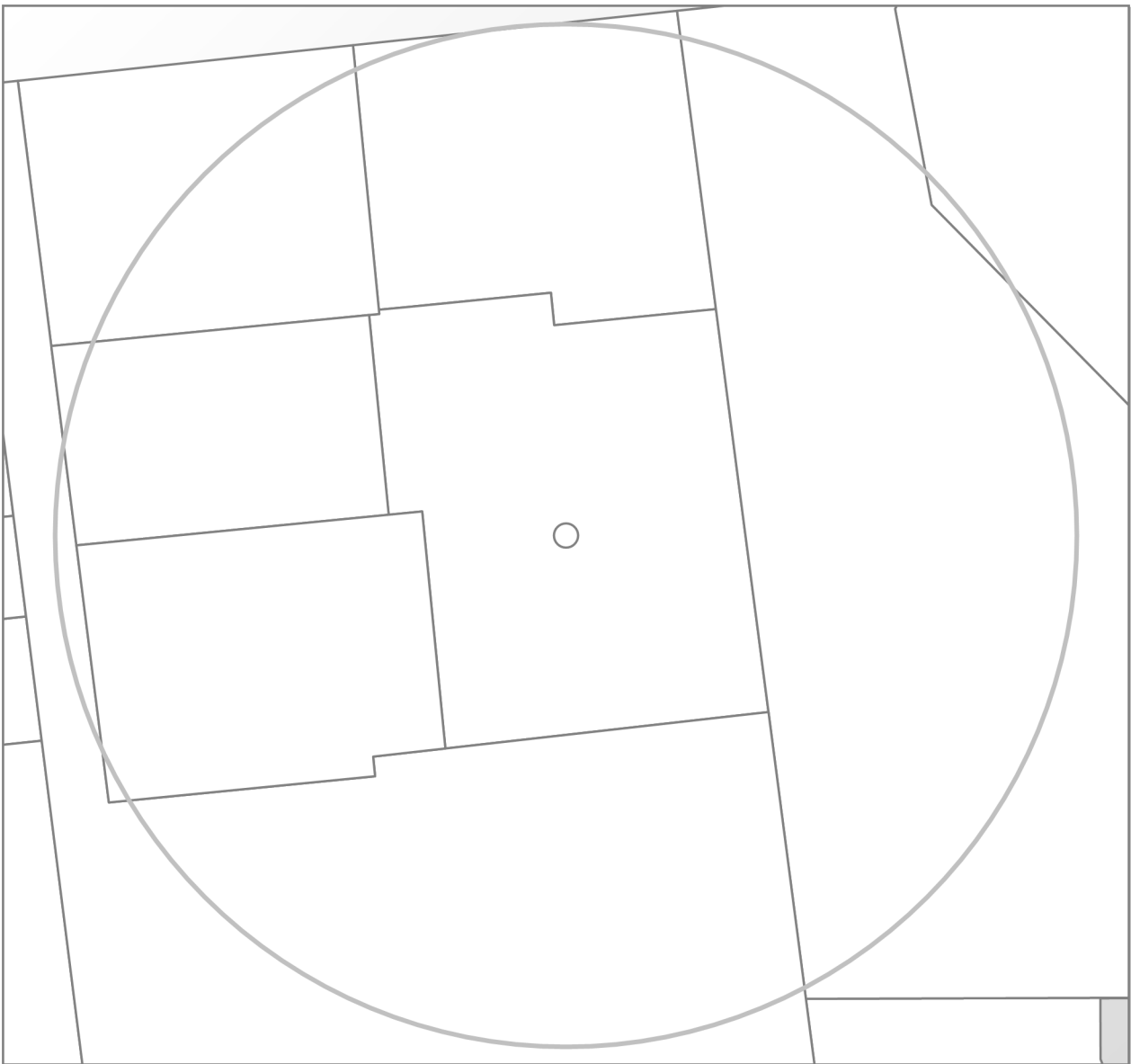


Land Information Memorandum



Property address:
45 Princess Street

LIM number: H09436027

Page 1

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

www.ccc.govt.nz

Application details

Date issued 30 December 2025
Date received 15 December 2025

Property details

Property address 45 Princess Street, Addington, Christchurch
Valuation roll number 22125 54003
Valuation information Capital Value: \$6,860,000
Land Value: \$2,370,000
Improvements Value: \$4,490,000
Please note: these values are intended for Rating purposes
Legal description Lot 7 DP 438405
Existing owner 45 Princess Limited
59 Hartway Grove
Coatesville 0792

Council references

Rate account ID 73166407
LIM number H09436027
Property ID 1165988

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.

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.

Property address:

45 Princess Street

LIM number: H09436027

Page 3

Christchurch City Council

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

www.ccc.govt.nz

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

1. Special features and characteristics of the land

Section 44(A)(2)(aa) LGOIMA. This is information known to the Council but is not apparent from 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 the likely presence of hazardous contaminants.

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

Natural Hazards

Section 44A(2)(a) LGOIMA. This is information known to the Council about natural hazards that is required by section 44B LGOIMA. This section may also include natural hazard information provided by Environment Canterbury. Christchurch City Council is required to include such information in LIMs where Environment Canterbury considers it meets the criteria under section 44C of LGOIMA.

The following statement has been provided by Environment Canterbury:

This Land Information Memorandum includes natural hazard information deemed by Environment Canterbury to be the most up to date, useful, and relevant, and is provided in accordance with the Local Government (Natural Hazard Information in Land Information Memoranda) Regulations 2025. All due care has been taken to ensure current information required to be provided under the regulations is presented below.

Environment Canterbury may hold superseded or less reliable natural hazards information relating to the land that has not been included in this Land Information Memorandum. Please contact Environment Canterbury if you would like to enquire about this information.

(a) Coastal Hazards

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

(b) Earthquakes

- Earthquake Prone Building

The building has been identified by an engineering report (DEE or similar) to be 33% or less of the new building standard. The building is recorded as earthquake prone on the National earthquake prone building register <https://epbr.building.govt.nz>. If a building consent was obtained for any strengthening, it will be recorded in this LIM. The property file may also contain other strengthening information.

- 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.

- Regional Liquefaction Information

Areas where there was evidence of liquefaction were mapped following the 2010/11 Canterbury earthquakes by Tonkin & Taylor for the Earthquake Commission (urban areas) and by a group of researchers for Environment Canterbury (rural, commercial and industrial areas). These are available in the Christchurch Liquefaction Viewer at <https://apps.canterburymaps.govt.nz/ChristchurchLiquefactionViewer/>.

Technical report information:

Title: Review of liquefaction hazard information in eastern Canterbury, including Christchurch City and parts of Selwyn, Waimakariri and Hurunui Districts.

Date: December 2012.

Author: H Brackley (compiler).

Commissioned by: Environment Canterbury.

Purpose of report: To collate liquefaction occurrence during the 2010/11 Canterbury earthquakes, and to determine liquefaction vulnerability. For use in land use planning, subdivision and building consenting.

Study area: Coastal Canterbury from the Waipara River mouth to the Rakaia River mouth, including Banks Peninsula, and inland to Rangiora, Aylesbury, Selwyn and Southbridge.

Accessible at: <https://www.ecan.govt.nz/document/download?uri=1702192>.

(c) Flooding

- Flooding

Flood models are used to show the probability and potential location of flooding in Christchurch. These are computer-based models, and use the data on the Council stormwater network, rainfall, topography, hydrology, soil, land-use and historic flooding. They also incorporate outputs of other modelling such as urban growth, ground water, sea level rise and climate change. Detailed reports on the modelling including its assumptions and limitations can be found at <https://ccc.govt.nz/consents-and-licences/property-information-and-lims/land-information-memorandum-lim>.

- Predicted 1 in 10 Year Flood Extent

Flood modelling shows this property, or parts of this property, is within a 1-in-10-year flood extent, not including impacts of climate change and sea level rise. You can view this on the flood extent map at <https://ccc.govt.nz/flood-and-floor-level-viewer>.

If changes such as land development or major infrastructure have occurred on this property, or in the surrounding area since the flood modelling, this may change the flood extent.

Please note: The current modelling may not fully account for the water flow into some sump inlets during smaller events, which could affect the flood extent. This will be addressed in future modelling updates. Any questions about this and how this may impact this property, please email us at floorlevels@ccc.govt.nz.

For more information, please refer to <https://ccc.govt.nz/flooding-and-floor-levels>.

- Predicted 1 in 50 Year Flood Extent

Flood modelling shows this property, or parts of this property, is within a 1-in-50-year flood extent, including impacts of climate change and sea level rise. You can view this on the flood extent map at <https://ccc.govt.nz/flood-and-floor-level-viewer>. If changes such as land development or major infrastructure have occurred on this property, or in the surrounding area since the flood modelling, this may change the flood extent. For more information, please refer to <https://ccc.govt.nz/flooding-and-floor-levels>.

- Predicted 1 in 200 Year Flood Extent

Flood modelling shows this property, or parts of this property, is within a 1-in-200-year flood extent, including impacts of climate change and sea level rise. You can view this on the flood extent map at <https://ccc.govt.nz/flood-and-floor-level-viewer>. If changes such as land development or major infrastructure have occurred on this property, or in the surrounding area since the flood modelling, this may change the flood extent. For more information, please refer to <https://ccc.govt.nz/flooding-and-floor-levels>.

- Regional Hazard Information: Flood Photographs

Photographs showing the property during or following past flood events may be available. Flood photographs are available on Environment Canterbury's flood imagery register at <https://apps.canterburymaps.govt.nz/FIR>.

Property address:

45 Princess Street

LIM number: H09436027

Christchurch City Council

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

- Regional Hazard Information: Flood Assessment Request

You can request a new site-specific flood hazard assessment for the property from Environment Canterbury at: <https://www.ecan.govt.nz/do-it-online/property-information/flood-hazard-assessments>.

(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

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

- Record of Contamination

Records indicate that this site may have been contaminated with Hydrocarbons. For more information on the contamination you can contact the Environmental Health Team on 941 8999.

- Record of Contamination

Records indicate that this site may have been contaminated with PCP. For more information on the contamination you can contact the Environmental Health Team on 941 8999.

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

- 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.
- This property is shown to be served by Christchurch City Council Sewer and Stormwater.
- Council Trade Waste Bylaw regulates the use of the sewer system for sources other than domestic sewage. A trade waste consent must be obtained by the new owner or occupier before any wastewater from an industrial or commercial processes including but not limited to wash down grease traps and cooling systems may be discharged to Council sewer system.

Property address:

45 Princess Street

LIM number: H09436027

Page 7

Christchurch City Council

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

www.ccc.govt.nz

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.

Related Information

- All Commercial and industrial properties are required to have a Reduced Pressure Zone backflow prevention device at the boundary to protect the Christchurch water supply network. The installation of this device is a condition of supply and is the responsibility of the property owner in accordance with the Christchurch City Council Water Supply and Wastewater Bylaw 2022. For more information visit our website <https://ccc.govt.nz/backflow-prevention/> or contact the backflow installation team on 03 941 8999.

Property address:

45 Princess Street

LIM number: H09436027

Page 8

Christchurch City Council

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

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: \$59,973.98

	Instalment Amount	Date Due
Instalment 1	\$14,993.45	15/08/2025
Instalment 2	\$14,993.45	15/11/2025
Instalment 3	\$14,993.45	15/02/2026
Instalment 4	\$14,993.63	15/05/2026

Rates owing as at 30/12/2025: \$73,024.01

(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.

Property address:

45 Princess Street

LIM number: H09436027

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/1959/1529 Applied: 03/04/1959 Status: Completed
45 Princess Street Addington
Permit granted 03/04/1959
Permit issued 03/04/1959
DUST TOWER- Historical Reference PER59010133
- BCN/1962/5786 Applied: 27/11/1962 Status: Completed
45 Princess Street Addington
Permit granted 17/01/1963
Permit issued 17/01/1963
SEED STORING BUILDING- Historical Reference PER63010162
- BCN/1963/3755 Applied: 02/08/1963 Status: Completed
45 Princess Street Addington
Permit granted 19/08/1963
Permit issued 19/08/1963
ADDITIONS TO GRAIN STORE- Historical Reference PER63010675
- BCN/1963/5820 Applied: 27/11/1963 Status: Completed
45 Princess Street Addington
Permit granted 06/12/1963
Permit issued 06/12/1963
TOILET BLOCK- Historical Reference PER63011270

Property address:

45 Princess Street

LIM number: H09436027

Page 10

Christchurch City Council

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

www.ccc.govt.nz

- BCN/1993/4474 Applied: 07/05/1993 Status: Completed
39 Princess Street Addington
Accepted for processing 07/05/1993
Building consent granted 25/06/1993
Building consent issued 25/06/1993
Code Compliance Certificate Granted 06/07/1994
Code Compliance Certificate Issued 06/07/1994
STAGE 2, OFFICE/ FACTORY ALTERATIONS/ ADDITION (STAGE 1. SITE WORKS, EARTH WORKS, FOUNDATIONS AND FLOORSLAB ONLY)- Historical Reference CON93004628
- BCN/1995/6863 Applied: 24/08/1995 Status: Completed
45 Princess Street Addington
Accepted for processing 24/08/1995
Building consent granted 16/10/1995
Building consent issued 25/10/1995
Code Compliance Certificate Granted 23/01/1998
Code Compliance Certificate Issued 23/01/1998
Cafeteria fitout commercial/ cafeteria fitout- Historical Reference CON95007386
- BCN/1997/7737 Applied: 17/10/1997 Status: Cancelled
45 Princess Street Addington
Accepted for processing 17/10/1997
Application cancelled 01/01/1999
Workshop extension industrial/ workshop extension- Historical Reference CON97007425
- BCN/1997/7901 Applied: 24/10/1997 Status: Completed
45 Princess Street Addington
Accepted for processing 24/10/1997
Building consent granted 12/11/1997
Building consent issued 13/11/1997
Code Compliance Certificate Granted 05/08/2004
Code Compliance Certificate Issued 05/08/2004
Workshop extension industrial/ workshop extension- Historical Reference CON97008750
- BCN/2005/4842 Applied: 22/06/2005 Status: Completed
39 Princess Street Addington
PIM Granted 03/06/2005
PIM Issued 03/06/2005
Accepted for processing 22/06/2005
Building consent granted 05/09/2005
Building consent issued 04/10/2005
Code Compliance Certificate Granted 03/08/2012
Code Compliance Certificate Issued 03/08/2012
STAGE 1: NEW RIGHT-OF-WAY, PART DEMOLITION, NEW SEAL & ADDITIONAL LANDSCAPING- Historical Reference ABA10056507
- BCN/2006/3549 Applied: 11/05/2006 Status: Completed
45 Princess Street Addington
PIM Granted 04/10/2005
PIM Issued 04/10/2005
Accepted for processing 11/05/2006
Building consent granted 16/06/2006
Building consent issued 30/06/2006
Code Compliance Certificate Granted 21/05/2012

Property address:

45 Princess Street

LIM number: H09436027

Christchurch City Council

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

Code Compliance Certificate Issued 21/05/2012

DEMOLITION OF THE SOUTHWEST REAR CORNER OF THE REAR OF EXISTING BUILDING ON LOT 1-
Historical Reference ABA10065929

- BCN/2006/6427 Applied: 14/08/2006 Status: Completed
39 Princess Street Addington
PIM Granted 04/10/2005
PIM Issued 04/10/2005
Accepted for processing 14/08/2006
Building consent granted 03/10/2006
Building consent issued 04/10/2006
Interim Code Compliance Certificate granted 09/10/2006
Interim Code Compliance Certificate issued 09/10/2006
Code Compliance Certificate Granted 03/08/2012
Code Compliance Certificate Issued 03/08/2012
ALTERATIONS AND ADDITIONS TO EXISTING BUILDING LOT 1 CREATING SHELL FOR TENANCIES 2,3,4
AND CAFE / FITOUT OF TENANCIES 3 & 4- Historical Reference ABA10068834
- BCN/2007/3383 Applied: 08/05/2007 Status: Completed
45 Princess Street Addington
Accepted for processing 08/05/2007
PIM Granted 21/06/2007
PIM Issued 28/06/2007
Building consent granted 02/07/2007
Building consent issued 05/07/2007
Code Compliance Certificate Granted 03/09/2007
Code Compliance Certificate Issued 03/09/2007
CAFE FITOUT WITH A NEW TOILET AREA- Historical Reference ABA10076308
- BCN/2008/6367 Applied: 07/10/2008 Status: Completed
45 Princess Street Addington
Accepted for processing 07/10/2008
PIM Granted 11/11/2008
PIM Issued 11/11/2008
Building consent granted 03/02/2009
Building consent issued 20/02/2009
Certificate for Public Use Applied: 20/02/2009 Issued: 20/02/2009 Expiry: 31/03/2009
Certificate for Public Use Applied: 27/04/2009 Issued: 27/04/2009 Expiry: 31/05/2009
Code Compliance Certificate Granted 10/04/2012
Code Compliance Certificate Issued 10/04/2012
FITOUT FOR TELEVISION FILM STUDIO- Historical Reference ABA10089235
- BCN/2011/4166 Applied: 08/11/2011 Status: Completed
45 Princess Street Addington
Accepted for processing 08/11/2011
Building consent granted 02/12/2011
Building consent issued 02/12/2011
Code Compliance Certificate Issued 17/04/2012
BACKFLOW PREVENTION DEVICE- Historical Reference ABA10112743

Property address:

45 Princess Street

LIM number: H09436027

Page 12

Christchurch City Council

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

www.ccc.govt.nz

- BCN/2013/12031 Applied: 24/09/2013 Status: Completed
45 Princess Street Addington
Exemption from building consent approved 22/10/2013
Application for exemption from Building Consent for installation of wall bracing and upgrading of foundations under external bracings legs.(Whitebait Building) - Historical Reference BAE35006929
- BCN/2013/12285 Applied: 25/11/2013 Status: Completed
45 Princess Street Addington
Exemption from building consent approved 05/12/2013
Application for exemption from Building Consent for seismic strengthening.(Hudson Building) - Historical Reference BAE35007198

(b) Certificates

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

(c) Notices

- WOF/2020/3651 Expires: 01/03/2026
Compliance schedule issued 09/11/2018

(d) Orders

(e) Requisitions

Related Information

- In the property file there is an electrical and/or gas fitters certificate relating to works that have been carried out on the current building at this address.

Property address:

45 Princess Street

LIM number: H09436027

Page 13

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

www.ccc.govt.nz

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.

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.

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-strategies-policies-and-bylaws/plans/christchurch-district-plan/>.

There may be 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).

(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

- **Christchurch International Airport Protection Sfc.**

Property or part of property within the Christchurch International Airport Protection Surfaces overlay, which is operative.

- **Liquefaction Management Area (LMA)**

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

- **District Plan Zone**

Property or part of property within the Industrial Heavy Zone, which is operative.

(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/1996/4542 - Subdivision Consent
Fee Simple SUBDIVISION - Historical Reference RMA9243
Status: Processing complete
Applied 20/03/1996
- RMA/1998/3304 - Subdivision Consent
Right Of Way SUBDIVISION - Historical Reference RMA12502
Status: Processing complete
Applied 17/11/1998

Property address:

45 Princess Street

LIM number: H09436027

Page 16

Christchurch City Council

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

www.ccc.govt.nz

- RMA/2005/1178 - Subdivision Consent
Fee Simple Subdivisions - Historical Reference RMA20020032
Status: Processing complete
Applied 23/05/2005
Granted 30/06/2005
Decision issued 30/06/2005
- RMA/2010/295 - Subdivision Consent
Fee Simple Subdivision 223 Certified 6/9/2011 DP 438405 224 Issued 3/4/2012 - Historical Reference RMA92015792
Status: Processing complete
Applied 04/03/2010
Granted 13/10/2010
Decision issued 13/10/2010
- RMA/2018/2440 - s127 Change / cancellation of condition(s)
39 Princess Street Addington
Change of Conditions of RMA/2010/293
Status: Processing complete
Applied 05/10/2018
31/10/2018
Granted 31/10/2018
Decision issued 31/10/2018
- RMA/2018/2452 - s243 Surrender of easement
39 Princess Street Addington
To Reconfigure Carparking
Status: Consent issued
Applied 08/10/2018
Decision issued 09/11/2018
- RMA/2018/2454 - s348 Right of way / private road
45 Princess Street Addington
To Reconfigure a Car park
Status: Consent issued
Applied 08/10/2018
Granted 02/11/2018
Decision issued 02/11/2018

Property address:

45 Princess Street

LIM number: H09436027

Page 17

Christchurch City Council

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

www.ccc.govt.nz

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

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**

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 Tuesday. 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 Tuesday. Please leave your recycling at the Kerbside by 6:00 a.m. Your nearest recycling depot is the Parkhouse Road EcoDrop.
- Your refuse is collected Fortnightly on the Week 2 collection cycle on a Tuesday. Please leave your rubbish at the Kerbside by 6:00 a.m. Your nearest rubbish depot is the Parkhouse Road 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.

