GRIFFIOEN.

LAND INFORMATION MEMORANDUM

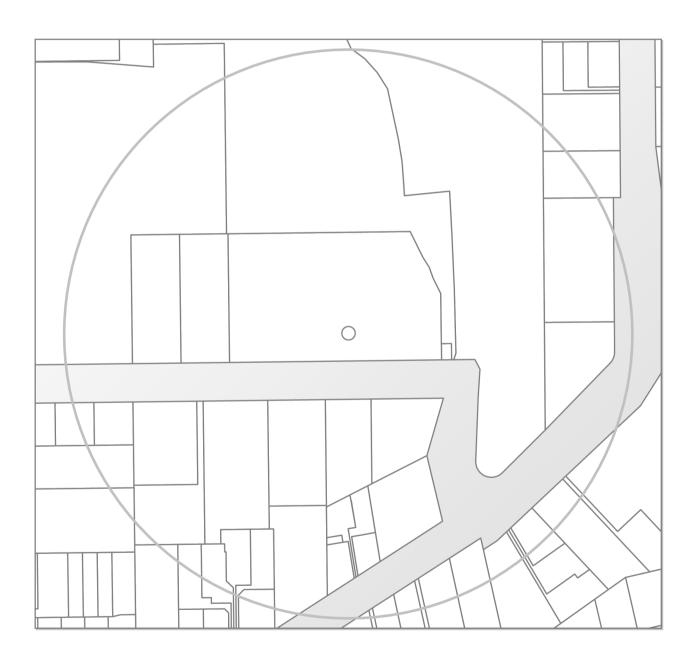
Statement of Passing Over: This building inspection has been supplied by the vendor in good faith. GRIFFIOEN. (Powered by Ownly Limited, Licensed REAA 2008) is merely passing over this information as supplied to us.

We cannot guarantee its accuracy as we have not checked, audited, or reviewed the information and all intending purchasers are advised to seek your own advice as to the information contained in this document.

Please note this LIM report is provided for informational purposes only. There may be matters relating to pre-1992 consents or permits which may need further investigation in order to determine their relevance.

To the maximum extent permitted by law we do not accept any responsibility to any party for the accuracy or use of the information herein.





Property address:

5/17 Warwick Street

LIM number: H09343315

Christchurch City Council

53 Hereford Street, PO Box 73015 Christchurch 8154, New Zealand Tel 64 3 941 8999 Fax 64 3 941 8984



Application details

Date issued 7 October 2025

Date received 25 September 2025

Property details

Property address 5/17 Warwick Street, Richmond, Christchurch

Valuation roll number 22350 28401 E

Valuation information Capital Value: \$640,000

Land Value: \$190,000

Improvements Value: \$450,000

Please note: these values are intended for Rating purposes

Legal description Unit 5 DP 516817 on Lot 1 DP 516816 having share in 3267 m2

Existing owner JP & JK Investments Limited

> 37 Keating Rise **Northcross** Auckland 0632

Council references

Rate account ID 73187700 LIM number H09343315 **Property ID** 1183081

Property address: 5/17 Warwick Street

LIM number: H09343315

Fax 64 3 941 8984



Document information

This Land Information Memorandum (LIM) has been prepared for the purpose of section 44A of the Local Government Official Information and Meetings Act 1987 (LGOIMA). It is a summary of the information that we hold on the property. Each heading or "clause" in this LIM corresponds to a part of section 44A.

Sections 1 to 10 contain all of the information known to the Christchurch City Council that must be included under section 44A(2) LGOIMA. Any other information concerning the land as the Council considers, at its discretion, to be relevant is included at section 11 of this LIM (section 44A(3) LGOIMA). If there are no comments or information provided in these sections this means that the Council does not hold information on the property that corresponds to that part of section 44A.

The information included in this LIM is based on a search of Council records only and there may be other information relating to the land which is unknown to the Council. Please note that other agencies may also hold information relevant to the property, or administer legislation relevant to the use of the land, for example, the Regional Council (Ecan), Heritage New Zealand Pouhere Taonga, and Land Information New Zealand.

Council records may not show illegal or unauthorised building or works on the property. The applicant is solely responsible for ensuring that the land is suitable for a particular purpose.

A LIM is only valid at the date of issue as information is based only upon information the Council held at the time of that LIM request being made. It is essential that the applicant undertakes their own due diligence to verify the suitability of the property for their intended use.

Property file service

This Land Information Memorandum does not contain all information held on a property file. Customers may request property files by phoning the Council's Customer Call Centre on (03) 941 8999, or visiting any of the Council Service Centres. For further information please visit www.ccc.govt.nz.

To enable the Council to measure the accuracy of this LIM document based on our current records, we would appreciate your response should you find any information contained therein which may be considered to be incorrect or omitted. Please telephone the Customer Call Centre on (03) 941 8999.

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A search of records held by the Council has revealed the following information:

1. Special features and characteristics of the land

Section 44A(2)(a) LGOIMA. This is information known to the Council but not apparent from the district scheme under the Town and Country Planning Act 1977 or a district plan under the Resource Management Act 1991. It identifies each (if any) special feature or characteristic of the land concerned, including but not limited to potential erosion, avulsion, falling debris, subsidence, slippage, alluvion, or inundation, or likely presence of hazardous contaminants.

For enquiries, please phone (03) 941 8999 or visit www.ccc.govt.nz.

Natural Hazards

(a) Coastal Hazards

As at the date of this LIM, Council research found no information under this heading.

(b) Earthquakes

Liquefaction Assessment

Christchurch City Council holds indicative information on liquefaction hazard for Christchurch. Information on liquefaction, including an interactive web tool, can be found on the Council website at ccc.govt.nz/liquefaction. Depending on the liquefaction potential of the area that the property is in, the Council may require site-specific investigations before granting future subdivision or building consent for the property.

(c) Flooding

Flood Assessment

Council is currently updating the flood map database. For information relating to flooding at this address please email floorlevels@ccc.govt.nz.

(d) Landslides

As at the date of this LIM, Council research found no information under this heading.

(e) Subsidence

Consultant Report Available

Land Information New Zealand (LINZ) engaged Tonkin and Taylor to provide a Geotechnical Report on Ground Movements that occurred as a result of the Canterbury Earthquake Sequence. The report indicates this property may have been effected by a degree of earthquake induced subsidence. The report obtained by LINZ can be accessed on their website at https://www.linz.govt.nz and search Information for Canterbury Surveyors.

(f) Tsunamis

As at the date of this LIM, Council research found no information under this heading.

(g) Volcanic and Geothermal Hazards

As at the date of this LIM, Council research found no information under this heading.

(h) Wind

As at the date of this LIM, Council research found no information under this heading.

(i) Any Other Natural Hazards

As at the date of this LIM, Council research found no information under this heading.

(j) District Plan Natural Hazard Information

Please refer to Section 8. Land use and conditions of this report for District Plan related natural hazard information.

(k) Building Notices

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-ax 04 3 941 0904

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Please refer to Section 5. Consents, certificates, notices, orders, or requisitions affecting the land and buildings of this report for Building Act notice information.

Other Special Features or Characteristics of the Land

Borelog/Engineer Report Image Available
 Borelog/Engineer Report Image Available

Related Information

• The latest soil investigation report for this property is attached for your information



2. Private and public stormwater and sewerage drains

Section 44A(2)(b) LGOIMA. This is information about private and public stormwater and sewerage drains as shown in the Council's records.

🕿 For stormwater and sewerage enquiries, please phone (03) 941 8999 or visit www.ccc.govt.nz.

Related Information

- This property is shown to be served by Christchurch City Council Sewer and Stormwater.
- Attached are all drainage plans that Council hold for details of private and public drainage. Not all plans provided are verified by Council, and therefore Council cannot be liable for inaccuracies. Site investigation will be required by owners to determine exact layouts.



3. Drinking Water Supply

Section 44A(2)(ba) and (bb) LGOIMA. This is information notified to the Council about whether the land is supplied with drinking water, whether the supplier is the owner of the land or a networked supplier, any conditions that are applicable, and any information the Council has about the supply.

Please note the council does not guarantee a particular water quality to its customers. If you require information on current water quality at this property please contact the Three Waters & Waste Unit.

For water supply queries, please phone (03) 941 8999 or visit www.ccc.govt.nz.

Water supply

Christchurch City Council is the networked supplier of water to this property. This property is connected to the Christchurch City Council Water Supply. The conditions of supply are set out in the Christchurch City Council Water Supply and Wastewater Bylaw (2022), refer to www.ccc.govt.nz.



4. Rates

Section 44A(2)(c) LGOIMA. This is information on any rates owing in relation to the land.

For rates enquiries, please phone (03) 941 8999 or visit www.ccc.govt.nz.

(a) Annual rates

Annual rates to 30/06/2026: \$3,934.37

	Instalment Amount	Date Due
Instalment 1	\$983.52	15/09/2025
Instalment 2	\$983.52	15/12/2025
Instalment 3	\$983.52	15/03/2026
Instalment 4	\$983.81	15/06/2026

Rates owing as at 07/10/2025: \$983.52

(b) Excess Water Rates

For excess water charge enquiries, please phone (03) 941 8999 or visit www.ccc.govt.nz/contact-us.

(c) Final water meter reading required at settlement?

Property settlements must ensure all water usage and outstanding debts are accurately accounted for.

To advise of a property settlement, please complete the request for settlement information form at www.ccc.govt.nz/services/rates-and-valuations/solicitors-request.

A settlement statement of accounts will be provided on the expected settlement date advised.

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5. Consents, certificates, notices, orders, or requisitions affecting the land and buildings

Section 44A(2)(d) LGOIMA. This is information concerning any consent, certificate, notice, order, or requisition, affecting the land or any building on the land, previously issued by the Council. The information in this section may also cover building consent and/or code compliance information issued by building certifiers under the Building Act 1991 and building consent authorities that are not the Council under the Building Act 2004.

You can check the property file to identify whether any consent or certificate was issued by a building certifier under the Building Act 1991.

Section 44A(2)(da) LGOIMA. The information required to be provided to a territorial authority under section 362T(2) of the Building Act 2004. There is currently no information required to be provided by a building contractor to a territorial authority under section 362T(2) of the Building Act 2004. The Building (Residential Consumer Rights and Remedies) Regulations 2014 only prescribed the information that must be given to the clients of a building contractor.

Sections 71 to 74 of the Building Act 2004 require the Building Consent Authority to consider natural hazards when it receives a building consent application for the construction or major alteration of a building on land that is subject to, or likely to be subject to, a natural hazard. A building consent for this property may have been issued subject to a section 72 or 73 notice. This means at the time of building consent the Building Consent Authority was not satisfied that adequate provision would be made to protect the building and land from the natural hazard and was subsequently required to notify the Registrar-General of Land to record the natural hazard on the Record of Title. The Building Act 2004 defines natural hazards as erosion (including coastal erosion, bank erosion, and sheet erosion), falling debris (including soil, rock, snow, and ice), subsidence, inundation (including flooding, overland flow, storm surge, tidal effects, and ponding), and slippage.

If your property contains a notice under s73 of the Building Act 2004, this will be identified on the building consent decision below (decision under s72 of the Building Act 2004) and on the properties' Record of Title. The Record of Title may also record this as a s36 notice under the Building Act 1991, or a s641A notice under the Local Government Act 1974.

For building enquiries, please phone (03) 941 8999, email EPADutyBCO@ccc.govt.nz or visit www.ccc.govt.nz.

(a) Consents

BCN/1961/2389 Applied: 22/05/1961 Status: Completed

1/17 Warwick Street Richmond

Permit granted 25/10/1961

Permit issued 25/10/1961

STUCCO- Historical Reference PER61100062- No plans/information held on property file

BCN/1988/1988 Applied: 11/04/1988 Status: Completed

1/17 Warwick Street Richmond

Permit granted 17/10/1988

Permit issued 17/10/1988

RELOCATE ROOM 15 WARWICK STREET- Historical Reference PER88100081

BCN/1999/3785 Applied: 10/05/1999 Status: Cancelled

1/17 Warwick Street Richmond

Accepted for processing 10/05/1999

PIM Granted 26/05/1999

PIM Issued 26/05/1999

Building consent granted 21/02/2000

Application cancelled 30/06/2000

ALTERATIONS TO EARLY CHILDHOOD CENTRE 15 WARWICK STREET- Historical Reference ABA599 & CON99004234

BCN/2003/3165 Applied: 01/05/2003 Status: Completed

1/17 Warwick Street Richmond

Accepted for processing 01/05/2003

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PIM Granted 09/05/2003

PIM Issued 09/05/2003

30 APARTMENTS & BASEMENT CARPARK 15 WARWICK STREET- Historical Reference ABA10034437

BCN/2003/7121 Applied: 02/09/2003 Status: Completed

1/17 Warwick Street Richmond

PIM Granted 09/05/2003

PIM Issued 09/05/2003

Accepted for processing 02/09/2003

Building consent granted 31/03/2004

Building consent issued 07/09/2004

Code Compliance Certificate Granted 01/02/2008

Code Compliance Certificate Issued 01/02/2008

30 DWELLING UNITS WITH GARAGES, SUBJECT TO WAIVER TO BUILDING CODE CLAUSE C3.3.5.-

Historical Reference ABA10038252

BCN/2017/5077 Applied: 20/06/2017 Status: Completed

1/17 Warwick Street Richmond

Accepted for processing 21/06/2017

Building consent granted 09/08/2017

Building consent issued 17/08/2017

Code Compliance Certificate Issued 01/06/2018

Construction of 32 units within 3 detached apartment buildings - stage 1 of 2 - foundations, drainage and civil works

BCN/2017/6003 Applied: 18/07/2017 Status: Completed

1/17 Warwick Street Richmond

Accepted for processing 19/07/2017

Building consent granted 14/09/2017

Building consent issued 15/09/2017

Code Compliance Certificate Issued 05/07/2018

Construction of 32 units within 3 detached apartment buildings - stage 2 of 2 - Structure

(b) Certificates

Note: Code Compliance Certificates were only issued by the Christchurch City Council since January 1993.

(c) Notices

- Placards issued under the Civil Defence Emergency Management Act 2002 as a result of the 4 September 2010 and 22 February 2011 earthquakes have now expired (by 12 July 2011 if not before). Some civil defence placards were replaced with dangerous building notices issued under section 124 Building Act 2004, and where this has happened the section 124 notice is separately recorded. Many other buildings, although not issued with a section 124 notice, may require structural work or other repairs before they can be occupied again. It is the building owners responsibility to make sure the building is safe for any occupier or visitor. Detailed structural engineering assessments may still be required to be carried out.
- CDB75045552 04/03/2011 9/17 Warwick Street

Building Evaluation : Building Inspected Under Civil Defence Emergency , Yellow Placard Issued (a deemed Building Act notice)

CDB75045552 13/09/2011 9/17 Warwick Street

Building Evaluation : Building Inspected Under Civil Defence Emergency , Yellow Placard Issued (a deemed Building Act notice)

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WOF/2020/3783 Expires: 01/07/2026
 Compliance schedule TA issued 09/11/2023

(d) Orders

(e) Requisitions

Related Information

 Please find an electrical certificate/s attached relating to works that have been carried out on the current building/dwelling at this address.

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6. Certificates issued by a building certifier

Section 44A(2)(e) LGOIMA. This is information notified to the Council concerning any certificate issued by a building certifier pursuant to the Building Act 1991 or the Building Act 2004.

For building enquiries, please phone (03) 941 8999, email EPADutyBCO@ccc.govt.nz or visit www.ccc.govt.nz.

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7. Weathertightness

Section 44A(2)(ea) LGOIMA. This is information notified to the Council under section 124 of the Weathertight Homes Resolution Services Act 2006.

For weathertight homes enquiries, please phone (03) 941 8999 or visit www.ccc.govt.nz.

If there is no information below this means Council is unaware of any formal Weathertight Homes Resolution Services claim lodged against this property.

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8. Land use and conditions

Section 44A(2)(f) LGOIMA. This is information relating to the use to which the land may be put and conditions attached to that use. The planning information provided below is not exhaustive and reference to the Christchurch District Plan and any notified proposed changes to that plan is recommended: https://ccc.govt.nz/the-council/plans-strategiespolicies-and-bylaws/plans/christchurch-district-plan/.

There maybe some provisions of the Christchurch City Plan or Banks Peninsula District Plan that affect this property that are still operative.

For planning queries, please phone (03) 941 8999, email DutyPlanner@ccc.govt.nz or visit www.ccc.govt.nz.

Regional plan or bylaw

There may be objectives, policies or rules in a regional plan or a regional bylaw that regulate land use and activities on this site. Please direct enquiries to Canterbury Regional Council (Environment Canterbury).

Waterway Provisions for Other Councils

A resource consent or permit may also be required from the Canterbury Regional Council or other territorial authority, particularly with respect to water bodies managed by those authorities. Please refer to the relevant regional plan and any relevant bylaws, and contact the Christchurch City Council if you are uncertain which authority manages the water body in question.

(a)(i)Christchurch City Plan & Banks Peninsula District Plan

(ii)Christchurch District Plan

Development Constraint Conditions

Council records show there is a specific condition on the use of this site: Specific Foundation Design Required

Precinct

Property or part of property within the Local Centre Intensification Precinct precinct, which is operative

Qualifying Matter

Property or part of property within the Water body Setback qualifying matter, which has been publicly notified

Liquefaction Management Area (LMA)

Property or part of property within the Liquefaction Management Area (LMA) Overlay, which is operative.

Waterway Provisions

This property or part of this property is close to at least one waterway. It may be within the setback for a Network Waterway. Within that setback, District Plan rules apply to activities including buildings, earthworks, fences and impervious surfacing. Any part of the property within the setback will be affected by those rules. Rules associated with this waterway are operative under the District Plan.

District Plan Zone

Property or part of property within the Medium density residential zone, which is operative.

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(b) Resource consents

If there are any land use resource consents issued for this property the Council recommends that you check those resource consents on the property file. There may be conditions attached to those resource consents for the property that are still required to be complied with.

RMA/2005/1656 - Subdivision Consent

UNIT TITLE APPLICATION - 30 UNITS - granted 23/08/05 223 reissued 11/02/08 DP 357584 consent reissued 11/02/08 224 issued 11/02/08 - Historical Reference RMA20020526

Status: Processing complete

Applied 20/07/2005 Granted 11/02/2008

Decision issued 11/02/2008

RMA/1999/5988 - Resource consents

1/17 Warwick Street Richmond

To establish a pre-school. Resource Consent 991985 - Historical Reference RMA997

Status: Processing complete

Applied 07/07/1999 Granted 21/12/1999

Decision issued 21/12/1999

RMA/2003/1428 - Land Use Consent

1/17 Warwick Street Richmond

30 residential units with underground parking with various non compliances - Historical Reference RMA20013722

Status: Processing complete

Applied 03/06/2003 Granted 17/07/2003

Decision issued 17/07/2003

RMA/2016/2881 - Land Use Consent

1/17 Warwick Street Richmond

32 residential units

Status: Processing complete

Applied 12/10/2016 Granted 22/05/2017

Decision issued 23/05/2017

RMA/2017/3186 - Combined subdivision / land use consent

1/17 Warwick Street Richmond

Unit Title Subdivision - 22 units

Status: Processing complete

Applied 19/12/2017

Granted 19/02/2018

Decision issued 20/02/2018

s223 Certificate issued 13/06/2018

s224 Certificate issued 13/06/2018

RMA/2018/986 - s243 Surrender of easement

1/17 Warwick Street Richmond

Partial Surrender of Easement - subdivision consent RMA/2017/3186

Status: Processing complete

Applied 20/04/2018

Certificate issued 22/05/2018

Property address:

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9. Other land and building classifications

Section 44A(2)(g) LGOIMA. This is information notified to the Council by any statutory organisation having the power to classify land or buildings for any purpose.

For land and building enquiries, please phone (03) 941 8999 or visit www.ccc.govt.nz.

Please refer to Section 1 for details

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10. Network utility information

Section 44A(2)(h) LGOIMA. This is information notified to the Council by any network utility operator pursuant to the Building Act 1991 or the Building Act 2004.

For network enquiries, please phone (03) 941 8999 or visit www.ccc.govt.nz.

None recorded for this property

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LIM number: H09343315

Christchurch City Council

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11. Other information

Section 44A(3) LGOIMA. This is information concerning the land that the Council has the discretion to include if it considers it to be relevant.

For any enquiries, please phone (03) 941 8999 or visit www.ccc.govt.nz.

(a) Kerbside waste collection

- Your organics are collected Weekly on Wednesday. Please leave your organics at the Kerbside by 6:00 a.m.
- Your recycling is collected Fortnightly on the Week 2 collection cycle on a Wednesday. Please leave your recycling at the Kerbside by 6:00 a.m. Your nearest recycling depot is the Metro Place EcoDrop.
- Your refuse is collected Fortnightly on the Week 2 collection cycle on a Wednesday. Please leave your rubbish at the Kerbside by 6:00 a.m. Your nearest rubbish depot is the Metro Place EcoDrop.

(b) Other

Floor Levels Information

Council holds a variety of information on requirements for building or property development. This includes:

- required minimum finished floor levels, which need to be set to meet the surface water requirements in clause E1.3.2 of the Building Code (where this applies); and
- the requirements of the Christchurch District Plan (where a property is in the Flood Management Area). Where this information has been processed for your property, you can view it online at https://ccc.govt.nz/flooding-and-floor-levels.

Otherwise, if you are building or developing on this land, you can request a calculation on required finished floor levels for your proposed building by emailing us at floorlevels@ccc.govt.nz.

Guest Accommodation

Guest accommodation (including whole unit listings on Airbnb; BookaBach; etc.) generally requires a resource consent in this zone when the owner is not residing on the site. For more information, please refer to: https://ccc.govt.nz/providing-guest-accommodation/.

Community Board

Property located in Papanui-Innes-Central Community Board.

Tsunami Evacuation Zone

This property is not in a tsunami evacuation zone. It is not necessary to evacuate in a long or strong earthquake or during an official Civil Defence tsunami warning. Residents may wish to offer to open their home to family or friends who need to evacuate from a tsunami zone, and should plan with potential guests to do so in advance. More information can be found at https://ccc.govt.nz/services/civil-defence/hazards/tsunami-evacuation-zones-and-routes/

Electoral Ward

Property located in Central Electoral Ward

Listed Land Use Register

Hazardous activities and industries involve the use, storage or disposal of hazardous substances. These substances can sometimes contaminate the soil. Environment Canterbury identifies land that is used or has been used for hazardous activities and industries. This information is held on a publically available database called the Listed Land Use Register (LLUR). The Christchurch City Council may not hold information that is held on the LLUR Therefore, it is recommended that you check Environment Canterbury's online database at www.llur.ecan.govt.nz

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Spatial Query Report

A copy of the spatial query report is attached at the end of this LIM. The spatial query report lists land use resource consents that have been granted within 100 metres of this property.

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LIM number: H09343315

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GEOTECHNICAL REPORT

17 WARWICK STREET RICHMOND CHRISTCHURCH

PREPARED FOR VIRTUE GROUP LTD

JOB No.

161329

DATE:

19/06/2017

ISSUE: A



QUALITY CONTROL

Title 17 Warwick Street, Richmond

Client Virtue Group Ltd

Filename 161329

Issue Α

19th June 2017 Date

Prepared By Name: Scott McHardy

BEng Geotechnical (Hons)

Signature:

Reviewed and Name: Steven Roberts

Authorised By CPEng,(Geotechnical) MIPENZ, IntPE(NZ)

Signature:

Limitations

This report has been prepared at the specific instructions of the client in connection with the geotechnical assessment at 17 Warwick Street, Christchurch. No liability is accepted by this company or any employee of this company with respect to its intended use by any other person or persons.

The subsurface soil conditions and the interpretations reported are those identified at the soil test locations at the time of the geotechnical assessment and are subject to the limitations of the investigation methods. The test results represent only a small sample of the total subsurface soils. Soil conditions may vary between the test locations and interpretation of the soil information and test results must take into account the spacing and plan location of the tests.

If subsurface conditions encountered on the site during construction appear to vary from those inferred from the information contained in this report, Kirk Roberts Consulting Engineers Ltd requests that it be notified immediately.

This report is only valid for the proposal as outlined in the introduction and the information and interpretation of the content in this report may not be relevant if the proposed development is altered in any way.

If the recipient of this report wishes to contact Kirk Roberts Consulting Engineers Ltd, either Email: info@kirkroberts.co.nz or Phone: 03 379 8600.



EXECUTIVE SUMMARY

Virtue Group Ltd is proposing a two-storey multi-unit development for this vacant site. The three detached blocks are to constructed of lightweight materials and occupy most of the site except towards the west boundary, where most of the tenant/occupier carparking is provided.

The site was previously developed by a 30 unit terraced apartment complex supported on a concrete basement structure. Review of the previous construction drawings show the basement structure is supported on driven concrete piles to unknown depth. The basement structure has been retained and infilled with gravell fill material, after demolition of the earthquake damaged terraced units.

Re-analysis of the previous CPT investigation tests in accordance with recent MBIE guidelines, confirms the site responds to TC3 rating for all limit state earthquake events. A serious of DSHP tests completed within the fill material confirms a geotechnical ultimate bearing capacity of 300 kPa can be adopted for design of shallow foundations under static loading.

The buried basement structure supported on driven concrete piles would effectively suppress liquefaction damage by moderating potential differential settlement during intense and/or long duration ground shaking.

For this reason, foundation options (2 to 4) outlined in Part C of the MBIE guidelines are appropriate for the proposed two-storey multi-unit development.

Summary of Geotechnical Report for 17 Warwick Street							
Technical Category	TC3						
Technical Category confirmation after geotechnical investigation	TC3						
Site specific tests completed	6 Cone Penetrometer Tests 8 Dynamic Super Hard Probe Tests						
Encountered lithology	CPT tests returned the following subsurface profile: Interbedded silts and silty sands to 3.5 - 6.0 m, over gravelly sands to 8.8 m - 12.0 m bgl, over interbedded silts and silty sand to 9.1 - 12.1 m bgl, over gravelly sand. DSPH tests returned the following subsurface profile: Gravel fill to 1.0 - 3.6 m.						
Soil classification	Class 'D' - 'Deep Soil' sites						
Groundwater depth	0.9 m below ground level						
Liquefaction settlement to 10 m depth	SLS1 (M7.5, 0.13g): 45 – 99 mm SLS2 (M6.0, 0.19g): 59 – 132 mm ULS (M7.5, 0.35g): 112 – 180 mm						



Issue: A Date: 19/06/2017

Job No: 161329

Potential for lateral spread	Minor	
Recommended foundations	•	Enhanced concrete foundation (Options 2 to 4)



Issue: A Date: 19/06/2017

17 WARWICK STREET RICHMOND

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17 WARWICK STREET RICHMOND

1 INTRODUCTION

Kirk Roberts Consulting Engineers Ltd (KR Ltd) has been engaged by Virtue Group Ltd Limited to provide a geotechnical investigation at 17 Warwick Street, Christchurch.

This geotechnical report presents the results of deep ground testing completed on the 2nd May 2017, supplemented by previous deep ground testing completed 12th May 2011. The combined test results are then used to confirm the following:

- Confirmation of Ministry of Business, Innovation and Employment land classification
- Liquefaction potential
- Foundation options for the proposed development.

2 PROPOSED DEVELOPMENT

Architectural plans prepared 22.05.2017 show the proposed development comprising three detached multi-unit blocks, refered herein as Block A to Block C., ranging in footprint area from to 390 m². Block A is the largest, with a footprint of 390m² and is situated along the north end of the site and straddles over the remanent basement structure from the previous multi-unit development. Blocks B & C, with footprint areas of 210 m² and 310 m² respectively, are located towards the south and east end of the site and predominantly within the footprint of the remanent basement structure.

The three blocks are to be constructed of light weight materials comprising timber framed perimeter walls and timber inter-tenancy walls, with tin roof cladding and Celcrete exterior cladding. The architectural plans show the three detached blocks separated by hard-paved outdoor communal areas and sealed carpark parking areas to the south and west side of the site.

3 SITE DESCRIPTION

The subject property comprises four separate sections amalgamated into one fee simple title with a combined site area of about 3240 m². The site is located on the northern side of Warwick Street and is rectangular in shape, with the north- east corner truncated by a small parcel of public-owned land. Access to the site is off Warwick Street. The site is level with no significant change of elevation.

Figure 2.1 shows the location of the site and the surrounding area at the time of the previous development, which has since been demolished after the 2011 Christchurch earthquake event. .



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Figure 2.1: Location of proposed development at 17 Warwick Street.

4 PREVIOUS GEOTECHNICAL INVESTIGATION

In May 2011 Kirk Roberts Ltd was engaged by McLarens Young International Ltd to carry out a structural and geotechnical earthquake damage assessment report to establish if the "Warwick Mews" 30 Unit complex could be repaired.

The geotechnical investigation comprised six cone penetrometer tests pushed to 15m depth for the purpose of quantifying liquefaction risk and assessment of foundation performance post February 2011 earthquake.

Subsequent to Kirk Roberts' June 2011 earthquake damage assessment report, the "Warwick Mews" structure has been demolished, with the basement structure being retained.

5 CURRENT GEOTECHNICAL INVESTIGATION

A geotechnical investigation consisting of eight Dynamic Probe Super Hard Tests (DPSH1 – DPSH2) was carried out by Ground Investigation Ltd between 2nd to the 5th May 2017. The tests were taken to a target depth of 3.68 m below ground level (bgl) or effective refusal. The purpose of these tests was to quantify the strength parameters of the fill material and from that, the ultimate bearing capacity of the fill material. The DPSH test location plan is presented in Appendix A. The May 2011 CPT tests have been reanalysed for liquefaction risk based on recent amendments to the MBIE guidelines, and the updated results can be viewed in appendix C of this report.

6 GEOLOGY

The Christchurch region is underlain by a series of water bearing gravel beds interbedded with sand and silt, peat and clay layers to a depth of 400 m. Christchurch city is underlain by Holocene aged (last 10,000 years) Yaldhurst Member of the Springston Formation, which overlies late Pleistocene (~70,000 years) Riccarton Gravels. To the east, the Yaldhurst Member grades into the finer Christchurch Formation (~10,000 years).



Issue: A Date: 19/06/2017 Page 2 Job No: 161329 The Springston Formation consists of river channel and overbank sediments which comprise poorly sorted greywacke gravels, sands, and silt beds up to 20 m thick. The Christchurch formation is largely composed of finer material deposited in lower energy environments. These include beach, estuarine, lagoonal, and coastal swamp deposits of gravel, sand, silt, clay, shell and peat deposits which thicken towards the east. The Riccarton gravels underlie the Christchurch formation and are water bearing at a depth of 20 – 25 m and provide an artesian aquifer to the city.

The anticipated subsurface soil profile in this area of Christchurch consists of alluvial sand and silt overbank deposits of the Springston Formation¹ underlain by dune sand and gravel of the Christchurch Formation¹.

7 SUBSURFACE CONDITIONS

7.1 Soil Profile

Six Cone Penetrometer Tests completed by McMillan Drilling Ltd (12/05/2017) to a target depth of 15 m indicated the site to be underlain by the following subsurface soil profile in Table 6.1 below.

Table 6.1: Simplified Soil Profile

Top of layer (m)	Description	Density
0.0	Asphalt	-
0.37 – 0.48	Interbedded SILT and silty SAND	Loose
3.5 – 6.0	Gravelly SAND	Loose to Dense
8.8 – 12.0	Interbedded SILT and silty SAND	Loose
9.1 – 12.1	Gravelly SAND	Loose to Dense

In terms of CPT cone tip resistance results, the interbedded silt and silty sand is loose, with cone resistance values ranging from 1 to 7 MPa intercalated by loose to dense gravelly sand, with cone resistance values of 2 to 27MPa.

7.2 Groundwater Table

The New Zealand Geotechnical Database indicates a water contour level at 1.0 m bgl from a borehole test (ref BH_6103) completed in front of the subject property.

8 LIQUEFACTION AND LATERAL SPREAD ASSESSMENT

8.1 Method of Liquefaction Assessment

Liquefaction assessment of the CPT results has been carried out in accordance with MBIE Guidelines Part C. Liquefaction potential and the calculation of post liquefaction induced settlements have been assessed using the methodology developed by Idriss & Boulanger (2014) and Zhang et al (2002) respectively. The method of Robertson and Wride (1998) has been applied to account for the effect of grain characteristics or fines content.

¹ Geology of the Christchurch Urban Area; L.J Brown and J.H.Weeber, 1992.



Issue: A Date: 19/06/2017 Page 3 Job No: 161329 The abovementioned analysis is considered to be conservative based on limited historical case studies of liquefaction sites and over predicts liquefaction in deeper soils.

8.2 Ultimate and Serviceability Limit States - NZS 1170.0

The New Zealand design loads code NZS 1170 defines two design conditions which need to be assessed for the purpose of liquefaction assessment.

- ULS Ultimate Limit State is concerned with ground damage associated with a 500-year earthquake event, and all buildings shall be designed to avoid collapse and potential loss of life.
- **SLS Serviceability Limit State** is concerned with ground damage associated with smaller earthquakes with a return period of 25-years. Buildings and their non-structural components are designed to withstand permanent damage for a 25-year event.

8.3 Ground Motion Inputs

For the purpose of liquefaction prediction, a PGA value of 0.35g shall be used to calculate the cyclic stress ratio (CSR) for a 500-year earthquake event (M 7.5) in accordance with interim guidelines released by the Ministry of Business, Innovation and Employment (MBIE), December 2012. Table 6.1 below summarises the peak ground accelerations from various sources.

Table 6.1: Ground motion inputs used in liquefaction assessment according to various guidelines

Code and design magnitude	PGA value for liquefaction assessment					
Code and design magnitude	ULS	SLS				
NZS 1170.5 2004 (M=7.5)	0.34g	0.11g				
MBIE interim guidelines (M=7.5)	0.35g	0.13g				
MBIE interim guidelines update (M=6.0)	-	0.19g				
GNS Hazard Model (M=7.5)	0.43g	0.15g				

While the calculated PGA value has been updated to 0.13g by MBIE guidelines for a SLS earthquake event, it should be noted that the earthquake magnitude and hence duration and intensity of shaking will be smaller compared to an ULS event.

For a SLS event the PGA value of 0.13g has been normalised to a magnitude 7.5 earthquake, even though the 0.13g value implicitly accounts for smaller magnitude and hence shorter duration earthquake shaking in GNS's updated seismicity model. Following the release of 'CPT and SPT Based Liquefaction Triggering Procedures' by R. Boulanger and I. Idriss (2014), an updated deterministic methodology for liquefaction assessment allows a PGA value of 0.19g and magnitude 6.0 earthquake to be used.

8.4 Liquefaction Interpretation

In accordance with MBIE guidelines, the predicted settlement to an index depth of 10 m at the CPT test locations and for the various limit state seismic events is summarised in Tables 6.2 and 6.3.

Table 8.2: Total liquefaction settlement to 10 m index depth at CPT01 – CPT03



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Location		CPT01			CPT02		CPT03			
Limit State Seismic event	SLS1	SLS2	ULS	SLS1	SLS2	ULS	SLS1	SLS2	ULS	
Settlement to 10.0 m (mm)	45	115	184	64	120	166	99	132	180	

Table 8.3: Total liquefaction settlement to 10 m index depth at CPT04 – CPT06

Location		CPT04			CPT05		CPT06			
Limit State Seismic event	SLS1	SLS2	ULS	SLS1	SLS1 SLS2 ULS			SLS2	ULS	
Settlement to 10.0 m (mm)	47	79	112	82	118	154	45	59	140	

The above results indicate settlements ranging from 45 – 132 mm for the SLS limit state events and 112 – 184 mm for the ULS event. The mean settlement value is 56 to 117 mm for SLS1 and SLS2 respectively compared to 159 mm for the ULS event, and suggests that 74% (117 mm) of the total ULS predicted ground settlement will occur after the SLS2 event.

8.5 Differential Liquefaction Settlement

Currently there is no accepted method for the determination of differential liquefaction settlement. In this case, differential liquefaction settlement between the six cone penetrometer test locations has been assessed based on a depth weighting factor approach, in which the near-surface liquefaction has a greater influence on differential liquefaction settlement at ground level, but reduces with increasing depth. Table 6.4 below shows the results of the differential settlement analysis.

Table 6.4: Differential Liquefaction Settlement Approximation

Return Period	SLS1	SLS2	ULS
Differential Settlement (mm)	38	59	42
Ground Slope (%)	0.15	0.23	0.17

In inferred ground slope % values have been calculated based on a horizontal distance of 25.4 m between CPT04 and CPT05 towards the east end of the site. The inferred ground slope values comply with the performance requirement of B1/VM4, which limits acceptable differential settlement to 0.416%, i.e. 25 mm over a 6 m span.

8.6 Lateral Spreading

Lateral spread risk has been assessed in accordance with Section 12.2 of the MBIE guidelines "Repairing and Rebuilding houses affected by the Canterbury earthquakes" December 2012. Table 12.3 suggests a 150 m buffer beyond a free-edge of a water course, where major to severe global lateral ground movement of TC3 properties is expected. Ground surface observations presented on the New Zealand Geotechnical Database (NZGD) indicates that the site experienced negligable lateral spread damage.

Considering the subject property is located approximately 186 m from the nearest water course, the Avon river, and beyond the 150m buffer zone, it is our opinion that the potential for lateral stretch ground damage is low.



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9 RECLASSIFICATION OF LAND DAMAGE FROM MINISTRY OF BUSINESS, INNOVATION AND EMPLOYMENT (MBIE)

To MBIE's 'Index' value of 10 m, liquefaction-induced ground settlement is predicted to total up to 132 mm and 159 mm for SLS2 and ULS events respectively. This level of settlement is within the criteria for TC3 land, suggesting a TC3 land classification is appropriate for the site for the purpose of foundation design.

10 FLOOD RISK

10.1 Flood Risk Assessment

The Christchurch City Councils (CCC) District Plan outlines the Flood Management Areas within the Christchurch region and the required finished floor level of residential dwellings situated within these areas. The finished floor level must satisfy the greater of; a 200-year flood level plus 400 mm freeboard or in tidally influenced areas, at no less than 11.8 m above the Christchurch City Datum (CCD).

In accordance with the CCC District Plan, the subject property appears not to be located within a Flood Management Area as presented on the CCC GIS mapping website extract in appendix B. Whilst the interim floor level is not recorded, this level and the associated flood hazard at 17 Warwick Street should be confirmed by the Christchurch City Council, prior to applying for a building consent.

11 REINSTATED GROUND AFTER PREVIOUS BUILDING DEMOLITION

11.1 Discussion

As discussed in Section 4 above, the previous development on this site comprised 30 terraced units supported on a concrete slab system, spanning over a carpark basement structure. The terraced units have since been demolished, leaving the basement structure and underlying precast piles as is. The basement structure has since been filled in with gravel material and the site made level for future development.

Reference to construction drawings sourced from the City Council property file, indicate the basement foundation invert level varies from RL 11.715 m to RL 11.120 m along the south and north side of the foundation respectively. With the basement slab thickness at 0.3 m and the ground level RL at 14.200 m, the depth of fill material within the basement structure would be between 3.085 m to 3.68 m in a south-north direction.

11.2 Quantifying Fill Material Strength Parameters

The client confirmed that during their due diligence period for purchasing the subject property, they where unable to source any test data from the property file confirming if the fill material was placed in a controlled manner in accordance with NZS 4431:1989. Accordingly, we have completed a serious of dynamic super hard probe (DSHP) tests within the basement foundation footprint to quantify the density of the fill material (via measured 'N' values) and from these test results,the fill material's internal friction angle (ϕ) based on well established imperical correlations between 'N' verses ϕ .

