

Land information memorandum here

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

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

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

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

Land Information Memorandum

Application

Here Powered By Ownly Limited 114 Peterborough Street CHRISTCHURCH CENTRAL	No. Application date Issue date	LM2601813 22 July 2026 24 July 2026
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Property

Valuation No.	2175114700
Location	47 Cam Road KAIAPOI
Legal description	PTS LOTS 23 24 DP 576
Owner	Proper Jon Properties Limited
Area (hectares)	0.067400

Rates

Rating Valuation	
Land	\$325,000
Capital Value	\$430,000
Improvements	\$105,000
Date of Last Revaluation	1 June 2025
Current Rates Year 1st July 2025 to 30th June 2026	
Annual Rates	\$4,688.31
Current Instalment	\$1,172.00
Current Year – Outstanding Rates	\$4,688.31
Arrears for Previous Years	\$0.00
Next Instalment Due	20 August 2026
Note: Rates are charged in four equal instalments for the period commencing 1 July and ending 30 June each year.	

This Land Information Memorandum (LIM) has been prepared for the purposes of Section 44A of the Local Government Official Information and Meetings Act 1987. It contains all the information described in section 44A(2) that is held by the Waimakariri District Council in relation to the land, as at the date above. It is based on a search of the Council's records only and there may be other information relating to the land which is not held by the Council. The records may not show illegal or unauthorised structures or other work on the land.

The Council has not undertaken an inspection of the land or any building(s) on it for the purpose of preparing this LIM. The applicant is solely responsible for ensuring that the land is suitable for a particular purpose. Please consult the Council if you have any questions.

The inclusion or omission of information in or from this LIM does not limit or affect the Council's functions, powers or duties in relation to the land under any statute, regulation, bylaw, policy, or other enactment.

The Council will, upon request, provide additional information about the land. There will generally be an additional fee payable, based on the amount of time required to locate, collate and provide the requested information.

Planning/Resource Management**WAIMAKARIRI DISTRICT PLAN**

The Council has undertaken a review of the Operative District Plan and through this process it has developed a New District Plan ('The Partially Operative District Plan') which provides clear objectives, policies and rules on how people use, subdivide and develop land, what and where they can build and what kind of activities they can undertake. The Plan also controls any adverse effects an activity could have on the neighbourhood and protects the uniqueness of our district by looking after our heritage, cultural values, outstanding landscapes and coastal environment. It also incorporates any changes in legislation, national and regional policy statements, environmental standards and other regulations.

The period for lodging appeals against decisions on the Partially Operative District Plan has closed and the Council released the Appeals Version of the Partially Operative District Plan. Many provisions in Partially Operative District Plan – Appeals Version are now beyond challenge and are operative/treated as operative.

The Operative District Plan (2005) now only applies where a relevant provision in the Partially Operative District Plan remains subject to an appeal.

For more information, please refer to the links below:

<https://www.waimakariri.govt.nz/council/district-development/district-plan>

Please note that if you lodge a building consent application, the Council will assess your project against the District Plan rules that apply at the time. If your proposed activity doesn't need a building consent, please contact the Council's Duty Planner by email duty.planner@wmk.govt.nz to find out if any new rules apply to your proposal or site.

Link to find out the zoning and rules in the 'Partially Operative District Plan- Appeals Version (2025)':

<https://waimakariri.isoplan.co.nz/draft/>

Link to find out the zoning and rules in the District Plan (Operative 2005):

<https://waimakariri.isoplan.co.nz/eplan/>

No other information located

Land Use on Contiguous Properties

No information located

Building

24/06/1981	<u>BUILDING PERMIT</u>	INSTALL KENT TILE FIRE
28/09/1981	<u>BUILDING PERMIT</u>	ERECT A SHED
30/09/1982	<u>BUILDING PERMIT</u>	ERECT A GARAGE
09/07/1985	<u>BUILDING PERMIT</u>	RECLAD WITH SAUNDER VINYL SIDING
17/03/1987	<u>BUILDING PERMIT</u>	ADDITION OF CONSERVATORY
05/09/1988	<u>BUILDING PERMIT</u>	ERECT A CARPORT

Land Information Memorandum

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20/03/2009	<u>BUILDING CONSENT BC090222</u>	INSTALL AN ETHOS FS 100 GENESIS. A Code Compliance Certificate was issued 09/04/2009, copy attached.
04/05/2026	<u>BUILDING CONSENT BC260376</u>	DWELLING FOUNDATION RE-LEVELLING. A Code Compliance Certificate has not been issued to date.

It is recommended that Council records are viewed and compared with the actual structure(s) and activities on site to identify any illegal or unauthorised building works or activities.

Copies of site, floor, foundation & drainage plans and elevations are attached.

Sewer and Water

Sewer Available - Eastern Districts Sewer – plan attached.

Water Available - Water – Kaiapoi – plan attached.

Water quality information for each public water supply scheme can be found by following the link below and click on “Water Quality Testing Results”:

<https://www.waimakariri.govt.nz/services/water-services/water-supply>

Where Council services are located within a property boundary, they may not be built over and appropriate separation distance by any future development must be maintained. If a build over is considered unavoidable, Council's Three Waters team must be contacted to discuss the design prior to any resource or building consent being lodged for the site.

Land and Building Classifications

Heritage Site Reference : No Information Located.

Refer to copy of map from District Plan for other classifications in the immediate vicinity.

Compliance with The Building (Pools) Amendment Act 2016

There is no swimming pool or spa pool registered on this property. If there is a swimming pool please go on-line and register it at <https://waimakariri.govt.nz/building-services/swimming-pool-registration>. A Council representative will then contact you to arrange an inspection of the pool and any associated barriers (fencing). If there is a spa pool please check first at <https://www.waimakariri.govt.nz/building-services/i-want-to-build-a.../swimming-and-spa-pools> to determine if it needs to be registered.

Swimming pools must be fenced as required by The Building (Pools) Amendment Act 2016. Owners are advised that an inspection of the swimming pool fencing is mandatory every 3 years to ensure its ongoing compliance with The Building (Pools) Amendment Act 2016.

Vehicle Crossing Requirements

The installation of vehicle crossings is the responsibility of the owner of the property to be accessed; vehicle crossings may not be constructed or Council roading assets (e.g., footpaths,

kerb ramps, street trees) impacted without an approved Vehicle Crossing Permit. For further information refer to the Council's Vehicle Crossing Information Pack in the following link:
https://www.waimakariri.govt.nz/data/assets/pdf_file/0012/141330/230707102468-QD-RDG-Information-002-Vehicle-Crossing-Information-Pack4.pdf

Special Land Features

Wind Zone	High
Earthquake Zone	2
Snow Load Zone	4
Other	No Information located

Natural Hazards

The Waimakariri District Council supplies the following information in accordance with Section 44B of the Local Government Official Information and Meetings Act 1987. Section 44B: inserted, on 1 July 2025, by [section 8](#) of the Local Government Official Information and Meetings Amendment Act 2023 (2023 No 41).

The Council has completed a hazard assessment for the District. This includes flood hazard, location of fault lines, areas susceptible to liquefaction, coastal flood depth and tsunami inundation. **People are encouraged to view this information before making a property decision.** Maps and information on natural hazards for the district are available at:
[Waimakariri District Natural Hazards Interactive Viewer \(arcgis.com\)](https://www.waimakariri.govt.nz/arcgis)

This Land Information Memorandum includes natural hazard information deemed by Waimakariri District Council and 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.

Coastal Hazards

No additional information located.

Earthquakes

Comprehensive district-scale earthquake fault mapping commissioned by Environment Canterbury has not identified a fault deformation hazard on the property. However, it is possible there are some faults in Canterbury that are yet to be identified because they are not visible at the ground surface. More information on fault deformation is available on Environment Canterbury's fault deformation map at
<https://mapviewer.canterburymaps.govt.nz/?webmap=b5f859bd18ee4912828cb092bef6c449>.

District-scale liquefaction susceptibility mapping commissioned by Environment Canterbury shows the property, or part of the property, is within an area where liquefiable sediments may be present and liquefaction damage is possible in future earthquakes. More information on liquefaction is available on Environment Canterbury's liquefaction map at
<https://storymaps.arcgis.com/stories/aa738ffd2e6d42c4b94eb183e218ed97>.

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>.

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 on Environment Canterbury's liquefaction map at <https://storymaps.arcgis.com/stories/aa738ffd2e6d42c4b94eb183e218ed97>.

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Flooding

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>

Landslides

An earthquake hazard assessment for infrastructure commissioned by Environment Canterbury in 2009 included a regional-scale map of earthquake-induced landslide susceptibility and locations of known rock avalanches. This report can be downloaded from the Environment Canterbury website at

<https://www.ecan.govt.nz/document/download?uri=1182107>.

Technical report information:

Title: Earthquake hazard assessment for Waimakariri District

Date: September 2009

Author: M Yetton and I McCahon (Geotech Consulting Ltd)

Commissioned by: Environment Canterbury

Purpose of report: To assess earthquake hazards and their potential impacts on engineering lifelines (infrastructure) in Waimakariri District. For use in infrastructure and emergency management planning.

Study area: Waimakariri District

Accessible at: <https://www.ecan.govt.nz/document/download?uri=1182107>

Subsidence

No additional information located.

Tsunamis

Refer to the Waimakariri District Council's website on the following

link: <https://www.waimakariri.govt.nz/services/emergencies-and-recovery/in-case-of-an-emergency>

Tsunami modelling commissioned by Environment Canterbury shows the property is not affected by flooding in any modelled tsunami scenarios. The modelling considers a range of tsunami sources and events with an average recurrence interval of up to 2500 years. More information is available on Environment Canterbury's tsunami modelling results webapp at <https://experience.arcgis.com/experience/1f01c50c3df84a9b8cd41a0353d24785>.

Technical report information:

Title: Multiple scenario tsunami modelling for northern Pegasus Bay and northern Banks Peninsula bays

Date: November 2020

Author: J Roger, C Mueller, X Wang (GNS Science)

Commissioned by: Environment Canterbury

Purpose of report: To model inundation from many different local, regional and distant source tsunamis for average recurrence intervals up to 2500 years. For use in emergency management planning, including creating tsunami evacuation zones.

Study area: Northern Banks Peninsula bays from Godley Head to Le Bons Bay, and northern Pegasus Bay from the Waimakariri River mouth to the Waipara River mouth

Accessible at: <https://www.ecan.govt.nz/document/download?uri=3996252>

Volcanic and Geothermal Hazards

No additional information located.

Wind

No additional information located.

Land Information Memorandum**8****Other**

No additional information located.

There are national datasets that could hold relevant information for the property that are not part of Council information. These include:

Natural Hazard Commission (formerly Earthquake Commission) claims at

<https://www.naturalhazardsportal.govt.nz/s/claims-map>

The New Zealand National Seismic Hazard Model (earthquake shaking) at

<https://nshm.gns.cri.nz/HazardMaps>

Earth Science New Zealand's Landslide Database at <https://data.gns.cri.nz/landslides/>

Licences/Environmental Health

No Information located

Network Utility Operators

Contact Mainpower for power availability.

Contact Chorus for phone availability.

Other Information

Geotechnical Report from Subterra, copy attached Letter of 19/03/19 regarding Notification of Wastewater Network Investigations from the Waimakariri District Council and Smoke Testing report, copies attached.

No further information located.

Reported by Owner on 31/07/08, "Water coming onto properties, not a danger to houses", due to an extreme weather event where 115mm of rain fell during a 24 HR period.

No further information located.

Service Request SR2200103, SR2300171, copies attached - no information located.

Environment Canterbury may hold information on natural and physical resources that may be relevant to a property. Information on obtaining a Land Information Report can be found at <https://www.ecan.govt.nz/do-it-online/property-information/land-information-requests/what-is-included-in-a-lir/>

The Listed Land Use Register (LLUR) is a database that Environment Canterbury uses to manage information about land that is or has been associated with the use, storage or disposal of hazardous substances. Further information on the LLUR can be found at <https://www.ecan.govt.nz/your-region/your-environment/hazardous-land-use/listed-land-use-register/>

Notes

1. Final inspections on buildings were not mandatory prior to 1 January 1993. Should an evaluation of the building be required an independent qualified person should be consulted.

2. Every care has been taken to ensure that the information supplied by the Council on this form is accurate. The Council relies on information available to it and will not be held responsible for incomplete or inaccurate information provided, or for any errors or omissions made in good faith.
3. Property boundaries shown on the attached copies of computer-generated plans are based on the Digital Cadastral DataBase (DCDB). Topographical information shown (for example, buildings etc.) is captured by photogrammetric methods. The accuracy of the two methods of data capture is different and the relationship of buildings to boundaries cannot be relied on.
4. Any enquiry not accompanied by a fee will be invoiced separately. (All prices are GST inclusive.)
5. If a property is cross-leased any building alterations undertaken may affect the lease documents. If this is the case, appropriate resource consents pursuant to the Resource Management Act 1991, and amended Certificates of Title, should be obtained to reflect the correct situation.
6. It is in your interests to locate the boundary pegs by discovery or redefinition before purchasing the property.
7. Property purchasers should ensure particularly with newly constructed dwellings that the vehicle crossing from the road onto the property is fully formed, in accordance with the Councils' specifications. A check can be made with the Customer Services, if any damage is noted, or if the crossing is not completed.
8. Any subdivision or other further development on this property which requires a new connection or an increased level of usage of Council provided services may be subject to the Council's development contributions policy, ie additional charges may be payable. Council services may include water supply, sewerage, stormwater drainage, reserves, roading and community infrastructure.
9. Use of open fires or older-style burners (older than 15 years within the Clean Air Zones) is not allowed. All older style wood burners that do not meet a 1 gram emission standard and are not on the Environment Canterbury authorised list that are 15 years or older can be replaced with a low emission wood burner provided that a building consent is issued by Waimakariri District Council before 31 October 2017. For information regarding domestic fires and wood burners refer to Environment Canterbury's website www.ecan.govt.nz or telephone 0800 324 636.
10. The applicant is advised that this Land Information Memorandum (LIM) covers information held by the Waimakariri District Council. Any relevant information from Environment Canterbury held on Council files has been included. It is in your interest to also request a Land Information Request (LIR) from Environment Canterbury. Further information can be found at www.ecan.govt.nz/services/online-services/property-information.
11. Territorial Authorities have a wide discretion as to the sort of information that is included in the LIM. Section 44A (3) provides that a Territorial Authority may provide in the LIM such other information concerning the land as the authority considers, as its discretion, to be relevant.
12. This Land Information Memorandum does not contain all information held in a property file. Property files may be requested by telephoning the Council's Contact Team on 0800 965 468 or by visiting a Council Service Centre.



Name: _____

Date: 24 July 2026

Signed on Behalf of Council

TONY MEIER – PROPERTY INFORMATION OFFICER



Legend

LM2601813 - Page 10

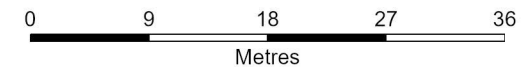
- Land Parcel
- Property Boundary

Author: Anthony Meier

Date: 24/07/2026

Scale 1:574

Original page size: A4

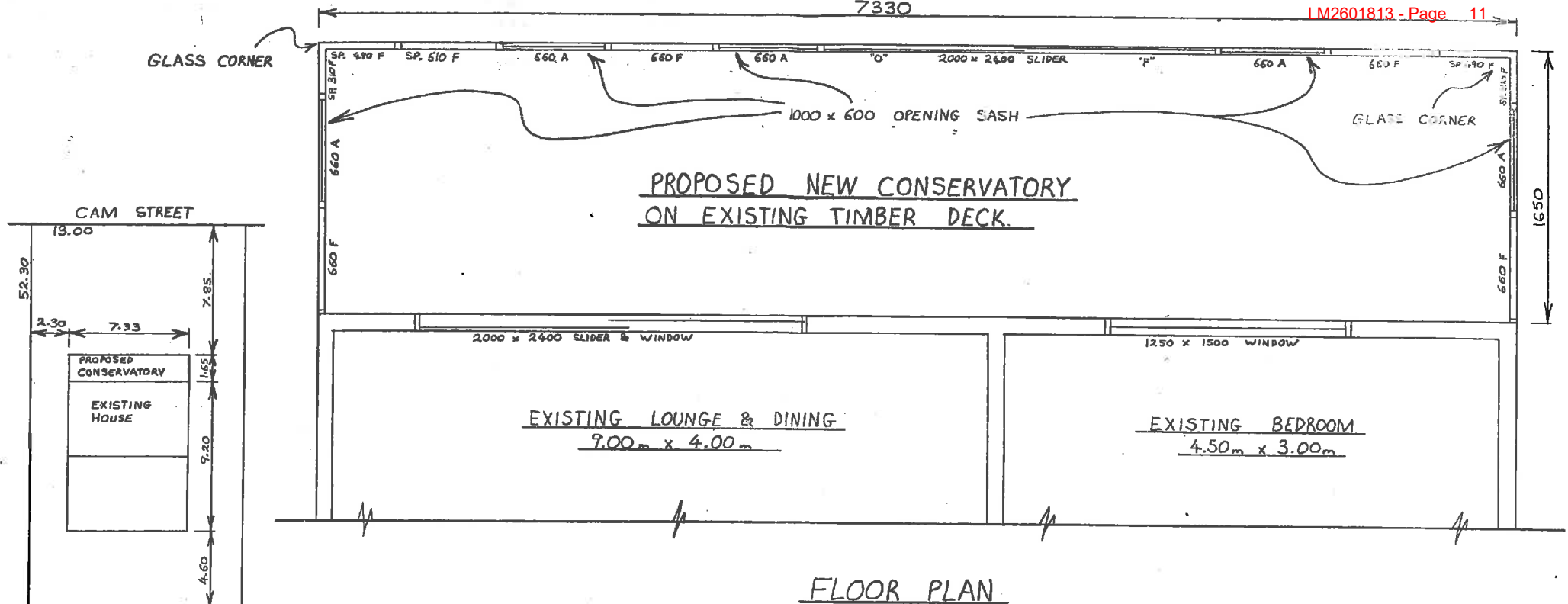


Disclaimer:

Land and property boundary information is sourced from and derived using Land Information New Zealand (LINZ) Land Parcels licensed for re-use by LINZ under the Creative Commons Attribution 4.0 International licence. The Waimakariri District Council does not give and expressly disclaims any warranty as to the accuracy or completeness of this information or its fitness for any purpose. Information on this map may not be used for legal disputes and should be independently verified before taking any action reliant upon it.