- **Community Board**

Property located in Halswell-Hornby-Riccarton 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 Riccarton 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

- **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.

Property address:

45 Princess Street

LIM number: H09436027

Page 20

Christchurch City Council

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

www.ccc.govt.nz

Related Information

- The Council has received a third party work completion report/information relating to the building exemption application BCN/2013/12285 & BCN/2013/12031 on this property. It has been placed on the property file. The Council does not accept any liability for the contents, or representations, made within the report/information. The report/information is not included in the Land Information Memorandum (LIM) because the Council has not verify the information/report supplied. If a copy of the property file is required you can request this through our online form by visiting ccc.govt.nz & search property file or visit a Council Service Centre.
- Please see attached a copy of the Detailed Engineering Evaluation (DEE) assessment report. Please note parts 1 & 2 of this building were strengthened under BCN/2013/12285 & BCN/2013/12031
- Dangerous Goods Licences have been replaced with Location Test Certificates/ Location Compliance Certificates administered by Worksafe. You can contact a local Test Certifier to advise you or to issue the type of test certificate you need.

Property address:

45 Princess Street

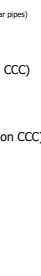
LIM number: H09436027

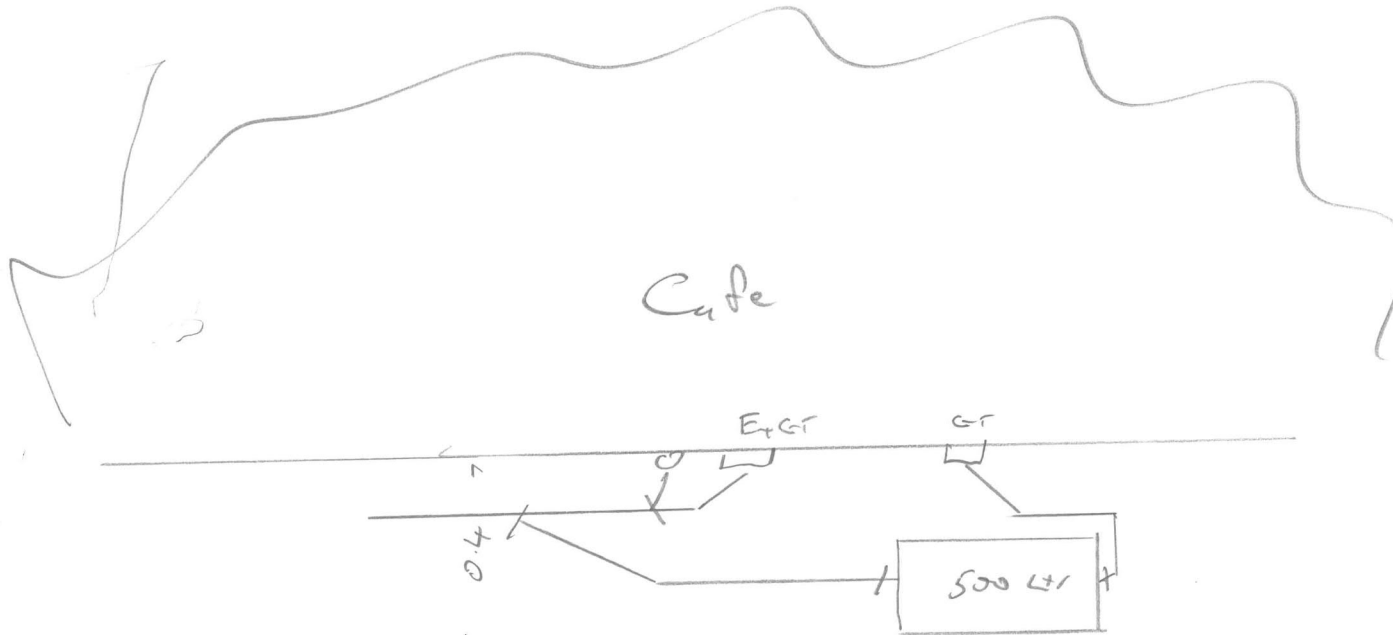
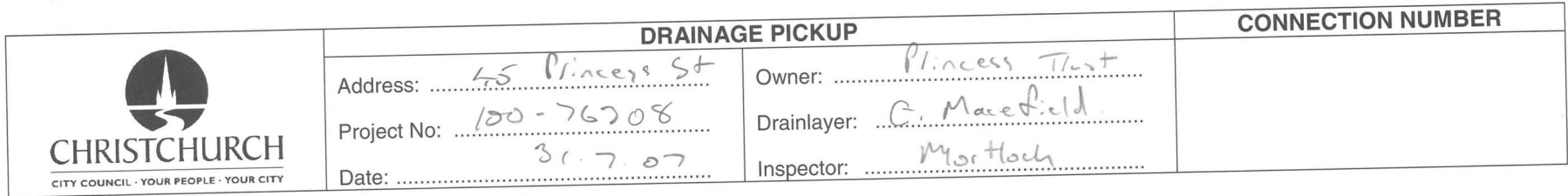
Page 21

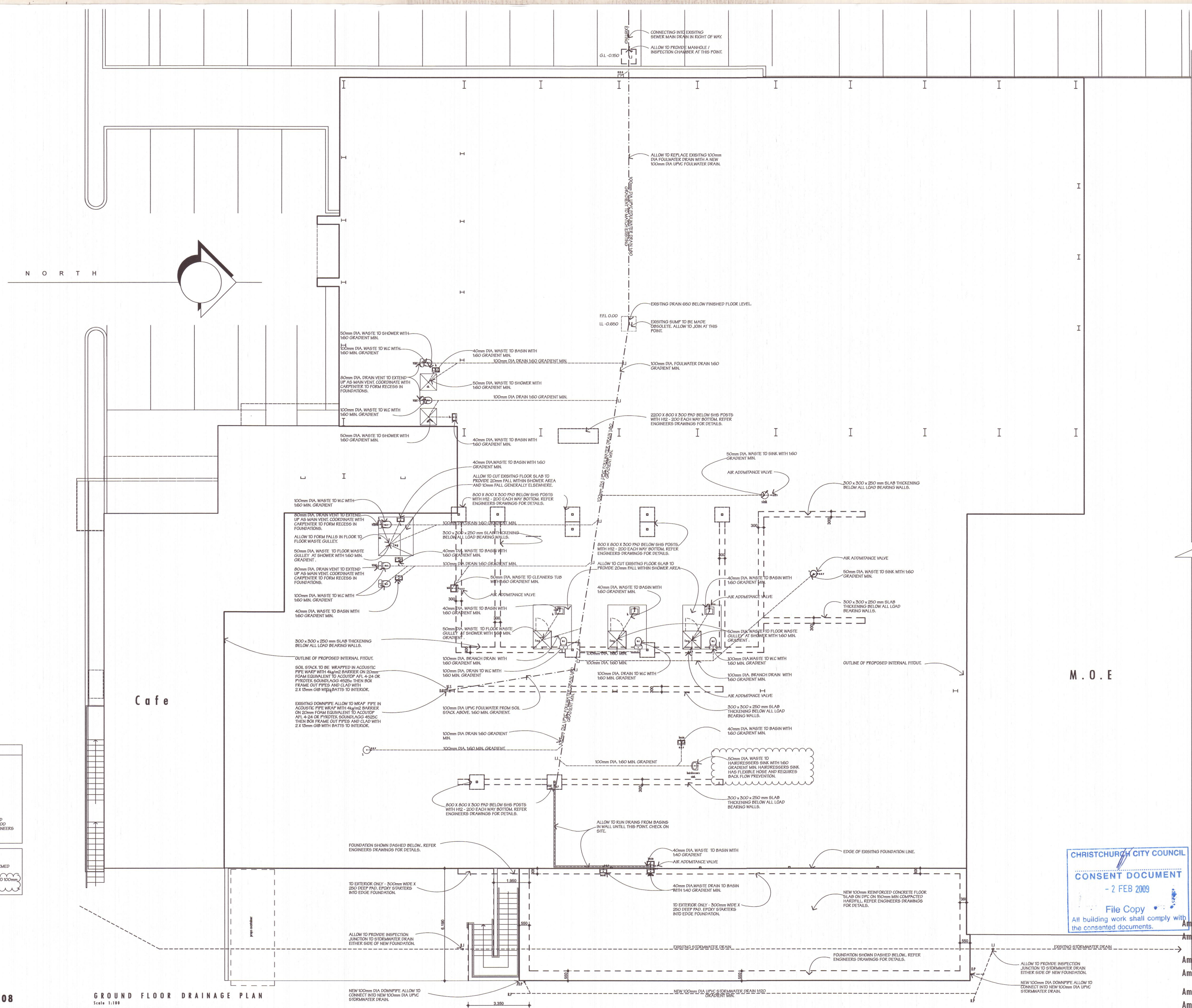
Christchurch City Council

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

www.ccc.govt.nz







LEGEND :

- RP RODDING POINT
- DP DOWNPIPE
- TV TERMINAL VENT
- O.R.G. OVERFLOW RELIEF GULLEY
- IJ INSPECTION JUNCTION
- AV AIR ADMITTANCE VALVE

INDICATES 800 X 800 X 300 PAD BELOW SHS POSTS WITH H2 - 200 EACH WAY BOTTOM. REFER ENGINEERS DRAWINGS FOR DETAILS.

NOTE:

ALL DRAINAGE SHOWN AS INDICATION ONLY DRAIN SIZES AND GRADIENTS TO BE CONFIRMED BY PLUMBER AND DRAINLAYER.

ALL FIXTURES AND WASTES TO CONNECT INTO 100mm DIA DRAIN BELOW FLOOR LEVEL.

CHRISTCHURCH CITY COUNCIL

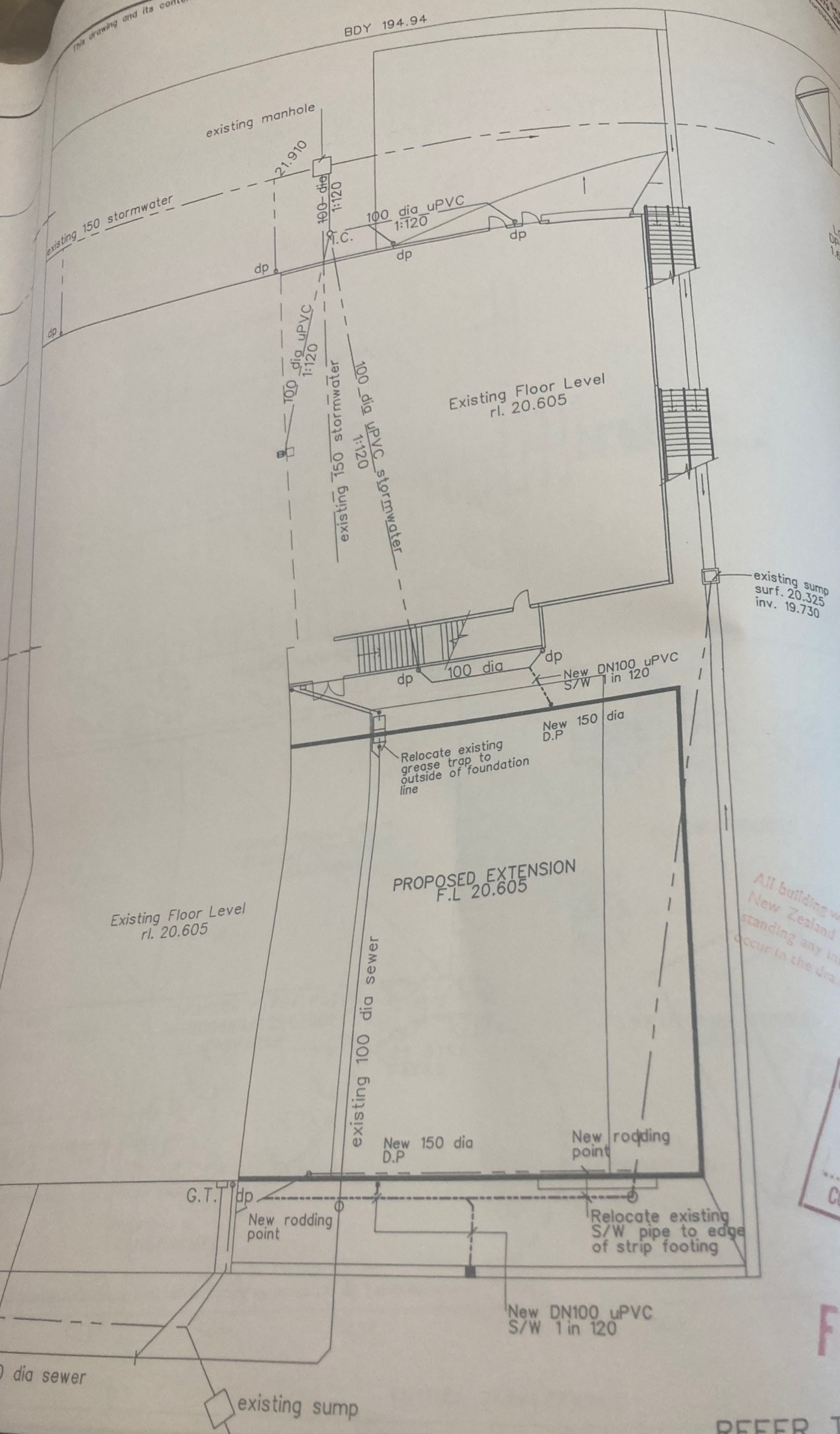
CONSENT DOCUMENT

- 2 FEB 2009

File Copy

All building work shall comply with the consented documents.

CHRIS CHURCH 10000 1st Ave. N.E. Seattle, WA 98115 (206) 462-1000		12	
ADDRESS:	39 Princess St	OWNER:	D Chapman
LEGAL DESCRIPTION:		DRAINILAYER:	G Keuning
PROJECT No.:	97008750	PLUMBER:	
DATE:	17-11-75	FIELD OFFICER:	Bullas Tapp
			Russell Simson
RECEIVED		/	
BLOCK PLAN		/	
PLOTTED		/	
EYE BOOK		/	
CONNECT		/	
NUMBER		/	



All building work shall comply with the New Zealand Building Code, notwithstanding any inconsistencies which may occur in the drawings and specifications.

CHRISTCHURCH CITY COUNCIL
12 NOV 1997
CONSENT DOCUMENT

FILE COPY

REFER TO SW1 FOR NOTES

DRN JND	STATUS	APPROVED	REVISION	DATE	APPROVED	DESCRIPTION	FILE
DES							

CHRISTCHURCH CITY COUNCIL - DRAINAGE PICK UP



CHRISTCHURCH
THE GARDEN CITY
the city that shines

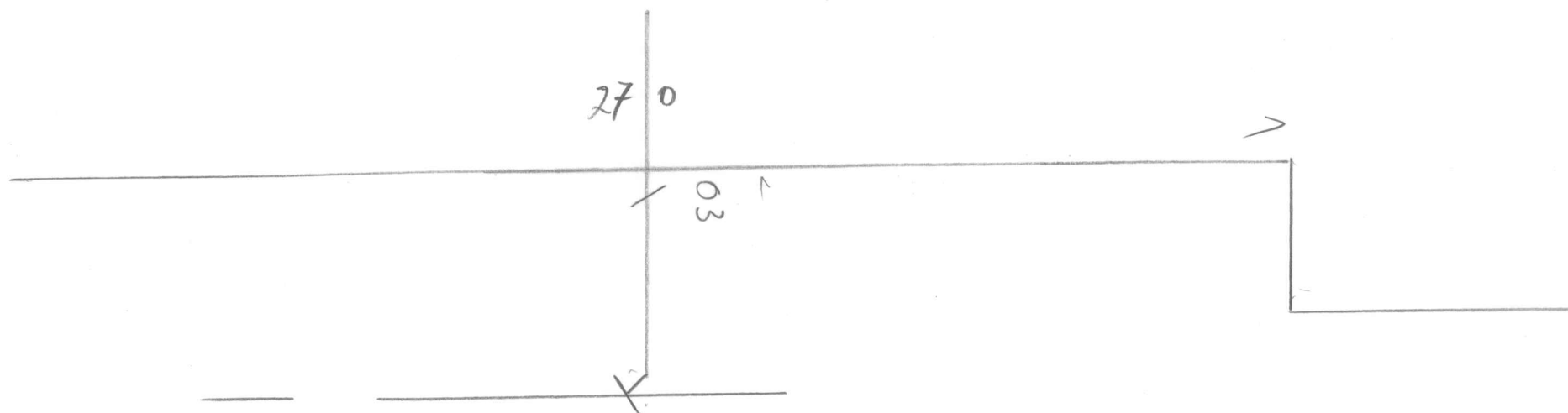
ADDRESS: 39 PRINCESS ST
LEGAL DESCRIPTION:
PROJECT No.: 10061926
DATE: 22.2.6.

OWNER:
DRAINLAYER: P DIVER.
PLUMBER:
FIELD OFFICER: STUBBS

RECEIVED:
BLOCK PLAN:
PLOTTED: / /
EYE BOOK:

CONNECTION
NUMBER

AS3500



EYE BOOK No.

484

CONSENT

Contact No. 10059537 Plan No.