The geotechnical ultimate bearing capacity of the fill material can then be calculated in accordance with section B1/VM4 of the NZBC for shallow foundations, based on an adopted density of the fill material and the calculated φ value.



Issue: A Date: 19/06/2017 Page 6 Job No: 161329 Eight DSPH tests where taken to effective refusal depths ranging between 1.0 to 3.6 m depth. The shallower refusal depth may coincide with the drive-in basement ramp towards the south-west corner of the site. Table 6.5 below summarises the continuous blow-count results (N_{20}) to effective refusal and their correction to N_{60} values for calculation of the fill material's internal friction angle (ϕ).

Table 6.5: Corrected N₆₀ values from continuous DPSH tests to maximum depth of 3.6 m

				N ₂₀								N ₀	(60)			
Depth (m)	DPSH1	DPSH2	DPSH3	DPSH4	DPSH5	DPSH6	DPSH7	DPSH8	DPSH1	DPSH2	DPSH3	DPSH4	DPSH5	DPSH6	DPSH7	DPSH8
0	1	1	2	1	1	4	6	1	2	2	4	2	2	7	11	2
0.1	1	3	3	2	4	16	21	3	2	5	5	4	7	29	38	5
0.2	10	10	11	9	4	13	25	8	18	18	20	16	7	24	46	15
0.3	11	29	9	16	7	6	19	7	20	53	16	29	13	11	35	13
0.4	28	24	6	18	8	5	33	14	51	44	11	33	15	9	60	26
0.5	21	13	5	8	10	16	31	23	38	24	9	15	18	29	57	42
0.6	20	14	9	3	12	7	24	18	37	26	16	5	22	13	44	33
0.7	24	14	19	3	17	6	22	9	44	26	35	5	31	11	40	16
0.8	9	18	12	6	18	4	18	6	16	33	22	11	33	7	33	11
0.9	11	19	10	3	13	3	18	5	20	35	18	5	24	5	33	9
1	18	8	10	3	14	3	40	5	33	15	18	5	26	5	73	9
1.1	15	7	9	3	19	5		4	27	13	16	5	35	9		7
1.2	15	5	6	9	18	4		3	27	9	11	16	33	7		5
1.3	11	10	5	21	16	1		4	20	18	9	38	29	2		7
1.4	9	21	5	14	11	2		10	16	38	9	26	20	4		18
1.5	11	30	5	16	10	1		11	20	55	9	29	18	2		20
1.6	8	24	3	12	13	9		6	15	44	5	22	24	16		11
1.7	9	16	3	7	8	7		9	16	29	5	13	15	13		16
1.8	11	10	13	12	7	6		7	20	18	24	22	13	11		13
1.9	14	6	22	5	7	12		4	26	11	40	9	13	22		7
2	27	5	25	8	6	15		2	49	9	46	15	11	27		4
2.1	40	5	9	40	6	9		1	73	9	16	73	11	16		2
2.2		6	5		19	14		3		11	9		35	26		5
2.3		7	3		40	2		2		13	5		73	4		4
2.4		7	3			2		2		13	5			4		4
2.5		4	3			2		4		7	5			4		7
2.6		4	4			3		4		7	7			5		7
2.7		5	4			5		4		9	7			9		7
2.8		4	4			5		3		7	7			9		5
2.9		5	5			8		2		9	9			15		4
3		5	3			6		1		9	5			11		2
3.1		4	3			6		1		7	5			11		2
3.2		5	3			11		1		9	5			20		2
3.3		5	2			40		2		9	4			73		4
3.4		6								11						
3.5		7								13						
3.6		7								13						
						(Geometric	Average	21	14	10	13	18	10	39	7

From the above table, the geometric average of the corrected 'N' values has been calculated for each DPSH location and the respective averages vary from 7 to 21. Based on test locations DPSH02 and DPSH08, which reached the target test depth of 3.6 m, the corresponding geometric average N_{60} values of 14 and 7 equate to an average value of 10.

Adjusted for lower overburden stress,the corresponding $(N_1)_{60}$ value should be limited to $2N_{60}$ (Liao and Whitman, 1985) to avoid excessively high $(N_1)_{60}$ values at very shallow depths. In this case,for an adopted foundation embedment depth of 0.4 m, an $(N_1)_{60}$ value of 20 has been used to establish the internal friction value of the fill material.

Accordingly, with reference to Demello (1971), a friction angle of 35 degrees has been adopted for the fill material, combined with a modified dry density (MDD) of 19 kN/m³.



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11.3 Bearing Capacity of Fill Material

In accordance with section 3.3.2 of B1/VM4, the ultimate bearing capacity of the shallow foundations can be calculated for the abovementioned fill strength parameters. In the case of long term loading associated with static load combinations to NZS 1170, Table 6.6 shows the fill's ultimate bearing capacity (Qu) for shallow foundations of variable size and founded at 0.3 m below existing ground level, where:

$$Q_u = [171 + 380B]$$
 (in kPa)

B is the foundation width - measured in metres (m)

Table 6.6: Geotechnical ultimate bearing capacity for shallow foundations at 0.3m embedment depth

B (m)	Qu (kPa)
0.35	304
0.45	342
0.50	361
0.60	400
0.70	437

A capacity reduction factor of 0.5 shall be applied to the ultimate bearing capacity which shall be used in combination with imposed static loadings determined in accordance with AS/NZS 1170:2002, or a reduction factor of 0.8 for load combinations including seismic.

12 FOUNDATIONS

Given the TC3 categorisation described above, we consider foundation options outlined in Part C of the MBIE guidelines "Repairing and Rebuilding houses affected by the Canterbury earthquakes", December 2012, to be appropriate.

Foundation systems considered suitable for the proposed multi unit development include:

Enhanced concrete foundations (Options 2 to 4) supported on the fill material.

12.1 Enhanced Concrete Foundation Slab (Options 2 – 4)

The foundation options 2-4 in the MBIE guidelines involve the construction of a stiffened concrete slab to reduce the risk of damage to the dwelling as a result of differential ground settlement. The options broadly consist of either a thick reinforced concrete slab to act as a raft foundation, or alternatively a beam-grid or proprietary waffle slab system. These foundations are to be founded on the current fill material, which provides a geotechnical ultimate bearing capacity of at least 300 kPa.

The enhanced concrete slab (Options 2 – MBIE, Section 5.3.1) shall be designed as a minimum 300 mm thick reinforced concrete slab which shall allow the applied building loads to be distributed across the foundation footprint. Where applicable, extra reinforcement of the slab may be necessary in areas where high loads are experienced.



Issue: A Date: 19/06/2017 Page 8 Job No: 161329 The beam-grid foundation (Option 3 – MBIE, Section 5.3.1) shall be designed as a series of interconnecting shallow strip foundations, which assist in distributing the imposed dwelling, self-weight over localised areas of weak ground. After construction of the beam-grid foundation, AP65 hardfill shall be used to infill between the beams and up to the underside of the concrete slab. We recommend laying the hardfill in 150 mm thick layers and compacted to 95% of material maximum dry density to NZS 4431:1989.

The shallow concrete foundation shall be designed to comply with the MBIE guidelines for moderating potential differential settlement. In this case:

- Foundation beams shall support the proposed structure over an internal span of 4.0 m and cantilever span of 2.0 m whilst ensuring that the floor does not hog or sag more than 1 in 400 and 1 in 200 respectively.
- Foundation beams shall be spaced at no greater than 3.5 m spacing in each direction over the building footprint.

A concrete Waffle Slab / Rib-Raft foundation (Option 4 – MBIE Section 5.3.1) is considered an acceptable alternative to the concrete beam-grid foundation and is expected to provide a similar level of performance following a 25 year SLS and 500 year ULS earthquake event.

These foundation types do not prevent settlement of the property during strong ground shaking, but provide sufficient stiffness to prevent significant damage to the structure and can be re-levelled after another significant earthquake event.

13 CONCLUSIONS

The site was previously developed by a 30 unit terraced apartment complex supported on a concrete basement structure. Review of the previous construction drawings show the basement structure is supported on driven concrete piles to unknown depth.

The basement structure has been infilled with gravell fill material. No records exist on the property file covering controlled testing of the fill material during placement. DSHP testing within the fill material confirms a geotechnical ultimate bearing capacity of 300 kPa can be adopted for routine design of shallow foundations under static loading.

Re-analysis of the previous CPT investigation tests in accordance with recent MBIE guidelines, confirms the site responds to TC3 rating for all limit state earthquake events. The predicted settlements for SLS2 and ULS events suggest the site would not experience appreciable ground surface damage. The buried basement structure supported on driven concrete piles would effectively suppress liquefaction damage by moderating potential differential settlement during intense and/or long duration ground shaking.

For this reason, foundation options (2 to 4) outlined in Part C of the MBIE guidelines are appropriate for the proposed two-storey multi-unit development on this site.

Foundation systems considered suitable for the proposed development is:

• Enhanced concrete foundation (Options 2 to 4) on existing shallow ground improvement

In accordance with the CCC District Plan the subject property appears not to be located within a Flood Management Area. The required finished floor levels and the associated flood hazard should be confirmed with the Christchurch City Council before applying for a building consent.



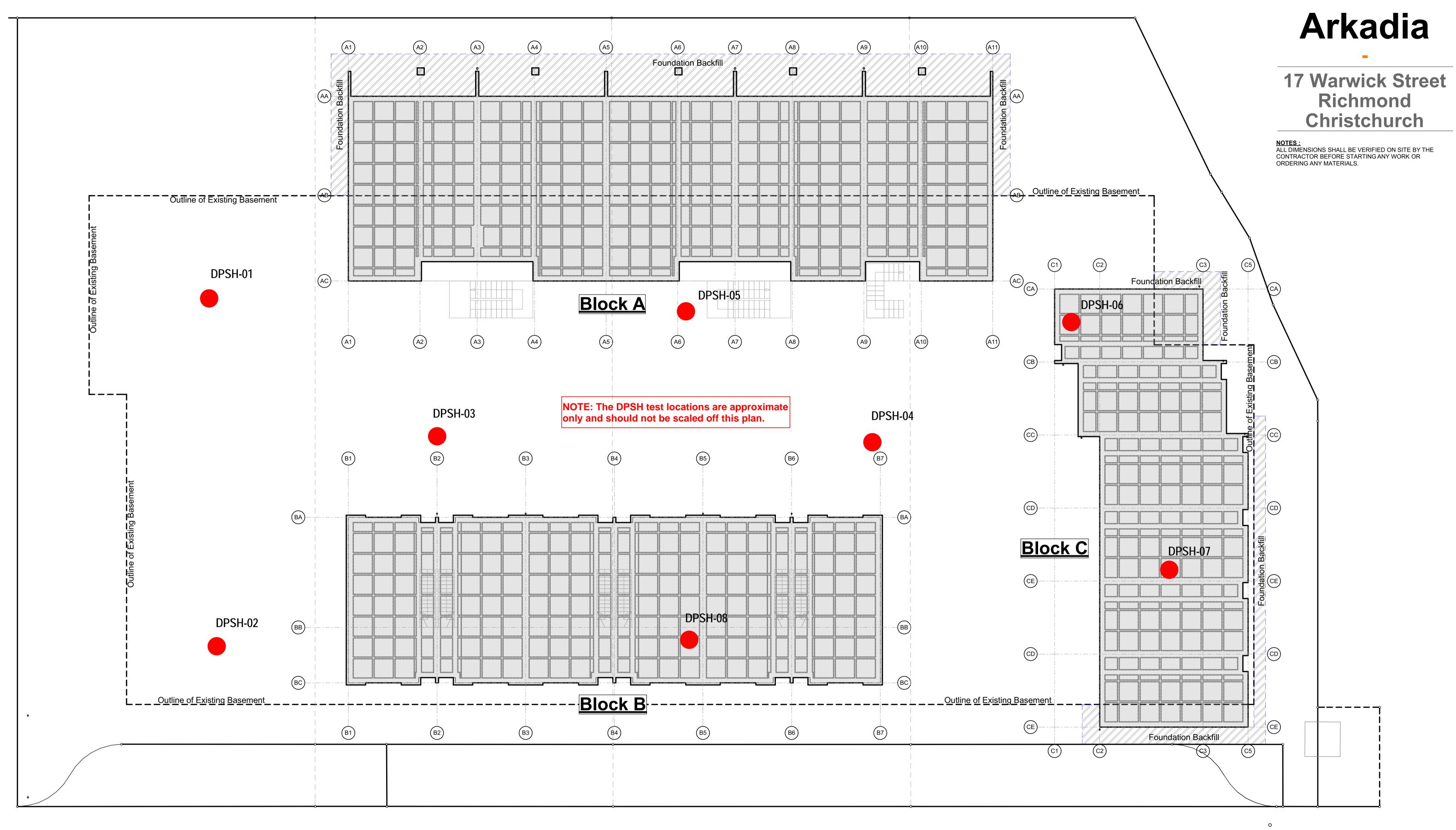
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APPENDIX A - DRAWINGS

- Geotechnical test location plan for DSPH tests completed 05.2017
- Geotechnical test location plan for CPT tests completed 05.2011



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Drawing Title Dynamic Probe Super Heavy Test **Location Plan**

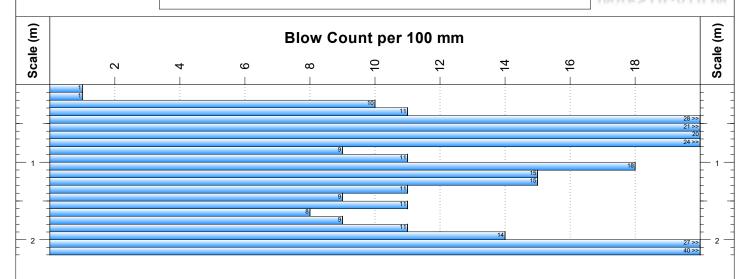
13/06/2017 Design/Drawn James Morgan

Sheet No.

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Client: Kirk Roberts
Project: 17 Warwick Street
Location: Richmond, Christchurch

Engineer: Steve Roberts

Contractor: Ground Investigation Ltd. www.g-i.co.nz

Logged By: Ben Ellis

Remarks:

Termination: Very high blow count

North (m): 5181320.57
East (m): 1572334.83

Elevation (m): -

Location Method: Handheld GPS

Hole Depth (m): 2.20

Client Ref:

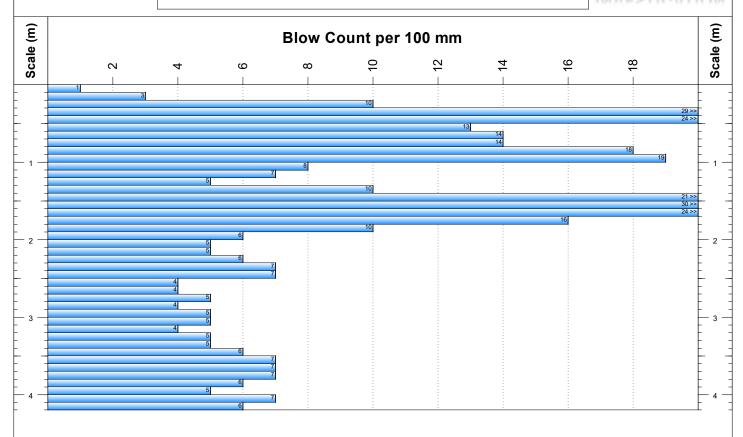
DPSH Number:

DPSH-01

G.I. Ref: 16-565







Client: Kirk Roberts
Project: 17 Warwick Street
Location: Richmond, Christchurch

Engineer: Steve Roberts

Contractor: Ground Investigation Ltd. www.g-i.co.nz

Logged By: Ben Ellis

Remarks:

Termination: Target depth North (m): 5181305.59 East (m): 1572338.12

Elevation (m): -

Location Method: Handheld GPS

Hole Depth (m): 4.20

Client Ref:

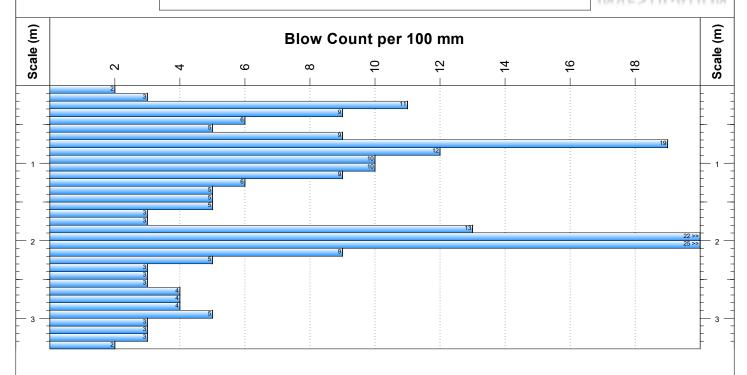
DPSH Number:

DPSH-02

G.I. Ref: 16-565







Client: Kirk Roberts
Project: 17 Warwick Street
Location: Richmond, Christchurch

Engineer: Steve Roberts

Contractor: Ground Investigation Ltd. www.g-i.co.nz

Logged By: Ben Ellis

Remarks:

Termination: Target depth North (m): 5181313.86 East (m): 1572350.53

Elevation (m): -

Location Method: Handheld GPS

Hole Depth (m): 3.40

Client Ref:

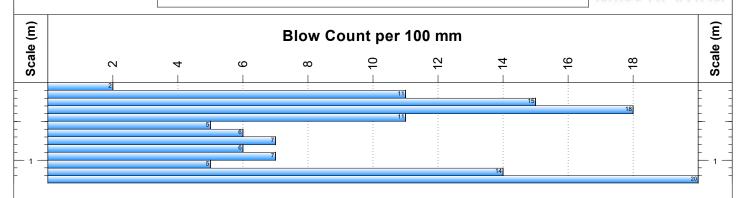
DPSH Number:

DPSH-03

G.I. Ref: 16-565







Client: Kirk Roberts
Project: 17 Warwick Street
Location: Richmond, Christchurch

Engineer: Steve Roberts

Contractor: Ground Investigation Ltd. www.g-i.co.nz

Logged By: Ben Ellis

Remarks: Post-test: Broken rod. Will move and try again

Termination: Other - see notes
North (m): 5181322.37

East (m): 1572367.23

Elevation (m): -

Location Method: Handheld GPS

Hole Depth (m): 1.30

Client Ref:

DPSH Number:

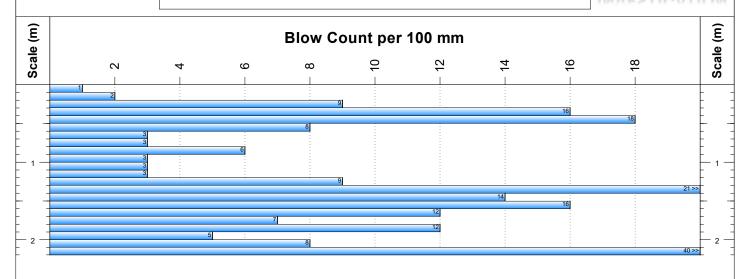
DPSH-04

G.I. Ref:

16-565







Client: Kirk Roberts
Project: 17 Warwick Street
Location: Richmond, Christchurch

Engineer: Steve Roberts

Contractor: Ground Investigation Ltd. www.g-i.co.nz

Logged By: Ben Ellis

Remarks:

Termination: Very high blow count

North (m): 5181321.60 East (m): 1572368.60

Elevation (m): -

Location Method: Handheld GPS

Hole Depth (m): 2.20

Client Ref:

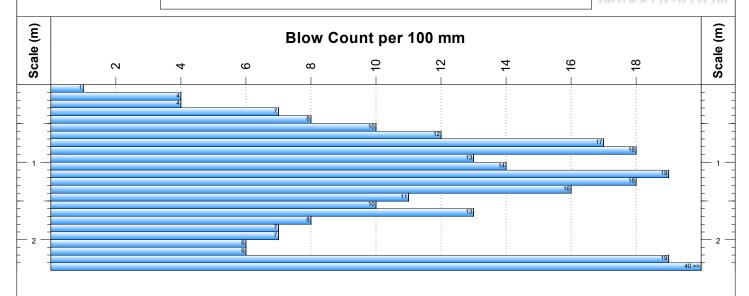
DPSH Number:

DPSH-04A

G.I. Ref: 16-565







Client: Kirk Roberts
Project: 17 Warwick Street
Location: Richmond, Christchurch

Engineer: Steve Roberts

Contractor: Ground Investigation Ltd.

Logged By: Ben Ellis

Remarks:

Termination: Very high blow count

North (m): 5181325.21 East (m): 1572356.47

Elevation (m): -

www.g-i.co.nz

Location Method: Handheld GPS

Hole Depth (m): 2.40

Client Ref:

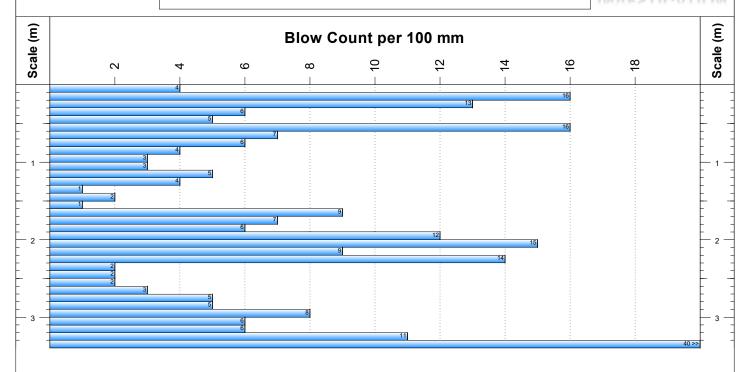
DPSH Number:

DPSH-05

G.I. Ref: 16-565







Client: Kirk Roberts
Project: 17 Warwick Street
Location: Richmond, Christchurch

Engineer: Steve Roberts

Contractor: Ground Investigation Ltd. www.g-i.co.nz

Remarks: Ground water measured at 0.4 m after testing

Logged By: Ben Ellis

Termination: Very high blow count

North (m): 5181319.23 East (m): 1572385.75

Elevation (m): -

Location Method: Handheld GPS

Hole Depth (m): 3.40

Client Ref:

DPSH Number:

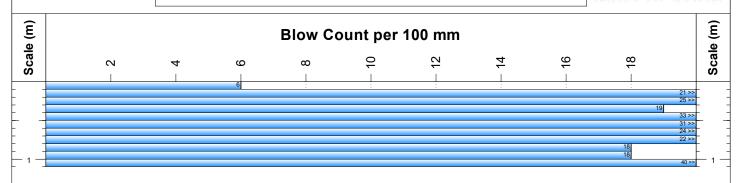
DPSH-06

G.I. Ref:

16-565







Client: Kirk Roberts
Project: 17 Warwick Street
Location: Richmond, Christchurch

Engineer: Steve Roberts

Contractor: Ground Investigation Ltd. www.g-i.co.nz

Logged By: Ben Ellis

Remarks:

Termination: Very high blow count

North (m): 5181310.86 East (m): 1572376.08

Elevation (m): -

Location Method: Handheld GPS

Hole Depth (m): 1.10

Client Ref:

DPSH Number:

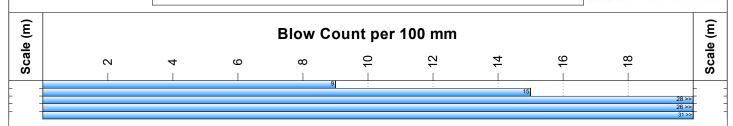
DPSH-07

G.I. Ref:

16-565







Client: Kirk Roberts Project: 17 Warwick Street Location: Richmond, Christchurch

Engineer: Steve Roberts

Contractor: Ground Investigation Ltd. www.g-i.co.nz

Logged By: Ben Ellis

Termination: Very high blow count

North (m): 5181310.86 East (m): 1572376.08

Elevation (m): -

Location Method: Handheld GPS

Hole Depth (m): 0.50

Client Ref:

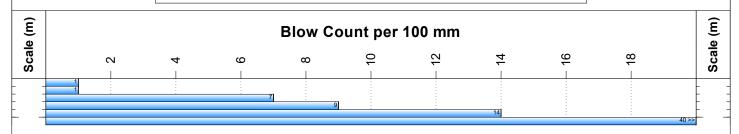
DPSH Number:

DPSH-07A

G.I. Ref: 16-565







Client: Kirk Roberts
Project: 17 Warwick Street
Location: Richmond, Christchurch

Engineer: Steve Roberts

Contractor: Ground Investigation Ltd. www.g-i.co.nz

Logged By: Ben Ellis

Remarks:

Termination: Very high blow count

North (m): 5181306.02 East (m): 1572359.78

Elevation (m): -

Location Method: Handheld GPS

Hole Depth (m): 0.60

Client Ref:

DPSH Number:

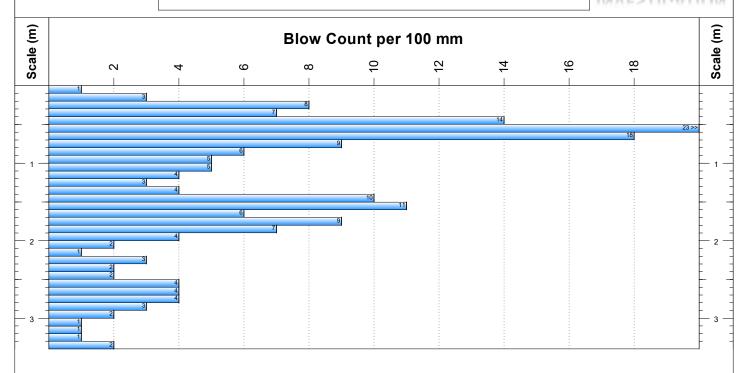
DPSH-08

G.I. Ref:

16-565







Client: Kirk Roberts
Project: 17 Warwick Street
Location: Richmond, Christchurch

Engineer: Steve Roberts

Contractor: Ground Investigation Ltd. www.g-i.co.nz

Logged By: Ben Ellis

Remarks:

Termination: Very high blow count

North (m): 5181306.23 East (m): 1572358.32

Elevation (m): -

Location Method: Handheld GPS

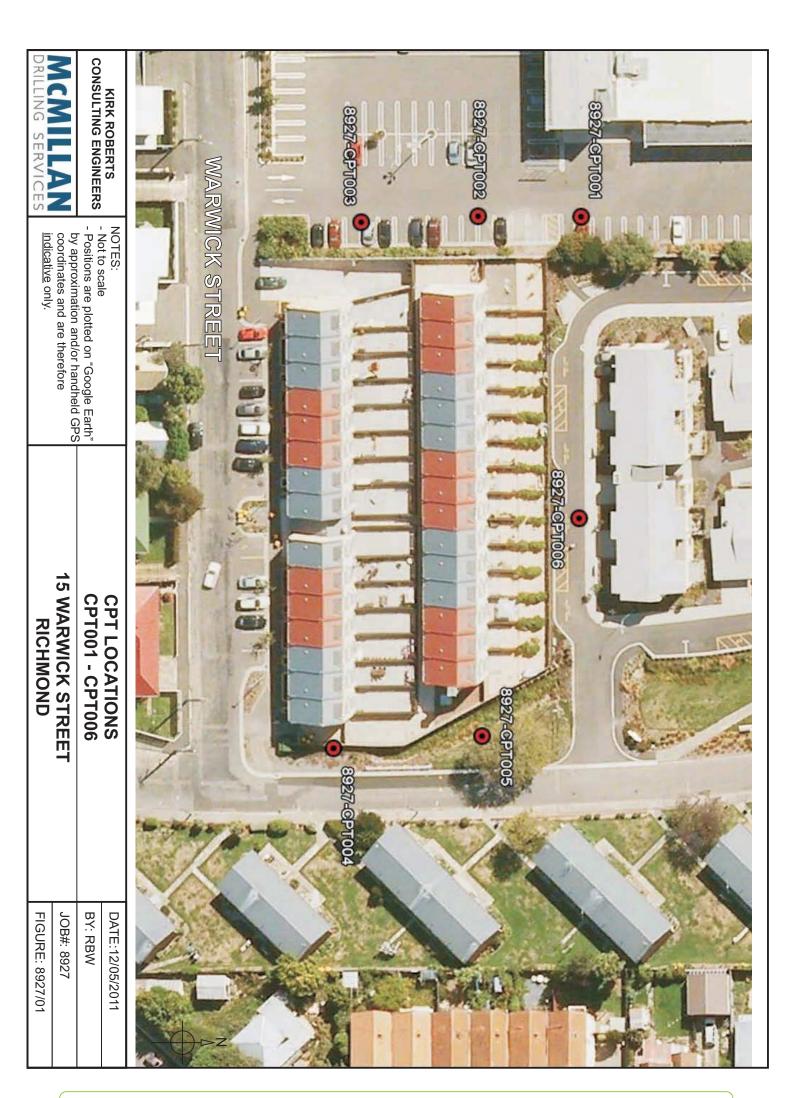
Hole Depth (m): 3.40

Client Ref:

DPSH Number:

DPSH-08A

G.I. Ref: 16-565



CPT ANALYSIS NOTES

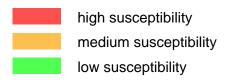
Soil Type

Interpretation using chart of Robertson & Campanella (1983). This is a simple but well proven interpretation using cone tip resistance (q_C) and friction ratio (f_R) only. No normalisation for overburden stress is applied. Cone tip resistance measured with the piezocone is corrected with measured pore pressure (u_C).



Liquefaction Screening

The purpose of the screening is to highlight susceptible soils, that is sand and silt-sand in a relatively loose condition. This is not a full liquefaction risk assessment which requires knowledge of the particular earthquake risk at a site and additional analysis. The screening is based on the chart of Shibata and Teparaksa (1988).



High susceptibility is here defined as requiring a shear stress ratio of 0.2 to cause liquefaction with D_{50} for sands assumed to be 0.25 mm and for silty sands to be 0.05 mm.

Medium susceptibility is here defined as requiring a shear stress ratio of 0.4 to cause liquefaction with D_{50} for sands assumed to be 0.25 mm and for silty sands to be 0.05 mm.

Low susceptibility is all other cases.

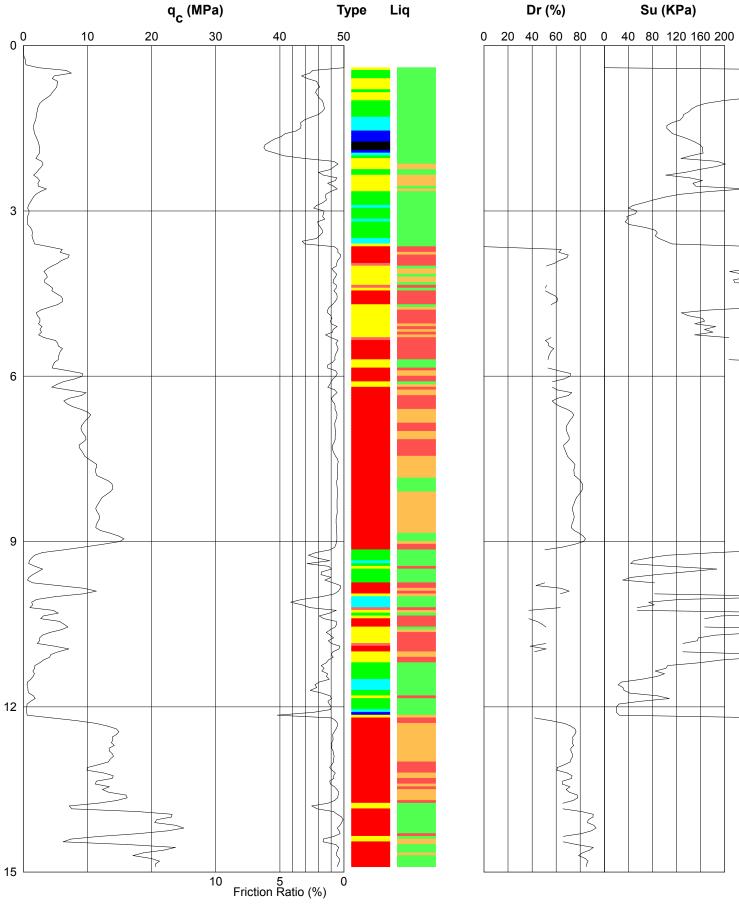
Relative Density (D_R)

Based on the method of Baldi et. al. (1986) from data on normally consolidated sand.

Undrained Shear Strength (S_U)

Derived from the bearing capacity equation using $S_U = (q_C - \sigma_{VO})/15$.





Job No:

8927

Date:

12/05/2011

CPT No:

CPT001

Operator:

N Barnes

Project:

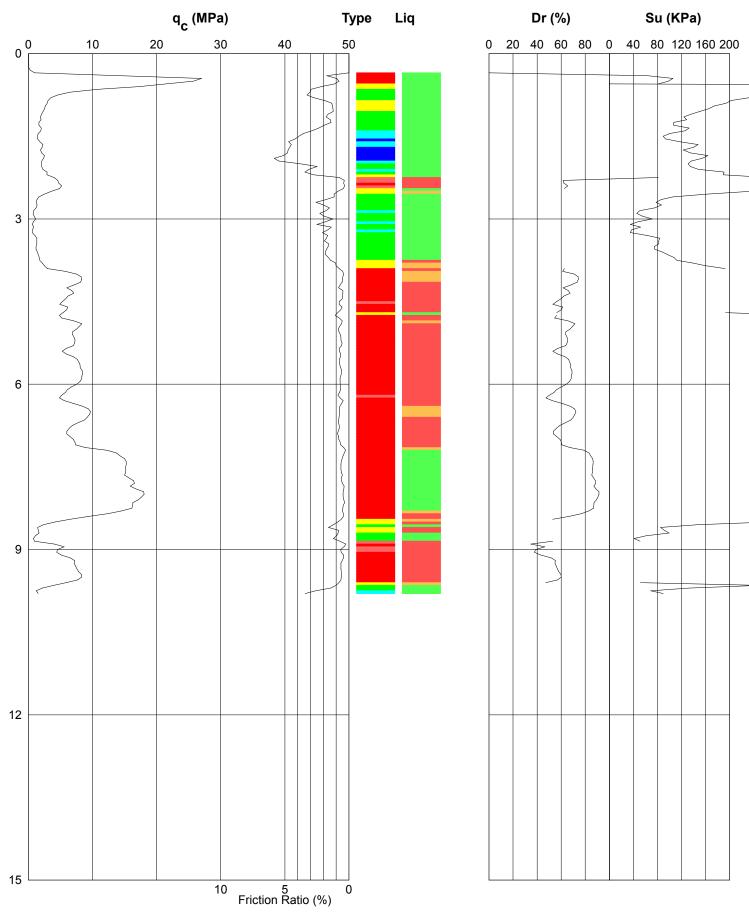
Kirk Roberts Consulting Engineers Ltd Remark:

Target Depth

Location:

15 Warwick St

DEPTH IN METERS BELOW GROUND LEVEL



Job No:

8927

Date:

12/05/2011

CPT No:

CPT002

Operator:

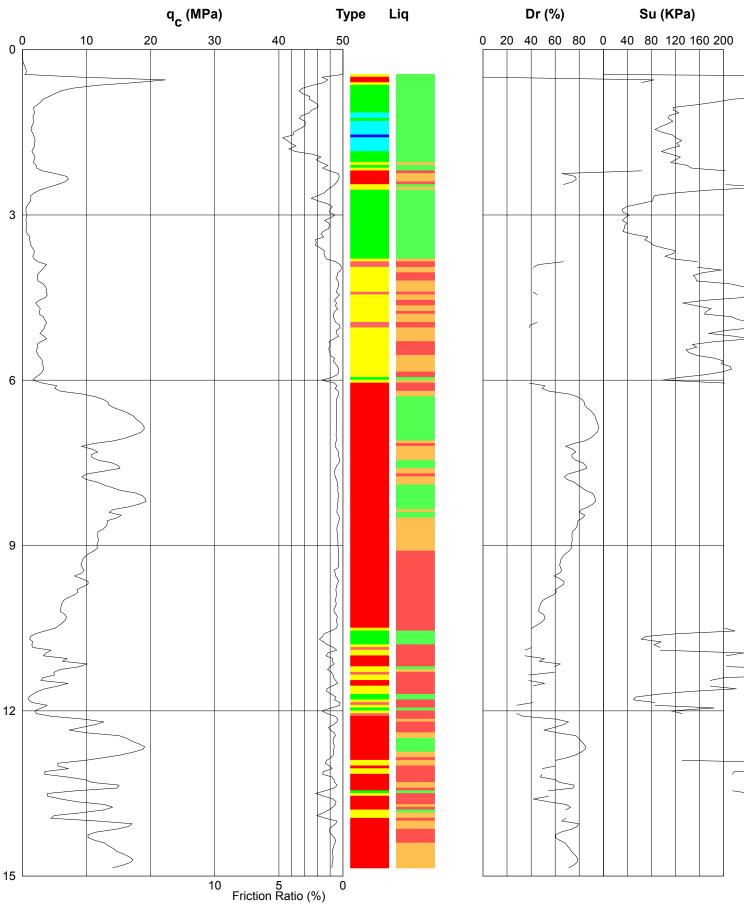
N Barnes

Project:

Kirk Roberts Consulting Engineers Ltd Remark:

Effective Refusal

Location:



Job No:

8927

Date:

12/05/2011

CPT No:

CPT003

Operator:

N Barnes

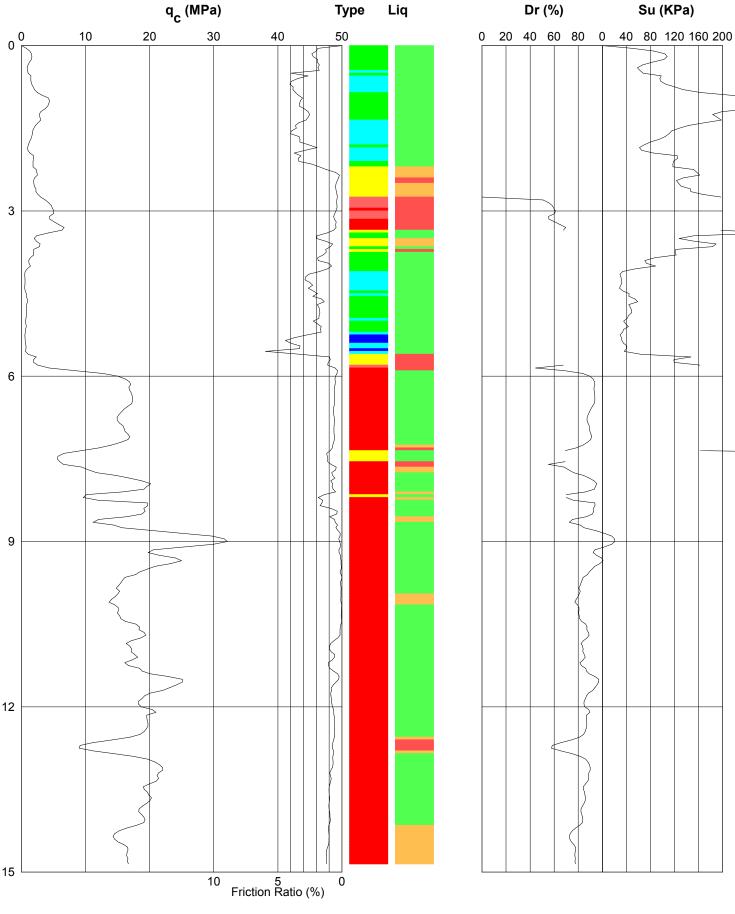
Project:

