

Land Information Memorandum

APPLICATION NUMBER: LIM0358/21

PROPERTY ADDRESS

**8 Woodham Drive
ASHBURTON**

**REQUESTED BY
Paul Crouchley**

11 May 2021

ASHBURTON DISTRICT COUNCIL

5 Baring Square West
Ashburton

PO Box 94
Ashburton 7740

P (03) 307 7700
E info@adc.govt.nz

www.ashburtondc.govt.nz

Land Information Memorandum

Application No.: LIM0358/21

Client Reference:

Applicant:

P Crouchley	Application Date:	04/05/2021
552 Frasers Road	Issue Date:	11/05/2021
RD 8	Telephone:	
ASHBURTON 7778	Fax:	03 302 5598

Property:

Valuation No.:	2452445200
Location:	8 Woodham Drive ASHBURTON
Legal Description:	LOT 12 DP 33267
Owner:	Paul Crouchley
Area (hectares):	0.072500

Latest valuation (as at 01 July 2018)

Capital Value	\$350,000.00
Improvements Value	\$185,000.00
Land Value	\$165,000.00

Rates for 2020/2021 rating year to 30 June 2021 (based on 01 July 2018 Valuation)

Rating Year	2020/2021
Annual Rates	\$2,414.10
Balance to Clear to 30/06/2021	\$603.60

Note Rates are charged in four equal instalments for the period commencing 1 July and ending 30 June each year.

The Property Currently Incurs the Following Rates

Ashburton District Council Rates	Canterbury Regional Council Rates
Ashburton Urban Amenity	Ashburton River U1 Catchment Works
Ashburton Waste Collection	Catchment Works and Services
Ashburton Wastewater Connected	Civil Defence Emergency Management
Ashburton Water Supply Connected	Clean Heat Incentive
General Rate	Regional General Rate
Roading Rate	Regional Uniform Annual General Charge
Uniform Annual General Charge	Total Mobility Rate

Planning/Resource Management:

District Plan Zone: Residential C Zone

Full details of the zone requirements are found in the District Plan. Also our website

<http://www.ashburtondc.govt.nz>. Refer to enclosed District Plan Map U40.

The status of the District Plan is discussed later in this report.

Land Use on Contiguous Properties

Please see map and documentation showing Resource Consents in the vicinity.

Resource Consents and Planning Permits

Consent/Permit No.	Description	Decision Date	Decision
No Resource Consents known			

Contact Council's Planning Department on (03) 3077 700 for further information.

Building Consents

Consent No.	Description	Date Issued	Final CCC
BC010017	Internal alterations to dwelling	23/01/01	26/02/01

* Please note that under the Building Act 2004, Building Permits issued prior to 1 January 1993, did not require a Code Compliance Certificate (CCC) to be issued.

Contact Council's Building Department on (03) 3077 700 for further information.

Building Permits

Permit No.	Description	Date Issued
BPC002335	Install a Kent logfire	05/09/84
BPI031741	Erect a garage	01/03/79
BP3738C	Plumbing/drainage	28/02/78
BPH116363	Erect a dwelling	26/08/77

* Please note that under the Building Act 1991, Building Permits issued prior to 1 January 1993, did not require a Code Compliance Certificate (CCC) to be issued.

Contact Council's Building Department on (03) 3077 700 for further information.

Certificate of Public Use

CPU No.	Description	Date Issued	Status
No Certificates known.			

Exemptions

Exemption No.	Description	Date Issued	Decision
EXBC004/21	Earthquake damage repairs	19/01/21	Approved

Building Certificate of Acceptance

Certificate No.	Description	Date Issued
No Certificates known.		

* Please note a Certificate of Acceptance cannot be issued for work carried out prior to 1 January 1993.

Compliance Schedule & Building Warrant of Fitness

CS No.	Description	Date Issued	Status
No WOFs known.			

