	8	600	18.0
1	12	700	28.6
1	15	800	36.9
2	1	100	1.7
2	2	200	3.7
2	2	300	3.7
2	6	400	12.9
2	9	500	20.6
2	12	600	28.6
2	15	700	36.9
2	15	800	36.9

1 - Blue 513 2 - Blue 7

Comments

The inferred CBR calculation is not accredited, and is excluded from the endorsement of this test report.
Site #1 = Blue #5, Site #2 = Blue #7

Bay of Plenty Laboratory

Poplar Lane, Te Puke
Private Bag 12016, Tauranga 3143
Telephone: +64 7 542 9672
Facsimile: +64 7 542 2245
www.fultonhogan.com
0800 LABORATORY

Penetration Resistance

Report No: PR:BOP15S-01390
Issue No: 1

Client: Gareth Brown
HEB Construction Ltd
PO Box 226

Drury 2247
NZ

Project: Palm Springs Boulevard

IANZ ACCREDITED LABORATORY

Approved Signatory: Rob Ermens
(Lab Manager)
IANZ Accreditation No:749
Date of Issue: 21/05/15

Test Details

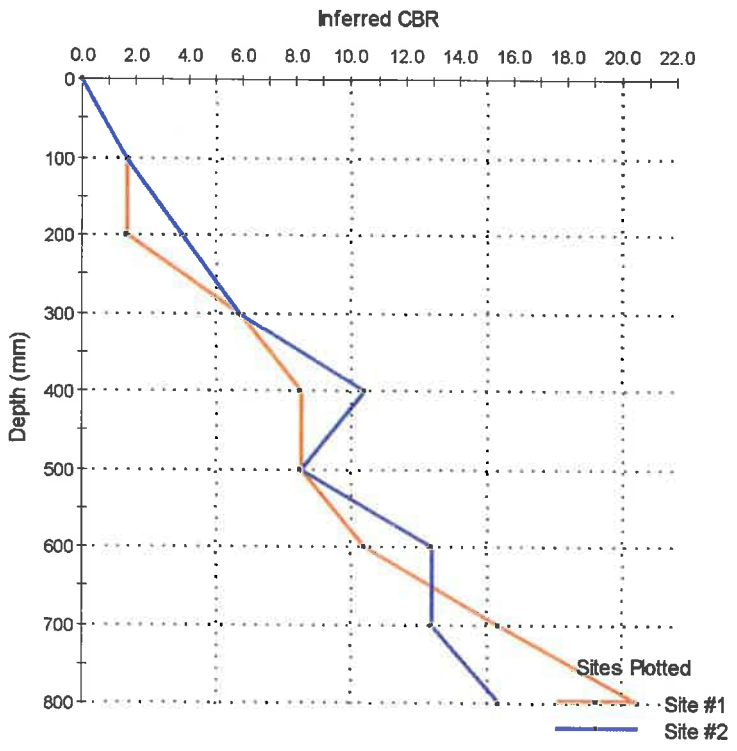
Sample ID: BOP15S-01390
Tested By: William Rodda
Material: Insitu Fill Sand
Location: Blue #6
Date Tested: 05/05/15
Specification: Contract Specification

Test Results

NZS 4402:1988 Test 6.5.2

Depth of Excavation to surface (mm): 0
Depth at the Commencement (mm): 0

Penetration vs Inferred CBR



Inferred CBR values are based on Austroads Pavement Design:
Guide to the Structural Design of Road Pavements Section 5.5.2 & Fig 5.2

Retested 7/5/15

Comments

The inferred CBR calculation is not accredited, and is excluded from the endorsement of this test report.

Bay of Plenty Laboratory

Poplar Lane, Te Puke
Private Bag 12016, Tauranga 3143
Telephone: +64 7 542 9672
Facsimile: +64 7 542 2245
www.fultonhogan.com
0800 LABORATORY

Penetration Resistance

Report No: PR:BOP15S-01406
Issue No: 1

Client: Gareth Brown
HEB Construction Ltd
PO Box 226

Drury 2247
NZ

Project: Palm Springs Boulevard

IANZ ACCREDITED LABORATORY

Approved Signatory: Rob Ermens
(Lab Manager)
IANZ Accreditation No:749
Date of Issue: 21/05/15

Penetration Resistance Test Results

Site	Blows	Depth (mm)	Inferred CBR
1	1	100	1.7
1	2	200	3.7
1	8	300	18.0
1	10	400	23.2
1	12	500	28.6
1	10	600	23.2
1	12	700	28.6
1	14	800	34.1
2	2	100	3.7
2	2	200	3.7
2	4	300	8.1
2	8	400	18.0
2	8	500	18.0
2	12	600	28.6
2	12	700	28.6
2	15	800	36.9

Blue 6 – retest

Comments

The inferred CBR calculation is not accredited, and is excluded from the endorsement of this test report.

Bay of Plenty Laboratory

Poplar Lane, Te Puke
Private Bag 12016, Tauranga 3143
Telephone: +64 7 542 9672
Facsimile: +64 7 542 2245
www.fultonhogan.com
0800 LABORATORY

Penetration Resistance

Report No: PR:BOP15S-01504
Issue No: 1

Client: Gareth Brown
HEB Construction Ltd
PO Box 226

Drury 2247
NZ

Project: Palm Springs Boulevard

IANZ ACCREDITED LABORATORY

Approved Signatory: Rob Ermens
(Lab Manager)
IANZ Accreditation No:749
Date of Issue: 26/05/15

Penetration Resistance Test Results

Site	Blows	Depth (mm)	Inferred CBR
1	1	100	1.7
1	2	200	3.7
1	4	300	8.1
1	3	400	5.8
1	6	500	12.9
1	6	600	12.9
1	8	700	18.0
1	9	800	20.6
2	1	100	1.7
2	3	200	5.8
2	4	300	8.1
2	5	400	10.5
2	8	500	18.0
2	10	600	23.2
2	12	700	28.6
2	13	800	31.3

Comments

The inferred CBR calculation is not accredited, and is excluded from the endorsement of this test report.
Site 1 = Blue #6, Site 2 = Green #31.

Bay of Plenty Laboratory

Poplar Lane, Te Puke
Private Bag 12016, Tauranga 3143
Telephone: +64 7 542 9672
Facsimile: +64 7 542 2245
www.fultonhogan.com
0800 LABORATORY

Penetration Resistance

Report No: PR:BOP15S-01616
Issue No: 1

Client: Gareth Brown
HEB Construction Ltd
PO Box 226

Drury 2247
NZ

Project: Palm Springs Boulevard

Approved Signatory: Rob Ermens
(Lab Manager)
IANZ Accreditation No:749
Date of Issue: 11/06/15

Penetration Resistance Test Results

Site	Blows	Depth (mm)	Inferred CBR
1	1	100	1.7
1	2	200	3.7
1	2	300	3.7
1	5	400	10.5
1	8	500	18.0
1	9	600	20.6
1	9	700	20.6
1	9	800	20.6

Blue 9

Comments

The inferred CBR calculation is not accredited, and is excluded from the endorsement of this test report.

Bay of Plenty Laboratory

Poplar Lane, Te Puke
Private Bag 12016, Tauranga 3143
Telephone: +64 7 542 9672
Facsimile: +64 7 542 2245
www.fultonhogan.com
0800 LABORATORY

Penetration Resistance

Report No: PR:BOP15S-01316
Issue No: 1

Client: Gareth Brown
HEB Construction Ltd
PO Box 226

Drury 2247
NZ

Project: Palm Springs Boulevard

IANZ ACCREDITED LABORATORY

Approved Signatory: Rob Ermens
(Lab Manager)
IANZ Accreditation No:749
Date of Issue: 08/05/15

Penetration Resistance Test Results

Site	Blows	Depth (mm)	Inferred CBR
1	2	100	3.7
1	2	100	3.7
1	3	100	5.8
1	5	100	10.5
1	6	100	12.9
1	9	100	20.6
1	16	100	39.8
1	17	100	42.6
1	17	100	42.6

Green 1

Comments

The inferred CBR calculation is not accredited, and is excluded from the endorsement of this test report.

Bay of Plenty Laboratory

Poplar Lane, Te Puke
Private Bag 12016, Tauranga 3143
Telephone: +64 7 542 9672
Facsimile: +64 7 542 2245
www.fultonhogan.com
0800 LABORATORY

Penetration Resistance

Report No: PR:BOP15S-01317
Issue No: 1

Client: Gareth Brown
HEB Construction Ltd
PO Box 226

Drury 2247
NZ

Project: Palm Springs Boulevard

Approved Signatory: Rob Ermens
(Lab Manager)
IANZ Accreditation No:749
Date of Issue: 08/05/15

Penetration Resistance Test Results

Site	Blows	Depth (mm)	Inferred CBR
1	2	100	3.7
1	4	200	8.1
1	3	300	5.8
1	4	400	8.1
1	5	500	10.5
1	7	600	15.4
1	7	700	15.4
1	7	800	15.4
1	7	900	15.4

Green 2

Comments

The inferred CBR calculation is not accredited, and is excluded from the endorsement of this test report.

Bay of Plenty Laboratory

Poplar Lane, Te Puke
Private Bag 12016, Tauranga 3143
Telephone: +64 7 542 9672
Facsimile: +64 7 542 2245
www.fultonhogan.com
0800 LABORATORY

Penetration Resistance

Report No: PR:BOP15S-01318
Issue No: 1

Client: Gareth Brown
HEB Construction Ltd
PO Box 226

Drury 2247
NZ

Project: Palm Springs Boulevard

Approved Signatory: Rob Ermens
(Lab Manager)
IANZ Accreditation No:749
Date of Issue: 08/05/15

Penetration Resistance Test Results

Site	Blows	Depth (mm)	Inferred CBR
1	2	100	3.7
1	1	200	1.7
1	3	300	5.8
1	4	400	8.1
1	5	500	10.5
1	4	600	8.1
1	8	700	18.0
1	8	800	18.0
1	7	900	15.4

Green 3

Comments

The inferred CBR calculation is not accredited, and is excluded from the endorsement of this test report.

Bay of Plenty Laboratory

Poplar Lane, Te Puke
Private Bag 12016, Tauranga 3143
Telephone: +64 7 542 9672
Facsimile: +64 7 542 2245
www.fultonhogan.com
0800 LABORATORY

Report No: PR:BOP15S-01319
Issue No: 1

Penetration Resistance

Client: Gareth Brown
HEB Construction Ltd
PO Box 226

Drury 2247
NZ

Project: Palm Springs Boulevard

Approved Signatory: Rob Ermens
(Lab Manager)
IANZ Accreditation No:749
Date of Issue: 08/05/15

Penetration Resistance Test Results

Site	Blows	Depth (mm)	Inferred CBR
1	1	100	1.7
1	1	200	1.7
1	3	300	5.8
1	5	400	10.5
1	8	500	18.0
1	10	600	23.2
1	11	700	25.9
1	11	800	25.9
1	13	900	31.3

Green 4

Comments

The inferred CBR calculation is not accredited, and is excluded from the endorsement of this test report.

Bay of Plenty Laboratory

Poplar Lane, Te Puke
Private Bag 12016, Tauranga 3143
Telephone: +64 7 542 9672
Facsimile: +64 7 542 2245
www.fultonhogan.com
0800 LABORATORY

Penetration Resistance

Report No: PR:BOP15S-01320
Issue No: 1

Client: Gareth Brown
HEB Construction Ltd
PO Box 226

Drury 2247
NZ

Project: Palm Springs Boulevard

IANZ ACCREDITED LABORATORY

Approved Signatory: Rob Ermens
(Lab Manager)
IANZ Accreditation No:749
Date of Issue: 08/05/15

Penetration Resistance Test Results

Site	Blows	Depth (mm)	Inferred CBR
1	1	100	1.7
1	1	200	1.7
1	3	300	5.8
1	4	400	8.1
1	6	500	12.9
1	6	600	12.9
1	7	700	15.4
1	8	800	18.0
1	8	900	18.0

Green 5

Comments

The inferred CBR calculation is not accredited, and is excluded from the endorsement of this test report.

Bay of Plenty Laboratory

Poplar Lane, Te Puke
Private Bag 12016, Tauranga 3143
Telephone: +64 7 542 9672
Facsimile: +64 7 542 2245
www.fultonhogan.com
0800 LABORATORY

Penetration Resistance

Report No: PR:BOP15S-01321
Issue No: 1

Client: Gareth Brown
HEB Construction Ltd
PO Box 226

Drury 2247
NZ

Project: Palm Springs Boulevard

IANZ ACCREDITED LABORATORY

Approved Signatory: Rob Ermens
(Lab Manager)
IANZ Accreditation No:749
Date of Issue: 08/05/15

Penetration Resistance Test Results

Site	Blows	Depth (mm)	Inferred CBR
1	1	100	1.7
1	3	200	5.8
1	4	300	8.1
1	5	400	10.5
1	6	500	12.9
1	10	600	23.2
1	9	700	20.6
1	8	800	18.0
2	2	100	3.7
2	3	200	5.8
2	5	300	10.5
2	6	400	12.9
2	7	500	15.4
2	10	600	23.2
2	9	700	20.6
2	8	800	18.0

Green 6

Comments

The inferred CBR calculation is not accredited, and is excluded from the endorsement of this test report.

Bay of Plenty Laboratory

Poplar Lane, Te Puke
Private Bag 12016, Tauranga 3143
Telephone: +64 7 542 9672
Facsimile: +64 7 542 2245
www.fultonhogan.com
0800 LABORATORY

Penetration Resistance

Report No: PR:BOP15S-01322
Issue No: 1

Client: Gareth Brown
HEB Construction Ltd
PO Box 226

Drury 2247
NZ

Project: Palm Springs Boulevard

IANZ ACCREDITED LABORATORY

Approved Signatory: Rob Ermens
(Lab Manager)
IANZ Accreditation No:749
Date of Issue: 08/05/15

Penetration Resistance Test Results

Site	Blows	Depth (mm)	Inferred CBR
1	2	100	3.7
1	1	200	1.7
1	2	300	3.7
1	4	400	8.1
1	4	500	8.1
1	7	600	15.4
1	8	700	18.0
1	9	800	20.6
1	11	900	25.9

Green 7

Comments

The inferred CBR calculation is not accredited, and is excluded from the endorsement of this test report.

Bay of Plenty Laboratory

Poplar Lane, Te Puke
Private Bag 12016, Tauranga 3143
Telephone: +64 7 542 9672
Facsimile: +64 7 542 2245
www.fultonhogan.com
0800 LABORATORY

Penetration Resistance

Report No: PR:BOP15S-01304
Issue No: 1

Client: Gareth Brown
HEB Construction Ltd
PO Box 226

Drury 2247
NZ

Project: Palm Springs Boulevard

IANZ ACCREDITED LABORATORY

Approved Signatory: Rob Ermens
(Lab Manager)
IANZ Accreditation No:749
Date of Issue: 06/05/15

Penetration Resistance Test Results

Site	Blows	Depth (mm)	Inferred CBR
1	1	100	1.7
1	2	200	3.7
1	6	300	12.9
1	7	400	15.4
1	7	500	15.4
1	9	600	20.6
1	9	700	20.6
1	14	800	34.1
2	1	100	1.7
2	2	200	3.7
2	6	300	12.9
2	7	400	15.4
2	8	500	18.0
2	8	600	18.0
2	9	700	20.6
2	7	800	15.4

Green 8

Comments

The inferred CBR calculation is not accredited, and is excluded from the endorsement of this test report.

Bay of Plenty Laboratory

Poplar Lane, Te Puke
Private Bag 12016, Tauranga 3143
Telephone: +64 7 542 9672
Facsimile: +64 7 542 2245
www.fultonhogan.com
0800 LABORATORY

Report No: PR:BOP15S-01305
Issue No: 1

Penetration Resistance

Client: Gareth Brown
HEB Construction Ltd
PO Box 226

Drury 2247
NZ

Project: Palm Springs Boulevard

Approved Signatory: Rob Ermens
(Lab Manager)
IANZ Accreditation No:749
Date of Issue: 06/05/15

Penetration Resistance Test Results

Site	Blows	Depth (mm)	Inferred CBR
1	1	100	1.7
1	4	200	8.1
1	5	300	10.5
1	6	400	12.9
1	8	500	18.0
1	10	600	23.2
1	12	700	28.6
1	14	800	34.1
1	15	900	36.9
2	2	100	3.7
2	5	200	10.5
2	6	300	12.9
2	8	400	18.0
2	11	500	25.9
2	13	600	31.3
2	19	700	48.4
2	17	800	42.6

Green 9

Comments

The inferred CBR calculation is not accredited, and is excluded from the endorsement of this test report.

Bay of Plenty Laboratory

Poplar Lane, Te Puke
Private Bag 12016, Tauranga 3143
Telephone: +64 7 542 9672
Facsimile: +64 7 542 2245
www.fultonhogan.com
0800 LABORATORY

Penetration Resistance

Report No: PR:BOP15S-01306
Issue No: 1

Client: Gareth Brown
HEB Construction Ltd
PO Box 226

Drury 2247
NZ

Project: Palm Springs Boulevard

Approved Signatory: Rob Ermens
(Lab Manager)
IANZ Accreditation No:749
Date of Issue: 06/05/15

Penetration Resistance Test Results

Site	Blows	Depth (mm)	Inferred CBR
1	1	100	1.7
1	2	200	3.7
1	3	300	5.8
1	5	400	10.5
1	6	500	12.9
1	10	600	23.2
1	14	700	34.1
1	15	800	36.9
1	13	900	31.3
2	2	100	3.7
2	3	200	5.8
2	4	300	8.1
2	7	400	15.4
2	9	500	20.6
2	11	600	25.9
2	12	700	28.6
2	13	800	31.3

Green 10

Comments

The inferred CBR calculation is not accredited, and is excluded from the endorsement of this test report.

Bay of Plenty Laboratory

Poplar Lane, Te Puke
Private Bag 12016, Tauranga 3143
Telephone: +64 7 542 9672
Facsimile: +64 7 542 2245
www.fultonhogan.com
0800 LABORATORY

Penetration Resistance

Report No: PR:BOP15S-01323
Issue No: 1

Client: Gareth Brown
HEB Construction Ltd
PO Box 226

Drury 2247
NZ

Project: Palm Springs Boulevard

IANZ ACCREDITED LABORATORY

Approved Signatory: Rob Ermens
(Lab Manager)
IANZ Accreditation No:749
Date of Issue: 08/05/15

Penetration Resistance Test Results

Site	Blows	Depth (mm)	Inferred CBR
1	2	100	3.7
1	2	200	3.7
1	3	300	5.8
1	6	400	12.9
1	7	500	15.4
1	8	600	18.0
1	10	700	23.2
1	12	800	28.6
2	1	100	1.7
2	2	200	3.7
2	4	300	8.1
2	4	400	8.1
2	6	500	12.9
2	9	600	20.6
2	9	700	20.6
2	9	800	20.6

Green 11

Comments

The inferred CBR calculation is not accredited, and is excluded from the endorsement of this test report.

Bay of Plenty Laboratory

Poplar Lane, Te Puke
Private Bag 12016, Tauranga 3143
Telephone: +64 7 542 9672
Facsimile: +64 7 542 2245
www.fultonhogan.com
0800 LABORATORY

Penetration Resistance

Report No: PR:BOP15S-01307
Issue No: 1

Client: Gareth Brown
HEB Construction Ltd
PO Box 226

Drury 2247
NZ

Project: Palm Springs Boulevard

IANZ ACCREDITED LABORATORY

Approved Signatory: Rob Ermens
(Lab Manager)
IANZ Accreditation No:749
Date of Issue: 06/05/15

Penetration Resistance Test Results

Site	Blows	Depth (mm)	Inferred CBR
1	3	100	5.8
1	4	200	8.1
1	7	300	15.4
1	10	400	23.2
1	12	500	28.6
1	15	600	36.9
1	16	700	39.8
1	12	800	28.6
2	3	100	5.8
2	5	200	10.5
2	7	300	15.4
2	9	400	20.6
2	11	500	25.9
2	15	600	36.9
2	15	700	36.9
2	10	800	23.2

Green 12

Comments

Bay of Plenty Laboratory

Poplar Lane, Te Puke
Private Bag 12016, Tauranga 3143
Telephone: +64 7 542 9672
Facsimile: +64 7 542 2245
www.fultonhogan.com
0800 LABORATORY

Penetration Resistance

Report No: PR:BOP15S-01308
Issue No: 1

Client: Gareth Brown
HEB Construction Ltd
PO Box 226

Drury 2247
NZ

Project: Palm Springs Boulevard

IANZ ACCREDITED LABORATORY

Approved Signatory: Rob Ermens
(Lab Manager)
IANZ Accreditation No:749
Date of Issue: 06/05/15

Penetration Resistance Test Results

Site	Blows	Depth (mm)	Inferred CBR
1	1	100	1.7
1	2	200	3.7
1	3	300	5.8
1	5	400	10.5
1	7	500	15.4
1	9	600	20.6
1	17	700	42.6
1	17	800	42.6
1	21	900	54.3
2	1	100	1.7
2	2	200	3.7
2	4	300	8.1
2	6	400	12.9
2	9	500	20.6
2	11	600	25.9
2	13	700	31.3
2	13	800	31.3
2	19	900	48.4

Green 13

Comments

The inferred CBR calculation is not accredited, and is excluded from the endorsement of this test report.

Bay of Plenty Laboratory

Poplar Lane, Te Puke
Private Bag 12016, Tauranga 3143
Telephone: +64 7 542 9672
Facsimile: +64 7 542 2245
www.fultonhogan.com
0800 LABORATORY

Penetration Resistance

Report No: PR:BOP15S-01324
Issue No: 1

Client: Gareth Brown
HEB Construction Ltd
PO Box 226

Drury 2247
NZ

Project: Palm Springs Boulevard

Approved Signatory: Rob Ermens
(Lab Manager)
IANZ Accreditation No:749
Date of Issue: 08/05/15

Penetration Resistance Test Results

Site	Blows	Depth (mm)	Inferred CBR
1	2	100	3.7
1	3	200	5.8
1	5	300	10.5
1	6	400	12.9
1	9	500	20.6
1	11	600	25.9
1	11	700	25.9
1	12	800	28.6
2	2	100	3.7
2	4	200	8.1
2	6	300	12.9
2	8	400	18.0
2	9	500	20.6
2	14	600	34.1
2	13	700	31.3
2	19	800	48.4

Green 14

Comments

The inferred CBR calculation is not accredited, and is excluded from the endorsement of this test report.

Bay of Plenty Laboratory

Poplar Lane, Te Puke
Private Bag 12016, Tauranga 3143
Telephone: +64 7 542 9672
Facsimile: +64 7 542 2245
www.fultonhogan.com
0800 LABORATORY

Penetration Resistance

Report No: PR:BOP15S-01771
Issue No: 1

Client: Gareth Brown
HEB Construction Ltd
PO Box 226

Drury 2247
NZ

Project: Palm Springs Boulevard

IANZ ACCREDITED LABORATORY

Approved Signatory: Rob Ermens
(Lab Manager)
IANZ Accreditation No:749
Date of Issue: 2/07/2015

Penetration Resistance Test Results

Site	Blows	Depth (mm)	Inferred CBR
1	2	100	3.7
1	3	200	5.8
1	5	300	10.5
1	8	400	18.0
1	9	500	20.6
1	9	600	20.6
1	12	700	28.6
1	13	800	31.3
2	2	100	3.7
2	3	200	5.8
2	5	300	10.5
2	7	400	15.4
2	12	500	28.6
2	15	600	36.9
3	2	100	3.7
3	2	200	3.7
3	3	300	5.8
3	5	400	10.5
3	7	500	15.4
3	10	600	23.2
3	13	700	31.3
3	16	800	39.8

Comments

The inferred CBR calculation is not accredited, and is excluded from the endorsement of this test report.
Site #1 = Green #15, Site #2 = Green #19, Site #3 = Green #22.

Bay of Plenty Laboratory

Poplar Lane, Te Puke
Private Bag 12016, Tauranga 3143
Telephone: +64 7 542 9672
Facsimile: +64 7 542 2245
www.fultonhogan.com
0800 LABORATORY

Penetration Resistance

Report No: PR:BOP15S-01309
Issue No: 1

Client: Gareth Brown
HEB Construction Ltd
PO Box 226

Drury 2247
NZ

Project: Palm Springs Boulevard

IANZ ACCREDITED LABORATORY

Approved Signatory: Rob Ermens
(Lab Manager)
IANZ Accreditation No:749
Date of Issue: 06/05/15

Penetration Resistance Test Results

Site	Blows	Depth (mm)	Inferred CBR
1	1	100	1.7
1	2	200	3.7
1	3	300	5.8
1	4	400	8.1
1	7	500	15.4
1	8	600	18.0
1	9	700	20.6
1	11	800	25.9
1	13	900	31.3
2	1	100	1.7
2	3	200	5.8
2	4	300	8.1
2	6	400	12.9
2	7	500	15.4
2	9	600	20.6
2	13	700	31.3
2	13	800	31.3
2	13	900	31.3

Green 17

Comments

The inferred CBR calculation is not accredited, and is excluded from the endorsement of this test report.