Kirk Roberts Consulting Engineers Ltd Remark:

k:

Target Depth

Location:



Job No:

8927

CPT004

Date:

12/05/2011

CPT No:

Operator:

N Barnes

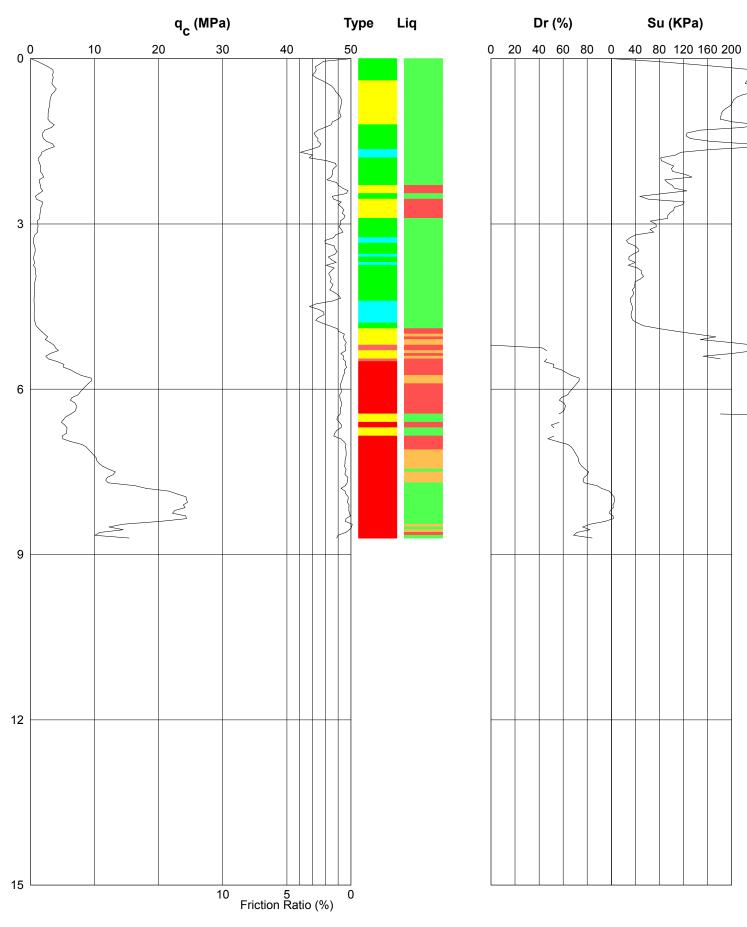
Project:

Kirk Roberts Consulting Engineers Ltd Remark:

:

Target Depth

Location:



Job No:

8927

Date:

12/05/2011

CPT No:

CPT005

Operator:

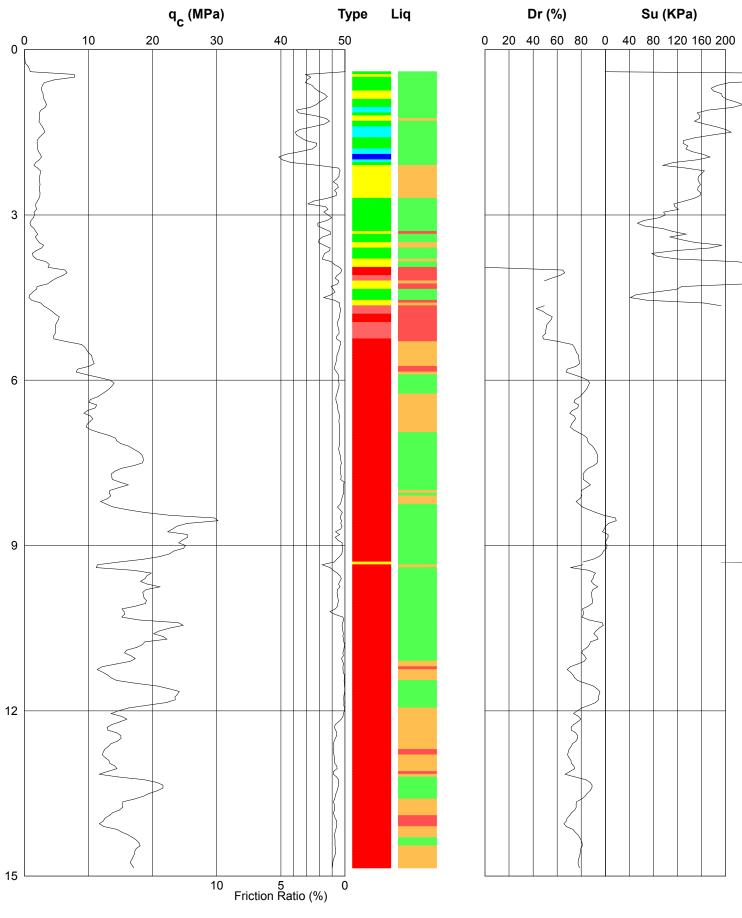
N Barnes

Project:

Kirk Roberts Consulting Engineers Ltd Remark:

Effective Refusal

Location:



Job No:

8927

Date:

12/05/2011

CPT No:

CPT006

Operator:

N Barnes

Project:

Kirk Roberts Consulting Engineers Ltd Remark:

Location:

15 Warwick St, Richmond

Target Depth

MCMILLAND SERVICES



TONKIN & TAYLOR LTD

BOREHOLE LOG

BOREHOLE No: BH-05 Hole Location:

Hole Location:
RCH-POD01-BH05
(30 Warwick Street)
SHEET 1 OF 2

PROJECT: CHCH	TC3	GE	ОТ	ECH	INI	CAL	INVESTIGAT	ΓΙΟΙ	NS		LOC	OITA	N: RIC	HMON	ND					JOB No: 52003.000	
CO-ORDINATES										DRILL TYPE: Roto-Sonic										DLE STARTED: 23/7/12	
R.L.	3.68			-9 11	"_					DRII	_L ME	ETHO	D: PQ	DT/Au	ıto SF	PT				DLE FINISHED: 23/7/12 RILLED BY: Pro-Drill	
DATUM				SL ((CC	C 20	0/01/12 Datum	ı -9.	043m)	DRII	L FL	UID: I	LP200	0						GGED BY: GLDS-KJ CHECKED: BMcD	
GEOLOGICAL																EN	IGINE	EER	INC	DESCRIPTION	
GEOLOGICAL UNIT, GENERIC NAME,												BOL	WEATHERING		HLDA		ш ≥ т	GING		SOIL DESCRIPTION Soil type, minor components, plasticity or	
ORIGIN, MINERAL COMPOSITION.				(%) X								SYM	ÆATH	SITY	STRE	ر ا ا	RESS ENGT MPa)	T SPA	(mm)	particle size, colour.	
WINEIVAL COWN OSTHON.		SS		RECOVERY (%)			TESTS			_	907	CLASSIFICATION SYMBOL		STRENGTH/DENSITY CLASSIFICATION	25 SHEAR STRENGTH		COMPRESSIVE STRENGTH (MPa)	DEFECT SPACING	Ŭ	ROCK DESCRIPTION Substance: Rock type, particle size, colour,	
		FLUID LOSS	WATER	R RE	METHOD	CASING		SAMPLES	R.L. (m)	DEPTH (m)	GRAPHIC LOG	SSIFIC	MOISTURE	RENGT	S				00	minor components. Defects: Type, inclination, thickness,	
ASPHALT		글	W	CORE	Ā	CAS		SAN	J.	DE	GR.	S	₩ 00	STF	= H B	88 	~성명원	8 8 8 8 8 8 8 8 8	328 	roughness, filling.	
CHRISTCHURCH	 [F	_	×	ML	M							SILT with trace sand, brown, moist, low	7 - -
FORMATION (MARINE/									Ē	=	×									plasticty. Sand is fine to medium. Sandy SILT, grey, moist, low plasticity.	_
ESTUARINE)			V						<u>-3</u>	-	××									Sand is fine to medium.	-
			÷						F	1-	× ×		W							0.9m- wet.	1-
					Ţ				_	_	× × ×										-
				100	PQDT				_2	-	× ^										-
							alo.		_	_	×										2-
							≯ FC2.0	В	E		× × ×										-
									E	_	×										-
									-1	=	××										-
							0/0//0/1/1/1			3-	×			S	$\ \ $					3.0m- soft.	3-
				100	SPT		N = 3		-	=	××									J.om Box.	-
						1	≯ PSD3.5	В		=	×										-
					Ţ				-0	=	×										-
				100	PQDT				F	4-	×	SP		VL	$\ \ $					Fine to medium SAND with some silt, grey,	4
									E	=	×									very loose, wet, poorly graded. 4.2m trace silt.	-
				100	SPT		2/2//4/4/5/6 N = 19		- - 1	=	×			MD						4.5m- medium dense.	-
				\subseteq	SI		1, 1,		Ė	5-	×										5-
									F	- -	×) <u> </u>
				100	PQDT		* _{FC5.5}	Ь	E	_	×										-
				_	P(• FC3.3	В	-2	=	×										-
							2/1//2/2/3/4		_	6-	×										6-
				100	SPT		N = 11		-	=											-
									E .	_											-
)Ţ				3 _	=	0 C	SW								Sandy fine to coarse GRAVEL with trace silt, grey, medium dense, wet, well graded.	-
				100	PQDT				E	7-	0.0									Sand is fine to coarse.	7-
									F	=	00										-
				100	PQDT				_ 4	=	000									7.5m- no SPT.	-
				<u> </u>	PQ				_	8-											8-
									_	- -	000										-
				17	PQDT				E	Ξ	00										-
					M				- 5	=	0 =									8.7 to 9.45m - no recovery	
						-	6/7//3/4/4/4			9-											9-
				0	SPT		N = 15		-	=	/										
				H	-				F	=	/ \ × .	SM	-	St	$\ \ $					Sandy SILT, grey, stiff, wet, low plasticity.	-
				100	PQDT				- -6	_	×									Sand is fine to medium.	
og Scale 1:50								L		10 -	×				Ш	Ш	Ш	Ш	Ш	BORELOG-TC3 720016 RCH-POD01.GPJ 25/1	



TONKIN & TAYLOR LTD

BOREHOLE LOG

BOREHOLE No: BH-05

Hole Location:
RCH-POD01-BH05
(30 Warwick Street)
SHEET 2 OF 2

CO-ORDINATES 5742895.49 mN 2482380.29 mE DRILL TYPE: Roto-Sonic HOLE STARTED: 23/71/12 HOLE FINISHED: 23/71/12 DRILLED BY: Pro-Drill DRILLED BY: Pro-Drill DRILLED BY: Pro-Drill LOGGED BY: GLDS-KJ CHECKED: ENGINEERING DESCRIPTION Solit ppe, minor components, plasticity or particle size, colour. Solit Description Solit ppe, minor components, plasticity or particle size, colour. Solit ppe, minor components, plasticity or particle size, colour. Solit ppe, minor components, plasticity or particle size, colour. Solit ppe, minor components, plasticity or particle size, colour. Solit ppe, minor components, plasticity or particle size, colour. Solit ppe, minor components, plasticity or particle size, colour. Solit ppe, minor components, plasticity or particle size, colour. Solit ppe, minor components, plasticity or particle size, colour. Solit ppe, minor components, plasticity or particle size, colour. Solit ppe, minor components, plasticity or particle size, colour. Solit ppe, minor components, plasticity or particle size, colour. Solit ppe, minor components, plasticity or particle size, colour. Solit ppe, minor components, plasticity or particle size, colour. Solit ppe, minor components, plasticity or particle size, colour. Solit ppe, minor components, plasticity or particle size, colour. Solit ppe, minor components, plasticity or particle size, colour. Solit ppe, minor components, plasticity or particle size, colour. Solit ppe, minor components, plasticity or particle size, colour. Solit ppe, minor components, plasticity or particle size, colour. Solit ppe, minor components, plasticity or particle size, colour. Solit ppe, minor components, plasticity or particle size, colour. Solit ppe, minor components, plasticity or particle size, colour. Solit ppe, minor components, plasticity or particle size, colour. Solit ppe, minor components, plasticity or particle size, colour. Solit ppe, minor components, plasticity or particle size, colour. Solit ppe, minor components,	McD
R.L. 3.68 m DATUM NZMG, MSL (CCC 20/01/12 Datum -9.043m) DRILL FLUID: LP2000 LOGGED BY: GLDS-KJ CHECKED: E GEOLOGICAL GEOLO	McD
DATUM NZMG, MSL (CCC 20/01/12 Datum -9.043m) DRILL FLUID: LP2000 LOGGED BY: GLDS-KJ CHECKED: E GEOLOGICAL GEOLOGICAL UNIT, GENERIC NAME, ORIGIN, MINERAL COMPOSITION. Soll DESCRIPTION Soll	McD
GEOLOGICAL UNIT, GENERIC NAME, ORIGIN, MINERAL COMPOSITION. TESTS TEST	
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CHRISTCHURCH FORMATION The state of the s	
CHRISTCHURCH FORMATION 8 5 SM W St Sandy SILT, grey, stiff, wet, low plasticing Sp Silt Sp Sil	
FORMATION	v.
ESTUARINE) 1/2//3/4//8 1/2//3/4//8 1/2//3/4//8 1/2//3/4//8 1/2//3/4//8 1/2//3/4//8 1/2//3/4//8 1/2//3/4//8 1/2//3/4//8 1/2//3/4//8 1/2//3/4//8 1/2//3/4//8 1/2//3/4//8 1/2//3/4//8 1/2//3/4//8 1/2//3/4//8 1/2//3/4//8 1/2//3/4//8 1/2//3/4//8 1/2//3/4//8 1/2//3/4//8 1/2//3/4//8 1/2//3/4//8 1/2//3/4//8 1/2//3/4//8 1/2//3/4//8 1/2//3/4//8 1/2//3/4//8 1/2//3/4//8 1/2//3/4//8 1/2//3/4//8 1/2//3/4//8 1/2//3/4//8 1/2//3/4//8 1/2//3/4//8 1/2//3/4//8 1/2//3/4//8 1/2//3/4//8 1/2//3/4//8 1/2//3/4//8 1/2//3/4//8 1/2//3/4//8 1/2//3/4//8 1/2//3/4//8 1/2//3/4//8 1/2//3/4//8 1/2//3/4//8 1/2//3/4//8 1/2//3/4//8 1/2//3/4//8 1/2//3/4//8 1/2//3/4//8 1/2//3/4//8 1/2//3/4//8 1/2//3/4/8 1/2//3/4/8 1/2//3/4/8 1/2//3/4/8 1/2//3/4//8 1/2//3/4/8 1/2//3/4/8 1/2//3/4/8 1/2//3/4/8 1/2//3/4/8 1/2//3/4/8 1/2//3/4/8 1/2//3/4/8 1/2//3/4/8 1/2//3/4/8 1/2//3/4/8 1/2//3/4/8 1/2//3/4/8 1/2//3/4/8 1/2//3/4/8 1/2//3/4/8 1/2//3/4/8 1/2//3/4/8 1/2//3/4/8 1/2//3/4/8 1/2//3/4/8 1/2//3/4/8 1/2//3/4/8 1/2//3/4/8 1/2//3/4/8 1/2//3/4/8 1/2//3/4/8 1/2//3/4/8 1/2//3/4/8 1/2//3/4/8 1/2//3/4/8 1/2//3/4/8 1/2//3/4/8 1/2//3/4/8 1/2//3/4/8 1/2//3/4/8 1/2//3/4/8 1/2//3/4/8 1/2//3/4/8 1/2//3/4/8 1/2//3/4/8 1/2//3/4/8 1/2//3/4/8 1/2//3/4/8 1/2//3/4/8 1/2//3/4/8 1/2//3/4/8 1/2//3/4/8 1/2//3/4/8 1/2//3/4/8 1/2//3/4 1/2//3/4 1/2//3/4 1/2//3/4 1/2//3/4 1/2//3/4 1/2//3/4 1/2//3/4 1/2//3/4 1/2//3/4 1/2/4/8 1/2//3/4 1/2//3/4/8 1/2//3/4/8 1/2//3/4/8 1/2//3/4/8 1/2//3/4/8 1/2//3/4/8 1/2//3/4/8 1/2//3/4/8 1/2//3/4/8 1/2//3/4/8 1/2//3/4/8 1/2//3/4/8 1/2//3/4/8 1/2/4/8 1/2//3/4/8 1/2/4/8 1/2/4/8 1/2/4/8 1/2/4/8 1/2/4/8 1/2/4/8 1/2/4/8 1/2/4/8 1/2/4/8 1/2/4/8 1/2/4/8 1/2/4/8 1/2/4/8 1/2/4/8 1/2/4/8 1/2/4/8 1/2/4/8 1/2/4/8 1/2/4/8 1/2/4/8 1/2/4/8 1/2/4/8 1/2/4/8 1/2/4/8	ım
N=19	
	11
	ey,
	12
8 5 N = 18 12 3 N = 18	12
	13
2/2// 2 /2// 3 13.45 to 13.5m - trace fibrous organics.	
	14
	1.5
8 5 N = 21 15 - 15 - 15 - 15 - 15 - 15 - 15 - 1	15
	16
	17
	10
2/4// D D 18.0m-dense.	18
*FC18.5 B	
	19
	/
3/5//	
$ \begin{array}{ c c c c c c c c c c c c c c c c c c c$	th)
og Scale 1:50 N = 45 20 - 20 - End of borehole at 19.95mbgl (target de BORELOG-TC3 720016 RCH-POD01.GE	

APPENDIX B

• Extract CCC's Flood Management Area Website showing location of subject property within an Incomplete Flood assessment area.





Issue: A Date: 19/06/2017 Appendix B Job No: 161329

APPENDIX C - SEISMIC ANALYSIS

• Liquefaction analysis results based on CPT01 to CPT06



Issue: A Date: 19/06/2017 Appendix C Job No: 161329

17 WARWICK STREET RICHMOND





Level 1, 337 St Asaph Street http://www.kirkroberts.co.nz

LIQUEFACTION ANALYSIS REPORT

Project title: Four Ventures Property Group

Location: 17 Warwick Street, Richmond, Christchurch

CPT file: CPT01 SLS

Peak ground acceleration:

Input parameters and analysis data

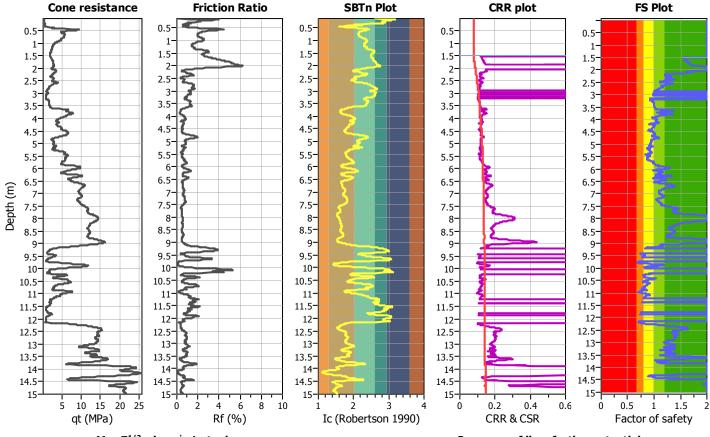
Analysis method: B&I (2014) Fines correction method: B&I (2014) Points to test: Based on Ic value Earthquake magnitude Mw:

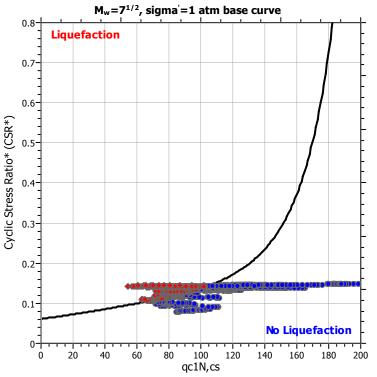
G.W.T. (in-situ): G.W.T. (earthq.): Average results interval: Ic cut-off value: Unit weight calculation:

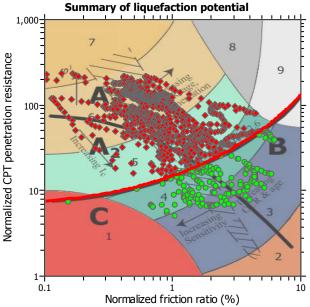
1.00 m 1.00 m 3 2.60 Based on SBT Use fill: No Fill height: N/A Fill weight: N/A Trans. detect. applied: No K_{σ} applied:

Clay like behavior applied: Sands only Limit depth applied: No N/A

Limit depth: MSF method: Method based **CRR** plot **FS Plot**



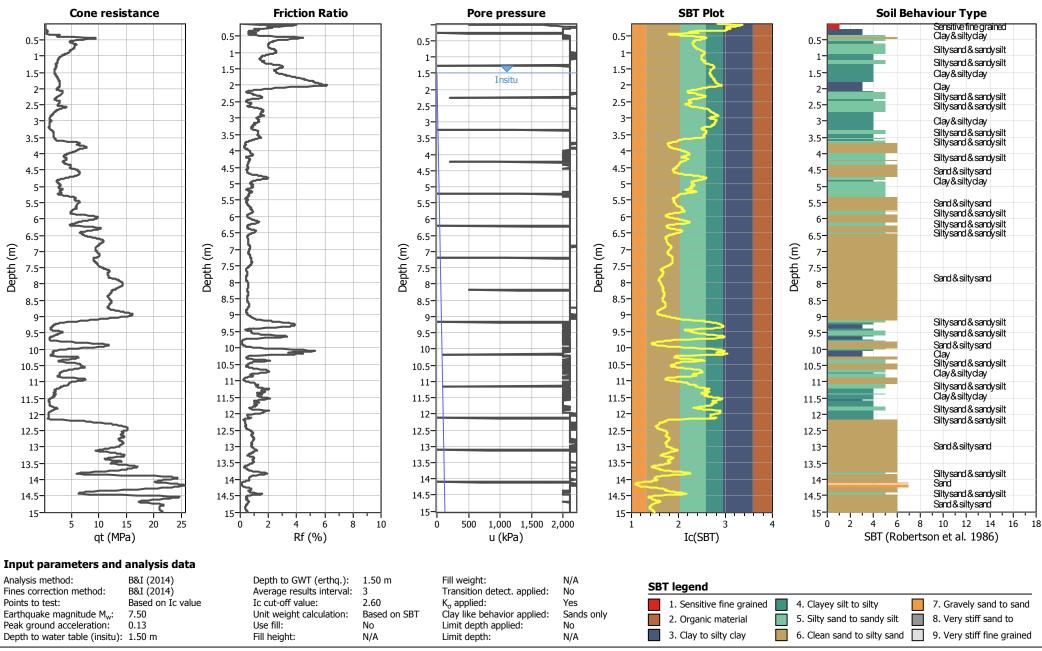




Zone A₁: Cyclic liquefaction likely depending on size and duration of cyclic loading Zone A2: Cyclic liquefaction and strength loss likely depending on loading and ground

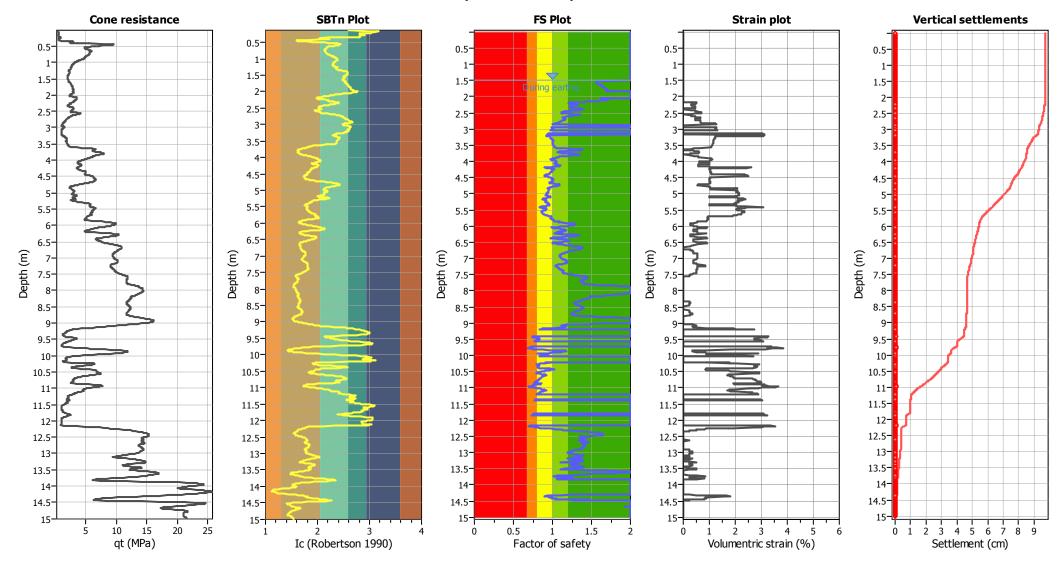
Zone B: Liquefaction and post-earthquake strength loss unlikely, check cyclic softening Zone C: Cyclic liquefaction and strength loss possible depending on soil plasticity. brittleness/sensitivity, strain to peak undrained strength and ground geometry

CPT basic interpretation plots



CLiq v.1.7.6.49 - CPT Liquefaction Assessment Software - Report created on: 14/06/2017, 9:37:10 a.m. Project file: C:\Users\andrewi\Desktop\Cliq\Cliq\SLS.clq

Estimation of post-earthquake settlements



Abbreviations

qt: Total cone resistance (cone resistance qc corrected for pore water effects)

I_c: Soil Behaviour Type Index

FS: Calculated Factor of Safety against liquefaction

Volumentric strain: Post-liquefaction volumentric strain

 $\hbox{\it CLiq v.} 1.7.6.49 \hbox{\it - CPT Lique faction Assessment Software - Report created on: } 14/06/2017, 9:37:10 \hbox{\it a.m.}$

Project file: C:\Users\andrewi\Desktop\Cliq\Cliq SLS.clq





Level 1, 337 St Asaph Street Christchurch http://www.kirkroberts.co.nz

LIQUEFACTION ANALYSIS REPORT

Project title: Four Ventures Property Group

Location: 17 Warwick Street, Richmond, Christchurch

CPT file: CPT02 SLS

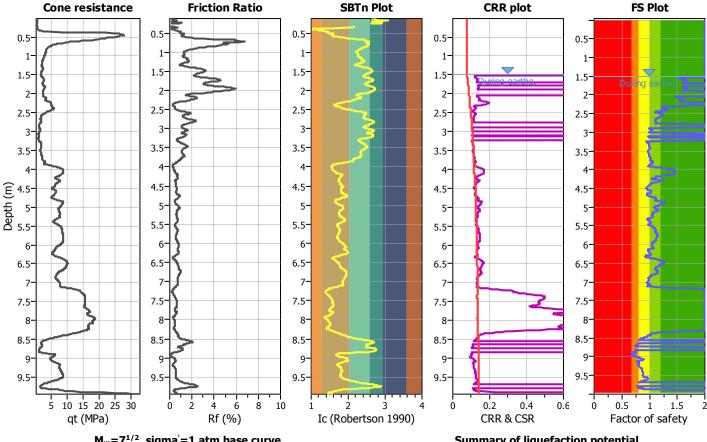
Peak ground acceleration:

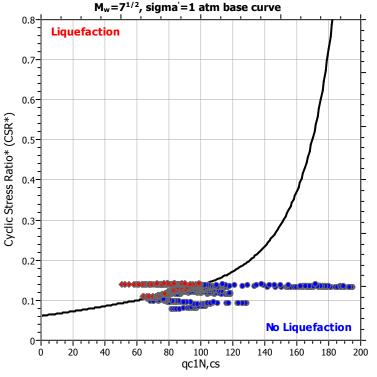
Input parameters and analysis data

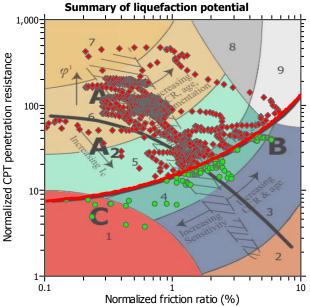
Analysis method: B&I (2014)
Fines correction method: B&I (2014)
Points to test: Based on Ic value
Earthquake magnitude M_w: 7.50

(2014) G.W.T. (in-situ):
(2014) G.W.T. (earthq.):
ed on Ic value Average results interval:
Ic cut-off value:
Unit weight calculation:

1.50 m 1.50 m : 3 2.60 Based on SBT Clay like behavior applied: Sands only Limit depth applied: No Limit depth: N/A MSF method: Method based







Zone A₁: Cyclic liquefaction likely depending on size and duration of cyclic loading Zone A₂: Cyclic liquefaction and strength loss likely depending on loading and ground

Zone B: Liquefaction and post-earthquake strength loss unlikely, check cyclic softening Zone C: Cyclic liquefaction and strength loss possible depending on soil plasticity, brittleness/sensitivity, strain to peak undrained strength and ground geometry

Peak ground acceleration:

Depth to water table (insitu): 1.50 m

0.13

CPT basic interpretation plots **Cone resistance Friction Ratio SBT Plot Soil Behaviour Type** Pore pressure Sensitive fine grained Siltysand&sandysilt 0.5-0.5 0.5 Siltysand&sandysilt Clay&siltyclay 1-Clay&siltyclay 1.5-1.5 1.5-1.5-Clay&siltyclay Insitu Clay 2-Clay 2-Clay&siltyclay Sand&siltysand 2.5 2.5-2.5 2.5-2.5-Clay&siltyclay 3-3-3-3-Siltysand&sandysilt 3.5 3.5-3.5-3.5 3.5-Siltysand&sandysilt Depth (m) Sand & silty sand Depth (m) Depth (m) Depth (m) Depth (m) Siltysand&sandysilt Sand & silty sand 6-6-6-6-Siltysand&sandysilt 6.5-6.5-6.5 6.5 7 Sand & silty sand 7.5-7.5 7.5-7.5-8-8-8-Sitysand&sandysilt Sitysand&sandysilt 8.5-8.5 8.5 Sand & silty sand Sand & silty sand 9.5-9.5-9.5-Siltysand&sandysilt 10 15 20 25 30 10 500 1,000 1,500 2,000 8 10 12 14 16 18 8 6 SBT (Robertson et al. 1986) qt (MPa) Rf (%) u (kPa) Ic(SBT) Input parameters and analysis data Analysis method: B&I (2014) Depth to GWT (erthq.): 1.50 m Fill weight: N/A SBT legend Fines correction method: B&I (2014) Average results interval: Transition detect. applied: No Ic cut-off value: Points to test: Based on Ic value 2.60 K_{σ} applied: Yes 4. Clayey silt to silty 7. Gravely sand to sand 1. Sensitive fine grained Clay like behavior applied: Earthquake magnitude M_w: 7.50 Unit weight calculation: Based on SBT Sands only

CLiq v.1.7.6.49 - CPT Liquefaction Assessment Software - Report created on: 14/06/2017, 9:37:12 a.m. Project file: C:\Users\andrewj\Desktop\Cliq\Cliq SLS.clq

Use fill:

Fill height:

N/A

8. Very stiff sand to

9. Very stiff fine grained

5. Silty sand to sandy silt

6. Clean sand to silty sand

No

N/A

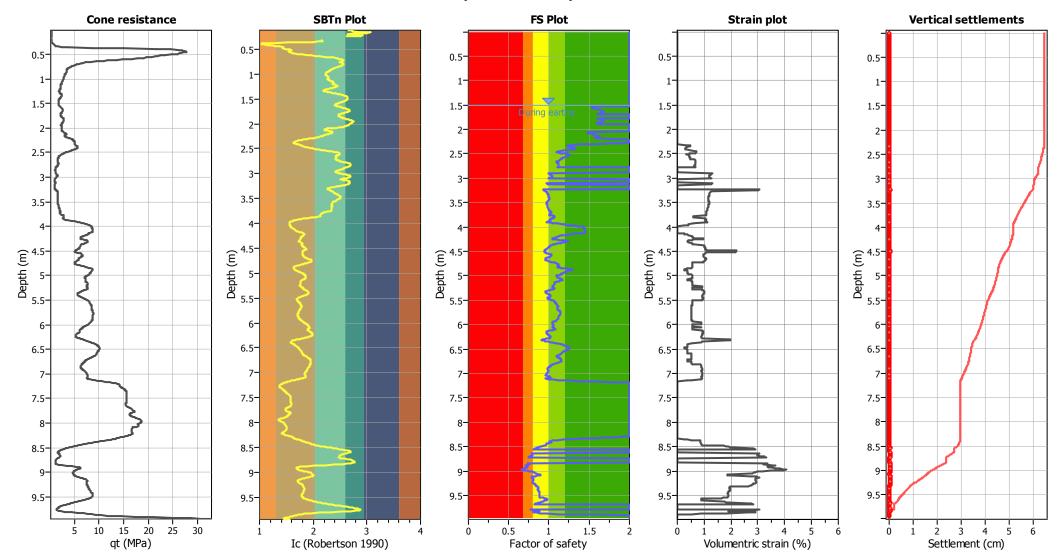
Limit depth applied:

Limit depth:

2. Organic material

3. Clay to silty clay

Estimation of post-earthquake settlements



Abbreviations

qt: Total cone resistance (cone resistance qc corrected for pore water effects)

I_c: Soil Behaviour Type Index

FS: Calculated Factor of Safety against liquefaction

Volumentric strain: Post-liquefaction volumentric strain

CLiq v.1.7.6.49 - CPT Liquefaction Assessment Software - Report created on: 14/06/2017, 9:37:12 a.m. Project file: C:\Users\andrewi\Desktop\Cliq\Cliq SLS.clq

6





Level 1, 337 St Asaph Street http://www.kirkroberts.co.nz

LIQUEFACTION ANALYSIS REPORT

Project title: Four Ventures Property Group

Location: 17 Warwick Street, Richmond, Christchurch

CPT file: CPT03 SLS

Input parameters and analysis data

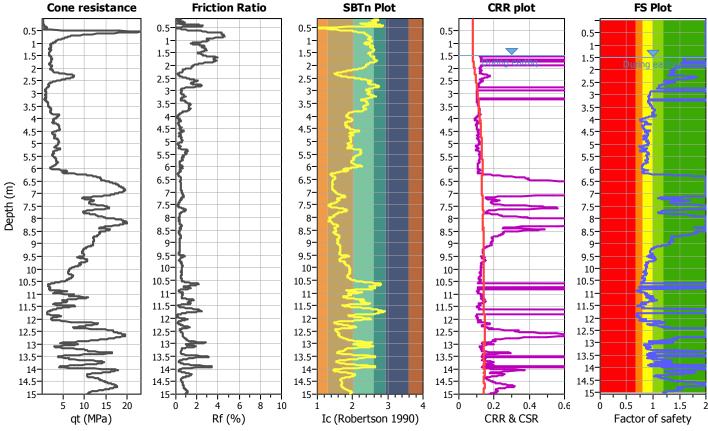
Analysis method: B&I (2014) Fines correction method: B&I (2014) Points to test: Based on Ic value

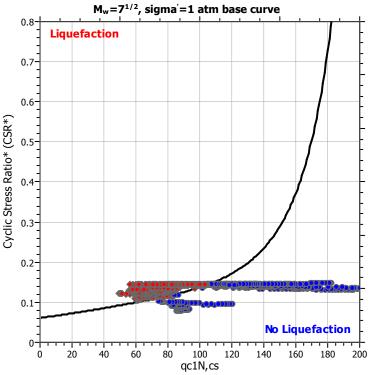
Earthquake magnitude Mw: Peak ground acceleration:

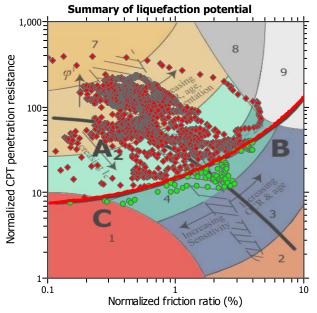
G.W.T. (in-situ): G.W.T. (earthq.): Average results interval: Ic cut-off value: Unit weight calculation:

1.50 m 1.50 m 3 2.60 Based on SBT Use fill: No Fill height: Fill weight: Trans. detect. applied: No K_{σ} applied:

N/A N/A Clay like behavior applied: Sands only Limit depth applied: No Limit depth: N/A MSF method: Method based



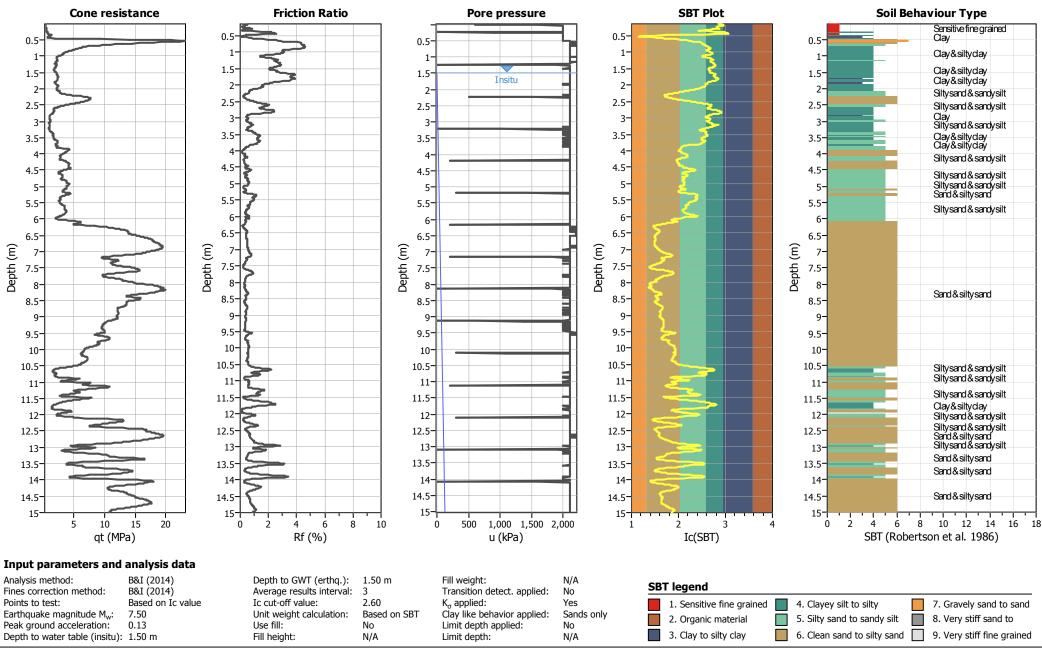




Zone A₁: Cyclic liquefaction likely depending on size and duration of cyclic loading Zone A2: Cyclic liquefaction and strength loss likely depending on loading and ground

Zone B: Liquefaction and post-earthquake strength loss unlikely, check cyclic softening Zone C: Cyclic liquefaction and strength loss possible depending on soil plasticity. brittleness/sensitivity, strain to peak undrained strength and ground geometry