Other Consents

Consent No.	Description	Date Issued	Status
No Other Consents known			

Sewer and Water

Sewer: Ashburton Wastewater Connected
 Water: Ashburton Water Supply Connected

Sewer/Water Notes: Connected to Ashburton water supply and Ashburton wastewater scheme - please refer to attached plans of approximate service connection locations.

Ashburton District Council holds flood mapping data which provides information on potential flood risk from overland (rainfall) flooding events in this area. Please see the included information on how the data relates to this property.

Land and Building Classifications

Classification	Description	Status
Land	Refer to copy of map from the District Plan for classifications in the immediate vicinity.	N/A

Special Land Features/Information on Property

Feature Type	Description
Transport Note	No known issues.
Property Planning Details	There are no resource consents related to this property. There are no Heritage Buildings or Protected Trees associated with this property listed in the Operative District Plan. Zoned as Residential C as per the Operative District Plan, Planning Map U40. Designation D64 (Allenton Primary School) is located near to this property.
Geological and Fault Line Information	Fault Line Awareness Areas in the Canterbury region have been mapped and are hosted on the Canterbury Maps website. Please visit the following link to determine whether this property sits within a Fault Awareness Area. https://mapviewer.canterburymaps.govt.nz/?webmap=f716b840dc434c009e8f74f644a271d6 Ashburton District Council also has a copy of the report "General Distribution And Characteristics Of Active Faults And Folds In The Ashburton District, Mid-Canterbury" by DJA Barrell and DT Strong (GNS Science Consultancy Report; 2009/227) GNS Science, 2009. This report maps active faults and folds of the Ashburton District at a regional level. The level of precision is not adequate for site-specific hazard assessments. This report can be viewed or a copy obtained from Ashburton District Council.

Licences/Environmental Health

Licence No.	Description	Date	Decision
No Licences known.			

Swimming Pool Information

Date:	Description
No information known.	

Network Utility Operators

Information related to the availability of supply, authorisations etc (eg, electricity or gas) can be obtained from the relevant Network Utility Operator.

Other Information

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

No title search has been done on this property.

Notes

1. The information set out in this summary is made available in good faith pursuant to the Local Government Official Information and Meetings Act 1987.
2. The information has been prepared from records held by the Ashburton District Council. The information is made available in reliance on Council's records. However, Council does not warrant that the information is correct and will not accept any liability for errors or omissions in its records or for errors or omissions in the presentation of information from those records, or if any cost damages or expenses incurred in consequence of errors or omissions or reliance on the information.
 - a) Some categories of information are based on records supplied to Council by property owners or developers or tradesmen.
 - b) In preparing the information, no inspections of the property have been undertaken.
 - c) Where the information indicates the existence of some requisition or Council interest in the land, it is the responsibility of the person seeking the information to follow up.
3. For further explanation of any of the information please contact the Council.

Environment Canterbury

Please be aware that information relevant to this property may be held by Environment Canterbury. This Land Information Memorandum **does not** include property information relating to compliance issues controlled by the Regional Council. This may include but is not limited to:

1. Resource Consents granted by Environment Canterbury.

2. Information on Solid Fuel Fires. Fires installed on the property may require a Regional Resource Consent and/or certain types of new fires may be restricted or prohibited. We recommend that you refer to Environment Canterbury's website for any potential implications.

Possible implications may include:

- a. Solid Fuel Heaters that must be replaced after a certain date or age.
- b. The need for a property to comply with the Canterbury Air Regional Plan at the time a property changes ownership.
- c. A ban on the use of open fires for home heating in most cases.
- d. Controls or bans on outdoor burning in certain areas.

3. Effluent Treatment – compliance of any on-site effluent treatment system (septic tank or aerated systems).

4. Contamination of Ground Water – for properties that are not serviced by a Council reticulated water supply, we advise that you check the quality of ground water to ensure that it is potable. Contamination by nitrates and at times, bacteria can occur. Council's Environmental Health Officer or Environment Canterbury can assist you with further information.

5. Rural Issues – such as discharges to land of effluent, discharges of odour and substances to air, water abstractions, vegetation clearance, tracking and earthworks.