Bay of Plenty Laboratory

Poplar Lane, Te Puke
Private Bag 12016, Tauranga 3143
Telephone: +64 7 542 9672
Facsimile: +64 7 542 2245
www.fultonhogan.com
0800 LABORATORY

Penetration Resistance

Report No: PR:BOP15S-01420
Issue No: 1

Client: Gareth Brown
HEB Construction Ltd
PO Box 226

Drury 2247
NZ

Project: Palm Springs Boulevard

IANZ ACCREDITED LABORATORY

Approved Signatory: Rob Ermens
(Lab Manager)
IANZ Accreditation No:749
Date of Issue: 22/05/15

Penetration Resistance Test Results

Site	Blows	Depth (mm)	Inferred CBR
1	1	100	1.7
1	4	200	8.1
1	6	300	12.9
1	9	400	20.6
1	10	500	23.2
1	8	600	18.0
1	10	700	23.2
1	8	800	18.0
2	1	100	1.7
2	2	200	3.7
2	3	300	5.8
2	6	400	12.9
2	9	500	20.6
2	11	600	25.9
2	13	700	31.3
2	12	800	28.6

Green ✓

Comments

The inferred CBR calculation is not accredited, and is excluded from the endorsement of this test report.

Bay of Plenty Laboratory

Poplar Lane, Te Puke
Private Bag 12016, Tauranga 3143
Telephone: +64 7 542 9672
Facsimile: +64 7 542 2245
www.fultonhogan.com
0800 LABORATORY

Penetration Resistance

Report No: PR:BOP15S-01697
Issue No: 1

Client: Gareth Brown
HEB Construction Ltd
PO Box 226

Drury 2247
NZ

Project: Palm Springs Boulevard

IANZ ACCREDITED LABORATORY

Approved Signatory: Rob Ermens
(Lab Manager)
IANZ Accreditation No:749
Date of Issue: 23/06/2015

Penetration Resistance Test Results

Site	Blows	Depth (mm)	Inferred CBR
1	2	100	3.7
1	3	200	5.8
1	6	300	12.9
1	5	400	10.5
1	9	500	20.6
1	7	600	15.4
1	10	700	23.2
1	12	800	28.6
2	2	100	3.7
2	3	200	5.8
2	6	300	12.9
2	9	400	20.6
2	10	500	23.2
2	11	600	25.9
2	11	700	25.9
2	12	800	28.6

Green 20

Comments

The inferred CBR calculation is not accredited, and is excluded from the endorsement of this test report.

Bay of Plenty Laboratory

Poplar Lane, Te Puke
Private Bag 12016, Tauranga 3143
Telephone: +64 7 542 9672
Facsimile: +64 7 542 2245
www.fultonhogan.com
0800 LABORATORY

Penetration Resistance

Report No: PR:BOP15S-01698
Issue No: 1

Client: Gareth Brown
HEB Construction Ltd
PO Box 226

Drury 2247
NZ

Project: Palm Springs Boulevard

IANZ ACCREDITED LABORATORY

Approved Signatory: Rob Ermens
(Lab Manager)
IANZ Accreditation No:749
Date of Issue: 23/06/2015

Penetration Resistance Test Results

Site	Blows	Depth (mm)	Inferred CBR
1	2	100	3.7
1	4	200	8.1
1	4	300	8.1
1	7	400	15.4
1	8	500	18.0
1	9	600	20.6
1	12	700	28.6
1	12	800	28.6
2	2	100	3.7
2	3	200	5.8
2	5	300	10.5
2	7	400	15.4
2	9	500	20.6
2	12	600	28.6
2	12	700	28.6
2	15	800	36.9

Green 21

Comments

The inferred CBR calculation is not accredited, and is excluded from the endorsement of this test report.

Bay of Plenty Laboratory

Poplar Lane, Te Puke
Private Bag 12016, Tauranga 3143
Telephone: +64 7 542 9672
Facsimile: +64 7 542 2245
www.fultonhogan.com
0800 LABORATORY

Penetration Resistance

Report No: PR:BOP15S-01421
Issue No: 1

Client: Gareth Brown
HEB Construction Ltd
PO Box 226

Drury 2247
NZ

Project: Palm Springs Boulevard

IANZ ACCREDITED LABORATORY

Approved Signatory: Rob Ermens
(Lab Manager)
IANZ Accreditation No:749
Date of Issue: 22/05/15

Penetration Resistance Test Results

Site	Blows	Depth (mm)	Inferred CBR
1	2	100	3.7
1	3	200	5.8
1	4	300	8.1
1	7	400	15.4
1	7	500	15.4
1	11	600	25.9
1	12	700	28.6
1	12	800	28.6
2	1	100	1.7
2	3	200	5.8
2	4	300	8.1
2	5	400	10.5
2	7	500	15.4
2	10	600	23.2
2	9	700	20.6
2	11	800	25.9

Green 23

Comments

The inferred CBR calculation is not accredited, and is excluded from the endorsement of this test report.

Bay of Plenty Laboratory

Poplar Lane, Te Puke
Private Bag 12016, Tauranga 3143
Telephone: +64 7 542 9672
Facsimile: +64 7 542 2245
www.fultonhogan.com
0800 LABORATORY

Penetration Resistance

Report No: PR:BOP15S-01422
Issue No: 1

Client: Gareth Brown
HEB Construction Ltd
PO Box 226

Drury 2247
NZ

Project: Palm Springs Boulevard

IANZ ACCREDITED LABORATORY

Approved Signatory: Rob Ermens
(Lab Manager)
IANZ Accreditation No:749
Date of Issue: 22/05/15

Penetration Resistance Test Results

Site	Blows	Depth (mm)	Inferred CBR
1	1	100	1.7
1	1	200	1.7
1	1	300	1.7
1	4	400	8.1
1	5	500	10.5
1	7	600	15.4
1	8	700	18.0
1	9	800	20.6
2	1	100	1.7
2	1	200	1.7
2	1	300	1.7
2	3	400	5.8
2	4	500	8.1
2	6	600	12.9
2	7	700	15.4
2	8	800	18.0

Green 24

Comments

The inferred CBR calculation is not accredited, and is excluded from the endorsement of this test report.

Bay of Plenty Laboratory

Poplar Lane, Te Puke
Private Bag 12016, Tauranga 3143
Telephone: +64 7 542 9672
Facsimile: +64 7 542 2245
www.fultonhogan.com
0800 LABORATORY

Penetration Resistance

Report No: PR:BOP15S-01772
Issue No: 1

Client: Gareth Brown
HEB Construction Ltd
PO Box 226

Drury 2247
NZ

Project: Palm Springs Boulevard

IANZ ACCREDITED LABORATORY

Approved Signatory: Rob Ermens
(Lab Manager)
IANZ Accreditation No:749
Date of Issue: 2/07/2015

Penetration Resistance Test Results

Site	Blows	Depth (mm)	Inferred CBR
1	2	100	3.7
1	3	200	5.8
1	7	300	15.4
1	8	400	18.0
1	10	500	23.2
1	14	600	34.1
1	19	700	48.4
2	4	100	8.1
2	4	200	8.1
2	6	300	12.9
2	9	400	20.6
2	13	500	31.3
2	16	600	39.8
2	17	700	42.6
3	1	100	1.7
3	5	200	10.5
3	8	300	18.0
3	19	400	48.4

Comments

The inferred CBR calculation is not accredited, and is excluded from the endorsement of this test report.
Site #1 = Green #25, Site #2 = Green #26, Site #3 = Green #28.

Bay of Plenty Laboratory

Poplar Lane, Te Puke
Private Bag 12016, Tauranga 3143
Telephone: +64 7 542 9672
Facsimile: +64 7 542 2245
www.fultonhogan.com
0800 LABORATORY

Penetration Resistance

Report No: PR:BOP15S-01423
Issue No: 1

Client: Gareth Brown
HEB Construction Ltd
PO Box 226

Drury 2247
NZ

Project: Palm Springs Boulevard

IANZ ACCREDITED LABORATORY

Approved Signatory: Rob Ermens
(Lab Manager)
IANZ Accreditation No:749
Date of Issue: 22/05/15

Penetration Resistance Test Results

Site	Blows	Depth (mm)	Inferred CBR
1	2	100	3.7
1	5	200	10.5
1	8	300	18.0
1	13	400	31.3
1	11	500	25.9
1	10	600	23.2
1	11	700	25.9
1	12	800	28.6
2	2	100	3.7
2	4	200	8.1
2	7	300	15.4
2	10	400	23.2
2	11	500	25.9
2	12	600	28.6
2	11	700	25.9
2	11	800	25.9

Green 29

Comments

The inferred CBR calculation is not accredited, and is excluded from the endorsement of this test report.

Bay of Plenty Laboratory

Poplar Lane, Te Puke
Private Bag 12016, Tauranga 3143
Telephone: +64 7 542 9672
Facsimile: +64 7 542 2245
www.fultonhogan.com
0800 LABORATORY

Penetration Resistance

Report No: PR:BOP15S-01424
Issue No: 1

Client: Gareth Brown
HEB Construction Ltd
PO Box 226

Drury 2247
NZ

Project: Palm Springs Boulevard

IANZ ACCREDITED LABORATORY

Approved Signatory: Rob Ermens
(Lab Manager)
IANZ Accreditation No:749
Date of Issue: 22/05/15

Penetration Resistance Test Results

Site	Blows	Depth (mm)	Inferred CBR
1	1	100	1.7
1	2	200	3.7
1	3	300	5.8
1	6	400	12.9
1	6	500	12.9
1	9	600	20.6
1	13	700	31.3
1	15	800	36.9
2	1	100	1.7
2	1	200	1.7
2	3	300	5.8
2	5	400	10.5
2	7	500	15.4
2	7	600	15.4
2	10	700	23.2
2	8	800	18.0

Green 30

Comments

The inferred CBR calculation is not accredited, and is excluded from the endorsement of this test report.

Bay of Plenty Laboratory

Poplar Lane, Te Puke
Private Bag 12016, Tauranga 3143
Telephone: +64 7 542 9672
Facsimile: +64 7 542 2245
www.fultonhogan.com
0800 LABORATORY

Penetration Resistance

Report No: PR:BOP15S-01585
Issue No: 1

Client: Gareth Brown
HEB Construction Ltd
PO Box 226

Drury 2247
NZ

Project: Palm Springs Boulevard

The test (s) reported herein (unless otherwise indicated) have been performed in accordance with the laboratory's scope of accreditation. This report may only be reproduced in full.

IANZ ACCREDITED LABORATORY

Approved Signatory: Rob Ermens
(Lab Manager)
IANZ Accreditation No:749
Date of Issue: 09/06/15

Penetration Resistance Test Results

Site	Blows	Depth (mm)	Inferred CBR
1	2	100	3.7
1	3	200	5.8
1	4	300	8.1
1	6	400	12.9
1	8	500	18.0
1	11	600	25.9
1	13	700	31.3
1	14	800	34.1

Green 32

Comments

The inferred CBR calculation is not accredited, and is excluded from the endorsement of this test report.

Bay of Plenty Laboratory

Poplar Lane, Te Puke
Private Bag 12016, Tauranga 3143
Telephone: +64 7 542 9672
Facsimile: +64 7 542 2245
www.fultonhogan.com
0800 LABORATORY

Penetration Resistance

Report No: PR:BOP15S-01773
Issue No: 1

Client: Gareth Brown
HEB Construction Ltd
PO Box 226

Drury 2247
NZ

Project: Palm Springs Boulevard

Approved Signatory: Rob Ermens
(Lab Manager)
IANZ Accreditation No:749
Date of Issue: 2/07/2015

Penetration Resistance Test Results

Site	Blows	Depth (mm)	Inferred CBR
1	4	100	8.1
1	4	200	8.1
1	7	300	15.4
1	10	400	23.2
1	13	500	31.3
1	20	600	51.3
2	4	100	8.1
2	5	200	10.5
2	4	300	8.1
2	6	400	12.9
2	7	500	15.4
2	8	600	18.0
2	7	700	15.4
2	6	800	12.9
3	3	100	5.8
3	3	200	5.8
3	7	300	15.4
3	8	400	18.0
3	10	500	23.2
3	11	600	25.9
3	10	700	23.2
3	13	800	31.3

Comments

The inferred CBR calculation is not accredited, and is excluded from the endorsement of this test report.
Site #1 = Green #33, Site #2 = Green #34, Site #3 = Green #40.

Bay of Plenty Laboratory

Poplar Lane, Te Puke
Private Bag 12016, Tauranga 3143
Telephone: +64 7 542 9672
Facsimile: +64 7 542 2245
www.fultonhogan.com
0800 LABORATORY

Penetration Resistance

Report No: PR:BOP15S-01700
Issue No: 1

Client: Gareth Brown
HEB Construction Ltd
PO Box 226

Drury 2247
NZ

Project: Palm Springs Boulevard

IANZ ACCREDITED LABORATORY

Approved Signatory: Rob Ermens
(Lab Manager)
IANZ Accreditation No:749
Date of Issue: 23/06/2015

Penetration Resistance Test Results

Site	Blows	Depth (mm)	Inferred CBR
1	1	100	1.7
1	2	200	3.7
1	5	300	10.5
1	9	400	20.6
1	13	500	31.3
1	12	600	28.6
1	16	700	39.8
1	18	800	45.5
2	1	100	1.7
2	1	200	1.7
2	3	300	5.8
2	7	400	15.4
2	11	500	25.9
2	17	600	42.6
2	19	700	48.4

Green 35

Comments

The inferred CBR calculation is not accredited, and is excluded from the endorsement of this test report.

Bay of Plenty Laboratory

Poplar Lane, Te Puke
Private Bag 12016, Tauranga 3143
Telephone: +64 7 542 9672
Facsimile: +64 7 542 2245
www.fultonhogan.com
0800 LABORATORY

Report No: PR:BOP15S-01425
Issue No: 1

Penetration Resistance

Client: Gareth Brown
HEB Construction Ltd
PO Box 226

Drury 2247
NZ

Project: Palm Springs Boulevard

IANZ ACCREDITED LABORATORY

Approved Signatory: Rob Ermens
(Lab Manager)
IANZ Accreditation No:749
Date of Issue: 22/05/15

Penetration Resistance Test Results

Site	Blows	Depth (mm)	Inferred CBR
1	1	100	1.7
1	1	200	1.7
1	3	300	5.8
1	5	400	10.5
1	6	500	12.9
1	6	600	12.9
1	9	700	20.6
1	10	800	23.2
2	1	100	1.7
2	2	200	3.7
2	3	300	5.8
2	4	400	8.1
2	6	500	12.9
2	6	600	12.9
2	8	700	18.0
2	10	800	23.2

Green 36

Comments
The inferred CBR calculation is not accredited, and is excluded from the endorsement of this test report.

Bay of Plenty Laboratory

Poplar Lane, Te Puke
Private Bag 12016, Tauranga 3143
Telephone: +64 7 542 9672
Facsimile: +64 7 542 2245
www.fultonhogan.com
0800 LABORATORY

Report No: PR:BOP15S-01426
Issue No: 1

Penetration Resistance

Client: Gareth Brown
HEB Construction Ltd
PO Box 226

Drury 2247
NZ

Project: Palm Springs Boulevard

Approved Signatory: Rob Ermens
(Lab Manager)
IANZ Accreditation No:749
Date of Issue: 22/05/15

Penetration Resistance Test Results

Site	Blows	Depth (mm)	Inferred CBR
1	3	100	5.8
1	5	200	10.5
1	8	300	18.0
1	9	400	20.6
1	12	500	28.6
1	16	600	39.8
1	15	700	36.9
1	14	800	34.1
2	3	100	5.8
2	4	200	8.1
2	7	300	15.4
2	10	400	23.2
2	12	500	28.6
2	14	600	34.1
2	15	700	36.9
2	13	800	31.3

Green 37

Comments

The inferred CBR calculation is not accredited, and is excluded from the endorsement of this test report.

Bay of Plenty Laboratory

Poplar Lane, Te Puke
Private Bag 12016, Tauranga 3143
Telephone: +64 7 542 9672
Facsimile: +64 7 542 2245
www.fultonhogan.com
0800 LABORATORY

Penetration Resistance

Report No: PR:BOP15S-01586
Issue No: 1

Client: Gareth Brown
HEB Construction Ltd
PO Box 226

Drury 2247
NZ

Project: Palm Springs Boulevard

IANZ ACCREDITED LABORATORY

Approved Signatory: Rob Ermens
(Lab Manager)
IANZ Accreditation No:749
Date of Issue: 09/06/15

Penetration Resistance Test Results

Site	Blows	Depth (mm)	Inferred CBR
1	2	100	3.7
1	4	200	8.1
1	6	300	12.9
1	7	400	15.4
1	9	500	20.6
1	11	600	25.9
1	12	700	28.6
1	13	800	31.3
2	3	100	5.8
2	4	200	8.1
2	7	300	15.4
2	9	400	20.6
2	11	500	25.9
2	13	600	31.3
2	14	700	34.1
2	15	800	36.9

Green 38

Comments

The inferred CBR calculation is not accredited, and is excluded from the endorsement of this test report.

Bay of Plenty Laboratory

Poplar Lane, Te Puke
Private Bag 12016, Tauranga 3143
Telephone: +64 7 542 9672
Facsimile: +64 7 542 2245
www.fultonhogan.com
0800 LABORATORY

Penetration Resistance

Report No: PR:BOP15S-01701
Issue No: 1

Client: Gareth Brown
HEB Construction Ltd
PO Box 226

Drury 2247
NZ

Project: Palm Springs Boulevard

IANZ ACCREDITED LABORATORY

Approved Signatory: Rob Ermens
(Lab Manager)
IANZ Accreditation No:749
Date of Issue: 23/06/2015

Penetration Resistance Test Results

Site	Blows	Depth (mm)	Inferred CBR
1	4	100	8.1
1	8	200	18.0
1	11	300	25.9
1	19	400	48.4
1	21	500	54.3
2	4	100	8.1
2	9	200	20.6
2	17	300	42.6
2	22	400	57.3

Green 39

Comments

Bay of Plenty Laboratory

Poplar Lane, Te Puke
Private Bag 12016, Tauranga 3143
Telephone: +64 7 542 9672
Facsimile: +64 7 542 2245
www.fultonhogan.com
0800 LABORATORY

Report No: PR:BOP15S-01427
Issue No: 1

Penetration Resistance

Client: Gareth Brown
HEB Construction Ltd
PO Box 226

Drury 2247
NZ

Project: Palm Springs Boulevard

Approved Signatory: Rob Ermens
(Lab Manager)
IANZ Accreditation No:749
Date of Issue: 22/05/15

Penetration Resistance Test Results

Site	Blows	Depth (mm)	Inferred CBR
1	1	100	1.7
1	3	200	5.8
1	5	300	10.5
1	7	400	15.4
1	9	500	20.6
1	11	600	25.9
1	11	700	25.9
1	10	800	23.2
2	1	100	1.7
2	2	200	3.7
2	4	300	8.1
2	5	400	10.5
2	5	500	10.5
2	7	600	15.4
2	7	700	15.4
2	4	800	8.1

Green 41

Comments
The inferred CBR calculation is not accredited, and is excluded from the endorsement of this test report.

Bay of Plenty Laboratory

Poplar Lane, Te Puke
Private Bag 12016, Tauranga 3143
Telephone: +64 7 542 9672
Facsimile: +64 7 542 2245
www.fultonhogan.com
0800 LABORATORY

Report No: PR:BOP15S-01587
Issue No: 1

Penetration Resistance

Client: Gareth Brown
HEB Construction Ltd
PO Box 226

Drury 2247
NZ

Project: Palm Springs Boulevard

Approved Signatory: Rob Ermens
(Lab Manager)
IANZ Accreditation No:749
Date of Issue: 09/06/15

Penetration Resistance Test Results

Site	Blows	Depth (mm)	Inferred CBR
1	3	100	5.8
1	4	200	8.1
1	6	300	12.9
1	8	400	18.0
1	9	500	20.6
1	9	600	20.6
1	11	700	25.9
1	13	800	31.3

Green 42

Comments

The inferred CBR calculation is not accredited, and is excluded from the endorsement of this test report.

Bay of Plenty Laboratory

Poplar Lane, Te Puke
Private Bag 12016, Tauranga 3143
Telephone: +64 7 542 9672
Facsimile: +64 7 542 2245
www.fultonhogan.com
0800 LABORATORY

Report No: PR:BOP15S-01588
Issue No: 1

Penetration Resistance

Client: Gareth Brown
HEB Construction Ltd
PO Box 226

Drury 2247
NZ

Project: Palm Springs Boulevard

The test (s) reported herein (unless otherwise indicated) have been performed in accordance with the laboratory's scope of accreditation. This report may only be reproduced in full.

Approved Signatory: Rob Ermens
(Lab Manager)
IANZ Accreditation No:749
Date of Issue: 09/06/15

Penetration Resistance Test Results

Site	Blows	Depth (mm)	Inferred CBR
1	2	100	3.7
1	4	200	8.1
1	6	300	12.9
1	8	400	18.0
1	11	500	25.9
1	12	600	28.6
1	13	700	31.3
1	15	800	36.9

Green 43

Comments

The inferred CBR calculation is not accredited, and is excluded from the endorsement of this test report.

Bay of Plenty Laboratory

Poplar Lane, Te Puke
Private Bag 12016, Tauranga 3143
Telephone: +64 7 542 9672
Facsimile: +64 7 542 2245
www.fultonhogan.com
0800 LABORATORY

Penetration Resistance

Report No: PR:BOP15S-01428
Issue No: 1

Client: Gareth Brown
HEB Construction Ltd
PO Box 226

Drury 2247
NZ

Project: Palm Springs Boulevard

IANZ ACCREDITED LABORATORY

Approved Signatory: Rob Ermens
(Lab Manager)
IANZ Accreditation No:749
Date of Issue: 22/05/15

Penetration Resistance Test Results

Site	Blows	Depth (mm)	Inferred CBR
1	2	100	3.7
1	2	200	3.7
1	4	300	8.1
1	5	400	10.5
1	6	500	12.9
1	6	600	12.9
1	7	700	15.4
1	6	800	12.9
2	2	100	3.7
2	2	200	3.7
2	4	300	8.1
2	6	400	12.9
2	7	500	15.4
2	7	600	15.4
2	6	700	12.9
2	7	800	15.4

Green 44

Comments

The inferred CBR calculation is not accredited, and is excluded from the endorsement of this test report.

Bay of Plenty Laboratory

Poplar Lane, Te Puke
Private Bag 12016, Tauranga 3143
Telephone: +64 7 542 9672
Facsimile: +64 7 542 2245
www.fultonhogan.com
0800 LABORATORY

Penetration Resistance

Report No: PR:BOP15S-01429
Issue No: 1

Client: Gareth Brown
HEB Construction Ltd
PO Box 226

Drury 2247
NZ

Project: Palm Springs Boulevard

IANZ ACCREDITED LABORATORY

Approved Signatory: Rob Ermens
(Lab Manager)
IANZ Accreditation No:749
Date of Issue: 22/05/15

Penetration Resistance Test Results

Site	Blows	Depth (mm)	Inferred CBR
1	1	100	1.7
1	1	200	1.7
1	3	300	5.8
1	4	400	8.1
1	7	500	15.4
1	9	600	20.6
1	9	700	20.6
1	9	800	20.6
2	1	100	1.7
2	1	200	1.7
2	3	300	5.8
2	5	400	10.5
2	6	500	12.9
2	7	600	15.4
2	7	700	15.4
2	8	800	18.0

Green 45

Comments

The inferred CBR calculation is not accredited, and is excluded from the endorsement of this test report.

Bay of Plenty Laboratory

Poplar Lane, Te Puke
Private Bag 12016, Tauranga 3143
Telephone: +64 7 542 9672
Facsimile: +64 7 542 2245
www.fultonhogan.com
0800 LABORATORY

Penetration Resistance

Report No: PR:BOP15S-01430
Issue No: 1

Client: Gareth Brown
HEB Construction Ltd
PO Box 226

Drury 2247
NZ

Project: Palm Springs Boulevard

IANZ ACCREDITED LABORATORY

Approved Signatory: Rob Ermens
(Lab Manager)
IANZ Accreditation No:749
Date of Issue: 22/05/15

Penetration Resistance Test Results

Site	Blows	Depth (mm)	Inferred CBR
1	6	100	12.9
1	9	200	20.6
1	7	300	15.4
1	9	400	20.6
1	9	500	20.6
1	9	600	20.6
1	9	700	20.6
1	8	800	18.0
2	6	100	12.9
2	8	200	18.0
2	8	300	18.0
2	8	400	18.0
2	8	500	18.0
2	10	600	23.2
2	9	700	20.6
2	7	800	15.4

Green 46

Comments

The inferred CBR calculation is not accredited, and is excluded from the endorsement of this test report.