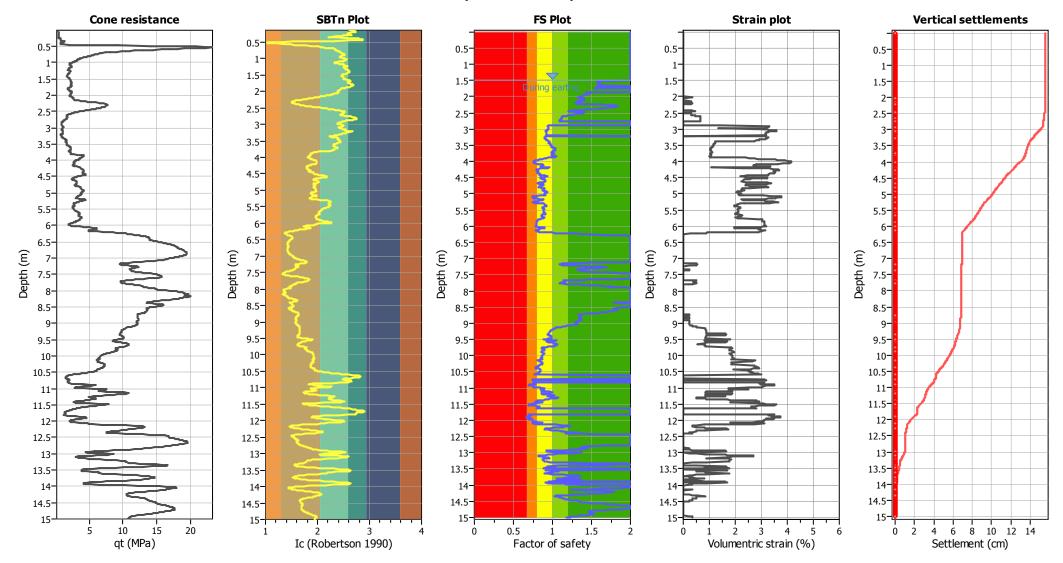
CPT basic interpretation plots



CLiq v.1.7.6.49 - CPT Liquefaction Assessment Software - Report created on: 14/06/2017, 9:37:13 a.m. Project file: C:\Users\andrewi\Desktop\Cliq\Cliq SLS.clq

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Estimation of post-earthquake settlements



Abbreviations

q_t: Total cone resistance (cone resistance q_c corrected for pore water effects)

I_c: Soil Behaviour Type Index

FS: Calculated Factor of Safety against liquefaction

Volumentric strain: Post-liquefaction volumentric strain

 $\hbox{\it CLiq v.} 1.7.6.49 \hbox{\it - CPT Lique faction Assessment Software - Report created on: } 14/06/2017, 9:37:13 \hbox{\it a.m.}$

Project file: C:\Users\andrewi\Desktop\Cliq\Cliq SLS.clq

Kirk Roberts Consulting Engineers Ltd



Level 1, 337 St Asaph Street http://www.kirkroberts.co.nz

LIQUEFACTION ANALYSIS REPORT

Project title: Four Ventures Property Group

Location: 17 Warwick Street, Richmond, Christchurch

CPT file: CPT04 SLS

Peak ground acceleration:

Input parameters and analysis data

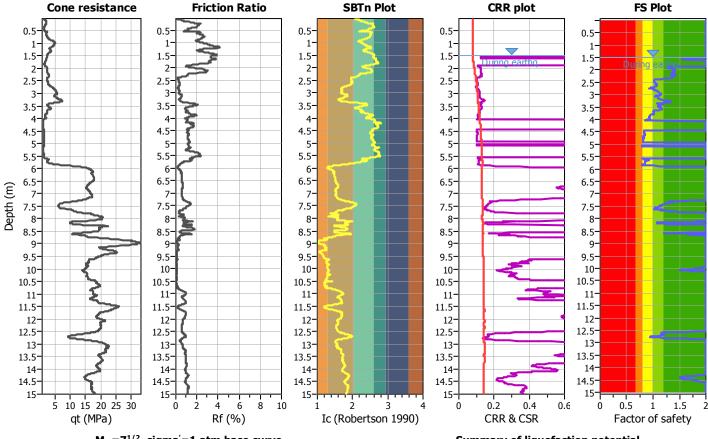
Analysis method: B&I (2014) Fines correction method: B&I (2014) Points to test: Based on Ic value Earthquake magnitude Mw:

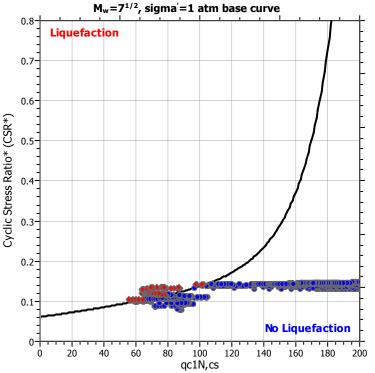
G.W.T. (in-situ): G.W.T. (earthq.): Average results interval: Ic cut-off value: Unit weight calculation:

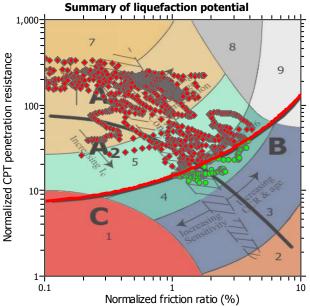
1.50 m 1.50 m 3 2.60 Based on SBT Use fill: No Fill height: N/A Fill weight: N/A Trans. detect. applied: No K_{σ} applied:

Clay like behavior applied: Sands only Limit depth applied: No N/A

Limit depth: MSF method: Method based







Zone A₁: Cyclic liquefaction likely depending on size and duration of cyclic loading Zone A2: Cyclic liquefaction and strength loss likely depending on loading and ground

Peak ground acceleration:

Depth to water table (insitu): 1.50 m

0.13

CPT basic interpretation plots Cone resistance **Friction Ratio SBT Plot Soil Behaviour Type** Pore pressure Siltysand&sandysilt 0.5-0.5 Siltysand&sandysilt 0.5 Siltysand&sandysilt 1-Siltysand & sandysilt 1.5 1.5-1.5-1.5-1.5-Insitu Clav 2-2-Clay&siltyclay 2.5 2.5-2.5-2.5-Siltysand&sandysilt 2.5-3-3-3-3-Sand & silty sand Siltysand&sandysilt Siltysand&sandysilt 3.5-3.5-3.5-3.5 4-Siltysand&sandysilt 4-4.5-4.5 4.5-4.5 Clay&siltyclay 5-5-5-5.5-Clay 5.5-5.5 5.5 Siltysand & sandysilt 6-6-6-6.5-6.5-6.5 6.5-6.5 Sand & silty sand Depth (m) Depth (m) Depth (m) Depth (m) 7-7.5-Siltysand&sandysilt 7.5-7.5-7.5-7.5-Sand & silty sand Silty sand & sandy silt 8-8-8-8-8-Sand & silty sand 8.5-8.5 8.5-8.5 8.5-Sand Sand 9-9-9.5-9.5-9.5-9.5 Sand 10-10-10-10-10-10.5 10.5 10.5 10.5 10.5-Sand 11-11-11-11 11-Sand & silty sand 11.5 11.5 11.5 11.5-11.5-Sand 12-12-12-12-12-12.5 12.5-12.5-12.5-12.5-13-13-13-13-13-Sand & silty sand 13.5-13.5 13.5 13.5-13.5 14-14-14-14-14-14.5-14.5 14.5-14.5-14.5 15-k 15 15-5 10 15 20 25 30 10 500 1,000 1,500 2,000 6 8 10 12 14 16 18 8 3 SBT (Robertson et al. 1986) qt (MPa) Rf (%) u (kPa) Ic(SBT) Input parameters and analysis data Analysis method: B&I (2014) Depth to GWT (erthq.): 1.50 m Fill weight: N/A **SBT legend** Fines correction method: B&I (2014) Average results interval: Transition detect. applied: No Ic cut-off value: Points to test: Based on Ic value 2.60 K_{σ} applied: Yes 4. Clayey silt to silty 7. Gravely sand to sand 1. Sensitive fine grained Clay like behavior applied: Earthquake magnitude M_w: 7.50 Unit weight calculation: Based on SBT Sands only

CLiq v.1.7.6.49 - CPT Liquefaction Assessment Software - Report created on: 14/06/2017, 9:37:15 a.m. Project file: C:\Users\andrewj\Desktop\Cliq\Cliq SLS.clq

Use fill:

Fill height:

N/A

8. Very stiff sand to

9. Very stiff fine grained

5. Silty sand to sandy silt

6. Clean sand to silty sand

No

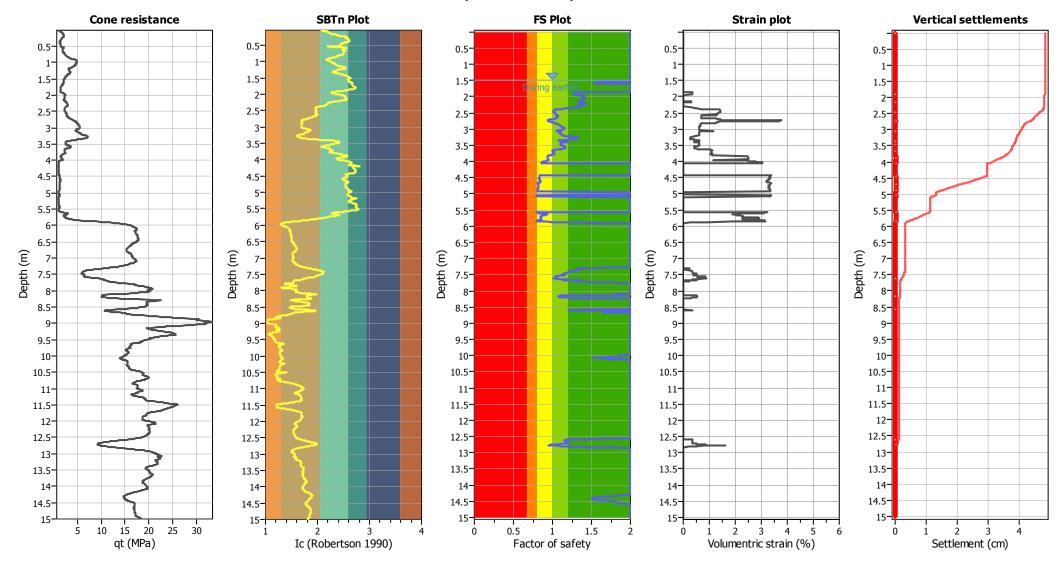
N/A

Limit depth applied:

Limit depth:

2. Organic material

3. Clay to silty clay



Abbreviations

qt: Total cone resistance (cone resistance qc corrected for pore water effects)

I_c: Soil Behaviour Type Index

FS: Calculated Factor of Safety against liquefaction

Volumentric strain: Post-liquefaction volumentric strain





LIQUEFACTION ANALYSIS REPORT

Project title : Four Ventures Property Group

Location: 17 Warwick Street, Richmond, Christchurch

CPT file: CPT05 SLS

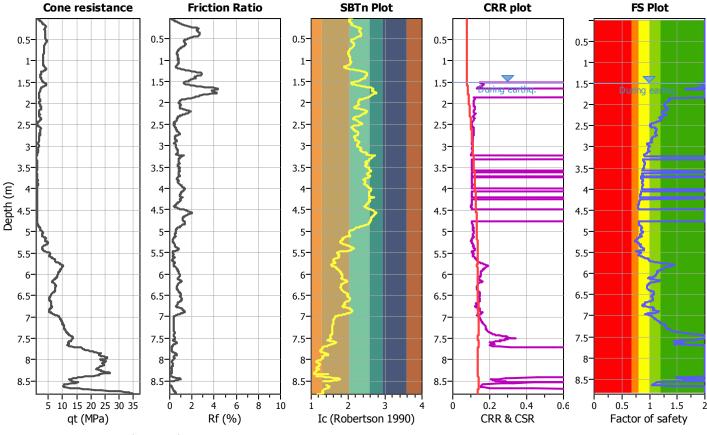
Peak ground acceleration:

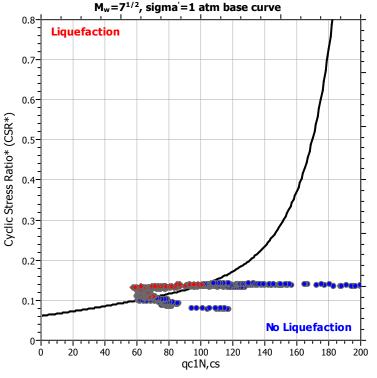
Input parameters and analysis data

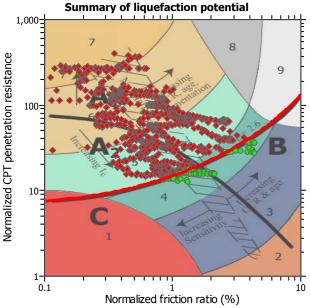
Analysis method: B&I (2014)
Fines correction method: B&I (2014)
Points to test: Based on Ic value
Earthquake magnitude M_w: 7.50

G.W.T. (in-situ): G.W.T. (earthq.): Average results interval: Ic cut-off value: Unit weight calculation:

1.50 m 1.50 m 3 2.60 Based on SBT Clay like behavior applied: Sands only Limit depth applied: No Limit depth: N/A MSF method: Method based







Zone A_1 : Cyclic liquefaction likely depending on size and duration of cyclic loading Zone A_2 : Cyclic liquefaction and strength loss likely depending on loading and ground geometry

CPT basic interpretation plots **Cone resistance Friction Ratio** Pore pressure **SBT Plot Soil Behaviour Type** Siltysand&sandysilt Clay&siltyclay 0.5-0.5 0.5-0.5 Siltysand&sandysilt 1-1 Clay&siltyclay Siltysand&sandysilt 1.5-1.5 1.5-1.5 1.5-Insitu Clav 2-2-Siltysand&sandysilt Clay&siltyclay 2.5 2.5 2.5-2.5-2.5-Siltysand&sandysilt 3-3-3-3-3-Clay&siltyclay 3.5 3.5 3.5 3.5-3.5-Siltysand&sandysilt Depth (m) 4.5-Depth (m) Depth (m) Depth (m) Clay&siltyclay Siltysand&sandysilt 4.5-Clay&siltyclay 5-5-Siltysand&sandysilt Sand & siltysand Siltysand & sandysilt 5.5 5.5 5.5-5.5-5.5-Sand & silty sand 6-6-6-Siltysand&sandysilt 6.5 6.5-6.5-6.5 Siltysand&sandysilt Sand & siltysand 7-Sand & silty sand 7.5-7.5 7.5-7.5-Sand 8-8-8-Sand Sand 8.5 8.5-Sand & silty sand 5 10 15 20 25 30 35 10 500 1,000 1,500 2,000 4 6 8 10 12 14 16 18 8 SBT (Robertson et al. 1986) qt (MPa) Rf (%) u (kPa) Ic(SBT) Input parameters and analysis data Analysis method: B&I (2014) Depth to GWT (erthq.): 1.50 m Fill weight: N/A **SBT legend** Fines correction method: B&I (2014) Average results interval: Transition detect. applied: No Ic cut-off value: Points to test: Based on Ic value 2.60 K_{σ} applied: Yes 4. Clayey silt to silty 7. Gravely sand to sand 1. Sensitive fine grained Clay like behavior applied: Earthquake magnitude M_w: 7.50 Unit weight calculation: Based on SBT Sands only 8. Very stiff sand to 2. Organic material 5. Silty sand to sandy silt Peak ground acceleration: 0.13 Limit depth applied: Use fill: No

CLiq v.1.7.6.49 - CPT Liquefaction Assessment Software - Report created on: 14/06/2017, 9:37:17 a.m. Project file: C:\Users\andrewi\Desktop\Cliq\Cliq SLS.clq

Fill height:

N/A

Depth to water table (insitu): 1.50 m

9. Very stiff fine grained

N/A

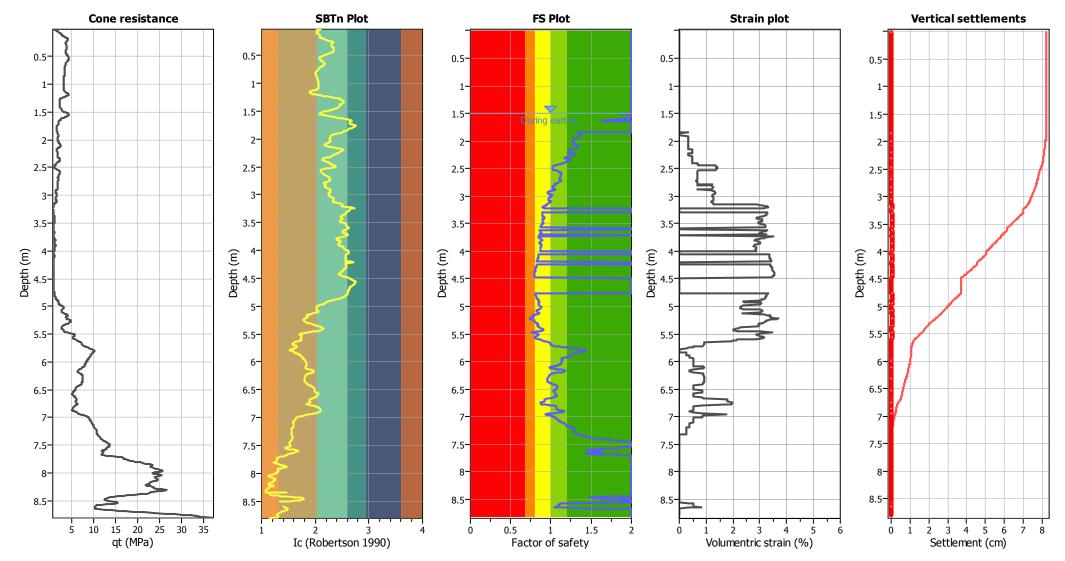
Limit depth:

3. Clay to silty clay

6. Clean sand to silty sand

This software is licensed to: Kirk Roberts Consulting

Estimation of post-earthquake settlements



Abbreviations

qt: Total cone resistance (cone resistance qc corrected for pore water effects)

I_c: Soil Behaviour Type Index

FS: Calculated Factor of Safety against liquefaction

Volumentric strain: Post-liquefaction volumentric strain





LIQUEFACTION ANALYSIS REPORT

Project title: Four Ventures Property Group

Location: 17 Warwick Street, Richmond, Christchurch

CPT file: CPT06 SLS

Peak ground acceleration:

Input parameters and analysis data

Analysis method: B&I (2014) Fines correction method: B&I (2014) Points to test: Earthquake magnitude Mw:

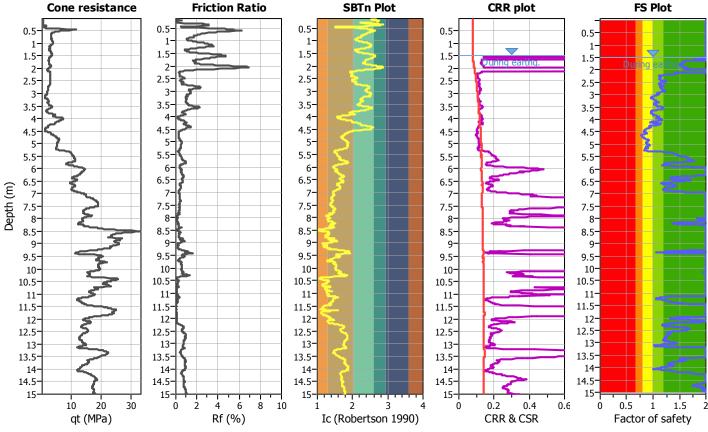
Based on Ic value

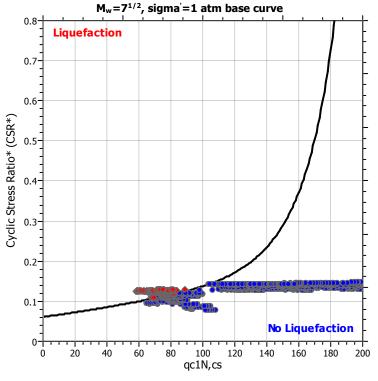
G.W.T. (in-situ): G.W.T. (earthq.): Average results interval: Ic cut-off value: Unit weight calculation:

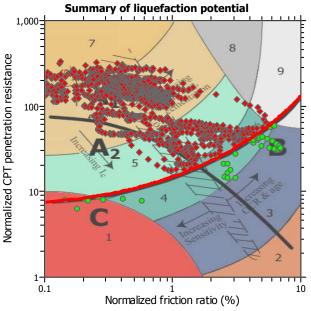
1.50 m 1.50 m 3 2.60 Based on SBT Use fill: No Fill height: N/A Fill weight: N/A Trans. detect. applied: No K_{σ} applied:

Clay like behavior applied: Limit depth applied: Limit depth: MSF method:

Sands only No N/A Method based

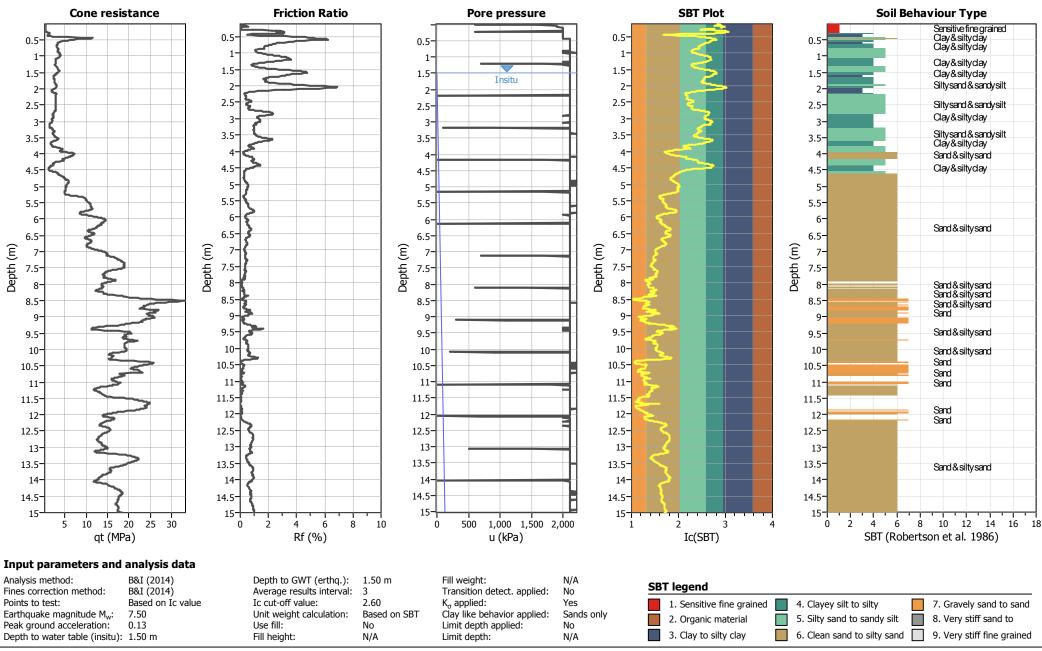




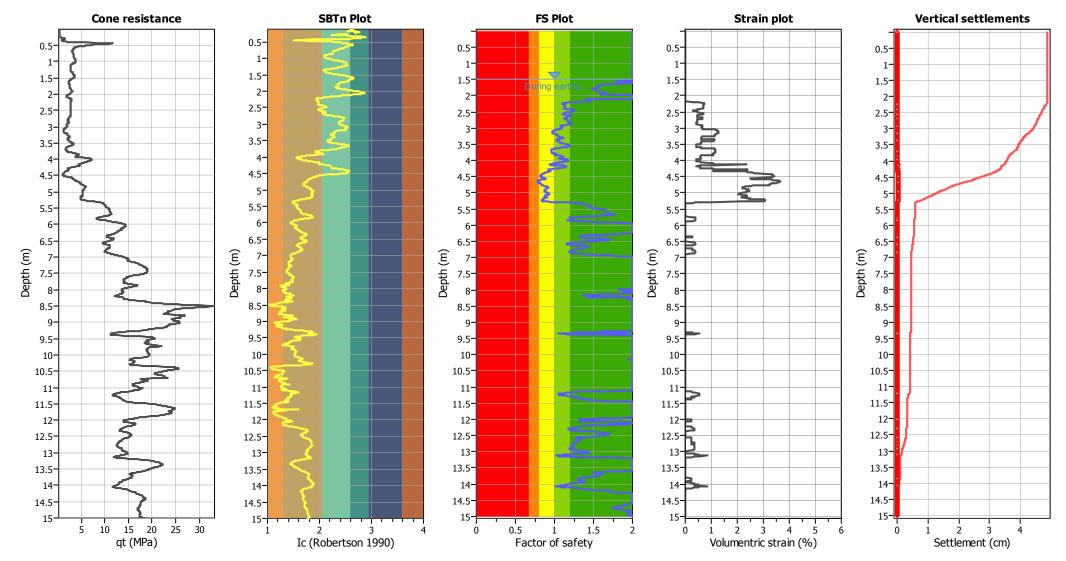


Zone A₁: Cyclic liquefaction likely depending on size and duration of cyclic loading Zone A2: Cyclic liquefaction and strength loss likely depending on loading and ground

CPT basic interpretation plots



CLiq v.1.7.6.49 - CPT Liquefaction Assessment Software - Report created on: 14/06/2017, 9:37:20 a.m. Project file: C:\Users\andrewi\Desktop\Cliq\Cliq SLS.clq



Abbreviations

qt: Total cone resistance (cone resistance qc corrected for pore water effects)

I_c: Soil Behaviour Type Index

FS: Calculated Factor of Safety against liquefaction

Volumentric strain: Post-liquefaction volumentric strain

CLiq v.1.7.6.49 - CPT Liquefaction Assessment Software - Report created on: 14/06/2017, 9:37:20 a.m.

Project file: C:\Users\andrewi\Desktop\Clig\Clig SLS.clg





LIQUEFACTION ANALYSIS REPORT

Project title: Four Ventures Property Group

Location: 17 Warwick Street, Richmond, Christchurch

CPT file: CPT01 SLS2

Peak ground acceleration:

Input parameters and analysis data

Analysis method: B&I (2014) Fines correction method: B&I (2014) Points to test: Earthquake magnitude Mw:

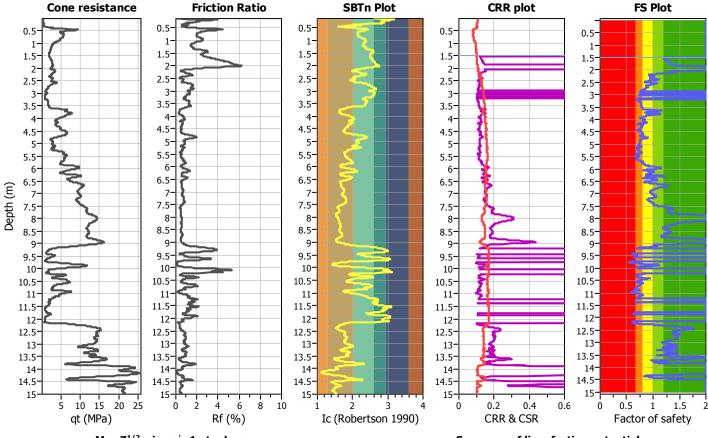
Based on Ic value

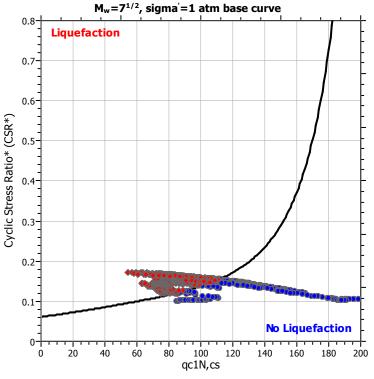
G.W.T. (in-situ): G.W.T. (earthq.): Average results interval: Ic cut-off value: Unit weight calculation:

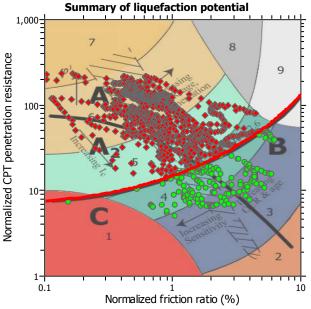
1.00 m 1.00 m 3 2.60 Based on SBT Use fill: No Fill height: N/A Fill weight: N/A Trans. detect. applied: No K_{σ} applied:

Clay like behavior applied: Limit depth applied: Limit depth: MSF method:

Sands only No N/A Method based

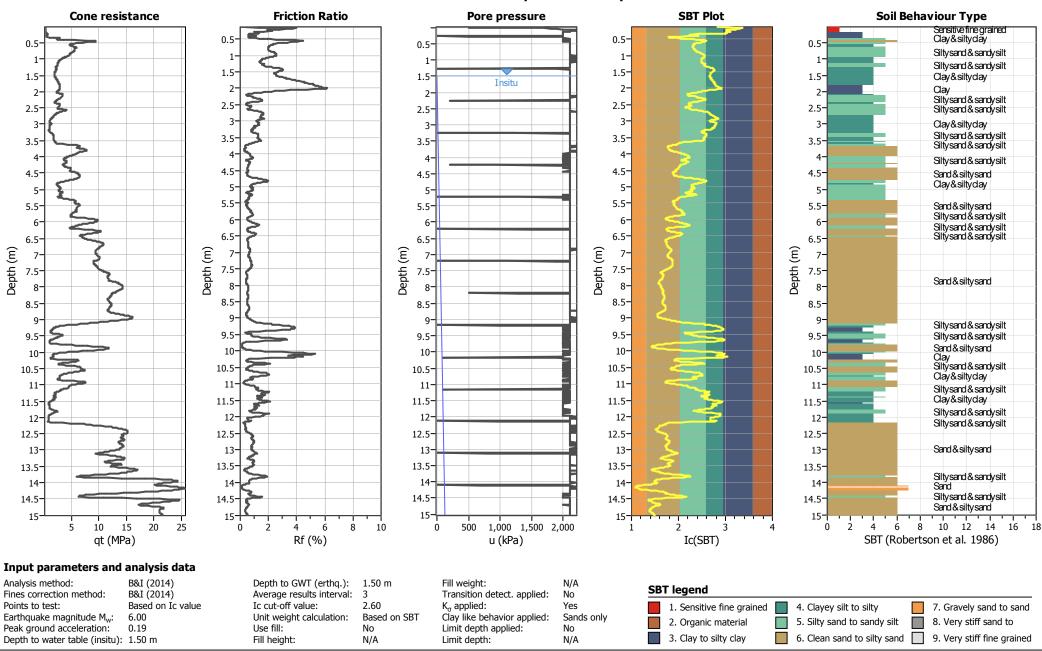




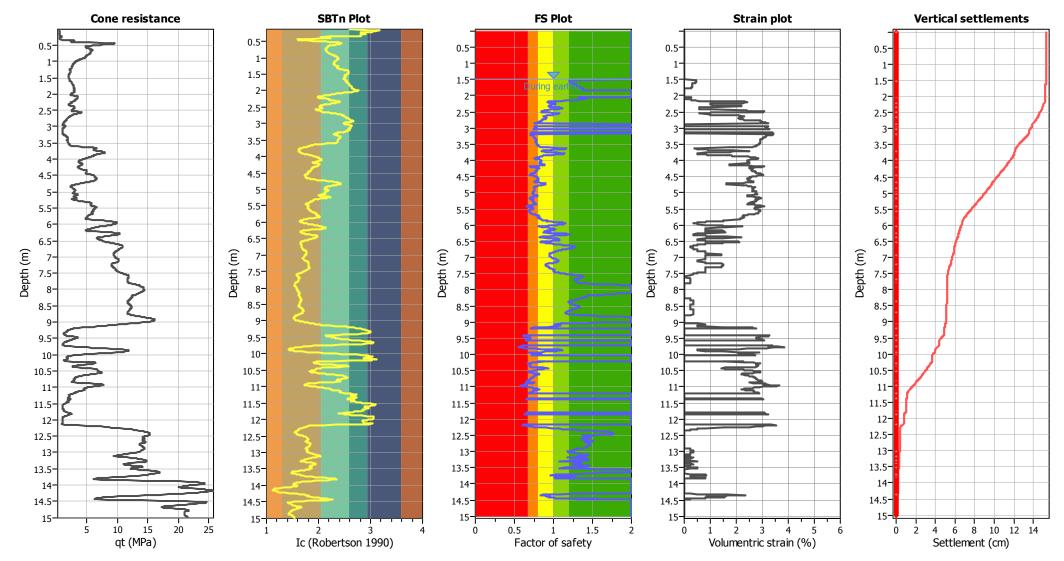


Zone A₁: Cyclic liquefaction likely depending on size and duration of cyclic loading Zone A2: Cyclic liquefaction and strength loss likely depending on loading and ground

CPT basic interpretation plots



CLiq v.1.7.6.49 - CPT Liquefaction Assessment Software - Report created on: 14/06/2017, 9:20:08 a.m. Project file: C:\Users\andrewi\Desktop\Cliq\Cliq\SLS2.clq



Abbreviations

qt: Total cone resistance (cone resistance qc corrected for pore water effects)

I_c: Soil Behaviour Type Index

FS: Calculated Factor of Safety against liquefaction

Volumentric strain: Post-liquefaction volumentric strain





LIQUEFACTION ANALYSIS REPORT

Project title : Four Ventures Property Group

Location: 17 Warwick Street, Richmond, Christchurch

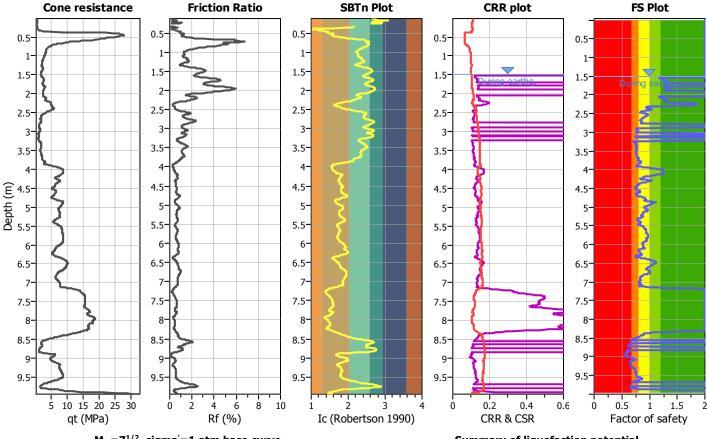
CPT file: CPT02 SLS2

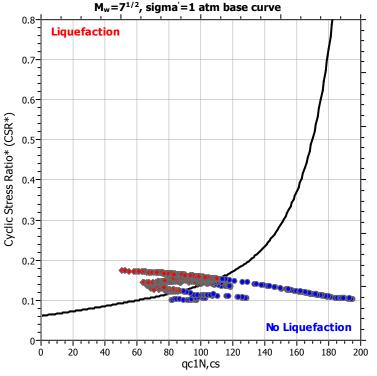
Input parameters and analysis data

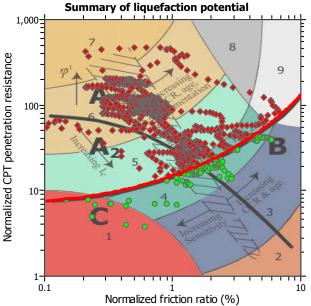
Analysis method: B&I (2014)
Fines correction method: B&I (2014)
Points to test: Based on Ic value
Earthquake magnitude M_w: 6.00
Peak ground acceleration: 0.19

014) G.W.T. (in-situ): 014) G.W.T. (earthq.): on Ic value Average results interval: Ic cut-off value: Unit weight calculation:

1.50 m 1.50 m 3 2.60 Based on SBT Clay like behavior applied: Sands only Limit depth applied: No Limit depth: N/A MSF method: Method based

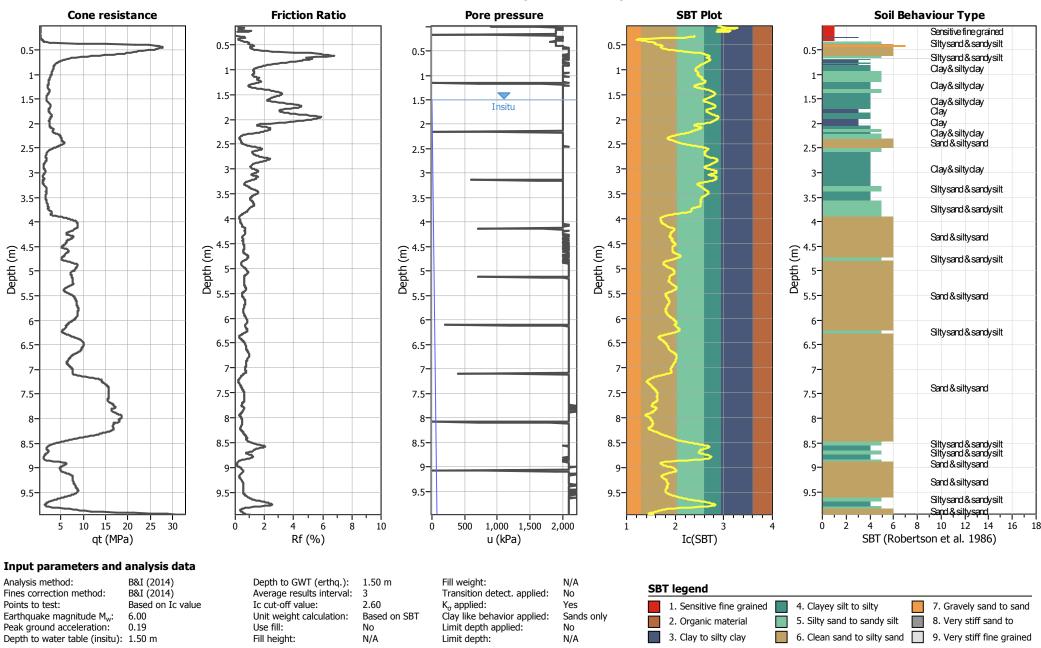




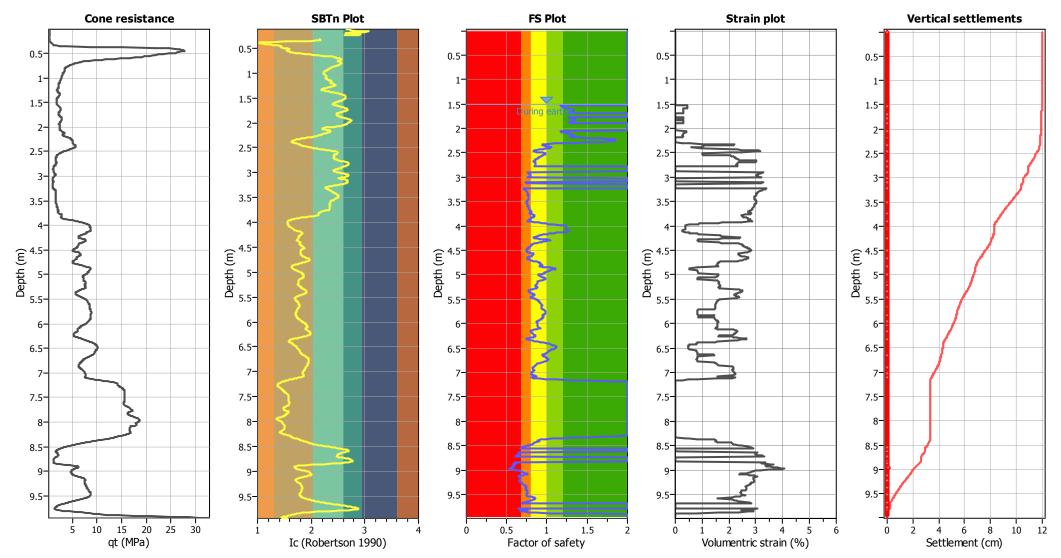


Zone A_1 : Cyclic liquefaction likely depending on size and duration of cyclic loading Zone A_2 : Cyclic liquefaction and strength loss likely depending on loading and ground geometry