Contract

Street 39-55 PRINCESS ST

Diameter of Pipe 22.5 Class SN4 Type PVC

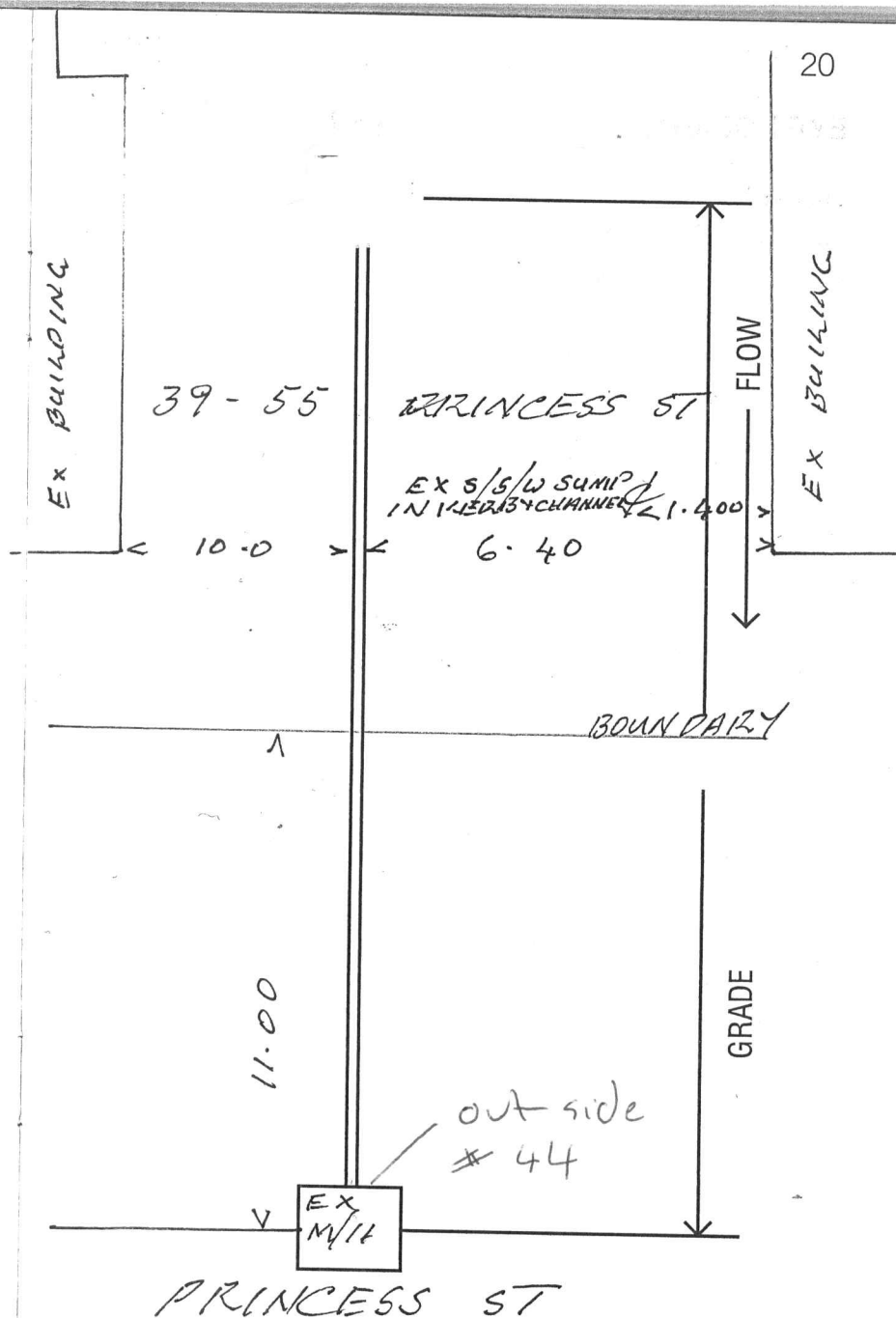
Trench Width 1

Date Laid 20-3-05 SEWER STORMWATER

Laid as per Specification of CHARLTON HURRELL

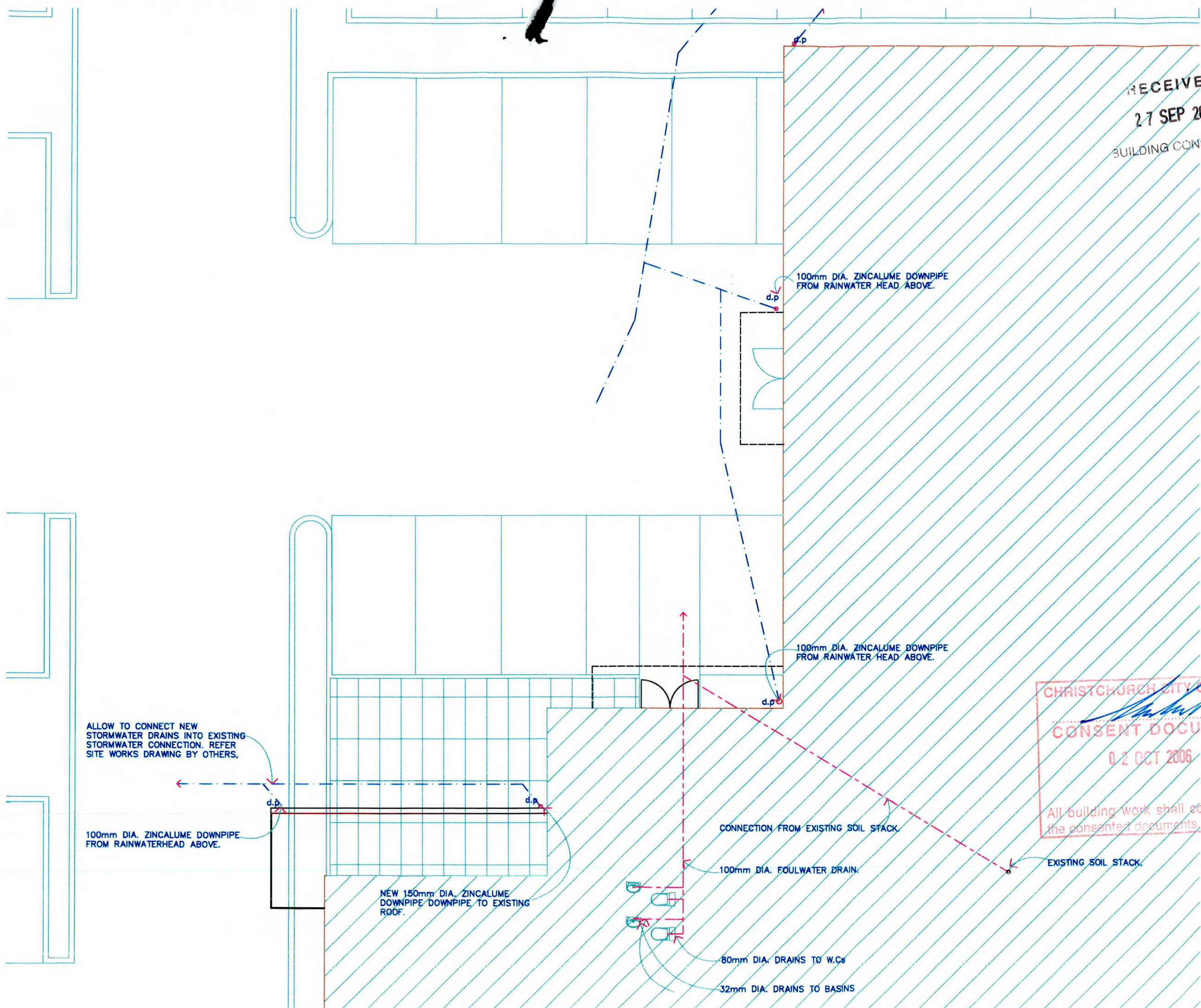
Compiled By MMD

Contract Officer Check



refer attached plan.

RECEIVED
27 SEP 2006
BUILDING CONSENTS



ALLOW TO CONNECT NEW
STORMWATER DRAINS INTO EXISTING
STORMWATER CONNECTION. REFER
SITE WORKS DRAWING BY OTHERS,

100mm DIA. ZINCALUME DOWNPIPE
FROM RAINWATERHEAD ABOVE.

NEW 150mm DIA. ZINCALUME
DOWNPIPE DOWNPIPE TO EXISTING
ROOF.

100mm DIA. ZINCALUME DOWNPIPE
FROM RAINWATER HEAD ABOVE.

100mm DIA. ZINCALUME DOWNPIPE
FROM RAINWATER HEAD ABOVE.

CONNECTION FROM EXISTING SOIL STACK.

100mm DIA. FOULWATER DRAIN.

80mm DIA. DRAINS TO W.Cs

32mm DIA. DRAINS TO BASINS

CHRISTCHURCH CITY COUNCIL
CONSENT DOCUMENT
02 OCT 2006
All building work shall comply with
the consented documents.

EXISTING SOIL STACK.

41 Princess Street Christchurch



DETAILED ENGINEERING EVALUATION

- Rev 1
- 03 July 2013



41 Princess Street Christchurch

DETAILED ENGINEERING EVALUATION

- Rev 1
- 03 July 2013

Sinclair Knight Merz
142 Sherborne Street
Saint Albans
PO Box 21011, Edgeware
Christchurch, New Zealand
Tel: +64 3 940 4900
Fax: +64 3 940 4901
Web: www.skmconsulting.com

COPYRIGHT: The concepts and information contained in this document are the property of Sinclair Knight Merz Limited. Use or copying of this document in whole or in part without the written permission of Sinclair Knight Merz constitutes an infringement of copyright.

LIMITATION: This report has been prepared on behalf of and for the exclusive use of Sinclair Knight Merz Limited's Client, and is subject to and issued in connection with the provisions of the agreement between Sinclair Knight Merz and its Client. Sinclair Knight Merz accepts no liability or responsibility whatsoever for or in respect of any use of or reliance upon this report by any third party.

Contents

1. Executive Summary	3
1.1. Background	3
1.2. Key Damage Observed	3
1.3. Critical Structural Weaknesses	4
1.4. Indicative Building Strength	4
1.5. Recommendations	4
2. Introduction	5
3. Building Details	6
3.1. Building Description	6
3.2. Seismic Load Resisting System	6
3.3. Building Damage	6
4. Available Information and Assumptions	7
4.1. Available Information	7
4.2. Design Criteria and Assumptions	7
4.3. The Detailed Engineering Evaluation (DEE) process	8
5. Results and Discussion	9
5.1. Analysis Results	9
5.2. Critical Structural Weaknesses	10
6. Conclusion and Recommendations	11
7. Limitation Statement	12
8. Appendix 1 – Photos	13
9. Appendix 2 – Strengthening Concepts	17
9.1. Part 1 Strengthening	17
9.2. Part 2 Strengthening	18
10. Appendix 3 – CERA Standardised Report Form	21

Document history and status

Revision	Date issued	Reviewed by	Approved by	Date approved	Revision type
1	2/07/2013	Nelson Chin	James Carter	2/07/2013	Internal Review

	Date	Name	Signature	Position
Author	2/07/2013	Kimberley Wylie		Structural Engineer
Approver	2/07/2013	James Carter		Senior Structural Engineer

Distribution of copies

Revision	Copy no	Quantity	Issued to
0	1	1	Martyn Reesby (via email)
0	1	1	Phil Watkins (via email)

Printed:	3 July 2013
Last saved:	3 July 2013 08:31 AM
File name:	I:\ZBIF\Projects\ZB01397\Deliverables\Reports\ZB01397_41 Princess Street DEE_FINAL.docx
Author:	Kimberley Wylie
Project manager:	Kimberley Wylie
Name of	Reesby & Co
Name of project:	41 Princess Street Quantitative Assessment
Name of document:	ZB01397_41 Princess Street DEE
Document version:	Rev 1
Project number:	ZB01397

1. Executive Summary

1.1. Background

A Quantitative Detailed Engineering Evaluation (DEE) was carried out on the Whitebait and Hudson building located at 41 Princess Street, Christchurch. The building comprises of three independent structural areas denoted as Part 1, Part 2 and Part 3 in this report. An aerial photograph illustrating all three parts is shown below in Figure 1. Detailed descriptions outlining the buildings age and construction type are given in Section 3 of this report.



■ **Figure 1 Aerial Photograph of 41 Princess Street**

1.2. Key Damage Observed

No structural damage was observed during our visual inspection.

1.3. Critical Structural Weaknesses

The following critical structural weakness was identified.

- Non-ductile mesh reinforcing to the precast panels located in Part 2. This type of reinforcing could cause the panels to behave in a brittle fashion under earthquake loading. This weakness has been accounted for in our assessment and has resulted in the low % NBS¹ capacity of the building.

1.4. Indicative Building Strength

The assessed seismic capacity of each part is shown below in Table 1. Parts 1 and 2 were found to have a seismic capacity less than 34% NBS and consequently are classified as earthquake prone buildings as defined in Section 122 of the New Zealand Building Act (2004).

■ Table 1 Seismic Capacities of Building Parts

Location	% NBS Rating
Part 1	21% NBS
Part 2	20% NBS
Part 3	90% NBS

1.5. Recommendations

It is recommended that Parts 1 and 2 are strengthened to at least 67% NBS in line with the NZSEE guidelines (2006).

¹ NBS – New Building Standard

2. Introduction

Sinclair Knight Merz was engaged by Reesby & Co to carry out a Detailed Engineering Evaluation (DEE) of the Whitebait and Hudson building located at 41 Princess Street, Riccarton, Christchurch.

The scope of this analysis includes the following:

- Analysis of the seismic load carrying capacity of the building compared with current seismic loading requirements expressed as a percentage of New Buildings Standard (% NBS). It should be noted that this analysis considers the building in its current damaged state.
- Identify any critical structural weaknesses which may exist in the building and include these in the assessed capacity of the structure.
- Preparation of a summary report outlining the areas of concern in the building as well as recommendations for improvement for any areas which are found to have insufficient capacity.
- Preparation of concept strengthening solutions.

The recommendations from the Engineering Advisory Group's "Guidance on Detailed Engineering Evaluation of Earthquake Affected Non-residential Buildings" (draft) July 2011 were followed to assess the likely performance of the structures in a seismic event relative to the New Building Standard (NBS). 100% NBS is equivalent to the strength of a building that fully complies with current codes. This includes a recent increase of the Christchurch seismic hazard factor from 0.22 to 0.3².

At the time of this report no intrusive site investigations had been carried out. Structural drawings of Part 2 and architectural drawings of all three parts were made available. These have been used in our evaluation of the building.

No structural damage was observed during our visual inspection.

² <http://www.dbh.govt.nz/seismicity-info>

3. Building Details

3.1. Building Description

Our evaluation was based on the available structural drawings prepared by Alan Reay Consultants dated January 1995 and the architectural drawings prepared by Weirwalker dated October 2008. These drawings show the structural members, their materials and configuration of the detailing.

The building located at 41 Princess Street, Christchurch. The building comprises of three independent structural areas. These areas have been denoted as Part 1, Part 2 and Part 3 in this report. Part 1 is supported on concrete foundations and has a concrete slab on grade that forms the ground floor. Part 2 is a two storey building that is used as commercial offices and café. It is constructed from a steel framing to the roof and precast concrete panels to the wall. The first floor comprises of suspended interspan flooring units. Part 2 is supported on concrete precast piles and also has a concrete slab on grade that forms the ground floor. Part 3 is a two storey building that is used as commercial offices. It is constructed from timber framing and is supported on concrete foundations. The first floor comprises of timber framing that is supported on a combination of steel framing and the timber framed partition walls. Part 3 is supported on concrete foundations and the concrete slab that forms the ground floor. There is a concrete block inter-tenancy wall that separates Part 1 and 2 from the adjacent building, which is occupied by the Ministry of Education. This wall is entirely supported by the Ministry of Education building and therefore has been ignored in our assessment.

3.2. Seismic Load Resisting System

Part 1: Lateral loads acting across the building (east-west) are resisted by the steel portal frames. Note that these portal frames have been analysed as pin-based moment resisting frames. Lateral loads acting along the building (north-south) are resisted by a combination of steel tension braces and minor axis bending of the portal frame columns.

Part 2: Lateral loads acting at the roof level will be resisted by the steel tension bracing. These loads are then transferred into the concrete panel walls. Lateral loads acting at level 1 will be resisted by the concrete floor diaphragm. These loads are then transferred into the concrete panel walls. Loads acting across the building (east-west) will be resisted by the concrete panels located along the southern elevation only. This will create a torsional response which will be resisted by the east and west concrete walls.

Part 3: Lateral loads acting across and along the building will be resisted by the plasterboard linings present on the walls and ceiling.

3.3. Building Damage

No structural damage was observed during our visual site inspection.

4. Available Information and Assumptions

4.1. Available Information

- Structural drawings of Part 2 by Alan Reay Consultants, dated January 1995
- Architectural drawings of Part 1, 2 and 3 by Weirwalker Architects, dated October 2008.
- SKM visual inspection findings from our site inspection carried out on the May 2013.
- Geotechnical Report prepared by "Geotech Consulting Ltd" dated 12 April 2006.

4.2. Design Criteria and Assumptions

The following design criteria and assumptions were used in undertaking the assessment:

- The building was built according to the drawings and according to good practice at the time. We have reviewed the building and from our visual inspection the structure appears to be built in accordance with the drawings.
- Standard design criteria for typical commercial buildings as described in AS/NZS1170.0:2002:
 - 50 year design life
 - Structure Importance Level 2. This level of importance is described as 'normal' with medium or considerable consequence for loss of human life, or considerable economic, social or environmental consequence of failure.
- The building has a short period less than 0.4 seconds.
- Site hazard factor, $Z = 0.3$, NZBC, Clause B1 Structure, Amendment 11 effective from 1 August 2011.
- Part 1: - A ductility factor of 2.0 was used.
- Part 2: - A ductility factor of 2.0 was used except for the precast panels reinforced with non-ductile mesh. For these elements a ductility factor of 1.0 was used.
- Part 3: - A ductility factor of 2.5 was used since the building is a light-weight timber framed structure.

The detailed engineering analysis is a post construction evaluation therefore it has the following limitations:

- It is not likely to pick up on any concealed construction errors (if they exist)
- Other possible issues that could affect the performance of the building such as corrosion and modifications to the structure will not be identified unless they are visible and have been specifically mentioned in this report.
- The detailed engineering evaluation deals only with the structural aspects of the structure. Other aspects such as building services are not covered.

4.3. The Detailed Engineering Evaluation (DEE) process

This report is based on the Engineering Advisory Group's "Guidance on Detailed Engineering Evaluation of Earthquake Affected Non-residential Buildings" (draft) July 2011, our visual inspections carried out on the 30th November 2012, intrusive investigations carried out on the 1st February 2013 and available structural drawings and architectural drawings. The DEE is not yet recognised by the NZ Building Code but is widely used and recognised by the Christchurch City Council as the preferred method for preliminary seismic investigations of buildings³.

The DEE assessment ranks buildings according to how well they are likely to perform relative to a new building designed to current earthquake standards, as shown in Table 2. The building rank is indicated as a percentage of the New Building Standard requirements (%NBS).

The New Zealand Building Act (2004) defines a building as earthquake prone if:

- (a) The building will have its ultimate capacity exceeded in a moderate earthquake (as defined in the regulations), i.e. one third of the new building standard; and
- (b) The building would be likely to collapse causing -
 - (i) injury or death to persons in the building or to persons on any other property; or
 - (ii) damage to any other property.

Any building defined as earthquake prone is legally required to be strengthened up to a minimum of one third of the new building standard.

Buildings that are identified to be Earthquake Prone are required by Christchurch City Council policy to be strengthened within 30 years of the owner being notified that the building is potentially earthquake prone³.

■ **Table 2: DEE Risk classifications**

Description	Grade	Risk	%NBS	Structural performance
Low risk building	A+	Low	> 100	Acceptable. Improvement may be desirable.
	A		100 to 80	
	B		80 to 67	
Moderate risk building	C	Moderate	67 to 33	Acceptable legally. Improvement recommended.
High risk building	D	High	33 to 20	Unacceptable. Improvement required.
	E		< 20	

³ <http://resources.ccc.govt.nz/files/EarthquakeProneDangerousAndInsanitaryBuildingsPolicy2010.pdf>

5. Results and Discussion

5.1. Analysis Results

The capacity of the building has been broken down into its three structural areas. The assessed seismic capacity of the lateral resisting elements of each Part is detailed below in Table 4. Parts 1 and 2 were found to have a seismic capacity less than 34% NBS and consequently are classified as earthquake prone as defined in Section 122 of the New Zealand Building Act (2004). Consequently strengthening is legally required to both Parts 1 and 2. The minimum level of strengthening required is 34% NBS. However consideration should be given to strengthening these areas up to 67% NBS as recommended in the NZSEE guidelines (2006). Conceptual strengthening solutions for these areas have been provided in Appendix 2. Part 3 was found to have a seismic capacity in the order of 90% NBS and as a result no strengthening is required to meet either the New Zealand Building Act requirements or NZSEE guideline recommendations.

■ **Table 3: DEE Results**

Part	Element	Design Action	% NBS
Part 1	Longitudinal Bracing – Welded Connection to Tension Braces	Shear	21
	Longitudinal Bracing – UB Columns	Bending & Compression	24
	Portal Frame Foundations ⁽¹⁾	Uplift	< 34
	Lateral Bracing – Portal Frames	Bending & Axial Loads	66
	Portal Frame / Longitudinal Braced Bay – Hold-Down Connections ⁽¹⁾	Tension & Shear	75
	Longitudinal Bracing – Tension Braces, Steel Angles	Tension	76
	Longitudinal & Lateral Bracing – Timber Roof Sarking	Shear	100
Part 2	Roof Bracing Connections	Shear & Tension	20
	Roof Bracing – Reid Braces	Tension	26
	Wall Panels – South Elevation ⁽²⁾	In Plane Bending	29
	Roof Bracing – DHS Strut	Compression	40
	Wall Panels – East Elevation ⁽²⁾	In Plane Bending	53
	Wall Panels ⁽²⁾	Shear	61
	Wall Panels ⁽²⁾	Out of Plane Bending	89
Part 3	Lateral Direction (East-West) – Timber Wall Diaphragm	Shear	97
	Longitudinal Direction (North-South) – Timber Wall Diaphragm	Shear	100

1) Elements to be confirmed on site during strengthening phase.

2) Minimum Reinforcement requirements to panels are not meet. Consequently additional reinforcement to panels is required.

5.2. Critical Structural Weaknesses

The following critical structural weakness was identified.

- Non-ductile mesh reinforcing to the precast panels. This type of reinforcing could lead cause the panels to behave in a brittle fashion under earthquake loading. This weakness has been accounted for in our assessment and has resulted in a reduction of the final % NBS capacity of the building.

6. Conclusion and Recommendations

SKM carried out a detailed engineering evaluation on the Whitebait and Hudson building located at 41 Princess Street, Riccarton, Christchurch. This assessment concluded that both Part 1 and Part 2 are classified as Earthquake Prone Buildings and as a result strengthening is legally required. The minimum level of strengthening required is 34% NBS. However consideration should be given to strengthening these areas up to 67% NBS as recommended in the NZSEE guidelines (2006). Conceptual strengthening solutions up to 67% NBS have been provided in Appendix 2. No strengthening to Part 3 is required.

■ Recommendations

It is recommended that Parts 1 and 2 are strengthened to at least 67% NBS in line with the NZSEE guidelines (2006).

7. Limitation Statement

This report has been prepared on behalf of, and for the exclusive use of, Reesby & Co, and is subject to, and issued in accordance with, the provisions of the contract between SKM and Reesby & Co. It is not possible to make a proper assessment of this report without a clear understanding of the terms of engagement under which it has been prepared, including the scope of the instructions and directions given to, and the assumptions made by, SKM. The report may not address issues which would need to be considered for another party if that party's particular circumstances, requirements and experience were known and, further, may make assumptions about matters of which a third party is not aware. No responsibility or liability to any third party is accepted for any loss or damage whatsoever arising out of the use of or reliance on this report by any third party.