Credits:

Waimakariri District Council, Land Information New Zealand, 2025 Urban and Rural Aerial Imagery, 2023 Birch Hill Cemetery UAV Imagery, 2022-23 Cust Cemeteries UAV Imagery, Waimakariri District Council



FLOOR PLAN

KALPOI BOROUGH COUNCIL
24 HOURS NOTICE MUST BE GIVEN

Prior to pouring **ANY** concrete
Prior to laying **ANY** floor
Prior to fixing **ANY** wall or ceiling
On completion of the Building
provision must be made to allow
the Building Inspector access

ALL BUILDINGS MUST HAVE SPOUTING
AND DOWNPIPES DISCHARGING TO STORM-
WATER DRAINS, WHICH MUST DISCHARGE
TO THE STREET CHANNEL.

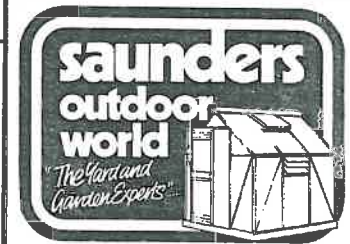


SITE PLAN

KALAPOO BOROUGH
COUNCIL
APPROVED: *[Signature]*
DATE 17.3.87.

NOTES

BROWN POWDERCOAT FRAME
'POLYGAL' ROOFING
TINTED GLASS
GLASS TO GLASS CORNERS
NO CONCRETE WORK



M. D. K. WILLIAMS

47 CAM ROAD

ΚΙΑΡΟΙ

PROPOSED CONSERVATORY

SCALE: 1:25

DRAWN:

DATE: 11-3-87

APPROVED:

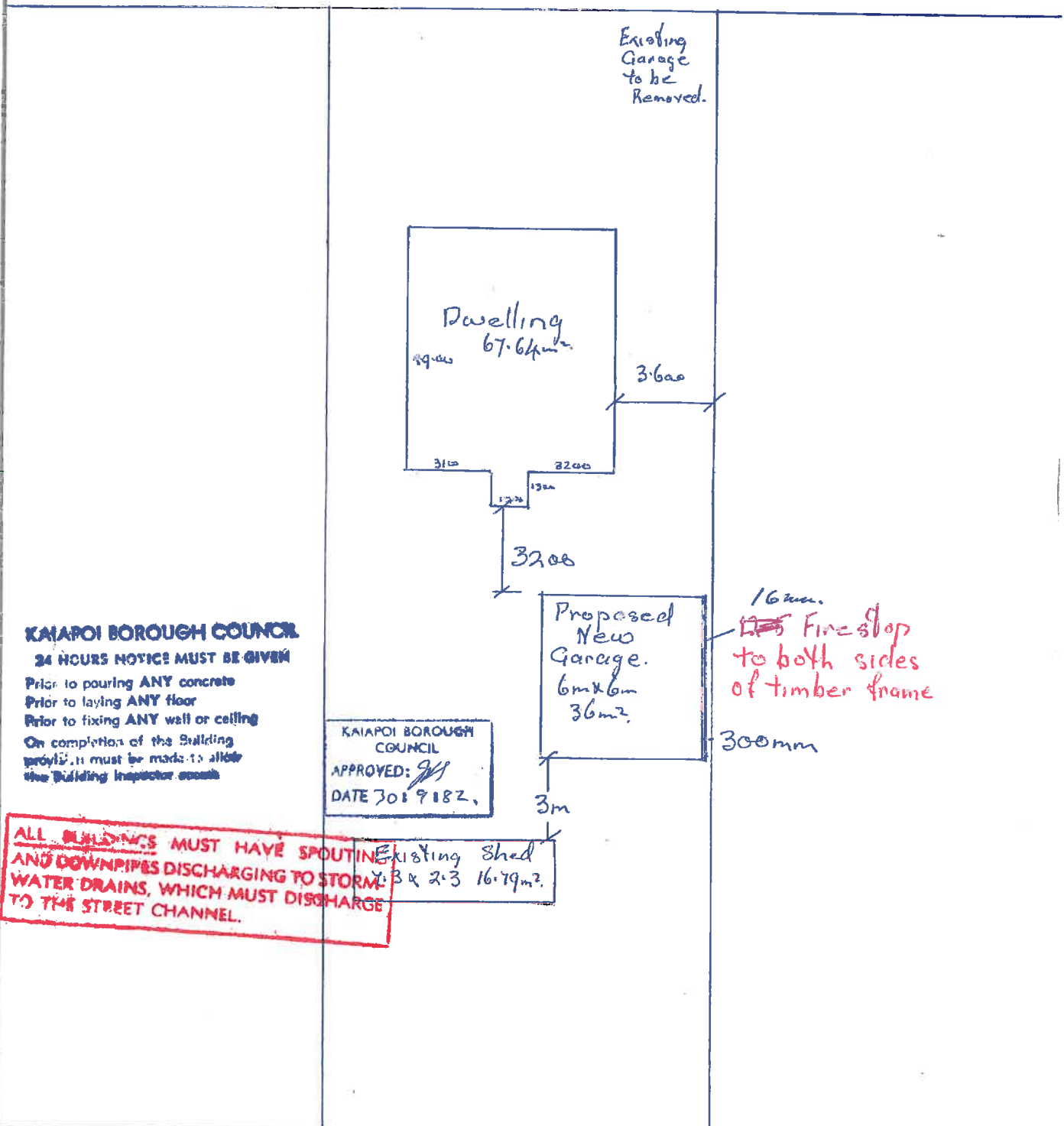
VERSATILE GARAGES

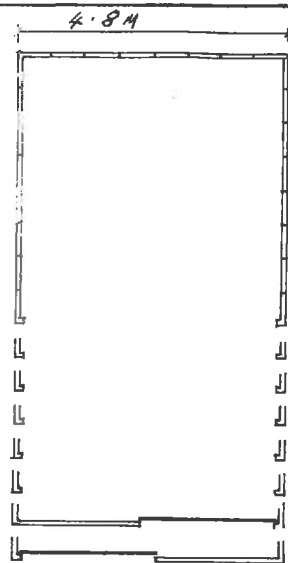
Proposed new garage at 47 Cam Road for D & G Williams.

SITE PLAN

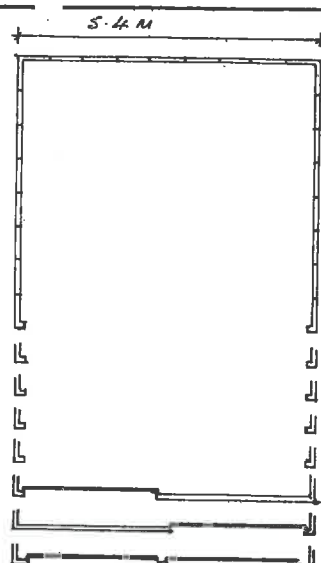
SCALE 1:1500

47 Cam Road.

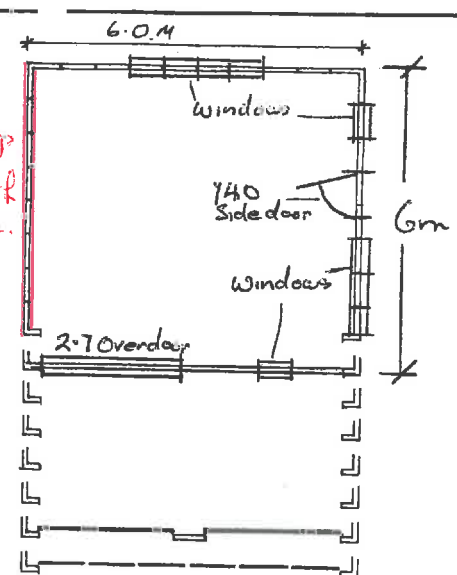




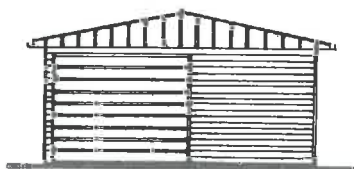
PLAN 1-200



PLAN 1-200



PLAN 1-200



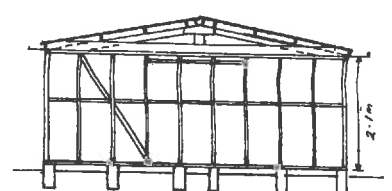
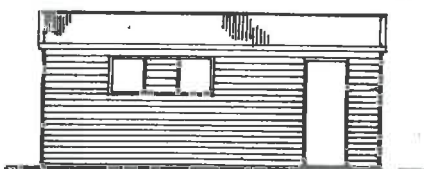
ELEVATION



ELEVATION



ELEVATION



PRYDE TRUSS CODE No. H2301 M501

AT 1.8 & 2.4cc

MANUFACTURED BY VERSATILE GARAGES

SPECIFICATIONS:Foundations:Dampcourse:Framing:Wall braces:Door beams:Dragon ties:305mm concrete piles at 1.2 and 600mm centres under studs or continuous concrete dwarf walls or complete floors
2 ply d.p.c. under all platesAll timber is borac treated machine gauged radiata. All framing is housed i.e. studs checked into plates and nogs checked into studs.
Studs at 600mm centres top and bottom plates and nogs - 100x50

75x50 cut on edge

Minimum 160x50 with minimum of 12mm check in at each end. Roof trusses and purlins as per detail drawing placed over studs at 1800 and 2400 centres to suit.

75x50 at 45° over top plate to each corner

Roofing:Ridging:Walls:Spouting:

0.45

0.45

0.45

0.60

galv. corr. iron single sheets

galv. lead edged

galv. metal weatherboards

galv. iron gutters fixed ea. side

Downpipes:Doors:

75x50 galv. iron

0.45 and 0.60 metal doors on overhead gear or galv. roller doors

GARAGE, SHED at 47 Cam Road for Williams.

D. K. Williams
PLAN of SHED AT LT CAM ROAD.
SCALE $\frac{1}{2}$ " = Foot

KAIAPOI BOROUGH COUNCIL

24 HOURS NOTICE MUST BE GIVEN

Prior to pouring ANY concrete

Prior to laying ANY floor

Prior to fixing ANY wall or ceiling

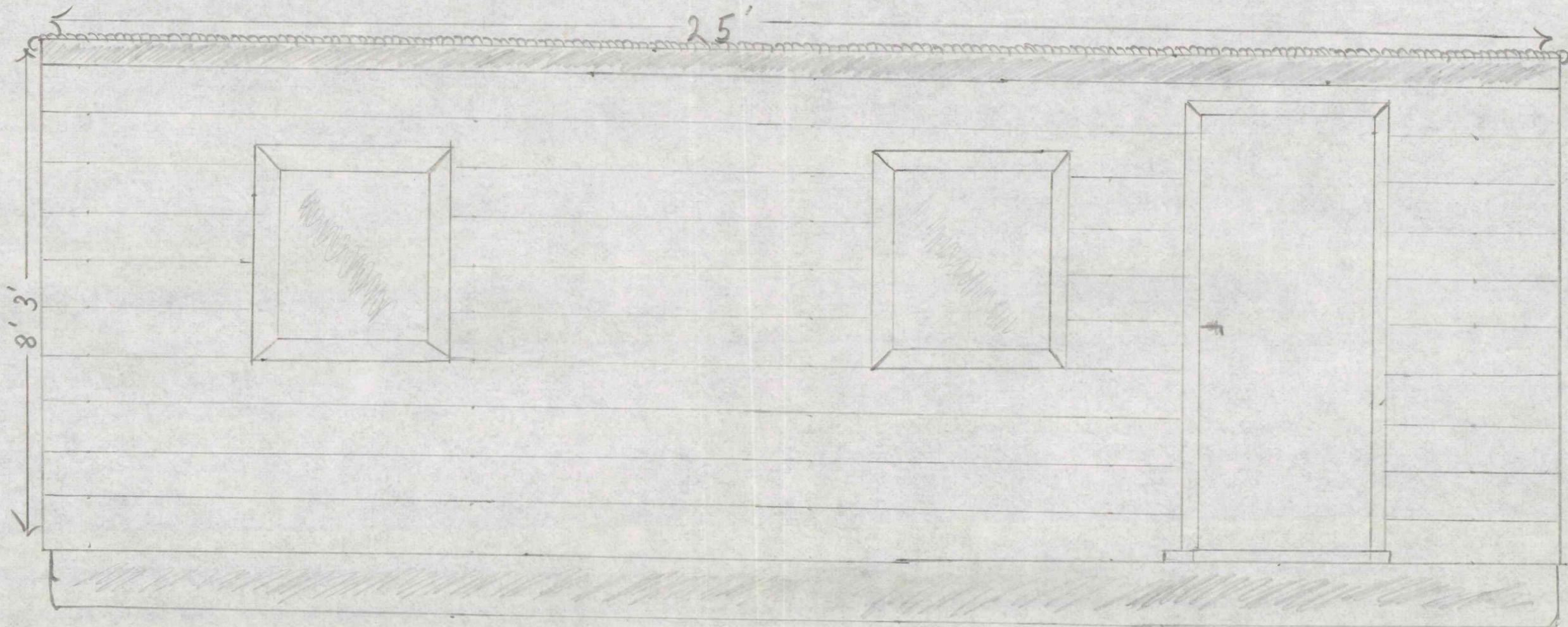
On completion of the Building
provision must be made to allow
the Building Inspector access

ALL BUILDINGS MUST HAVE STOUTING
AND DOWNPIPE DISCHARGING TO STORM-
WATER DRAINAGE WHICH MUST DISCHARGE
TO THE STORM CHANNEL.

KAIAPOI BOROUGH
COUNCIL

APPROVED: *JS*

DATE 23:9:81



D. K. Williams

PLAN OF SHED AT 47 CAM ROAD

SCALE 1 inch = 1 FOOT

3x2 STUD AT 2' CENTRE

4x2 RAFTER

4x2 JOIST

12x4 SKIDS

WEATHER BOARD CLADDING

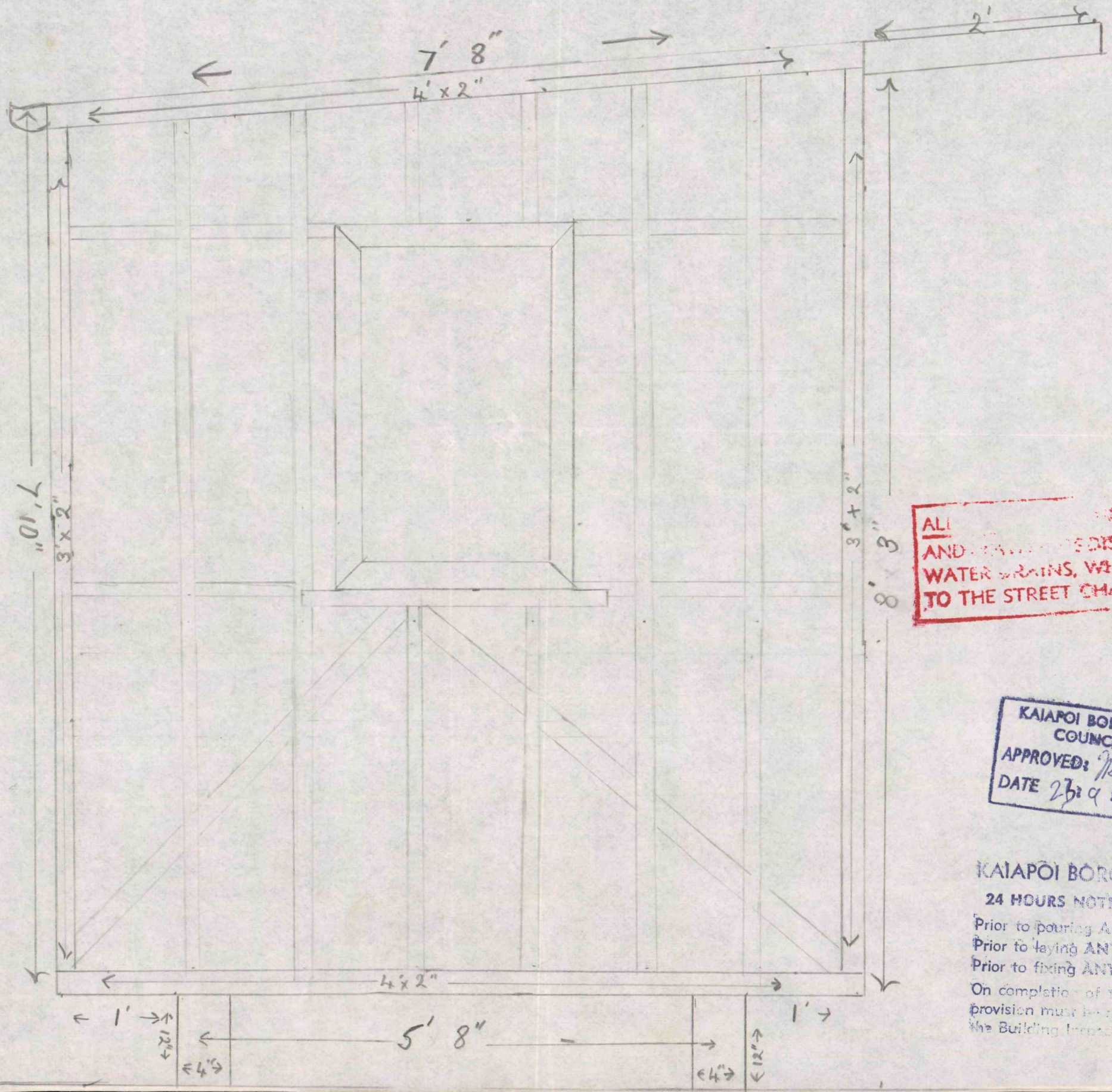
6x1 Rustic.

LINED IN TONGUE AND

GROVE.

IRON ROOF.