CPT basic interpretation plots



CLiq v.1.7.6.49 - CPT Liquefaction Assessment Software - Report created on: 14/06/2017, 9:20:09 a.m. Project file: C:\Users\andrewi\Desktop\Cliq\Cliq SLS2.clq



Abbreviations

qt: Total cone resistance (cone resistance qc corrected for pore water effects)

I_c: Soil Behaviour Type Index

FS: Calculated Factor of Safety against liquefaction

Volumentric strain: Post-liquefaction volumentric strain





LIQUEFACTION ANALYSIS REPORT

Project title: Four Ventures Property Group

Location: 17 Warwick Street, Richmond, Christchurch

CPT file: CPT03 SLS2

Peak ground acceleration:

Input parameters and analysis data

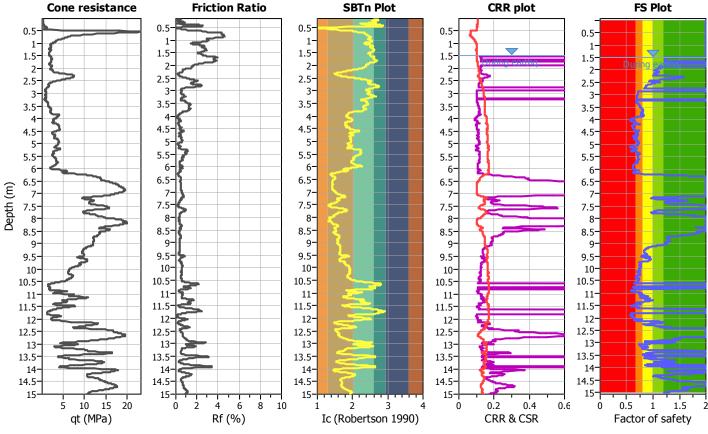
Analysis method: B&I (2014) Fines correction method: B&I (2014) Points to test: Based on Ic value Earthquake magnitude Mw:

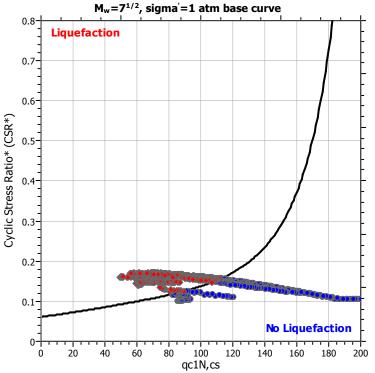
G.W.T. (in-situ): G.W.T. (earthq.): Average results interval: Ic cut-off value: Unit weight calculation:

1.50 m 1.50 m 3 2.60 Based on SBT Use fill: No Fill height: N/A Fill weight: N/A Trans. detect. applied: No K_{σ} applied:

Clay like behavior applied: Sands only Limit depth applied: No Limit depth: N/A MSF method:

Method based

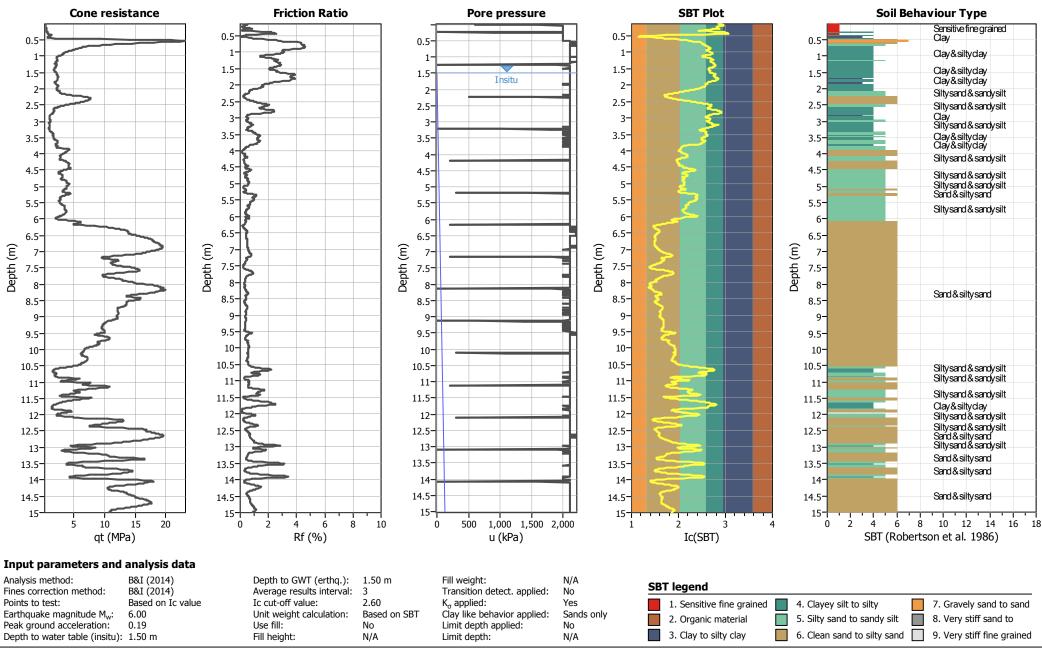




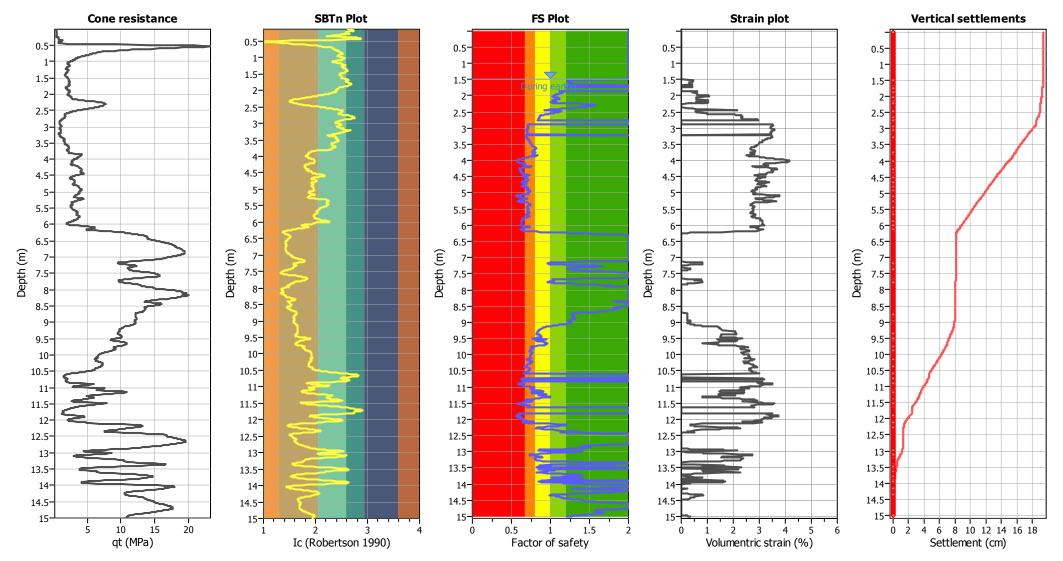
Summary of liquefaction potential 1,000 Vormalized CPT penetration resistance 9 100-10= 0.1 10 Normalized friction ratio (%)

Zone A₁: Cyclic liquefaction likely depending on size and duration of cyclic loading Zone A2: Cyclic liquefaction and strength loss likely depending on loading and ground

CPT basic interpretation plots



CLiq v.1.7.6.49 - CPT Liquefaction Assessment Software - Report created on: 14/06/2017, 9:20:11 a.m. Project file: C:\Users\andrewi\Desktop\Clig\Clig\SLS2.clg



Abbreviations

qt: Total cone resistance (cone resistance qc corrected for pore water effects)

I_c: Soil Behaviour Type Index

FS: Calculated Factor of Safety against liquefaction

Volumentric strain: Post-liquefaction volumentric strain

CLiq v.1.7.6.49 - CPT Liquefaction Assessment Software - Report created on: 14/06/2017, 9:20:11 a.m. Project file: C:\Users\andrewi\Desktop\Cliq\Cliq SLS2.clq

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LIQUEFACTION ANALYSIS REPORT

Project title: Four Ventures Property Group

Location: 17 Warwick Street, Richmond, Christchurch

CPT file: CPT04 SLS2

Peak ground acceleration:

Input parameters and analysis data

Analysis method: B&I (2014) Fines correction method: B&I (2014) Points to test: Earthquake magnitude Mw:

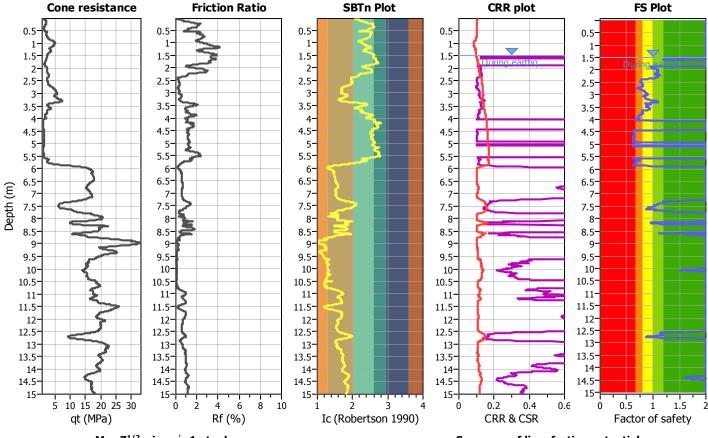
Based on Ic value

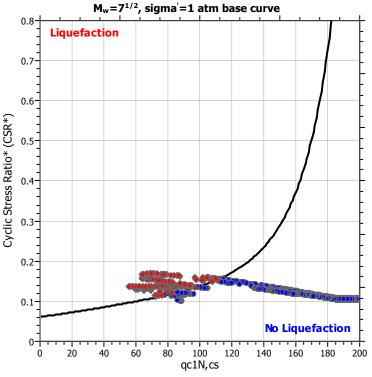
G.W.T. (in-situ): G.W.T. (earthq.): Average results interval: Ic cut-off value: Unit weight calculation:

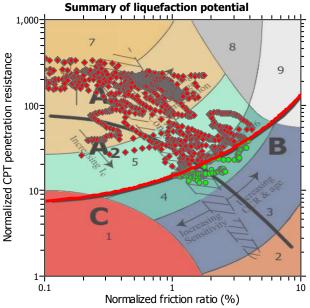
1.50 m 1.50 m 3 2.60 Based on SBT Use fill: No Fill height: N/A Fill weight: N/A Trans. detect. applied: No K_{σ} applied:

Clay like behavior applied: Sands only Limit depth applied: No Limit depth:

N/A MSF method: Method based







Zone A₁: Cyclic liquefaction likely depending on size and duration of cyclic loading Zone A2: Cyclic liquefaction and strength loss likely depending on loading and ground

Points to test:

Earthquake magnitude M_w:

Peak ground acceleration:

Depth to water table (insitu): 1.50 m

CPT basic interpretation plots Cone resistance **Friction Ratio SBT Plot Soil Behaviour Type** Pore pressure Siltysand&sandysilt 0.5-0.5 Siltysand&sandysilt 0.5 Siltysand&sandysilt 1-Siltysand & sandysilt 1.5 1.5-1.5-1.5-1.5-Insitu Clav 2-2-Clay&siltyclay 2.5 2.5-2.5-2.5-Siltysand&sandysilt 2.5-3-3-3-3-Sand & silty sand Siltysand&sandysilt Siltysand&sandysilt 3.5-3.5-3.5-3.5 4-Siltysand&sandysilt 4-4.5-4.5 4.5-4.5 Clay&siltyclay 5-5-5-5.5-Clay 5.5-5.5 5.5 Siltysand & sandysilt 6-6-6-6.5-6.5-6.5 6.5-6.5 Sand & silty sand Depth (m) Depth (m) Depth (m) 7-7.5-Siltysand&sandysilt 7.5-7.5-7.5-7.5-Sand & silty sand Silty sand & sandy silt 8-8-8-8-8-Sand & silty sand 8.5-8.5 8.5-8.5 8.5-Sand Sand 9-9-9.5-9.5-9.5-9.5 Sand 10-10-10-10-10-10.5 10.5 10.5 10.5-10.5 Sand 11-11-11-11 11-Sand & silty sand 11.5 11.5 11.5 11.5-11.5-Sand 12-12-12-12-12-12.5 12.5-12.5-12.5-12.5-13-13-13-13-13-Sand & silty sand 13.5-13.5 13.5 13.5-13.5 14-14-14-14-14-14.5-14.5 14.5-14.5-14.5 15-k 15 15-5 10 15 20 25 30 10 500 1,000 1,500 2,000 6 8 10 12 14 16 18 8 3 SBT (Robertson et al. 1986) qt (MPa) Rf (%) u (kPa) Ic(SBT) Input parameters and analysis data Analysis method: B&I (2014) Depth to GWT (erthq.): 1.50 m Fill weight: N/A SBT legend Fines correction method: B&I (2014) Average results interval: Transition detect. applied: No

CLiq v.1.7.6.49 - CPT Liquefaction Assessment Software - Report created on: 14/06/2017, 9:20:14 a.m. Project file: C:\Users\andrewj\Desktop\Cliq\Cliq SLS2.clq

Based on Ic value

6.00

0.19

Ic cut-off value:

Use fill:

Fill height:

Unit weight calculation:

2.60

N/A

Based on SBT

7. Gravely sand to sand

9. Very stiff fine grained

8. Very stiff sand to

4. Clayey silt to silty

5. Silty sand to sandy silt

6. Clean sand to silty sand

1. Sensitive fine grained

2. Organic material

3. Clay to silty clay

Yes

No

N/A

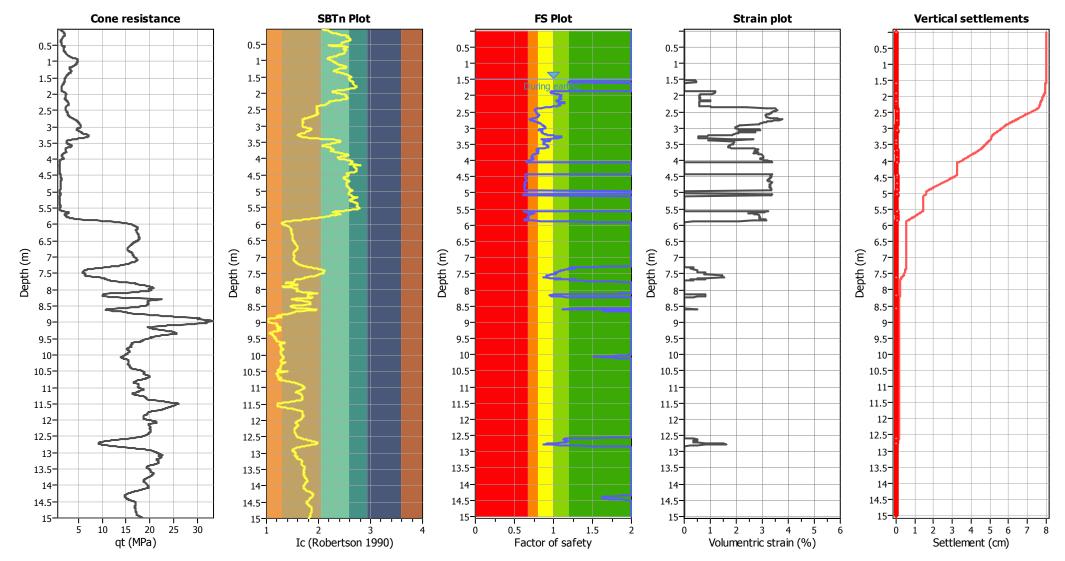
Sands only

 K_{σ} applied:

Limit depth:

Clay like behavior applied:

Limit depth applied:



Abbreviations

qt: Total cone resistance (cone resistance qc corrected for pore water effects)

I_c: Soil Behaviour Type Index

FS: Calculated Factor of Safety against liquefaction

Volumentric strain: Post-liquefaction volumentric strain





LIQUEFACTION ANALYSIS REPORT

Project title: Four Ventures Property Group

Location: 17 Warwick Street, Richmond, Christchurch

CPT file: CPT05 SLS2

Peak ground acceleration:

Input parameters and analysis data

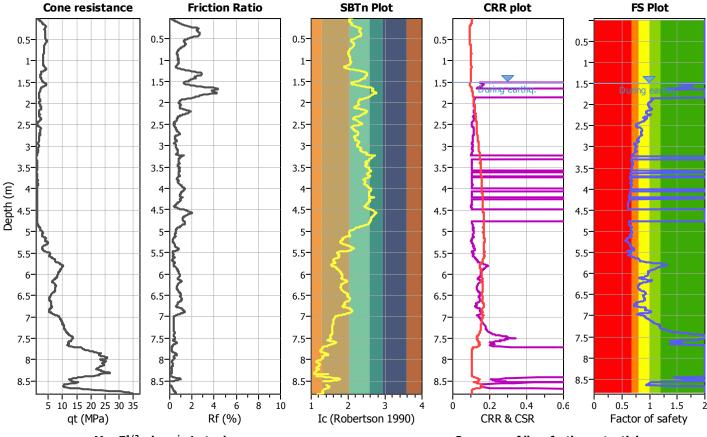
Analysis method: B&I (2014) Fines correction method: B&I (2014) Points to test: Based on Ic value Earthquake magnitude Mw:

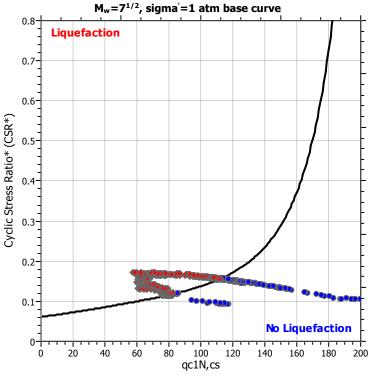
G.W.T. (in-situ): G.W.T. (earthq.): Average results interval: Ic cut-off value: Unit weight calculation:

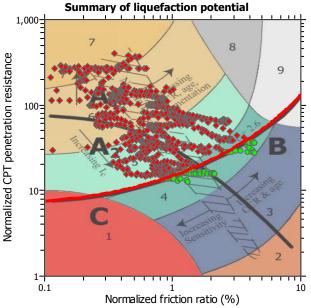
1.50 m 1.50 m 3 2.60 Based on SBT Use fill: No Fill height: N/A Fill weight: N/A Trans. detect. applied: No K_{σ} applied:

Clay like behavior applied: Sands only Limit depth applied: No N/A

Limit depth: MSF method: Method based







Zone A₁: Cyclic liquefaction likely depending on size and duration of cyclic loading Zone A2: Cyclic liquefaction and strength loss likely depending on loading and ground

Earthquake magnitude M_w:

Peak ground acceleration:

Depth to water table (insitu): 1.50 m

6.00

0.19

CPT basic interpretation plots Cone resistance **Friction Ratio** Pore pressure **SBT Plot Soil Behaviour Type** Siltysand&sandysilt Clay&siltyclay 0.5-0.5 0.5-0.5 Siltysand&sandysilt 1-1 Clay&siltyclay Siltysand&sandysilt 1.5-1.5 1.5-1.5 1.5-Insitu Clav 2-2-Siltysand&sandysilt Clay&siltyclay 2.5 2.5 2.5-2.5-2.5-Siltysand&sandysilt 3-3-3-3-3-Clay&siltyclay 3.5 3.5 3.5 3.5-3.5-Siltysand&sandysilt Depth (m) 4.5-Depth (m) Depth (m) Depth (m) Clay&siltyclay Siltysand&sandysilt 4.5-Clay&siltyclay 5-5-Siltysand&sandysilt Sand & siltysand Siltysand & sandysilt 5.5 5.5 5.5-5.5-5.5-Sand & silty sand 6-6-6-Siltysand&sandysilt 6.5 6.5-6.5-6.5 Siltysand&sandysilt Sand & siltysand 7-Sand & silty sand 7.5-7.5 7.5-7.5-Sand 8-8-8-Sand Sand 8.5 8.5-Sand & silty sand 5 10 15 20 25 30 35 10 500 1,000 1,500 2,000 4 6 8 10 12 14 16 18 8 SBT (Robertson et al. 1986) qt (MPa) Rf (%) u (kPa) Ic(SBT) Input parameters and analysis data Analysis method: B&I (2014) Depth to GWT (erthq.): 1.50 m Fill weight: N/A SBT legend Fines correction method: B&I (2014) Average results interval: Transition detect. applied: No Ic cut-off value: Points to test: Based on Ic value 2.60 K_{σ} applied: Yes 4. Clayey silt to silty 7. Gravely sand to sand 1. Sensitive fine grained

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Use fill:

Fill height:

Unit weight calculation:

Based on SBT

N/A

8. Very stiff sand to

9. Very stiff fine grained

5. Silty sand to sandy silt

6. Clean sand to silty sand

Sands only

No

N/A

2. Organic material

3. Clay to silty clay

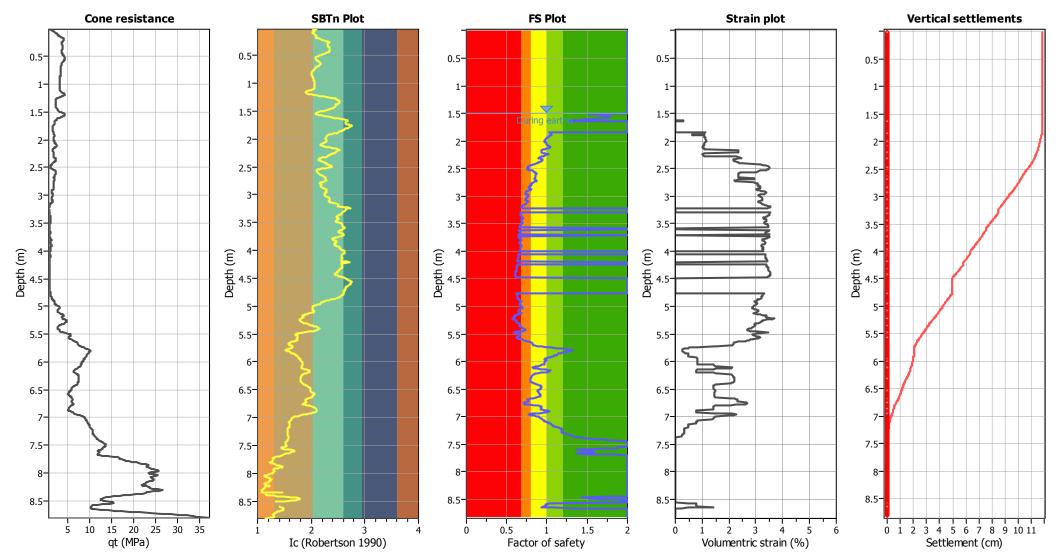
Clay like behavior applied:

Limit depth applied:

Limit depth:

This software is licensed to: Kirk Roberts Consulting

Estimation of post-earthquake settlements



Abbreviations

qt: Total cone resistance (cone resistance qc corrected for pore water effects)

I_c: Soil Behaviour Type Index

FS: Calculated Factor of Safety against liquefaction

Volumentric strain: Post-liquefaction volumentric strain

CLiq v.1.7.6.49 - CPT Liquefaction Assessment Software - Report created on: 14/06/2017, 9:20:16 a.m. Project file: C:\Users\andrewi\Desktop\Cliq\Cliq SLS2.clq

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Kirk Roberts Consulting Engineers Ltd



Level 1, 337 St Asaph Street http://www.kirkroberts.co.nz

LIQUEFACTION ANALYSIS REPORT

Project title: Four Ventures Property Group

Location: 17 Warwick Street, Richmond, Christchurch

CPT file: CPT06 SLS2

Peak ground acceleration:

Input parameters and analysis data

Analysis method: B&I (2014) Fines correction method: B&I (2014) Points to test: Earthquake magnitude Mw:

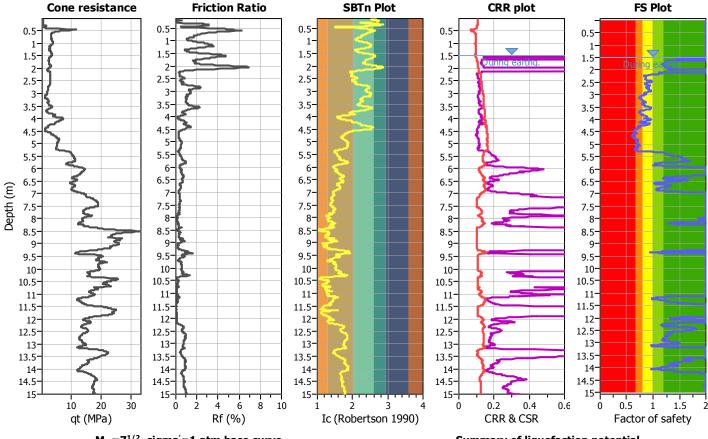
Based on Ic value

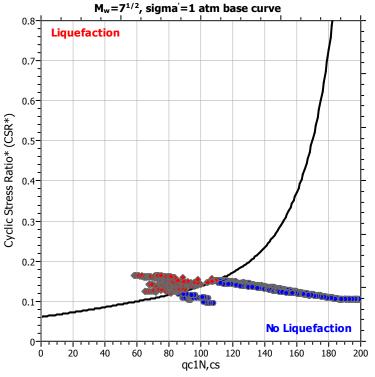
G.W.T. (in-situ): G.W.T. (earthq.): Average results interval: Ic cut-off value: Unit weight calculation:

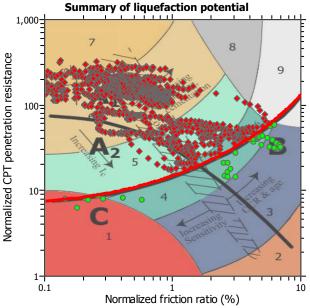
1.50 m 1.50 m 3 2.60 Based on SBT Use fill: No Fill height: N/A Fill weight: N/A Trans. detect. applied: No K_{σ} applied:

Clay like behavior applied: Sands only Limit depth applied: No Limit depth: N/A

MSF method: Method based

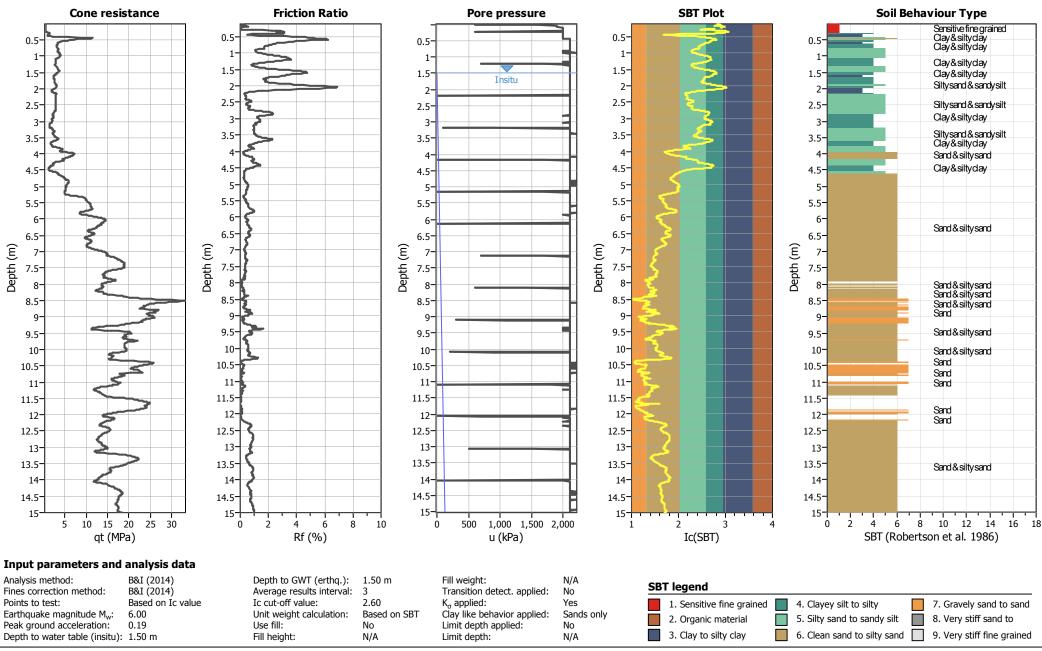




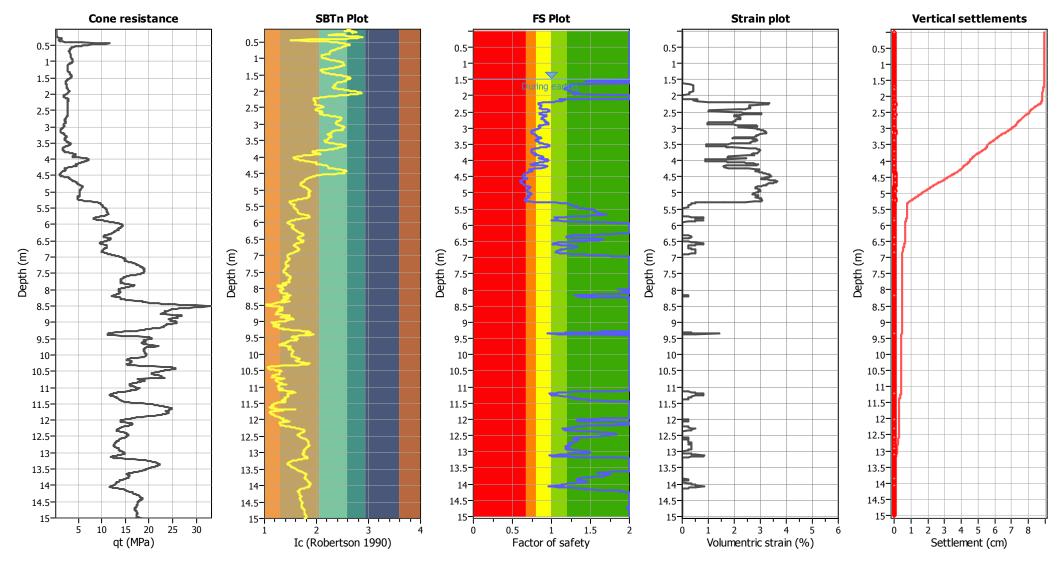


Zone A₁: Cyclic liquefaction likely depending on size and duration of cyclic loading Zone A2: Cyclic liquefaction and strength loss likely depending on loading and ground

CPT basic interpretation plots



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Abbreviations

qt: Total cone resistance (cone resistance qc corrected for pore water effects)

I_c: Soil Behaviour Type Index

FS: Calculated Factor of Safety against liquefaction

Volumentric strain: Post-liquefaction volumentric strain





LIQUEFACTION ANALYSIS REPORT

Project title: Four Ventures Property Group

Location: 17 Warwick Street, Richmond, Christchurch

CPT file: CPT01 ULS

Peak ground acceleration:

Input parameters and analysis data

Analysis method: NCEER (1998) Fines correction method: NCEER (1998) Points to test: Earthquake magnitude Mw:

Based on Ic value

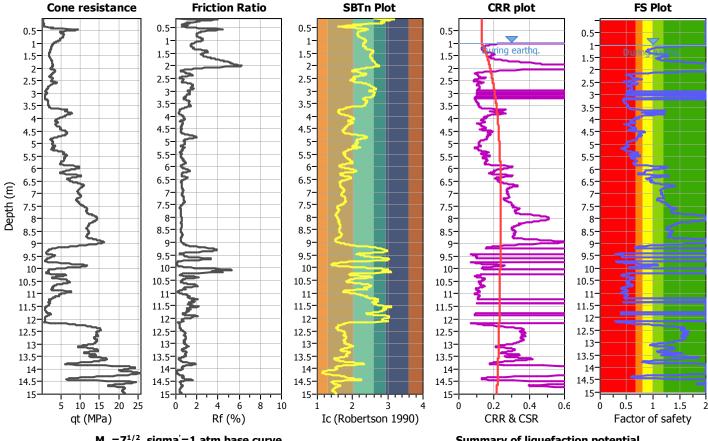
G.W.T. (in-situ): G.W.T. (earthq.): 1.00 m 1.00 m Average results interval: 3 Ic cut-off value: 2.60 Unit weight calculation: Based on SBT

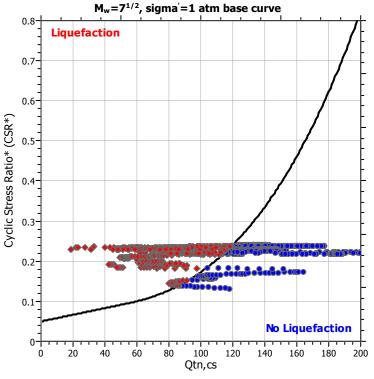
Use fill: No Fill height: N/A Fill weight: N/A Trans. detect. applied: No K_{σ} applied:

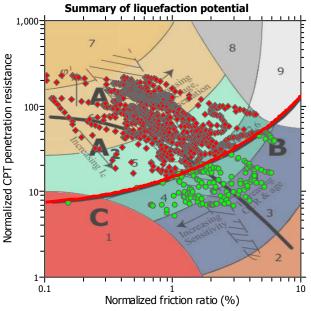
applied: Sands only Limit depth applied: No Limit depth: N/A

Clay like behavior

MSF method: Method based

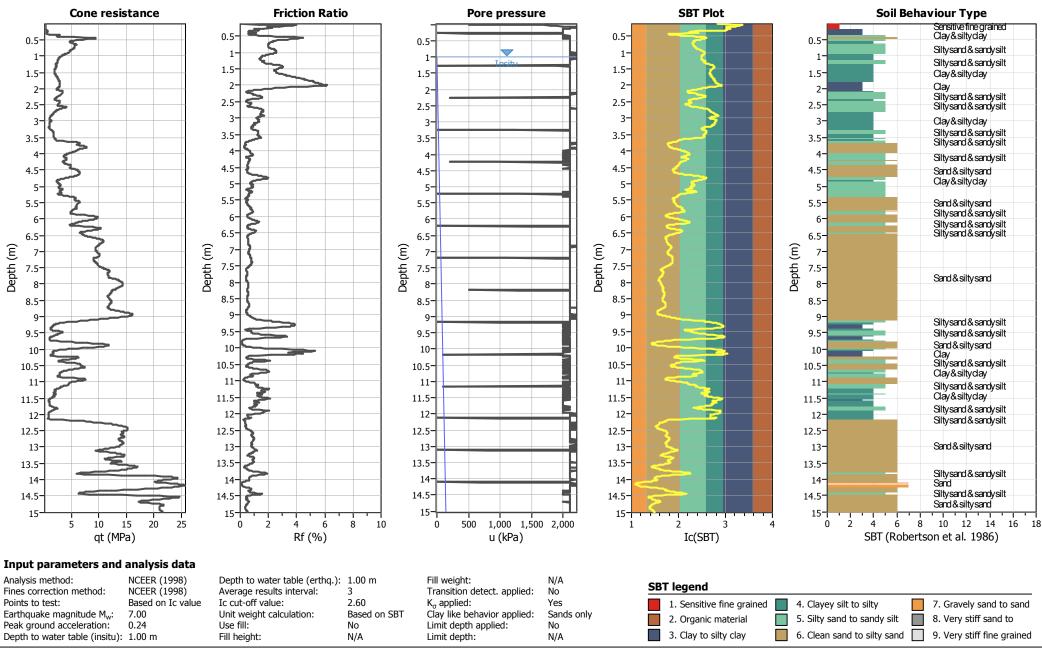




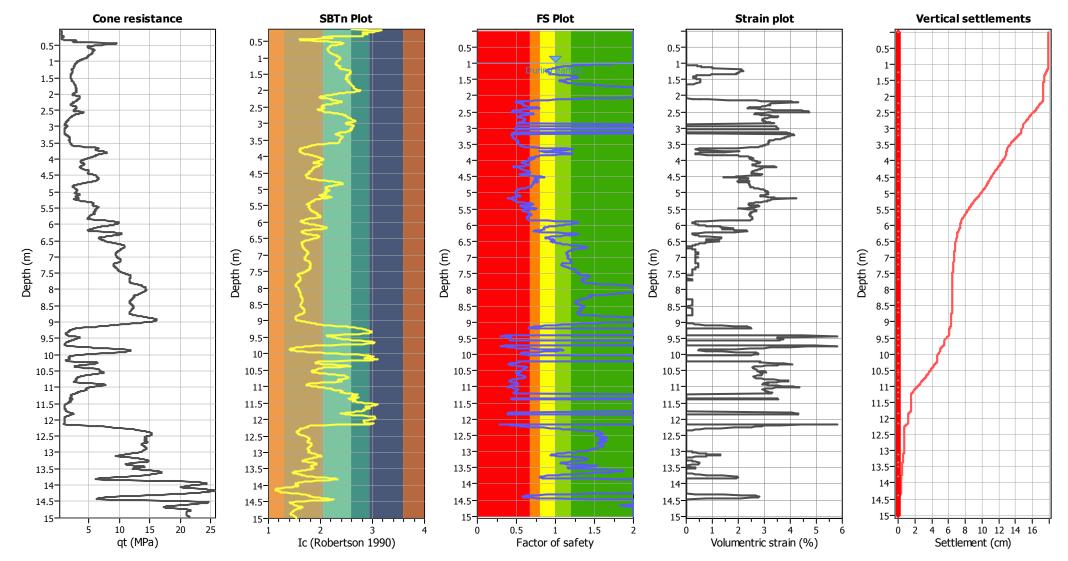


Zone A₁: Cyclic liquefaction likely depending on size and duration of cyclic loading Zone A2: Cyclic liquefaction and strength loss likely depending on loading and ground

CPT basic interpretation plots



CLiq v.1.7.6.49 - CPT Liquefaction Assessment Software - Report created on: 14/06/2017, 9:26:30 a.m. Project file: C:\Users\andrewi\Desktop\Cliq\Cliq ULS.clq



Abbreviations

q_t: Total cone resistance (cone resistance q_c corrected for pore water effects)

I_c: Soil Behaviour Type Index

FS: Calculated Factor of Safety against liquefaction

Volumentric strain: Post-liquefaction volumentric strain

 $\hbox{CLiq v.} 1.7.6.49 \hbox{ - CPT Lique faction Assessment Software - Report created on: } 14/06/2017, 9:26:30 \hbox{ a.m. }$

Project file: C:\Users\andrewi\Desktop\Clig\Clig ULS.clg





LIQUEFACTION ANALYSIS REPORT

Project title: Four Ventures Property Group

Location: 17 Warwick Street, Richmond, Christchurch

CPT file: CPT02 ULS

Peak ground acceleration:

Input parameters and analysis data

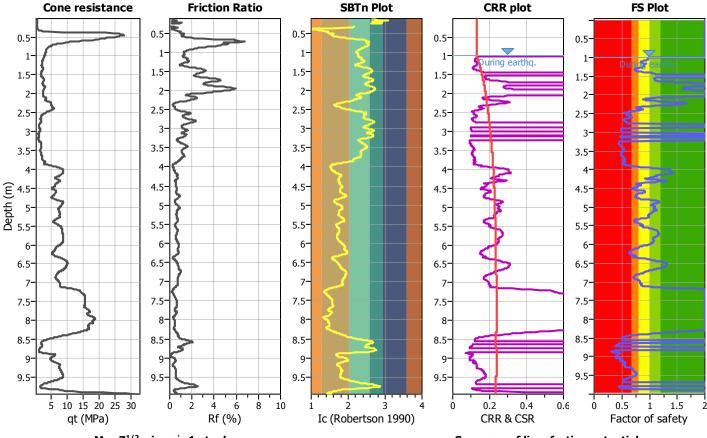
Analysis method: NCEER (1998) Fines correction method: NCEER (1998) Points to test: Based on Ic value Earthquake magnitude Mw:

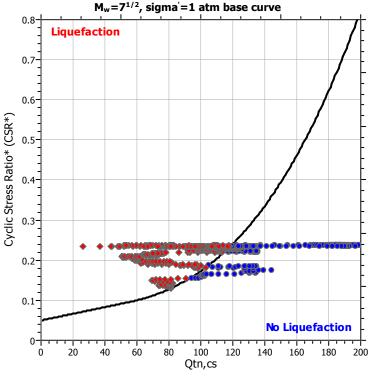
G.W.T. (in-situ): G.W.T. (earthq.): Average results interval: Ic cut-off value:

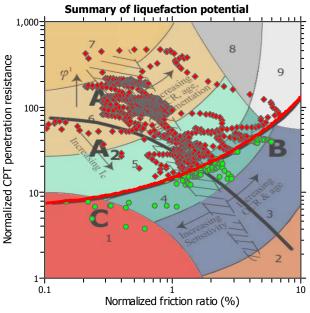
1.00 m 1.00 m 3 2.60 Unit weight calculation: Based on SBT Use fill: No Fill height: N/A Fill weight: N/A Trans. detect. applied: No K_{σ} applied:

Clay like behavior applied: Sands only Limit depth applied: No Limit depth: N/A

MSF method: Method based







Zone A₁: Cyclic liquefaction likely depending on size and duration of cyclic loading Zone A2: Cyclic liquefaction and strength loss likely depending on loading and ground

CPT basic interpretation plots Cone resistance **Friction Ratio SBT Plot Soil Behaviour Type** Pore pressure Sensitive fine grained Siltysand&sandysilt 0.5-0.5 0.5 Siltysand&sandysilt Clay&siltyclay 1-Clay&siltyclay 1.5-1.5 1.5-1.5-Clay&siltyclay Clay 2-Clay 2-Clay&siltyclay Sand&siltysand 2.5 2.5-2.5 2.5-2.5-Clay&siltyclay 3-3-3-3-Siltysand&sandysilt 3.5 3.5-3.5-3.5 3.5-Siltysand&sandysilt Depth (m) Sand & silty sand Depth (m) Depth (m) Depth (m) Depth (m) Siltysand&sandysilt 5-Sand & silty sand 6-6-6-6-Siltysand&sandysilt 6.5-6.5-6.5 6.5 7 Sand & silty sand 7.5-7.5 7.5-7.5-8-8-8-Sitysand&sandysilt Sitysand&sandysilt 8.5-8.5 8.5 Sand & silty sand Sand & silty sand 9.5-9.5-Siltysand&sandysilt 10 15 20 25 30 10 500 1,000 1,500 2,000 6 8 10 12 14 16 18 8 Rf (%) SBT (Robertson et al. 1986) qt (MPa) u (kPa) Ic(SBT) Input parameters and analysis data Analysis method: NCEER (1998) Depth to water table (erthq.): 1.00 m Fill weight: N/A SBT legend Fines correction method: NCEER (1998) Average results interval: Transition detect. applied: No Ic cut-off value: Points to test: Based on Ic value 2.60 K_{σ} applied: Yes 4. Clayey silt to silty 7. Gravely sand to sand 1. Sensitive fine grained Earthquake magnitude M_w: 7.00 Unit weight calculation: Based on SBT Clay like behavior applied: Sands only 8. Very stiff sand to 2. Organic material 5. Silty sand to sandy silt Peak ground acceleration: Limit depth applied: Use fill: No

CLiq v.1.7.6.49 - CPT Liquefaction Assessment Software - Report created on: 14/06/2017, 9:26:31 a.m. Project file: C:\Users\andrewi\Desktop\Cliq\Cliq ULS.clq

N/A

Fill height:

Depth to water table (insitu): 1.00 m

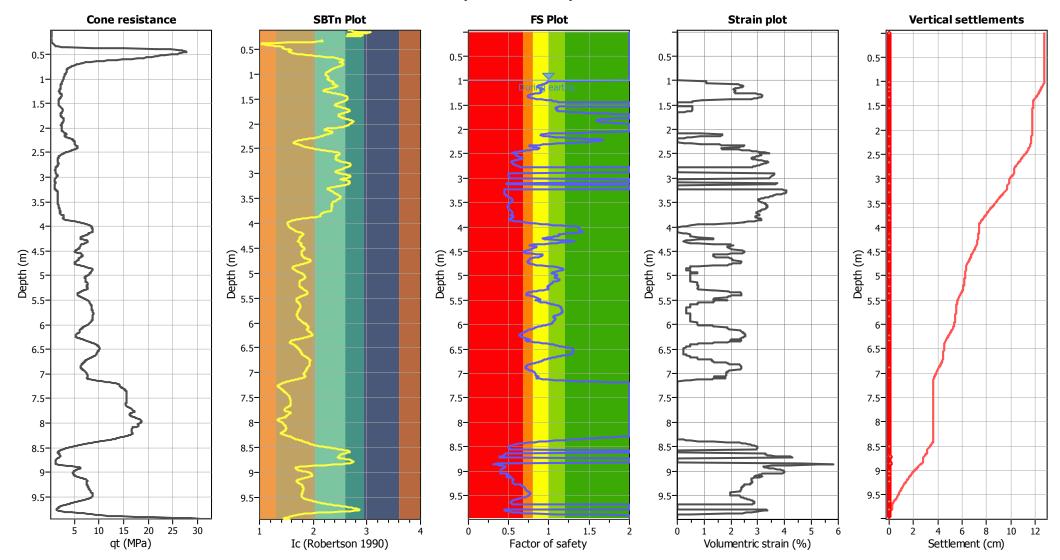
9. Very stiff fine grained

N/A

Limit depth:

3. Clay to silty clay

6. Clean sand to silty sand



Abbreviations

 q_t : Total cone resistance (cone resistance q_c corrected for pore water effects)

I_c: Soil Behaviour Type Index

FS: Calculated Factor of Safety against liquefaction

Volumentric strain: Post-liquefaction volumentric strain

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LIQUEFACTION ANALYSIS REPORT

Project title: Four Ventures Property Group

Location: 17 Warwick Street, Richmond, Christchurch

CPT file: CPT03 ULS

Peak ground acceleration:

Input parameters and analysis data

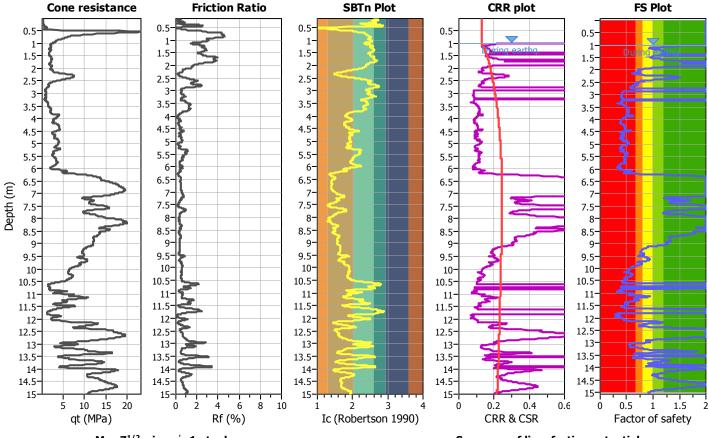
Analysis method: NCEER (1998) Fines correction method: NCEER (1998) Points to test: Earthquake magnitude Mw:

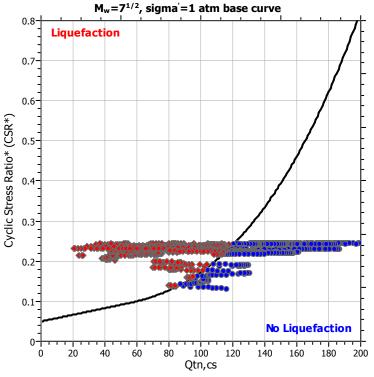
Based on Ic value

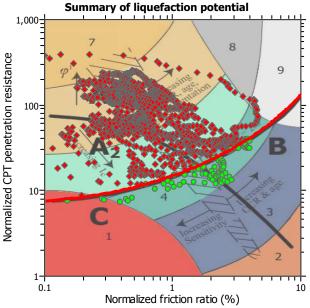
G.W.T. (in-situ): G.W.T. (earthq.): 1.00 m 1.00 m Average results interval: 3 Ic cut-off value: 2.60 Unit weight calculation: Based on SBT Use fill: No Fill height: N/A Fill weight: N/A Trans. detect. applied: No K_{σ} applied:

Clay like behavior applied: Sands only Limit depth applied: No Limit depth: N/A

MSF method: Method based







Zone A₁: Cyclic liquefaction likely depending on size and duration of cyclic loading Zone A2: Cyclic liquefaction and strength loss likely depending on loading and ground

CPT basic interpretation plots Cone resistance **Friction Ratio SBT Plot** Soil Behaviour Type Pore pressure Sensitive fine grained Clay 0.5-0.5 1-Clay&siltyclay 1-1.5-1.5 Clay&siltyclay 1.5-1.5-1.5-Clay&siltyclay 2-2-2-Siltysand&sandysilt 2.5-2.5-2.5 2.5-Siltysand&sandysilt 2.5 Clay Siltysand&sandysilt 3-3-3-3-3.5-3.5-Clay&siltyclay Clay&siltyclay 3.5 3.5 4-Siltysand&sandysilt 4.5-4.5-4.5 Siltysand&sandysilt Sitysand & sandysilt Sand & siltysand 5-5-5-5.5-5.5-5.5 5.5-5.5 Siltysand&sandysilt 6-6-6-6.5 6.5 6.5 6.5 6.5 Depth (m) Depth (m) 7-Depth (m) Depth (m) 7.5-7.5 7.5-7.5-7.5-8-8-8-8-Sand & silty sand 8.5-8.5-8.5 8.5-9.5-9.5-9.5-9.5 10-10-10-10-10-10.5-10.5 10.5 10.5 Siltysand&sandysilt Siltysand&sandysilt 11-11-11 11-Siltysand&sandysilt 11.5-11.5 11.5 11.5-Clay&siltyclay Siltysand&sandysilt 12-12-12-12-

Input parameters and analysis data

10

qt (MPa)

15

Analysis method: Fines correction method: Points to test: Earthquake magnitude M_w: 7.00 Peak ground acceleration: 0.24

Depth to water table (insitu): 1.00 m

12.5

13.5

14.5

15

13-

NCEER (1998) NCEER (1998) Based on Ic value

20

Depth to water table (erthg.): 1.00 m Average results interval: Ic cut-off value: 2.60 Unit weight calculation: Based on SBT Use fill:

Rf (%)

Fill weight: Transition detect. applied: K_{σ} applied: Clay like behavior applied: Limit depth applied:

12.5-

13.5-

14.5-

10

8

N/A

14-

15-

0

Limit depth:

13-

N/A No Yes Sands only No N/A

12.5-

13.5-

14.5-

14-

15-

13-

SBT legend

Ic(SBT)

1. Sensitive fine grained 4. Clayey silt to silty 2. Organic material 3. Clay to silty clay

5. Silty sand to sandy silt 6. Clean sand to silty sand

12.5-

13-

14-

14.5-

13.5-

7. Gravely sand to sand 8. Very stiff sand to 9. Very stiff fine grained

Siltysand & sandysilt

Sand & sandysilt Siltysand & sandysilt

Sand & silty sand

Sand & silty sand

Sand&siltysand

6 8 10 12 14 16 18

SBT (Robertson et al. 1986)

CLiq v.1.7.6.49 - CPT Liquefaction Assessment Software - Report created on: 14/06/2017, 9:26:33 a.m. Project file: C:\Users\andrewi\Desktop\Cliq\Cliq ULS.clq

Fill height:

13-

13.5

14

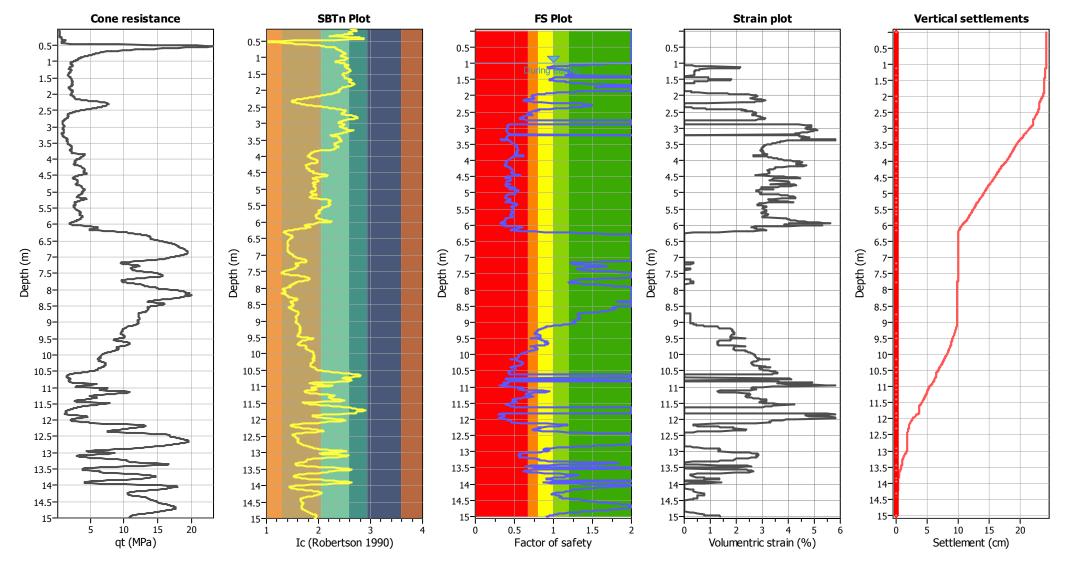
8

500 1,000 1,500 2,000

u (kPa)

9

Estimation of post-earthquake settlements



Abbreviations

qt: Total cone resistance (cone resistance qc corrected for pore water effects)

I_c: Soil Behaviour Type Index

FS: Calculated Factor of Safety against liquefaction

Volumentric strain: Post-liquefaction volumentric strain

CLiq v.1.7.6.49 - CPT Liquefaction Assessment Software - Report created on: 14/06/2017, 9:26:33 a.m. Project file: C:\Users\andrewi\Desktop\Cliq\Cliq ULS.clq





Level 1, 337 St Asaph Street http://www.kirkroberts.co.nz

LIQUEFACTION ANALYSIS REPORT

Project title: Four Ventures Property Group

Location: 17 Warwick Street, Richmond, Christchurch

CPT file: CPT04 ULS

Input parameters and analysis data

Analysis method: NCEER (1998) Fines correction method: NCEER (1998) Points to test: Based on Ic value

Earthquake magnitude Mw: Peak ground acceleration:

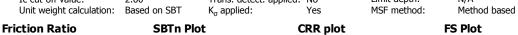
G.W.T. (in-situ): G.W.T. (earthq.): 1.00 m 1.00 m Average results interval: 3 Ic cut-off value: 2.60

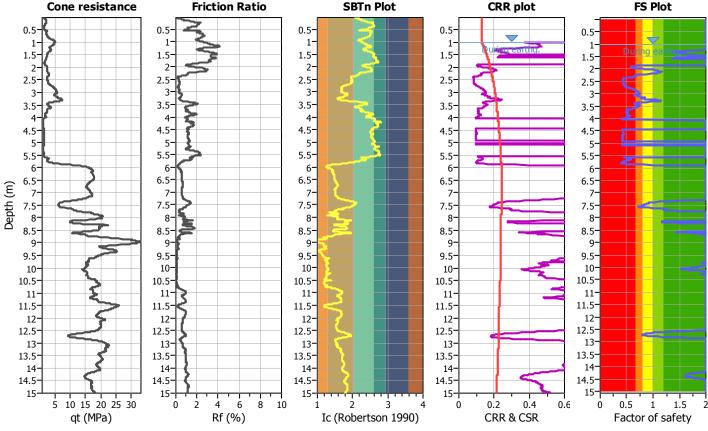
Use fill: No Fill height: N/A Fill weight: N/A Trans. detect. applied: No

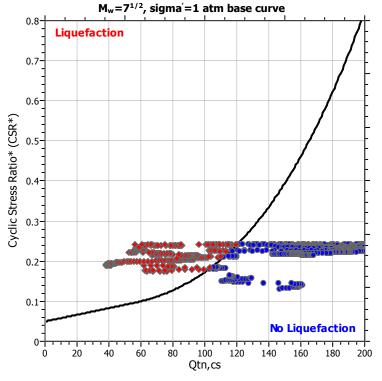
Clay like behavior applied: Limit depth applied: No Limit depth:

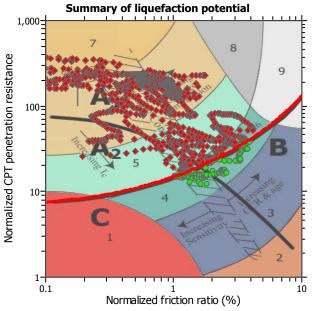
N/A

Sands only









Zone A₁: Cyclic liquefaction likely depending on size and duration of cyclic loading Zone A2: Cyclic liquefaction and strength loss likely depending on loading and ground

Zone B: Liquefaction and post-earthquake strength loss unlikely, check cyclic softening Zone C: Cyclic liquefaction and strength loss possible depending on soil plasticity. brittleness/sensitivity, strain to peak undrained strength and ground geometry

Peak ground acceleration:

Depth to water table (insitu): 1.00 m

CPT basic interpretation plots Cone resistance **Friction Ratio SBT Plot Soil Behaviour Type** Pore pressure Siltysand&sandysilt 0.5-0.5 Siltysand&sandysilt 0.5 Siltysand&sandysilt 1-Siltysand & sandysilt 1.5 1.5-1.5-1.5-1.5-Clav 2-2-Clay&siltyclay 2.5 2.5-2.5-2.5-Siltysand&sandysilt 2.5 3-3-3-3-Sand & silty sand Siltysand&sandysilt Siltysand&sandysilt 3.5-3.5-3.5-3.5 4-Siltysand&sandysilt 4-4.5-4.5 4.5-4.5 Clay&siltyclay 5-5-5-5.5-Clay 5.5-5.5 5.5 Siltysand & sandysilt 6-6-6-6.5-6.5-6.5 6.5-6.5-Sand & silty sand Depth (m) Depth (m) Depth (m) Depth (m) 7-7.5-Siltysand&sandysilt 7.5-7.5-7.5-7.5-Sand & silty sand Silty sand & sandy silt 8-8-8-8-8-Sand & silty sand 8.5-8.5 8.5-8.5 8.5-Sand Sand 9-9-9.5-9.5-9.5-9.5-Sand 10-10-10-10-10-10.5 10.5 10.5 10.5 10.5-Sand 11-11-11-11 11-Sand & silty sand 11.5 11.5 11.5 11.5-11.5-Sand 12-12-12-12-12-12.5-12.5 12.5-12.5-12.5-13-13-13-13-13-Sand & silty sand 13.5-13.5 13.5 13.5-13.5 14-14-14-14-14-14.5-14.5 14.5-14.5-14.5 15-15 15-5 10 15 20 25 30 10 500 1,000 1,500 2,000 6 8 10 12 14 16 18 8 0 3 Rf (%) SBT (Robertson et al. 1986) qt (MPa) u (kPa) Ic(SBT) Input parameters and analysis data Analysis method: NCEER (1998) Depth to water table (erthg.): 1.00 m Fill weight: N/A SBT legend Fines correction method: NCEER (1998) Average results interval: Transition detect. applied: No Ic cut-off value: Points to test: Based on Ic value 2.60 K_{σ} applied: Yes 4. Clayey silt to silty 7. Gravely sand to sand 1. Sensitive fine grained Earthquake magnitude M_w: 7.00 Unit weight calculation: Based on SBT Clay like behavior applied: Sands only 8. Very stiff sand to 2. Organic material 5. Silty sand to sandy silt

CLiq v.1.7.6.49 - CPT Liquefaction Assessment Software - Report created on: 14/06/2017, 9:26:35 a.m. Project file: C:\Users\andrewi\Desktop\Cliq\Lliq\UlS.clq

N/A

Use fill:

Fill height:

9. Very stiff fine grained

No

N/A

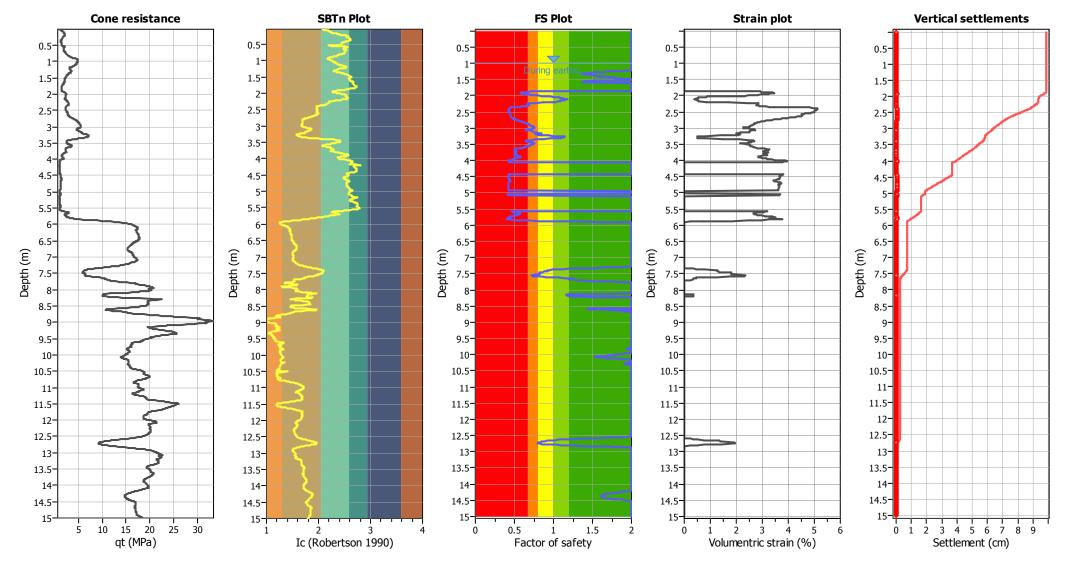
3. Clay to silty clay

6. Clean sand to silty sand

Limit depth applied:

Limit depth:

Estimation of post-earthquake settlements



Abbreviations

qt: Total cone resistance (cone resistance qc corrected for pore water effects)

I_c: Soil Behaviour Type Index

FS: Calculated Factor of Safety against liquefaction

Volumentric strain: Post-liquefaction volumentric strain

CLiq v.1.7.6.49 - CPT Liquefaction Assessment Software - Report created on: 14/06/2017, 9:26:35 a.m. Project file: C:\Users\andrewi\Desktop\Cliq\Cliq ULS.clq

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Level 1, 337 St Asaph Street http://www.kirkroberts.co.nz

LIQUEFACTION ANALYSIS REPORT

Project title: Four Ventures Property Group

Location: 17 Warwick Street, Richmond, Christchurch

CPT file: CPT05 ULS

Peak ground acceleration:

Input parameters and analysis data

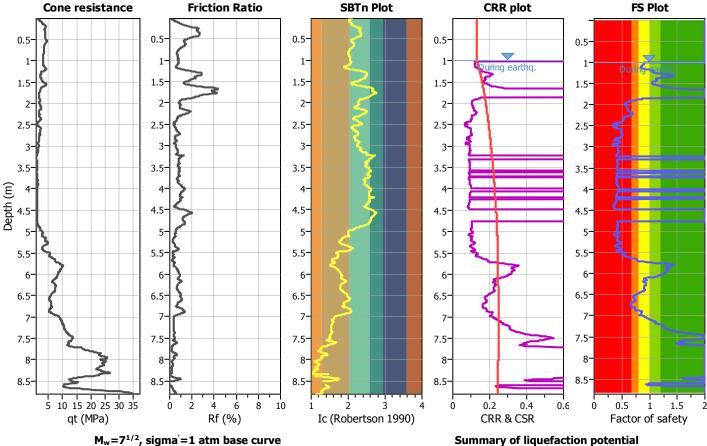
Analysis method: NCEER (1998) Fines correction method: NCEER (1998) Points to test: Based on Ic value Earthquake magnitude Mw:

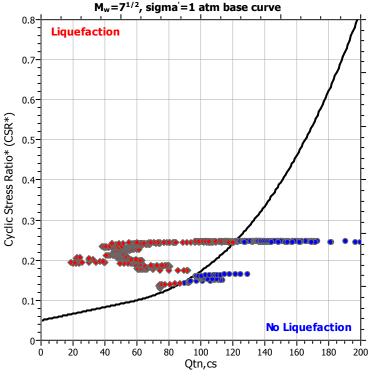
G.W.T. (in-situ): G.W.T. (earthq.): Average results interval: Ic cut-off value: Unit weight calculation:

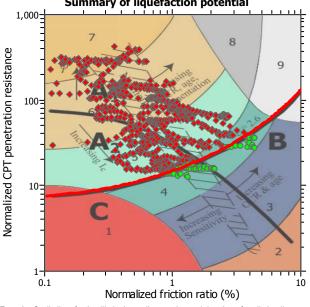
1.00 m 1.00 m 3 2.60 Based on SBT Use fill: No Fill height: N/A Fill weight: N/A Trans. detect. applied: No K_{σ} applied:

Clay like behavior applied: Sands only Limit depth applied: No Limit depth: N/A

MSF method: Method based







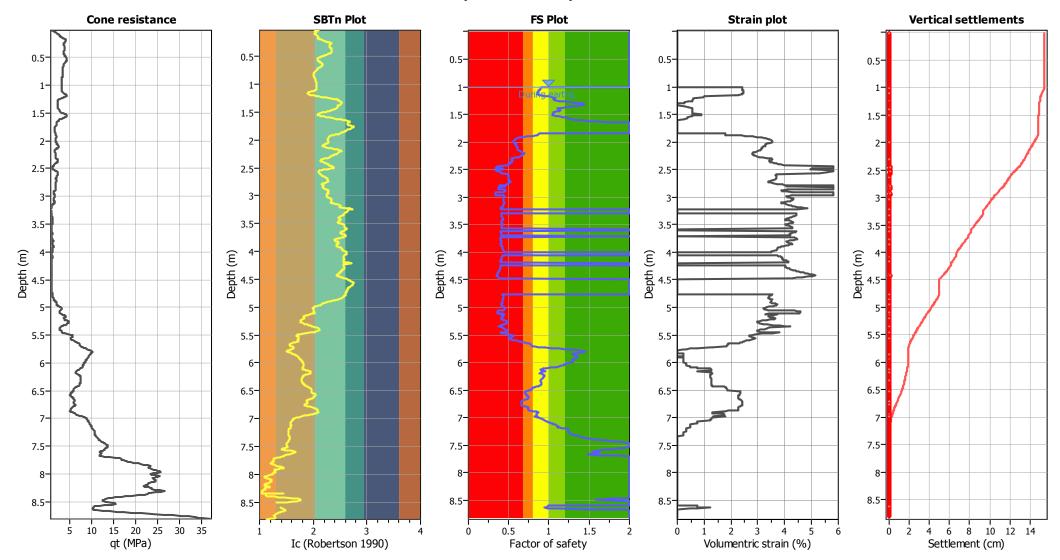
Zone A₁: Cyclic liquefaction likely depending on size and duration of cyclic loading Zone A2: Cyclic liquefaction and strength loss likely depending on loading and ground

Zone B: Liquefaction and post-earthquake strength loss unlikely, check cyclic softening Zone C: Cyclic liquefaction and strength loss possible depending on soil plasticity, brittleness/sensitivity, strain to peak undrained strength and ground geometry

CPT basic interpretation plots Cone resistance **Friction Ratio SBT Plot Soil Behaviour Type** Pore pressure Siltysand&sandysilt Clay&siltyclay 0.5-0.5 0.5-0.5 Siltysand&sandysilt 1-1 Insitu Clay&siltyclay Siltysand&sandysilt 1.5 1.5-1.5 1.5-1.5-Clay 2-2-Siltysand&sandysilt Clay&siltyclay 2.5 2.5 2.5-2.5-2.5-Siltysand&sandysilt 3-3-3-3-3-Clay&siltyclay 3.5 3.5 3.5 3.5-3.5-Siltysand&sandysilt Depth (m) Depth (m) 4.5-Depth (m) Depth (m) Depth (m) Clay&siltyclay Siltysand&sandysilt 4.5-Clay&siltyclay 5-5-Siltysand&sandysilt Sand & siltysand Siltysand & sandysilt 5.5 5.5 5.5-5.5-5.5-Sand & silty sand 6-6-6-Siltysand&sandysilt 6.5 6.5-6.5-6.5 Siltysand&sandysilt Sand & siltysand 7-Sand & silty sand 7.5-7.5 7.5-7.5-Sand 8-8-8-8-Sand Sand 8.5 8.5-Sand & silty sand 5 10 15 20 25 30 35 500 1,000 1,500 2,000 4 6 8 10 12 14 16 18 8 Rf (%) SBT (Robertson et al. 1986) qt (MPa) u (kPa) Ic(SBT) Input parameters and analysis data Analysis method: NCEER (1998) Depth to water table (erthq.): 1.00 m Fill weight: N/A SBT legend Fines correction method: NCEER (1998) Average results interval: Transition detect. applied: No Ic cut-off value: Points to test: Based on Ic value 2.60 K_{σ} applied: Yes 4. Clayey silt to silty 7. Gravely sand to sand 1. Sensitive fine grained Earthquake magnitude M_w: 7.00 Unit weight calculation: Based on SBT Clay like behavior applied: Sands only 8. Very stiff sand to 2. Organic material 5. Silty sand to sandy silt Peak ground acceleration: Limit depth applied: Use fill: No 3. Clay to silty clay 6. Clean sand to silty sand 9. Very stiff fine grained Depth to water table (insitu): 1.00 m Fill height: N/A Limit depth: N/A

CLiq v.1.7.6.49 - CPT Liquefaction Assessment Software - Report created on: 14/06/2017, 9:26:37 a.m. Project file: C:\Users\andrewi\Desktop\Cliq\Cliq ULS.clq

Estimation of post-earthquake settlements



Abbreviations

qt: Total cone resistance (cone resistance qc corrected for pore water effects)

I_c: Soil Behaviour Type Index

FS: Calculated Factor of Safety against liquefaction

Volumentric strain: Post-liquefaction volumentric strain

CLiq v.1.7.6.49 - CPT Liquefaction Assessment Software - Report created on: 14/06/2017, 9:26:37 a.m. Project file: C:\Users\andrewi\Desktop\Cliq\Cliq ULS.clq

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Kirk Roberts Consulting Engineers Ltd



Level 1, 337 St Asaph Street http://www.kirkroberts.co.nz

LIQUEFACTION ANALYSIS REPORT

Project title: Four Ventures Property Group

Location: 17 Warwick Street, Richmond, Christchurch

CPT file: CPT06 ULS

Peak ground acceleration:

Input parameters and analysis data

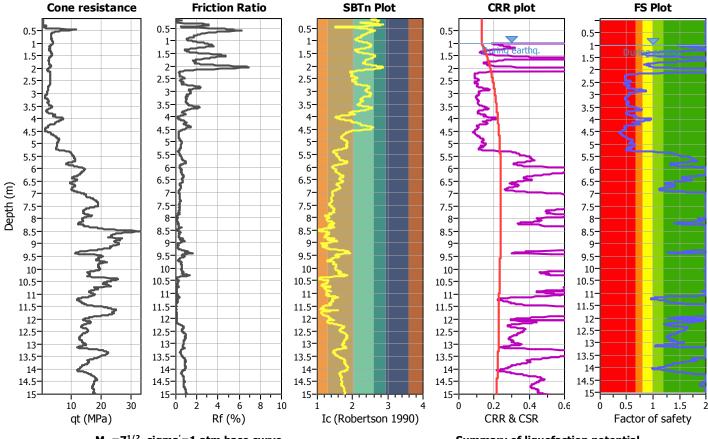
Analysis method: NCEER (1998) Fines correction method: NCEER (1998) Points to test: Earthquake magnitude Mw:

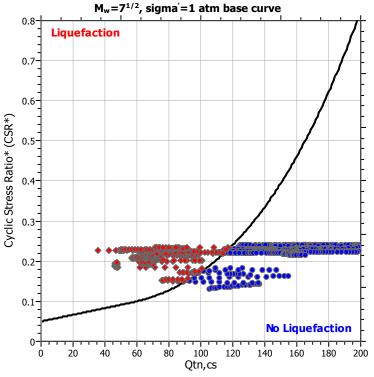
Based on Ic value

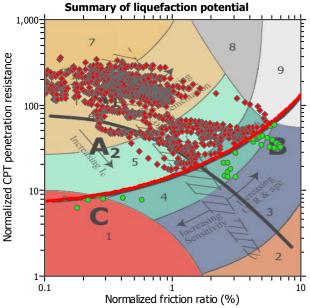
G.W.T. (in-situ): G.W.T. (earthq.): 1.00 m 1.00 m Average results interval: 3 Ic cut-off value: 2.60 Unit weight calculation: Based on SBT Use fill: No Fill height: N/A Fill weight: N/A Trans. detect. applied: No K_{σ} applied:

Clay like behavior applied: Sands only Limit depth applied: No Limit depth: N/A

MSF method: Method based







Zone A₁: Cyclic liquefaction likely depending on size and duration of cyclic loading Zone A2: Cyclic liquefaction and strength loss likely depending on loading and ground

Zone B: Liquefaction and post-earthquake strength loss unlikely, check cyclic softening Zone C: Cyclic liquefaction and strength loss possible depending on soil plasticity. brittleness/sensitivity, strain to peak undrained strength and ground geometry

Peak ground acceleration:

Depth to water table (insitu): 1.00 m

CPT basic interpretation plots Cone resistance **Friction Ratio SBT Plot Soil Behaviour Type** Pore pressure Sensitive fine grained Clay&siltyclay Clay&siltyclay 0.5-0.5 0.5 1-1-Clay&siltyclay 1.5-1.5-Clay&siltyclay 1.5-Siltysand&sandysilt 2-2-2.5-2.5-2.5 2.5-Siltysand&sandysilt 2.5 Clay&siltyclay 3-3-3-3-Siltysand&sandysilt Clay&siltyclay 3.5-3.5-3.5-3.5-3.5-4-Sand & silty sand 4.5-Clay&siltyclay 4.5 4.5-5-5-5.5-5.5 5.5-5.5 6-6-6-6-Sand & silty sand 6.5-6.5-6.5-6.5-Depth (m) Depth (m) Depth (m) 7-7.5-7.5-7.5-7.5-8-8-8-8-Sand & silty sand Sand & silty sand 8.5-8.5-8.5-8.5 Sand & silty sand Sand 9-Sand&siltysand 9.5-9.5-9.5 10-10-10-10-10-Sand & silty sand Sand 10.5-10.5 10.5 Sand 11-11-11-Sand 11-11-11.5-11.5 11.5 11.5-11.5-Sand 12-12-12-12-12-Sand 12.5-12.5-12.5-12.5-12.5-13-13-13-13-13-13.5-13.5 13.5 13.5-13.5-Sand & silty sand 14-14-14-14-14-14.5-14.5 14.5-14.5-14.5 15-15 15 15-10 15 20 25 30 10 500 1,000 1,500 2,000 6 8 10 12 14 16 18 8 0 3 SBT (Robertson et al. 1986) qt (MPa) Rf (%) u (kPa) Ic(SBT) Input parameters and analysis data Analysis method: NCEER (1998) Depth to water table (erthg.): 1.00 m Fill weight: N/A SBT legend Fines correction method: NCEER (1998) Average results interval: Transition detect. applied: No Ic cut-off value: Points to test: Based on Ic value 2.60 K_{σ} applied: Yes 4. Clayey silt to silty 7. Gravely sand to sand 1. Sensitive fine grained Earthquake magnitude M_w: 7.00 Unit weight calculation: Based on SBT Clay like behavior applied: Sands only

CLiq v.1.7.6.49 - CPT Liquefaction Assessment Software - Report created on: 14/06/2017, 9:26:39 a.m. Project file: C:\Users\andrewi\Desktop\Cliq\Cliq ULS.clq

N/A

Use fill:

Fill height:

8. Very stiff sand to

9. Very stiff fine grained

5. Silty sand to sandy silt

6. Clean sand to silty sand

No

N/A

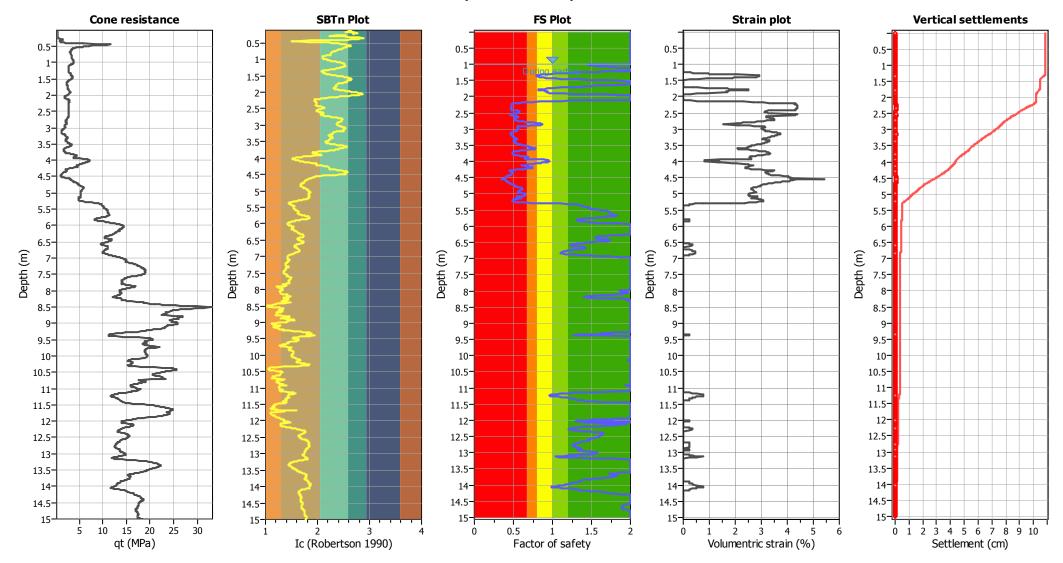
Limit depth applied:

Limit depth:

2. Organic material

3. Clay to silty clay

Estimation of post-earthquake settlements



Abbreviations

qt: Total cone resistance (cone resistance qc corrected for pore water effects)