Without limiting any of the above, in the event of any liability, SKM's liability, whether under the law of contract, tort, statute, equity or otherwise, is limited in as set out in the terms of the engagement with Reesby & Co.

It is not within SKM's scope or responsibility to identify the presence of asbestos, nor the responsibility of SKM to identify possible sources of asbestos. Therefore for any property pre-dating 1989, the presence of asbestos materials should be considered when costing remedial measures or possible demolition.

Should there be any further significant earthquake event, of a magnitude 5 or greater, it will be necessary to conduct a follow-up investigation, as the observations, conclusions and recommendations of this report may no longer apply. An earthquake of a lower magnitude may also cause damage, and SKM should be advised immediately if further damage is visible or suspected.

8. Appendix 1 – Photos

	
Photo 1 : Whitebait & Hudson Building– South-West Elevation	Photo 2: Whitebait Building (Part 1) – West Elevation
	
Photo 3 : Hudson Building (Part 2) – South Elevation	Photo 4: Hudson Building (part 2) – East Elevation (Note Existing Roller Doors Located in Panels 1 and 2)



Photo 5: Part 4 – West Wall



Photo 6: Atrium between Part 1 and Part 3



Photo 7: Existing Wall Bracing to Part 1 – East Wall

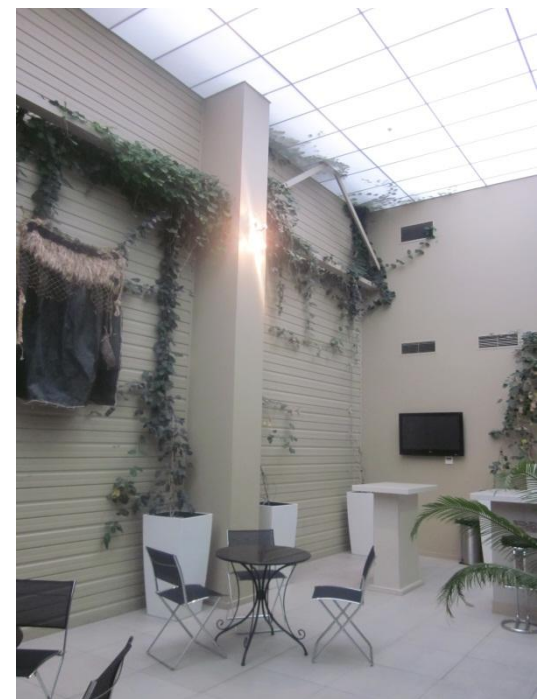


Photo 8: Existing Wall Bracing to Part 1 Continued – East Wall



Photo 9: Internal View of Part 3, First Floor, Looking North

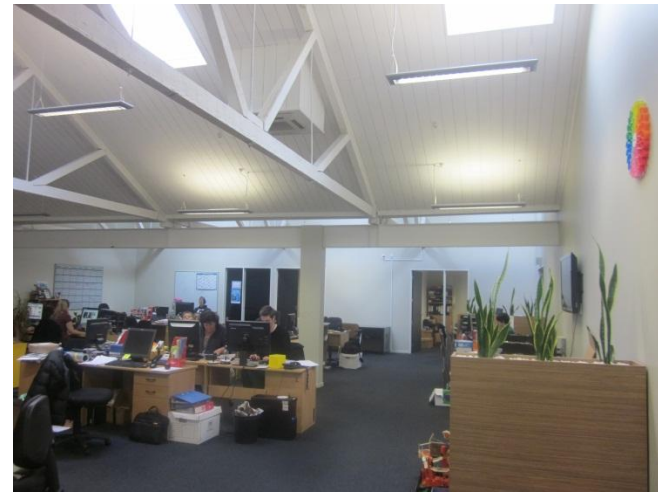


Photo 10: Internal View of Part 3, First Floor, Looking East



Photo 11: Part 3 – Roof Truss Connection to Spine Beam



Photo 12: Existing Construction Photos (Dated 2009) of Part 3



Photo 13: Existing Construction Photos (Dated 2009)



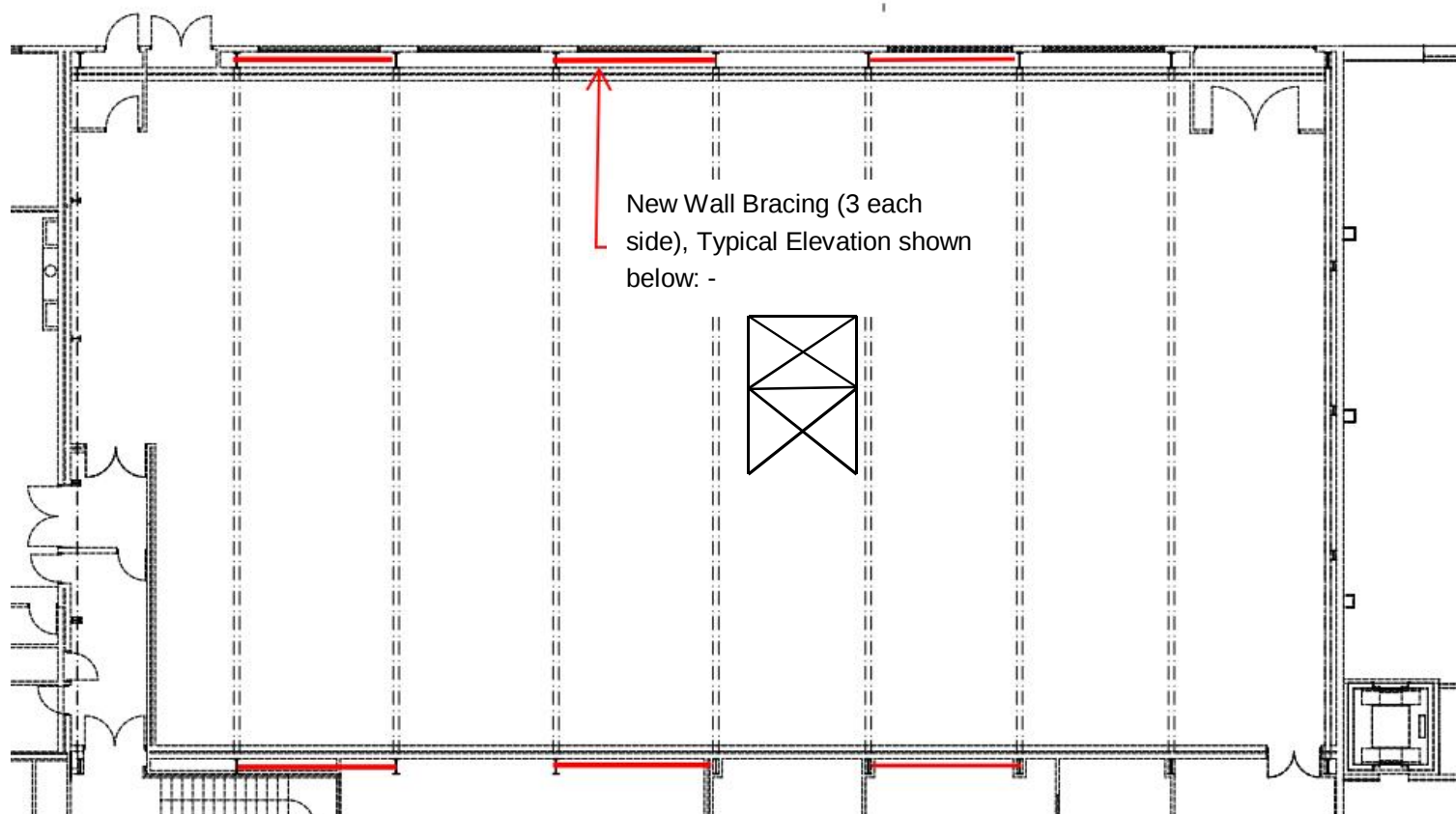
Photo 14: Existing Construction Photos (Dated 2009) of Part 3

of Part 3 Continued	Part 1, Looking South
	
Photo 15: Existing Construction Photos (Dated 2009) of Part 1, Looking North-West	Photo 16: Existing Construction Photos (Dated 2009) of Part 1, Looking South
	
Photo 17: Existing Construction Photos (Dated 2009) of Atrium between Part 1 and 3, Looking South	Photo 18: Existing Construction Photos (Dated 2009) of Part 2, Looking West. Show Roof Bracing Present

9. Appendix 2 – Strengthening Concepts

9.1. Part 1 Strengthening

Strengthening works to Part 1 involve installing additional wall bracing along the western and eastern walls. Sketches detailing this proposed strengthening concept are shown below.

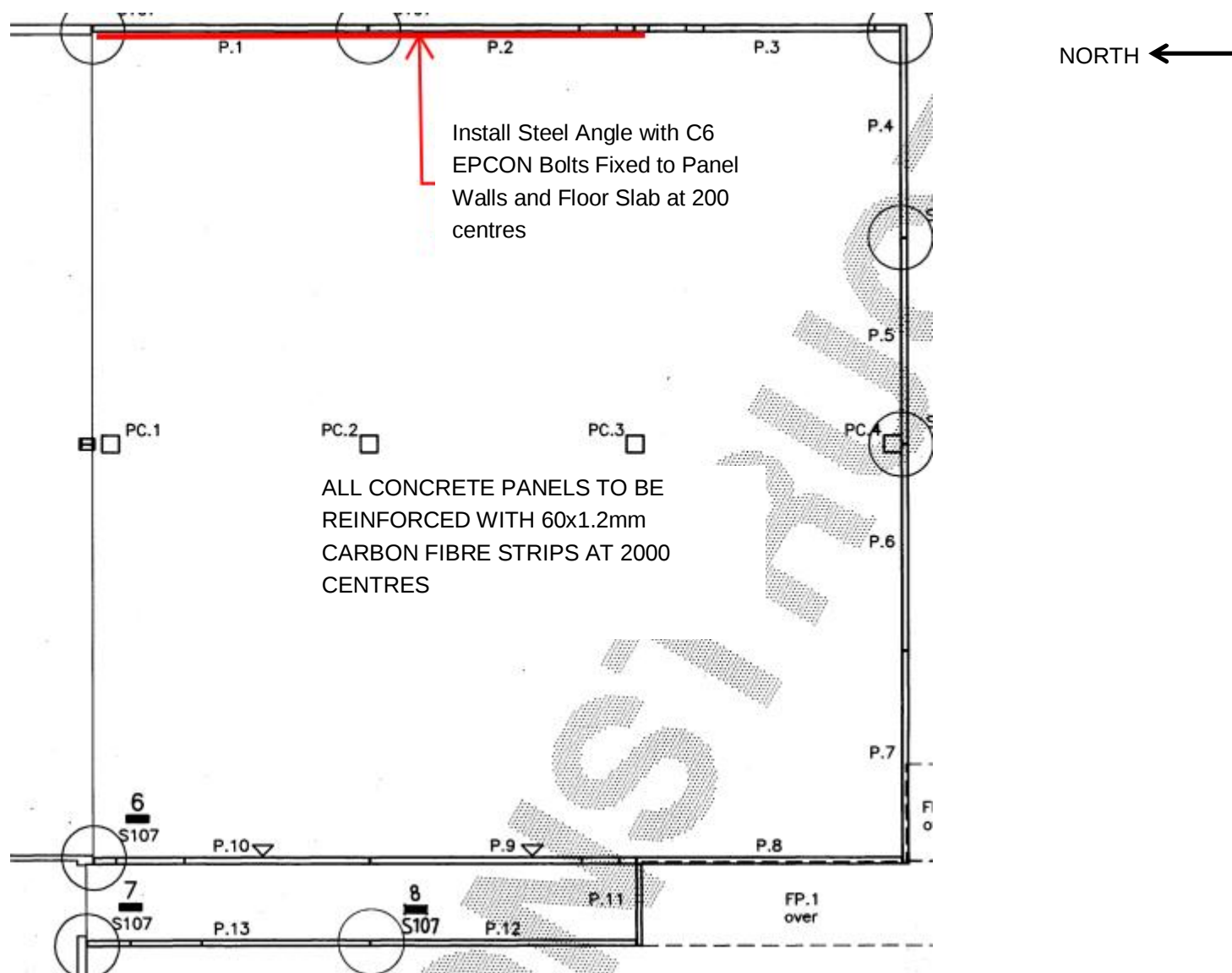


9.2. Part 2 Strengthening

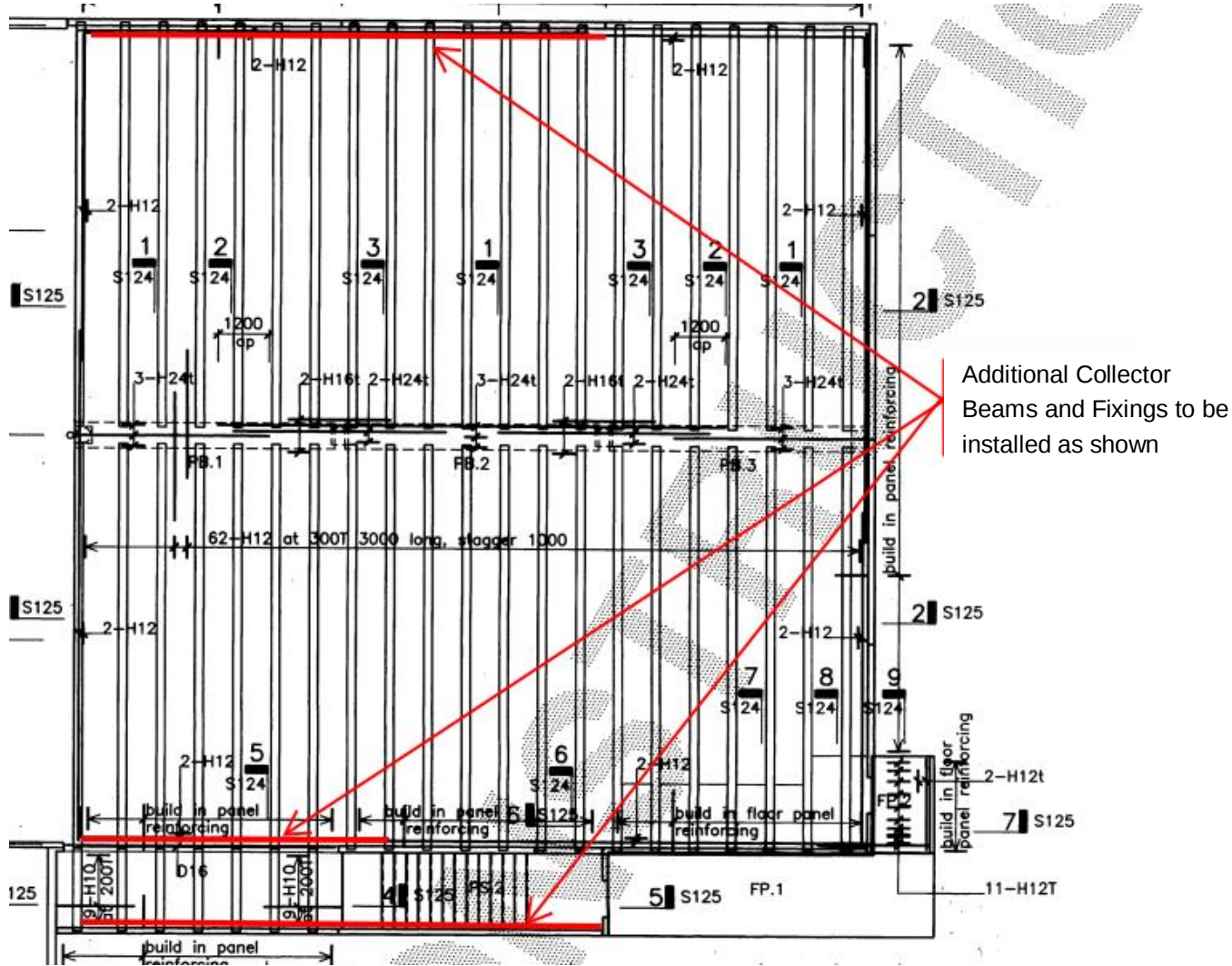
Strengthening Part 2 involves the following:

- Installing additional hold-downs to Panels 1 and 2 located along the eastern wall.
- Installing collector beams and fixings to Panels 1, 2, 10, 12 and 13 at the first floor level.
- Installing additional roof bracing and upgrading the fixings between the roof braces and concrete panel walls.

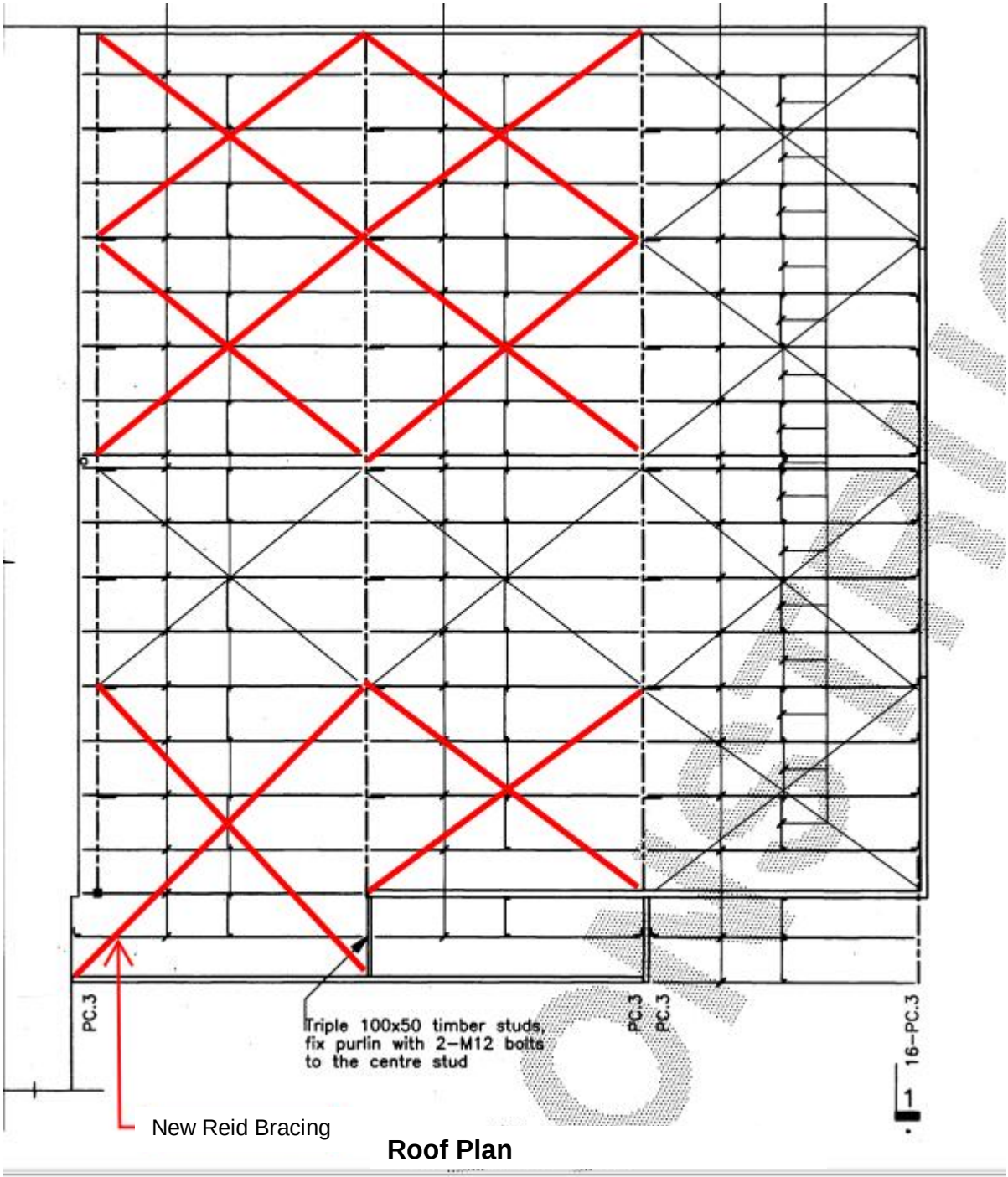
This proposed strengthening concept is detailed in the sketches below.