FLOOR TONGUE AND GROVE



ALL
AND
WATER DRAINS, WHICH MUST DISCHARGE
TO THE STREET CHAIR

KAIAPOI BOROUGH
COUNCIL
APPROVED: *MS*
DATE 26/9/81

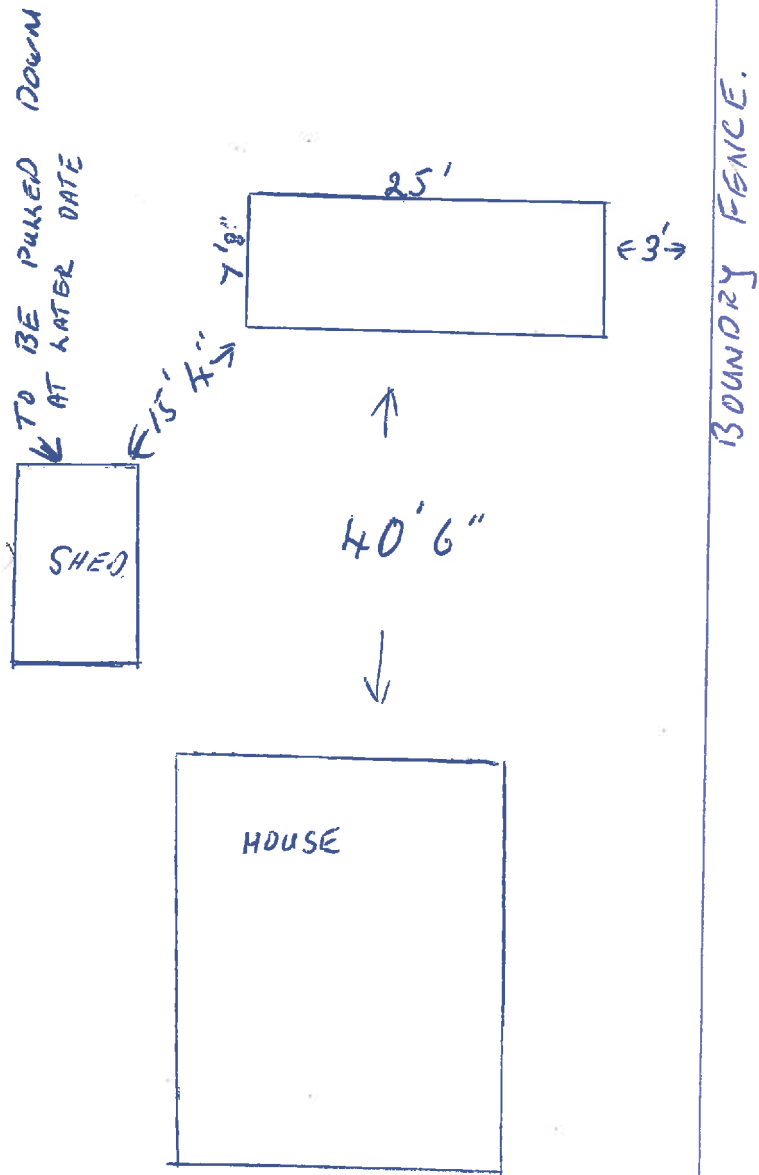
KAIAPOI BOROUGH COUNCIL
24 HOURS NOTICE MUST BE GIVEN
Prior to pouring ANY concrete
Prior to laying ANY floor
Prior to fixing ANY wall or ceiling
On completion of the Building
provision must be made to allow
the Building Inspector access

Builder

Permit No.
(FOR OFFICE USE ONLY)

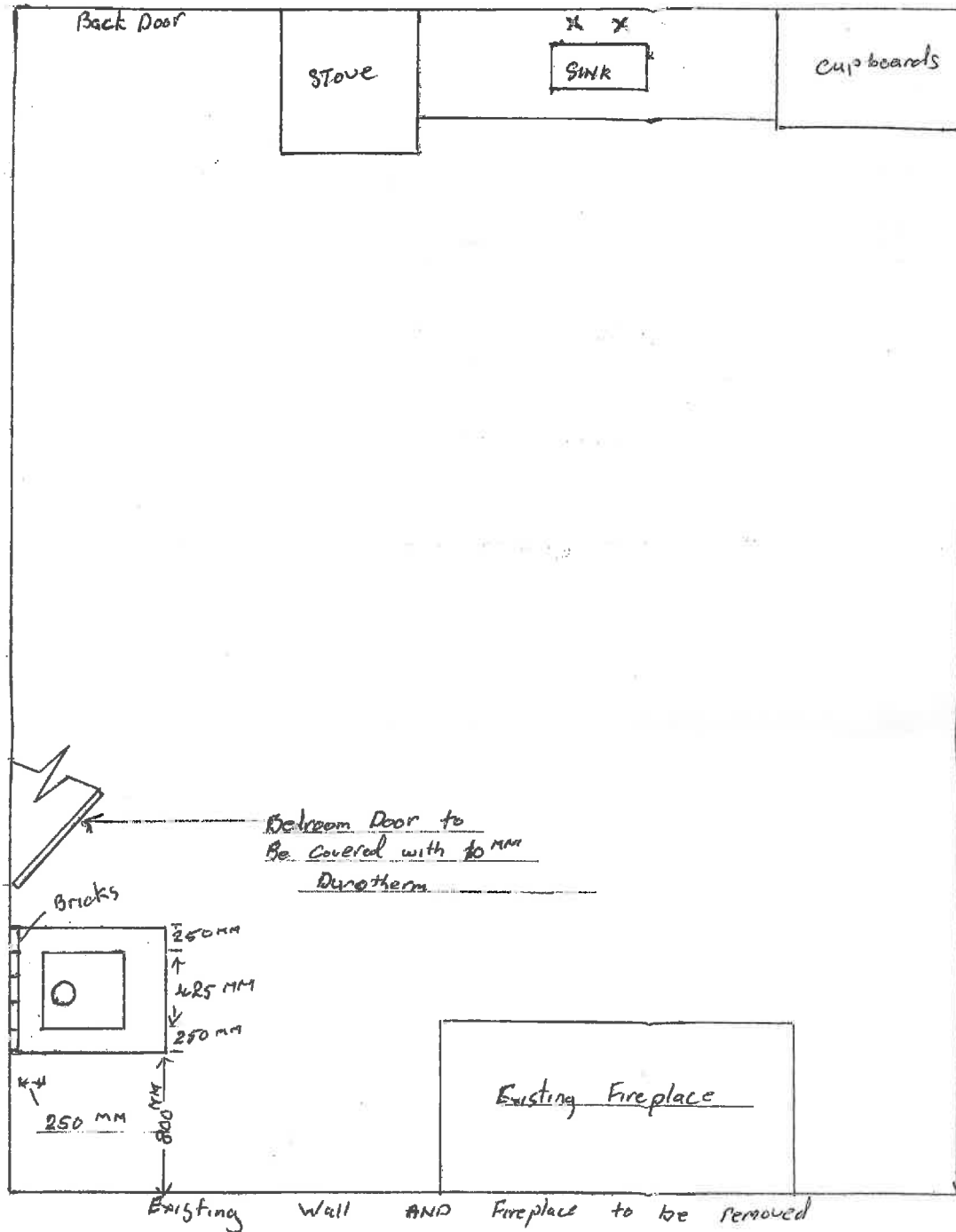
Street

No.



Scale =

Proposed Plan for Installation of Space Heater
For D Williams 27 Cam Rd.



PROPERTY W. GUEST

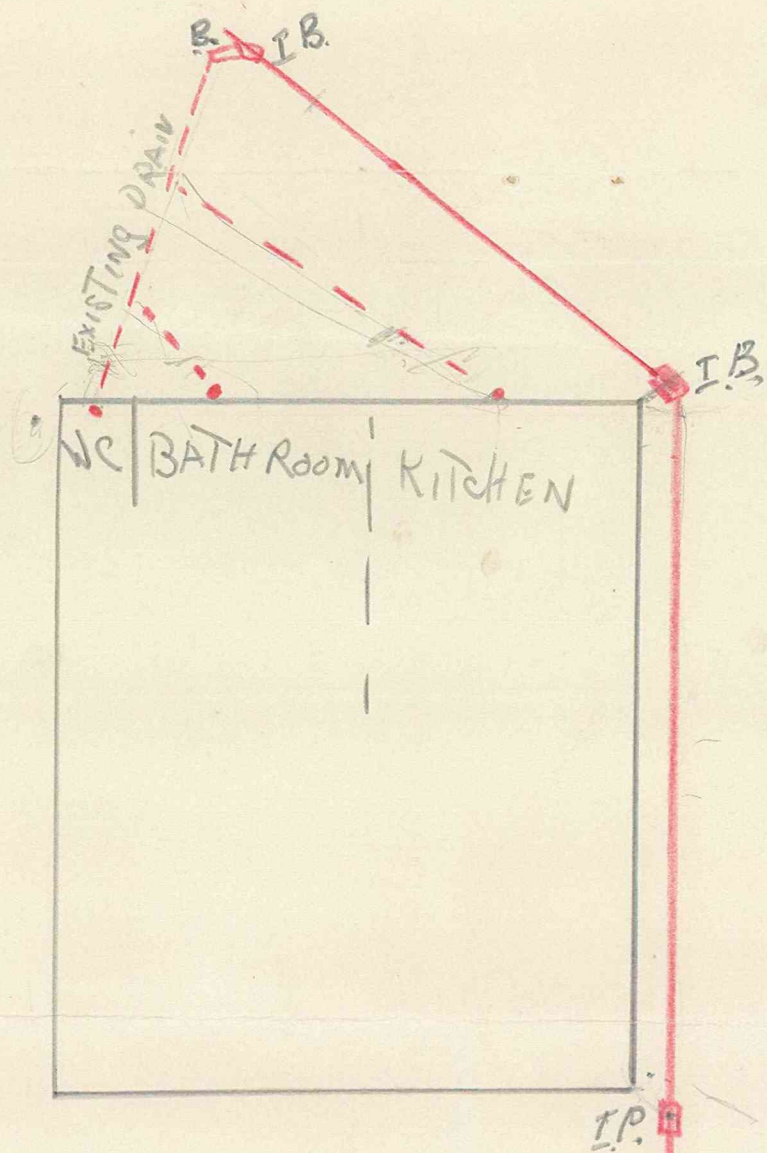
47 CAM ROAD. KAIAPOI

SCALE $\frac{1}{8}$ " to 1'.

GRADE 1' in 50'

DRAINER J.J. MCINTOSH

DATE 29/5/57



Inspected

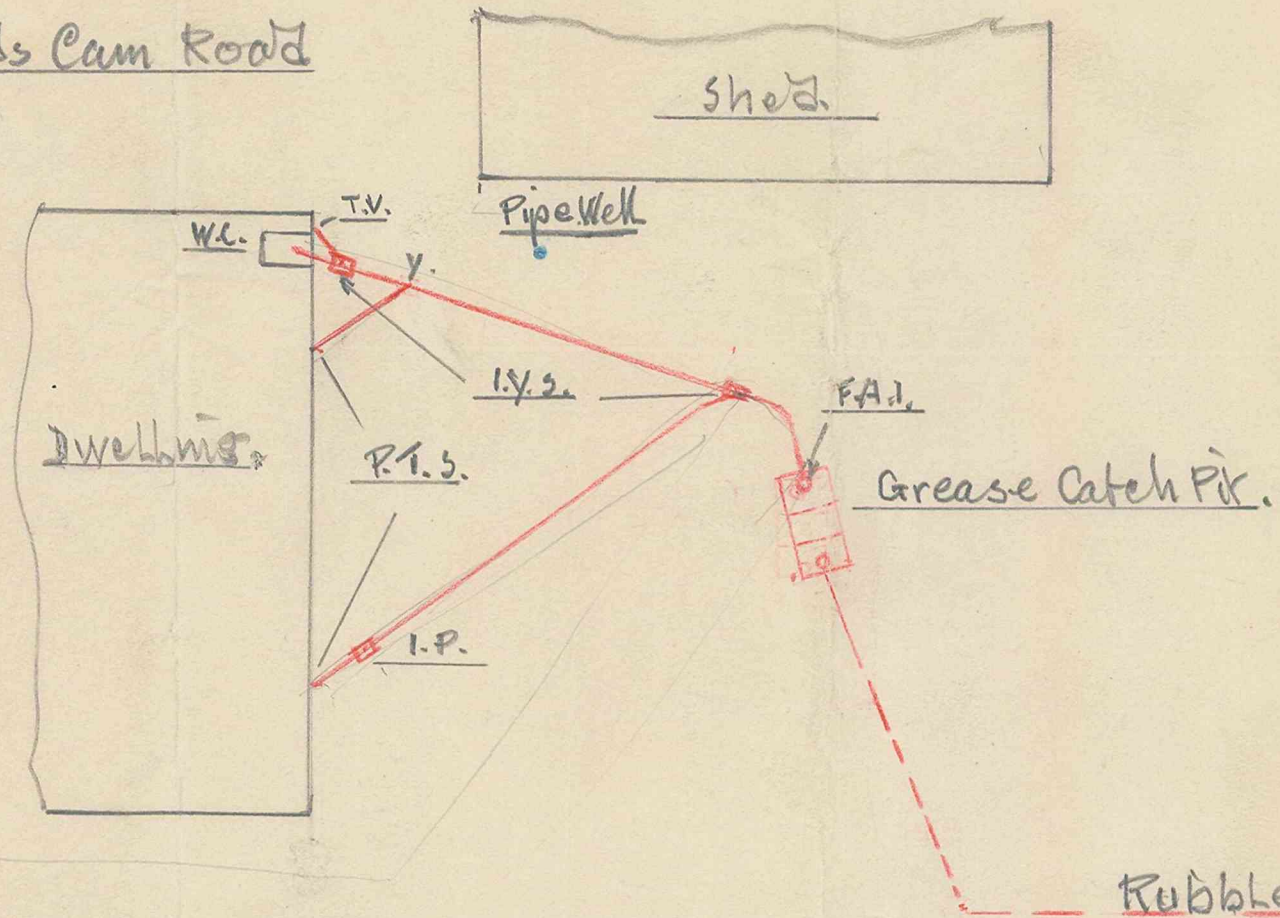
BB.

31/5/57.

CAM ROAD



← Towards Cam Road



Mr W. Guest. - Owner

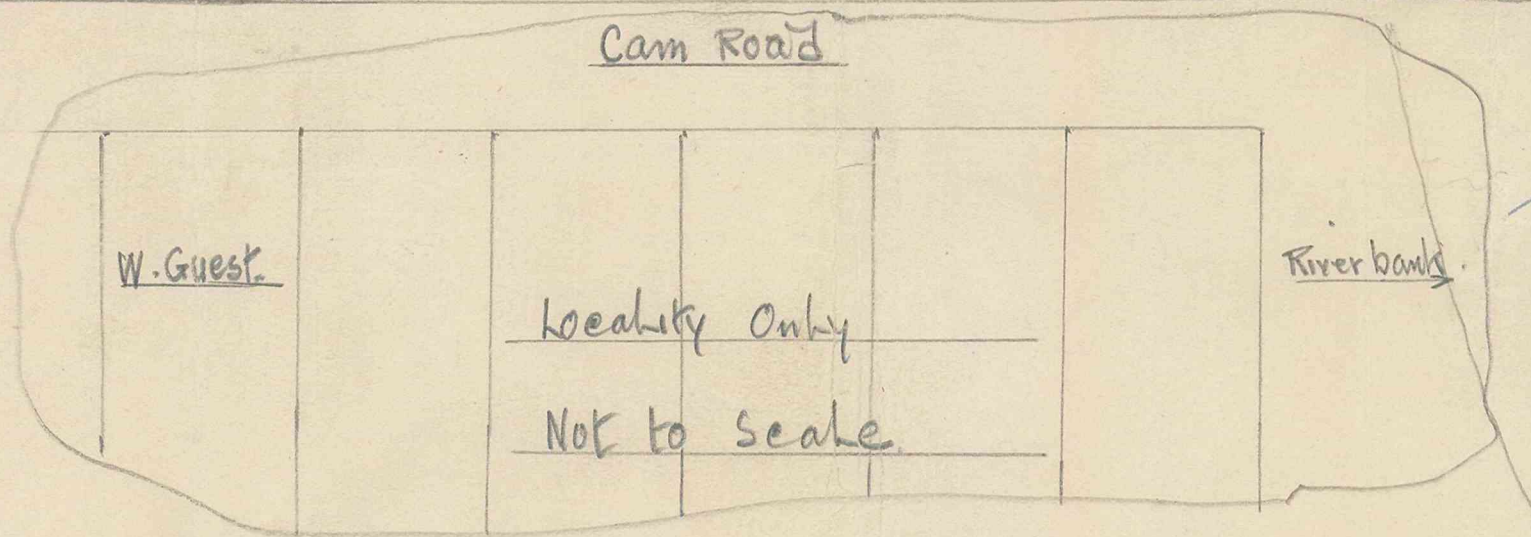
Mr D. McIntosh - Drainer

Grade: 1-60.

Scale: 8^{ft} to the Inch.

17-11-57

Cam Road



Satisfactory
 O. J. G. G. G. G. G.
 Sanitary Inspector
 17/11/57

Form 7

Code compliance certificate 090222

Section 95, Building Act 2004

The building

Street address of building: 47A CAM RD, KAIAPOI

Legal description of land where building is located: Pt Lot 23 DP 576

Valuation number: 2175114700

Building name:

Location of building within site/block number:

Level/unit number:

Current, lawfully established, use:

Year first constructed:

SCANNED

The owner

Name of owner: MCNALLY FAYE IRENE

Contact person:

Mailing address: 47 CAM RD, KAIAPOI 7630

Street address/registered office:

Phone number: Landline:

Mobile:

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Email address:

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First point of contact for communications with the council/building consent authority:

Full Name: FAYE IRENE MCNALLY

Mailing Address: C/- HEATING INSTALLATIONS, PO BOX 7729, SYDENHAM, CHRISTCHURCH 8240