Bay of Plenty Laboratory

Poplar Lane, Te Puke
Private Bag 12016, Tauranga 3143
Telephone: +64 7 542 9672
Facsimile: +64 7 542 2245
www.fultonhogan.com
0800 LABORATORY

Penetration Resistance

Report No: PR:BOP15S-01431
Issue No: 1

Client: Gareth Brown
HEB Construction Ltd
PO Box 226

Drury 2247
NZ

Project: Palm Springs Boulevard

IANZ ACCREDITED LABORATORY

Approved Signatory: Rob Ermens
(Lab Manager)
IANZ Accreditation No:749
Date of Issue: 22/05/15

Penetration Resistance Test Results

Site	Blows	Depth (mm)	Inferred CBR
1	1	100	1.7
1	2	200	3.7
1	4	300	8.1
1	4	400	8.1
1	5	500	10.5
1	6	600	12.9
1	6	700	12.9
1	6	800	12.9
2	1	100	1.7
2	2	200	3.7
2	2	300	3.7
2	4	400	8.1
2	6	500	12.9
2	7	600	15.4
2	8	700	18.0
2	6	800	12.9

Green 47

Comments

The inferred CBR calculation is not accredited, and is excluded from the endorsement of this test report.

Bay of Plenty Laboratory

Poplar Lane, Te Puke
Private Bag 12016, Tauranga 3143
Telephone: +64 7 542 9672
Facsimile: +64 7 542 2245
www.fultonhogan.com
0800 LABORATORY

Penetration Resistance

Report No: PR:BOP15S-01589
Issue No: 1

Client: Gareth Brown
HEB Construction Ltd
PO Box 226

Drury 2247
NZ

Project: Palm Springs Boulevard

IANZ ACCREDITED LABORATORY

Approved Signatory: Rob Ermens
(Lab Manager)
IANZ Accreditation No:749
Date of Issue: 09/06/15

Penetration Resistance Test Results

Site	Blows	Depth (mm)	Inferred CBR
1	4	100	8.1
1	4	200	8.1
1	5	300	10.5
1	6	400	12.9
1	7	500	15.4
1	7	600	15.4
1	8	700	18.0
1	6	800	12.9
2	3	100	5.8
2	3	200	5.8
2	5	300	10.5
2	5	400	10.5
2	7	500	15.4
2	6	600	12.9
2	6	700	12.9
2	6	800	12.9

Green 48

Comments

The inferred CBR calculation is not accredited, and is excluded from the endorsement of this test report.

Bay of Plenty Laboratory

Poplar Lane, Te Puke
Private Bag 12016, Tauranga 3143
Telephone: +64 7 542 9672
Facsimile: +64 7 542 2245
www.fultonhogan.com
0800 LABORATORY

Penetration Resistance

Report No: PR:BOP15S-01432
Issue No: 1

Client: Gareth Brown
HEB Construction Ltd
PO Box 226

Drury 2247
NZ

Project: Palm Springs Boulevard

Approved Signatory: Rob Ermens
(Lab Manager)
IANZ Accreditation No:749
Date of Issue: 22/05/15

Penetration Resistance Test Results

Site	Blows	Depth (mm)	Inferred CBR
1	6	100	12.9
1	4	200	8.1
1	5	300	10.5
1	6	400	12.9
1	7	500	15.4
1	7	600	15.4
1	8	700	18.0
1	7	800	15.4
2	4	100	8.1
2	6	200	12.9
2	7	300	15.4
2	8	400	18.0
2	9	500	20.6
2	10	600	23.2
2	8	700	18.0
2	8	800	18.0

Green 49

Comments
The inferred CBR calculation is not accredited, and is excluded from the endorsement of this test report.

Bay of Plenty Laboratory

Poplar Lane, Te Puke
Private Bag 12016, Tauranga 3143
Telephone: +64 7 542 9672
Facsimile: +64 7 542 2245
www.fultonhogan.com
0800 LABORATORY

Penetration Resistance

Report No: PR:BOP15S-01590
Issue No: 1

Client: Gareth Brown
HEB Construction Ltd
PO Box 226

Drury 2247
NZ

Project: Palm Springs Boulevard

IANZ ACCREDITED LABORATORY

Approved Signatory: Rob Ermens
(Lab Manager)
IANZ Accreditation No:749
Date of Issue: 09/06/15

Penetration Resistance Test Results

Site	Blows	Depth (mm)	Inferred CBR
1	2	100	3.7
1	3	200	5.8
1	5	300	10.5
1	5	400	10.5
1	7	500	15.4
1	9	600	20.6
1	10	700	23.2
1	12	800	28.6

Green 50

Comments

The inferred CBR calculation is not accredited, and is excluded from the endorsement of this test report.

Scala Penetrometer Tests in Cut (Fulton Hogan)

Test positions referred to as red on

20464-AB20 and 20464-AB21

Bay of Plenty Laboratory

Poplar Lane, Te Puke
Private Bag 12016, Tauranga 3143
Telephone: +64 7 542 9672
Facsimile: +64 7 542 2245
www.fultonhogan.com
0800 LABORATORY

Report No: PR:BOP15S-01782
Issue No: 1

Penetration Resistance

Client: Gareth Brown
HEB Construction Ltd
PO Box 226

Drury 2247
NZ

Project: Palm Springs Boulevard

Approved Signatory: Rob Ermens
(Lab Manager)

Date of Issue: 6/07/2015

Test Details

Sample ID: BOP15S-01782
Tested By: Barrack Carle
Material: Insitu Fill Sand

Location: Earthworks - Red #1-3
Date Tested: 23/06/2015
Specification: Contract Specification

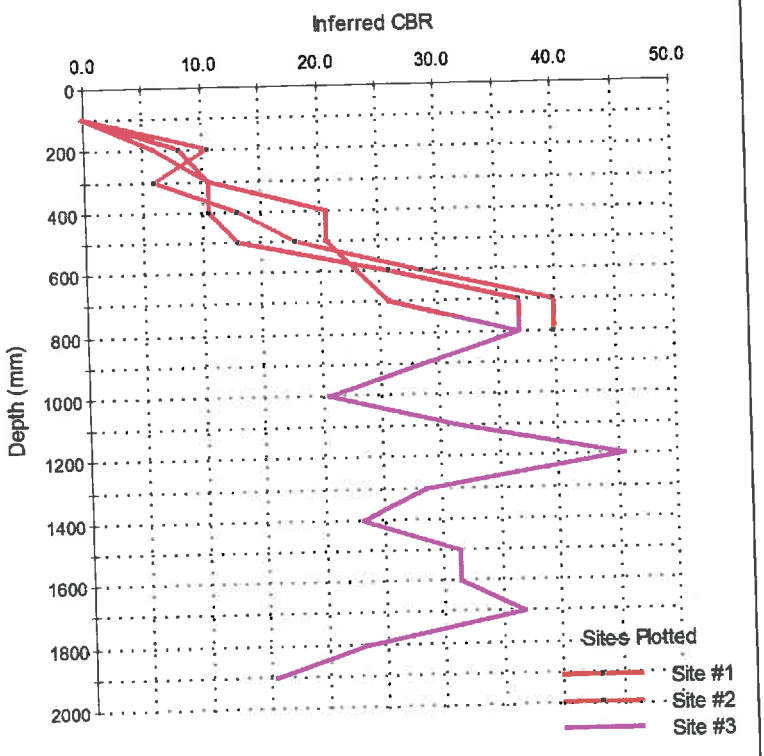
Test Results

NZS 4402:1988 Test 6.5.2

Depth of Excavation to surface (mm): 0

Depth at the Commencement (mm): 100

Penetration vs Inferred CBR



Inferred CBR values are based on Austroads Pavement Design:
Guide to the Structural Design of Road Pavements Section 5.5.2 & Fig 5.2

Comments

Report not accredited due to maximum allowable length of rod exceeded.

Bay of Plenty Laboratory

Poplar Lane, Te Puke
Private Bag 12016, Tauranga 3143
Telephone: +64 7 542 9672
Facsimile: +64 7 542 2245
www.fultonhogan.com
0800 LABORATORY

Penetration Resistance

Report No: PR:BOP15S-01782
Issue No: 1

Client: Gareth Brown
HEB Construction Ltd
PO Box 226

Drury 2247
NZ

Project: Palm Springs Boulevard

Approved Signatory: Rob Ermens
(Lab Manager)

Date of Issue: 6/07/2015

Penetration Resistance Test Results

Site	Blows	Depth (mm)	Inferred CBR
1	4	100	8.1
1	5	200	10.5
1	5	300	10.5
1	6	400	12.9
1	11	500	25.9
1	15	600	36.9
1	15	700	36.9
2	5	100	10.5
2	3	200	5.8
2	6	300	12.9
2	8	400	18.0
2	12	500	28.6
2	16	600	39.8
2	16	700	39.8
3	3	100	5.8
3	5	200	10.5
3	9	300	20.6
3	9	400	20.6
3	10	500	23.2
3	11	600	25.9
3	15	700	36.9
3	12	800	28.6
3	9	900	20.6
3	13	1000	31.3
3	18	1100	45.5
3	12	1200	28.6
3	10	1300	23.2
3	13	1400	31.3
3	13	1500	31.3
3	15	1600	36.9
3	10	1700	23.2
3	7	1800	15.4

Comments

Report not accredited due to maximum allowable length of rod exceeded.

Bay of Plenty Laboratory

Poplar Lane, Te Puke
Private Bag 12016, Tauranga 3143
Telephone: +64 7 542 9672
Facsimile: +64 7 542 2245
www.fultonhogan.com
0800 LABORATORY

Penetration Resistance

Report No: PR:BOP15S-01783
Issue No: 1

Client: Gareth Brown
HEB Construction Ltd
PO Box 226

Drury 2247
NZ

Project: Palm Springs Boulevard

Approved Signatory: Rob Ermens
(Lab Manager)

Date of Issue: 6/07/2015

Test Details

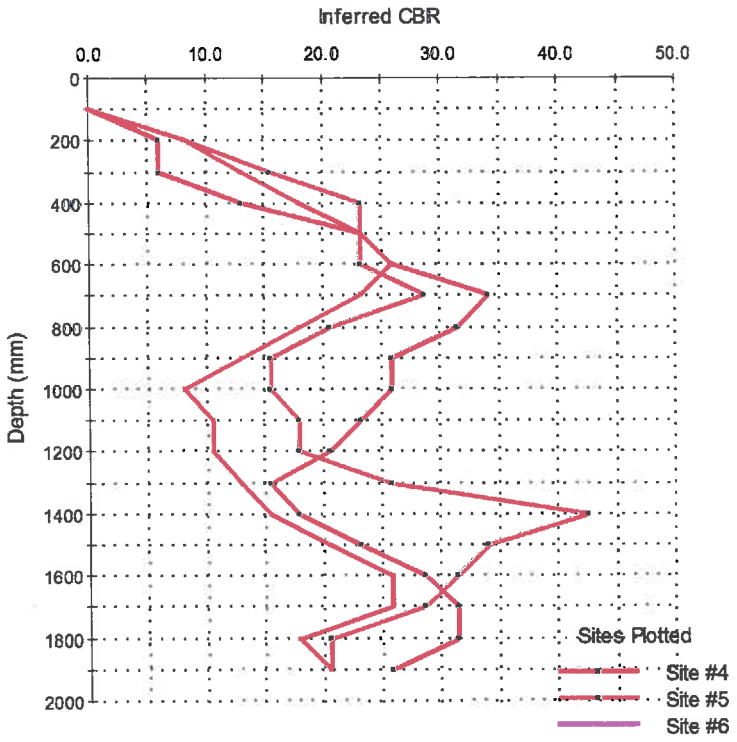
Sample ID: BOP15S-01783
Tested By: Barrack Carle
Material: Insitu Fill Sand
Location: Earthworks - Red #4-6
Date Tested: 23/06/2015
Specification: Contract Specification

Test Results

NZS 4402:1988 Test 6.5.2

Depth of Excavation to surface (mm): 0
Depth at the Commencement (mm): 100

Penetration vs Inferred CBR



Inferred CBR values are based on Austroads Pavement Design:
Guide to the Structural Design of Road Pavements Section 5.5.2 & Fig 5.2

Comments

Report not accredited due to maximum allowable length of rod exceeded.

Bay of Plenty Laboratory

Poplar Lane, Te Puke
Private Bag 12016, Tauranga 3143
Telephone: +64 7 542 9672
Facsimile: +64 7 542 2245
www.fultonhogan.com
0800 LABORATORY

Penetration Resistance

Report No: PR:BOP15S-01783
Issue No: 1

Client: Gareth Brown
HEB Construction Ltd
PO Box 226

Drury 2247
NZ

Project: Palm Springs Boulevard

Approved Signatory: Rob Ermens
(Lab Manager)

Date of Issue: 6/07/2015

Penetration Resistance Test Results

Site	Blows	Depth (mm)	Inferred CBR	Site	Blows	Depth (mm)	Inferred CBR
4	3	100	5.8	6	11	500	25.9
4	3	200	5.8	6	10	600	23.2
4	6	300	12.9	6	8	700	18.0
4	10	400	23.2	6	6	800	12.9
4	11	500	25.9	6	4	900	8.1
4	14	600	34.1	6	5	1000	10.5
4	13	700	31.3	6	5	1100	10.5
4	11	800	25.9	6	6	1200	12.9
4	11	900	25.9	6	7	1300	15.4
4	10	1000	23.2	6	9	1400	20.6
4	9	1100	20.6	6	11	1500	25.9
4	7	1200	15.4	6	11	1600	25.9
4	8	1300	18.0	6	8	1700	18.0
4	10	1400	23.2	6	9	1800	20.6
4	12	1500	28.6				
4	13	1600	31.3				
4	13	1700	31.3				
4	11	1800	25.9				
5	4	100	8.1				
5	7	200	15.4				
5	10	300	23.2				
5	10	400	23.2				
5	10	500	23.2				
5	12	600	28.6				
5	9	700	20.6				
5	7	800	15.4				
5	7	900	15.4				
5	8	1000	18.0				
5	8	1100	18.0				
5	11	1200	25.9				
5	17	1300	42.6				
5	14	1400	34.1				
5	13	1500	31.3				
5	12	1600	28.6				
5	9	1700	20.6				
5	9	1800	20.6				
6	4	100	8.1				
6	6	200	12.9				
6	8	300	18.0				
6	10	400	23.2				

Comments

Report not accredited due to maximum allowable length of rod exceeded.

Bay of Plenty Laboratory

Poplar Lane, Te Puke
Private Bag 12016, Tauranga 3143
Telephone: +64 7 542 9672
Facsimile: +64 7 542 2245
www.fultonhogan.com
0800 LABORATORY

Report No: PR:BOP15S-01784
Issue No: 1

Penetration Resistance

Client: Gareth Brown
HEB Construction Ltd
PO Box 226

Drury 2247
NZ

Project: Palm Springs Boulevard

Approved Signatory: Rob Ermens
(Lab Manager)

Date of Issue: 6/07/2015

Test Details

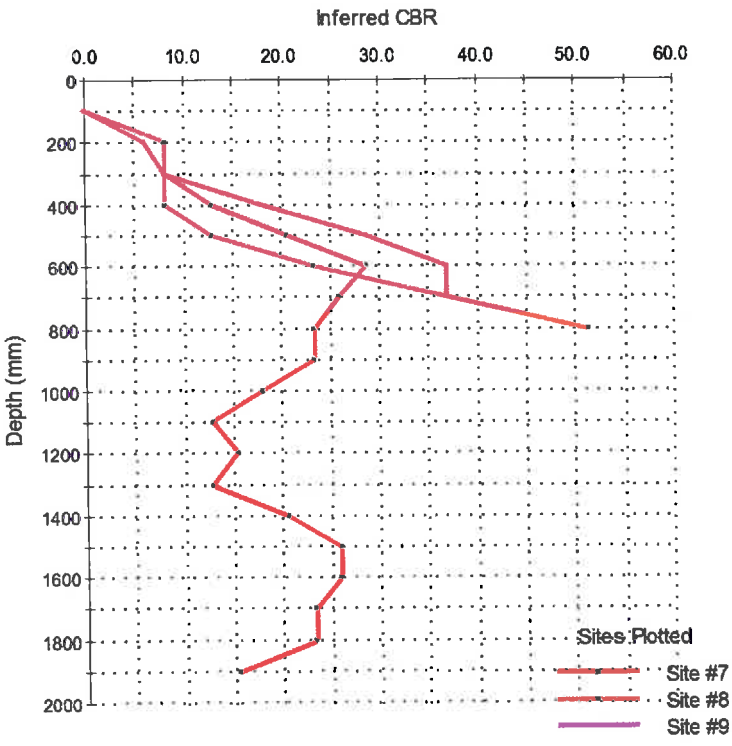
Sample ID: BOP15S-01784
Tested By: Barrack Carle
Material: Insitu Fill Sand
Location: Earthworks - Red #7-9
Date Tested: 23/06/2015
Specification: Contract Specification

Test Results

NZS 4402:1988 Test 6.5.2

Depth of Excavation to surface (mm): 0
Depth at the Commencement (mm): 100

Penetration vs Inferred CBR



Inferred CBR values are based on Austroads Pavement Design:
Guide to the Structural Design of Road Pavements Section 5.5.2 & Fig 5.2

Comments

Report not accredited due to maximum allowable length of rod exceeded.

Bay of Plenty Laboratory

Poplar Lane, Te Puke
Private Bag 12016, Tauranga 3143
Telephone: +64 7 542 9672
Facsimile: +64 7 542 2245
www.fultonhogan.com
0800 LABORATORY

Penetration Resistance

Report No: PR:BOP15S-01784
Issue No: 1

Client: Gareth Brown
HEB Construction Ltd
PO Box 226

Drury 2247
NZ

Project: Palm Springs Boulevard

Approved Signatory: Rob Ermens
(Lab Manager)

Date of Issue: 6/07/2015

Penetration Resistance Test Results

Site	Blows	Depth (mm)	Inferred CBR
7	3	100	5.8
7	4	200	8.1
7	6	300	12.9
7	9	400	20.6
7	12	500	28.6
7	11	600	25.9
7	10	700	23.2
7	10	800	23.2
7	8	900	18.0
7	6	1000	12.9
7	7	1100	15.4
7	6	1200	12.9
7	9	1300	20.6
7	11	1400	25.9
7	11	1500	25.9
7	10	1600	23.2
7	10	1700	23.2
7	7	1800	15.4
8	4	100	8.1
8	4	200	8.1
8	4	300	8.1
8	6	400	12.9
8	10	500	23.2
8	15	600	36.9
8	20	700	51.3
9	3	100	5.8
9	4	200	8.1
9	8	300	18.0
9	12	400	28.6
9	15	500	36.9
9	15	600	36.9

Comments

Report not accredited due to maximum allowable length of rod exceeded.

Bay of Plenty Laboratory

Poplar Lane, Te Puke
Private Bag 12016, Tauranga 3143
Telephone: +64 7 542 9672
Facsimile: +64 7 542 2245
www.fultonhogan.com
0800 LABORATORY

Penetration Resistance

Report No: PR:BOP15S-01798
Issue No: 1

Client: Gareth Brown
HEB Construction Ltd
PO Box 226

Drury 2247
NZ

Project: Palm Springs Boulevard

IANZ ACCREDITED LABORATORY

Approved Signatory: Rob Ermens
(Lab Manager)
IANZ Accreditation No:749
Date of Issue: 6/07/2015

Test Details

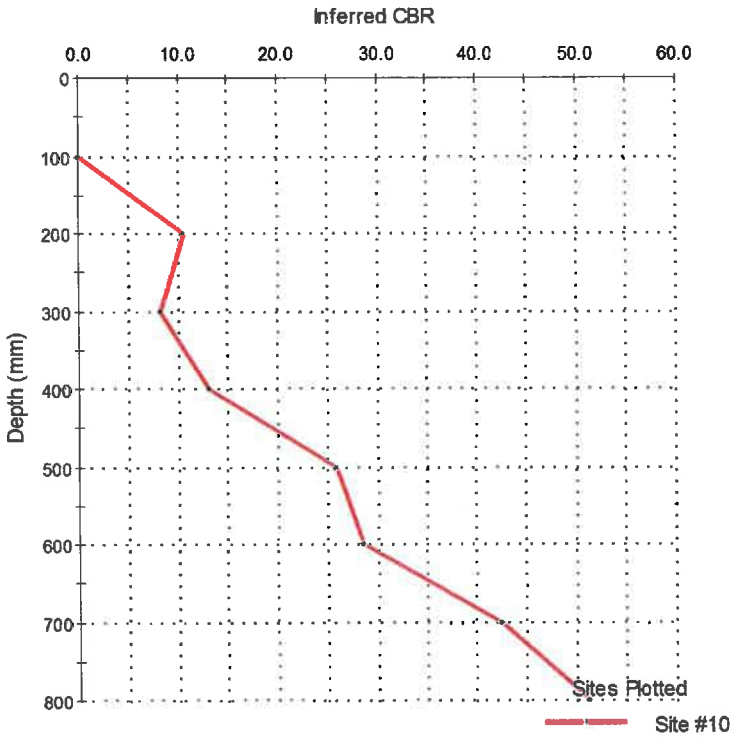
Sample ID: BOP15S-01798
Tested By: Barrack Carle
Material: Insitu Fill Sand
Location: Earthworks - Red #10
Date Tested: 24/06/2015
Specification: Contract Specification

Test Results

NZS 4402:1988 Test 6.5.2

Depth of Excavation to surface (mm): 0
Depth at the Commencement (mm): 100

Penetration vs Inferred CBR



Inferred CBR values are based on Austroads Pavement Design:
Guide to the Structural Design of Road Pavements Section 5.5.2 & Fig 5.2

Comments

The inferred CBR calculation is not accredited, and is excluded from the endorsement of this test report.

Bay of Plenty Laboratory

Poplar Lane, Te Puke
Private Bag 12016, Tauranga 3143
Telephone: +64 7 542 9672
Facsimile: +64 7 542 2245
www.fultonhogan.com
0800 LABORATORY

Report No: PR:BOP15S-01798
Issue No: 1

Penetration Resistance

Client: Gareth Brown
HEB Construction Ltd
PO Box 226

Drury 2247
NZ

Project: Palm Springs Boulevard

Approved Signatory: Rob Ermens
(Lab Manager)
IANZ Accreditation No:749
Date of Issue: 6/07/2015

Penetration Resistance Test Results

Site	Blows	Depth (mm)	Inferred CBR
10	5	100	10.5
10	4	200	8.1
10	6	300	12.9
10	11	400	25.9
10	12	500	28.6
10	17	600	42.6
10	20	700	51.3

Comments

The inferred CBR calculation is not accredited, and is excluded from the endorsement of this test report.

Bay of Plenty Laboratory

Poplar Lane, Te Puke
Private Bag 12016, Tauranga 3143
Telephone: +64 7 542 9672
Facsimile: +64 7 542 2245
www.fultonhogan.com
0800 LABORATORY

Penetration Resistance

Report No: PR:BOP15S-01785
Issue No: 1

Client: Gareth Brown
HEB Construction Ltd
PO Box 226

Drury 2247
NZ

Project: Palm Springs Boulevard

Approved Signatory: Rob Ermens
(Lab Manager)

Date of Issue: 6/07/2015

Test Details

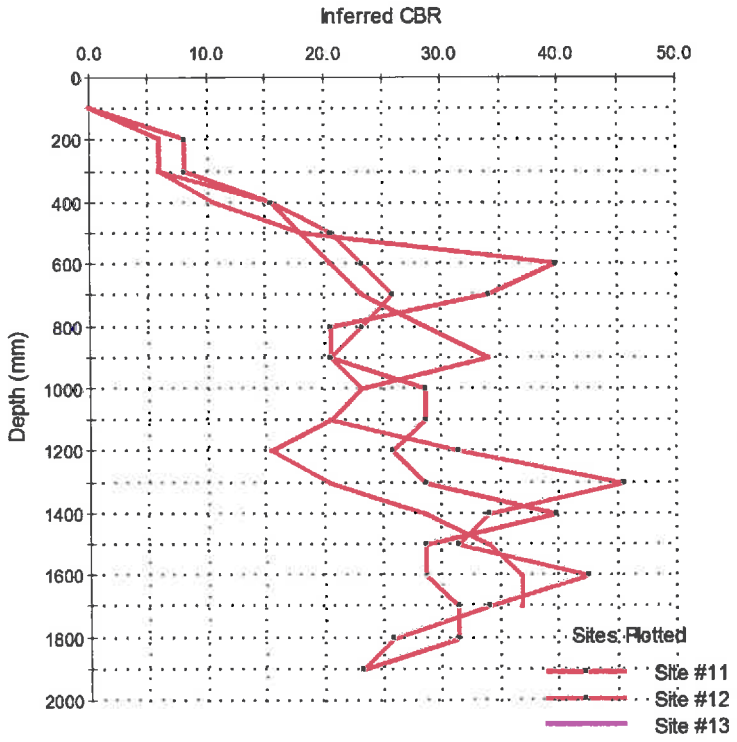
Sample ID: BOP15S-01785
Tested By: Barrack Carle
Material: Insitu Fill Sand
Location: Earthworks - Red #11-13
Date Tested: 23/06/2015
Specification: Contract Specification

Test Results

NZS 4402:1988 Test 6.5.2

Depth of Excavation to surface (mm): 0
Depth at the Commencement (mm): 100

Penetration vs Inferred CBR



Inferred CBR values are based on Austroads Pavement Design:
Guide to the Structural Design of Road Pavements Section 5.5.2 & Fig 5.2

Comments

Report not accredited due to maximum allowable length of rod exceeded.