Ground Floor Plan



First Floor Plan





10. Appendix 3 – CERA Standardised Report Form

Detailed Engineering Evaluation Summary Data

ock 1

V1.14

Location		Building Name: Whitebat Building (Part 1)		Reviewer: Kimberley Wylie	
Building Address: 41 Princess Street		Unit: No. Street		CPEng No: 1007058	
Legal Description:				Company: SKM	
				Company project number: ZB01397	
				Company phone number: 940 4900	
GPS south: 43		Degrees Min Sec 32 20 13		Date of submission: Jul-13	
GPS east: 172		36 1 35		Inspection Date: Jun-13	
				Revision: 0	
Building Unique Identifier (CCC):				Is there a full report with this summary? yes	

Site		Site slope: flat		Max retaining height (m): 0	
Soil type: mixed				Soil Profile (if available): refer to Geotech Consulting report - dated 2006	
Site Class (to NZS1170.5): D				If Ground improvement on site, describe: N/A	
Proximity to waterway (m, if <100m):				Approx site elevation (m): 5.00	
Proximity to cliff top (m, if <100m):					
Proximity to cliff base (m, if <100m):					

Building		No. of storeys above ground: 1		single storey = 1	
Ground floor split? no				Ground floor elevation (Absolute) (m): 10.20	
Storeys below ground: 0				Ground floor elevation above ground (m): 0.20	
Foundation type: isolated pads, no tie beams				If Foundation type is other, describe: height from ground to level of uppermost seismic mass (for IEP only) (m): 11.03	
Building height (m): 11.03				Date of design: 1935-1965	
Floor footprint area (approx): 650					
Age of Building (years): 55					
Strengthening present? no				If so, when (year)?	
Use (ground floor): other (specify)				And what load level (%g)?	
Use (upper floors):				Brief strengthening description:	
Use notes (if required): TV Studio					
Importance level (to NZS1170.5): IL2					

Gravity Structure		Gravity System: frame system		410UB supporting timber purlins and timber sarking. Cladding consists of light-weight	
Roof: steel framed				rafter type, purlin type and cladding: profiled steel	
Floors: concrete flat slab				ground floor - concrete slab on grade, slab thickness = 150mm (approx)	
Beams:				typical dimensions (mm x mm): 410UB	
Columns: structural steel					
Walls:					

Lateral load resisting structure		Lateral system along: welded and bolted steel moment frame		Note: Define along and across in detailed report!	
Ductility assumed, μ : 2.00				note typical bay length (m): 18.9	
Period along: 0.75				estimate or calculation? estimated	
Total deflection (ULS) (mm): 160				estimate or calculation? calculated	
maximum interstorey deflection (ULS) (mm): 0				estimate or calculation? estimated	
Lateral system across: steel concentric braced frame				note typical frame sizes and bay length: Steel angle tension braces. Brace bay length = 4.3 m	
Ductility assumed, μ : 2.00				estimate or calculation? estimated	
Period across: 0.40				estimate or calculation? estimated	
Total deflection (ULS) (mm): 50				estimate or calculation? estimated	
maximum interstorey deflection (ULS) (mm): 0					

Separations:		north (mm):		leave blank if not relevant	
		east (mm):			
		south (mm):			
		west (mm):			

Non-structural elements		Stairs:		N/A	
Wall cladding: other light				describe: Fibre cement sheets and light-weight concrete speedwall	
Roof Cladding: Metal				describe: light weight profiled steel	
Glazing:				describe: No windows	
Ceilings: strapped or direct fixed				acoustic tiles	
Services(list): TV services, lighting etc					

Available documentation		Architectural: full		original designer name/date: Weinwalker - 2008	
		Structural: none		original designer name/date:	
		Mechanical: none		original designer name/date:	
		Electrical: none		original designer name/date:	
		Geotech report: full		original designer name/date: Geotec Consulting -2006	

Damage		Site performance: fair		Describe damage: none	
Site: (refer DEE Table 4-2)					
Settlement: none observed				notes (if applicable):	
Differential settlement: none observed				notes (if applicable):	
Liquefaction: none apparent				notes (if applicable):	
Lateral Spread: none apparent				notes (if applicable):	
Differential lateral spread: none apparent				notes (if applicable):	
Ground cracks: none apparent				notes (if applicable):	
Damage to area: slight				notes (if applicable):	

Building:		Current Placard Status: green		Describe how damage ratio arrived at: no structural damage observed	
Along		Damage ratio: 0%			
Describe (summary):					
Across		Damage ratio: 0%			
Describe (summary):					
Diaphragms		Damage?: no		Describe:	
CSWs:		Damage?: no		Describe:	
Pounding:		Damage?: no		Describe:	
Non-structural:		Damage?: no		Describe:	

Recommendations		Level of repair/strengthening required: minor structural		Describe: minor structural strengthening required	
		Building Consent required: no		Describe:	
		Interim occupancy recommendations: full occupancy		Describe:	
Along		Assessed %NBS before e'quakes: 66%		%NBS	
		Assessed %NBS after e'quakes: 66%		If IEP not used, please detail assessment methodology: NZSEE Quantitative Assessment	
Across		Assessed %NBS before e'quakes: 21%		%NBS	
		Assessed %NBS after e'quakes: 21%			

Detailed Engineering Evaluation Summary Data

ock 1

V1.14

Location		Building Name: Hudson Building (Part 2)		Reviewer: Kimberley Wylie	
		Unit:		CPEng No: 1007058	
Building Address:		No. 41 Street Princess Street		Company: SKM	
Legal Description:				Company project number: ZB01397	
				Company phone number: 940 4900	
GPS south: 43		Degrees 32 Min 20 Sec 13		Date of submission: Jul-13	
GPS east: 172		36 1 35		Inspection Date: Jun-13	
				Revision: 0	
Building Unique Identifier (CCC):				Is there a full report with this summary? yes	

Site	Site slope: flat	Max retaining height (m): 0
	Soil type: mixed	Soil Profile (if available): refer to Geotech Consulting report - dated 2006
	Site Class (to NZS1170.5): D	
	Proximity to waterway (m, if <100m):	If Ground improvement on site, describe: N/A
	Proximity to cliff top (m, if <100m):	
	Proximity to cliff base (m, if <100m):	Approx site elevation (m): 5.00

Building	No. of storeys above ground: 2	single storey = 1	Ground floor elevation (Absolute) (m): 10.20
	Ground floor split?: no		Ground floor elevation above ground (m): 0.20
	Storeys below ground: 0		
	Foundation type: driven precast piles		If Foundation type is other, describe:
	Building height (m): 8.00	height from ground to level of uppermost seismic mass (for IEP only) (m): 8	
	Floor footprint area (approx): 400		Date of design: 1992-2004
	Age of Building (years): 19		
	Strengthening present?: no		If so, when (year)?
	Use (ground floor): commercial		And what load level (%g)?
	Use (upper floors): commercial		Brief strengthening description:
	Use notes (if required): Café and Offices		
	Importance level (to NZS1170.5): IL2		

Gravity Structure	Gravity System: load bearing walls	
	Roof: steel framed	rafter type, purlin type and cladding: 250UB rafters supporting DHS purlins and light weight profiled steel cladding
	Floors: other (note)	describe sytem: Concrete inter-span flooring units
	Beams:	N/A
	Columns: load bearing walls	typical dimensions (mm x mm): 150mm concret panels
	Walls:	

Lateral load resisting structure	Lateral system along: concrete shear wall	Note: Define along and across in detailed report!	enter wall data in "IEP period calcs" worksheet for period calculation: N/A
	Ductility assumed, μ : 1.00		estimate or calculation? estimated
	Period along: 0.40		estimate or calculation? estimated
	Total deflection (ULS) (mm): 50		estimate or calculation? estimated
	maximum interstorey deflection (ULS) (mm): 0		
	Lateral system across: concrete shear wall		enter wall data in "IEP period calcs" worksheet for period calculation: N/A
	Ductility assumed, μ : 1.00		estimate or calculation? estimated
	Period across: 0.40		estimate or calculation? estimated
	Total deflection (ULS) (mm): 50		estimate or calculation? estimated
	maximum interstorey deflection (ULS) (mm): 0		

Separations:	north (mm):	leave blank if not relevant
	east (mm):	
	south (mm):	
	west (mm):	

Non-structural elements	Stairs: precast, full flight	describe supports: Fixed at bottom, seated at top
	Wall cladding: precast panels	thickness and fixing type: 150mm, D12 slab starters at 300c/s
	Roof Cladding: Metal	describe: light weight profiled steel
	Glazing: aluminium frames	
	Ceilings: light tiles	acoustic tiles
	Services(list): lighting etc	

Available documentation	Architectural: full	original designer name/date: Weirwalker - 2008
	Structural: full	original designer name/date: Alan Reay -1994
	Mechanical: none	original designer name/date:
	Electrical: none	original designer name/date:
	Geotech report: full	original designer name/date: Geotec Consulting -2006

Damage	Site performance: fair	Describe damage: none
Site: (refer DEE Table 4-2)	Settlement: none observed	notes (if applicable):
	Differential settlement: none observed	notes (if applicable):
	Liquefaction: none apparent	notes (if applicable):
	Lateral Spread: none apparent	notes (if applicable):
	Differential lateral spread: none apparent	notes (if applicable):
	Ground cracks: none apparent	notes (if applicable):
	Damage to area: slight	notes (if applicable):

Building:	Current Placard Status: green	
Along	Damage ratio: 0%	Describe how damage ratio arrived at: no structural damage observed
	Describe (summary):	
Across	Damage ratio: 0%	$Damage_Ratio = \frac{(\%NBS\ (before) - \%NBS\ (after))}{\%NBS\ (before)}$
	Describe (summary):	
Diaphragms	Damage?: no	Describe:
CSWs:	Damage?: no	Describe:
Pounding:	Damage?: no	Describe:
Non-structural:	Damage?: no	Describe:

Recommendations	Level of repair/strengthening required: significant structural	Describe: significant structural strengthening required
	Building Consent required: no	Describe:
	Interim occupancy recommendations: full occupancy	Describe:
Along	Assessed %NBS before e/quake: 30%	%NBS
	Assessed %NBS after e/quake: 30%	If IEP not used, please detail assessment methodology: NZSEE Quantitative Assessment
Across	Assessed %NBS before e/quake: 20%	%NBS
	Assessed %NBS after e/quake: 20%	

Detailed Engineering Evaluation Summary Data

ock 1

V1.14

Location	
Building Name: Whitebat & Hudson Building (Part 3)	Unit: No. Street
Building Address: 41Princess Street	Reviewer: Kimberley Wylie
Legal Description:	CPEng No: 1007058
	Company: SKM
	Company project number: ZB01397
	Company phone number: 940 4900
GPS south: 43	32 20.13
GPS east: 172	36 1.35
Building Unique Identifier (CCC):	Date of submission: Jul-13
	Inspection Date: Jun-13
	Revision: 0
	Is there a full report with this summary? yes

Site	Site slope: flat	Max retaining height (m): 0
	Soil type: mixed	Soil Profile (if available): refer to SKM Geotech Consulting report - dated 2006
	Site Class (to NZS1170.5): D	
Proximity to waterway (m, if <100m):		If Ground improvement on site, describe: N/A
Proximity to cliff top (m, if <100m):		
Proximity to cliff base (m, if <100m):		Approx site elevation (m): 5.00

Building	No. of storeys above ground: 2	single storey = 1	Ground floor elevation (Absolute) (m): 10.20
	Ground floor split?: no		Ground floor elevation above ground (m): 0.20
	Storeys below ground: 0		
	Foundation type: isolated pads, no tie beams		If Foundation type is other, describe:
	Building height (m): 8.00	height from ground to level of uppermost seismic mass (for IEP only) (m): 8	
	Floor footprint area (approx): 650		Date of design: 1935-1965
	Age of Building (years): 55		
	Strengthening present?: no		If so, when (year)?
	Use (ground floor): other (specify)		And what load level (%g)?
	Use (upper floors): commercial		Brief strengthening description:
	Use notes (if required): TV Studio & Offices		
	Importance level (to NZS1170.5): IL2		

Gravity Structure	Gravity System: frame system	
	Roof: timber truss	Timber trusses - 2.0m deep at apex. Timber purlins with timber sarking supporting a light-weight profiled steel roof
	Floors: concrete flat slab	ground floor - concrete slab on grade,
	Beams:	slab thickness (mm) thickness = 150mm (approx)
	Columns: load bearing walls	typical dimensions (mm x mm) 150x75 mm timber framed walls
	Walls:	

Lateral load resisting structure	Lateral system along: other (note)	Note: Define along and across in detailed report!	describe system: Timber wall linings act as a diaphragm
	Ductility assumed, μ : 2.50		estimate or calculation? estimated
	Period along: 0.40		estimate or calculation? estimated
	Total deflection (ULS) (mm): 50		estimate or calculation? estimated
	maximum interstorey deflection (ULS) (mm): 0		
	Lateral system across: other (note)		describe system: Timber wall linings act as a diaphragm
	Ductility assumed, μ : 2.50	0.00	estimate or calculation? estimated
	Period across: 0.40		estimate or calculation? estimated
	Total deflection (ULS) (mm): 50		estimate or calculation? estimated
	maximum interstorey deflection (ULS) (mm): 0		

Separations:	north (mm):	leave blank if not relevant
	east (mm):	
	south (mm):	
	west (mm):	

Non-structural elements	Stairs: cast in situ	notes:
	Wall cladding: other light	describe: fibre cement sheets
	Roof Cladding: Metal	describe: light weight profiled steel
	Glazing: aluminium frames	
	Ceilings: strapped or direct fixed	
	Services(list): lighting etc	timber sarking

Available documentation	Architectural: full	original designer name/date: Weirwalker - 2008
	Structural: none	original designer name/date:
	Mechanical: none	original designer name/date:
	Electrical: none	original designer name/date:
	Geotech report: full	original designer name/date: Geotec Consulting - 2006

Damage	Site performance: fair	Describe damage: none
See: (refer DEE Table 4-2)	Settlement: none observed	notes (if applicable):
	Differential settlement: none observed	notes (if applicable):
	Liquefaction: none apparent	notes (if applicable):
	Lateral Spread: none apparent	notes (if applicable):
	Differential lateral spread: none apparent	notes (if applicable):
	Ground cracks: none apparent	notes (if applicable):
	Damage to area: slight	notes (if applicable):

Building:	Current Placard Status: green	
Along	Damage ratio: 0%	Describe how damage ratio arrived at: no structural damage observed
	Describe (summary):	
Across	Damage ratio: 0%	$Damage_Ratio = \frac{(\%NBS\ (before) - \%NBS\ (after))}{\%NBS\ (before)}$
	Describe (summary):	
Diaphragms	Damage?: no	Describe:
CSWs:	Damage?: no	Describe:
Pounding:	Damage?: no	Describe:
Non-structural:	Damage?: no	Describe:

Recommendations	Level of repair/strengthening required: none	Describe:
	Building Consent required: no	Describe:
	Interim occupancy recommendations: full occupancy	Describe:
Along	Assessed %NBS before e'quakes: 97%	%NBS
	Assessed %NBS after e'quakes: 97%	If IEP not used, please detail assessment methodology: NZSEE Quantitative Assessment
Across	Assessed %NBS before e'quakes: 100%	%NBS
	Assessed %NBS after e'quakes: 100%	

REPORT

STRUCTEX LIMITED

**Preliminary Ground
Contamination Assessment
39-55 Princess Street,
Addington, Christchurch**

Report prepared for:

STRUCTEX LIMITED

Report prepared by:

TONKIN & TAYLOR LTD

Distribution:

STRUCTEX LIMITED

1 copy

TONKIN & TAYLOR LTD (FILE)

1 copy

CHRISTCHURCH CITY COUNCIL

1 copy

August 2003

Job no: 50853

Table of contents

1	Introduction	1
2	Scope of Work	1
3	Site Location and Description	1
4	Site History	2
5	Site Geology and Hydrogeology	2
6	Potential Sources of Contamination	3
7	Soil Sampling	3
8	Relevant Environmental Guidelines	4
9	Laboratory Results	5
10	Discussion of Results	7
11	Conclusion	7
12	Applicability	8

Appendix A: Figures

Appendix B: Soil Logs

Appendix C: Laboratory Results



1 Introduction

Structex Limited are providing civil and structural design services relating to the upgrading of the existing buildings and site works, and construction of new buildings at 39-55 Princess Street, Addington, Christchurch.

It is proposed to subdivide the site into 5 lots to be carried out in two stages. Stage 1 includes Lots 1 to 4 and stage 2 Lot 5.

The PIM for stage 1 has identified the presence of contaminants on the site. Subsequently, the Christchurch City Council require an assessment of potential ground contamination prior to granting resource and building consent for the development. In addition, whilst a PIM for stage 2 has not been received, it is assumed that this area will be subject to the same requirements.

Tonkin and Taylor (T&T) was engaged to carry out investigations for this purpose in accordance with our proposal dated 28 July 2005.

2 Scope of Work

The scope of works for the investigation included the following tasks:

- Reviewing the published geological and site surrounding information held by T&T;
- Viewing the property files held by Christchurch City Council (CCC);
- Discussions with CCC environmental Health Officer, Laurie Moore regarding likely contaminants indicated on Council records;
- Discussions with Environment Canterbury (ECan) regarding pollution incident records;
- Discussions with Phil Watkins of Eaton Power Quality Ltd (current tenants of the site) regarding site history;
- Site walkover inspection;
- Limited near surface soil sampling and analysis;
- Preparation of this report.

3 Site Location and Description

The site is located at 39-55 Princess Street, Addington, Christchurch (Figure 1, Appendix A). The legal description is Lots 1 and 2 DP 77344, 2.4 hectares and 0.95 hectares respectively. The site is level, rectangular in shape and is bound by Princess Street to the north, Transpower to the east, a railway track (Main South Line) to the south and an industrial subdivision to the west. An existing right-of-way, Barry Hogan Place, is located within the western boundary of the site.

Relevant site features are shown on Figure 2, Appendix A. A large industrial building is located on the proposed Lot 1 in the north-eastern corner of the site. Another building is located on the proposed Lot 2 in the north-western corner of the site. Both of these buildings are currently being leased by Eaton Power Quality Ltd, an electrical component

manufacturer. A third building is located on the proposed Lot 3, immediately to the south of the proposed Lot 2, and is currently being leased by Statistics New Zealand. These three existing buildings are surrounded by asphalt access and parking to the west, north and east.

An existing concrete pad is located on the proposed Lot 4, immediately to the south of the proposed Lot 3.

Proposed Lot 5 is occupied by a small tunnel house in the south-western corner. The remainder of this proposed lot is either grass (western half) or covered with imported gravel and used by Eaton for car parking and storage.

4 Site History

Christchurch City Council (CCC) records indicate that at least 40 years ago the site was owned by an agricultural company, Wright Stephenson and Co. Ltd. (now Wrightsons). They operated a seed storage and drying facility in a building located in the north-western quarter of the site. A railway line connected the building to the main line on the southern boundary. In the early 1990's the site was leased to Switchtec who modified and extended the existing building for the manufacturing of electrical components.

A CCC Hazard Information sheet dated 18.01.1990 for 37 Princess Street (Lot 2 DP 60544) notes possible PCP contamination from transformer oil spillage and also that the site was previously licensed for one Class 3 underground storage tank. CCC GIS records indicate 55 Princess Street may have zinc contamination.

According to Phil Watkins of Eaton PowerQuality Ltd (formerly Switchtec Ltd) the underground storage tank was believed to be located in the vicinity of sample HA10 near Wrightsons drying room to store fuel to power the heating unit. No trace of the tank was found during excavations through this area in 1994 to install a new sewer line between the buildings in the north-western and north-eastern corners of the site. Phil Watkins also believes that the transformer oil spillage noted by CCC records, relates to an incident where 1 or 2 litres of transformer oil was spilt while changing the oil in an electrical testing unit. This spill was reportedly located in the vicinity of sample HA2.

Environment Canterbury have found no information regarding this site on their Listed Land Use Register, which holds information about sites that have been shown to be contaminated or have been used for activities that could have caused contamination.

Neighbouring properties include an industrial subdivision to the west which was known to contain a timber treatment site in the past. The railway line to the south is the Main South Line and the property to the east is owned by Transpower and used as a base for their line maintenance work.

5 Site Geology and Hydrogeology

The Geology of the Christchurch Urban Area 1 describes the site as being underlain by the Springston Formation of Holocene age. The Springston Formation, and more specifically the Yaldhurst Member comprises units of postglacial fluvial channel and overbank sediments. The deposits consist of well sorted gravel, sand and silts of thicknesses up to 20m.



Hand auger holes advanced at the site showed a typical soil profile of top soil up to 0.5m thick underlain by slightly clayey or sandy silts to the base of the auger holes, up to 2.0m below ground level (bgl). Auger holes located on gravel car parking or storage areas generally showed sandy gravel fill up to 0.5m thick underlain by top soil up to 0.3m thick underlain by sandy silts to the base of the auger holes (up to 1.0m bgl). Auger hole HA6, located in the southern end of the site, in the vicinity of the neighbouring railway, showed gravel fill to a depth of 0.4m underlain by a layer of dark grey gravelly sand (which appeared to comprise ash) to a depth of 0.8m bgl. This ash was underlain by a layer of top soil 0.15m thick underlain by sandy silts to the base of the auger hole 1.0m bgl.

Groundwater was encountered in four hand auger holes drilled during this investigation at depths between 0.9m to 2.0m bgl.