Phones:: 3415819

Fax: 3415863

Building work

Building consent number: 090222

Consent description: ETHOS FS 100 GENESIS

Issued by: Waimakariri District Council

Code compliance

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

(a) the building work complies with the building consent



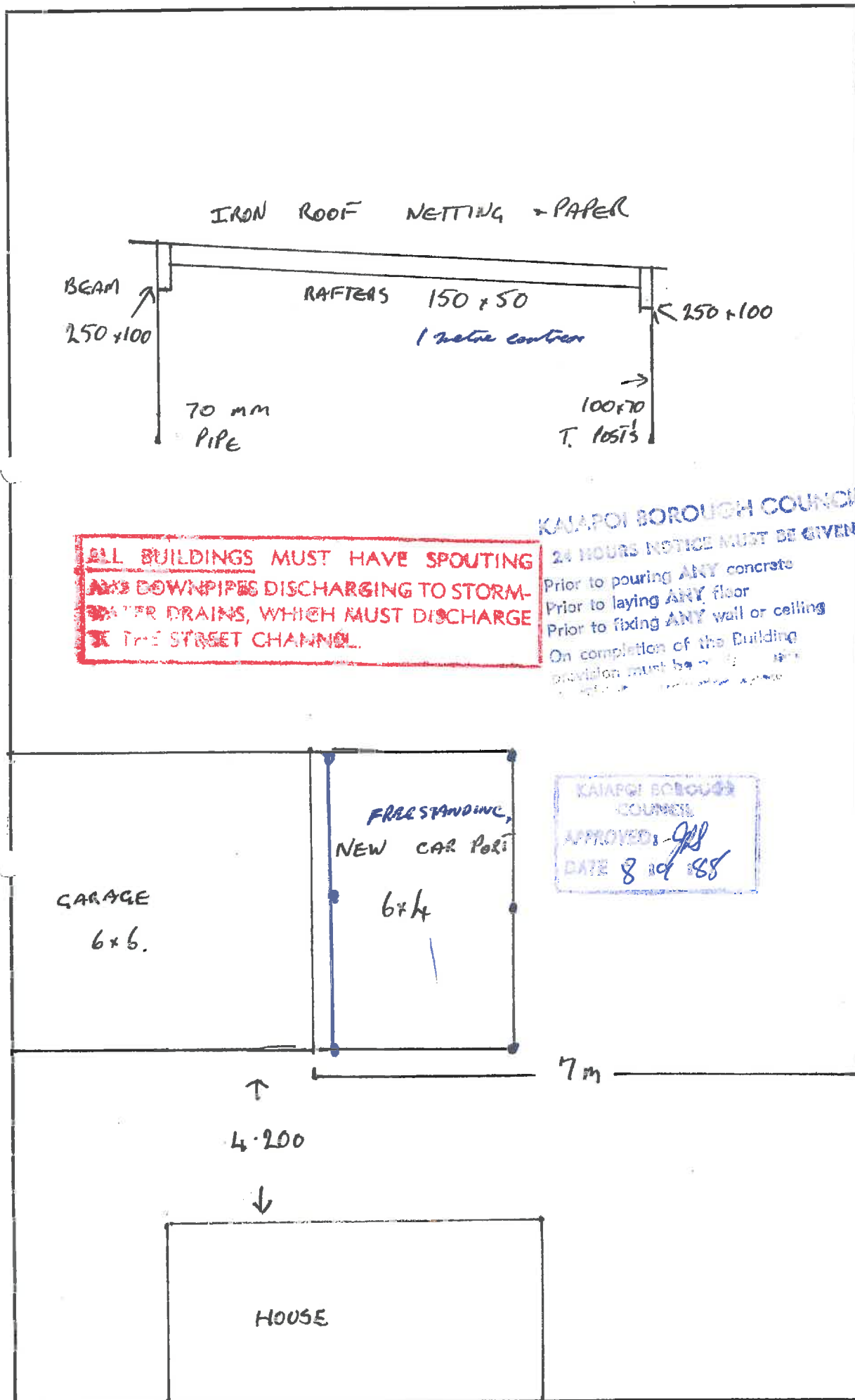
Signature



Position

On behalf of: Waimakariri District Council

Date: 9/04/09



Scale =

Received 17/03/2020

CONSTRUCTION MONITORING BY ENGINEER

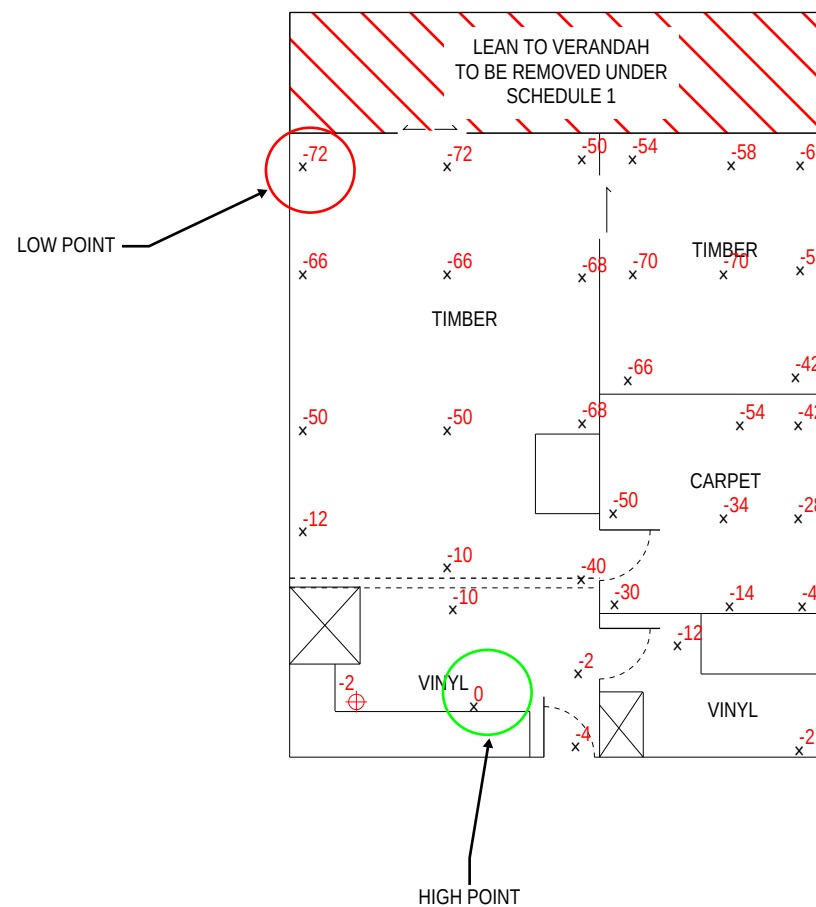
THE STRUCTURAL ENGINEER WILL PROVIDE CM3 LEVEL CONSTRUCTION MONITORING IN ACCORDANCE WITH THE ENGINEERING NEW ZEALAND STANDARD OF PRACTICE.

CONSTRUCTION MONITORING WILL INVOLVE PERIODIC VISITS BY THE ENGINEER FOR A SAMPLE OF IMPORTANT WORKS AS LISTED BELOW.

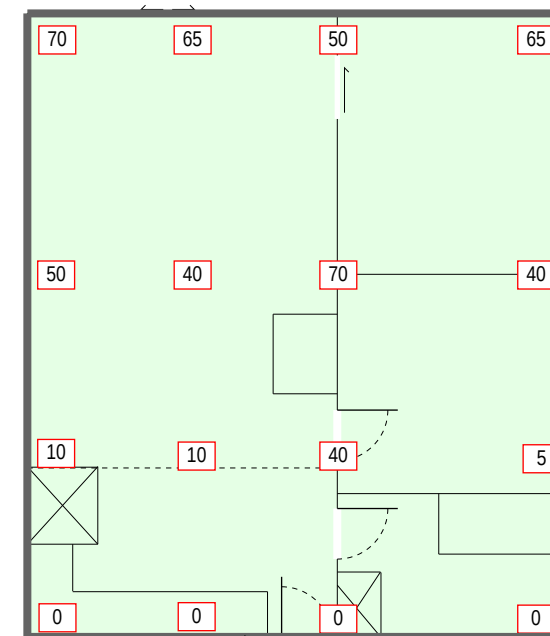
THE CONTRACTORS SHALL CONTACT THE STRUCTURAL ENGINEER TO PERFORM OBSERVATIONS BASED ON THE FOLLOWING. OBSERVATION CAN BE UNDERTAKEN ON SITE OR REMOTELY THROUGH PHOTOS. TO BE COORDINATED WITH STRUCTURAL ENGINEER.

TYPICAL INSPECTIONS SHALL INCLUDE:

1. PILE PREPOUR INSPECTION BY GEOTECHNICAL ENGINEER
2. INSPECTION OF THE NEW TIMBER SUBFLOOR ELEMENTS (NEW PILES AND RELEVANT CONNECTIONS).
3. FINAL INSPECTION OF LIFT WITH PILES PACKED AND WORK COMPLETED.



1 FLOOR LEVEL SURVEY



2 RELEVEL AND FOUNDATION REPLACEMENT EXTENT

LEGEND - LIFTING PLAN

RELATIVE TARGET LIFT AMOUNT COMPARED TO NEW DATUM
NOTED IN mm

CONCRETE RING FOUNDATION TO BE REMOVED AND
REPLACED WITH PILE AND BEARER FOUNDATION

TARGET TOLERANCE
RELEVEL TO WITHIN 20mm OVERALL AND REMEDIATE ALL
LOCAL SLOPES EXCEEDING 1:200 (0.5%)

LIFTING DETAILS
REFER SHEET S-101 FOR FOUNDATION LIFTING
METHODOLOGY

[illegible]

Table 7.3 – Flooring, for up to 2 kPa floor loads (see 7.2.2.1)

Maximum spacing of joists	Minimum dry dressed thickness of tongued and grooved strip flooring of species listed below as:	
	Type A	Type B
(mm)	(mm)	(mm)
400	16	16
450	19	16
600	22	19
Type A timbers:	Radiata pine, matai, rimu, red beech, silver beech, Douglas fir, larch.	
Type B timbers:	Tawa, hard beech, jarrah, karri, blackbutt, tallowood, New Zealand-grown hardwoods.	

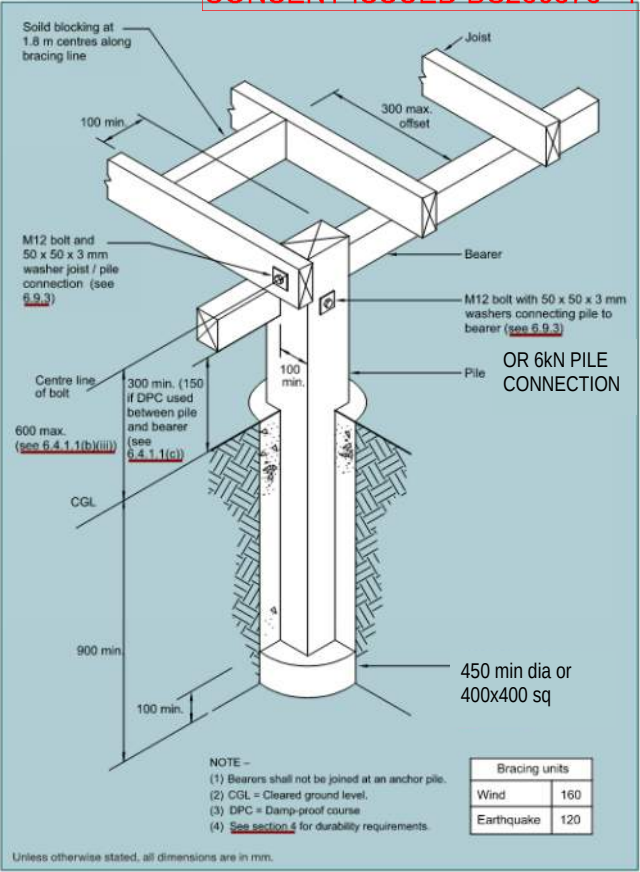
Table 6.4 – Bearers – SG 8 for up to 2 kPa floor loads (see 6.12.2.1)

Maximum span of bearer continuous over 2 or more spans	Loaded dimension* of bearer	Bearer size (width x thickness)
(m)	(m)	(mm x mm)
(a) 1.5 kPa floor load SG 8 (dry in service)		
1.30	1.5	90 x 70
	1.9	90 x 90
	3.6	140 x 70
	4.6	140 x 90
	6.6	190 x 70
1.65	2.2	140 x 70
	2.8	140 x 90
	4.1	190 x 70
2.00	1.5	140 x 70
	1.9	140 x 90
	2.8	190 x 70

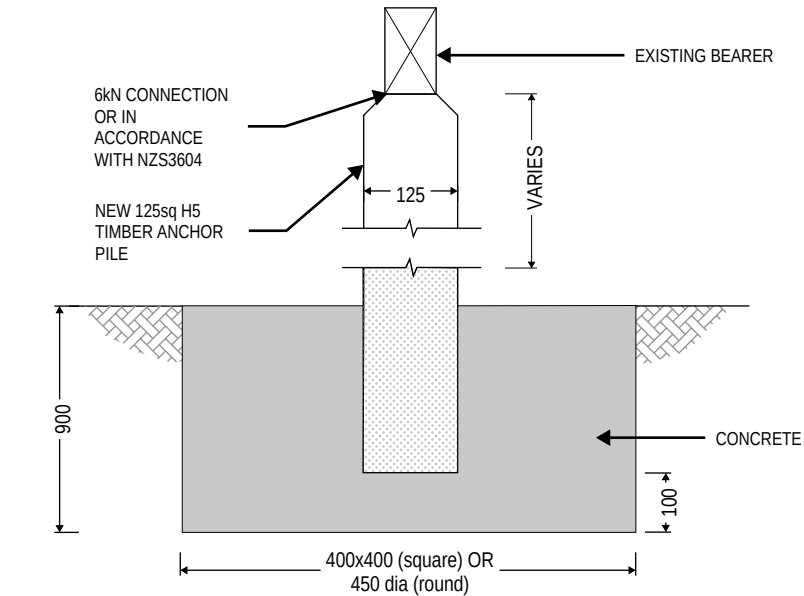
Table 7.1 – Floor joists – SG 8 up to 2 kPa floor loads (see 7.1.1.1)

Floor joist size	Maximum span* of joists at a maximum spacing (mm) of:		
	400	450	600
(mm x mm)	(m)	(m)	(m)
90 x 45	1.45	1.40	1.25
140 x 35	2.10	2.00	1.80
140 x 45	2.70	2.60	2.00
190 x 45	3.55	3.45	3.15
240 x 45	4.40	4.30	3.90
290 x 45	5.20	5.05	4.60

CONSENT ISSUED BC260376 - Page 7 of 8

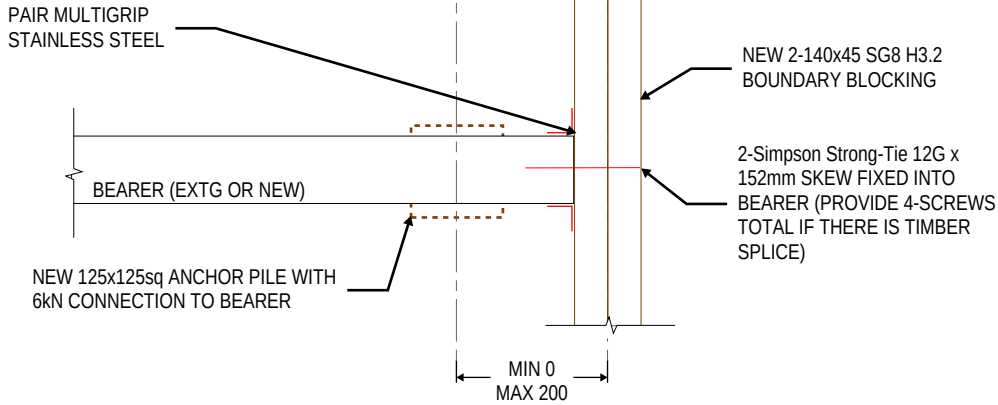


A NEW PILE DETAIL

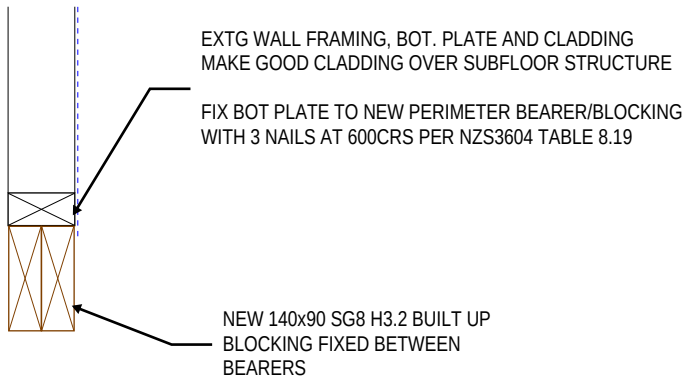


B ALTERNATIVE NEW PILE DETAIL

ALL SUBFLOOR FIXINGS TO H3.2 OR HIGHER TIMBER MUST BE STAINLESS STEEL UNO



C PERIMETER BLOCKING PLAN VIEW



D PERIMETER BLOCKING PLAN VIEW



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Building Regulations 1992, clause 3
1/05/2026 vladimirt

C1	25.03.26	FOR CONSENT/CONSTRUCTION	JC	WP	WP
No.	Date	Revision Details	By	Ver	App



MOMENT
www.moment.net.nz
Ōtautahi Christchurch

Client
PROPER JOB PROPERTIES LTD

Project
47 CAM ROAD
KAIAPOI
RELEVEL WORKS

FOR CONSENT/CONSTRUCTION

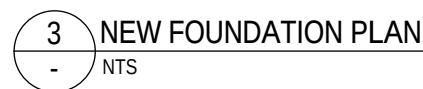
Drawn	J.CORNISH	Date	25.03.26
Designed	J.CORNISH	Date	25.03.26
Verified	W. PHILLIPS	Date	25.03.26
Approved	W. PHILLIPS	Date	25.03.26

Drawing Title
FOUNDATION RELEVEL PLAN
SHEET 2

Project No.
J26008

Scale
NTS

Drawing No.
DRG-S-102
Rev
C1



3. ADJUSTMENT OF INTERNAL TIMBER FLOOR

INSTALL JACKING EQUIPMENT AND SEQUENTIALLY LIFT THE AFFECTED AREAS. MAKE SURE NO DIFFERENTIAL DISPLACEMENT IS CREATED THROUGHOUT THIS PROCESS THAT EXCEEDS THE SLOPE TOLERANCE OF 10mm MEASURED OVER A 2m DISTANCE.

DURING JACKING PROCESS, MAKE ALLOWANCE FOR LATERAL STABILITY OF DETACHED STRUCTURE.

UPGRADE JOINTS IN EXISTING BEARERS WITH NAIL PLATES AS REQUIRED IN ACCORDANCE WITH SECTION 6.12.7 OF NZS 3604.

4. SERVICE RECONNECTION AND VERIFICATION

ONCE FINAL LEVELS ARE ESTABLISHED, RECONNECT AND TEST ALL SERVICES FOR FUNCTIONALITY.

VERIFY FINAL LEVELS AGAINST ORIGINAL SURVEY. ANY VARIATION EXCEEDING ± 5 MM OVER A ROOM WIDTH TO BE REPORTED TO THE ENGINEER.

5. SEDIMENT CONTROL

ALL SPOIL GENERATED FROM EXCAVATION SHALL BE PLACED DIRECTLY INTO SKIPS OR REMOVED FROM SITE.

STOCKPIILING ON SITE IS TO BE AVOIDED WHEREVER POSSIBLE.

IF TEMPORARY STOCKPILING IS UNAVOIDABLE, THE CONTRACTOR SHALL IMPLEMENT SEDIMENT CONTROL MEASURES (SUCH AS SOCKS, SILT FENCES, OR OTHER APPROVED BARRIERS) AT THE PROPERTY BOUNDARY TO PREVENT RUNOFF TO ADJACENT SITES.

ALL SEDIMENT CONTROLS SHALL BE MAINTAINED IN GOOD WORKING ORDER AND REMOVED ON COMPLETION.

6. REPAIRS AND REINSTATEMENT

INSPECT LININGS AND FRAMING AFTER LIFT TO ENSURE THAT ALL FRAMING IS INTACT AND FREE FROM DAMAGE.

REPAIR ANY DAMAGED FRAMING OR CLADDING AS REQUIRED.

REPAIR PLASTERBOARD CRACKS IN ACCORDANCE WITH WINSTONE GYPSUM GUIDELINES FOR EARTHQUAKE REPAIR.