Bay of Plenty Laboratory

Poplar Lane, Te Puke
Private Bag 12016, Tauranga 3143
Telephone: +64 7 542 9672
Facsimile: +64 7 542 2245
www.fultonhogan.com
0800 LABORATORY

Report No: PR:BOP15S-01785
Issue No: 1

Penetration Resistance

Client: Gareth Brown
HEB Construction Ltd
PO Box 226

Drury 2247
NZ

Project: Palm Springs Boulevard

Approved Signatory: Rob Ermens
(Lab Manager)

Date of Issue: 6/07/2015

Penetration Resistance Test Results

Site	Blows	Depth (mm)	Inferred CBR
11	4	100	8.1
11	4	200	8.1
11	7	300	15.4
11	8	400	18.0
11	16	500	39.8
11	14	600	34.1
11	9	700	20.6
11	9	800	20.6
11	12	900	28.6
11	12	1000	28.6
11	11	1100	25.9
11	12	1200	28.6
11	16	1300	39.8
11	12	1400	28.6
11	12	1500	28.6
11	13	1600	31.3
11	13	1700	31.3
11	10	1800	23.2
12	3	100	5.8
12	3	200	5.8
12	7	300	15.4
12	9	400	20.6
12	10	500	23.2
12	11	600	25.9
12	10	700	23.2
12	9	800	20.6
12	10	900	23.2
12	9	1000	20.6
12	13	1100	31.3
12	18	1200	45.5
12	14	1300	34.1
12	13	1400	31.3
12	17	1500	42.6
12	14	1600	34.1
12	11	1700	25.9
12	10	1800	23.2
13	3	100	5.8
13	3	200	5.8
13	5	300	10.5
13	8	400	18.0
13	9	500	20.6
13	10	600	23.2
13	12	700	28.6
13	14	800	34.1
13	10	900	23.2
13	9	1000	20.6
13	7	1100	15.4
13	9	1200	20.6
13	12	1300	28.6
13	14	1400	34.1
13	15	1500	36.9
13	15	1600	36.9

Comments

Report not accredited due to maximum allowable length of rod exceeded.

Bay of Plenty Laboratory

Poplar Lane, Te Puke
Private Bag 12016, Tauranga 3143
Telephone: +64 7 542 9672
Facsimile: +64 7 542 2245
www.fultonhogan.com
0800 LABORATORY

Penetration Resistance

Report No: PR:BOP15S-01786
Issue No: 1

Client: Gareth Brown
HEB Construction Ltd
PO Box 226

Drury 2247
NZ

Project: Palm Springs Boulevard

Approved Signatory: Rob Ermens
(Lab Manager)

Date of Issue: 6/07/2015

Test Details

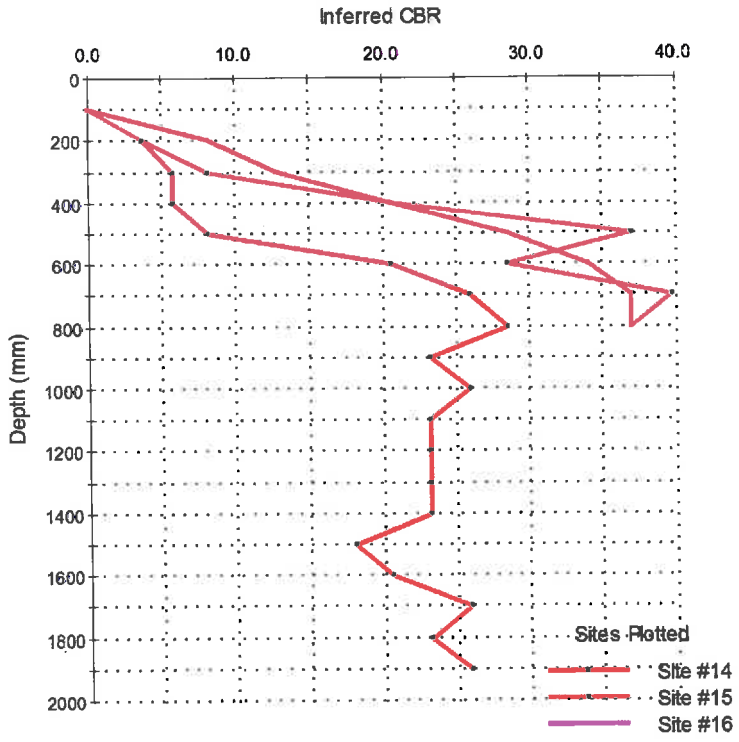
Sample ID: BOP15S-01786
Tested By: Barrack Carle
Material: Insitu Fill Sand
Location: Earthworks - Red #14-16
Date Tested: 23/06/2015
Specification: Contract Specification

Test Results

NZS 4402:1988 Test 6.5.2

Depth of Excavation to surface (mm): 0
Depth at the Commencement (mm): 100

Penetration vs Inferred CBR



Inferred CBR values are based on Austroads Pavement Design:
Guide to the Structural Design of Road Pavements Section 5.5.2 & Fig 5.2

Comments

Report not accredited due to maximum allowable length of rod exceeded.

Bay of Plenty Laboratory

Poplar Lane, Te Puke
Private Bag 12016, Tauranga 3143
Telephone: +64 7 542 9672
Facsimile: +64 7 542 2245
www.fultonhogan.com
0800 LABORATORY

Penetration Resistance

Report No: PR:BOP15S-01786
Issue No: 1

Client: Gareth Brown
HEB Construction Ltd
PO Box 226

Drury 2247
NZ

Project: Palm Springs Boulevard

Approved Signatory: Rob Ermens
(Lab Manager)

Date of Issue: 6/07/2015

Penetration Resistance Test Results

Site	Blows	Depth (mm)	Inferred CBR
14	2	100	3.7
14	3	200	5.8
14	3	300	5.8
14	4	400	8.1
14	9	500	20.6
14	11	600	25.9
14	12	700	28.6
14	10	800	23.2
14	11	900	25.9
14	10	1000	23.2
14	10	1100	23.2
14	10	1200	23.2
14	10	1300	23.2
14	8	1400	18.0
14	9	1500	20.6
14	11	1600	25.9
14	10	1700	23.2
14	11	1800	25.9
15	2	100	3.7
15	4	200	8.1
15	9	300	20.6
15	15	400	36.9
15	12	500	28.6
15	16	600	39.8
15	15	700	36.9
16	4	100	8.1
16	6	200	12.9
16	9	300	20.6
16	12	400	28.6
16	14	500	34.1
16	15	600	36.9
16	15	700	36.9

Comments

Report not accredited due to maximum allowable length of rod exceeded.

Bay of Plenty Laboratory

Poplar Lane, Te Puke
Private Bag 12016, Tauranga 3143
Telephone: +64 7 542 9672
Facsimile: +64 7 542 2245
www.fultonhogan.com
0800 LABORATORY

Penetration Resistance

Report No: PR:BOP15S-01787
Issue No: 1

Client: Gareth Brown
HEB Construction Ltd
PO Box 226

Drury 2247
NZ

Project: Palm Springs Boulevard

Approved Signatory: Rob Ermens
(Lab Manager)

Date of Issue: 6/07/2015

Test Details

Sample ID: BOP15S-01787
Tested By: Barrack Carle
Material: Insitu Fill Sand

Location: Earthworks - Red #17-18
Date Tested: 23/06/2015
Specification: Contract Specification

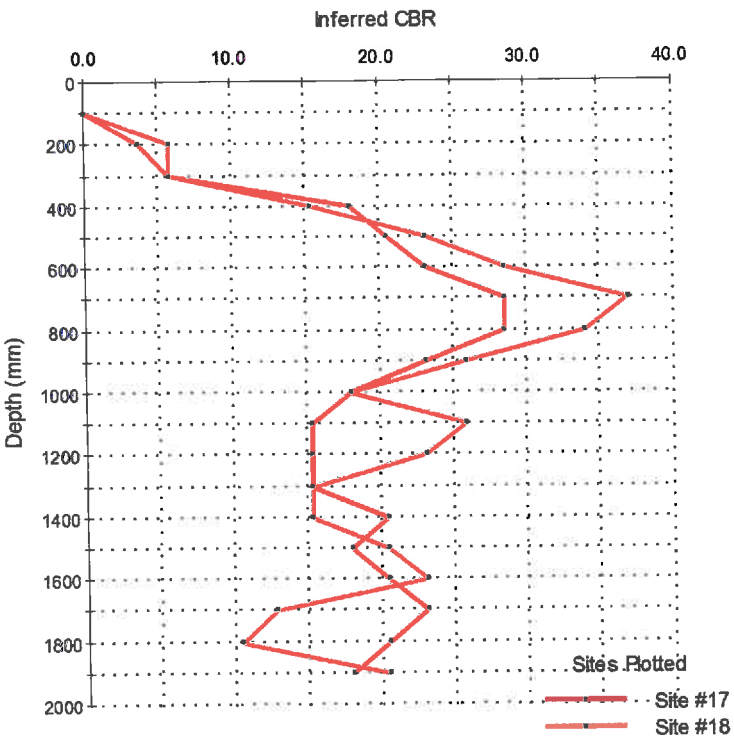
Test Results

NZS 4402:1988 Test 6.5.2

Depth of Excavation to surface (mm): 0

Depth at the Commencement (mm): 100

Penetration vs Inferred CBR



Inferred CBR values are based on Austroads Pavement Design:
Guide to the Structural Design of Road Pavements Section 5.5.2 & Fig 5.2

Comments

Report not accredited due to maximum allowable length of rod exceeded.

Bay of Plenty Laboratory

Poplar Lane, Te Puke
Private Bag 12016, Tauranga 3143
Telephone: +64 7 542 9672
Facsimile: +64 7 542 2245
www.fultonhogan.com
0800 LABORATORY

Penetration Resistance

Report No: PR:BOP15S-01787
Issue No: 1

Client: Gareth Brown
HEB Construction Ltd
PO Box 226

Drury 2247
NZ

Project: Palm Springs Boulevard

Approved Signatory: Rob Ermens
(Lab Manager)

Date of Issue: 6/07/2015

Penetration Resistance Test Results

Site	Blows	Depth (mm)	Inferred CBR
17	2	100	3.7
17	3	200	5.8
17	8	300	18.0
17	9	400	20.6
17	10	500	23.2
17	12	600	28.6
17	12	700	28.6
17	10	800	23.2
17	8	900	18.0
17	7	1000	15.4
17	7	1100	15.4
17	7	1200	15.4
17	9	1300	20.6
17	8	1400	18.0
17	9	1500	20.6
17	10	1600	23.2
17	9	1700	20.6
17	8	1800	18.0
18	3	100	5.8
18	3	200	5.8
18	7	300	15.4
18	10	400	23.2
18	12	500	28.6
18	15	600	36.9
18	14	700	34.1
18	11	800	25.9
18	8	900	18.0
18	11	1000	25.9
18	10	1100	23.2
18	7	1200	15.4
18	7	1300	15.4
18	9	1400	20.6
18	10	1500	23.2
18	6	1600	12.9
18	5	1700	10.5
18	9	1800	20.6

Comments

Report not accredited due to maximum allowable length of rod exceeded.

APPENDIX IV

Falling Head Soakage Test Results
Soakage Analysis Calculations

Our ref: 20464 Date: October 2015

S & L CONSULTANTS LTD
SURVEYORS - ENGINEERS - PLANNERS

Soakage Test Analyses
Location: Palm Springs Subdivision Stage 10

Objective: To determine the contributing catchment areas for soakpits constructed of nominally 600 mm or 900 mm diameter precast concrete perforated rings, 3 deep. These soakpits are required to effectively dispose of stormwater runoff in a 10% AEP : 60 minute storm event. A soakage rate of 1650 mm/h, derived from site tests, has been used in the analysis which is reduced by 50% as per the IDC of the Tauranga City Council.

Use is of the method outlined in 9.05 of Section E1/VM1 of New Zealand Building Code – as referred to in the Council IDC, where **Rc = V (storage) + V (soakage)**
= run-off from catchment
= 10CiA

Where C =1.0
i = 65 mm/h (taken from TCC IDC for a 1:10 year (10% AEP) rainfall, 1 hour event)
A = the catchment area in ha

Rc = 10 * 1.0 * 65 * A = 650*A m^3

Parameters for soak rings, 1.35m (3 rings) deep are

	500mm ID	800mm ID
V (storage) = $\frac{\pi d^2}{4}$ x 1.35m deep	0.265 m^3	0.677 m^3
A (soakage) = base area + wall area = $\pi d^2/4 + \pi d$ x 1.35	2.3 m^2	3.9 m^2
Soakage rate Sr from graph = 1650 mm/h x 0.5	825 mm/h	825 mm/h
V (soakage) = A (soakage) x Sr / 1000	1.90 m^3/h	3.22 m^3/h
Rc = V(storage + V(soakage) =	= 0.265 m3 + 1.90 m3 = 2.16 m^3	= 0.677 m3 + 3.22 m3 = 3.89 m^3
Area of catchment served = Rc / 650	33 m^2	60 m^2

CONCLUSIONS

500 mm id perforated soakrings x 3 deep (depth 1.35 m) are suitable for the onsite disposal of stormwater runoff from a catchment area of 33 m^2.

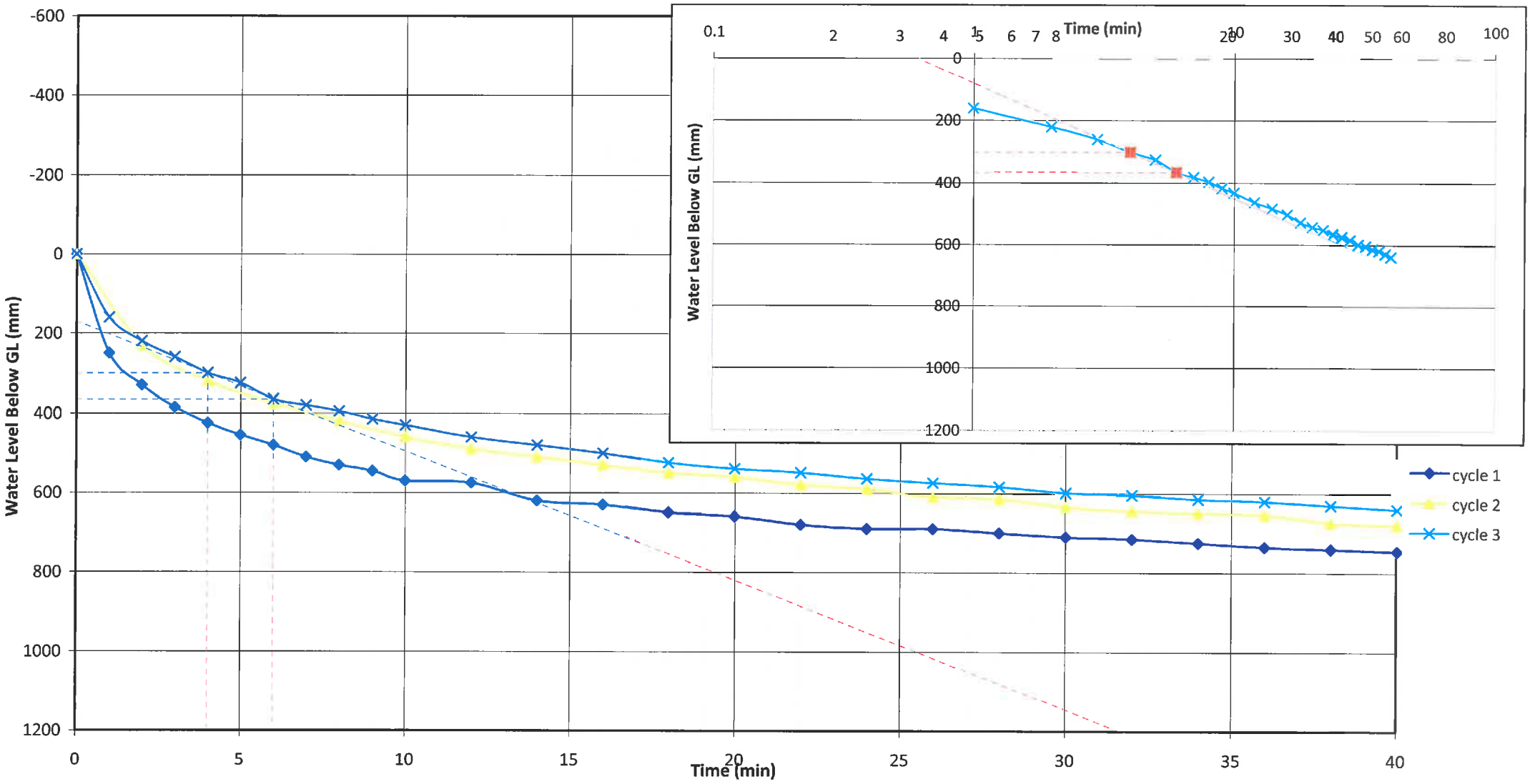
800 mm id perforated soakrings x 3 deep (depth 1.35 m) are suitable for the onsite disposal of stormwater runoff from a catchment area of 60 m^2

In keeping with the results of analyses for stages 8 and 9 and for consistency within the Palm Springs subdivision the catchment areas are to be reduced to 30m^2 for a 500mm id soakpit and 55 m^2 for an 800 mm id soak pit.

Our Ref: 20464
Date: 8/10/2015

Palm Springs
Soakage Test Position # 7

S & L CONSULTANTS LTD
SURVEYORS - ENGINEERS - PLANNERS



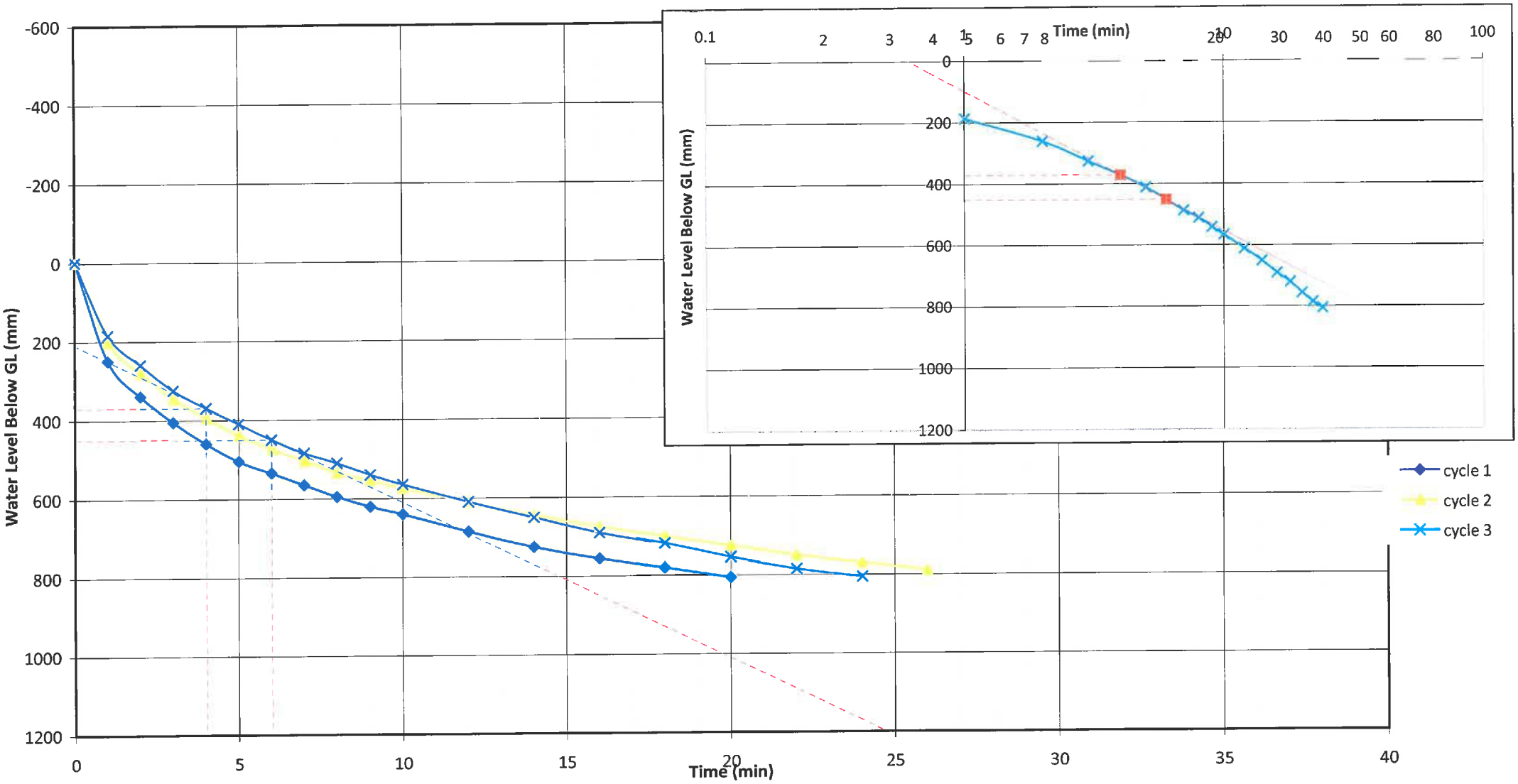
	Time (min)	Water Level (mm)
Time 1	4	300
Time 2	6	365