6. Natural Hazards – Please also refer to Environment Canterbury for specific Natural Hazards Information for this site, such as flooding and soil stability.

7. Environment Canterbury Listed Land Use Register – Contamination information for properties in Ashburton District are held within the Environment Canterbury Listed Land Use Register. Information relating to specific properties can be viewed and requested at <https://www.ecan.govt.nz/your-region/your-environment/hazardous-land-use/listed-land-use-register/>

Development Planning

The District Plan contains rules with which any subdivision, new building, addition to an existing building or change in land use is required to comply. Every property is within a zone, with a different set of rules for each zone that seeks to achieve outcomes sought for that area. You may need resource consent if you are proposing one of the activities specified above on this property and you are therefore advised to check the rules for the relevant zone. To view a copy of the District Plan go to the following webpage or visit the front counter of the Council offices, 5 Baring Square West, Ashburton.

<http://www.ashburtondc.govt.nz/our-services/planning-guidance-and-resource-consents/district-plan/Pages/default.aspx>

You should carefully consider the rules in the District Plan and how it affects the property subject to this Land Information Memorandum including any use, development or subdivision of the property.

The Council's Long Term Council Community Plan includes a Development Contributions Policy and schedule of charges that are payable at Resource Consent and / or Building Consent stages; we recommend that you refer to this policy to assess any Council charges that may be payable on future development that you are considering.



Name: Sheree Dougherty

Date: 11 May 2021

Welcome to the Ashburton District



Ashburton District Council

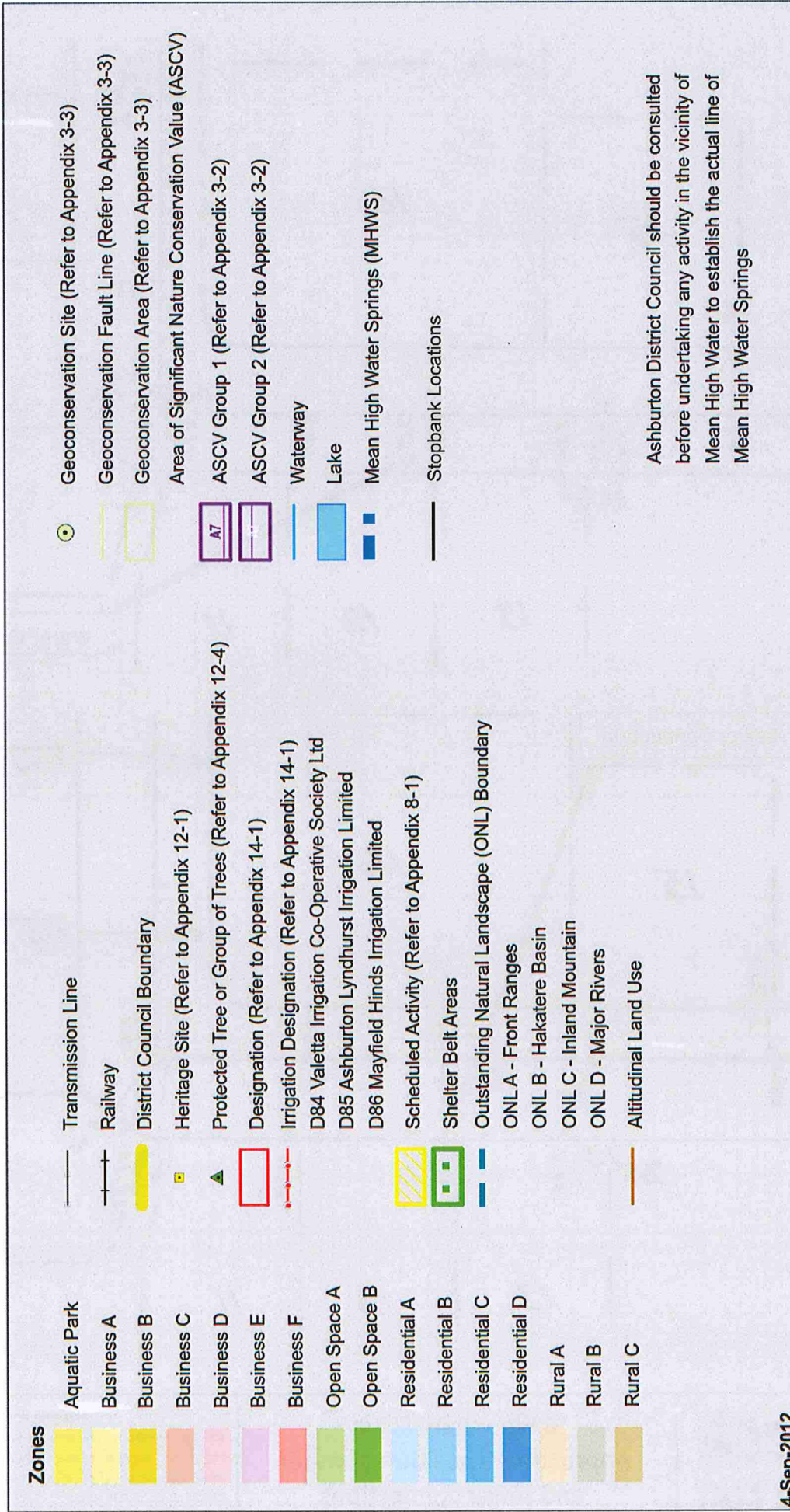
PO Box 94, 5 Baring Square West, Ashburton 7740, New Zealand