RESET DOOR AND WINDOW FRAMES, JAMBS, AND ARCHITRAVES WHERE RACKED OR SEPARATED.

REPAIR ALL ITEMS IDENTIFIED IN THE ENGINEERING ASSESSMENT REPORT OR AS
DISCOVERED DURING WORKS.

REINSTATE SURROUNDING GROUND AND LANDSCAPING TO ORIGINAL CONDITION OR AS SPECIFIED.

7. ENVIRONMENTAL COMPLIANCE

ALL WORKS SHALL COMPLY WITH THE REQUIREMENTS OF THE TERRITORIAL AUTHORITY AND REGIONAL COUNCIL (E.G. CHRISTCHURCH CITY COUNCIL AND ENVIRONMENT CANTERBURY) RELATING TO EARTHWORKS AND SEDIMENT DISCHARGE.

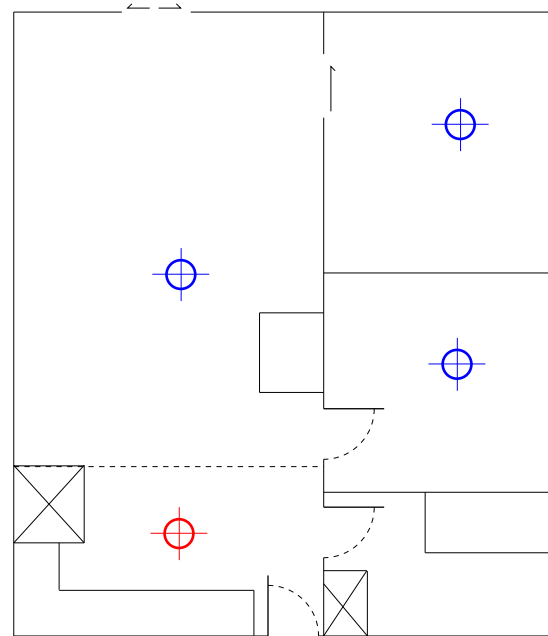
THE CONTRACTOR SHALL ENSURE THAT NO SEDIMENT-LADEN RUNOFF ENTERS STORMWATER SYSTEMS, WATERWAYS, OR ADJACENT PROPERTIES.

ANY BREACH OR INCIDENT SHALL BE REPORTED IMMEDIATELY TO THE ENGINEER AND THE RELEVANT AUTHORITY, AND REMEDIAL ACTION TAKEN WITHOUT DELAY.



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[illegible]



NO DAMAGE NOTED TO ROOF*. ALLOW FOR REPAIR POST-RELEVELLING WORKS.

*ENGINEERS INSPECTION 06/03/26 LIMITED TO EXTERIOR VISUAL INSPECTION FROM GROUND LEVEL.

INSPECT ROOF AFTER LIFT TO ENSURE THE ROOFING IS INTACT AND WITHOUT DAMAGE.

REPAIR ANY ROOFING DAMAGE AS REQUIRED

REFIX LOOSE ROOFING AS REQUIRED TO SUIT DAMAGE FOUND ON SITE

SMOKE ALARMS ARE TO BE INSTALLED IN ACCORDANCE WITH NZS4514:2021.

THEY SHALL BE INSTALLED IN ALL BEDROOMS, LIVING SPACES, HALLWAYS, AND LANDINGS WITHIN A BUILDING. THEY MUST BE INTERCONNECTED SUCH THAT ALL ALARMS SOUND WHEN ANY SINGLE UNIT IS ACTIVATED. SMOKE ALARMS MUST BE PHOTOELECTRIC AND ~~EITHER 200V HARDWIRED OR~~ POWERED BY A 10 YEAR NON-REMOVEABLE BATTERY



- INTERCONNECTED SMOKE ALARM (REQUIRED)



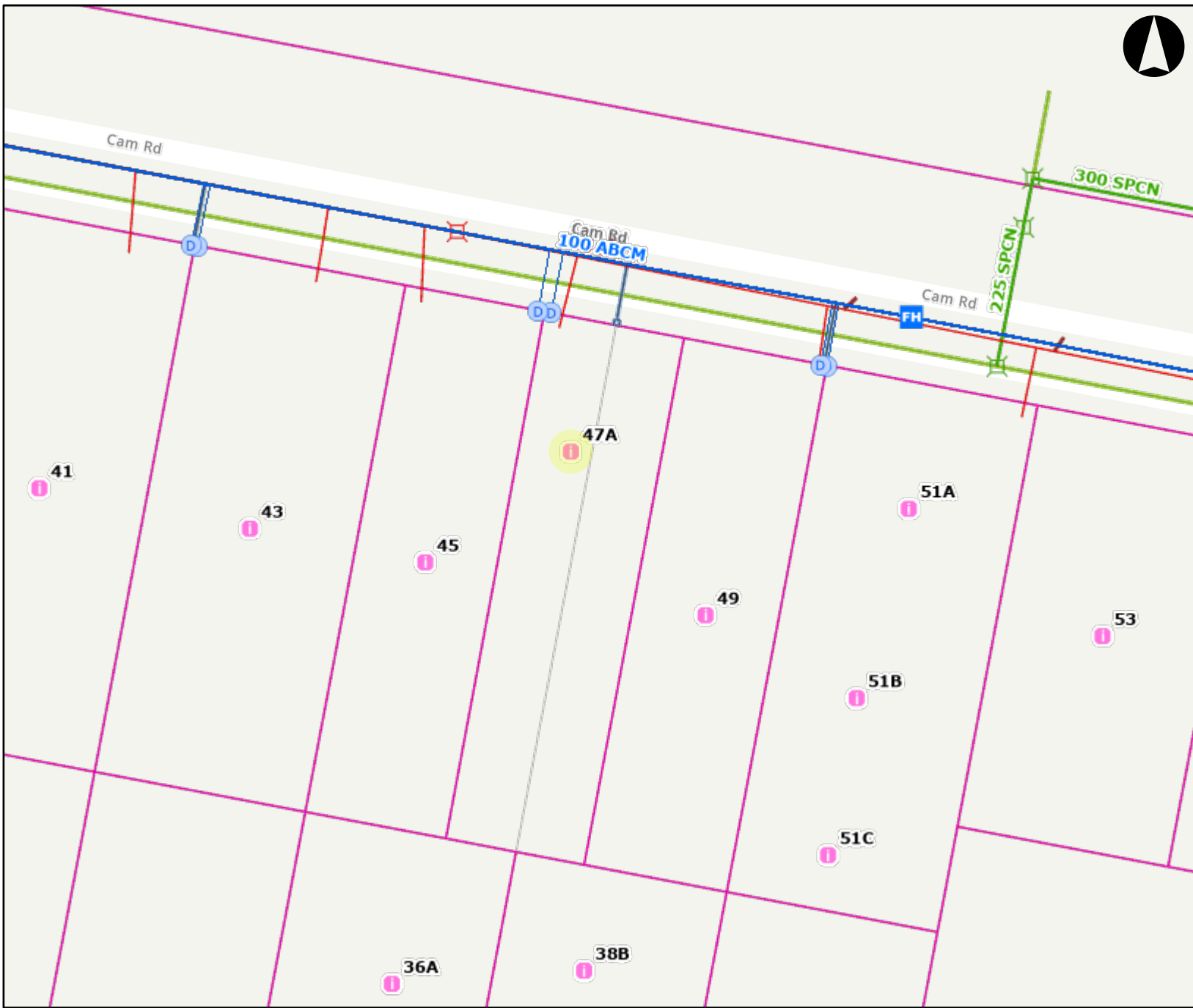
INTERCONNECTED HEAT DETECTOR (RECOMMENDED)

NTS



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Building Regulations 1992, clause 3
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Legend

LM2601813 - Page 27
Override 1

Water Service Connections

On Demand Water Connection

Water Valves

FH Hydrant Valve

Water Service Lines

Water Network Mains & Facility Pipes

Wastewater Chambers

Wastewater Service Lines

Wastewater Network Mains, Facility Pipes & Culverts

Pipe Type

Pressure, Gravity, Not Yet Defined

Stormwater Chambers

Stormwater Network Mains, Facility Pipes & Culverts

Unverified Assets - Lines

Drainage Unverified Asset

Sewer Unverified Asset

Water Unverified Asset

Properties < 1 ha

Property Boundaries with Attributes

Current Property

Deposited Land Parcels

Road Names

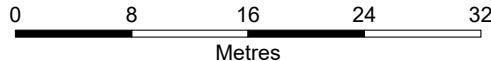
tony.meier@wmk.govt.nz

Waimakariri District Council

Date: 24/07/2026

Scale 1:520

Original page size: A4



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Credits:

Waimakariri District Council, Land Information New Zealand, Waimakariri District Council, Waimakariri District Council



SUBTERRA
Geotechnical Investigation

Geotechnical Report

47 Cam Road, Kaiapoi

Prepared for Proper Job Properties Ltd

Report version A released 30/01/2026

Report prepared by:

Harry Greenfield
Engineering Geologist
MSc, MEngNZ



Report reviewed and approved by:

Steven Roberts
Geotechnical Engineer
CPEng (Geotechnical), CMEngNZ, IntPE(NZ)



Limitations of Report

This report is for the use of the client listed above and is not intended to be used by other parties without the express written permission of Subterra in advance.

To the extent permitted by law, Subterra accepts no liability for any cost, expense, loss, or damage incurred by any party relating to the information contained within the following report.

The investigation and research in this report has been carried out by experienced and conscientious professionals in the field to a standard of care expected in engineering practice. No other guarantee is given as to how accurate and comprehensive the information contained herein is.

Subterra's recommendations are based on our understanding of the current regulations and standards in New Zealand and are not legal opinions.

The recommendations of this report are based on our visual and physical investigation of the site. Some inference is made as to the lateral continuity of soils between the investigation points which cannot be guaranteed.

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1 INTRODUCTION

1.1 ENGAGEMENT

Subterra Ltd was engaged by Proper Job Properties Ltd on 20/01/2026 to undertake a geotechnical investigation and report for the property at 47 Cam Road, Kaiapoi (Pt Lots 23 & 24 DP 576), henceforth referred to as 'the site'.

1.2 PROPOSED DEVELOPMENT

It is proposed to subdivide the site into two residential lots, to separate off the rear (south) half of the site for eventual residential development. Additionally, it is proposed to repair or replace the foundation of the existing dwelling.

No scheme plan for proposed subdivision nor concept plan for proposed development have been provided to Subterra at the time of writing this report. A floor level survey provided by the client forms Appendix A.

1.3 OBJECTIVE

The objective of this report is to describe ground conditions at the site and advise on foundation repair/replacement options for the existing dwelling based on the geotechnical constraints. Additionally, the objective is to assess the suitability of the land for subdivision.

1.4 SCOPE OF WORKS

Subterra's investigation comprised the following scope of works:

- A desktop study to review geological mapping and geotechnical hazard resources available online.
- A review of freely available historical aerial photographs.
- A site walkover along with photographic record.
- A shallow intrusive investigation comprising hand auger boreholes and Scala Penetrometer tests.
- A Resource Management Act Section 106 assessment and provision of a geotechnical statement of professional opinion on the suitability of the land for subdivision.
- Provision of an interpretive report summarising the above along with recommendations for foundation repair/replacement of the existing dwelling.

This report assesses the land only, not the condition of any structures at the site.

This report is considered suitable to support a Building Consent application, following a review of the finalised plans.

2 SITE DESCRIPTION

2.1 SITE LOCATION

The site is rectangular in shape, extending south from Cam Road and covering a total area of approximately 673m² (Figure 1).



Figure 1: Site Aerial Photograph (taken from 120m altitude on 27/01/2026 using Subterra's drone)

2.2 SITE WALKOVER

The site is level ground, with the existing dwelling located towards the north, bordered by a concrete driveway (Figure 2) which extends down the east boundary to a detached garage and parking area (Figure 4). Small lawn areas are present north and southwest of the existing dwelling (Figure 3, Figure 5).

Within the dwelling, floorboards have been lifted to expose the subfloor in the northeast room (Figure 6) and in the main lounge (Figure 12). Fill material is visible through the lounge hole, presented in Figure 7 which was taken in the subfloor. The dwelling is a single storey, timber framed structure with weatherboard cladding and a decramastic tile roof, supported by internal piles with a concrete perimeter beam. The piles visible in the sub-floor are a mix of concrete and timber (Figure 8), with some appearing to be supported by brick piles directly on the ground surface. The concrete perimeter beam is cracked in various places (Figure 10, Figure 11) and at the north end of the dwelling, visible through the sub-floor, it is significantly overturned (Figure 9).

The rear (south) half of the site, comprising the proposed new lot, is largely grassed lawn area with various superficial features such as a pergola in the southeast corner, a paved entrance path, and a lowered garden area around its perimeter (Figure 15). A large tree stump was visible close to the west boundary of the south half of the site (Figure 17).

Other than minor cracking to the concrete driveway (Figure 4) no ground damage was evident at the time of Subterra's visit (27/01/2026).



Figure 2: View of the site from the entrance looking southwest



Figure 3: View of the front (north) lawn at the site from the driveway looking west



Figure 4: View of minor cracking to the concrete driveway adjacent to the garage looking southwest



Figure 5: View of the small lawn directly southwest of the dwelling looking northwest



Figure 6: View of the sub-floor space at the northeast corner of the dwelling



Figure 7: View of fill material (inferred construction waste) in the subfloor



Figure 8: View of the mismatched piles in the subfloor



Figure 9: View of the overturned perimeter foundation in the subfloor



Figure 10: View of cracking to the perimeter beam on the west elevation



Figure 11: View of cracking to the perimeter beam on the south elevation



Figure 12: View of the lifted floorboards in the lounge area (below this void is the fill material shown in Figure 7)



Figure 13: View of the detached garage/lean-to from southwest of the dwelling looking southeast



Figure 14: View of the rear (south) of the site from just south of the garage looking southwest



Figure 15: View of the rear (south) of the site from the southwest corner looking northeast



Figure 16: View of the rear (south) of the site from beneath the pergola in the southeast corner looking northwest



Figure 17: View of a tree stump near the west boundary in the south half of the site

3 SITE HISTORY

3.1 AERIAL MAPPING

Subterra reviewed historical aerial photographs for the years 1944 through to 2021, available on Canterbury Maps¹.

- In 1944 the site was residential, with the existing dwelling visible. The properties to the west and east were residential.
- By 1959 a detached garage appeared to be present in the northeast corner of the site.
- By 1969 a garden path was visible extending into the south half of the site, where raised garden beds appeared to be present. By 1974 the garden path and inferred garden beds were no longer visible.
- By 1984 the garage at the northeast corner of the site had been removed and the driveway extended down the east boundary to the detached garage.
- By 2014 the site was developed to approximately its current configuration, with mature vegetation visible around much of the perimeter of the south half of the site.

No historical features have been identified that might pose a geotechnical constraint to the construction of a new dwelling in the proposed new lot. However, due to the historic dwelling and residential land use, the presence of local areas of fill or buried rubbish cannot be ruled out.

3.2 HISTORICAL LAND USE

The ECan Listed Land Use Register² (LLUR) holds information regarding sites that have been or currently are used for activities which have the potential to cause contamination.

The LLUR does not currently have any information about a Hazardous Activities or Industries List site on the site.

¹ *Historical Aerial Imagery*. (2021). Retrieved in January 2026 from Canterbury Maps: <https://apps.canterburymaps.govt.nz/CanterburyHistoricAerialImagery/>

² *Listed Land Use Register*. (2021). Retrieved in January 2026 from Environment Canterbury: <https://llur.ecan.govt.nz/>

4 DESK-BASED INFORMATION

4.1 GEOLOGICAL MAPPING

According to the GNS Geological Unit QMap³, the site is underlain by Holocene (<14,000-year-old) river deposits, comprising ‘Unweathered, variably sorted gravel/sand/silt/clay.’

4.2 GEOLOGICAL INVESTIGATION DATA

Table 1 below is a summary of information from previous investigation holes within the local area, found on the New Zealand Geotechnical Database⁴ (NZGD) and Canterbury Maps⁵.

Hole Reference	Location from site	Depth begl	Summary
HA_32033 (2 holes)	~60m SE 7 Bridge St	4.0m	TOPSOIL to 0.4m SILT and CLAY 0.4m to at least 4.0m
HA_185385 (4 holes)	~70m SE 5 Bridge St	3.2m	FILL/TOPSOIL to 0.5m SILT, variable sand and clay 0.5m to at least 3.2m
ECAN Well M35/0879	~63m NE 1 Lower Camside Rd	86.9m	SAND and clay to 9.1m GRAVEL, variable sand and clay 9.1m to at least 86.9m

Table 1: Nearby Geological Investigation Summary

4.3 GROUND WATER DATA

The Depth to Groundwater contour lines available on Canterbury Maps indicate that the groundwater beneath the site is likely to be approximately 1m begl.

4.4 SITE SUBSOIL CLASSIFICATION

Based on the geological mapping, the previous geological investigation data, and our experience in the area, Subterra considers that a seismic site subsoil classification ‘Class D – Deep or soft soil sites’, as defined in NZS:1170.5 is appropriate.

4.5 MBIE TECHNICAL CATEGORY (TC) ZONE

The site is in an area labelled ‘Green Zone - Technical Category 2’ (TC2).

³ Institute of Geological and Nuclear Sciences. (2024). *Geology QMap*. Retrieved in January 2026 from <https://data.gns.cri.nz/geology/>
⁴ Earthquake Commission. (2020). *New Zealand Geotechnical Database*. Retrieved in January 2026 from <https://www.nzgd.org.nz/>
⁵ Environment Canterbury. (2025). *Canterbury Maps Viewer*. Retrieved in January 2026 from <https://mapviewer.canterburymaps.govt.nz/>

4.6 FLOODING

4.6.1 Flood Management Areas

The Waimakariri District Council (WDC) Natural Hazards Viewer⁶ indicates that portions of the site are located in a 200 Year Localised Flood Depth area where flooding can be expected up to 1.0m above existing ground level in a 200-year Annual Recurrence Interval (ARI) rainfall event.

Correspondence with the WDC is recommended to establish any Finished Floor Level (FFL) requirements at the site.

4.6.2 Nearest Water Body/Water Course

The Cam River is located approximately 100m east of (and approximately 2m lower in elevation than) the site.

⁶ Waimakariri District Council. (2021). *Natural Hazards Interactive Viewer*. Retrieved in January 2026 from <https://waimakariri.maps.arcgis.com/apps/instant/portfolio/index.html?appid=c6bc05f87d4f47ecae975e5241657913>

5 SITE INVESTIGATION

5.1 SCOPE OF INVESTIGATION

To determine the ground conditions at the site, a shallow hand investigation comprising hand auger boreholes and Scala Penetrometer tests was undertaken.