Soakage Rate = 1950 mm/hr

Our Ref: 20464
Date: 6/10/2015

Palm Springs
Soakage Test Position # 6

S & L CONSULTANTS LTD
SURVEYORS - ENGINEERS - PLANNERS



	Time (min)	Water Level (mm)
Time 1	4	370
Time 2	6	450

Soakage Rate = 2400 mm/hr

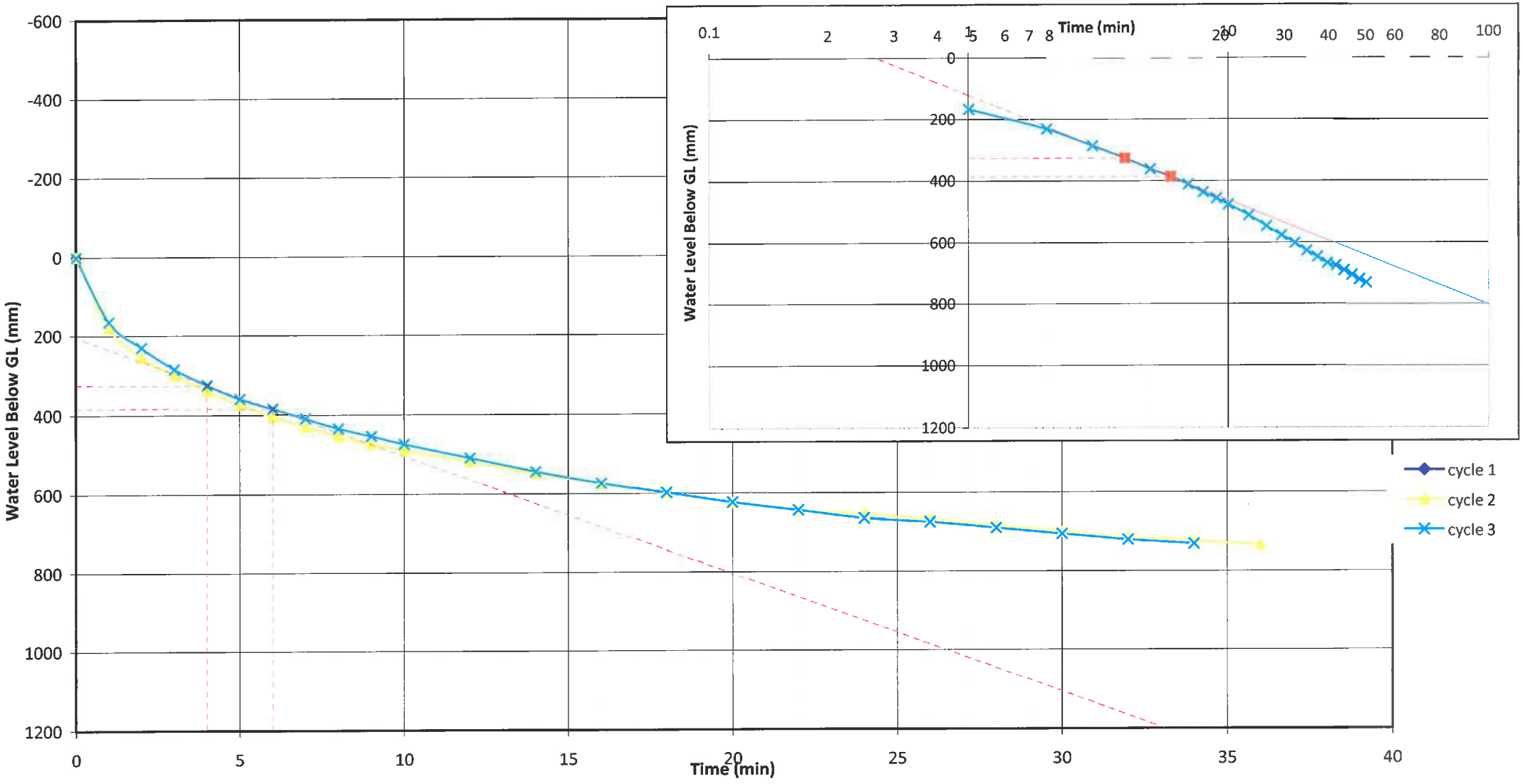
Our Ref: 20464

Date: 6/10/2015

Palm Springs

Soakage Test Position # 5

S & L CONSULTANTS LTD
SURVEYORS - ENGINEERS - PLANNERS



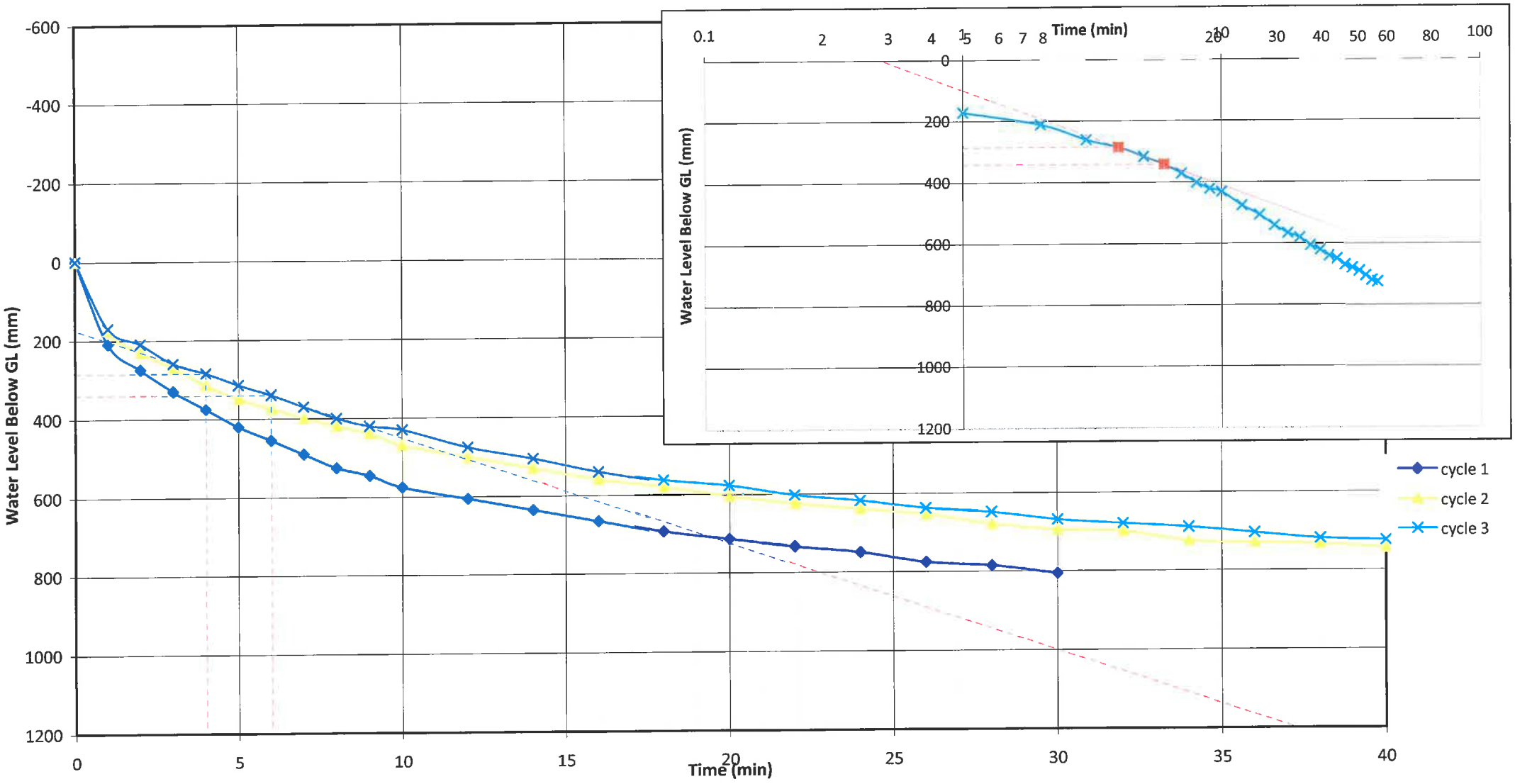
	Time (min)	Water Level (mm)
Time 1	4	325
Time 2	6	385

Soakage Rate = 1800 mm/hr

Our Ref: 20464
Date: 8/10/2015

Palm Springs
Soakage Test Position # 4

S & L CONSULTANTS LTD
SURVEYORS - ENGINEERS - PLANNERS



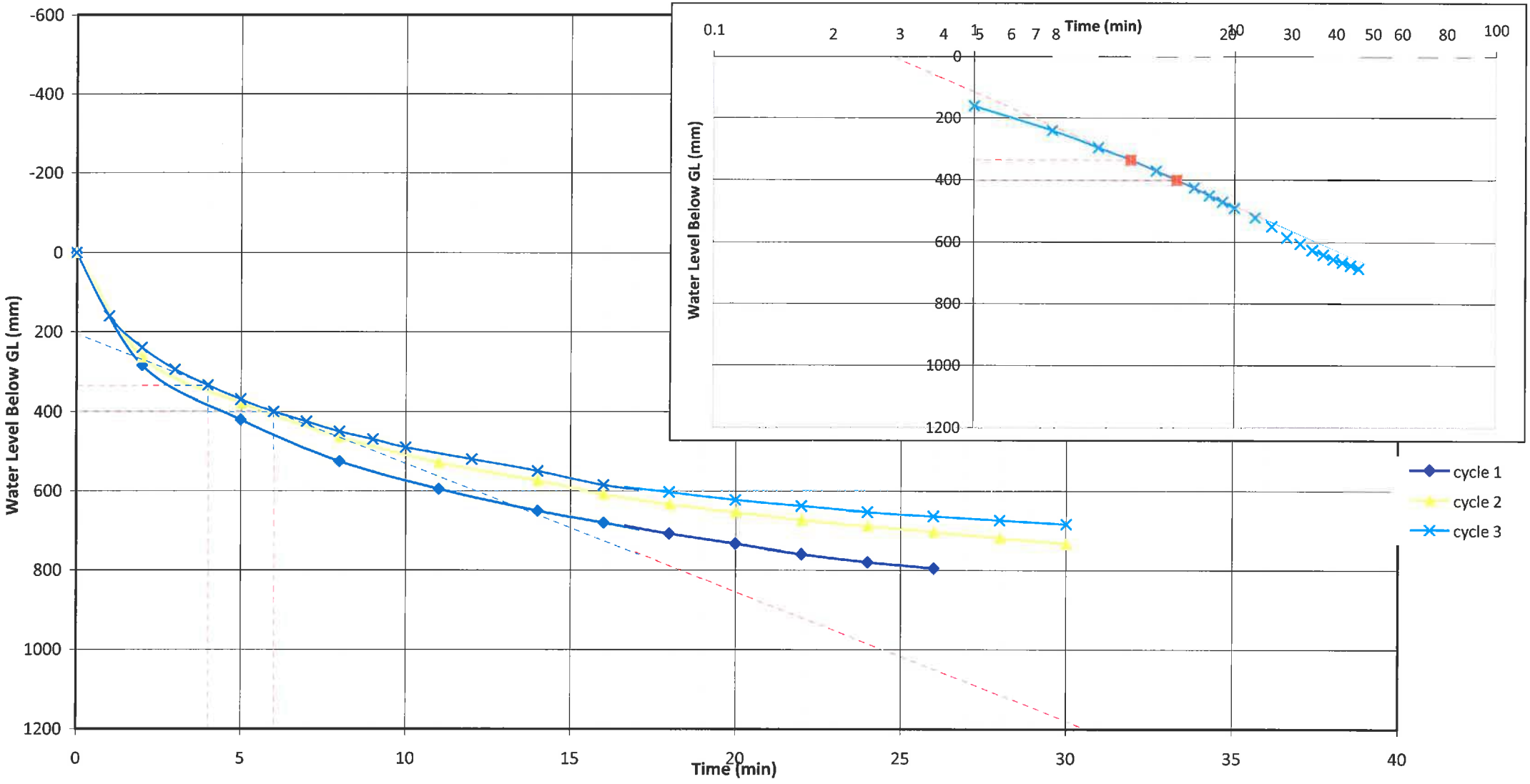
	Time (min)	Water Level (mm)
Time 1	4	285
Time 2	6	340

Soakage Rate = 1650 mm/hr

Our Ref: 20464
Date: 7/10/2015

Palm Springs
Soakage Test Position # 3

S & L CONSULTANTS LTD
SURVEYORS - ENGINEERS - PLANNERS



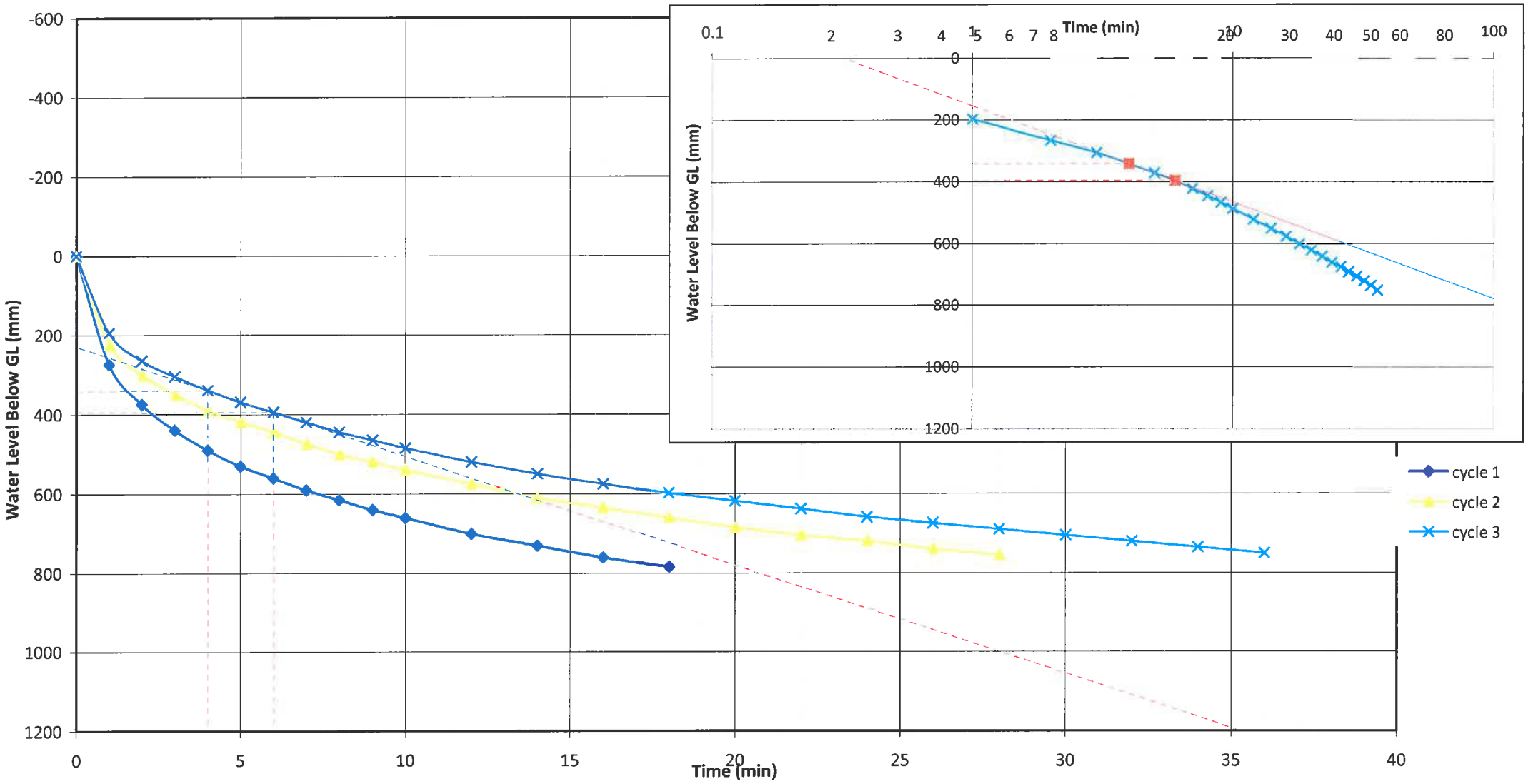
	Time (min)	Water Level (mm)
Time 1	4	335
Time 2	6	400

Soakage Rate = 1950 mm/hr

Our Ref: 20464
Date: 6/10/2015

Palm Springs
Soakage Test Position # 2

S & L CONSULTANTS LTD
SURVEYORS - ENGINEERS - PLANNERS



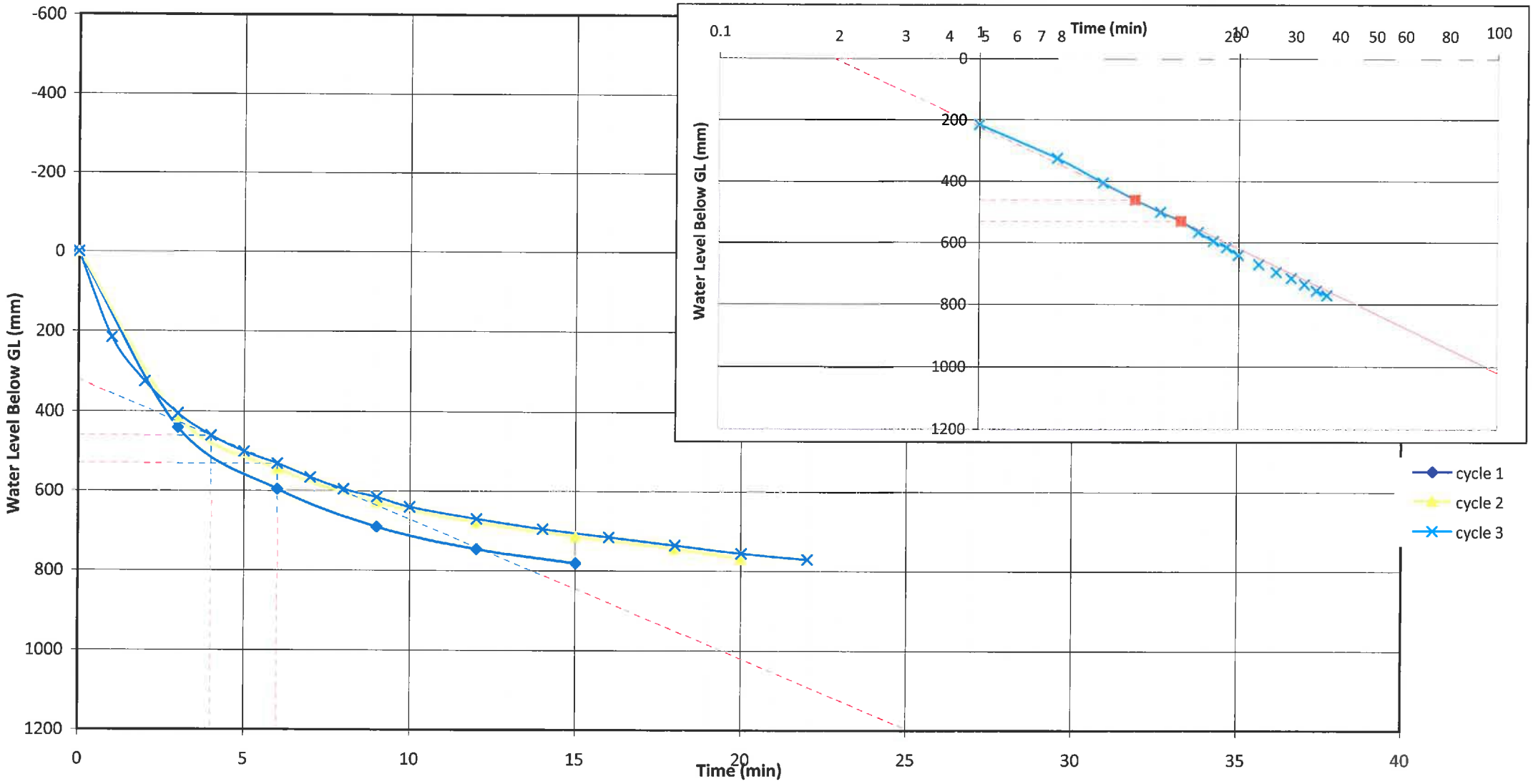
	Time (min)	Water Level (mm)
Time 1	4	340
Time 2	6	395

Soakage Rate = 1650 mm/hr

Our Ref: 20464
Date: 7/10/2015

Palm Springs
Soakage Test Position # 1

S & L CONSULTANTS LTD
SURVEYORS - ENGINEERS - PLANNERS



	Time (min)	Water Level (mm)
Time 1	4	460
Time 2	6	530

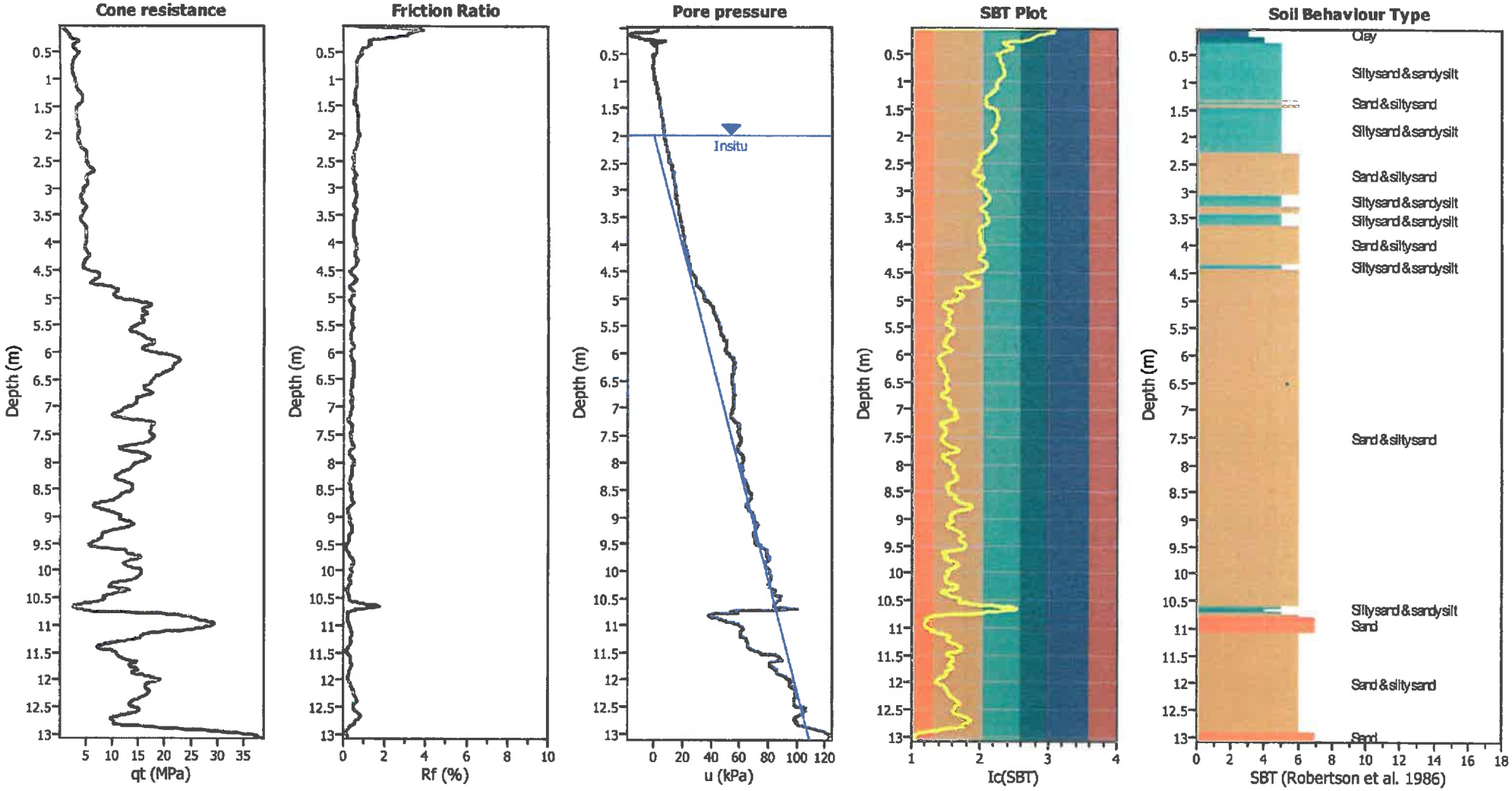
Soakage Rate = 2100 mm/hr

APPENDIX V

CPT Basic Interpretation Plots
Liquefaction Analysis Plots

(test positions shown on 20464-AB21 and 22)

CPT basic interpretation plots



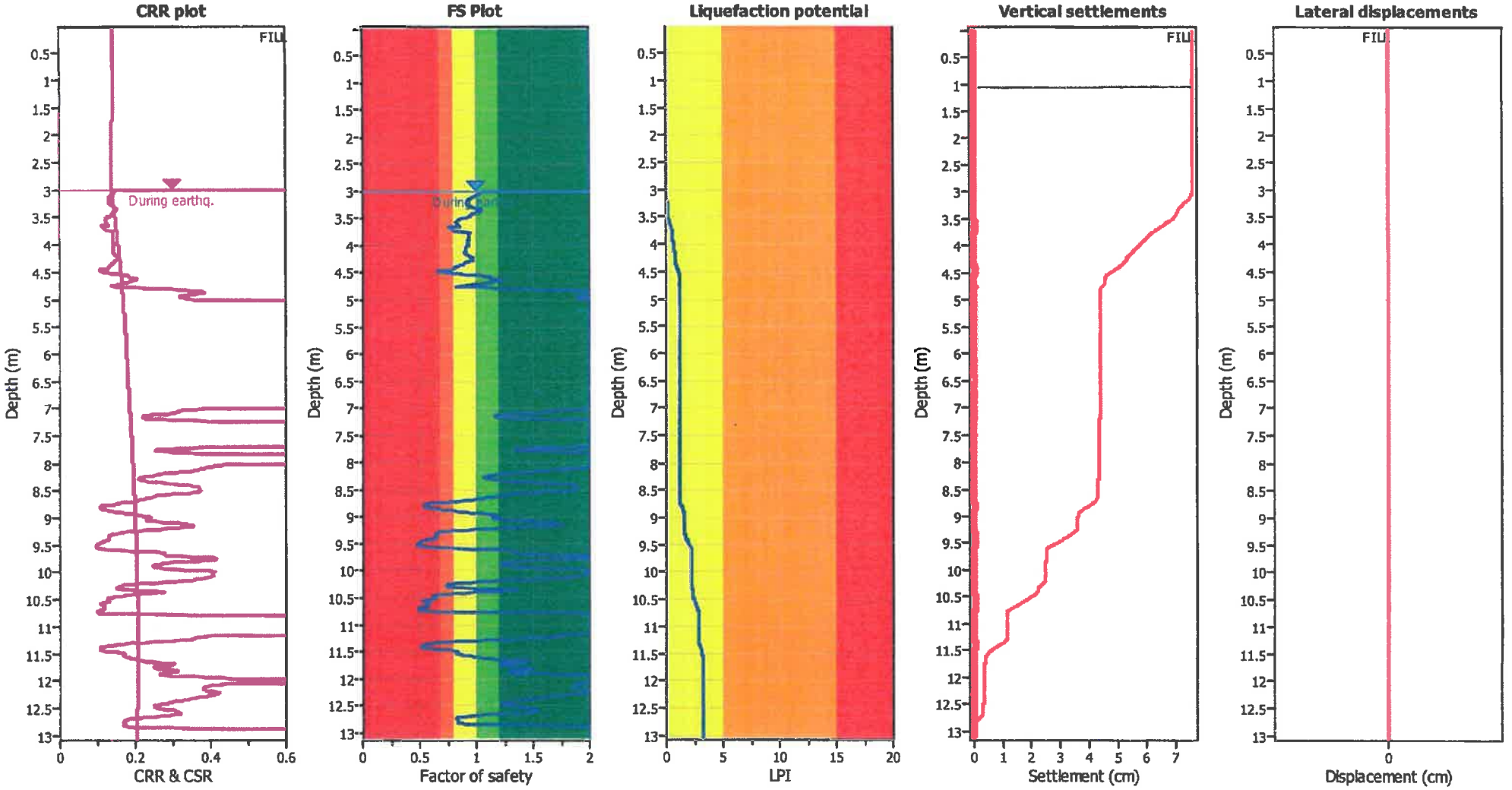
Input parameters and analysis data

Analysis method:	NCEER (1998)	Depth to water table (erthq.):	2.00 m	Fill weight:	N/A
Fines correction method:	NCEER (1998)	Average results interval:	3	Transition detect. applied:	No
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	Yes
Earthquake magnitude M_w:	7.50	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.22	Use fill:	No	Limit depth applied:	Yes
Depth to water table (insitu):	2.00 m	Fill height:	N/A	Limit depth:	20.00 m

SBT legend

1. Sensitive fine grained
2. Organic material
3. Clay to silty clay
4. Clayey silt to silty
5. Silty sand to sandy silt
6. Clean sand to silty sand
7. Gravely sand to sand
8. Very stiff sand to
9. Very stiff fine grained