6 Potential Sources of Contamination

The site has had two known uses since its recorded occupation. Initially it was used for seed storage and drying and then used for the manufacture of electrical components. These operations, as well as the presence of fill onsite have the potential to result in ground contamination. CCC records indicate possible heavy metal, total petroleum hydrocarbon (TPH), pentachlorophenol (PCP) and polychlorinated biphenyls (PCB) contamination.

Heavy metal and TPH contamination is consistent with sites used for industrial uses, also TPH with the use of underground storage tanks containing heating fuel, PCP with timber treatment and PCB with electrical component manufacturing and the use of transformer oil.

Heavy metal and TPH contamination may be widespread and most likely limited to surficial soils. TPH contamination is also possible at depths to groundwater in the vicinity of any underground storage tank. Surficial heavy metal and TPH contamination was assessed by samples at HA1 to HA11. A deeper sample was also collected at HA10, located in the vicinity of where an underground storage tank is believed to have been, to address possible leakage of the suspected former tank.

PCP contamination is unlikely on this site, however due to CCC records and a former timber treatment plant on a neighbouring property PCP contamination was assessed by samples HA1, HA3, HA4, HA6 and HA8.

Possible PCB contamination would be near the surface around transformers and in the vicinity of where the electrical testing unit had its oil changed. Therefore PCB contamination was assessed by samples HA2, HA3, HA4, HA6 and HA7.

7 Soil Sampling

Soil samples were collected and analysed for likely contaminants in areas where potential contamination was considered to exist, as identified in section 6. All soil samples were collected by hand auger. A bar and pick-axe were used to loosen dense gravel in car parking and storage areas to allow hand auger penetration to underlying soils. Two to three soil samples were collected at 11 locations at depths of 0.25m, 0.5m and 1.0m. A soil sample was collected at a depth of 2.0m at location HA10. Figure 2 shows the location of all the soil samples and Table 1 describes each soil sample that was analysed. Soil logs are included in Appendix B.



Table 1: Description of soil samples

Sample	Soil description	Laboratory Analysis	Location description
HA1 - 0.25m	Silt, sandy, no odour	7HM, TPH, PCP	South-western corner of site, grass
HA2 - 0.25m	Topsoil; Silt, no odour	7HM, TPH, PCB	In vicinity of known transformer oil spill
HA3 - 0.25m	Silt, slightly clayey, no odour	7HM, TPH, PCP, PCB	Close to transformer, grass
HA4 - 0.25m	Silt, slightly clayey, no odour	7HM, TPH, PCP, PCB	Close to transformer, grass
HA5 - 0.25m	Topsoil; Silt, no odour	7HM, TPH	Car park/ storage area
HA6 - 0.5m	Fill, Sand, gravely, slight odour	7HM, TPH, PCP, PCB	Southern end of site, storage area
HA7 - 0.25m	Fill; Gravel, sandy, no odour	7HM, TPH, PCB	North-eastern corner of car park
HA8 - 0.25m	Fill; Gravel, sandy, no odour	PCP	Centre of car park
HA9 - 0.25m	Topsoil; Silt, no odour	7HM, TPH	Between buildings
HA10 - 0.25m	Topsoil; Silt, no odour	7HM, TPH, PCB	In vicinity of where underground storage tank was believed to be
HA10 - 2.0m	Silt, slightly clayey, no odour	7HM, TPH	
HA11 - 0.25m	Topsoil; Silt, no odour	7HM, TPH, PCP	North-western corner of site

7HM - As, Ca, Cr, Cu, Ni, Pb, Zn

PCP - Pentachlorophenol

TPH - Total Petroleum Hydrocarbons

PCB - Polychlorinated biphenyls

8 Relevant Environmental Guidelines

To evaluate the residual contamination recorded at the site, analytical results were compared to relevant acceptance criteria recommended by the Ministry for the Environment (MfE), Contaminated Land Management Guidelines No.2: Hierarchy and Application in New Zealand of Environmental Guidelines.

Relevant acceptance criteria are provided in the following guidelines:

- Ministry of Health (MoH) (1997): Health and Environmental Guidelines for Selected Timber Treatment Chemicals (TTCG);
- MfE (1997) Guidelines for Assessing and Managing Contaminated Gasworks Sites in New Zealand (GAMCG);
- MfE (1999) Guidelines for Assessing and Managing Petroleum Hydrocarbon Sites in New Zealand (GAMPH).

Where relevant New Zealand guidelines were not available, the following international risk based guidelines were used;

- National Environmental Protection Council (NEPC) National Environmental Protection Measure (NEPM) (1999);
- United States Environmental Protection Agency (US EPA): Region 6 Human Health Medium – Specific Screening Levels (2002a);
- DEFRA & EA (2002) Soil guideline values for nickel contamination (sandy soils).

9 Laboratory Results

The full Laboratory report is presented in Appendix C. The analytical results for heavy metals, TPH, PCP and PCB are summarised in Tables 2, 3, 4 and 5 respectively.

A discussion of the laboratory results and comparison with the relevant acceptance criteria are provided in the following sections.

Table 2: Heavy Metal Results (mg/kg)

Sample	Arsenic	Cadmium	Chromium	Copper	Nickel	Lead	Zinc
HA1 - 0.25m	4	<0.1	18	8	13	14.1	52
HA2 - 0.25m	19	0.2	27	22	16	60.7	123
HA3 - 0.25m	6	<0.1	23	14	18	23.0	74
HA4 - 0.25m	6	<0.1	25	16	19	30.7	83
HA5 - 0.25m	13	0.6	20	29	15	84.8	325
HA6 - 0.5m	123	0.2	16	1250	20	446	152
HA7 - 0.25m	6	<0.1	15	13	13	31.5	76
HA9 - 0.25m	14	0.2	21	35	17	47.4	139
HA10 - 0.25m	10	0.2	21	32	16	106	259
HA10 - 2.0m	7	<0.1	28	20	23	32.8	100
HA11 - 0.25m	12	0.1	25	17	17	33.3	123
Industrial Guidelines	500 ¹	100 ²	(III) NL ¹ (IV) 360 ¹	NL ¹	500 ⁴	700 ⁴	100000 ³

Notes: All units are in mg/kg dry weight.

- 1 Mfe/MoH, 1997, Health and Environmental Guidelines for Selected Timber Treatment Chemicals;
- 2 Guideline on the Investigation Levels for Soil and Groundwater (NEPC, 1999) Health Based, commercial/industrial premises;
- 3 United States Environmental Protection Agency (US EPA): Region 6 Human Health Medium – Specific Screening Levels (2002a), outdoor worker;
- 4 DEFRA & EA (2002) Soil guideline values for nickel contamination (sandy soils)



Table 3: TPH Results (mg/kg)

Sample	C ₇ - C ₉	C ₁₀ - C ₁₄	C ₁₅ - C ₃₆	Total
HA1 - 0.25m	<8	<20	<40	<60
HA2 - 0.25m	<10	<20	80	80
HA3 - 0.25m	<8	<20	<40	<60
HA4 - 0.25m	<8	<20	<40	<60
HA5 - 0.25m	<10	<20	330	330
HA6 - 0.5m	<7	<10	210	210
HA7 - 0.25m	<6	<10	100	100
HA9 - 0.25m	<10	<20	170	170
HA10 - 0.25m	<9	<20	140	140
HA10 - 2.0m	<9	<20	<40	<60
HA11 - 0.25m	<9	<20	50	<60
GAMCG	500	1700	NA	

GAMCG = Ministry for the Environment Guidelines for assessing petroleum contaminated sites in New Zealand: Acceptance criteria for commercial/industrial land use – sandy silt.

NA indicates the contaminant not limiting, as health based criterion is significantly higher than that likely to be encountered on site.

Table 4: PCP Results (mg/kg)

Sample	HA1 - 0.25m	HA3 - 0.25m	HA4 - 0.25m	HA6 - 0.50m	HA8 - 0.25m	HA11 - 0.25m	TTCG 1997
PCP (mg/kg)	<0.05	<0.05	<0.05	<0.05	<0.05	<0.05	1100

TTCG - Mfe/MoH, 1997, Health and Environmental Guidelines for Selected Timber Treatment Chemicals

Table 5: PCB Results (mg/kg)

Sample	HA2 - 0.25m	HA3 - 0.25m	HA4 - 0.25m	HA6 - 0.50m	HA7 - 0.25m	HA10 - 0.25m	PRG USEPA 2002b
PCB (mg/kg)	<0.3	<0.3	<0.3	<0.3	<0.3	<0.3	0.74

PRG USEPA 2002b = United States Environmental Protection Agency (US EPA): Region 9 - Preliminary Remediation Goals (2002a)

10 Discussion of Results

All laboratory results from the samples collected at 39-55 Princess Street, Addington are below the relevant guidelines for industrial land use. Sampling and testing did not confirm CCC records that indicate possible PCP, PCB, zinc or TPH contamination on site.

Relevant guidelines were not exceeded therefore Tier 1 assessment shows no unacceptable risk posed by the low levels of potential contaminants recorded.

Slightly elevated results for arsenic and copper were encountered in sample HA6 – 0.5m collected in a layer of fill (probably ash) associated with the main railway line adjacent to the southern boundary. A layer of clean sandy gravel fill approximately 0.4m thick overlies the ash layer.

It is proposed to further develop the site for industrial purposes. The site will be covered extensively with buildings and paved areas. Paving and concrete floor slabs further protect site users by significantly reducing the potential for exposure to contaminated soils.

11 Conclusion

Historical information for the site indicates that there is potential for ground contamination from the activities undertaken at the site. The study shows that the site was used for seed drying and storage and that now it is used for the manufacture of electrical components. The study also shows that a timber treatment plant use to be situated to the west of the site.

The results of the investigation show concentrations of heavy metals, TPH, PCP and PCB below the relevant acceptance criteria for industrial land use.

12 Applicability

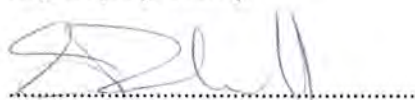
This report has been prepared for the benefit of Structex Ltd with respect to the particular brief given to us and it may not be relied upon in other contexts or for any other purpose without our prior review and agreement.

Recommendations and opinions in this report are based on data from surface soil samples. The nature and continuity of subsoil away from the soil sampling locations are inferred but it must be appreciated that actual conditions could vary from the assumed model.

TONKIN & TAYLOR LTD

Environmental and Engineering Consultants

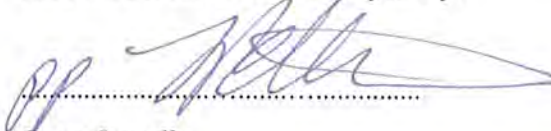
Report prepared by:



Simon Rodwell

Natural Resources Engineer

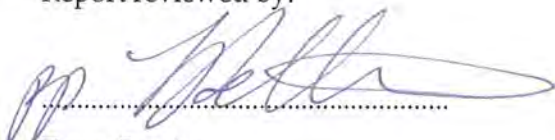
Authorised for Tonkin & Taylor by:



Grant Lovell

Christchurch Group Manager

Report reviewed by:



Tony Cussins

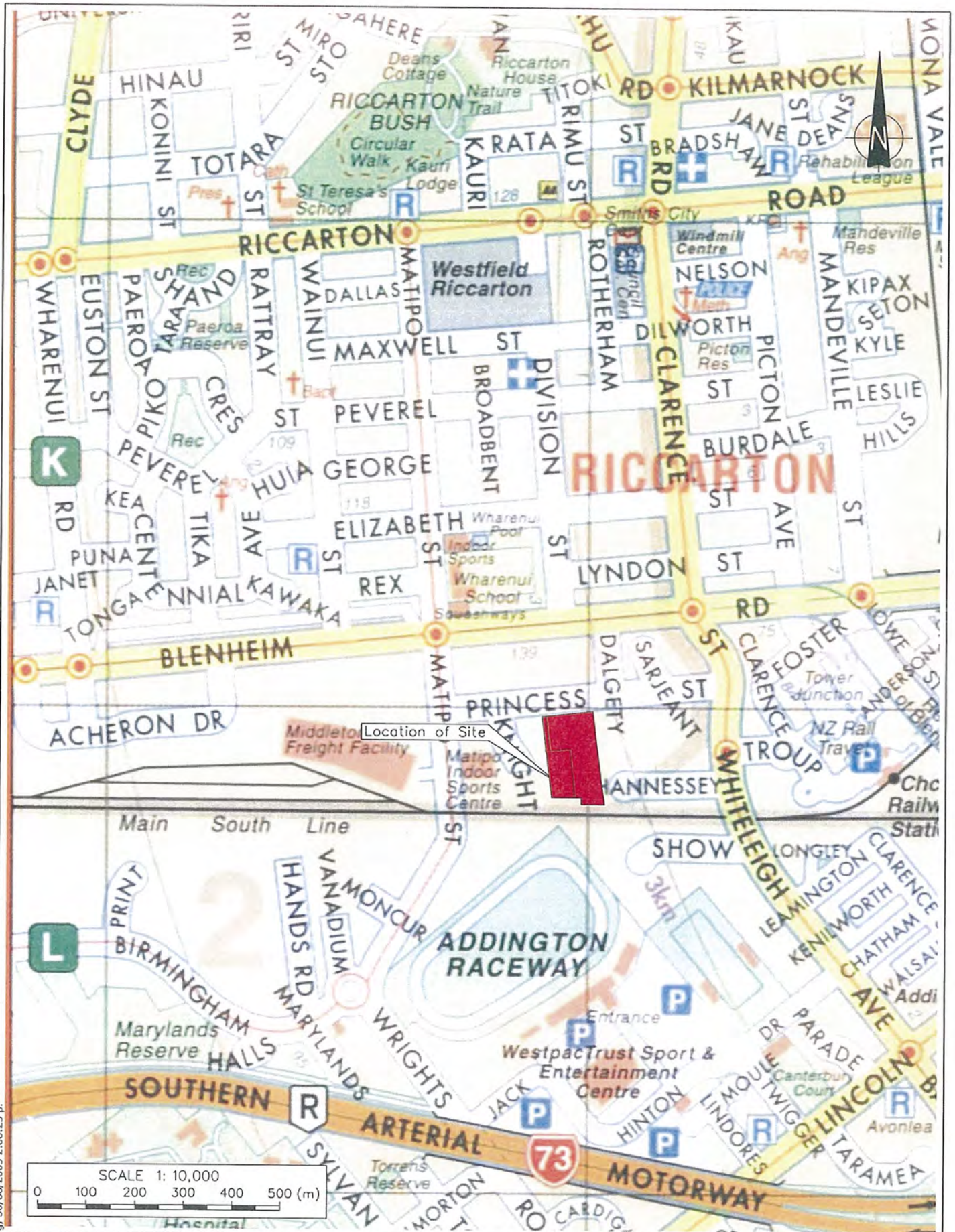
Senior Environmental Scientist

spr

J:\50853\spr260805REPORT.doc

Appendix A: Figures

- **Figure 1 – Locality Plan**
- **Figure 2 – Site Plan**



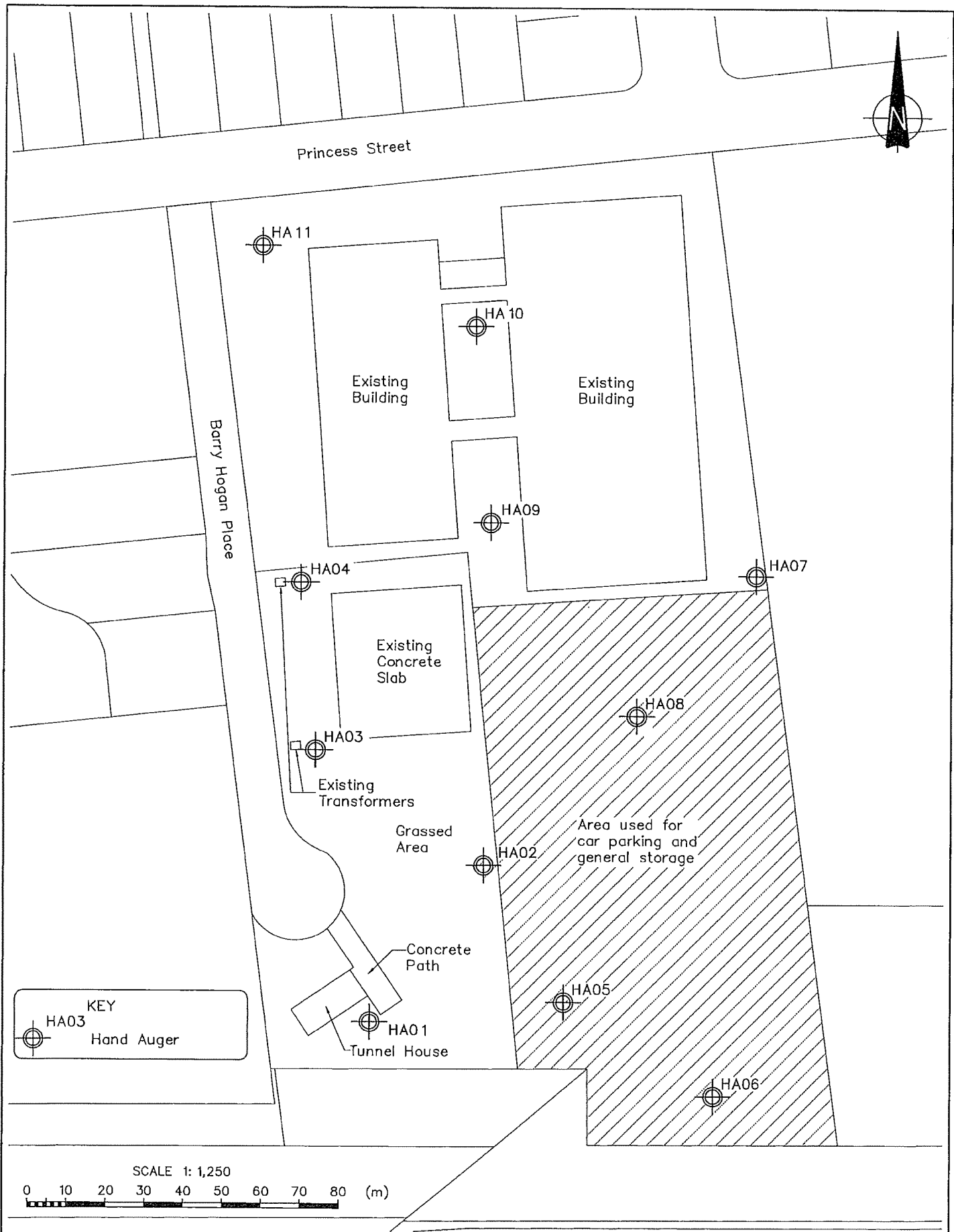
Tonkin & Taylor
Environmental & Engineering Consultants
■ Christchurch
□ Auckland □ Nelson
□ Wellington □ Hamilton
□ Whangarei

DRAWN	NRM	Aug.05
DRAFTING CHECKED	CSR	CEG
APPROVED	NTK	08/05
CADFILE : L:\50853\Figure 1 & 2		
SCALES (AT A4 SIZE)		
1: 10,000		
PROJECT No. 50853		

Structex Ltd
Hazard Assessment Report
39-55 Princess Street, Addington
Site Location Plan

FIG. No. Figure 1

REV. 0



 Tonkin & Taylor Environmental & Engineering Consultants ☐ Auckland ☒ Christchurch ☐ Hamilton ☐ Nelson ☐ Wellington ☐ Whangarei	DRAWN	NRM	Aug.05
	DRAFTING CHECKED	STR	08/05
	APPROVED	PP	08/05
	CADFILE : L:\50853\Figure 1 & 2		
	SCALES (AT A4 SIZE) 1: 1250		
PROJECT No. 50853		FIG. No.	

Structex Ltd
 Hazard Assessment Report
 39-55 Princess Street, Addington
 Site Plan

Figure 2

REV.
0

Appendix B: Soil Logs

BOREHOLE LOG

BOREHOLE No: HA01

Hole Location: See figure 2

SHEET.....¹..... OF¹.....