5.2 SHALLOW HAND TESTING

Subterra visited the site on 27/01/2026 and attempted four hand auger boreholes with Scala Penetrometer testing. The results of Subterra's shallow investigation are attached on the Hand Auger Log Sheet which forms Appendix B.

The approximate locations of the test holes are given by Figure 18 below:



Figure 18: Approximate Test Locations

5.3 SUMMARY OF SUBSOIL CONDITIONS

Subterra's site investigation indicated topsoil/fill up to 0.4m thick across the tested areas of the site, underlain by silt and clay to at least 3.0m begl.

HA101 was restricted to a maximum depth of 2.2m due to being undertaken within the dwelling. HA102 refused on fill material (brick, concrete, gravel) at 0.15m begl. HA103 refused due to hole slumping and suction at 2.3m begl, and HA104 met its target depth of 3.0m begl.

5.4 GROUNDWATER

Groundwater was encountered at depths between 0.9m and 1.5m begl.

6 GEOTECHNICAL PROPERTIES

6.1 STATIC GEOTECHNICAL ULTIMATE BEARING CAPACITY (GUBC)

6.1.1 Scala Penetrometer

The Scala Penetrometer results have been analysed using the correlation between blow count and bearing capacity by Stockwell⁷.

The blow count of the Scala Penetrometer indicated the following index Geotechnical Ultimate Bearing Capacities (GUBC's):

	SC101	SC103	SC104
Depth to 200kPa	0.9	0.8	0.9
Depth to 300kPa	1.1	1.1	1.1

Table 2: GUBC Depth Summary

6.2 NZS 3604 'GOOD GROUND' ASSESSMENT

The NZS 3604:2011 definition of "Good Ground" is "Any soil or rock capable of permanently withstanding an ultimate bearing capacity of 300kPa (i.e. an allowable bearing pressure of 100kPa using a factor of safety 3.0)" It excludes expansive soils, topsoils/organic rich soils, uncompacted loose gravel and any ground likely to experience ground movements of 25mm or more.

The soils at the site **do not meet** the NZS 3604 definition of 'Good Ground' due to the potential for liquefaction and the blow count of the Scala Penetrometer.

⁷ Stockwell, M. (1977). Determination of allowable bearing pressure under small structures. *New Zealand Engineering*. V32 I6.

7 RESOURCE MANAGEMENT ACT ASSESSMENT

Section 106 (1A) of the Resource Management Act (RMA) states:

'A consent authority may refuse to grant a subdivision consent, or may grant a subdivision consent subject to conditions, if it considers that there is a significant risk from natural hazards''.

Table 3 below provides our assessment of the above.

Hazard	Potential Susceptibility	
	Current (part a)	Post Development (part b)
Erosion & sedimentation	No signs of erosion or sedimentation were observed during Subterra's site investigation.	It is not anticipated that the proposed development will accelerate or worsen the erosion rates if appropriate stormwater collection and disposal methods are implemented.
Falling Debris	N/A – Site and surrounds relatively flat.	
Slippage	N/A – Site and surrounds relatively flat.	
Subsidence	Based on the non-organic nature of the soils (at the tested locations), the risk of static subsidence is considered low across the majority of the site.	Provided that foundations are located on a suitable bearing stratum, and subject to a site-specific investigation and design, the risk of subsidence is unlikely to be worsened.
Earthquake	The site is zoned Technical Category 2 (TC2) in line with the MBIE guidelines.	Provided that foundations are subject to site-specific investigation and designed in accordance with MBIE guidance for TC2 land, the risk of unacceptable earthquake damage is considered to be low.
Inundation - Flooding	The Waimakariri District Council indicates that the site has a high flood hazard in 200-year Annual Recurrence Interval (ARI) rainfall events.	It is considered feasible to construct new dwellings in the proposed new lots, provided appropriate engineering measures are incorporated to account for the potential flood risk.
Volcanic and Geothermal Activity	The GNS database does not identify any active volcanoes within the South Island.	
Tsunami	The site is located within the Canterbury Tsunami Evacuation Yellow Zone ⁸ .	

Table 3: RMA Section 106 (1) Assessment

It is considered, under Section 106 (1) of the RMA, that there are no reasons from a geotechnical perspective that the site is considered unsuitable for proposed

⁸ Environment Canterbury. Canterbury Tsunami Evacuation Zones, data Retrieved in January 2026 from <https://ecan.maps.arcgis.com/apps/Minimalist/index.html?appid=591062afb6b542abb247cc8d15a64855>

subdivision, provided any development is undertaken with appropriate engineering design measures.

Our Geotechnical Statement of Professional Opinion forms Appendix C.

8 RECOMMENDATIONS

8.1 SITE RESTRICTIONS

8.1.1 Tree Roots

The root systems of the mature trees which grew across the south half of the site are a potential geotechnical constraint to the construction of new dwellings and should be completely removed from beneath the building platform(s) at the time of construction.

8.1.2 Site Access

An appropriate accessway will need to be formed to provide access to the proposed new lot of the subdivision. This will require specific engineering assessment and design. This should also include remediation of any uncontrolled fill within the accessway.

8.1.3 Stormwater

Stormwater run-off from roofs, driveways and hardstand should be appropriately managed and should be discharged to an approved discharge system away from the foundations of future dwellings.

8.1.4 Site-Specific Investigation

Any construction in the proposed new lot will require site-specific geotechnical investigation and reporting at the Building Consent stage once the nature and layout of the proposed dwelling are known.

8.2 EXISTING DWELLING REPAIR

The floor level survey provided by the client (Appendix A) indicates that the floors of the existing dwelling have level differentials of up to 74mm. The perimeter beam is damaged to the point of overturning at the north end of the dwelling, with cracking observed in various places around the perimeter.

The foundations of the dwelling are a mixture of timber and concrete piles, with some floor joists supported by piles of bricks which appear to be resting on the ground surface.

As such, we recommend that the foundation be rebuilt rather than re-levelled.

8.3 FOUNDATION RECOMMENDATIONS

Based on the ground assessment, the following foundation types are considered appropriate to the ground conditions for the proposed foundation rebuild of the existing dwelling.

8.3.1 Timber Floor

Specifically Engineer Designed Shallow Piles

A piled foundation in accordance with NZS 3604 is potentially suitable for the existing dwelling. The piles/perimeter beam should be founded in the natural, inorganic silt/clay from a depth of at least 0.9m begl, where a GUBC of 200kPa can be used for design.

8.3.2 Concrete Floor

It would be possible to change the foundation type to be a concrete slab. If this is to be pursued for the existing dwelling, the following options are recommended.

MBIE TC2 reinforced concrete floor with gravel hardfill

MBIE TC2 Option 4 concrete slab is recommended, although TC2 Options 1 to 3 are also acceptable. These options require a gravel hardfill layer to a minimum depth of 0.9m begl, following the removal of any fill, soft or unsuitable soils. From this depth, a GUBC of 200kPa can be used for design.

The gravel hardfill (crushed AP65 or AP40) should extend a distance beyond the building footprint equal to its depth, with a layer of geotextile filter cloth (TNZ Strength Class C, such as Bidim A29 or Duraforce AS410) on the base and sides of the excavation.

8.4 GENERAL

If gravel hardfill is required, it should be compacted in accordance with NZS 4431:2022 "*Engineered fill construction for lightweight structures*". Validation testing of the compacted gravel should be undertaken and signed off by a suitably experienced Geotechnical Engineer.

Advice from a geotechnical engineer should be sought if ground conditions different to those encountered in the intrusive investigation are observed during foundation construction works.

8.5 CONSTRUCTION MONITORING

The subgrade should be inspected by a suitably experienced geotechnical engineer familiar with the contents of this report to recommend any measure that may be necessary during the earthworks.

Should ground conditions which differ to those described in this report be encountered during the subgrade inspection, any soft, organic, fill, or otherwise unsuitable materials must be excavated and replaced with well-graded, compacted gravel.

Subterra would be pleased to carry out the inspection(s) and consider that this project would benefit from continuity. In any event, should the ground conditions differ from that inferred within this report, Subterra should be notified immediately so that we may review our assumptions and confirm that the design remains valid or provide alternative suitable solution.

A Building Consent must be obtained prior to building work commencing on site.
Subterra will not inspect unconsented building work.

9 REFERENCES

- Earthquake Commission. (2020). *New Zealand Geotechnical Database*. Retrieved from <https://www.nzgd.org.nz/>
- Environment Canterbury. (2025). *Canterbury Maps Viewer*. Retrieved from <https://mapviewer.canterburymaps.govt.nz/>
- Historical Aerial Imagery*. (2021). Retrieved from Canterbury Maps: <https://apps.canterburymaps.govt.nz/CanterburyHistoricAerialImagery/>
- Institute of Geological and Nuclear Sciences. (2024). *Geology QMap*. Retrieved from <https://data.gns.cri.nz/geology/>
- Listed Land Use Register*. (2021). Retrieved from Environment Canterbury: <https://llur.ecan.govt.nz/>
- Ministry of Business, Innovation, and Employment. (2012). *Repairing and rebuilding houses affected by the Canterbury earthquakes: Part A: Technical Guidance (TC1 and TC2)*.
- Stockwell, M. (1977). Determination of allowable bearing pressure under small structures. *New Zealand Engineering*. V32 I6.
- Waimakariri District Council. (2021). *Natural Hazards Interactive Viewer*. Retrieved from <https://waimakariri.maps.arcgis.com/apps/instant/portfolio/index.html?appid=c6bc05f87d4f47ecae975e5241657913>

APPENDIX A

FLOOR LEVEL SURVEY



RESIDENTIAL PROPERTY INSPECTION



The site was visited to undertake a floor level inspection for the purposes of apprising the present owner of the condition of the property and to allow them to decide which, if any, repairs they might make.

Customer Name: Proper Job Properties Limited

Inspection Address: 47 Cam Road, Kaiapoi

Inspection Date: Thursday, 8 January 2026

Weather Conditions: Fine

Inspector Name: Robert Brook

Company Contact Phone: 021 460 422

Version Control Version 1

BuildQual NZ Ltd

P 03-421 6757 - E enquiries@buildqual.co.nz - www.buildqual.co.nz



MISSION STATEMENT

To provide an outstanding customer-focused service in a professional manner.

ABOUT THIS REPORT

This inspection is a point in time one which has been conducted to determine the variations in the floor levels.

While the inspector may comment from time-to-time about elements of the property where no issues exist, mainly the report highlights any defects found during the inspection. Where an issue is highlighted, it remains the client's responsibility as to what further action is taken, whether any is recommended or not. Consider visiting the address again with the report and satisfying your own mind about any issues.

The report closely follows the requirements of NZS 4306:2005 (the New Zealand Standard for property inspections) and complies with that standard. There are minimum requirements for access to confined spaces in NZS 4306:2005, however, if in the inspector's view a space is too confined, and it presents a risk to their safety under the Health & Safety at Work Act 2015, the inspector's safety is considered foremost.

DETAILS OF BUILDING

The property at 47 Cam Road, Kaiapoi is a two-bedroom, single-storey dwelling constructed of PVC weatherboard siding resting on a concrete ring foundation, with a pressed steel tile roof. The interior walls are plasterboard over timber frames. The floors are timber with carpet, and wood-grained vinyl flooring in the wet areas and the kitchen.

The property has a street frontage at the address. There is a double detached garage.

The property was built circa 1900 and all fittings appear to be in worn condition.

Building Use:	Residential
Technical Category (CERA):	Technical Category 2
Estimated Ground Profile:	flat
Number of Storeys:	single
Foundation Construction:	concrete ring
External Wall Construction:	PVC weatherboard siding
Internal Wall Construction:	plasterboard
Mid-floor Construction	-
Roof:	pressed steel tile
Floor Type:	timber
Year Built:	circa 1900



LAND AND ZONING

The property is zoned Technical Category 2, under the former Canterbury Earthquake Regional Authority guidelines.

47 Cam Road Kaiapoi, , Waimakariri District

Property Information

PROPERTY DETAILS

8

LAND ZONING

4

Foundation Technical Category

1

(TC2)

Technical Category 2 (TC2)

Land that was classified Technical Category 2 (TC2) was suitable for homes to be repaired or rebuilt after the 2010/11 Canterbury earthquakes.

TC2 land may have experienced liquefaction-related land damage and settlement during the 2010/11 Canterbury earthquakes. Land damage from liquefaction is possible on TC2 land in future significant earthquakes. While TC2 land is considered suitable for residential construction, stronger foundations are required for house repairs and rebuilds. This may include standard timber piled foundations for houses with lightweight cladding and roofing and suspended timber floors or enhanced concrete foundations.

In 2019 Christchurch City Council completed a liquefaction hazard study , encompassing the Christchurch urban area, which uses the extensive information about ground conditions gathered since the 2010/11 Canterbury earthquakes and follows the most recent national liquefaction guidance. This includes an updated liquefaction vulnerability map, and an online tool which helps to visualise an area's vulnerability to liquefaction under different conditions. For details visit the [CCC Liquefaction information website](#).

Detailed information about foundation requirements is available on the [Ministry of Business, Innovation and Employment \(MBIE\) website](#).

3D

3D

3D

47 Cam Road, Kaiapoi

Page 3



FLOOR LEVELS

The floor levels of the house were surveyed using the state-of-the-art Zip Technidea 2000 Pro floor-level device – the margin of tolerance of this machine is +/- 2mm. This machine was calibrated immediately prior to the inspection.

The process for checking the floor levels is as follows:

Firstly, a datum point is selected. This is where the Pro Zip level device is placed, and the measuring head is zeroed. This ensures that any measurements taken are compared back to a standard location – thus illustrating the variations in level against that point.

Once the machine has been zeroed, the measuring head is placed in varying locations around the house. This is usually, as close to the walls as possible and as close to a two-metre grid as is possible, mainly because of furnishings in place or cabinetry – such as in a kitchen. In larger rooms, sometimes a measurement is taken in the centre of the room if it is clear to do so. It should be noted that measurements are taken where clear floor space is available – nothing is moved.

Notes are taken, and the measurements are later plotted on a diagram of the house.

The current benchmark for floor levels is contained in the MBIE guidelines. These were produced after the Canterbury earthquakes and give guidance for when floor re-levelling as a result of earthquake damage would be required.

I have reproduced parts of the MBIE guidelines below for your information and highlighted the parts relevant to the property at 47 Cam Road, Kaiapoi.

The full document can be viewed at <https://www.building.govt.nz/assets/Uploads/building-code-compliance/canterbury-rebuild/repairing-and-rebuilding-houses/canterbury-guidance-part-a.pdf>

CONCLUSION

The datum was placed in the lounge adjacent the second bedroom door. The point measured as highest above the Datum was in the kitchen, along its southern edge of the room, and in the southeastern corner of the second bedroom – at **plus 42mm**.

The lowest point measured against the Datum was on the western wall of the lounge, and in the southwestern corner of the second bedroom – at **minus 32mm**. The total variation is **74mm**.

The second criteria of undulations not exceeding 0.5% (10mm over 2m) is breached in numerous places and is illustrated using a red double-ended arrow.

The front verandah is on a different level to the main floor and is not on the same foundation. There is significant variation in the deck, and it should be considered in isolation from the main floor.

As indicated the rear porch patio is perfectly level in both directions. It is also at a different level from the main floor.

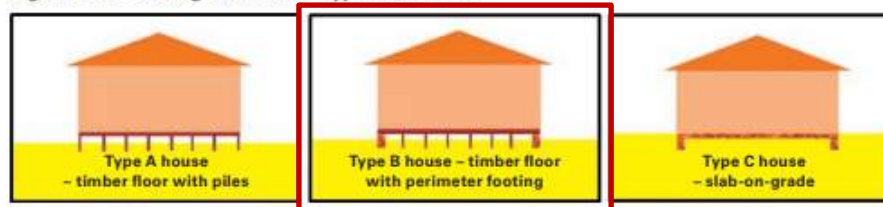
This indicates that a **Foundation re-level is indicated**.



2.1 Typical dwelling foundation types

Three broad groups of dwellings have been used in the subsequent sections of this document to describe dwellings on the flat, as represented in Figure 2.1.

Figure 2.1: Dwelling foundation Types A, B and C



The Type B and C house foundations have been further subdivided into those supporting light- and medium-weight claddings (B1 and C1) and those supporting heavy claddings such as brick veneer (B2 and C2) (see Table 2.1).

Table 2.1: House foundation and floor types on the flat

Type A	Timber-framed suspended timber floor structures supported only on piles. Stucco, weatherboard or light texture-clad house.
Type B1	Timber-framed suspended timber floor structures with perimeter concrete foundation. Stucco, weatherboard or light texture-clad house.
Type B2	Timber-framed suspended timber floor structures with perimeter concrete foundation. Brick or concrete masonry exterior cladding (veneer).
Type C1	Timber-framed dwelling on concrete floor (slab-on-grade). Stucco, weatherboard or light texture-clad house.
Type C2	Timber-framed dwelling on concrete floor (slab-on-grade). Brick or concrete masonry exterior cladding (veneer).