I_c: Soil Behaviour Type Index

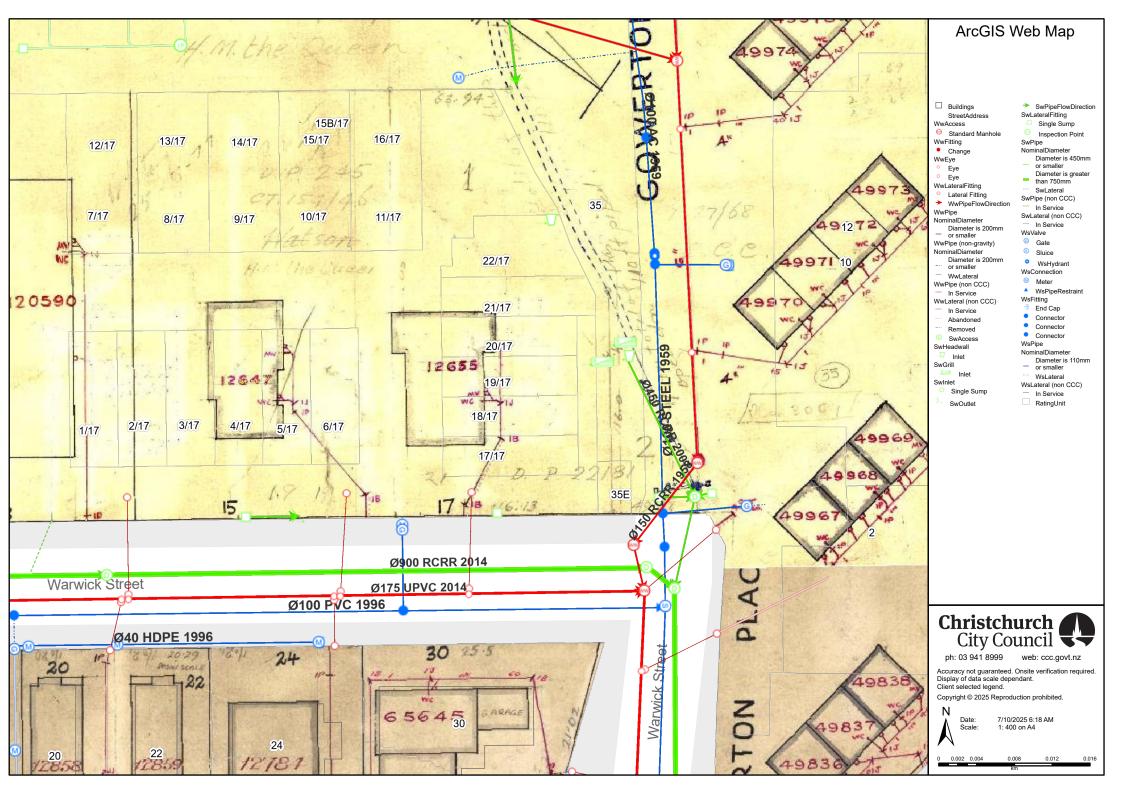
FS: Calculated Factor of Safety against liquefaction

Volumentric strain: Post-liquefaction volumentric strain

 $\hbox{\it CLiq v.} 1.7.6.49 \hbox{\it - CPT Lique faction Assessment Software - Report created on: } 14/06/2017, 9:26:39 \hbox{\it a.m.}$

Project file: C:\Users\andrewj\Desktop\Cliq\Cliq ULS.clq

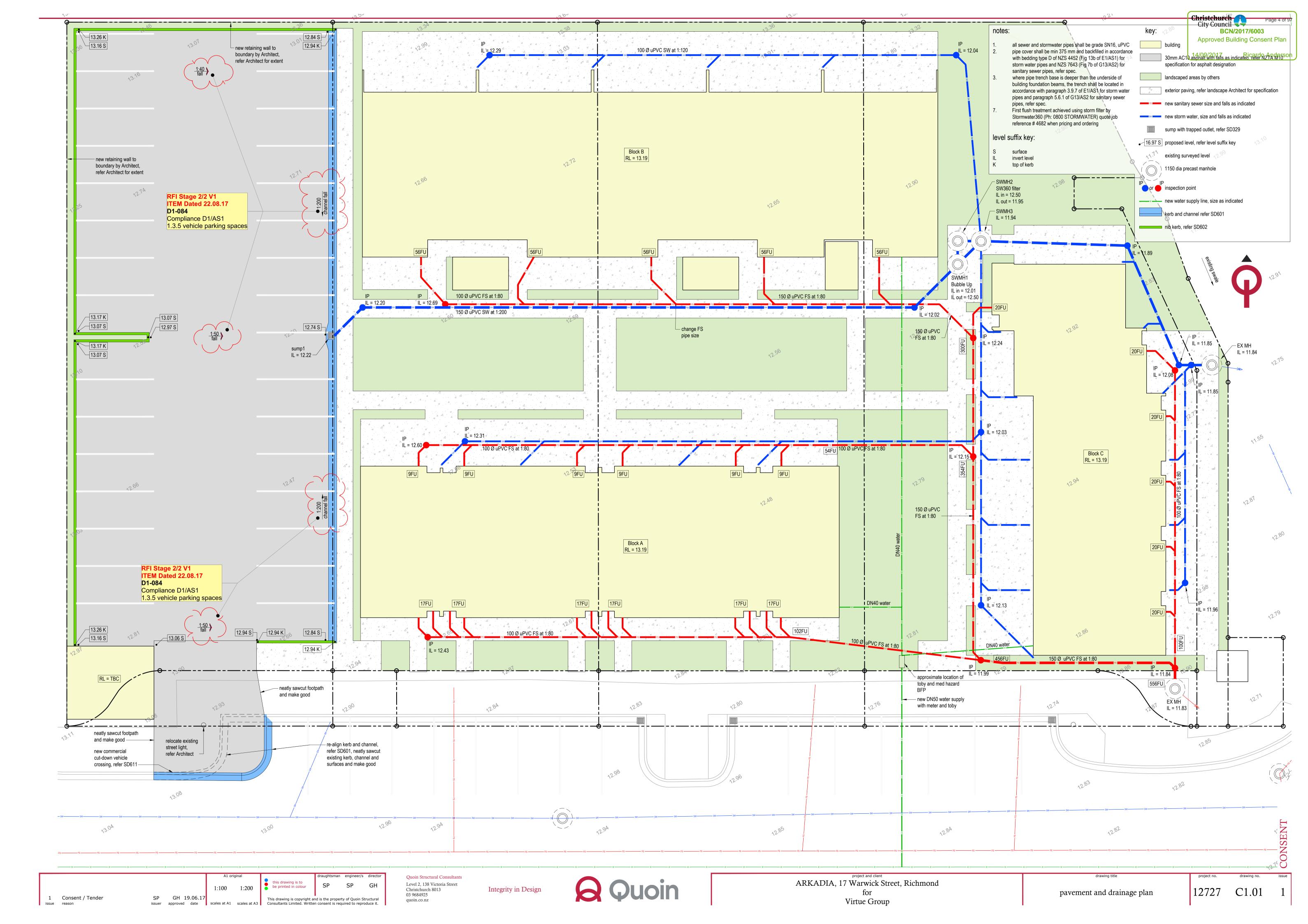
18





Drainlayer/Registration: P. de Burgh reg 16281 Address/BC: 17 War wich St BC 2017) 5077

Existing > Date: 2/5/18 001.1 07 MIS mmagi 2.2 00 14 do co mos mues 1 08-1 201 4.2 MI 1 avisicol 261 TH. 00 mls mes By others MAN 22 20 V Jums mandone





ELECTRICAL CERTIFICATE OF COMPLIANCE AND ELECTRICAL SAFETY CERTIFICATE

	Reference/Certificate ID No: 6233						
	This form has been designed to be used by licensed electrical workers to certify that installations or Part installations under Part 1 or Part 2 of AS/NZS 3000 are safe to be connected to the <u>specified</u> system of electrical supply.						
Location Details:	17 Warwick Street -	17 Warwick Street - Landlord DB					
Contact Details: (Name and address)	Virtue Homes						
Name of Electrical worker:	Andrew Nye Registration/Practising licence number:						
Organisation/company:	Control Electrical						
Phone and email:	021 249 1733 andrew@controlelectrical.co.nz						
Name of person(s) supervised:							
CoC							
Type of work:	✓ Addition	ons 🗌 A	Alterations	✓ New	work	() W 1 0 F 1	
The prescribed electrical	l work is: Low ris	sk 🗌 C	General			Mains Work & Earth	
Reference Standards:		of AS/NZS 30		√ Part	2 of AS/NZS 30	00	
	Additio	onalStandard:	S:				
Description of Work: (in	cluding date/s of work	and type of	supply system	n)			
Install Mains cable 16m Supply 63A MCB at moinside meterbox and ins	eter board. Earth is 7.	.5m of 25mn	n bare copper	buried di	rect along trend	ch. Install MEN point	
I certify that the comple	eted prescribed electi						
I certify that the comple lawfully and safely, and	eted prescribed electi the information in th						
I certify that the comple lawfully and safely, and Select those that apply:	eted prescribed electi the information in th	ne certificate	is correct in		nstallation, or p	art of the installation:	
I certify that the completawfully and safely, and Select those that apply: Has been installed in Has an earthing syst	eted prescribed election the information in the accordance with the semi that is correctly ra	ne certificate specified cert ted (where a	e is correct in a tified design ¹ pplicable)	that the in	Test F		
I certify that the completawfully and safely, and Select those that apply: Has been installed in Has an earthing syst Contains fittings tha	eted prescribed election the information in the accordance with the sem that is correctly rate are safe to connect to	ne certificate specified cert ted (where a o a power su	e is correct in a tified design ¹ pplicable)	Polar (Inde	nstallation, or p Test F	art of the installation:	
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I certify that the completawfully and safety, and Select those that apply: Has been installed in Has an earthing syst Contains fittings tha Relies on a supplier D Relies on a manufact Has been satisfactor	eted prescribed electric the information in the accordance with the sem that is correctly rate are safe to connect to Declaration of Conformaturer's instructions lily tested in accordance	ne certificate specified cert ted (where a to a power su nity ¹	e is correct in a tified design ¹ pplicable)	Polar (Inde	Test Fity pendent earth): ation resistance: Continuity:	Results correct 999Mohms	
I certify that the completawfully and safely, and Select those that apply: Has been installed in Has an earthing syst Contains fittings tha Relies on a supplier D Relies on a manufact Has been satisfactor Electricity (Safety) Re	eted prescribed electric the information in the accordance with the sem that is correctly rate are safe to connect to Declaration of Conformaturer's instructions lily tested in accordance	ne certificate specified cert ted (where a to a power su nity ¹	e is correct in a tified design ¹ pplicable)	Polar (Inde Insula Earth Bond	Test Fity pendent earth): ation resistance: Continuity:	Results correct 999Mohms 0.1 ohms	
I certify that the completawfully and safety, and Select those that apply: Has been installed in Has an earthing syst Contains fittings tha Relies on a supplier D Relies on a manufact Has been satisfactor	accordance with the accordance with the accordance with the accordance with the accordance to connect to be claration of Conformaturer's instructions accordance acco	specified cert ted (where a o a power su nity ¹ te with the	e is correct in a tified design ¹ pplicable)	Polar (Inde Insula Earth Bond Fault	Test Fity pendent earth): ation resistance: Continuity: ing:	Results correct 999Mohms 0.1 ohms	
I certify that the completawfully and safely, and Select those that apply: Has been installed in Has an earthing syst Contains fittings tha Relies on a supplier D Relies on a manufact Has been satisfactor Electricity (Safety) Re Is safe to connect Electronic/Other references	accordance with the accordance with the accordance with the accordance with the accordance to connect to be claration of Conformaturer's instructions accordance acco	specified cert ted (where a o a power su nity ¹ te with the	e is correct in a tified design ¹ pplicable)	Polar (Inde Insula Earth Bond Fault	Test Fity pendent earth): ation resistance: Continuity: ing: Loop impedance	Results correct 999Mohms 0.1 ohms	
I certify that the completawfully and safely, and Select those that apply: Has been installed in Has an earthing syst Contains fittings tha Relies on a supplier D Relies on a manufact Has been satisfactor Electricity (Safety) Re Is safe to connect Electronic/Other references	accordance with the sem that is correctly rate are safe to connect to Declaration of Conformaturer's instructions lily tested in accordance egulations 2010 www.telfers.co. www.telfers.co.	specified cert ted (where allo a power suinity) te with the	e is correct in the c	Polar (Inde Insula Earth Bond Fault Othe Date:	Test Fity pendent earth): ation resistance: Continuity: ing: Loop impedance r (specify): 15/04/2018	correct 999Mohms 0.1 ohms	
I certify that the completawfully and safely, and Select those that apply: Has been installed in Has an earthing syst Contains fittings tha Relies on a supplier D Relies on a manufact Has been satisfactor Electricity (Safety) R Is safe to connect Electronic/Other reference Certifier's signature: 1 Attach or reference. If it is im	accordance with the sem that is correctly rate are safe to connect to Declaration of Conformaturer's instructions lily tested in accordance egulations 2010 www.telfers.co. www.telfers.co.	specified cert ted (where allo a power suinity) te with the	e is correct in the c	Polar (Inde Insula Earth Bond Fault Othe Date:	Test Fity pendent earth): ation resistance: Continuity: ing: Loop impedance r (specify): 15/04/2018	correct 999Mohms 0.1 ohms	
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I certify that the completawfully and safely, and Select those that apply: Has been installed in Graph Contains fittings that Graph Relies on a supplier Draw Relies on a manufact Graph Relies on a supplier Draw Relies on a manufact Graph Relies on a manufact Graph Relies on a manufact Graph Relies on a supplier Draw Relies on a manufact Graph	accordance with the sem that is correctly rate are safe to connect to be claration of Conformaturer's instructions silv tested in accordance agulations 2010 www.telfers.co. www.telfers.co. action, or part of the interest of the interes	specified certited (where a o a power sunity) te with the nz of a particular mean be found, in	e is correct in the c	Polar (Inde Insula Earth Bond Fault Othe Date: Date: Compared the properties of th	Test Fity pendent earth): ation resistance: Continuity: ing: Loop impedance r (specify): 15/04/2018 of any certified design electronic means. afety Certificat	Results correct 999Mohms 0.1 ohms 0.1 ohms	

This certificate also confirms that the electrical work complies with the building code for the purposes of Section 19(1)(e) of the Building Act 2004.

VER 04/06/14



ELECTRICAL CERTIFICATE OF COMPLIANCE AND ELECTRICAL SAFETY CERTIFICATE

	Reference/Certificate ID No: 6204						
	This form has been designed to be used by licensed electrical workers to certify that installations or Part installations under Part 1 or Part 2 of AS/NZS 3000 are safe to be connected to the <u>specified</u> system of electrical supply.						
Location Details:	17 Warwick Street - Unit 5						
Contact Details: (Name and address)	Virtue Homes						
Name of Electrical worker:	Andrew Nye Registration/Practising licence number:						
Organisation/company:							
Phone and email:	021 249 1733 andrew@controlelectrical.co.nz						
Name of person(s) supervised:							
CoC							
Type of work:	✓ Additions	Alterations 	New work				
The prescribed electrica	l work is: Low risk		High risk (Specify):				
Reference Standards:	Part 1 of AS/NZS 30		Part 2 of AS/NZS 30	00			
	Additional Standard	S:					
Description of Work: (in	cluding date/s of work and type of	supply system)					
Supply 63A MCB at me wire for meterbox. Inter	nm N/S cable buried direct from Seter board. Earth is 7.5m of 25mm mal mains from meterbox to MEI	n bare copper bu N Switch Board	ried direct along trend				
	of HWC. Provide & Install MEN eted prescribed electrical work to		ficate of Compliance	applies has been done			
I certify that the comple	eted prescribed electrical work to the information in the certificate	which this Certi					
I certify that the comple lawfully and safely, and Select those that apply:	eted prescribed electrical work to the information in the certificate	which this Certi	t the installation, or p	art of the installation:			
I certify that the completawfully and safely, and Select those that apply: Has been installed in Has an earthing system	eted prescribed electrical work to the information in the certificate accordance with the specified cert em that is correctly rated (where a	which this Certies is correct in that tified design ¹ pplicable)	t the installation, or p Test F Polarity				
I certify that the comple lawfully and safely, and Select those that apply: Has been installed in Has an earthing syste Contains fittings that	eted prescribed electrical work to the information in the certificate accordance with the specified cert em that is correctly rated (where a t are safe to connect to a power su	which this Certies is correct in that tified design ¹ pplicable)	t the installation, or p	Results correct			
I certify that the comple lawfully and safely, and Select those that apply: Has been installed in Has an earthing syste Contains fittings that Relies on a supplier D	eted prescribed electrical work to the information in the certificate accordance with the specified cert em that is correctly rated (where a t are safe to connect to a power su Declaration of Conformity ¹	which this Certies is correct in that tified design ¹ pplicable)	Test F Polarity (Independent earth):	art of the installation:			
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I certify that the completawfully and safely, and Select those that apply: Has been installed in Has an earthing system Contains fittings that Relies on a supplier Deletic Relies on a manufact Has been satisfactoric Electricity (Safety) Relies to connect Electronic/Other references Certifier's signature:	eted prescribed electrical work to the information in the certificate accordance with the specified cert em that is correctly rated (where a t are safe to connect to a power su Declaration of Conformity ¹ curer's instructions ¹ illy tested in accordance with the egulations 2010	which this Certies is correct in that tified design ¹ pplicable)	Test F Polarity (Independent earth): Insulation resistance: Earth Continuity: Bonding: Fault Loop impedance	Results correct 999Mohms 0.1 ohms			
I certify that the completawfully and safely, and Select those that apply: Has been installed in Has an earthing syste Contains fittings that Relies on a supplier D Relies on a manufact Has been satisfactoric Electricity (Safety) Re Is safe to connect Electronic/Other reference Certifier's signature: Attach or reference. If it is im	eted prescribed electrical work to the information in the certificate accordance with the specified cert em that is correctly rated (where a transfer action of conformity) curer's instructions illy tested in accordance with the egulations 2010	which this Certice is correct in that tified design ¹ pplicable) pply	Test F Polarity (Independent earth): Insulation resistance: Earth Continuity: Bonding: Fault Loop impedance Other (specify): Date: 15/04/2018 tions, or of any certified desi	correct 999Mohms 0.1 ohms			
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I certify that the completawfully and safely, and Select those that apply: Has been installed in Has an earthing syste Contains fittings that Relies on a supplier D Relies on a manufact Has been satisfactoric Electricity (Safety) Re Is safe to connect Electronic/Other reference Certifier's signature: 1 Attach or reference. If it is im conformity, provide a reference ESC	eted prescribed electrical work to the information in the certificate accordance with the specified cert em that is correctly rated (where at are safe to connect to a power supeclaration of Conformity curer's instructions illy tested in accordance with the egulations 2010 www.telfers.co.nz www.telfers.co.nz addrew Nye approximate to attach a copy of a particular meter to where the documents can be found, in the entition, or part of the installation, to	e is correct in that tified design ¹ pplicable) pply	Test F Polarity (Independent earth): Insulation resistance: Earth Continuity: Bonding: Fault Loop impedance Other (specify): Date: 15/04/2018 tions, or of any certified designment, by electronic means.	Results correct 999Mohms 0.1 ohms 0.1 ohms			
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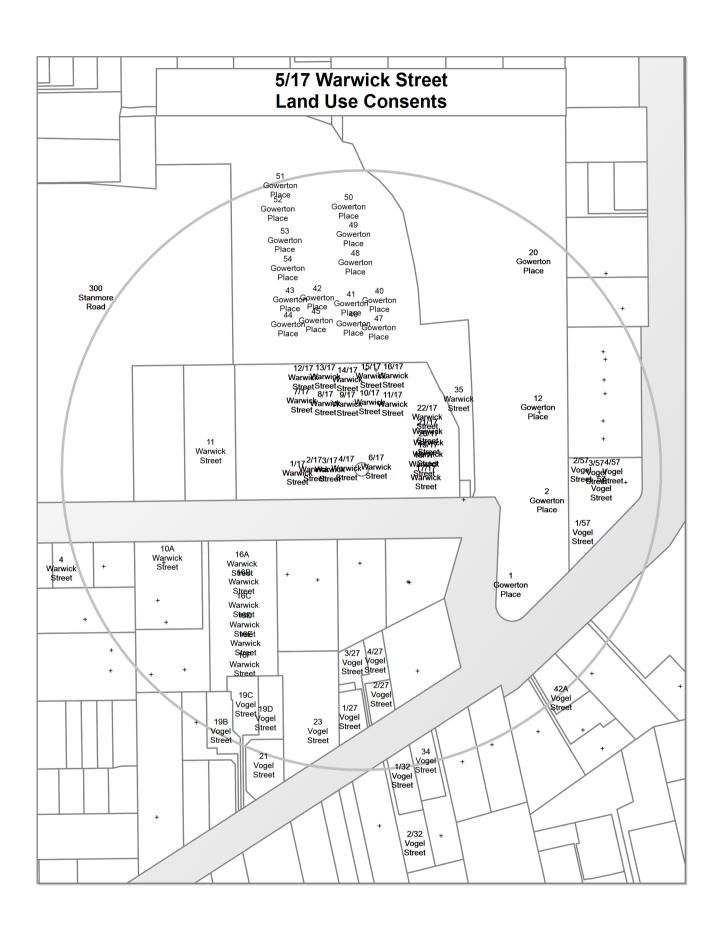
This certificate also confirms that the electrical work complies with the building code for the purposes of Section 19(1)(e) of the Building Act 2004.

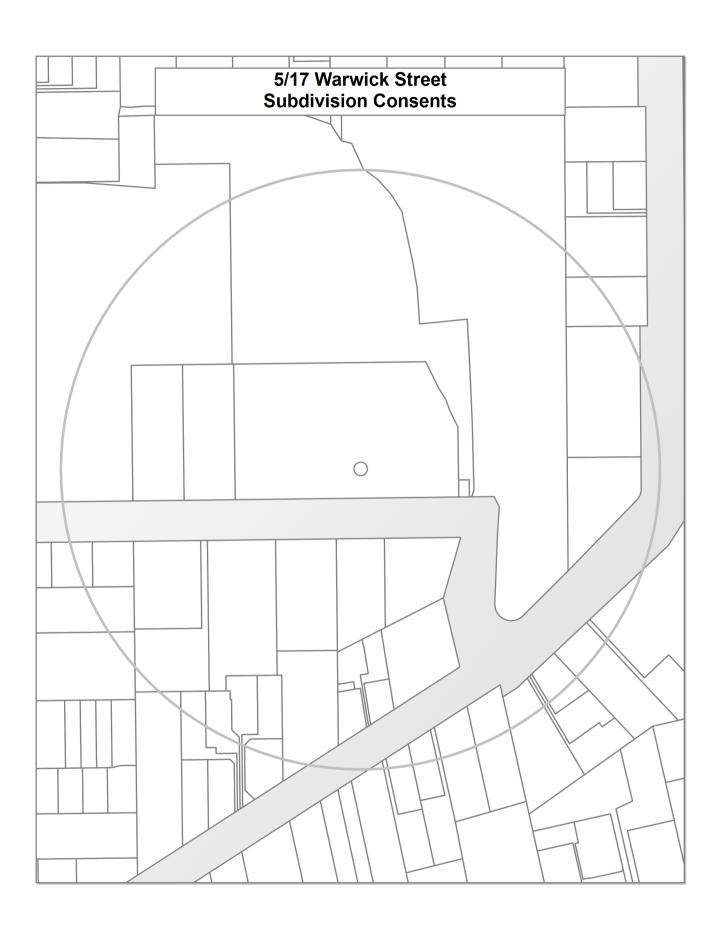


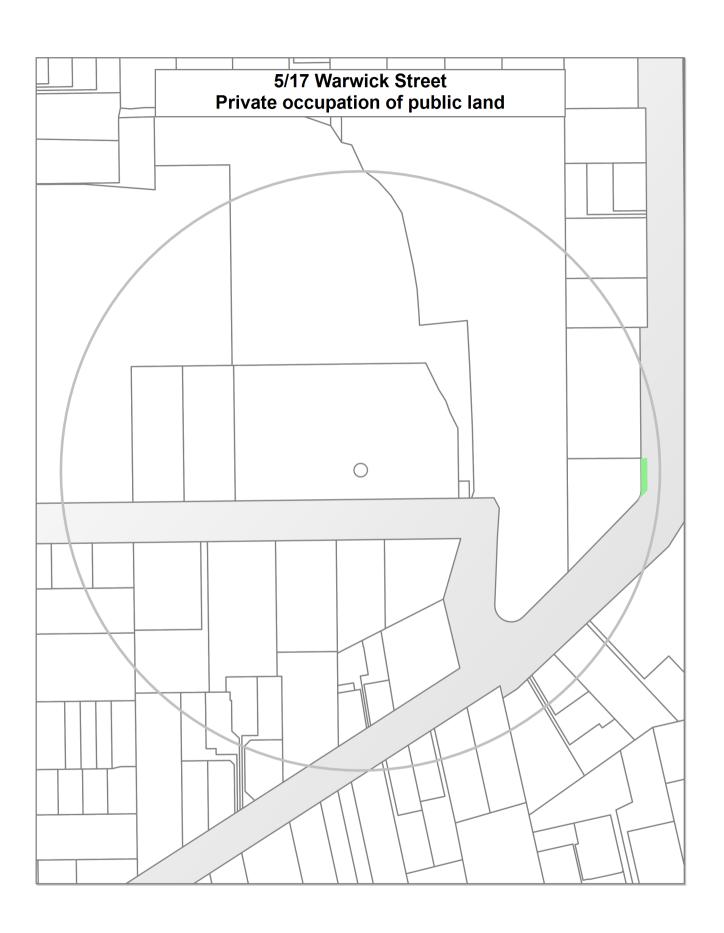
ELECTRICAL CERTIFICATE OF COMPLIANCE AND ELECTRICAL SAFETY CERTIFICATE

	Reference/Certificate ID No: 6204ss						
	This form has been designed to be used by licensed electrical workers to certify that installations or Part installations under Part 1 or Part 2 of AS/NZS 3000 are safe to be connected to the <u>specified</u> system of electrical supply.						
Location Details:	17 Warwick Street - Unit 5						
Contact Details: (Name and address)	Virtue Homes						
Name of Electrical worker:	Andrew Nye Registration/Practising licence number:						
Organisation/company:	Control Electrical						
Phone and email:	021 249 1733 andrew@controlelectrical.co.nz						
Name of person(s) supervised:							
СоС							
Type of work:	Additions A	terations 	New work				
The prescribed electrica	l work is: ☐ Low risk	eneral	High risk (Specify):				
Reference Standards:	Part 1 of AS/NZS 30	00	Part 2 of AS/NZS 30	000			
	Additional Standards	:					
Description of Work: (in	cluding date/s of work and type of s	supply system)					
Electrical Installation of	all cabling and hardware as per	plans. 18x down	lights & 1 x outside	lights & associated			
switching. 17x power po	oints,1x Hob, 1x Oven, 1x HWC	inc isolation.1x	MEN sw/bd - main s	w, non-rcd hob			
	WC (16A - ripple) 3xRCDs with (6A) 1x Rangehood. 3x bathroom		luding /x GPO pow	er subcircuits (16A)			
	(*)						
	eted prescribed electrical work to						
-	the information in the certificate	is correct in that	the installation, or p	part of the installation:			
Select those that apply:	accordance with the specified certi	fied design ¹	Test	Results			
	em that is correctly rated (where ap	•	Polarity				
=	are safe to connect to a power sup		(Independent earth):	correct			
	eclaration of Conformity ¹		Insulation resistance:	999Mohms			
Relies on a manufact			Earth Continuity:	0.1 ohms			
Electricity (Safety) Re	ly tested in accordance with the egulations 2010		Bonding:	0.1 ohms			
✓ Is safe to connect			Fault Loop impedance				
Electronic/Other referen	www.telfers.co.nz		Other (specify):	RCD 9mS			
Certifier's signature: Ar	ndrew Nye		Date: 08/06/2018				
	practical to attach a copy of a particular ma		=				
5	e to where the documents can be found, in a	a readily accessible fo	rmat, by electronic means				
ESC	Alon on one of the to the O	udajak akti et i	minal Cafety C - CC	to cooling to see			
I certify that the installation, or part of the installation, to which this Electrical Safety Certificate applies is connected to a power supply and is safe to use.							
Certifier's name: Andrew Nye			ation/Practising E2	50915			
Certifier's signature: Andrew Nye	Certificate 00/0	6/2018	Connection	06/2018			

CUSTOMER COPY – THIS IS AN IMPORTANT DOCUMENT AND SHOULD BE RETAINED FOR A MINIMUM OF 7 YEARS







Land Use Resource Consents within 100 metres of 5/17 Warwick Street

Note: This list does not include subdivision Consents and Certificates of Compliance issued under the Resource Management Act.

1 Gowerton Place

RMA/2006/1587

To establish a housing complex comprising of 20 residential units - Historical Reference RMA92005649

Processing complete

Applied 05/07/2006

Decision issued 14/08/2006

Granted 14/08/2006

RMA/2019/2256

Request for Certification under Section 241 - Disposal of Land (being Lot 1 on Attached Plan) to Otautahi Community Housing Trust

Processing complete

Applied 02/10/2019

Certificate issued 08/10/2019

RMA/2020/2632

Construct 37 social housing units with associated landscape, parking and manoeuvring areas.

Processing complete

Applied 16/11/2020

Decision issued 19/02/2021

Granted 19/02/2021

RMA/2022/1644

Unit title subdivision - six units

Processing complete

Applied 20/05/2022

Conditions changed/cancelled - s127 18/10/2023

s223 Certificate issued 24/01/2024

s224 Certificate issued 24/01/2024

Decision issued 10/08/2022

Granted 10/08/2022

1/17 Warwick Street

RMA/1999/5988

To establish a pre-school. Resource Consent 991985 - Historical Reference RMA997

Processing complete

Applied 07/07/1999

Decision issued 21/12/1999

Granted 21/12/1999

RMA/2003/1428

30 residential units with underground parking with various non compliances - Historical Reference RMA20013722

Processing complete

Applied 03/06/2003

Decision issued 17/07/2003

Granted 17/07/2003

RMA/2016/2881

32 residential units

Processing complete

Applied 12/10/2016

Decision issued 23/05/2017

Granted 22/05/2017

RMA/2017/3186

Unit Title Subdivision - 22 units

Processing complete

Applied 19/12/2017

s223 Certificate issued 13/06/2018

s224 Certificate issued 13/06/2018

Decision issued 20/02/2018

Granted 19/02/2018

RMA/2018/986

Partial Surrender of Easement - subdivision consent RMA/2017/3186

Processing complete

Applied 20/04/2018

Certificate issued 22/05/2018

1/27 Vogel Street

RMA/2022/2079

Construction of a four residential units

Processing complete

Applied 27/06/2022

Conditions changed/cancelled - s127 02/10/2023

Decision issued 25/01/2023

Granted 24/01/2023

1/32 Vogel Street

RMA/2020/1456

Construct 2 residential units with associated car parking and earthworks

Processing complete

Applied 14/07/2020

Decision issued 03/08/2020

Granted 31/07/2020

Within scope amendment accepted 23/10/2020

Within scope amendment decision issued 23/10/2020

RMA/2020/2093

Subdivision - Fee simple - Two lots with Land Use

Processing complete

Applied 21/09/2020

s223 Certificate issued 16/03/2021

s224 Certificate issued 16/03/2021

Decision issued 04/12/2020

Granted 04/12/2020

1/57 Vogel Street

RMA/2007/1625

3 residential units with road setback encroachments for units 1 & 2, garage door setbacks, internal boundary setbacks and reduced out out door living space. - Historical Reference RMA92008902

Processing complete

Applied 27/06/2007

Decision issued 19/09/2007

RMA/2010/1248

Erect three detached two-storey townhouses each with an attached double garage - Historical Reference RMA92016829

Processing complete

Applied 17/08/2010

Decision issued 11/01/2011

Granted 11/01/2011

RMA/2015/3366

Extend lapse date of RMA92016829 Expires 11th January 2016 - Historical Reference RMA92031769

Processing complete

Applied 04/12/2015

Decision issued 10/08/2016

Granted 10/08/2016

RMA/2021/4042

To construct and establish four x two storey residential dwellings

Processing complete

Applied 01/12/2021

Decision issued 04/03/2022

Granted 03/03/2022

RMA/2025/1605

To establish a five-unit development

Processing complete

Applied 27/05/2025

Decision issued 07/07/2025

Granted 07/07/2025

10/17 Warwick Street

RMA/1999/5988

To establish a pre-school. Resource Consent 991985 - Historical Reference RMA997

Processing complete

Applied 07/07/1999

Decision issued 21/12/1999

Granted 21/12/1999

RMA/2003/1428

30 residential units with underground parking with various non compliances - Historical Reference RMA20013722

Processing complete

Applied 03/06/2003

Decision issued 17/07/2003

Granted 17/07/2003

RMA/2016/2881

32 residential units

Processing complete

Applied 12/10/2016

Decision issued 23/05/2017

Granted 22/05/2017

RMA/2017/3186

Unit Title Subdivision - 22 units

Processing complete

Applied 19/12/2017

Granted 19/02/2018

s223 Certificate issued 13/06/2018

s224 Certificate issued 13/06/2018

Decision issued 20/02/2018

RMA/2018/986

Partial Surrender of Easement - subdivision consent RMA/2017/3186

Processing complete

Applied 20/04/2018

Certificate issued 22/05/2018

10A Warwick Street

RMA/2006/1253

Erect four three-storey residential units with attached garages with various non compliances - Historical Reference RMA92005303

Processing complete

Applied 02/06/2006

Decision issued 29/06/2006

Granted 28/06/2006

11 Warwick Street

RMA/1988/931

Reduced carparking from 20 to 6 spaces reduced side yard ffor Place of assembly from 9m to nil - Historical Reference RES955691

Processing complete

Applied 11/01/1988

Decision issued 20/01/1988

Granted 20/01/1988

11/17 Warwick Street

RMA/1999/5988

To establish a pre-school. Resource Consent 991985 - Historical Reference RMA997

Processing complete

Applied 07/07/1999

Decision issued 21/12/1999

Granted 21/12/1999

RMA/2003/1428

30 residential units with underground parking with various non compliances - Historical Reference RMA20013722

Processing complete

Applied 03/06/2003

Decision issued 17/07/2003

Granted 17/07/2003

RMA/2016/2881

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Granted 22/05/2017

RMA/2017/3186

Unit Title Subdivision - 22 units

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s223 Certificate issued 13/06/2018

s224 Certificate issued 13/06/2018

Decision issued 20/02/2018

Granted 19/02/2018

RMA/2018/986

Partial Surrender of Easement - subdivision consent RMA/2017/3186

Processing complete

Applied 20/04/2018

Certificate issued 22/05/2018

12 Gowerton Place

RMA/2006/1587

To establish a housing complex comprising of 20 residential units - Historical Reference RMA92005649

Processing complete

Applied 05/07/2006

Decision issued 14/08/2006

Granted 14/08/2006

RMA/2019/2256

Request for Certification under Section 241 - Disposal of Land (being Lot 1 on Attached Plan) to Otautahi Community Housing Trust

Processing complete

Applied 02/10/2019

Certificate issued 08/10/2019

RMA/2020/2632

Construct 37 social housing units with associated landscape, parking and manoeuvring areas.

Processing complete

Applied 16/11/2020

Decision issued 19/02/2021

Granted 19/02/2021

RMA/2022/1644

Unit title subdivision - six units

Processing complete

Applied 20/05/2022

Conditions changed/cancelled - s127 18/10/2023

s223 Certificate issued 24/01/2024

s224 Certificate issued 24/01/2024

Decision issued 10/08/2022

Granted 10/08/2022

12/17 Warwick Street

RMA/1999/5988

To establish a pre-school. Resource Consent 991985 - Historical Reference RMA997

Processing complete

Applied 07/07/1999

Decision issued 21/12/1999

Granted 21/12/1999

RMA/2003/1428

30 residential units with underground parking with various non compliances - Historical Reference RMA20013722

Processing complete

Applied 03/06/2003

Decision issued 17/07/2003

Granted 17/07/2003

RMA/2016/2881

32 residential units

Processing complete

Applied 12/10/2016

Decision issued 23/05/2017

Granted 22/05/2017

RMA/2017/3186

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Processing complete

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s224 Certificate issued 13/06/2018

Decision issued 20/02/2018

Partial Surrender of Easement - subdivision consent RMA/2017/3186

Processing complete

Applied 20/04/2018

Certificate issued 22/05/2018

13/17 Warwick Street

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To establish a pre-school. Resource Consent 991985 - Historical Reference RMA997

Processing complete

Applied 07/07/1999

Decision issued 21/12/1999

Granted 21/12/1999

RMA/2003/1428

30 residential units with underground parking with various non compliances - Historical Reference RMA20013722

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RMA/2017/3186

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Processing complete

Applied 19/12/2017

s223 Certificate issued 13/06/2018

s224 Certificate issued 13/06/2018

Decision issued 20/02/2018

Partial Surrender of Easement - subdivision consent RMA/2017/3186

Processing complete

Applied 20/04/2018

Certificate issued 22/05/2018

14/17 Warwick Street

RMA/1999/5988

To establish a pre-school. Resource Consent 991985 - Historical Reference RMA997

Processing complete

Applied 07/07/1999

Decision issued 21/12/1999

Granted 21/12/1999

RMA/2003/1428

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Decision issued 20/02/2018

Partial Surrender of Easement - subdivision consent RMA/2017/3186

Processing complete

Applied 20/04/2018

Certificate issued 22/05/2018

15/17 Warwick Street

RMA/1999/5988

To establish a pre-school. Resource Consent 991985 - Historical Reference RMA997

Processing complete

Applied 07/07/1999

Decision issued 21/12/1999

Granted 21/12/1999

RMA/2003/1428

30 residential units with underground parking with various non compliances - Historical Reference RMA20013722

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RMA/2017/3186

Unit Title Subdivision - 22 units

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Applied 19/12/2017

s223 Certificate issued 13/06/2018

s224 Certificate issued 13/06/2018

Decision issued 20/02/2018

Partial Surrender of Easement - subdivision consent RMA/2017/3186

Processing complete

Applied 20/04/2018

Certificate issued 22/05/2018

16/17 Warwick Street

RMA/1999/5988

To establish a pre-school. Resource Consent 991985 - Historical Reference RMA997

Processing complete

Applied 07/07/1999

Decision issued 21/12/1999

Granted 21/12/1999

RMA/2003/1428

30 residential units with underground parking with various non compliances - Historical Reference RMA20013722

Processing complete

Applied 03/06/2003

Decision issued 17/07/2003

Granted 17/07/2003

RMA/2016/2881

32 residential units

Processing complete

Applied 12/10/2016

Decision issued 23/05/2017

Granted 22/05/2017

RMA/2017/3186

Unit Title Subdivision - 22 units

Processing complete

Applied 19/12/2017

Granted 19/02/2018

s223 Certificate issued 13/06/2018

s224 Certificate issued 13/06/2018

Decision issued 20/02/2018

Partial Surrender of Easement - subdivision consent RMA/2017/3186

Processing complete

Applied 20/04/2018

Certificate issued 22/05/2018

16A Warwick Street

RMA/2004/1633

Six residential units with attached garages with various non compliances. - Historical Reference RMA20017250

Processing complete

Applied 28/06/2004

Decision issued 23/08/2004

Granted 20/08/2004

16B Warwick Street

RMA/2004/1633

Six residential units with attached garages with various non compliances. - Historical Reference RMA20017250

Processing complete

Applied 28/06/2004

Decision issued 23/08/2004

Granted 20/08/2004

16C Warwick Street

RMA/2004/1633

Six residential units with attached garages with various non compliances. - Historical Reference RMA20017250

Processing complete

Applied 28/06/2004

Decision issued 23/08/2004

Granted 20/08/2004

16D Warwick Street

RMA/2004/1633

Six residential units with attached garages with various non compliances. - Historical Reference RMA20017250

Processing complete

Applied 28/06/2004

Decision issued 23/08/2004

Granted 20/08/2004

16E Warwick Street

RMA/2004/1633

Six residential units with attached garages with various non compliances. - Historical Reference RMA20017250

Processing complete

Applied 28/06/2004

Decision issued 23/08/2004

Granted 20/08/2004

16F Warwick Street

RMA/2004/1633

Six residential units with attached garages with various non compliances. - Historical Reference RMA20017250

Processing complete

Applied 28/06/2004

Decision issued 23/08/2004

Granted 20/08/2004

17/17 Warwick Street

RMA/1999/5988

To establish a pre-school. Resource Consent 991985 - Historical Reference RMA997

Processing complete

Applied 07/07/1999

Decision issued 21/12/1999

Granted 21/12/1999

RMA/2003/1428

30 residential units with underground parking with various non compliances - Historical Reference RMA20013722

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RMA/2017/3186

Unit Title Subdivision - 22 units

Processing complete

Applied 19/12/2017

s223 Certificate issued 13/06/2018

s224 Certificate issued 13/06/2018

Decision issued 20/02/2018

Granted 19/02/2018

RMA/2018/986

Partial Surrender of Easement - subdivision consent RMA/2017/3186

Processing complete

Applied 20/04/2018

Certificate issued 22/05/2018

18/17 Warwick Street

RMA/1999/5988

To establish a pre-school. Resource Consent 991985 - Historical Reference RMA997

Processing complete

Applied 07/07/1999

Granted 21/12/1999

Decision issued 21/12/1999

RMA/2003/1428

30 residential units with underground parking with various non compliances - Historical Reference RMA20013722

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Decision issued 17/07/2003

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s223 Certificate issued 13/06/2018

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Decision issued 20/02/2018

Granted 19/02/2018

RMA/2018/986

Partial Surrender of Easement - subdivision consent RMA/2017/3186

Processing complete

Applied 20/04/2018

Certificate issued 22/05/2018

19/17 Warwick Street

RMA/1999/5988

To establish a pre-school. Resource Consent 991985 - Historical Reference RMA997

Processing complete

Applied 07/07/1999

Decision issued 21/12/1999

Granted 21/12/1999

RMA/2003/1428

30 residential units with underground parking with various non compliances - Historical Reference RMA20013722

Processing complete

Applied 03/06/2003

Decision issued 17/07/2003

Granted 17/07/2003

RMA/2016/2881

32 residential units

Processing complete

Applied 12/10/2016

Decision issued 23/05/2017

Granted 22/05/2017

RMA/2017/3186

Unit Title Subdivision - 22 units

Processing complete

Applied 19/12/2017

s223 Certificate issued 13/06/2018

s224 Certificate issued 13/06/2018

Decision issued 20/02/2018

Granted 19/02/2018

RMA/2018/986

Partial Surrender of Easement - subdivision consent RMA/2017/3186

Processing complete

Applied 20/04/2018

Certificate issued 22/05/2018

19B Vogel Street

RMA/2015/2521

Seven new residential units with associated car parking, access and landscaped areas - Historical Reference RMA92030856

Processing complete

Applied 10/09/2015

Decision issued 25/11/2015

Granted 25/11/2015

19C Vogel Street

RMA/2015/2521

Seven new residential units with associated car parking, access and landscaped areas - Historical Reference RMA92030856

Processing complete

Applied 10/09/2015

Decision issued 25/11/2015

Granted 25/11/2015

19D Vogel Street

RMA/2015/2521

Seven new residential units with associated car parking, access and landscaped areas - Historical Reference RMA92030856

Processing complete

Applied 10/09/2015

Decision issued 25/11/2015

Granted 25/11/2015

2 Gowerton Place

RMA/2006/1587

To establish a housing complex comprising of 20 residential units - Historical Reference RMA92005649

Processing complete

Applied 05/07/2006

Decision issued 14/08/2006

Granted 14/08/2006

RMA/2019/2256

Request for Certification under Section 241 - Disposal of Land (being Lot 1 on Attached Plan) to Otautahi Community Housing Trust

Processing complete

Applied 02/10/2019

Certificate issued 08/10/2019

RMA/2020/2632

Construct 37 social housing units with associated landscape, parking and manoeuvring areas.