PROJECT: Hazard Assessment Report										LOCATION: 39-55 Princess St, Addington, Christchurch JOB No: 50853									
CO-ORDINATES					mN mE					DRILL TYPE: Hand Auger					HOLE STARTED: 11/8/05				
R.L.					- m					DRILL METHOD: Hand Auger					HOLE FINISHED: 11/8/05				
DATUM										DRILL FLUID: none					LOGGED BY: SPR				
CHECKED: 																			
GEOLOGICAL										ENGINEERING DESCRIPTION									
GEOLOGICAL UNIT, GENERIC NAME, ORIGIN, MINERAL COMPOSITION.										SOIL DESCRIPTION Soil type, minor components, plasticity or particle size, colour. ROCK DESCRIPTION Substance: Rock type, particle size, colour, minor components. Defects: Type, inclination, thickness, roughness, filling.									
FLUID LOSS WATER CORE RECOVERY METHOD CASING TESTS										SAMPLES R.L. (m) DEPTH (m) GRAPHIC LOG CLASSIFICATION SYMBOL MOISTURE / WEATHERING CONDITION STRENGTH/DENSITY CLASSIFICATION SHEAR STRENGTH (kPa) COMPRESSIVE STRENGTH (MPa) DEFECT SPACING (mm)									
11/8/05										OL W Firm									
1										TOPSOIL, silt, slightly plastic, dark brown									
2										ML SILT, sandy non-plastic, light grey with orange mottles, occasional roots to 1mm dia.									
3										END OF BOREHOLE @ 1.0m									
4																			



TONKIN & TAYLOR LTD

BOREHOLE LOG

BOREHOLE No: HA02

Hole Location: See figure 2

SHEET.....1..... OF.....1.....

PROJECT: Hazard Assessment Report				LOCATION: 39-55 Princess St, Addington, Christchurch				JOB No: 50853													
CO-ORDINATES mN mE				DRILL TYPE: Hand Auger				HOLE STARTED: 4/8/05													
R.L. - m				DRILL METHOD: Hand Auger				HOLE FINISHED: 11/8/05													
DATUM				DRILL FLUID: none				LOGGED BY: SPR CHECKED: SPR													
GEOLOGICAL				ENGINEERING DESCRIPTION																	
GEOLOGICAL UNIT, GENERIC NAME, ORIGIN, MINERAL COMPOSITION.				FLUID LOSS	WATER	CORE RECOVERY	METHOD	CASING	TESTS	SAMPLES	R.L. (m)	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MOISTURE CONDITION	WEATHERING	STRENGTH/DENSITY CLASSIFICATION	SHEAR STRENGTH (kPa)	COMPRESSION STRENGTH (MPa)	DEFECT SPACING (mm)	SOIL DESCRIPTION Soil type, minor components, plasticity or particle size, colour. ROCK DESCRIPTION Substance: Rock type, particle size, colour, minor components. Defects: Type, inclination, thickness, roughness, filling.
														OL	W	Firm					TOPSOIL, SILT, slightly plastic, dark brown
														ML							SILT, slightly clayey, slightly plastic, light grey with orange mottles
																					END OF BOREHOLE @ 1.0m



TONKIN & TAYLOR LTD

BOREHOLE LOG

BOREHOLE No: HA03
Hole Location: See figure 2

SHEET.....1..... OF.....1.....

PROJECT: Hazard Assessment Report				LOCATION: 39-55 Princess St, Addington, Christchurch				JOB No: 50853														
CO-ORDINATES mN mE				DRILL TYPE: Hand Auger				HOLE STARTED: 11/8/05														
R.L. - m				DRILL METHOD: Hand Auger				HOLE FINISHED: 11/8/05														
DATUM				DRILL FLUID: none				DRILLED BY: SPR														
				LOGGED BY: SPR				CHECKED: <i>SPR</i>														
GEOLOGICAL				ENGINEERING DESCRIPTION																		
GEOLOGICAL UNIT, GENERIC NAME, ORIGIN, MINERAL COMPOSITION.				FLUID LOSS	WATER	CORE RECOVERY	METHOD	CASING	TESTS	SAMPLES	R.L. (m)	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MOISTURE CONDITION	WEATHERING	STRENGTH/DENSITY CLASSIFICATION	SHEAR STRENGTH (kPa)	COMPRESSIVE STRENGTH (MPa)	DEFECT SPACING (mm)	SOIL DESCRIPTION Soil type, minor components, plasticity or particle size, colour. ROCK DESCRIPTION Substance: Rock type, particle size, colour, minor components. Defects: Type, inclination, thickness, roughness, filling.	
														OL	W	Firm						TOPSOIL, SILT, slightly plastic, dark brown
														ML								SILT, slightly clayey, slightly plastic, light grey with orange mottles and occasional roots to 1mm dia
												1										END OF BOREHOLE @ 1.0m
												2										
												3										
												4										



TONKIN & TAYLOR LTD

BOREHOLE LOG

BOREHOLE No: HA05

Hole Location: See figure 2

SHEET.....1..... OF.....1.....

PROJECT: Hazard Assessment Report				LOCATION: 39-55 Princess St, Addington, Christchurch				JOB No: 50853														
CO-ORDINATES mN mE				DRILL TYPE: Hand Auger				HOLE STARTED: 11/8/05														
R.L. - m				DRILL METHOD: Hand Auger				HOLE FINISHED: 11/8/05														
DATUM				DRILL FLUID: none				LOGGED BY: SPR CHECKED: <i>SPR</i>														
GEOLOGICAL				ENGINEERING DESCRIPTION																		
GEOLOGICAL UNIT, GENERIC NAME, ORIGIN, MINERAL COMPOSITION.				FLUID LOSS	WATER	CORE RECOVERY	METHOD	CASING	TESTS	SAMPLES	R.L. (m)	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MOISTURE CONDITION	WEATHERING	STRENGTH/DENSITY CLASSIFICATION	SHEAR STRENGTH (kPa)	COMPRESSIVE STRENGTH (MPa)	DEFECT SPACING (mm)	SOIL DESCRIPTION Soil type, minor components, plasticity or particle size, colour.	
																					ROCK DESCRIPTION Substance: Rock type, particle size, colour, minor components. Defects: Type, inclination, thickness, roughness, filling.	
																					FILL; GRAVEL, sandy, fine to coarse, subrounded, grey	
																					TOPSOIL; SILT, slightly plastic, dark brown	
																					SILT, sandy, non plastic, grey	
																					END OF BOREHOLE @ 1.0m	



TONKIN & TAYLOR LTD

BOREHOLE LOG

BOREHOLE No: HA07

Hole Location: See figure 2

SHEET.....1..... OF.....1.....

PROJECT: Hazard Assessment Report				LOCATION: 39-55 Princess St, Addington, Christchurch				JOB No: 50853														
CO-ORDINATES				DRILL TYPE: Hand Auger				HOLE STARTED: 11/8/05														
R.L. mN mE				DRILL METHOD: Hand Auger				HOLE FINISHED: 11/8/05														
DATUM - m				DRILL FLUID: none				LOGGED BY: SPR														
CHECKED: <i>SPR</i>																						
GEOLOGICAL				ENGINEERING DESCRIPTION																		
GEOLOGICAL UNIT, GENERIC NAME, ORIGIN, MINERAL COMPOSITION.				FLUID LOSS	WATER	CORE RECOVERY	METHOD	CASING	TESTS	SAMPLES	R.L. (m)	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MOISTURE CONDITION	WEATHERING	STRENGTH/DENSITY CLASSIFICATION	SHEAR STRENGTH (kPa)	COMPRESSIVE STRENGTH (MPa)	DEFECT SPACING (mm)	SOIL DESCRIPTION Soil type, minor components, plasticity or particle size, colour.	
																						ROCK DESCRIPTION Substance: Rock type, particle size, colour, minor components. Defects: Type, inclination, thickness, roughness, filling.
															GW	W	Dense					FILL; GRAVEL, sandy, fine to coarse, sub rounded, grey
																						END OF BOREHOLE @ 0.45m Too dense to penetrate
												1										1
												2										2
												3										3
												4										4



TONKIN & TAYLOR LTD

BOREHOLE LOG

BOREHOLE No: HA10

Hole Location: See figure 2

SHEET.....1..... OF.....1.....

PROJECT: Hazard Assessment Report				LOCATION: 39-55 Princess St, Addington, Christchurch				JOB No: 50853										
CO-ORDINATES		mN mE		DRILL TYPE: Hand Auger		HOLE STARTED: 11/8/05												
R.L.		- m		DRILL METHOD: Hand Auger		HOLE FINISHED: 11/8/05												
DATUM				DRILL FLUID: none		DRILLED BY: SPR												
						LOGGED BY: SPR												
						CHECKED: <i>SPR</i>												
GEOLOGICAL				ENGINEERING DESCRIPTION														
GEOLOGICAL UNIT, GENERIC NAME, ORIGIN, MINERAL COMPOSITION.	FLUID LOSS	WATER	CORE RECOVERY	METHOD	CASING	TESTS	SAMPLES	R.L. (m)	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MOISTURE CONDITION	WEATHERING CONDITION	STRENGTH/DENSITY CLASSIFICATION	SHEAR STRENGTH (kPa)	COMPRESSION STRENGTH (MPa)	DEFECT SPACING (mm)	SOIL DESCRIPTION Soil type, minor components, plasticity or particle size, colour.
											OL	W	Firm					TOPSOIL, SILT, slightly plastic, dark brown
											ML							SILT, slightly clayey, slightly plastic, light grey with orange mottles and occasional roots to 1mm dia
																		END OF BOREHOLE @ 2.0m



TONKIN & TAYLOR LTD

BOREHOLE LOG

BOREHOLE No: HA11

Hole Location: See figure 2

SHEET.....1..... OF.....1.....

PROJECT: Hazard Assessment Report				LOCATION: 39-55 Princess St, Addington, Christchurch				JOB No: 50853													
CO-ORDINATES				DRILL TYPE: Hand Auger				HOLE STARTED: 11/8/05													
R.L. mN mE				DRILL METHOD: Hand Auger				HOLE FINISHED: 11/8/05													
DATUM - m				DRILL FLUID: none				DRILLED BY: SPR													
				LOGGED BY: SPR				CHECKED: <i>SPR</i>													
GEOLOGICAL				ENGINEERING DESCRIPTION																	
GEOLOGICAL UNIT, GENERIC NAME, ORIGIN, MINERAL COMPOSITION.				FLUID LOSS	WATER	CORE RECOVERY	METHOD	CASING	TESTS	SAMPLES	R.L. (m)	DEPTH (m)	GRAPHIC LOG	CLASSIFICATION SYMBOL	MOISTURE / WEATHERING CONDITION	STRENGTH/DENSITY CLASSIFICATION	SHEAR STRENGTH (kPa)	COMPRESSIVE STRENGTH (MPa)	DEFECT SPACING (mm)	SOIL DESCRIPTION Soil type, minor components, plasticity or particle size, colour. ROCK DESCRIPTION Substance: Rock type, particle size, colour, minor components. Defects: Type, inclination, thickness, roughness, filling.	
														OL	W	Firm					TOPSOIL, SILT, slightly plastic, dark brown
														ML							SILT, slightly clayey, slightly plastic, light grey with orange mottles and occasional roots to 1mm dia
																					END OF BOREHOLE @ 1.0m
												2									
												3									
												4									

Appendix C: Laboratory Results

Hill Laboratories

R J Hill Laboratories Limited

Address:
1 Clyde Street,
Private Bag 3205,
✉ Hamilton, New Zealand

Telephone:
+64 (7) 858-2000
Facsimile:
✉ +64 (7) 858-2001

Email:
mail@hill-labs.co.nz
Internet:
www.hill-labs.co.nz



Client: Tonkin & Taylor
Address: P O Box 13 055,
CHRISTCHURCH
Contact: Simon Rodwell

Laboratory No: 386632
Date Registered: 12/08/2005
Date Completed: 19/08/2005
Page Number: 1 of 7

Client's Reference: 50853

The results for the analyses you requested are as follows:

Sample Type: Environmental Solids, Soil

Sample Name	Lab No	Dry Matter (g/100g as rcvd)	Total Recoverable Arsenic (mg/kg dry wt)	Total Recoverable Cadmium (mg/kg dry wt)	Total Recoverable Chromium (mg/kg dry wt)	Total Recoverable Copper (mg/kg dry wt)
HA1-0.25m 11/8/05	386632/1	79.6	4	< 0.1	18	8
HA2-0.25m 11/8/05	386632/3	66.3	19	0.2	27	22
HA3-0.25m 11/8/05	386632/5	75.3	6	< 0.1	23	14
HA4-0.25m 11/8/05	386632/7	78.8	6	< 0.1	25	16
HA5-0.25m 11/8/05	386632/10	71.4	13	0.6	20	29
HA6-0.5m 11/8/05	386632/12	90.2	123	0.2	16	1250
HA7-0.25m 11/8/05	386632/14	97.4	6	< 0.1	15	13
HA9-0.25m 11/8/05	386632/16	67.7	14	0.2	21	35
HA10-0.25m 11/8/05	386632/18	67.1	10	0.2	21	32
HA10-2.0m 11/8/05	386632/20	72.8	7	< 0.1	28	20
HA11-0.25m 11/8/05	386632/21	75.2	12	0.1	25	17

Sample Name	Lab No	Total Recoverable Nickel (mg/kg dry wt)	Total Recoverable Lead (mg/kg dry wt)	Total Recoverable Zinc (mg/kg dry wt)
HA1-0.25m 11/8/05	386632/1	13	14.1	52
HA2-0.25m 11/8/05	386632/3	16	60.7	123
HA3-0.25m 11/8/05	386632/5	18	23.0	74
HA4-0.25m 11/8/05	386632/7	19	30.7	83
HA5-0.25m 11/8/05	386632/10	15	84.8	325
HA6-0.5m 11/8/05	386632/12	20	446	152
HA7-0.25m 11/8/05	386632/14	13	31.5	76
HA9-0.25m 11/8/05	386632/16	17	47.4	139
HA10-0.25m 11/8/05	386632/18	16	106	259
HA10-2.0m 11/8/05	386632/20	23	32.8	100
HA11-0.25m 11/8/05	386632/21	17	33.3	123



This Laboratory is accredited by International Accreditation New Zealand (IANZ), which represents New Zealand in the International Laboratory Accreditation Cooperation (ILAC). Through the ILAC Mutual Recognition Arrangement (ILAC-MRA) this accreditation is internationally recognised. The tests reported herein have been performed in accordance with the terms of accreditation, with the exception of tests marked *, which are not accredited.

Total Hydrocarbons by GC-FID [OIEWG carbon bands]

Sample Name	HA1-0.25m 11/8/05	HA2-0.25m 11/8/05	HA3-0.25m 11/8/05	HA4-0.25m 11/8/05	HA5-0.25m 11/8/05
Lab No	386632/1	386632/3	386632/5	386632/7	386632/10
Units	(mg/kg dry wt)	(mg/kg dry wt)	(mg/kg dry wt)	(mg/kg dry wt)	(mg/kg dry wt)
C7-C9	< 8	< 10	< 8	< 8	< 10
C10-C14	< 20	< 20	< 20	< 20	< 20
C15-C36	< 40	80	< 40	< 40	330
TOTAL	< 60	80	< 60	< 60	330

Total Hydrocarbons by GC-FID [OIEWG carbon bands]

Sample Name	HA6-0.5m 11/8/05	HA7-0.25m 11/8/05	HA9-0.25m 11/8/05	HA10-0.25m 11/8/05	HA10-2.0m 11/8/05
Lab No	386632/12	386632/14	386632/16	386632/18	386632/20
Units	(mg/kg dry wt)	(mg/kg dry wt)	(mg/kg dry wt)	(mg/kg dry wt)	(mg/kg dry wt)
C7-C9	< 7	< 6	< 10	< 9	< 9
C10-C14	< 10	< 10	< 20	< 20	< 20
C15-C36	210	100	170	140	< 40
TOTAL	210	100	170	140	< 60

Total Hydrocarbons by GC-FID [OIEWG carbon bands]

Sample Name	HA11-0.25m 11/8/05
Lab No	386632/21
Units	(mg/kg dry wt)
C7-C9	< 9
C10-C14	< 20
C15-C36	50
TOTAL	< 60

Sample Type: Environmental Solids, Soil**Pentachlorophenol in solids, screening by GC-ECD**

Sample Name	HA1-0.25m 11/8/05	HA3-0.25m 11/8/05	HA4-0.25m 11/8/05	HA6-0.5m 11/8/05	HA8-0.25m 11/8/05
Lab No	386632/1	386632/5	386632/7	386632/12	386632/15
Units	(mg/kg dry wt)	(mg/kg dry wt)	(mg/kg dry wt)	(mg/kg dry wt)	(mg/kg dry wt)
Pentachlorophenol	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05
Tetrachlorophenol	< 0.05	< 0.05	< 0.05	< 0.05	< 0.05

Pentachlorophenol in solids, screening by GC-ECD

Sample Name	HA11-0.25m 11/8/05
Lab No	386632/21
Units	(mg/kg dry wt)
Pentachlorophenol	< 0.05
Tetrachlorophenol	< 0.05

Sample Type: Environmental Solids, Soil**Polychlorinated biphenyls**

Sample Name	HA2-0.25m 11/8/05	HA3-0.25m 11/8/05	HA4-0.25m 11/8/05	HA6-0.5m 11/8/05	HA7-0.25m 11/8/05
Lab No	386632/3	386632/5	386632/7	386632/12	386632/14
Units	(mg/kg dry wt)	(mg/kg dry wt)	(mg/kg dry wt)	(mg/kg dry wt)	(mg/kg dry wt)
PCB-28 (Tri) + PCB-31 (Tri)	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
PCB-52 (Tetra)	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
PCB-49 (Tetra)	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
PCB-44 (Tetra)	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
PCB-121 (Penta)	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
PCB-60 (Tetra)	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
PCB-101 (Penta)	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
PCB-86 (Penta)	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
PCB-81 (Tetra)	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
PCB-77 (Tetra)	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
PCB-110 (Penta)	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
PCB-151 (Hexa)	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
PCB-123 (Penta)	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
PCB-149 (Hexa)	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
PCB-118 (Penta)	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
PCB-114 (Penta)	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
PCB-153 (Hexa)	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
PCB-105 (Penta)	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
PCB-141 (Hexa)	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
PCB-138 (Hexa)	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
PCB-126 (Penta)	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
PCB-159 (Hexa)	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
PCB-128 (Hexa)	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
PCB-167 (Hexa)	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
PCB-156 (Hexa)	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
PCB-157 (Hexa)	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
PCB-180 (Hepta)	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
PCB-169 (Hexa)	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
PCB-170 (Hepta)	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
PCB-189 (Hepta)	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
PCB-194 (Octa)	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
PCB-206 (Nona)	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
PCB-209 (Deca)	< 0.01	< 0.01	< 0.01	< 0.01	< 0.01
Total PCB (Sum of individual congeners)	< 0.3	< 0.3	< 0.3	< 0.3	< 0.3

Polychlorinated biphenyls

Sample Name	HA10-0.25m 11/8/05
Lab No	386632/18
Units	(mg/kg dry wt)
PCB-28 (Tri) + PCB-31 (Tri)	< 0.01
PCB-52 (Tetra)	< 0.01
PCB-49 (Tetra)	< 0.01
PCB-44 (Tetra)	< 0.01
PCB-121 (Penta)	< 0.01
PCB-60 (Tetra)	< 0.01
PCB-101 (Penta)	< 0.01
PCB-86 (Penta)	< 0.01
PCB-81 (Tetra)	< 0.01
PCB-77 (Tetra)	< 0.01
PCB-110 (Penta)	< 0.01
PCB-151 (Hexa)	< 0.01
PCB-123 (Penta)	< 0.01
PCB-149 (Hexa)	< 0.01
PCB-118 (Penta)	< 0.01
PCB-114 (Penta)	< 0.01
PCB-153 (Hexa)	< 0.01
PCB-105 (Penta)	< 0.01
PCB-141 (Hexa)	< 0.01
PCB-138 (Hexa)	< 0.01
PCB-126 (Penta)	< 0.01
PCB-159 (Hexa)	< 0.01
PCB-128 (Hexa)	< 0.01
PCB-167 (Hexa)	< 0.01
PCB-156 (Hexa)	< 0.01
PCB-157 (Hexa)	< 0.01
PCB-180 (Hepta)	< 0.01
PCB-169 (Hexa)	< 0.01
PCB-170 (Hepta)	< 0.01
PCB-189 (Hepta)	< 0.01
PCB-194 (Octa)	< 0.01
PCB-206 (Nona)	< 0.01
PCB-209 (Deca)	< 0.01
Total PCB (Sum of individual congeners)	< 0.3

Sample Containers

The following table shows the sample containers that were associated with this job.

Container Description	Container Size (mL)	Number of Containers
Glass Jar (Soils)	300	46

Details of sample bottle preparation procedures are available upon request.

Summary of Methods Used and Detection Limits

The following table(s) gives a brief description of the methods used to conduct the analyses for this job.

The detection limits given below are those attainable in a relatively clean matrix. Detection limits may be higher for individual samples should insufficient sample be available, or if the matrix requires that dilutions be performed during analysis.