Table 2.3: Indicator criteria for floor/foundation releve or rebuild (see also Figure 2.2)

Column 1	Column 2	Column 3	Column 4	Column 5
Floor type	NO foundation releve considered necessary	Foundation releve indicated	Foundation rebuild indicated (Partial or full)	House rebuild may be indicated
Type B Timber-framed suspended timber floor structures with perimeter concrete foundation	The slope of the floor between any two points >2 m apart is <0.5% (1 in 200) [Note a] and The variation in level over the floor plan is <50 mm	The variation in floor level is >50 mm and <100 mm [Note b]	The variation in floor level is >100 mm [Note c] over the floor plan or The floor has stretched >20 mm [Note e]	The house has fully or partially collapsed off the piles and repair may be uneconomic This will relate to the degree of superstructure damage [Note f]



SUPPORTING PHOTOS



Datum



Lounge



Lounge



Front bedroom



Second bedroom



Second bedroom



Kitchen to bathroom



Bathroom



Bathroom



Bathroom to lounge



LIMITATIONS

The purpose of the report is to summarise the inspection of the building for the above-mentioned client only. The inspection is limited to a visual inspection only and is to give you a better understanding of the buildings condition as noted at the time of inspection. There are, therefore, a few limitations to the inspection, which you need to be aware of. These include the following:

- a) The report is of a visual only, non-invasive inspection of the areas of the building which were readily visible at the point in time of the inspection. The inspection does not include any areas or components which were concealed or closed in behind finished surfaces (such as plumbing, drainage, heating, framing, ventilation, insulation, or wiring) or which required the moving of anything which impeded access or limited visibility (such as floor coverings, furniture, appliances, personal property, vehicles, vegetation, debris or soil.) Any appliances are commented on only and no warranty as to fitness for purpose is offered or implied. BuildQual has no mandate to move, cause any damage to or change anything in the property.
- b) The inspection does not draw conclusions about the weather tightness of the building. It does, however, assess internal moisture readings directed by the inspector's expertise using a state-of-the-art tester, from which a recommendation may be made for further investigation. The testing is indicative only and makes no representation about the structure meeting the requirements of the building code as it relates to leaks, water penetration, weatherproofing, moisture or any effective water exit or control systems; this extends to any resultant mould, fungi, mildew, rot, decay, gradual deterioration, micro-organisms, bacteria, protozoa or any similar or like forms in any building structure. Invasive investigation is usually the only way to conclusively determine such issues.
- c) As the purpose of the inspection is to assess the general condition of the building based on the limited visual inspection described in (a), the report may not identify all past, present or future defects. Descriptions in the report of systems or appliances relate to existence only and not adequacy or life expectancy. Any area or component of the building or any item or system not specifically identified in the report as having been inspected was excluded from the scope of the inspection. The report will not back-date today's code requirements onto works undertaken at an unknown time prior.
- d) Without limiting the general nature of that statement, we mean that the report does not extend to areas behind walls, below the ground, behind other fixtures or obstructions such as signage, cladding, under floor coverings or in areas which pose health or safety hazards, or which are too small and difficult to reach. Also excluded are areas, which would require specialised equipment to reach e.g. cranes or cherry pickers. BuildQual inspects houses as they are presented, and if subfloor or roof access spaces don't exist or are obstructed, the report will reflect that. Returning to complete that part of an inspection will incur a fee.
- e) The assessment does not extend to any facilities servicing the premises such as electrical systems, plumbing, ventilation plant, lifts or other mechanical systems. Any photographs taken during the inspection were to support the inspector's report and remain the property of the inspector.
- f) Although property inspections can provide independent advice, they do not cover everything. For example, the inspector normally would not check the adequacy of the following: footings; concealed damp-proof membranes; concealed drainage; swimming pools, saunas and associated equipment; the operation of fireplaces and chimneys; intercom systems; floor coverings; appliances including but not limited to dishwashers, waste disposal units, ovens, ducted vacuum systems; Structural stability (other than pipe instability); hazards; and hot water cylinders. Whether or not services have been used for some time before an inspection being carried out may affect the detection of leaks and other defects. For example, in the case of a shower enclosure, the absence of any dampness at the time of inspection does not necessarily that the enclosure will not leak. **This is reproduced from NZS 4306:2005.**
- g) The report closely follows the requirements of NZS 4306:2005 (the New Zealand Standard for property inspections) and as such complies with that standard. There are minimum requirements for access to confined spaces in NZS 4306:2005, however, if in the inspector's view a space is too confined or the atmosphere inside that space is not safe, and it presents a risk to their safety under the Health & Safety at Work Act 2015, the inspector's safety is considered foremost. Similarly, if in the inspector's view an element of the property presents an unacceptable risk to inspect (height, proximity to safe ground, animal hazards etc.), the report will reflect that this element has not been inspected and the reason why.
- h) While EQC documentation may be checked against a property during an inspection, the general nature, the volume of that documentation and the elapsed time since the Canterbury Earthquakes makes it difficult to say with any certainty that damage listed is the same as evident during the inspection; similarly, it is difficult to ascribe some damage to an earthquake with any certainty.
- i) Damage and defects identified in the report may alter upon further work being carried out either to the building or any adjacent buildings, which may also be undergoing remedial or demolition work. Subsequent land movement or earthquakes may also alter the building.
- j) The report is not a substitute for any structural engineering or geotechnical assessment report which you are strongly recommended to obtain and therefore the report is not to be relied upon as a statement that the building is fit for use either in part or in whole.
- k) The persons carrying out the inspection to compile the report are limited by this agreement and cannot be expected to find or discover all defects in the building and you accept that we did not build or perform work on the building and are not responsible for or liable for anything other than the completion of the report and our opinion on the aspects reviewed.
- l) Any third-party report or externally sourced information annexed to this report is the responsibility of that third party and is attached for information only and we make no warranty regarding the same nor accept any responsibility for incorrect information contained therein.
- m) While we will use best endeavours to use all reasonable care and skill in carrying out the assessment consistent with that applied by reputable consultants practising in the property assessment field at this time, we provide no warranty (expressed or implied) as to the information presented in this report, except and only to the extent that the laws of New Zealand impose a warranty or guarantee such as under the Consumer Guarantees Act 1993.



OTHER SERVICES WE OFFER



Floor Level Survey

While an assessment is usually made using a laser level device during our inspections, we can further survey the floor levels of the building using a Zip level Pro device for greater detail. The results are then plotted on a floor plan, which is detailed within the report along with supporting information that demystifies the requirements – the MBIE guidelines.



Meth Testing

BuildQual NZ Ltd can arrange a contractor to do Meth Testing. Testing is conducted at various points of the house with results available two days later allowing for lab analysis. More in-depth testing can be done after a positive indication which will detail the levels of contamination to help inform your next steps.



New Build Pre-Handover Inspections

BuildQual NZ Ltd will inspect your newly built house and prepare a report before the pre-handover meeting with your builder, allowing you to ensure that the standard of work you expected is evident and to confidently request any defects be remedied before you move in.



Damage Assessment

BuildQual NZ Ltd conducts damage assessments on houses where repairs have not yet been completed and on houses where the repairs have been completed but a determination of the standard of work is required. We compare the works against the scopes of works and collect the producer statements to provide a level of comfort around the condition of the property.



BuildQual can arrange tradesmen – if required

BuildQual can arrange or recommend tradesmen plumbers, electricians, roof repairers and heat pump maintenance for your consideration when required. Tried and trusted otherwise we wouldn't recommend them. Let us help take the stress away from finding a tradesman.

The contents and design of this report are retained as Copyright, with rights belonging to BuildQual NZ (2016) Limited. This report must not be reproduced or passed on to a third party without the express permission of BuildQual NZ (2016) Limited. Obvious exceptions to that rule are, the real estate agent(s) acting for the client, the client's lawyer, accountant, mortgage broker, bank, an insurance company or another professional working towards the sale or purchase of the property that is the subject of the report.

For clarity, only the client and professionals working with the client to either buy or sell the subject property at 47 Cam Road, Kaiapoi may have access to the report.

If the report is on-sold to a purchaser, they need to be aware that the consumer protections do not pass with that transaction. In accordance with the Contract and Commercial Law Act 2017; the purchaser was not a party to the contract which initiated the inspection, was not intended to be a party, and cannot join that contract retrospectively.

APPENDIX B

HAND AUGER LOG SHEETS

SITE PLAN

LM2601813-0298 BC260376

JOB
NO.: 2026-0781

CLIENT: Proper Job Properties Ltd

PROJECT: Geotechnical Investigation

LOCATION: 47 Cam Road, Kaiapoi

KEY:



Approx. HA/SC
Locations



Approx. Site
Boundary





INVESTIGATION LOG

LM2601813 BC260376
HOLE NO.:

HASC101

CLIENT: Proper Job Properties Ltd
PROJECT: Geotechnical Investigation

JOB NO.:
2026-0781

SITE LOCATION: 47 Cam Road, Kaiapoi

START DATE: 27/01/2026

CO-ORDINATES:

ELEVATION: Ground

END DATE: 27/01/2026

CONTRACTOR:

RIG:

DRILLER:

LOGGED BY: HG

MATERIAL DESCRIPTION (See Classification & Symbology sheet for details)	SAMPLES	DEPTH (m)	LEGEND	SCALA PENETROMETER (Blows / 100mm)	HAND SHEAR VANE (Uncorrected)	WATER
				2 4 6 8 10 12 14 16 18		
Soft, brownish grey SILT with minor clay and trace sand, moist. Sand fine.		0.2				
Pale brownish grey mottled orange, sand absent, clayey.		0.4				
Firm, pale grey mottled orange.		0.6	1			
		0.8	1			
		1.0	4			
Stiff, bluish grey mottled orange, silty CLAY, moist to wet. Groundwater inflow (possibly perched surface water).		1.2	4			
		1.4	5			
Saturated.		1.6	9			
		1.8	10			
		2.0	9			
		2.2	12			
		2.4	15			
		2.6	18			
End of borehole (overhead restriction: inside house). EOH: 2.20m		2.8				
		3.0				

27/01/2026



INVESTIGATION LOG

LM2601813 BC260376
HOLE NO.:

HASC102

CLIENT: Proper Job Properties Ltd
PROJECT: Geotechnical Investigation

JOB NO.:
2026-0781

SITE LOCATION: 47 Cam Road, Kaiapoi

START DATE: 27/01/2026

CO-ORDINATES:

ELEVATION: Ground

END DATE: 27/01/2026

CONTRACTOR:

RIG:

DRILLER:

LOGGED BY: HG

MATERIAL DESCRIPTION (See Classification & Symbology sheet for details)	SAMPLES	DEPTH (m)	LEGEND	SCALA PENETROMETER (Blows / 100mm)	HAND SHEAR VANE (Uncorrected)	WATER
				2 4 6 8 10 12 14 16 18		
FILL - Dark brown silt (possibly slightly organic) with minor sand and gravel, moist. Surface of this sub-floor area has brick and concrete rubble evident.			1	12		undwater Not Encountered
End of borehole (unable to penetrate fill material). EOH: 0.30m		0.2		20		
		0.4				
		0.6				
		0.8				
		1.0				
		1.2				
		1.4				
		1.6				
		1.8				
		2.0				
		2.2				
		2.4				
		2.6				
		2.8				
		3.0				



INVESTIGATION LOG

LM2601813 BC260376
HOLE NO.:

HASC103

CLIENT: Proper Job Properties Ltd
PROJECT: Geotechnical Investigation

JOB NO.:
2026-0781

SITE LOCATION: 47 Cam Road, Kaiapoi

START DATE: 27/01/2026

CO-ORDINATES:

ELEVATION: Ground

END DATE: 27/01/2026

CONTRACTOR:

RIG:

DRILLER:

LOGGED BY: HG

MATERIAL DESCRIPTION (See Classification & Symbology sheet for details)	SAMPLES	DEPTH (m)	LEGEND	SCALA PENETROMETER (Blows / 100mm)	HAND SHEAR VANE (Uncorrected)	WATER
				2 4 6 8 10 12 14 16 18		
FILL - Dark brown organic silt (topsoil) with trace rootlets, gravel, and charcoal, moist. Gravel medium, sub-rounded.				2		
		0.2		3		
FILL - Dark greyish brown SILT with trace charcoal, moist.				15		
				15		
		0.4		2		
Soft to firm, brownish grey SILT with minor clay and trace sand, moist. Sand fine.				1		
		0.6		1		
				1		
Firm, pale grey mottled orange, clayey. High plasticity.		0.8		2		
				3		
		1.0		4		
				5		
Firm to stiff, bluish grey mottled orange, silty CLAY, moist.		1.2		8		
				9		
		1.4		11		
				12		
Wet.		1.6		15		
				17		
Saturated.		1.8				
		2.0				
		2.2				
Slumping and suction in hole.						
		2.4				
End of borehole (unable to penetrate further; hole suction). EOH: 2.30m						
		2.6				
		2.8				
		3.0				

27/01/2026



INVESTIGATION LOG

LM2601813 BC260376
HOLE NO.:

HASC104

CLIENT: Proper Job Properties Ltd
PROJECT: Geotechnical Investigation

JOB NO.:
2026-0781

SITE LOCATION: 47 Cam Road, Kaiapoi

START DATE: 27/01/2026

CO-ORDINATES:

ELEVATION: Ground

END DATE: 27/01/2026

CONTRACTOR:

RIG:

DRILLER:

LOGGED BY: HG

MATERIAL DESCRIPTION (See Classification & Symbolology sheet for details)	SAMPLES	DEPTH (m)	LEGEND	SCALA PENETROMETER (Blows / 100mm)	HAND SHEAR VANE (Uncorrected)	WATER
				2 4 6 8 10 12 14 16 18		
FILL - Dark brown organic silt (topsoil) with trace rootlets and charcoal, dry to moist.		0.0		2		
		0.2		2		
		0.4		1.5		
		0.6		1.5		
Soft, brownish grey SILT with some clay, moist. Low plasticity.		0.8		1		
		1.0		1		
Mottled orange.		1.2		1		
		1.4		1		
Grey mottled orange.		1.6		1		
		1.8		2		
		2.0		4		
Stiff, bluish grey mottled orange, silty CLAY, moist.		2.2		5		
		2.4		6		
		2.6		5		
		2.8		5		
		3.0		6		
		3.2		5		
		3.4		6		
		3.6		4		
		3.8		6		
		4.0		7		
		4.2		8		
		4.4		6		
		4.6		7		
		4.8		6		
		5.0		7		
		5.2		9		
		5.4		10		
		5.6		10		
End of borehole (target depth).		5.8				
EOH: 3.00m						

27/01/2026

APPENDIX C

STATEMENT OF PROFESSIONAL OPINION

Statement of Professional Opinion on the Suitability of Land for Subdivision

(Appendix I to the Infrastructure Design Standard)

Issued by: **Subterra Ltd**
 (Geotechnical engineering firm or suitably qualified engineer)

To: **Proper Job Properties Ltd**
 (Owner/Developer)

To be supplied to: **Waimakariri District Council**
 (Territorial authority)

In respect of: **subdivision of residential land**
 (Description of proposed infrastructure/land development)

At: **47 Cam Road, Kaiapoi**
 (Address)

I **Steven Roberts** on behalf of **Subterra Ltd**
 (Geotechnical engineer) (Geotechnical engineering firm)

hereby confirm:

1. I am a suitably qualified and experienced geotechnical engineer and was retained by the owner/developer as the geotechnical engineer on the above proposed development.
2. My/the geotechnical assessment report, dated **30/01/2026** has been carried out in accordance with the Department of Building and Housing *Guidelines for geotechnical investigation and assessment of subdivisions* and includes:
 - (i) Details of and the results of my/the site investigations.
 - (ii) A liquefaction assessment.
 - (iii) An assessment of rockfall and slippage, including hazards resulting from seismic activity.
 - (iv) An assessment of the slope stability and ground bearing capacity confirming the location and appropriateness of building sites.
 - (v) Recommendations proposing measures to avoid, remedy or mitigate any potential hazards on the land subject to the application, in accordance with the provisions of Section 106 of the Resource Management Act 1991.
3. In my professional opinion, I consider that Council is justified in granting consent incorporating the following conditions:

Provided any development is constructed in accordance with the recommendations made in Section 8 of Subterra's geotechnical report ref. 2026-0781 dated 30/01/2026

.....

.....

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

5. This certificate shall be read in conjunction with my/the geotechnical report referred to in Clause 2 above, and shall not be copied or reproduced except in conjunction with the full geotechnical completion report.
6. The geotechnical engineering firm issuing this statement holds a current policy of professional indemnity insurance of no less than \$ **200,000**.....
(Minimum amount of insurance shall be commensurate with the current amounts recommended by IPENZ, ACENZ, TNZ, INGENIUM.)



.....
(Signature of Engineer)

Date: **30/01/2026**.....

Qualifications and experience:

CMEngNZ, CPEng(Geotechnical), IntPE(NZ).....
.....
.....

Our Reference: 190326042058 / 2175114700

19 March 2019

Chiles Aaron Mark & Chiles Deearna Ngaretta
47 Cam Road
Kaiapoi 7630

Dear Chiles Aaron Mark & Chiles Deearna Ngaretta

Notification of Wastewater Network Investigations at 47 A Cam Road, KAIAPOI

Background

Extensive stormwater inflow and infiltration into the Ranfurly sewer catchment is causing problems with a significant proportion of the network exceeding their capacity. This is increasing the risk of sewer overflows. The options to reduce this risk is to install expensive infrastructure to increase capacity, or to reduce the amount of inflow and infiltration entering the network. Council will undertake to reduce the amount of stormwater entering the network. The sewage (and stormwater) is pumped multiple times before it gets to our treatment plant so reducing the stormwater component saves on pumping and treatment costs.

Over the next few weeks, Council will be investigating the sewer network to identify where rainwater is entering the sewers. As part of our investigations we will be using smoke testing, which is an efficient, cost-effective way to locate faulty sewers and plumbing. The investigation will cover the area show in Figure 1 below.



Figure 1: Extent of Investigations

What is the purpose of smoke testing?

The purpose of smoke testing is to find potential points of infiltration in the sewer system that result in increased operational costs and could lead to high flows during rain events.

How does smoke testing work?

During smoke testing, Council contractors blow non-toxic, vegetable oil-based smoke into the sewers at manhole access points and monitor where the smoke escapes. The smoke will fill the sewers and leak out at possible breakage points, roof vents, relief gullies and points of stormwater connection.

Is the smoke harmful?

NO. The smoke is a mist created from non-toxic vegetable oil. It will not harm your health or leave a stain and will disappear after a couple of minutes without any odour. The vapour could potentially be a mild respiratory irritant if you were immersed in the smoke so it is best to avoid direct contact with the smoke. The noise from the smoke blower will be similar to that from a lawn mower.

Will the smoke get into my house through plumbing fixtures?

Generally not unless the water trap (the U-bend) of a plumbing fixture (sinks or toilets) is not working properly. If the smoke does come up through a fixture, it would point to a private plumbing issue that you may need to attend to.

Access to properties

Council contractors from Hydrotech Ltd will need to access your private property for the testing operations, you will receive a notice in your letter box advising the date, time and duration of the work at least 2 days prior to the scheduled date. Testing of each section of the sewer should take about 30 minutes to complete. We ask you to secure pets during that time. If you have any concerns about access arrangements please contact the Council Officer listed on the notice.

If you don't want Council Contractors to enter your property please contact the Council Officer listed on the notice.

Emergency services

Council will advise the fire department of locations, dates and times of any smoke testing work.

Queries

If you have any questions about the smoke testing program, please contact the Gavin Hutchison, Wastewater Asset Manager, 0800 965 468, Ex 8755.