Processing complete

Applied 16/11/2020

Decision issued 19/02/2021

Granted 19/02/2021

RMA/2022/1644

Unit title subdivision - six units

Processing complete

Applied 20/05/2022

Conditions changed/cancelled - s127 18/10/2023

s223 Certificate issued 24/01/2024

s224 Certificate issued 24/01/2024

Decision issued 10/08/2022

Granted 10/08/2022

2/17 Warwick Street

RMA/1999/5988

To establish a pre-school. Resource Consent 991985 - Historical Reference RMA997

Processing complete

Applied 07/07/1999

Decision issued 21/12/1999

Granted 21/12/1999

RMA/2003/1428

30 residential units with underground parking with various non compliances - Historical Reference RMA20013722

Processing complete

Applied 03/06/2003

Decision issued 17/07/2003

Granted 17/07/2003

RMA/2016/2881

32 residential units

Processing complete

Applied 12/10/2016

Decision issued 23/05/2017

Granted 22/05/2017

RMA/2017/3186

Unit Title Subdivision - 22 units

Processing complete

Applied 19/12/2017

s223 Certificate issued 13/06/2018

s224 Certificate issued 13/06/2018

Decision issued 20/02/2018

Granted 19/02/2018

RMA/2018/986

Partial Surrender of Easement - subdivision consent RMA/2017/3186

Processing complete

Applied 20/04/2018

Certificate issued 22/05/2018

2/27 Vogel Street

RMA/2022/2079

Construction of a four residential units

Processing complete

Applied 27/06/2022

Conditions changed/cancelled - s127 02/10/2023

Decision issued 25/01/2023

Granted 24/01/2023

2/32 Vogel Street

RMA/2020/1456

Construct 2 residential units with associated car parking and earthworks

Processing complete

Applied 14/07/2020

Decision issued 03/08/2020

Granted 31/07/2020

Within scope amendment accepted 23/10/2020

Within scope amendment decision issued 23/10/2020

RMA/2020/2093

Subdivision - Fee simple - Two lots with Land Use

Processing complete

Applied 21/09/2020

s223 Certificate issued 16/03/2021

s224 Certificate issued 16/03/2021

Decision issued 04/12/2020

Granted 04/12/2020

2/57 Vogel Street

RMA/2007/1625

3 residential units with road setback encroachments for units $1\ \&\ 2$, garage door setbacks, internal boundary setbacks and reduced out out door living space. - Historical Reference RMA92008902

Processing complete

Applied 27/06/2007

Decision issued 19/09/2007

Granted 19/09/2007

RMA/2010/1248

Erect three detached two-storey townhouses each with an attached double garage - Historical Reference RMA92016829

Processing complete

Applied 17/08/2010

Decision issued 11/01/2011

Granted 11/01/2011

RMA/2015/3366

Extend lapse date of RMA92016829 Expires 11th January 2016 - Historical Reference RMA92031769

Processing complete

Applied 04/12/2015

Decision issued 10/08/2016

Granted 10/08/2016

RMA/2021/4042

To construct and establish four x two storey residential dwellings

Processing complete

Applied 01/12/2021

Decision issued 04/03/2022

Granted 03/03/2022

RMA/2025/1605

To establish a five-unit development

Processing complete

Applied 27/05/2025

Decision issued 07/07/2025

Granted 07/07/2025

20 Gowerton Place

RMA/2006/1587

To establish a housing complex comprising of 20 residential units - Historical Reference RMA92005649

Processing complete

Applied 05/07/2006

Decision issued 14/08/2006

Granted 14/08/2006

RMA/2019/2256

Request for Certification under Section 241 - Disposal of Land (being Lot 1 on Attached Plan) to Otautahi Community Housing Trust

Processing complete

Applied 02/10/2019

Certificate issued 08/10/2019

RMA/2020/2632

Construct 37 social housing units with associated landscape, parking and manoeuvring areas.

Processing complete

Applied 16/11/2020

Decision issued 19/02/2021

Granted 19/02/2021

RMA/2022/1644

Unit title subdivision - six units

Processing complete

Applied 20/05/2022

Conditions changed/cancelled - s127 18/10/2023

s223 Certificate issued 24/01/2024

s224 Certificate issued 24/01/2024

Decision issued 10/08/2022

Granted 10/08/2022

20/17 Warwick Street

RMA/1999/5988

To establish a pre-school. Resource Consent 991985 - Historical Reference RMA997

Processing complete

Applied 07/07/1999

Decision issued 21/12/1999

Granted 21/12/1999

RMA/2003/1428

30 residential units with underground parking with various non compliances - Historical Reference RMA20013722

Processing complete

Applied 03/06/2003

Decision issued 17/07/2003

Granted 17/07/2003

RMA/2016/2881

32 residential units

Processing complete

Applied 12/10/2016

Decision issued 23/05/2017

Granted 22/05/2017

RMA/2017/3186

Unit Title Subdivision - 22 units

Processing complete

Applied 19/12/2017

s223 Certificate issued 13/06/2018

s224 Certificate issued 13/06/2018

Decision issued 20/02/2018

Granted 19/02/2018

RMA/2018/986

Partial Surrender of Easement - subdivision consent RMA/2017/3186

Processing complete

Applied 20/04/2018

Certificate issued 22/05/2018

21 Vogel Street

RMA/2015/2521

Seven new residential units with associated car parking, access and landscaped areas - Historical Reference RMA92030856

Processing complete

Applied 10/09/2015

Decision issued 25/11/2015

Granted 25/11/2015

21/17 Warwick Street

RMA/1999/5988

To establish a pre-school. Resource Consent 991985 - Historical Reference RMA997

Processing complete

Applied 07/07/1999

Decision issued 21/12/1999

Granted 21/12/1999

RMA/2003/1428

30 residential units with underground parking with various non compliances - Historical Reference RMA20013722

Processing complete

Applied 03/06/2003

Decision issued 17/07/2003

Granted 17/07/2003

RMA/2016/2881

32 residential units

Processing complete

Applied 12/10/2016

Decision issued 23/05/2017

Granted 22/05/2017

RMA/2017/3186

Unit Title Subdivision - 22 units

Processing complete

Applied 19/12/2017

s223 Certificate issued 13/06/2018

s224 Certificate issued 13/06/2018

Decision issued 20/02/2018

Granted 19/02/2018

RMA/2018/986

Partial Surrender of Easement - subdivision consent RMA/2017/3186

Processing complete

Applied 20/04/2018

Certificate issued 22/05/2018

22/17 Warwick Street

RMA/1999/5988

To establish a pre-school. Resource Consent 991985 - Historical Reference RMA997

Processing complete

Applied 07/07/1999

Decision issued 21/12/1999

Granted 21/12/1999

RMA/2003/1428

30 residential units with underground parking with various non compliances - Historical Reference RMA20013722

Processing complete

Applied 03/06/2003

Decision issued 17/07/2003

Granted 17/07/2003

RMA/2016/2881

32 residential units

Processing complete

Applied 12/10/2016

Decision issued 23/05/2017

Granted 22/05/2017

RMA/2017/3186

Unit Title Subdivision - 22 units

Processing complete

Applied 19/12/2017

Granted 19/02/2018

s223 Certificate issued 13/06/2018

s224 Certificate issued 13/06/2018

Decision issued 20/02/2018

RMA/2018/986

Partial Surrender of Easement - subdivision consent RMA/2017/3186

Processing complete

Applied 20/04/2018

Certificate issued 22/05/2018

225 River Road

RMA/1960/1

NON-COMPLYING SITE SIZE, WIDTHS AND ACCESS. - Historical Reference RES60000001

Processing complete

Applied 30/11/1960

RMA/1973/344

Application to replace an existing garage, sited 7`` from street frontage. Approved subject to (a) access from Woodchester AV,(B) Written consent of adjoining Avenue in Medway St being obtianed.(C) Landscaping area between garage and Midway w - Historical Reference RES954934

Processing complete

Applied 05/06/1973

Decision issued 05/06/1973

Granted 05/06/1973

RMA/1979/170

Dispensation to erect a second unit on the site and attached to a garage, sited 1m from the boundary. - Historical Reference RES9206371

Processing complete

Applied 15/11/1979

Decision issued 27/11/1979

Granted 27/11/1979

RMA/1980/218

Specified departure to dispense with the requirement under the operative District scheme to physically join together two existing units. - Historical Reference RES9206370

Processing complete

Applied 28/02/1980

Decision issued 20/05/1980

Granted 20/05/1980

RMA/1983/718

Second floor addition to a dwelling that intrudes through the recession plane. - Historical Reference RES9219447

Processing complete

Applied 31/10/1983

Decision issued 28/11/1983

Granted 28/11/1983

RMA/1984/343

Consent to erect a garage setback 5.5m from the vehicle crossing. - Historical Reference RES9207370

Processing complete

Applied 10/08/1984

Decision issued 13/09/1984

Granted 13/09/1984

RMA/1984/344

Consent to erect a pergola structure forward of the dwelling - Historical Reference RES9207372

Processing complete

Applied 22/11/1984

Decision issued 24/12/1984

Granted 24/12/1984

RMA/1985/487

To use existing apartments as a elderly persons home sited 1.8m from the boundary - Historical Reference RES9208922

Processing complete

Applied 02/04/1985

Decision issued 18/04/1985

Granted 18/04/1985

RMA/1985/488

To waive the 85m2 total floorspace for accessory building to allow buildings totalling 120m2 - Historical Reference RES9208923

Processing complete

Applied 19/08/1985

Decision issued 16/09/1985

Granted 16/09/1985

RMA/1990/233

Dispensation to erect a conservatory not meeting the required setback from the side boundary - 1 end to 1.43m and 1 end to 1.7m. - Historical Reference RES9204818

Processing complete

Applied 04/12/1990

Decision issued 13/12/1990

Granted 13/12/1990

RMA/1990/894

Reducing the 6m garage set back from road boundary to 3.6m at the closest point. - Historical Reference RES9219446

Processing complete

Applied 16/03/1990

Decision issued 26/04/1990

Granted 26/04/1990

RMA/1991/1070

A garage-sleepout which intrudes into the recession pla ne by 150mm. - Historical Reference RES9219441

Processing complete

Applied 06/05/1991

Decision issued 23/05/1991

Granted 23/05/1991

RMA/1991/494

To intrude the recession plane requirements for an existing garage as shown on proposed subdivision Plan - Historical Reference RES9208940

Processing complete

Applied 25/01/1991

Decision issued 13/02/1991

Granted 13/02/1991

RMA/1994/1295

Two vehicle crossings less than 7.5m apart. - Historical Reference RES94102590

Processing complete

Applied 04/11/1994

Decision issued 15/11/1994

Granted 15/11/1994

RMA/1994/1397

To erect an extension to an existing dwelling which is located 1.2m from the internal boundary. the extension will be 0.75m from the internal boundary. - Historical Reference RES94102706

Processing complete

Applied 22/11/1994

Decision issued 05/12/1994

Granted 05/12/1994

RMA/1994/642

Two columns of fence intrude into the east and north recession planes - Historical Reference RES94001305

Processing complete

Applied 14/07/1994

Decision issued 26/07/1994

Granted 26/07/1994

RMA/1996/1829

To subdivide the property in conjunction with the building of a new dwelling on the rear Lot. shape factor(Lot 2) and outdoor living space(Lot 1). - Historical Reference RES962144

Processing complete

Applied 15/08/1996

Granted 01/01/1999

Decision issued 01/01/1999

RMA/1996/2333

Existing dweling 1.8m from boundar instead of 3m (N.B. fee simple sub-Division) - Historical Reference RES962707

Processing complete

Applied 30/09/1996

Decision issued 01/01/1999

Granted 01/01/1999

RMA/1997/1737

To reposition the garage to within 4.5m of the road boundary in the Sam 9 area. - Historical Reference RES971947

Processing complete

Applied 18/07/1997

Decision issued 29/08/1997

Granted 29/08/1997

RMA/1997/2712

To erect additions to the existing elderly persons home in cluding a conservatory 1.5m from an internal boundary. - Historical Reference RES973130

Processing complete

Applied 29/10/1997

Decision issued 09/12/1997

Granted 09/12/1997

RMA/1998/1320

To erect an addition to a storey dwelling which intrudes through the recession plane. - Historical Reference RES981492

Processing complete

Applied 08/06/1998

Decision issued 18/06/1998

Granted 18/06/1998

RMA/1999/1512

To erect addition to garage and exceed the 9.0m maximum lenght and exceed the 65 square metre floor space - Historical Reference RES955702

Processing complete

Applied 01/01/1999

Decision issued 08/10/1991

Granted 08/10/1991

RMA/1999/1834

The erection of a 5.51m2 conservatory that fails to comply with the following Rules under the Transitional District Plan building setback and outdoor living area. under the Proposed City Plan fails to comply with the building setback, outdoor - Historical Reference RES990398

Processing complete

Applied 15/02/1999

Decision issued 15/02/1999

Granted 15/02/1999

RMA/1999/2058

Reduction in ROW width under the Transitional Plan - Historical Reference RES990666

Processing complete

Applied 10/03/1999

Decision issued 10/03/1999

Granted 10/03/1999

RMA/1999/2831

To erect a double garage within the 8m Road boundary setback in Sam 9, and intrude into the 30 metre building setback from the Avon River. - Historical Reference RES991663

Processing complete

Applied 04/06/1999

Decision issued 02/08/1999

Granted 02/08/1999

RMA/1999/3308

To erect a dwelling addition which dos not comply with the continuous building length Rule and will result in the building exceeding a maximum gross f - Historical Reference RES992241

Processing complete

Applied 03/08/1999

Decision issued 03/08/1999

Granted 03/08/1999

RMA/1999/4800

Dwelling additions which intrude through the recession plane, the 1.8m setback and the 3m living area window setback. - Historical Reference RMA20000304

Processing complete

Applied 14/12/1999

Decision issued 22/12/1999

Granted 21/12/1999

RMA/2000/1092

A new dwelling which exceeds site c comply with outdoor living court rules. - Historical Reference RMA20001782

Processing complete

Applied 26/04/2000

Decision issued 31/05/2000

Granted 30/05/2000

RMA/2000/2508

Additions and alterations to existing dwelling that intrude site coverage and intrude the recession plane on the southern boundary. - Historical Reference RMA20003260

Processing complete

Applied 04/10/2000

Granted 08/11/2000

Decision issued 09/11/2000

RMA/2000/302

Dwelling extensions that intrude through the recession plane are within 1.8 metres of an internal boundary. The building length exceeds 20m. - Historical Reference RMA20000778

Processing complete

Applied 31/01/2000

Decision issued 16/02/2000

Granted 16/02/2000

RMA/2001/458

Second dwelling to be used as a fam 1.8 metres of the boundary. - Historical Reference RMA20004317

Processing complete

Applied 22/02/2001

Decision issued 09/03/2001

Granted 07/03/2001

RMA/2001/587

alterations to Rest Home. - Historical Reference RMA20004451

Processing complete

Applied 08/03/2001

Decision issued 19/03/2001

Granted 19/03/2001

RMA/2001/665

To erect dwelling additions within 1.8m of an internal boundary. - Historical Reference RMA20004532

Processing complete

Applied 15/03/2001

Decision issued 21/06/2001

Granted 20/06/2001

RMA/2002/252

Double garage in front yard. - Historical Reference RMA20009223

Processing complete

Applied 24/01/2002

Decision issued 08/03/2002

Granted 06/03/2002

To prune a protected tree on the site. - Historical Reference RMA20014924

Processing complete

Applied 02/10/2003

Decision issued 22/10/2003

Granted 22/10/2003

RMA/2004/2474

Dwelling addition at 1.5m from boundary and within 10 metres of a protected tree. - Historical Reference RMA20018120

Processing complete

Applied 27/09/2004

Decision issued 19/10/2004

Granted 18/10/2004

RMA/2008/1489

Dwelling alterations which intrude on recession plane - Historical Reference RMA92012346

Processing complete

Applied 01/07/2008

Decision issued 17/07/2008

Granted 17/07/2008

RMA/2008/29

Application for an extension to an existing dwelling - Historical Reference RMA92010800

Processing complete

Applied 03/01/2008

Decision issued 23/01/2008

Granted 22/01/2008

RMA/2008/30

Application for an extension of a family and dining room to the existing dwelling - Historical Reference RMA92010801

Processing complete

Applied 03/01/2008

Decision issued 24/01/2008

Granted 24/01/2008

RMA/2009/1286

Application to erect a dwelling with an attached garage - Historical Reference RMA92014746

Withdrawn

Applied 04/09/2009

RMA/2009/1291

New 3 bedroom dwelling with attached garage - Historical Reference RMA92014751

Processing complete

Applied 04/09/2009

Decision issued 25/09/2009

Granted 25/09/2009

RMA/2009/1651

New garage - Historical Reference RMA92015130

Processing complete

Applied 06/11/2009

Decision issued 25/11/2009

Granted 25/11/2009

RMA/2010/1367

prune a tree - Historical Reference RMA92016955

Processing complete

Applied 21/09/2010

Granted 07/10/2010

Decision issued 07/10/2010

RMA/2012/1629

TEMPORARY ACCOMMODATION - Site Office for infrastructure repair - Historical Reference RMA92021048

Processing complete

Applied 15/10/2012

Decision issued 24/10/2012

Granted 23/10/2012

RMA/2013/696

TEMPORARY ACCOMMODATION - Site Office and Depot - Historical Reference RMA92022309

Processing complete

Applied 22/04/2013

Decision issued 06/05/2013

Granted 04/05/2013

RMA/2016/61

Temporary Accomodation - Depot and Storage Facility - Historical Reference RMA92032117

Processing complete

Applied 14/01/2016

Decision issued 05/02/2016

Granted 05/02/2016

RMA/2016/648

Temporary Accomodation - Laydown area and Storage facility for plant and materials associated with SCIRT projects. - Historical Reference RMA92032739

Processing complete

Applied 16/03/2016

Decision issued 23/03/2016

Granted 22/03/2016

RMA/2023/1127

Retrospective consent for a temporary building to enable sales of food and beverages

Processing complete

Applied 11/05/2023

Decision issued 28/02/2024

Granted 28/02/2024

RMA/2023/2909

Widen an existing right of way over Tillia Lane TE.177568

Processing complete

Applied 07/11/2023

Certificate issued 28/03/2024

Decision issued 01/12/2023

Granted 30/11/2023

RMA/2024/2763

To construct two carparks within the OARC - City to Sea West

Processing complete

Applied 26/09/2024

Decision issued 25/11/2024

Granted 25/11/2024

23 Vogel Street

RMA/2014/2181

DWELLING WITH ATTACHED GARAGE - Historical Reference RMA92026862

Processing complete

Applied 25/08/2014

Decision issued 08/09/2014

Granted 08/09/2014

3/17 Warwick Street

RMA/1999/5988

To establish a pre-school. Resource Consent 991985 - Historical Reference RMA997

Processing complete

Applied 07/07/1999

Decision issued 21/12/1999

Granted 21/12/1999

RMA/2003/1428

30 residential units with underground parking with various non compliances - Historical Reference RMA20013722

Processing complete

Applied 03/06/2003

Decision issued 17/07/2003

Granted 17/07/2003

RMA/2016/2881

32 residential units

Processing complete

Applied 12/10/2016

Decision issued 23/05/2017

Granted 22/05/2017

RMA/2017/3186

Unit Title Subdivision - 22 units

Processing complete

Applied 19/12/2017

s223 Certificate issued 13/06/2018

s224 Certificate issued 13/06/2018

Decision issued 20/02/2018

Granted 19/02/2018

RMA/2018/986

Partial Surrender of Easement - subdivision consent RMA/2017/3186

Processing complete

Applied 20/04/2018

Certificate issued 22/05/2018

3/27 Vogel Street

RMA/2022/2079

Construction of a four residential units

Processing complete

Applied 27/06/2022

Conditions changed/cancelled - s127 02/10/2023

Decision issued 25/01/2023

Granted 24/01/2023

3/57 Vogel Street

RMA/2007/1625

3 residential units with road setback encroachments for units 1 & 2, garage door setbacks, internal boundary setbacks and reduced out out door living space. - Historical Reference RMA92008902

Processing complete

Applied 27/06/2007

Decision issued 19/09/2007

Granted 19/09/2007

RMA/2010/1248

Erect three detached two-storey townhouses each with an attached double garage - Historical Reference RMA92016829

Processing complete

Applied 17/08/2010

Decision issued 11/01/2011

Granted 11/01/2011

RMA/2015/3366

Extend lapse date of RMA92016829 Expires 11th January 2016 - Historical Reference RMA92031769

Processing complete

Applied 04/12/2015

Decision issued 10/08/2016

Granted 10/08/2016

RMA/2021/4042

To construct and establish four x two storey residential dwellings

Processing complete

Applied 01/12/2021

Decision issued 04/03/2022

Granted 03/03/2022

RMA/2025/1605

To establish a five-unit development

Processing complete

Applied 27/05/2025

Decision issued 07/07/2025

Granted 07/07/2025

300 Stanmore Road

RMA/1992/373

Consent to construct a ``New World`` supermarket which is to be located on the site of the existing ``new world`` (community 1) and adjoining ν - Historical Reference RES9214162

Processing complete

Applied 06/08/1992

Decision issued 03/03/1993

Declined 03/03/1993

RMA/1992/375

Consent to construct a ``New World`` supermarket is to be located on the site of the existing ``new world`` (community 1) and adjoining vaca - Historical Reference RES9214176

Processing complete

Applied 06/08/1992

Decision issued 03/03/1993

Granted 03/03/1993

RMA/1992/376

Consent to construct a ``New World`` supermarket which is to be located on the site of the existing ``new world`` (community 1) and adloining - Historical Reference RES9214177

Processing complete

Applied 06/08/1992

Decision issued 03/03/1993

Granted 03/03/1993

RMA/1995/2764

To erect a supermarket which exceeds 1000m2 and site layout, carpark access points, landscaping and layout are discretionary in the Propose - Historical Reference RES955693

Processing complete

Applied 30/10/1995

Decision issued 14/11/1995

Granted 14/11/1995

RMA/1996/3672

To prune lower branches of the tree, and to remove dead wood. - Historical Reference RMA363

Processing complete

Applied 16/05/1996

RMA/2003/3169

Expansion of the New World Supermarket. - Historical Reference RMA20015519

Processing complete

Applied 04/12/2003

Decision issued 20/08/2004

Granted 20/08/2004

RMA/2013/2523

s.357 OBJECTION TO COSTS TO RMA92021601 - Historical Reference RMA92024246

Withdrawn

Applied 26/11/2013

RMA/2013/29

ALTERATIONS TO SUPERMARKET INCL RECONFIGURING CAR PARKING/MAINTENANCE OF TREE/LANDSCAPING AND SIGNAGE s.357 OBJECTION TO COSTS RMA92024246 - Historical Reference RMA92021601

Processing complete

Applied 11/01/2013

Decision issued 08/08/2013

Granted 08/08/2013

34 Vogel Street

RMA/2009/730

2 residential units with internal boundary, recession plane & parking non compliances - Historical Reference RMA92014170

Processing complete

Applied 08/06/2009

Decision issued 03/07/2009

Granted 03/07/2009

35 Warwick Street

RMA/2006/1587

To establish a housing complex comprising of 20 residential units - Historical Reference RMA92005649

Processing complete

Applied 05/07/2006

Decision issued 14/08/2006

Granted 14/08/2006

RMA/2019/2256

Request for Certification under Section 241 - Disposal of Land (being Lot 1 on Attached Plan) to Otautahi Community Housing Trust

Processing complete

Applied 02/10/2019

Certificate issued 08/10/2019

4 Warwick Street

RMA/1997/3096

To erect a dwelling on Lot 2 and exceed the site coverage by 1%. - Historical Reference RES973583

Processing complete

Applied 10/12/1997

Decision issued 01/01/1999

Granted 01/01/1999

RMA/1997/4298

A RESOURCE CONSENT TO EXCEED THE PERMITTED BUILDING SITE COVERAGE ON LOT 2 BY 1%. - Historical Reference RMA611

Processing complete

Applied 22/12/1997

Decision issued 19/01/1998

Granted 19/01/1998

4/17 Warwick Street

RMA/1999/5988

To establish a pre-school. Resource Consent 991985 - Historical Reference RMA997

Processing complete

Applied 07/07/1999

Decision issued 21/12/1999

Granted 21/12/1999

RMA/2003/1428

30 residential units with underground parking with various non compliances - Historical Reference RMA20013722

Processing complete

Applied 03/06/2003

Decision issued 17/07/2003

Granted 17/07/2003

RMA/2016/2881

32 residential units

Processing complete

Applied 12/10/2016

Decision issued 23/05/2017

Granted 22/05/2017

RMA/2017/3186

Unit Title Subdivision - 22 units

Processing complete

Applied 19/12/2017

s223 Certificate issued 13/06/2018

s224 Certificate issued 13/06/2018

Decision issued 20/02/2018

Granted 19/02/2018

RMA/2018/986

Partial Surrender of Easement - subdivision consent RMA/2017/3186

Processing complete

Applied 20/04/2018

Certificate issued 22/05/2018

4/27 Vogel Street

RMA/2022/2079

Construction of a four residential units

Processing complete

Applied 27/06/2022

Conditions changed/cancelled - s127 02/10/2023

Decision issued 25/01/2023

Granted 24/01/2023

4/57 Vogel Street

RMA/2007/1625

3 residential units with road setback encroachments for units 1 & 2, garage door setbacks, internal boundary setbacks and reduced out out door living space. - Historical Reference RMA92008902

Processing complete

Applied 27/06/2007

Decision issued 19/09/2007

Granted 19/09/2007

RMA/2010/1248

Erect three detached two-storey townhouses each with an attached double garage - Historical Reference RMA92016829

Processing complete

Applied 17/08/2010

Decision issued 11/01/2011

Granted 11/01/2011

RMA/2015/3366

Extend lapse date of RMA92016829 Expires 11th January 2016 - Historical Reference RMA92031769

Processing complete

Applied 04/12/2015

Decision issued 10/08/2016

Granted 10/08/2016

RMA/2021/4042

To construct and establish four x two storey residential dwellings

Processing complete

Applied 01/12/2021

Decision issued 04/03/2022

Granted 03/03/2022

RMA/2025/1605

To establish a five-unit development

Processing complete

Applied 27/05/2025

Decision issued 07/07/2025

Granted 07/07/2025

40 Gowerton Place

RMA/2019/2256

Request for Certification under Section 241 - Disposal of Land (being Lot 1 on Attached Plan) to Otautahi Community Housing Trust

Processing complete

Applied 02/10/2019

Certificate issued 08/10/2019

41 Gowerton Place

RMA/2019/2256

Request for Certification under Section 241 - Disposal of Land (being Lot 1 on Attached Plan) to Otautahi Community Housing Trust

Processing complete

Applied 02/10/2019

Certificate issued 08/10/2019

42 Gowerton Place

RMA/2019/2256

Request for Certification under Section 241 - Disposal of Land (being Lot 1 on Attached Plan) to Otautahi Community Housing Trust

Processing complete

Applied 02/10/2019

Certificate issued 08/10/2019

42A Vogel Street

RMA/1998/166

To erect dwelling additions which intrude into the 1.8m side boundary setback, 4.5m road boundary setback and the recession plane. - Historical Reference RES980071

Processing complete

Applied 12/01/1998

Decision issued 23/02/1998

Granted 23/02/1998

RMA/2014/3018

Three residential townhouses with attached garages - Historical Reference RMA92027717

Processing complete

Applied 17/11/2014

Decision issued 09/12/2014

Granted 09/12/2014

43 Gowerton Place

RMA/2019/2256

Request for Certification under Section 241 - Disposal of Land (being Lot 1 on Attached Plan) to Otautahi Community Housing Trust

Processing complete

Applied 02/10/2019

Certificate issued 08/10/2019

44 Gowerton Place

RMA/2019/2256

Request for Certification under Section 241 - Disposal of Land (being Lot 1 on Attached Plan) to Otautahi Community Housing Trust

Processing complete

Applied 02/10/2019

Certificate issued 08/10/2019

45 Gowerton Place

RMA/2019/2256

Request for Certification under Section 241 - Disposal of Land (being Lot 1 on Attached Plan) to Otautahi Community Housing Trust

Processing complete

Applied 02/10/2019

Certificate issued 08/10/2019

46 Gowerton Place

RMA/2019/2256

Request for Certification under Section 241 - Disposal of Land (being Lot 1 on Attached Plan) to Otautahi Community Housing Trust

Processing complete

Applied 02/10/2019

Certificate issued 08/10/2019

47 Gowerton Place

RMA/2019/2256

Request for Certification under Section 241 - Disposal of Land (being Lot 1 on Attached Plan) to Otautahi Community Housing Trust

Processing complete

Applied 02/10/2019

Certificate issued 08/10/2019

48 Gowerton Place

RMA/2019/2256

Request for Certification under Section 241 - Disposal of Land (being Lot 1 on Attached Plan) to Otautahi Community Housing Trust

Processing complete

Applied 02/10/2019

Certificate issued 08/10/2019

49 Gowerton Place

RMA/2019/2256

Request for Certification under Section 241 - Disposal of Land (being Lot 1 on Attached Plan) to Otautahi Community Housing Trust

Processing complete

Applied 02/10/2019

Certificate issued 08/10/2019

50 Gowerton Place

RMA/2019/2256

Request for Certification under Section 241 - Disposal of Land (being Lot 1 on Attached Plan) to Otautahi Community Housing Trust

Processing complete

Applied 02/10/2019

Certificate issued 08/10/2019

51 Gowerton Place

RMA/2019/2256

Request for Certification under Section 241 - Disposal of Land (being Lot 1 on Attached Plan) to Otautahi Community Housing Trust

Processing complete

Applied 02/10/2019

Certificate issued 08/10/2019

52 Gowerton Place

RMA/2019/2256

Request for Certification under Section 241 - Disposal of Land (being Lot 1 on Attached Plan) to Otautahi Community Housing Trust

Processing complete

Applied 02/10/2019

Certificate issued 08/10/2019

53 Gowerton Place

RMA/2019/2256

Request for Certification under Section 241 - Disposal of Land (being Lot 1 on Attached Plan) to Otautahi Community Housing Trust

Processing complete

Applied 02/10/2019

Certificate issued 08/10/2019

54 Gowerton Place

RMA/2019/2256

Request for Certification under Section 241 - Disposal of Land (being Lot 1 on Attached Plan) to Otautahi Community Housing Trust

Processing complete

Applied 02/10/2019

Certificate issued 08/10/2019

57 Vogel Street

RMA/2007/1625

3 residential units with road setback encroachments for units 1 & 2, garage door setbacks, internal boundary setbacks and reduced out out door living space. - Historical Reference RMA92008902

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Processing complete

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Granted 10/08/2016

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To construct and establish four x two storey residential dwellings

Processing complete

Applied 01/12/2021

Decision issued 04/03/2022

Granted 03/03/2022

RMA/2025/1605

To establish a five-unit development

Processing complete

Applied 27/05/2025

Decision issued 07/07/2025

Granted 07/07/2025

6/17 Warwick Street

RMA/1999/5988

To establish a pre-school. Resource Consent 991985 - Historical Reference RMA997

Processing complete

Applied 07/07/1999

Decision issued 21/12/1999

30 residential units with underground parking with various non compliances - Historical Reference RMA20013722

Processing complete

Applied 03/06/2003

Decision issued 17/07/2003

Granted 17/07/2003

RMA/2016/2881

32 residential units

Processing complete

Applied 12/10/2016

Decision issued 23/05/2017

Granted 22/05/2017

RMA/2017/3186

Unit Title Subdivision - 22 units

Processing complete

Applied 19/12/2017

s223 Certificate issued 13/06/2018

s224 Certificate issued 13/06/2018

Decision issued 20/02/2018

Granted 19/02/2018

RMA/2018/986

Partial Surrender of Easement - subdivision consent RMA/2017/3186

Processing complete

Applied 20/04/2018

Certificate issued 22/05/2018

7/17 Warwick Street

RMA/1999/5988

To establish a pre-school. Resource Consent 991985 - Historical Reference RMA997

Processing complete

Applied 07/07/1999

Decision issued 21/12/1999

30 residential units with underground parking with various non compliances - Historical Reference RMA20013722

Processing complete

Applied 03/06/2003

Decision issued 17/07/2003

Granted 17/07/2003

RMA/2016/2881

32 residential units

Processing complete

Applied 12/10/2016

Decision issued 23/05/2017

Granted 22/05/2017

RMA/2017/3186

Unit Title Subdivision - 22 units

Processing complete

Applied 19/12/2017

s223 Certificate issued 13/06/2018

s224 Certificate issued 13/06/2018

Decision issued 20/02/2018

Granted 19/02/2018

RMA/2018/986

Partial Surrender of Easement - subdivision consent RMA/2017/3186

Processing complete

Applied 20/04/2018

Certificate issued 22/05/2018

8/17 Warwick Street

RMA/1999/5988

To establish a pre-school. Resource Consent 991985 - Historical Reference RMA997

Processing complete

Applied 07/07/1999

Decision issued 21/12/1999

30 residential units with underground parking with various non compliances - Historical Reference RMA20013722

Processing complete

Applied 03/06/2003

Decision issued 17/07/2003

Granted 17/07/2003

RMA/2016/2881

32 residential units

Processing complete

Applied 12/10/2016

Decision issued 23/05/2017

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RMA/2017/3186

Unit Title Subdivision - 22 units

Processing complete

Applied 19/12/2017

s223 Certificate issued 13/06/2018

s224 Certificate issued 13/06/2018

Decision issued 20/02/2018

Granted 19/02/2018

RMA/2018/986

Partial Surrender of Easement - subdivision consent RMA/2017/3186

Processing complete

Applied 20/04/2018

Certificate issued 22/05/2018

9/17 Warwick Street

RMA/1999/5988

To establish a pre-school. Resource Consent 991985 - Historical Reference RMA997

Processing complete

Applied 07/07/1999

Decision issued 21/12/1999

30 residential units with underground parking with various non compliances - Historical Reference RMA20013722

Processing complete

Applied 03/06/2003

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RMA/2018/986

Partial Surrender of Easement - subdivision consent RMA/2017/3186

Processing complete

Applied 20/04/2018

Certificate issued 22/05/2018

Data Quality Statement

Land Use Consents

All resource consents are shown for sites that have been labelled with an address. For sites that have been labelled with a cross (+) no resource consents have been found. Sites that have no label have not been checked for resource consents. This will be particularly noticeable on the margins of the search radius. If there are such sites and you would like them included in the check, please ask for the LIM spatial query to be rerun accordingly. This will be done free of charge although there may be a short delay. Resource consents which are on land occupied by roads, railways or rivers are not, and currently cannot be displayed, either on the map or in the list. Resource consents that relate to land that has since been subdivided, will be shown in the list, but not on the map. They will be under the address of the land as it was at the time the resource consent was applied for. Resource consents that are listed as Non-notified and are current, may in fact be notified resource consents that have not yet been through the notification process. If in doubt. Please phone (03)941 8999.

The term "resource consents" in this context means land use consents. Subdivision consents and certificates of compliance are excluded.

Subdivision Consents

All subdivision consents are shown for the sites that have been labelled with consent details. For Sites that have been labelled with a cross (+) no records have been found. Sites that have no label have not been checked for subdivision consents. This will be particularly noticeable on the margins of the search radius. If there are such sites and you would like them included in the check, please ask for the LIM spatial query to be rerun accordingly. This will be done free of charge although there may be a short delay.

The term "subdivision consents" in this context means a resource consent application to subdivide land. Non subdivision land use resource consents and certificates of compliance are excluded.

This report will only record those subdivision applications which have not been completed i.e once a subdivision has been given effect to and the new lots/properties have been established the application which created those lots will not be shown

All subdivision consent information is contained on the map and no separate list is supplied