Liquefaction analysis overall plots



Input parameters and analysis data

Analysis method:	NCEER (1998)	Depth to water table (erthq.):	4.00 m	Fill weight:	18.00 kN/m³
Fines correction method:	NCEER (1998)	Average results interval:	3	Transition detect. applied:	No
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	Yes
Earthquake magnitude M_w:	7.50	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.22	Use fill:	Yes	Limit depth applied:	Yes
Depth to water table (insitu):	2.00 m	Fill height:	1.00 m	Limit depth:	20.00 m

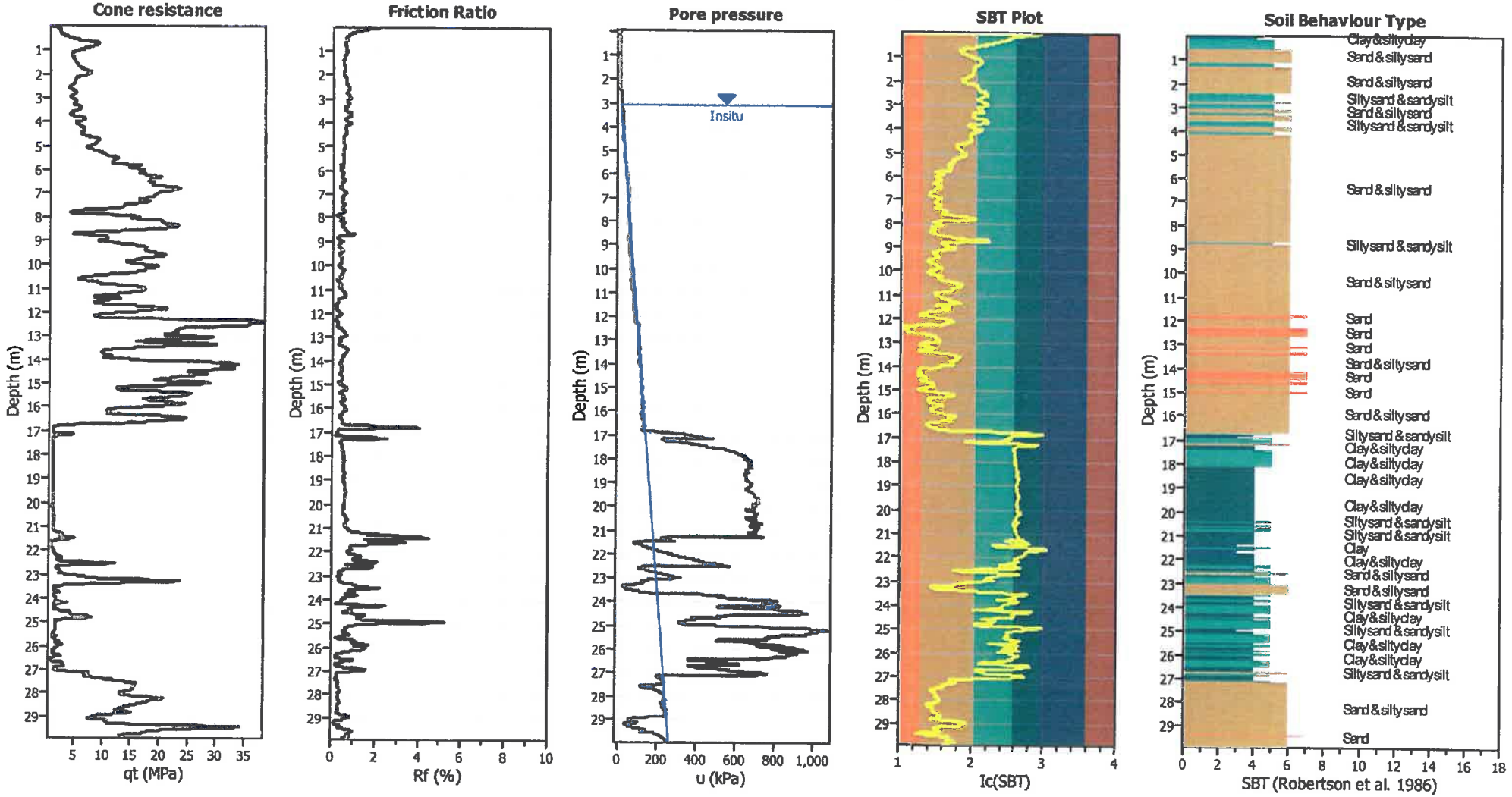
F.S. color scheme

- Almost certain it will liquefy
- Very likely to liquefy
- Liquefaction and no liquefaction are equally likely
- Unlike to liquefy
- Almost certain it will not liquefy

LPI color scheme

- Very high risk
- High risk
- Low risk

CPT basic interpretation plots



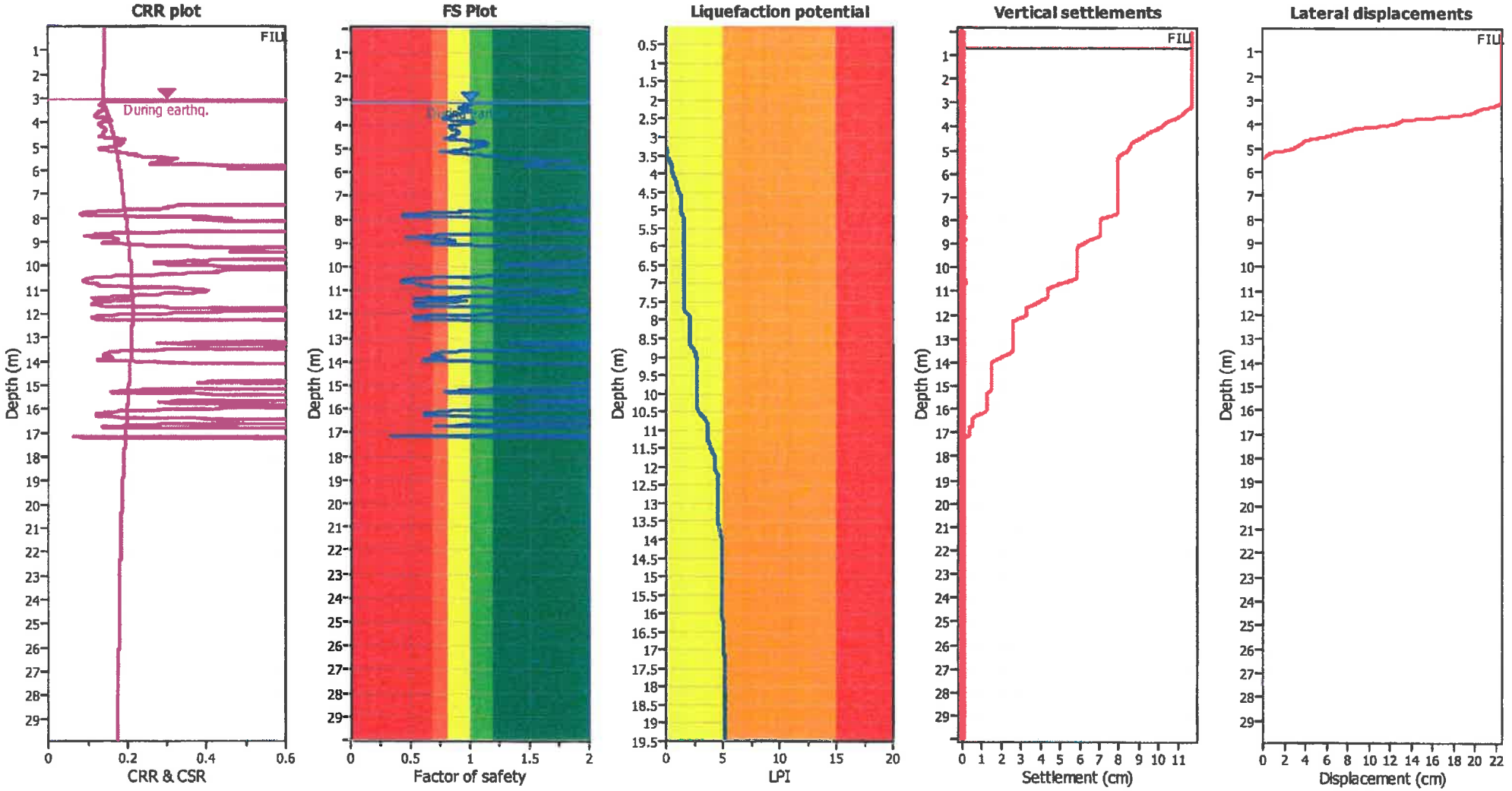
Input parameters and analysis data

Analysis method:	NCEER (1998)	Depth to water table (erthq.):	3.10 m	Fill weight:	N/A
Fines correction method:	NCEER (1998)	Average results interval:	3	Transition detect. applied:	No
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	Yes
Earthquake magnitude M_w:	7.50	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.22	Use fill:	No	Limit depth applied:	Yes
Depth to water table (insitu):	3.10 m	Fill height:	N/A	Limit depth:	20.00 m

SBT legend

1. Sensitive fine grained
2. Organic material
3. Clay to silty clay
4. Clayey silt to silty
5. Silty sand to sandy silt
6. Clean sand to silty sand
7. Gravely sand to sand
8. Very stiff sand to
9. Very stiff fine grained

Liquefaction analysis overall plots



Input parameters and analysis data

Analysis method:	NCEER (1998)	Depth to water table (erthq.):	3.60 m	Fill weight:	18.00 kN/m³
Fines correction method:	NCEER (1998)	Average results interval:	3	Transition detect. applied:	No
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	Yes
Earthquake magnitude M_w:	7.50	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.22	Use fill:	Yes	Limit depth applied:	Yes
Depth to water table (insitu):	3.60 m	Fill height:	0.50 m	Limit depth:	20.00 m

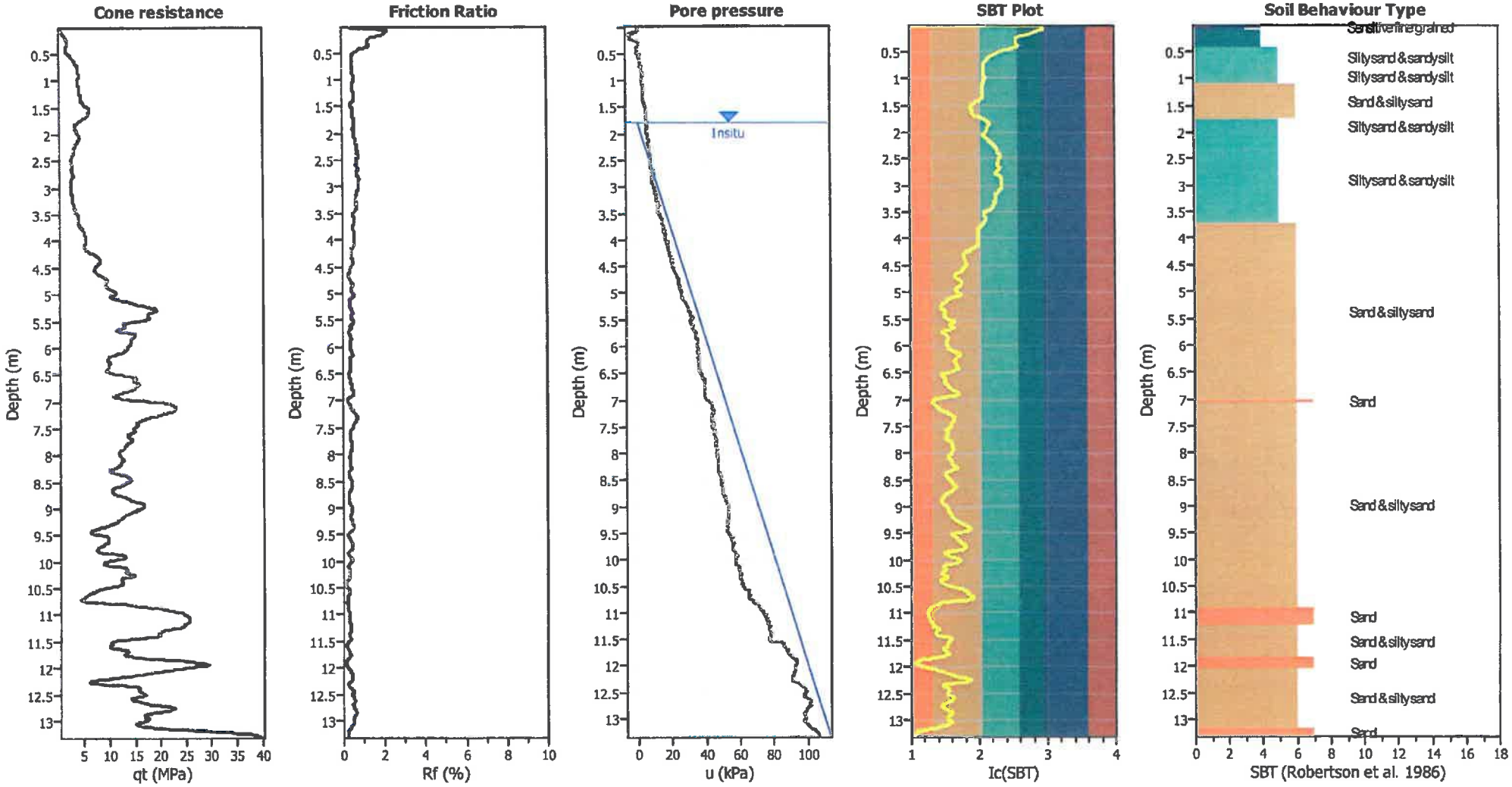
F.S. color scheme

- Almost certain it will liquefy
- Very likely to liquefy
- Liquefaction and no liquefaction are equally likely
- Unlike to liquefy
- Almost certain it will not liquefy

LPI color scheme

- Very high risk
- High risk
- Low risk

CPT basic interpretation plots



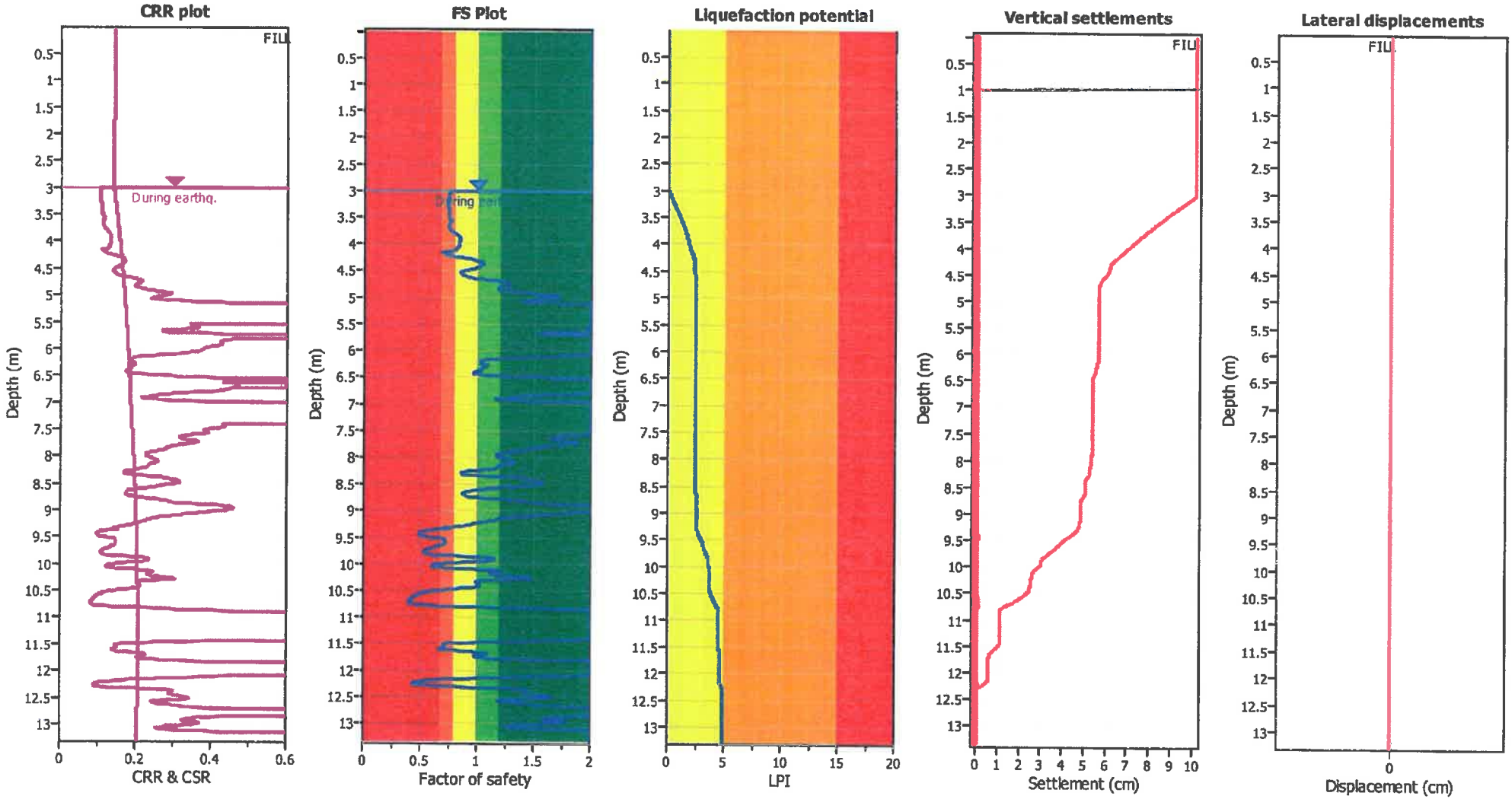
Input parameters and analysis data

Analysis method:	NCEER (1998)	Depth to water table (erthq.):	1.80 m	Fill weight:	N/A
Fines correction method:	NCEER (1998)	Average results interval:	3	Transition detect. applied:	No
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	Yes
Earthquake magnitude M_w:	7.50	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.22	Use fill:	No	Limit depth applied:	No
Depth to water table (insitu):	1.80 m	Fill height:	N/A	Limit depth:	N/A

SBT legend

1. Sensitive fine grained
2. Organic material
3. Clay to silty clay
4. Clayey silt to silty
5. Silty sand to sandy silt
6. Clean sand to silty sand
7. Gravely sand to sand
8. Very stiff sand to
9. Very stiff fine grained

Liquefaction analysis overall plots



Input parameters and analysis data

Analysis method:	NCEER (1998)	Depth to water table (erthq.):	4.00 m	Fill weight:	18.00 kN/m³
Fines correction method:	NCEER (1998)	Average results interval:	3	Transition detect. applied:	No
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	Yes
Earthquake magnitude M_w:	7.50	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.22	Use fill:	Yes	Limit depth applied:	No
Depth to water table (insitu):	4.00 m	Fill height:	1.00 m	Limit depth:	N/A

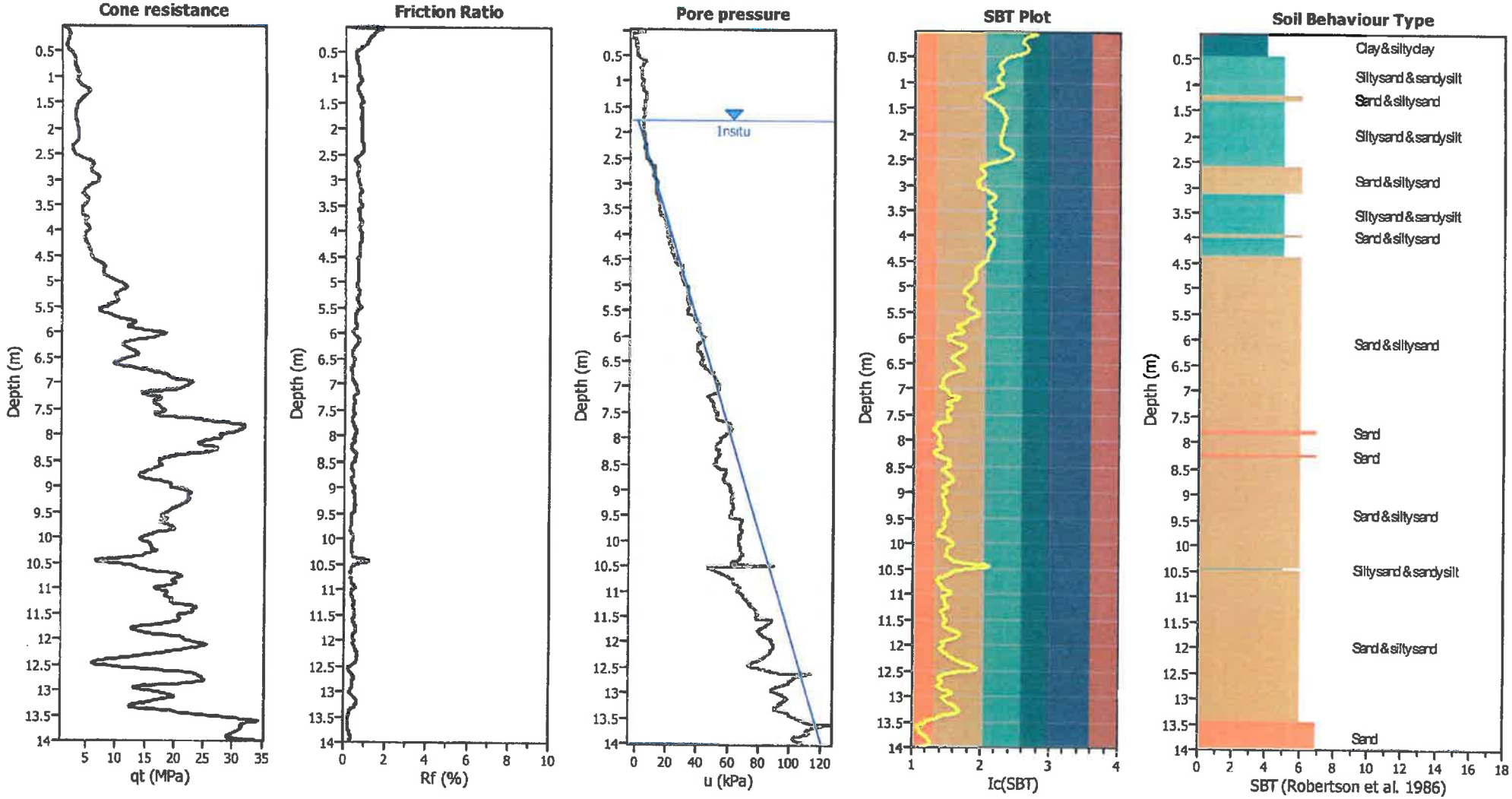
F.S. color scheme

- Almost certain it will liquefy
- Very likely to liquefy
- Liquefaction and no liquefaction are equally likely
- Unlike to liquefy
- Almost certain it will not liquefy

LPI color scheme

- Very high risk
- High risk
- Low risk

CPT basic interpretation plots



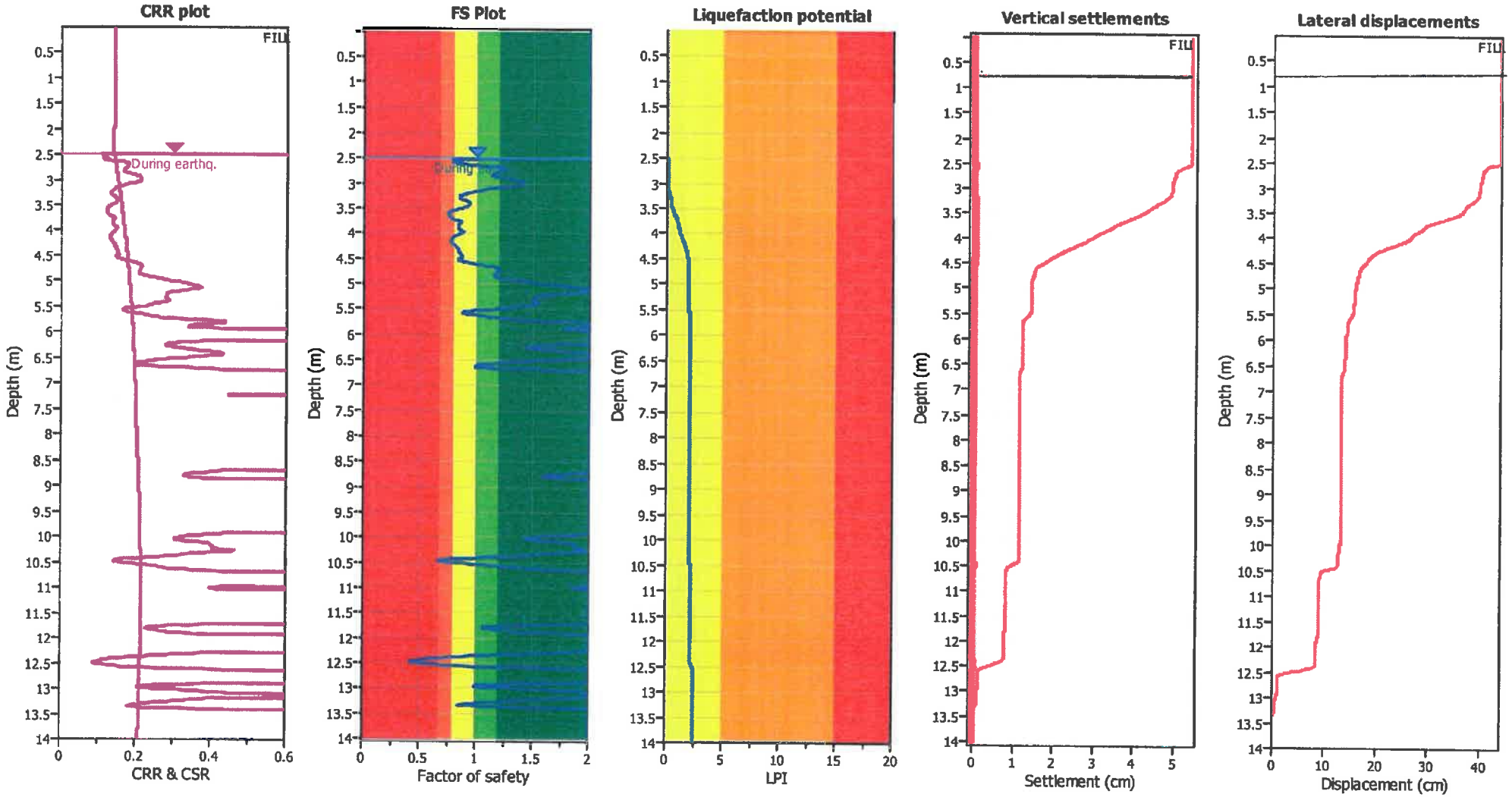
Input parameters and analysis data

Analysis method:	NCEER (1998)	Depth to water table (erthq.):	1.75 m	Fill weight:	N/A
Fines correction method:	NCEER (1998)	Average results interval:	3	Transition detect. applied:	No
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	Yes
Earthquake magnitude M_w:	7.50	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.22	Use fill:	No	Limit depth applied:	No
Depth to water table (insitu):	1.75 m	Fill height:	N/A	Limit depth:	N/A