Substance Type: Environmental Solids

Parameter	Method Used	Detection Limit
Dry and sieve sample	Air dry (35°C), sieved to pass 2mm.	N/A
Total Recoverable digest	Nitric / hydrochloric acid digestion. US EPA 200.2	N/A
Dry Matter	Dried at 103°C, gravimetric (removes 3-5% more water than air drying at 35°C)	0.1 g/100g as rcvd
Total Recoverable Arsenic	Nitric / hydrochloric acid digestion, ICP-MS. US EPA 200.2	2 mg/kg dry wt
Total Recoverable Cadmium	Nitric / hydrochloric acid digestion, ICP-MS. US EPA 200.2	0.1 mg/kg dry wt
Total Recoverable Chromium	Nitric / hydrochloric acid digestion, ICP-MS. US EPA 200.2	2 mg/kg dry wt
Total Recoverable Copper	Nitric / hydrochloric acid digestion, ICP-MS. US EPA 200.2	2 mg/kg dry wt
Total Recoverable Nickel	Nitric / hydrochloric acid digestion, ICP-MS. US EPA 200.2	2 mg/kg dry wt
Total Recoverable Lead	Nitric / hydrochloric acid digestion, ICP-MS. US EPA 200.2	0.4 mg/kg dry wt
Total Recoverable Zinc	Nitric / hydrochloric acid digestion, ICP-MS. US EPA 200.2	4 mg/kg dry wt
Total Hydrocarbons by GC-FID [OIEWG carbon bands]	ASE or Sonication Extraction, GC-FID Quantitation US EPA 8015B/NZ OIEWG	N/A
Pentachlorophenol in solids, screening by GC-ECD	Acetone/hexane extraction, GC-ECD analysis In-House	N/A
Polychlorinated biphenyls	ASE extraction, GPC cleanup & GC-MS SIM US EPA Methods 3540, 3611 & GC-MS SIM	N/A

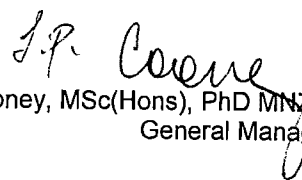
Analyst's Comments:

These samples were collected by yourselves and analysed as received at the laboratory.

Samples are held at the laboratory after reporting for a length of time depending on the preservation used and the stability of the analytes being tested. Once the storage period is completed the samples are discarded unless otherwise advised by the submitter.

This report must not be reproduced, except in full, without the written consent of the signatory.

Peter Robinson, MSc(Hons), PhD FNZIC
Environmental Division Manager


Terry Cooney, MSc(Hons), PhD FNZIC
General Manager

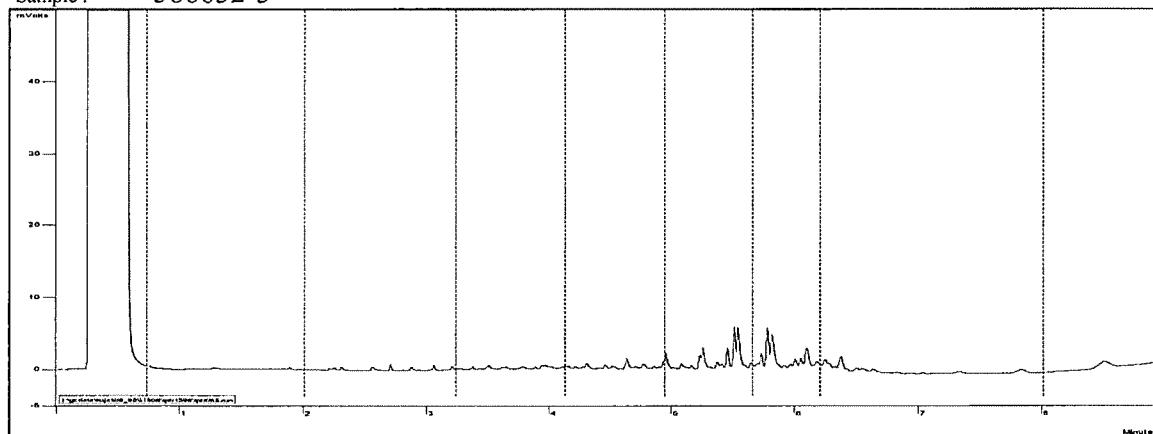
Hill Laboratories, Hamilton, NZ

Total Petroleum Hydrocarbon Chromatograms

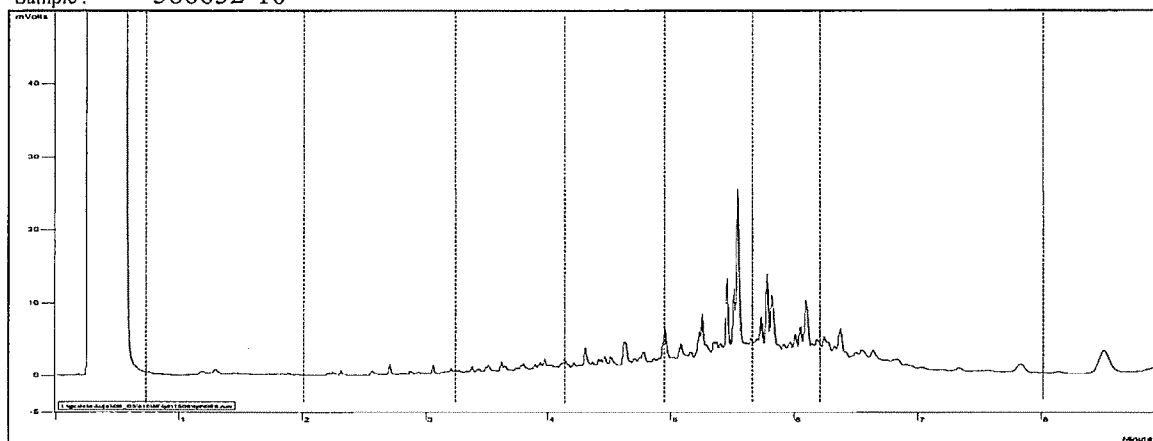
Appendix

Page A.1

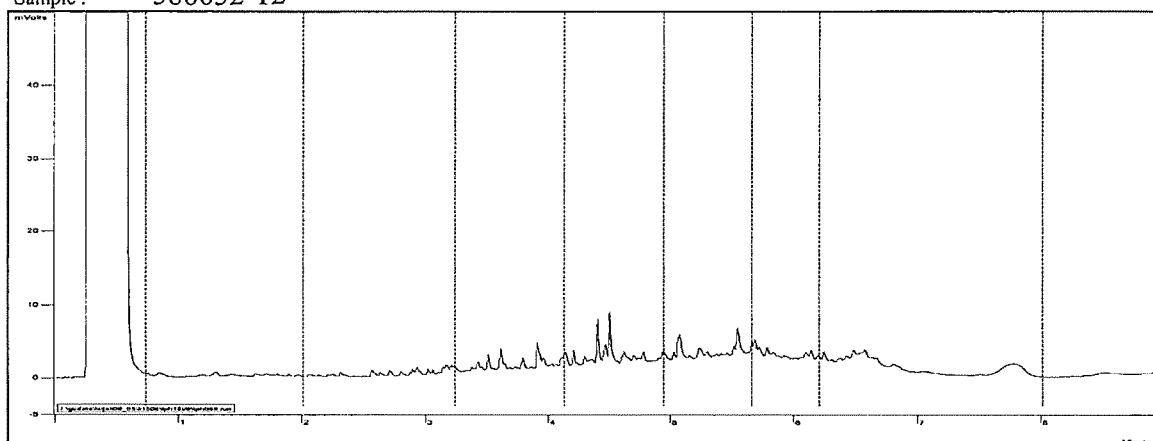
Sample : 386632-3



Sample : 386632-10



Sample : 386632-12



C7 C10 C15 C20 C25 C30 C34 C44

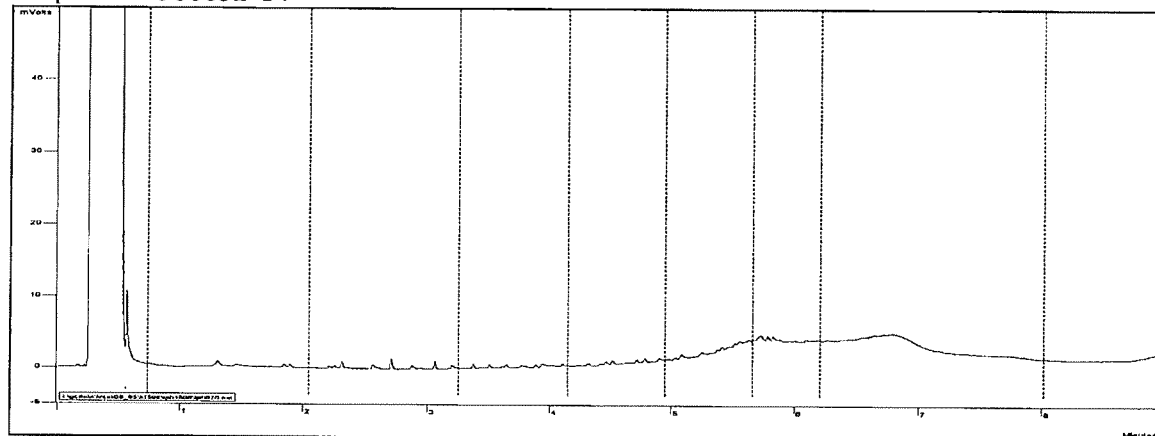
Hill Laboratories, Hamilton, NZ

Total Petroleum Hydrocarbon Chromatograms

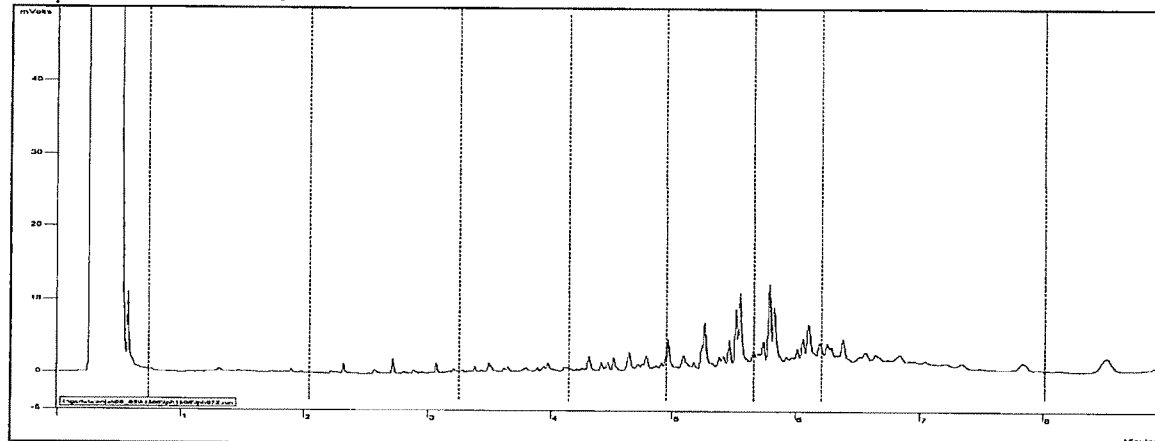
Appendix

Page A.2

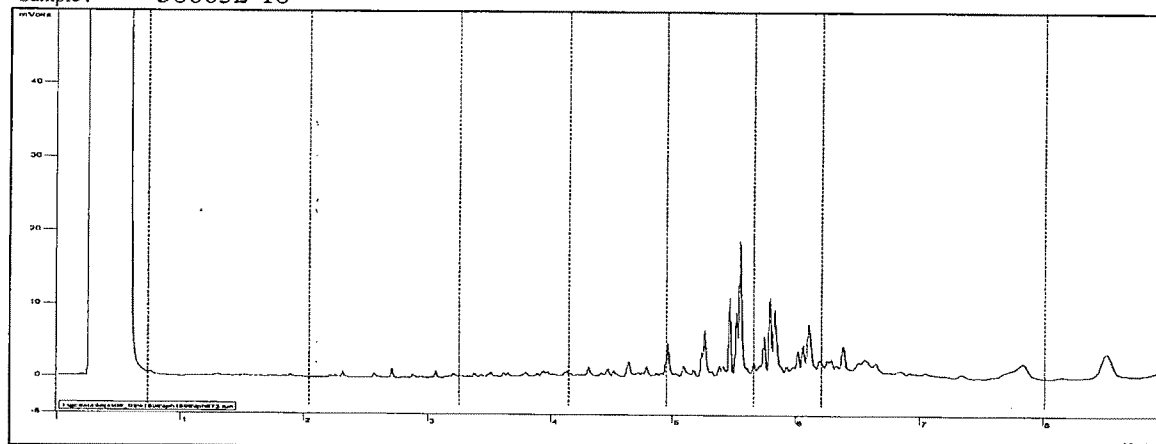
Sample : 386632-14



Sample : 386632-16



Sample : 386632-18



C7 C10 C15 C20 C25 C30 C34 C44

45 Princess Street Land Use Consents



**45 Princess Street
Subdivision Consents**



Land Use Resource Consents within 100 metres of 45 Princess Street

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

1 Barry Hogan Place

RMA/2007/912

Application to establish a parking building; cafe within Workstation 55; additional office space; extend mezzanine level and alter parking layout - Historical Reference RMA92008158

Processing complete

Applied 20/04/2007

Decision issued 18/05/2007

Granted 18/05/2007

RMA/2008/1408

Application to establish signage associated with Workstation 55 development - Historical Reference RMA92012263

Processing complete

Applied 30/06/2008

Decision issued 28/07/2008

Granted 28/07/2008

RMA/2010/293

Scanned - reconfigure the parking allocation for each allotment - Historical Reference RMA92015790

Processing complete

Applied 04/03/2010

Decision issued 08/10/2010

Granted 08/10/2010

RMA/2018/2452

To Reconfigure Carparking

Consent issued

Applied 08/10/2018

Decision issued 09/11/2018

RMA/2018/2454

To Reconfigure a Car park

Consent issued

Applied 08/10/2018

Decision issued 02/11/2018

Granted 02/11/2018

1/2 Barry Hogan Place

RMA/2006/1218

Establish 5 commercial buildings, containing 17 units (8 industrial, 8 stand alone offices and a pre-school - Historical Reference RMA92005268

Processing complete

Applied 31/05/2006

Conditions changed/cancelled - s127 06/03/2024

Decision issued 04/08/2006

Granted 04/08/2006

35 Princess Street

RMA/1999/2167

Application to attach a sign on the roof of a building - Historical Reference RES990803

Processing complete

Applied 18/03/1999

Decision issued 05/05/1999

Granted 05/05/1999

RMA/2003/3153

Outline plan waiver for new solid antenna on existing monopole & erect new monopole and solid antenna on the control room roof of Addington Substation - Historical Reference RMA20015501

Processing complete

Applied 03/12/2003

Decision issued 15/01/2004

Outline plan accepted 15/01/2004

RMA/2004/2139

To erect, OPERATE AND MAINTAIN A TELECOMMUNICATIONS FAC I LITY ON A 20M HIGH FREESTANDING MONOPOLE, AT THE ABOVE ADDRESS. - Historical Reference RMA20017777

Processing complete

Applied 19/08/2004

Decision issued 22/09/2004

Granted 22/09/2004

RMA/2004/2700

Application to replace an existing boundary fence with two new fences around the Addington Substation - Historical Reference RMA20018350

Processing complete

Applied 20/10/2004

Decision issued 25/11/2004

Outline plan accepted 24/11/2004

RMA/2008/308

Outline plan waiver for proposed covered walkway - Historical Reference RMA92011100

Processing complete

Applied 14/02/2008

Decision issued 18/02/2008

Outline plan accepted 18/02/2008

RMA/2008/541

INSTALLATION OF TELECOMMUNICATIONS FACILITIES - Historical Reference RMA92011341

Processing complete

Applied 13/03/2008

Decision issued 30/04/2008

Granted 30/04/2008

RMA/2017/3142

Outline Plan - Addington Substation site works

Processing complete

Applied 14/12/2017

Decision issued 08/02/2018

Outline plan accepted 08/02/2018

RMA/2017/3143

Soil disturbance associated with construction of access ways on land where an activity identified on the Hazardous Activities and Industries List (HAIL) has been undertaken.

Processing complete

Applied 14/12/2017

Decision issued 17/01/2018

Granted 17/01/2018

37 Princess Street

RMA/2015/807

Notice Of Requirement - Addington Zone Substation - Historical Reference RMA92029043

Processing complete

Applied 25/03/2015

Decision issued 23/04/2015

Requirement confirmed with conditions 23/04/2015

RMA/2015/999

Notice to withdraw part of the designation - Historical Reference RMA92029244

Processing complete

Applied 16/04/2015

Decision issued 24/04/2015

NOR accepted 24/04/2015

RMA/2017/64

Cancellation of amalgamation condition

Processing complete

Applied 13/01/2017

Certificate issued 02/02/2017

RMA/2020/2865

Extend existing chain-link fence

Processing complete

Applied 04/12/2020

Decision issued 21/12/2020

Outline plan accepted 18/12/2020

39 Princess Street

RMA/1996/2751

Application to allow a 12m wide vehicle crossing in terms of both the Transitional and Proposed Plans. - Historical Reference RES963173

Processing complete

Applied 06/12/1996

Decision issued 20/12/1996

Granted 20/12/1996

RMA/1998/2819

Reduction in ROW width and formation conditions under both plans. - Historical Reference RES983221

Processing complete

Applied 17/11/1998

Decision issued 04/12/1998

Granted 04/12/1998

RMA/2001/1900

Exchange panel antennas of the exis dd additional microwave dish antennas - Historical Reference RMA20007799

Processing complete

Applied 08/08/2001

Decision issued 27/08/2001

Granted 23/08/2001

RMA/2003/2629

Application for alterations to an existing building on the property for use as an office - Historical Reference RMA20014961

Cancelled

Applied 07/10/2003

RMA/2004/2540

To upgrade the existing telecommunications facility. - Historical Reference RMA20018187

Processing complete

Applied 04/10/2004

Decision issued 15/10/2004

Granted 15/10/2004

RMA/2005/1440

For the erection of 3 buildings that will contain 10 commercial units,8 warehouses & offices,1 office, 1 cafeteria, parking areas and landscaping - Historical Reference RMA20020300

Processing complete

Applied 24/06/2005

Decision issued 08/09/2005

Granted 08/09/2005

RMA/2007/912

Application to establish a parking building; cafe within Workstation 55; additional office space; extend mezzanine level and alter parking layout - Historical Reference RMA92008158

Processing complete

Applied 20/04/2007

Decision issued 18/05/2007

Granted 18/05/2007

RMA/2008/1408

Application to establish signage associated with Workstation 55 development - Historical Reference RMA92012263

Processing complete

Applied 30/06/2008

Decision issued 28/07/2008

Granted 28/07/2008

RMA/2010/293

Scanned - reconfigure the parking allocation for each allotment - Historical Reference RMA92015790

Processing complete

Applied 04/03/2010

Decision issued 08/10/2010

Granted 08/10/2010

RMA/2018/2452

To Reconfigure Carparking

Consent issued

Applied 08/10/2018

Decision issued 09/11/2018

51 Princess Street

RMA/2005/1041

Retention of existing buildings within 2 new nominated sites; retain existing building in new site with alterations to it & erect a new building in new site - Historical Reference RMA20019889

Processing complete

Applied 04/05/2005

Decision issued 23/06/2005

Granted 23/06/2005

RMA/2005/2081

Alterations & additions to existing building (Lot 1) Addn to existing building (Lot 2) retain existing building (Lot 3) erect new building (Lot 4) - Historical Reference RMA20020959

Processing complete

Applied 08/09/2005

Decision issued 20/12/2005

Granted 20/12/2005

RMA/2015/1305

Reduction in the number of parking spaces - Historical Reference RMA92029563

Processing complete

Applied 15/05/2015

Decision issued 07/07/2015

Granted 06/07/2015

53 Princess Street

RMA/2007/912

Application to establish a parking building; cafe within Workstation 55; additional office space; extend mezzanine level and alter parking layout - Historical Reference RMA92008158

Processing complete

Applied 20/04/2007

Decision issued 18/05/2007

Granted 18/05/2007

RMA/2008/1408

Application to establish signage associated with Workstation 55 development - Historical Reference RMA92012263

Processing complete

Applied 30/06/2008

Decision issued 28/07/2008

Granted 28/07/2008

RMA/2010/293

Scanned - reconfigure the parking allocation for each allotment - Historical Reference RMA92015790

Processing complete

Applied 04/03/2010

Decision issued 08/10/2010

Granted 08/10/2010

RMA/2018/2452

To Reconfigure Carparking

Consent issued

Applied 08/10/2018

Decision issued 09/11/2018

6/2 Barry Hogan Place

RMA/2011/902

TEMPORARY ACCOMMODATION - OFFICE - Historical Reference RMA92018454

Expired

Applied 18/07/2011

Decision issued 02/09/2011

Granted 02/09/2011

Decision issued 02/09/2011

Granted 02/09/2011

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