Kind regards,



Gavin Hutchison
Wastewater Asset Manager
Waimakariri District Council
gavin.hutchison@wmk.govt.nz
0800 965 468

Private Property Smoke Testing Report**CLIENT:** Waimakariri District Council**CATCHMENT:** Ranfurly Kaiapoi**DATE:** 8/04/2019**TIME:** 1600**MH TO MH SECTION:** WW007590-WW007589**PIPE SIZE:** 150mm

ADDRESS	DEFECT	PHOTO #
47 Cam Road, Kaiapoi	Dropped entrance to doorway, water can run off to gully trap	1

TECHNICIAN: Cameron Sole**PICTURE:** #1

Waimakariri District Council

Request

LM2601813 - Page 73

Request Number: SR2200103
Date Received: 09/05/2022 11:23.27 am
Source: Phone
Status: Past
Group: Sewer
Category: Sewer Blockage
Sub Categories:

Priority:
Resp Workgroup: WaterUnit
Raised By:
User ID: Water Unit Admin

Call back is required

Related AR:

Property Number: 10754
Property Address: 47 Cam Road KAIAPOI
Property Description:
Caller Name: IPaul
Caller Address: 47 Cam Rd
Email:
Notify By: Phone

Request Details:

Sewer - Sewer Blockage - Toilet it bubbling up and takes a long time to drain away. This is intermittent please can we check out side of things. Please can we contact Paul back to advise if there is any issues in the street. Paul

Comments:

Date/Time on Site: 09-May-2022 11:30 am **Date/Time on Resolved:** 09-May-2022 4:00 pm

Resolution:

WW003818: No blockage found in main. Low spot at 47. Blaster used to clean main.
Completion Comments: No blockage found but water blastered to try and help with low spot at manhole outside 45.

Event History:

Description	Status	Decision	Commenced Finalised	Target Date	Role Name User
Request Received			09/05/2022 11:23.31 am		
	Past	Completed	09/05/2022 11:23.46 am		
Job Passed wo? wu?			09/05/2022 11:24.29 am	09/05/2022 3:23:00PM	
	Past	Passed	09/05/2022 11:24.29 am		

Request

Description	Status	Decision	Commenced Finalised	Target Date	Role Name User
Notes					
Contractor On Site	Past	Completed	09/05/2022 11:24.30 am 09/05/2022 11:38.48 am	09/05/2022 3:23:00PM	
Respond/Finalise/Complete Request	Past	Completed	09/05/2022 11:42.11 am 09/05/2022 03:24.37 pm	09/05/2022 3:23:00PM	
Customer callback by ?	Current		09/05/2022 03:24.37 pm	09/05/2022 3:23:00PM	

Possible Cause:

Blockage - Fat General

Waimakariri District Council**Request**

Request Number: SR2300171
Priority:
Date Received: 26/06/2023 02:07.09 pm
Resp Workgroup: WaterUnit
Source: Phone
Raised By:
Status: Past
User ID: Water Unit Admin
Group: Sewer
Category: Sewer Blockage **Call back is required**
Sub Categories:

Related AR:

Property Number: 10754
Property Address: 47 Cam Road KAIAPOI
Property Description: Lot 23 DP576 **Land Number:** 24038
Caller Name: Williams, Paul **Home Phone:**
Caller Address: 47 Cam Road Kaiapoi 7630 **Work Phone:**
Mobile:
Email: gmail.com **Fax:**
Notify By: Phone

Request Details:

Sewer - Sewer Blockage - water is disappearing from toilet and the outside drain for kitchen sink waste water is bubbling. May be blockage on the road. Caller said Cam Rd drain doesn't have much gradient and water sits in it causing blockage.

Comments:

Date/Time on Site: 26-Jun-2023 2:30 pm **Date/Time on Resolved:** 26-Jun-2023 3:30 pm

Resolution:

Completion Comments: Cancelled: Checked manholes and is good with flow advised resident he will need to contact plumber to camera lateral and advise if further issues he believes are us..

Event History:

<i>Description</i>	<i>Status</i>	<i>Decision</i>	<i>Commenced</i>	<i>Target Date</i>	<i>Role Name</i>
<i>Notes</i>			<i>Finalised</i>		<i>User</i>
Request Received			26/06/2023 02:07.10 pm		
	Past	Completed	26/06/2023 02:07.11 pm		
Job Passed wo? wu?			26/06/2023 02:07.36 pm	26/06/2023 6:07:00PM	
	Past	Passed	26/06/2023 02:07.36 pm		



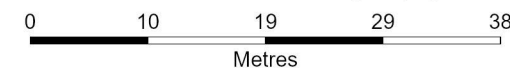
Flood Hazard

Author: Anthony Meier

Date: 24/07/2026

Scale 1:611

Original page size: A4

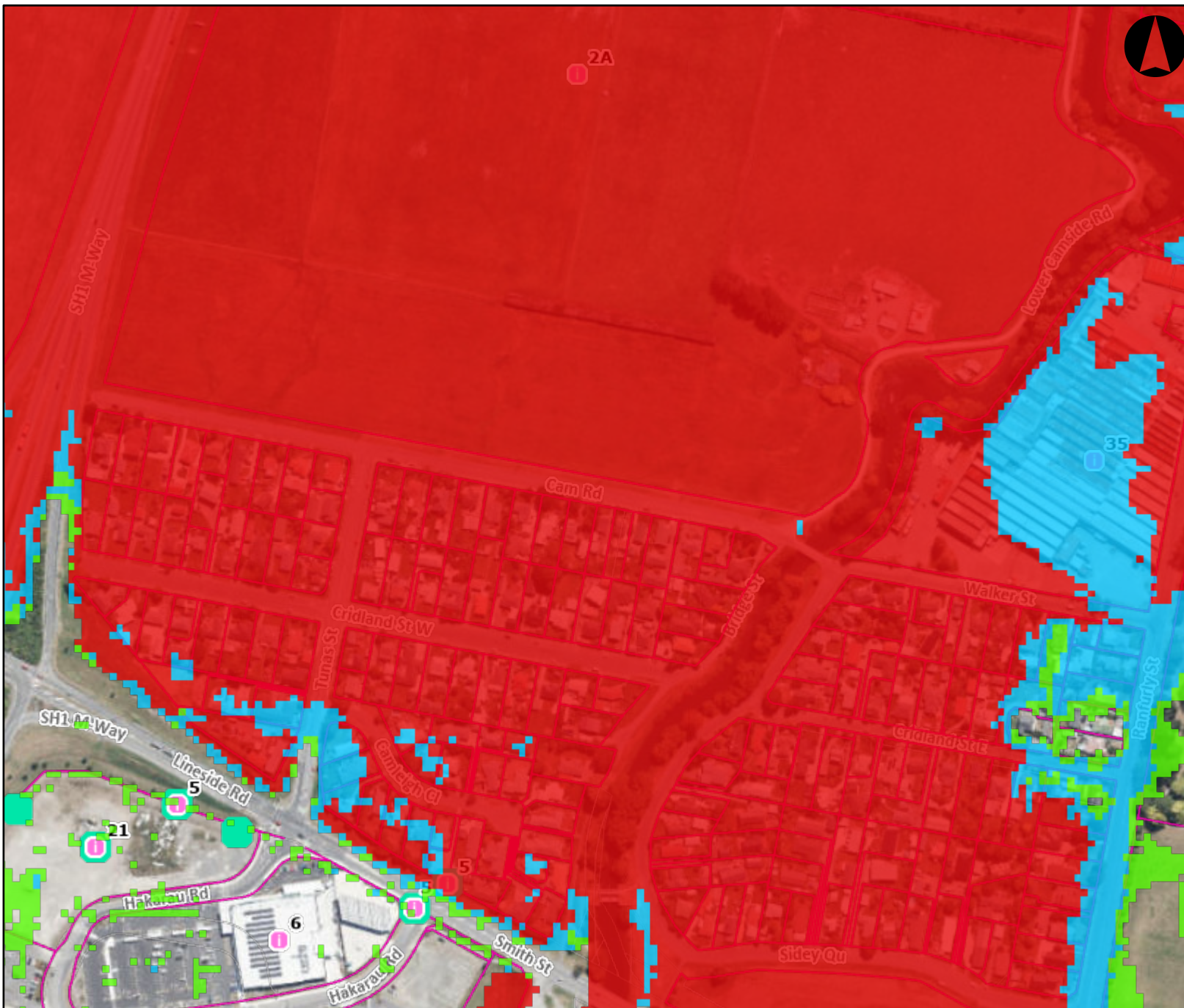


Disclaimer:

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Credits:

Waimakariri District Council, Land Information New Zealand, 2025 Urban and Rural Aerial Imagery, 2023 Birch Hill Cemetery UAV Imagery, 2022-23 Cust Cemeteries UAV Imagery, Waimakariri District Council, Waimakariri District Council



Legend

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All Flooding Hazard 200 year

ClassName

Low

Medium

High

Properties > 1 ha

Related Address

Property Boundaries with Attributes

Current Property

Deposited Land Parcels

Road Names

tony.meier@wmk.govt.nz

Waimakariri District Council

Date: 24/07/2026

Scale 1:4,000

Original page size: A4

0 60 120 180 240
Metres

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Credits:

Waimakariri District Council, Land Information New Zealand, 2025
Urban and Rural Aerial Imagery, 2023 Birch Hill Cemetery UAV
Imagery, 2022-23 Cust Cemeteries UAV Imagery, Waimakariri District
Council, Waimakariri District Council

Notes on Flood Hazard Mapping

The attached plan shows the result of a flood mapping exercise that has been carried out by the Waimakariri District Council.

There are a number of notes that need to be considered when using this information.

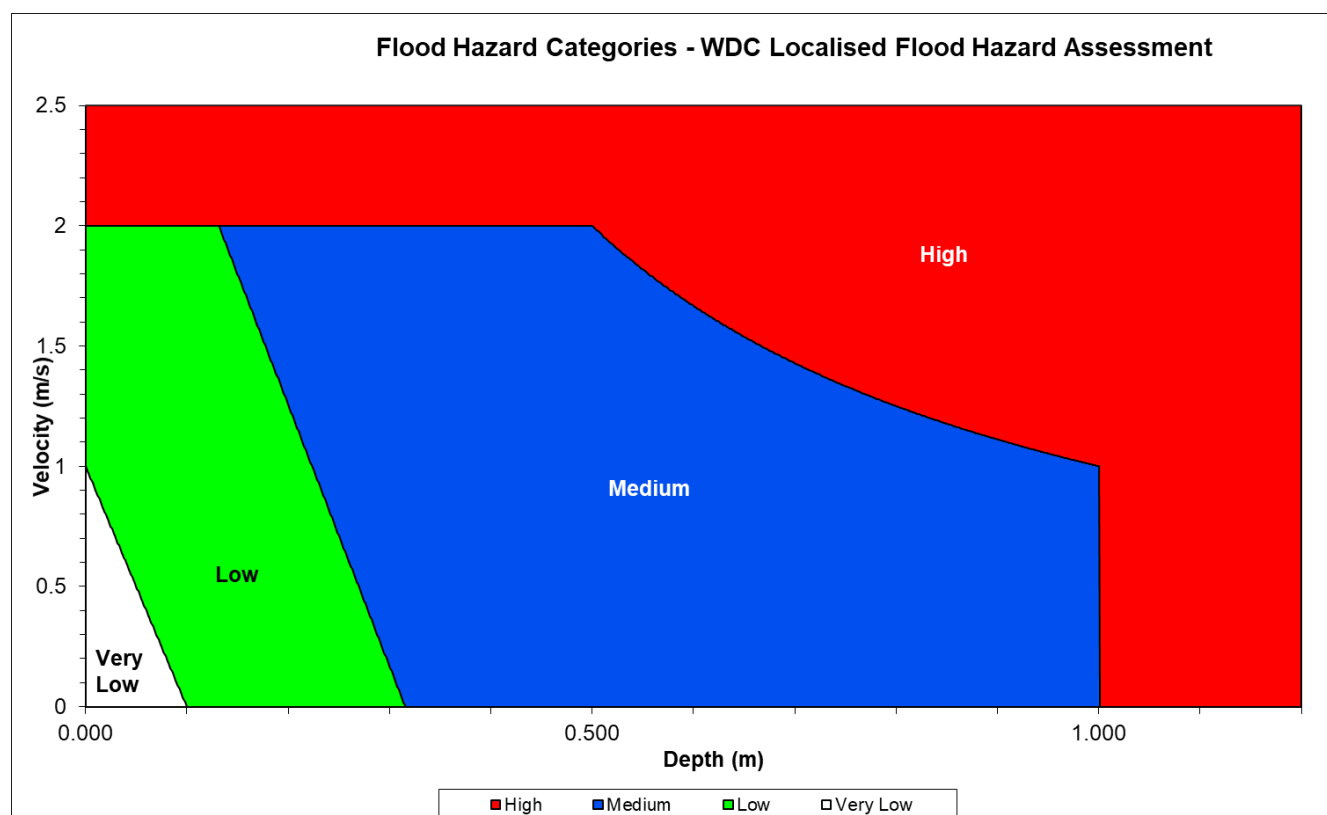
1. Annual Exceedence Probability.

The rainfall used in this mapping is the 0.5% Annual Exceedence Probability (AEP) rainstorm. This is based on there being a 0.5% probability in any one year that there will be a rainstorm of this severity. This is sometimes referred to as the 1 in 200 year storm.

Note that if a property has flood hazard shown in the 0.5% AEP it will likely be subject to flooding in more frequent events.

2. Flood Hazard Categories.

The flood hazard categories are based on both the depth and velocity of the flood water as shown on the following diagram.



3. Flood Modelling

This flood modelling shows the combined effects of:

- Localised Flooding, flooding in response to rainfall
- Ashley Breakout, flooding in response to a breakout event on the Ashley River
- Coastal Inundation, flooding in response to storm surge, sea level rise and river flows

Detailed information on the flood models including the technical modelling reports are available on the Council's Natural Hazards Portal on the Council website.

4. Generalised Flooding

This flood modelling is for generalised, area wide, flooding risk mapping only. It does not take into account all site specific flood risks that may occur on individual properties. There may be areas of ponding or overland flow that occur but are not shown on this flood modelling. This may be due to local topographical characteristics or due to the location and levels of building floors in relation to the surrounding ground. This flood mapping has been carried out to help identify areas that may be at an increased risk of flooding, it is not an accurate prediction of flood levels.

5. Land Changes

The results from this exercise will be less accurate in areas where major development or significant changes in the shape of the land has occurred since 2005. This is particularly important to note in new subdivision areas where new roads have been constructed or filling has occurred. The eastern area of the district including Rangiora, Kaiapoi and Woodend uses ground information updated in 2014. In some cases more recent subdivision areas have been included where information was available.

6. District Plan

The attached Flood Map, published in 2020, is based on recent flood modelling work. This flood mapping has been formally adopted by Council and included in the Proposed Waimakariri District Plan.

7. Further Information

To find further information on flooding and flood hazard please refer to the following links:

- <https://www.waimakariri.govt.nz/environment/natural-hazards>
- <https://www.ecan.govt.nz/your-region/your-environment/natural-hazards/floods/>
- <https://www.cdemcanterbury.govt.nz/hazards/floods/>
- <https://niwa.co.nz/natural-hazards/hazards/floods>



Legend

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Land Parcel

Property Boundary

NZS3604:2011

High 44 MS

NZS3604:2011

ZONE

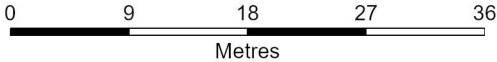
2

Author: Anthony Meier

Date: 24/07/2026

Scale 1:574

Original page size: A4



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Credits:

Waimakariri District Council, Land Information New Zealand, 2025 Urban and Rural Aerial Imagery, 2023 Birch Hill Cemetery UAV Imagery, 2022-23 Cust Cemeteries UAV Imagery, Waimakariri District Council, Waimakariri District Council

This property is eligible for the Council's kerbside collection service. This includes collection of recycling and an optional organics and rubbish wheelie bin service. Information on these services is available at:

<https://www.waimakariri.govt.nz/services/recycling-rubbish-and-organics>

New property owners may swap the size of bins allocated to their property within 3 months of taking possession, without paying a bin delivery/removal fee, by telephoning the Customer Services Team on 0800 965 468.



Waimakariri District Council
215 High Street
Private Bag 1005
Rangiora 7440, New Zealand
Phone 0800 965 468

Our Reference: CUS-03-04/190626090676

1 July 2019

Kerbside Bins – Information for New property Owners

The Council's optional kerbside rubbish and organics collection service was introduced on 1 July 2019 to complement the existing wheelie bin recycling collection.

If there are rubbish and/or organics bins at your property, your annual rates will include the rubbish and/or organics service. These rates are set for the financial year and vary according to the size of the bin supplied.

Organics (green lid) and Rubbish (red lid) bins at the property

As a new property owner, you have the opportunity to join the wheelie bin rubbish and organics collection. Also for a limited time, you may change the bin selections made by the previous owner of your property.

If you have rubbish and/or organics wheelie bins at your property and these are not suitable for your use, you are able to change the size of the bin or bins within 3 months of the sale settlement date without paying a delivery/removal fee or the cost of additional capacity. You may also cancel the service.

Contact Customer Services to arrange a swap of bin sizes or to send the bins back. *Please remember that there is no adjustment to your rates until next 1 July, and if your request is received more than 3 months after settlement, a fee for additional capacity will be payable if you are upsizing the bin, and a delivery/removal fee will be payable per set of bins.*

Joining the Organics and Rubbish bin collection

To join the optional services, contact Customer Services to request the bin or bins you require. You will be asked to pay a proportion of the cost of the collection service for the remainder of the rating year, and a bin delivery fee per set of bins. The fees will need to be paid before the bins are ordered. The cost of the collection will be added to your rates from the start of the next rating year.

Ohoka/Swannanoa/Mandeville area have Recycling and Rubbish bin collections only

As part of the new kerbside service a wheelie bin rubbish collection service is available to those properties in this area that currently have a recycling wheelie bin. Please let us know if you would like to have a fortnightly wheelie bin rubbish collection. The rubbish **bag and organics** collection is not available here. You can see if your property is inside the collection area by using our interactive map on waimakariri.govt.nz/rethinkrubbish.



More about the Service

The services offered are outlined on our website, together with costs, collection day calendars and information on what is accepted for collection in each bin.

Sign up for alerts and collection day reminders using our new website tool feature – waimakariri.govt.nz/rethinkrubbish

You can make your choice by talking to Customer Services at any Council Service Centre, sending an email to office@wmk.govt.nz or phone us on 0800 965 468

Landlords

As the ratepayer, you are the only person who can request the Organics and Rubbish bin kerbside collection services as the chosen services will directly affect your rates. Your tenants may wish to talk to you about their preferred choice and may be willing to pay extra for a bin service.

Kerbside Recycling

If you decide not to choose any of the rubbish or organics wheelie bin options, you will still have a recycling wheelie bin allocated to your property. Collection is fortnightly, and this service is funded by the annual Kerbside Collection Rate. *You may also swap the size of this bin for free within 3 months of your property sale settlement. Outside this time a delivery/removal fee will apply.*

If your property is a new build you may need to order your recycling wheelie bin from Customer Services.

Find out more...

Have a look at the information on our website, then if you have any questions, please call us on 0800 965 468.

Yours faithfully

Customer Services