SBT legend

1. Sensitive fine grained
2. Organic material
3. Clay to silty clay
4. Clayey silt to silty
5. Silty sand to sandy silt
6. Clean sand to silty sand
7. Gravely sand to sand
8. Very stiff sand to
9. Very stiff fine grained

Liquefaction analysis overall plots



Input parameters and analysis data

Analysis method:	NCEER (1998)	Depth to water table (erthq.):	3.25 m	Fill weight:	18.00 kN/m³
Fines correction method:	NCEER (1998)	Average results interval:	3	Transition detect. applied:	No
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	Yes
Earthquake magnitude M_w:	7.50	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.22	Use fill:	Yes	Limit depth applied:	No
Depth to water table (insitu):	2.50 m	Fill height:	0.75 m	Limit depth:	N/A

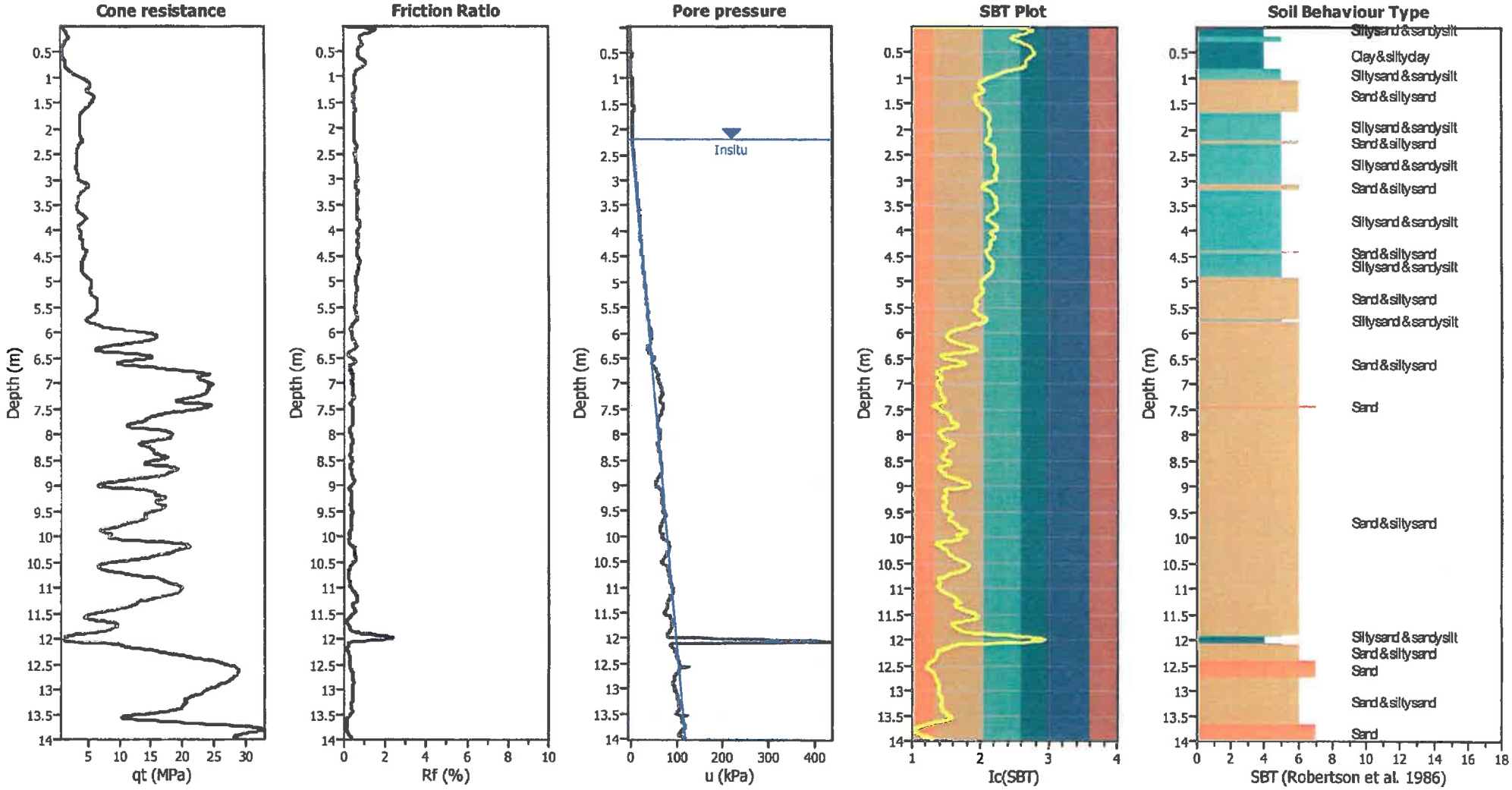
F.S. color scheme

- Almost certain it will liquefy
- Very likely to liquefy
- Liquefaction and no liquefaction are equally likely
- Unlike to liquefy
- Almost certain it will not liquefy

LPI color scheme

- Very high risk
- High risk
- Low risk

CPT basic interpretation plots



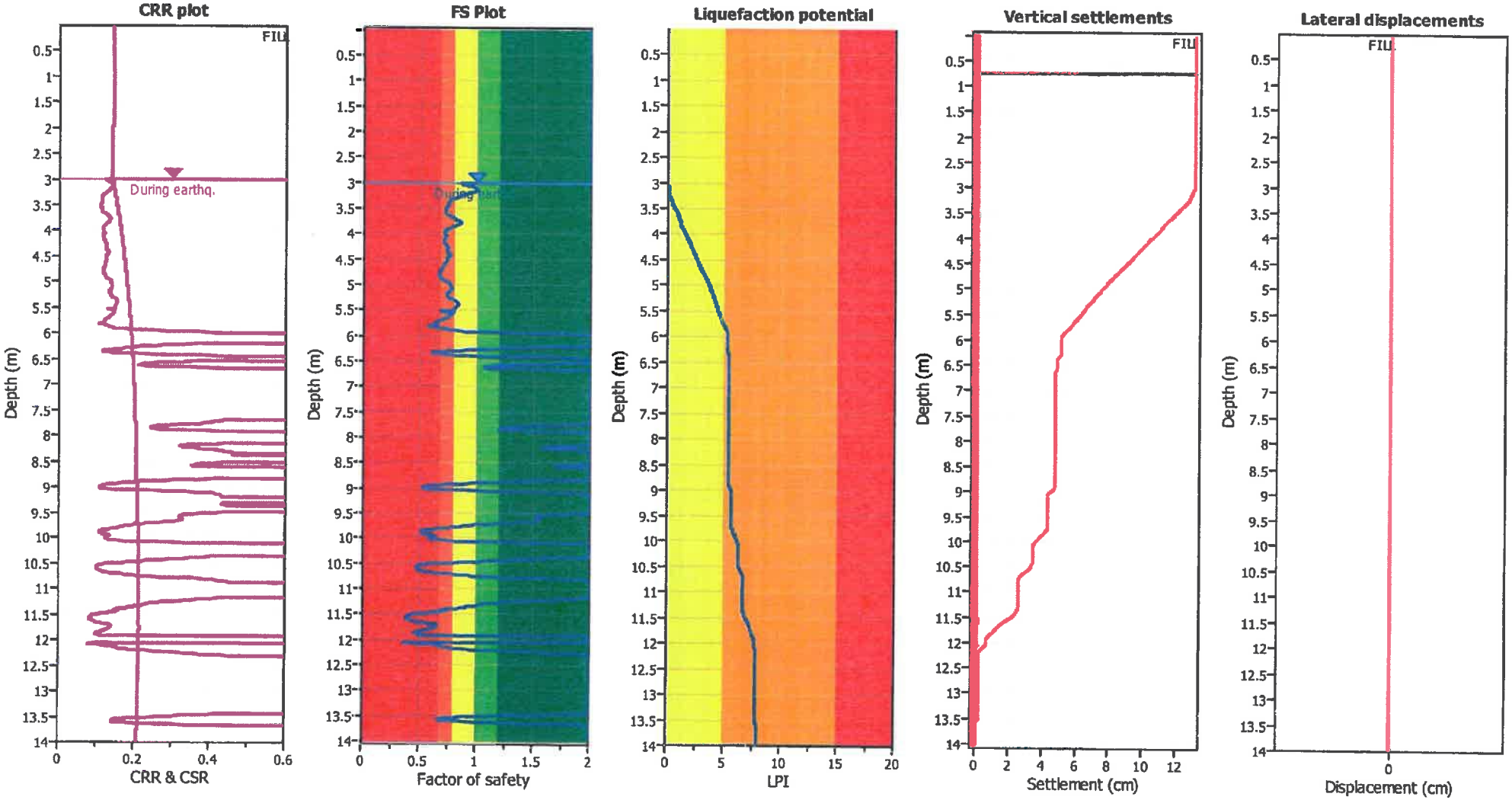
Input parameters and analysis data

Analysis method:	NCEER (1998)	Depth to water table (erthq.):	2.20 m	Fill weight:	N/A
Fines correction method:	NCEER (1998)	Average results interval:	3	Transition detect. applied:	No
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	Yes
Earthquake magnitude M_w:	7.50	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.22	Use fill:	No	Limit depth applied:	Yes
Depth to water table (insitu):	2.20 m	Fill height:	N/A	Limit depth:	20.00 m

SBT legend

1. Sensitive fine grained
2. Organic material
3. Clay to silty clay
4. Clayey silt to silty
5. Silty sand to sandy silt
6. Clean sand to silty sand
7. Gravely sand to sand
8. Very stiff sand to
9. Very stiff fine grained

Liquefaction analysis overall plots



Input parameters and analysis data

Analysis method:	NCEER (1998)	Depth to water table (erthq.):	3.75 m	Fill weight:	1.80 kN/m³
Fines correction method:	NCEER (1998)	Average results interval:	3	Transition detect. applied:	No
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	Yes
Earthquake magnitude M_w:	7.50	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.22	Use fill:	Yes	Limit depth applied:	Yes
Depth to water table (insitu):	2.75 m	Fill height:	0.75 m	Limit depth:	20.00 m

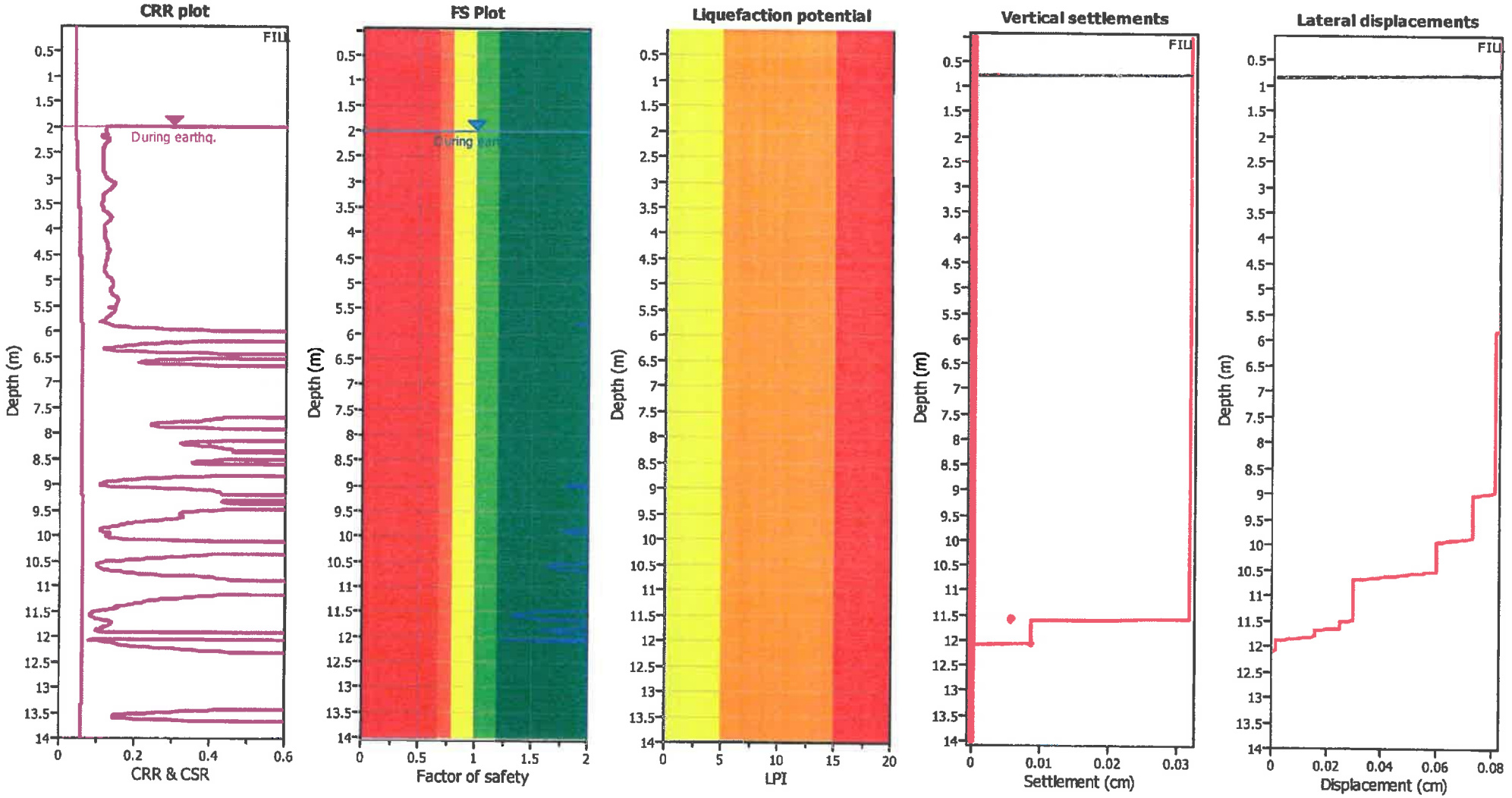
F.S. color scheme

- Almost certain it will liquefy
- Very likely to liquefy
- Liquefaction and no liquefaction are equally likely
- Unlike to liquefy
- Almost certain it will not liquefy

LPI color scheme

- Very high risk
- High risk
- Low risk

Liquefaction analysis overall plots



Input parameters and analysis data

Analysis method:	NCEER (1998)	Depth to water table (erthq.):	2.75 m	Fill weight:	18.00 kN/m³
Fines correction method:	NCEER (1998)	Average results interval:	3	Transition detect. applied:	No
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	Yes
Earthquake magnitude M_w:	7.50	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.06	Use fill:	Yes	Limit depth applied:	No
Depth to water table (insitu):	2.75 m	Fill height:	0.75 m	Limit depth:	N/A

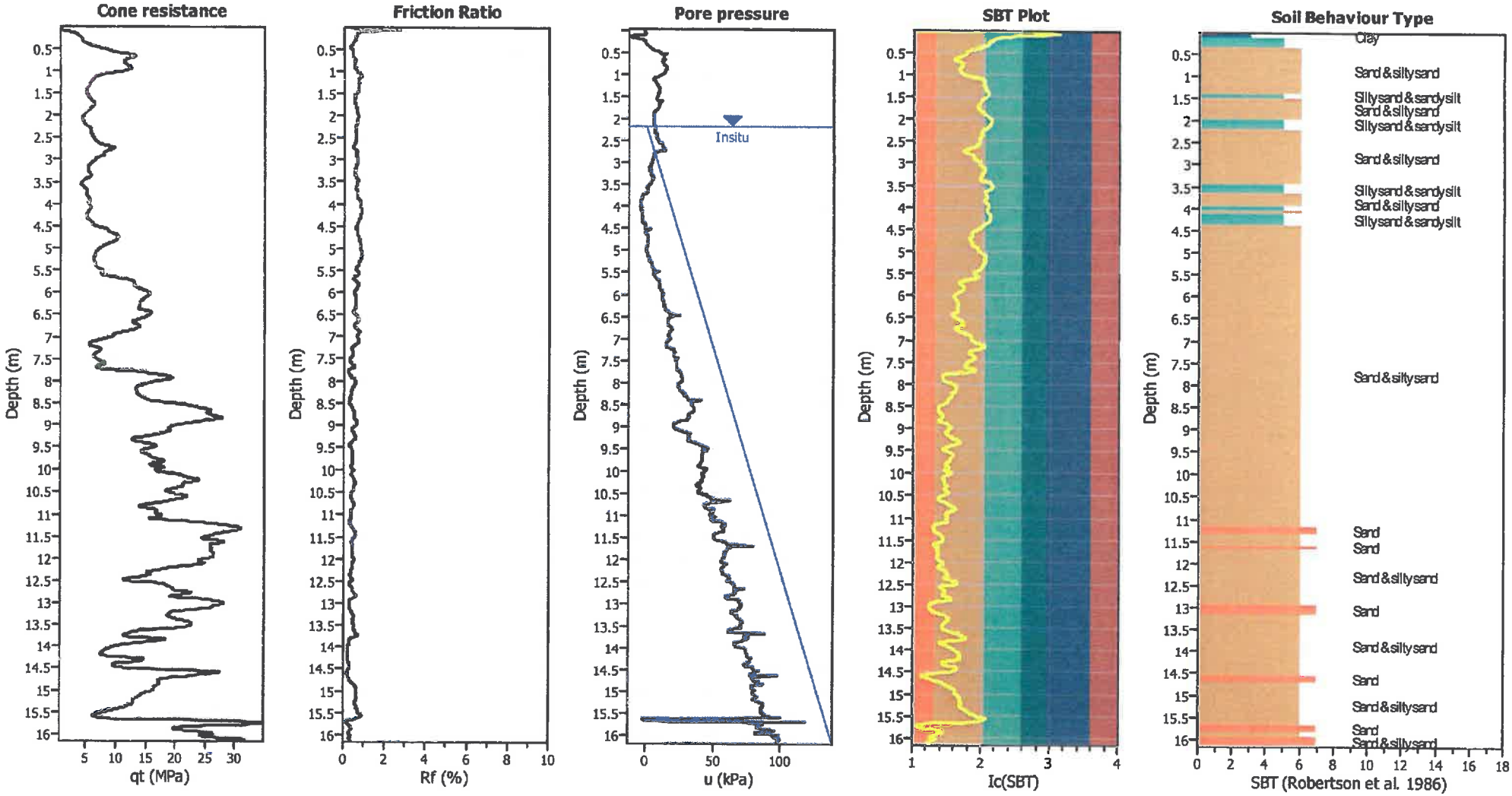
F.S. color scheme

- Almost certain it will liquefy
- Very likely to liquefy
- Liquefaction and no liquefaction are equally likely
- Unlike to liquefy
- Almost certain it will not liquefy

LPI color scheme

- Very high risk
- High risk
- Low risk

CPT basic interpretation plots



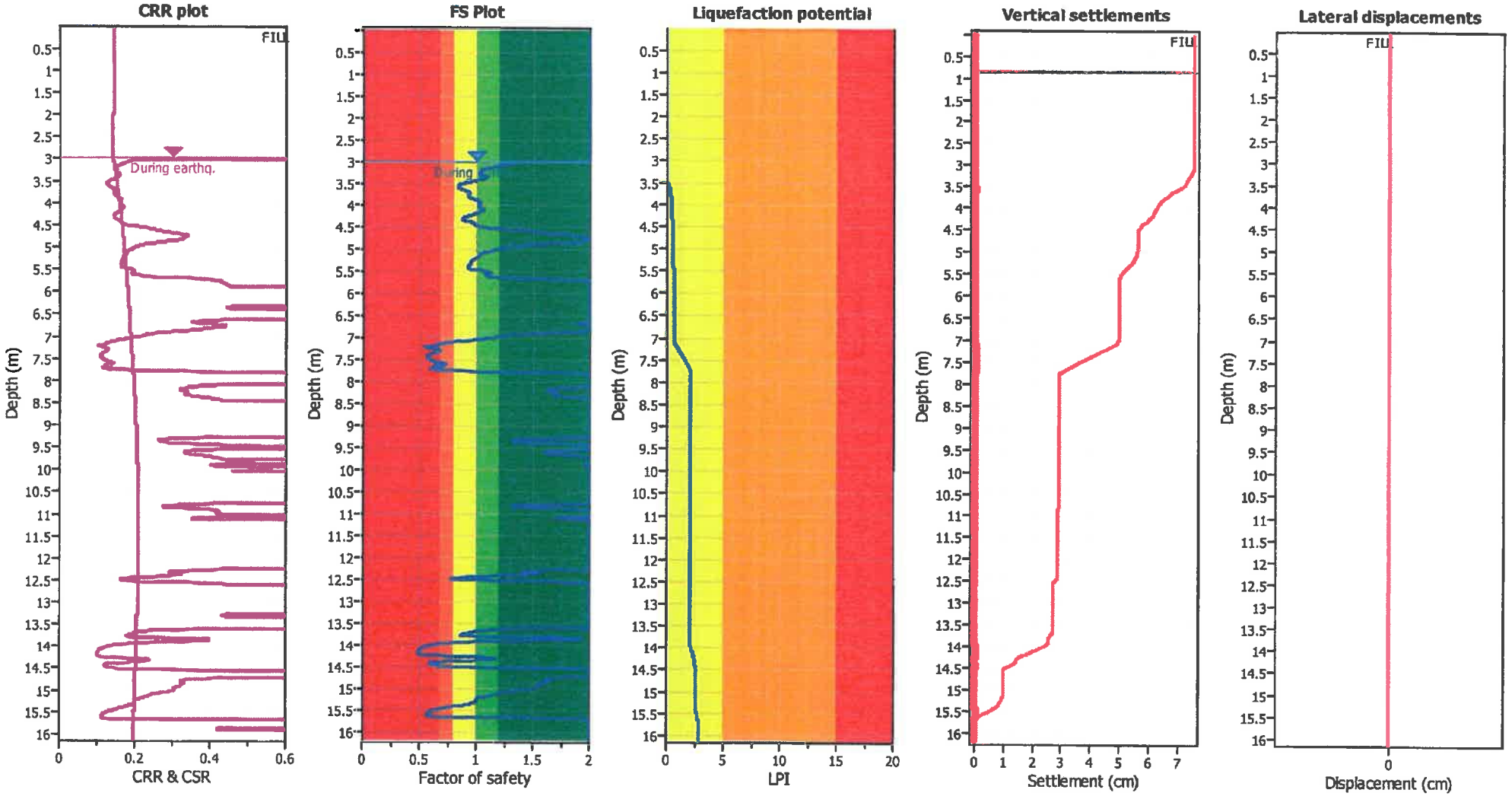
Input parameters and analysis data

Analysis method:	NCEER (1998)	Depth to water table (erthq.):	2.20 m	Fill weight:	N/A
Fines correction method:	NCEER (1998)	Average results interval:	3	Transition detect. applied:	No
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	Yes
Earthquake magnitude M_w:	7.50	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.22	Use fill:	No	Limit depth applied:	No
Depth to water table (insitu):	2.20 m	Fill height:	N/A	Limit depth:	N/A

SBT legend

1. Sensitive fine grained
2. Organic material
3. Clay to silty clay
4. Clayey silt to silty
5. Silty sand to sandy silt
6. Clean sand to silty sand
7. Gravely sand to sand
8. Very stiff sand to
9. Very stiff fine grained

Liquefaction analysis overall plots



Input parameters and analysis data

Analysis method:	NCEER (1998)	Depth to water table (erthq.):	3.75 m	Fill weight:	18.00 kN/m³
Fines correction method:	NCEER (1998)	Average results interval:	3	Transition detect. applied:	No
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	Yes
Earthquake magnitude M_w:	7.50	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.22	Use fill:	Yes	Limit depth applied:	No
Depth to water table (insitu):	2.20 m	Fill height:	0.75 m	Limit depth:	N/A

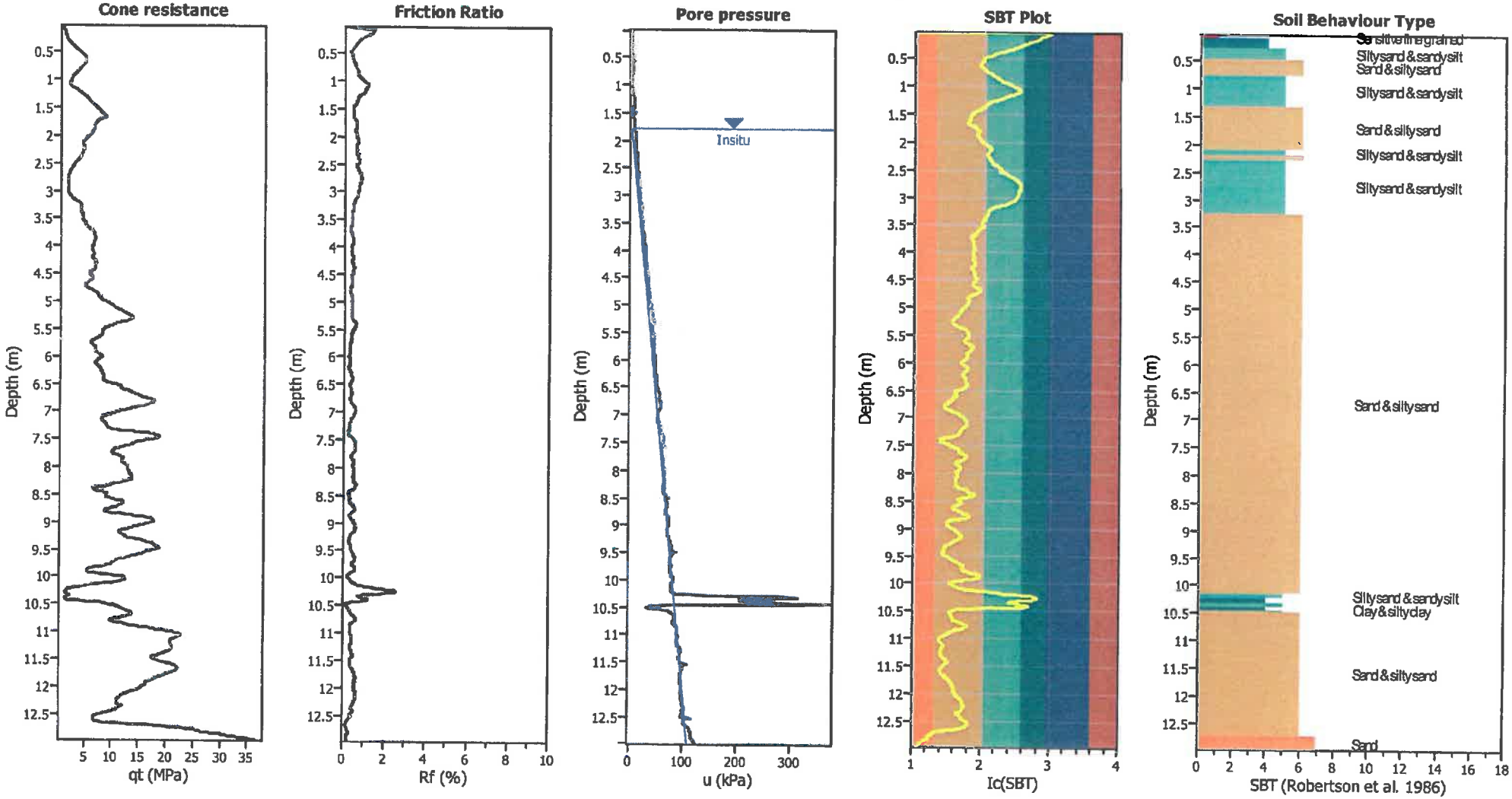
F.S. color scheme

- Almost certain it will liquefy
- Very likely to liquefy
- Liquefaction and no liquefaction are equally likely
- Unlike to liquefy
- Almost certain it will not liquefy

LPI color scheme

- Very high risk
- High risk
- Low risk

CPT basic interpretation plots



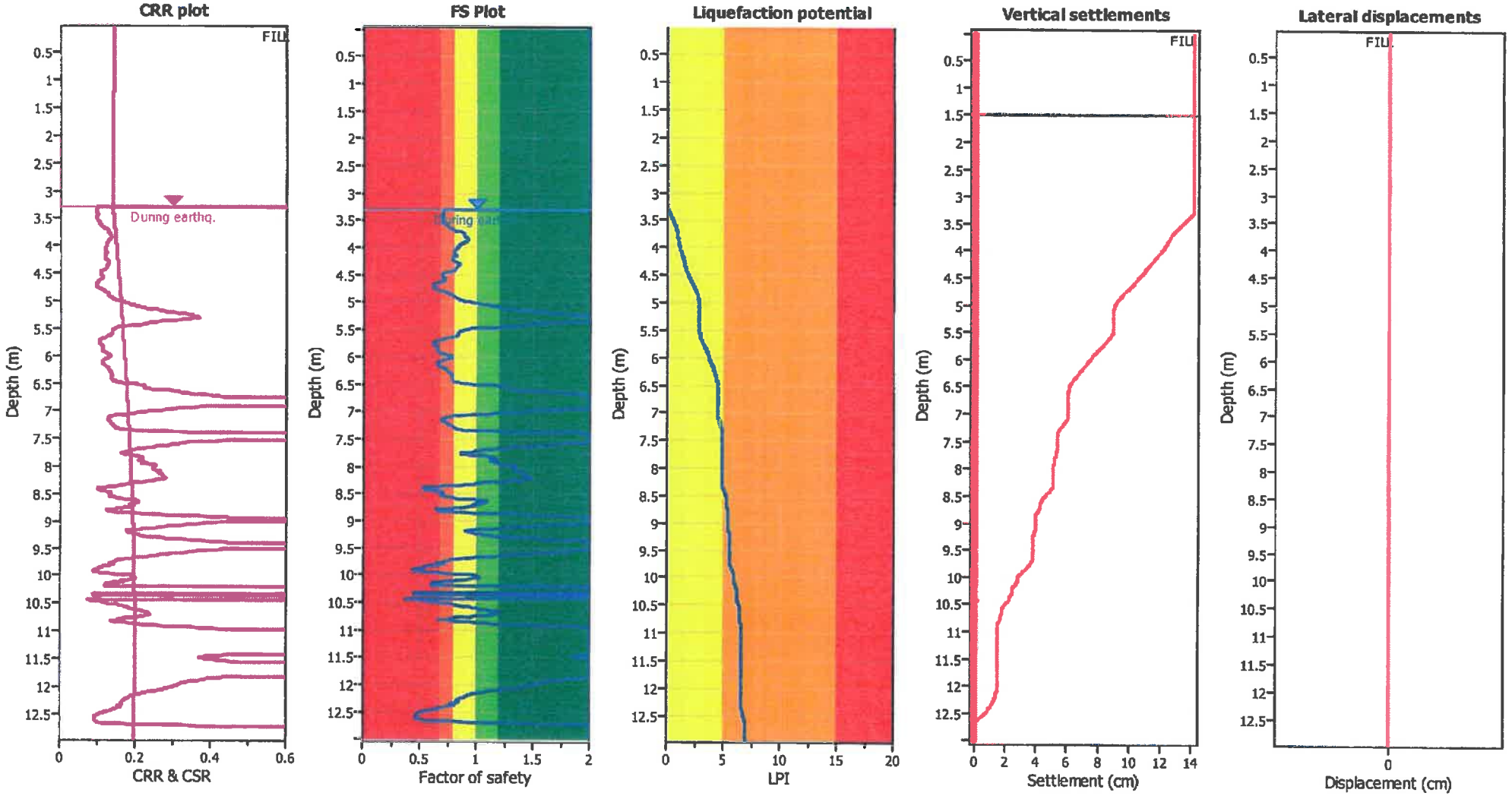
Input parameters and analysis data

Analysis method:	NCEER (1998)	Depth to water table (erthq.):	1.80 m	Fill weight:	N/A
Fines correction method:	NCEER (1998)	Average results interval:	3	Transition detect. applied:	No
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	Yes
Earthquake magnitude M_w:	7.50	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.22	Use fill:	No	Limit depth applied:	No
Depth to water table (insitu):	1.80 m	Fill height:	N/A	Limit depth:	N/A

SBT legend

1. Sensitive fine grained
2. Organic material
3. Clay to silty clay
4. Clayey silt to silty
5. Silty sand to sandy silt
6. Clean sand to silty sand
7. Gravely sand to sand
8. Very stiff sand to
9. Very stiff fine grained

Liquefaction analysis overall plots



Input parameters and analysis data

Analysis method:	NCEER (1998)	Depth to water table (erthq.):	4.80 m	Fill weight:	18.00 kN/m³
Fines correction method:	NCEER (1998)	Average results interval:	3	Transition detect. applied:	No
Points to test:	Based on Ic value	Ic cut-off value:	2.60	K_σ applied:	Yes
Earthquake magnitude M_w:	7.50	Unit weight calculation:	Based on SBT	Clay like behavior applied:	Sands only
Peak ground acceleration:	0.22	Use fill:	Yes	Limit depth applied:	No
Depth to water table (insitu):	4.80 m	Fill height:	1.50 m	Limit depth:	N/A

F.S. color scheme

- Almost certain it will liquefy
- Very likely to liquefy
- Liquefaction and no liquefaction are equally likely
- Unlike to liquefy
- Almost certain it will not liquefy

LPI color scheme

- Very high risk
- High risk
- Low risk

IPENZ ENGINEERS NEW ZEALAND | NEW ZEALAND INSTITUTE OF ARCHITECTS INCORPORATED | ACENZ

Building Code Clause(s).....

PRODUCER STATEMENT – PS4 – CONSTRUCTION REVIEW

(Guidance notes on the use of this form are printed on page 2)

ISSUED BY: ***The Engineer Limited*** .....
(Construction Review Firm)

TO: Leybourne Builders .....
(Owner/Developer)

TO BE SUPPLIED TO: Tauranga City Council .....
(Building Consent Authority)

IN RESPECT OF: Building foundation ground preparation construction investigation and certification *(Description of Building Work)*

AT: 8 Senecio Way .....
(Address)
Palm Springs ..... **LOT 123**..... **DP 489916**... **SO** .....

The Engineer Limited .....has been engaged by **Leybourne Builders** .....
(Construction Review Firm)
To provide☐CM1☒CM2☐CM3☐CM4☐CM5*(Engineering Categories)* or ☐ observation as per agreement with owner/developer

or ☐other ... **Construction Monitoring** .....services
(Extent of Engagement)
in respect of clause(s) **B1 Structure** ..... of the Building Code for the building work described in

documents relating to Building Consent No. **55206** ..... and those relating to

Building Consent Amendment(s) Nos. .....issued during the

course of the works. We have sighted these Building Consents and the conditions of attached to them.

Authorised instructions / variations(s) No. ..... (copies attached)

or by the attached Schedule ☐ have been issued during the course of the works.

On by the basis of ☐this ☒these review(s) and information supplied by the contractor during the course of the works and **on behalf of the firm** undertaking this Construction Review, **I believe on reasonable grounds** that ☐All ☒Part only of the building works have been completed in accordance with the relevant requirements of the Building Consent and Building Consent Amendments identified above, with respect to Clause(s) **B1 Structure** ....of the Building Code.
I also believe on reasonable grounds that the persons who have undertaken this construction review have the necessary competency to do so.

I, ***Bruce Cameron*** .....am: ☒CPEng No. ***173256*** .....
(Name of Construction Review Professional)
☐Reg Arch No. .....

I am a Member of : ☒IPENZ ☐NZIA and hold the following qualifications: ***CPEng, BE, NZCE*** .....

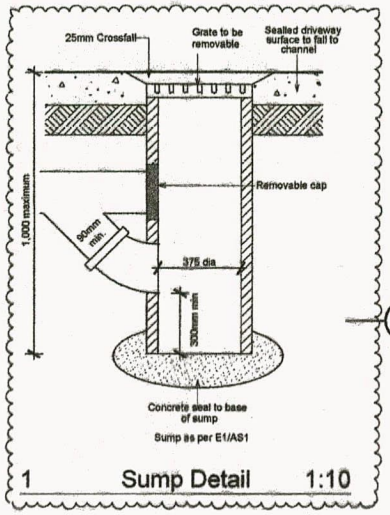
The Construction Review Firm issuing this statement holds a current policy of Professional Indemnity Insurance no less than $200,000*.
The Construction Review Firm is a member of ACENZ : ☐

SIGNED BY ***Bruce Cameron*** ..... **ON BEHALF OF** ***The Engineer Limited*** .....

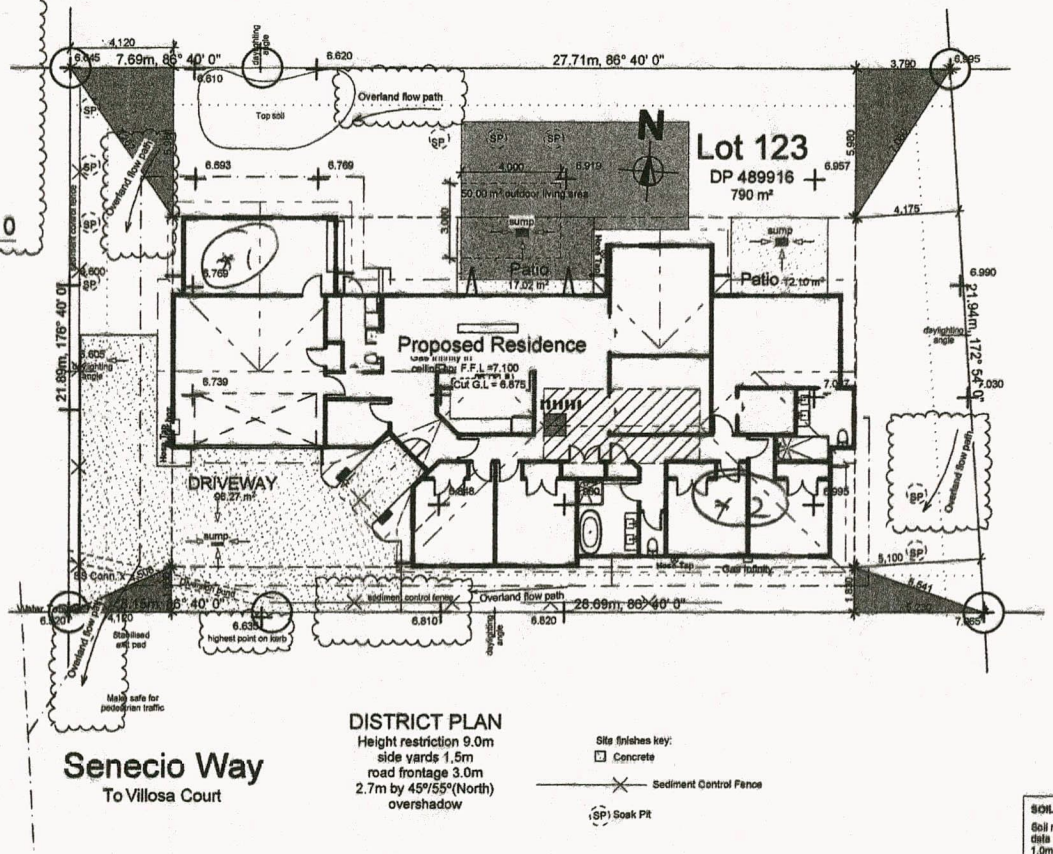
Date:...**9 June 2016** ..... Signature:... ....

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

This form is to accompany **Forms 6 or 8 of the Building (Form) Regulations 2004** for the issue of a Code Compliance Certificate.



1 Sump Detail 1:10



Senecio Way
To Villosa Court

DISTRICT PLAN
Height restriction 9.0m
side yards 1.5m
road frontage 3.0m
2.7m by 45°/55°(North)
overshadow

Site finishes key:
- Concrete
- Sediment Control Fence
- (SP) Soak Pit

F6 Construction and Demolition Hazards

Where work onsite is not completely enclosed and unauthorised entry by children is likely, it is acceptable for the specific hazards to be fenced when workers are absent from the immediate vicinity.
If the potential hazard requires a safety barrier, this barrier must comply with Table 1 of NZBC F5/AS1

SOIL MOVEMENTS:

Soil movements have been determined using the contour data provided. Volumes are for the soil movements to 1.0m outside the building platform and excavation to 150mm below natural ground. For detailed excavation requirements refer to the Geotechnical report under excavation recommendations.

AREA		
SOIL MOVEMENT AREA	370.31	m²
SURFACE AREAS OF THE FOLLOWING:		
DRIVE AREA	96.27	m²
HARDSCAPE AREAS	29.12	m²
VOLUME		
SOIL MOVEMENT VOLUME	55.55	m³

MARK BISHOP
ARCHITECTURE
P.O Box 908, ROTORUA
1105 Pukaki St, ROTORUA
(m) 021 2440037 (ph) 07 929 9807
mark@markbishop.co.nz

TOTAL FLOOR AREA	272.01	m²
TOTAL ROOF AREA	330.40	m²
SITE AREA:	790	m²
ALLOWABLE SITE COVERAGE:	45	%
SITE COVERAGE AREA:	278.66	m²
SITE COVERAGE PERCENT:	35.47	%

Our calculations exclude the Areas of the existing buildings on site

SITE COVERAGE:

The site coverage of the building is based on the area measured over the foundation line. For covered areas it is based on the area up to 600mm inside the eave line.

ZONES			
Tauranga City Council		ZONE:	Residential
WIND ZONE	High	LEE ZONE:	N/A
EARTHQUAKE ZONE	1	SOIL CLASS	D/E
CORROSION ZONE	C	SNOW ZONE	N0

CONSENT

Client:
Phil & Danielle Smith

Site Address:
8 Senecio Way, Palm Springs, Papamoa,

LEGAL DESCRIPTION
Lot No. 123 489916

Job Title
Smith Residence

Drawing Title
Site Plan

Scale 1:200, 1:1, 1:10

Drawing Number
01

Drawn DE
Checked MB
Published 24/05/2016
Job No. P166 (B)

ALL DIMENSIONS TO BE VERIFIED ON SITE

SITE INSPECTION RECORD

Job No: 16061169

Date: 7/6/16

Job Name: Leybourne - 8 Scuccio Way Palm Springs

Weather/Ground Conditions:

ITEM	Comments – Observations		Action Required
	Building requirements; SED / *Good Ground*		
	❖ *Good Ground* check. NZS3604 3.1.3. Reasonable inquiry;		
	• Site observation of; Site stripped	☑	
	a) Buried services	☑	
	b) Land slips/surface creep	☑	
	c) Uncertified fill	☑	
	d) Buried topsoil/unsuitable soils	☑	
	• Confirmation of;		
	e) Specific testing	☑	over code requires.
	f) Immediate locality ok	☑	
	g) GCR	☑	
	• Ground bearing >100kPa or SED.	☑	
	Good Ground found.	☑	
	❖ SED requirements ? ;		
	(1) 1070 760/10 610 500 390 300 (2) 1070 790/10 650 510 430 360 240		Ok to proceed with construction ☑

The Engineer Limited
PO Box 16 264
Tauranga 3147

Phone: 027 419 2568

Property File Note for inclusion on Land Information Memorandum

In 2004 the National Institute of Water and Atmospheric research (NIWA) identified over the past 4000 years a total of two major regional-impact paleo-tsunami events have been recorded along the Bay of Plenty/Eastern Coromandel area and up to 4 local-impact paleo-tsunami have occurred with run-up heights in excess of 5m and extending as far as 7km inland.

NIWA identified that extent of tsunami inundation would need to be confirmed using a tsunami wave model with realistic land topography once a credible source-generation is able to be constructed.

In 2011/2012 the Institute of Geological and Nuclear Sciences Limited (GNS Science) undertook tsunami modelling and reported on the potential tsunami inundation risk for coastal areas within Tauranga City.

As part of the tsunami modelling GNS Science took into account the knowledge gained from the unexpected large earthquake and tsunami event in Japan in 2011 when determining the largest tsunami event that Tauranga could potentially experience.

In particular it considered the effect of the Kermadec Trench, located north-east of New Zealand. The Kermadec Trench is located on a subduction zone, a similar environment to where the event in Japan took place.

Following the receipt of the tsunami modelling report from GNS Science, Council commissioned Tonkin + Taylor (T+T) to produce inundation maps using the latest LiDAR survey data and tsunami wave information from GNS.

In April 2015 Council commissioned NIWA to review the tsunami inundation and evacuation modelling undertaken to date to provide independent feedback that the work undertaken by GNS Science and T+T is able to be relied upon by the public for its information, education and safety. NIWA confirmed the work is able to be relied upon by the public.

The T+T inundation maps show that this property is within a coastal area that would potentially be inundated if the Kermadec Trench experienced a large earthquake (magnitude Mw 9.0), causing an extreme tsunami event.

The maps identify properties that would potentially be affected if a magnitude Mw 9.0 earthquake event occurred in 2020. Information relating to the work undertaken by GNS Science and T+T are available on the Councils website (www.tauranga.govt.nz keyword search "tsunami").

In 2020 T+T completed an updated tsunami model using the latest LiDAR survey data to capture the latest landform due to further land development since the previous models. This data is now captured in the evacuation maps and information provided on the council website.

Frequently Asked Questions

Where has the tsunami information come from?

Since 2011 a lot of work has been done by Tauranga City Council, Bay of Plenty Regional Council and the Emergency Management Group to help us better understand the potential impact of a tsunami in the Bay of Plenty. The tsunami information that is noted on your property file is the compilation of several different streams of research by GNS Science (GNS) and Tonkin + Taylor (T+T). Using this information Council has been able to identify the extent of evacuation zones and potential safe zones for public to evacuate to. Previous research work undertaken by GNS and T+T was reviewed by the National Institute of Water and Atmospheric Research (NIWA) who confirm that it is appropriate to use for the planning of public safety and public education. A copy of the GNS and T+T reports are available on request.

Has this information been available for long?

Tsunami evacuation maps are not new. They have been displayed on the Tauranga City Council and Bay of Plenty Civil Defence Emergency Management websites since 2009. The maps published in 2023 represent the most recent and reliable information we have about tsunami flooding in the City. The new maps build on our previous knowledge. They identify the extent of modelled tsunami flow so that you can plan your own evacuation.

Will this affect my property value or insurance?

The Council is responsible for making sure that any information we have about your property is easily available upon request. We recommend you seek advice from a property valuation or insurance expert about any concerns you may have regarding property values or insurance.

How will this affect any new building consent I might want?

At this stage there will be no change to building consent requirements to existing zones. This means that if your property is in a Residential Zone then you would still be bound by the Residential Zone rules in the Tauranga city Plan or the standards in the Infrastructure Development Code.

Evacuation versus Flood Zones?

When I look at the tsunami flood (inundation) map for my property online the area shown as flooded by the tsunami is slightly different to the tsunami evacuation zone. Why is that?

The difference is that the flood map shows where the tsunami flood water is estimated to flood the land. The flood map is based on the most recent and reliable information science can currently provide us. The science is unable to estimate where tsunami flood waters will flow quite as accurately as can be done with rainfall flooding.

Therefore, to ensure communities affected by the tsunami flooding know where to go we produce an evacuation map.

What are the evacuation maps for?

Based on the scientific modelling we created evacuation maps for the whole city. Anyone can use these maps to plan their own evacuation route. Anywhere outside the blue zone is considered safe.

For more information see www.tauranga.govt.nz/tsunami

TSUNAMI EVACUATION ZONE: Pāpāmoa East *(Wairakei)*

Tsunami Evacuation Zone

Tsunami Safe Area is anywhere beyond the Tsunami Evacuation zone

Tsunami Safe Locations are possible evacuation points

Evacuation Route

Waterway

Scale: 1:20,000

BAY OF PLENTY EMERGENCY MANAGEMENT GROUP

Tauranga City

IMPORTANT

Parts of this area are at risk of tsunami

A **LONG** or **STRONG** earthquake could be your only warning.

Long or Strong GET GONE

LONG or STRONG: GET GONE

DO NOT ignore these natural warning signs:

- Strong earthquake where it is hard to stand up.
- Weak, rolling earthquake shaking for longer than a minute.
- Unusual sea behaviour, like sudden sea level changes.
- The sea making loud and unusual sounds, especially roaring noises.

WHAT TO DO?

1. **Leave immediately, don't wait for an official warning.**
2. **Walk or bike quickly if possible. Only drive if you have to.**
3. **Move quickly to higher ground, or as far from the coastline as possible.**

STAY OUT OF THE TSUNAMI EVACUATION ZONE AND LOW-LYING AREAS UNTIL YOU GET THE ALL CLEAR FROM OFFICIAL CHANNELS

For more information visit:
www.bopcivildefence.govt.nz

Follow Bay of Plenty Civil Defence on social media for updates.

facebook.com/bopcivildefence
twitter.com/bopcivildefence
Listen to the radio

VIEW ONLINE MAP HERE