Telephone: +64 3 307 7700 or **Fax:** +64 3 308 1836

E-mail: info@adc.govt.nz

Please note: - Up to date information current to the Ashburton District Council can be found on our website.

www.ashburtondc.govt.nz



4-Sep-2012

COPYRIGHT: Topographic and cadastre data sourced from Land Information New Zealand data. Crown Copyright Reserved

Ashburton District Plan - Planning Map Legend

Stormwater Model Maps

The stormwater flood maps included here were created as part of the Ashburton Urban Stormwater Hydraulic Modelling project. The maps were generated automatically using a computer model based on simulated typical rainfall and the infrastructure installed as at 2012.

It is important to note that these are computer simulations and do not represent actual or historical flooding, and generally assume the worst-case scenario.

They are also limited in their accuracy by the accuracy of the underlying data. For example the ground level data, collected using aerial LiDAR survey, will not always have sufficient resolution to correctly represent the road corridor and does not include obstructions to flow such as walls, buildings or kerbs unless they have been manually incorporated into the model.

The predicted flooding seeks only to highlight areas that may be at risk of flooding on a coarse scale for planning purposes. Areas of flooding implied by the model act as trigger for more detailed assessment of flood risk when planning decisions are made within these areas. Further interpretation or assessment is needed to assess areas of predicted flooding in detail or on an individual property basis.

The mapping should not be taken as exhaustive, but should instead be seen as a tool to aid the decision making process concerning any of the areas predicted to be at risk.

Note that the LiDAR contains low points within property parcels that can appear as flooding on the maps, which is deep in some places. These low points may not actually exist in reality and are in fact the result of the LiDAR being processed to remove objects such as trees, hedges and buildings. Such areas should be treated with scepticism.

Explanation of terms

AEP - Annual Exceedance Probability. This is the chance or probability of a rainfall event occurring annually, expressed as a percentage. Bigger rainfall events occur (are exceeded) less often and will therefore have a lesser annual probability. For example, a 2% AEP event has a 2% (1 in 50) chance of occurring in any given year.

The duration of the event (for example: 2hr, 48hr) is a measure of the intensity of the rainfall event.

On the maps, the blue triangles represent average simulated flood depths. The positions of these triangles are approximate and the shape is due to the way the model processes and represents the data.

The orange outlines represent areas which were flooded to at least 50mm depth under a simulated future scenario. The future scenario assumed a 16% increase in rainfall due to climate change, as well as increased development, such as new subdivision.

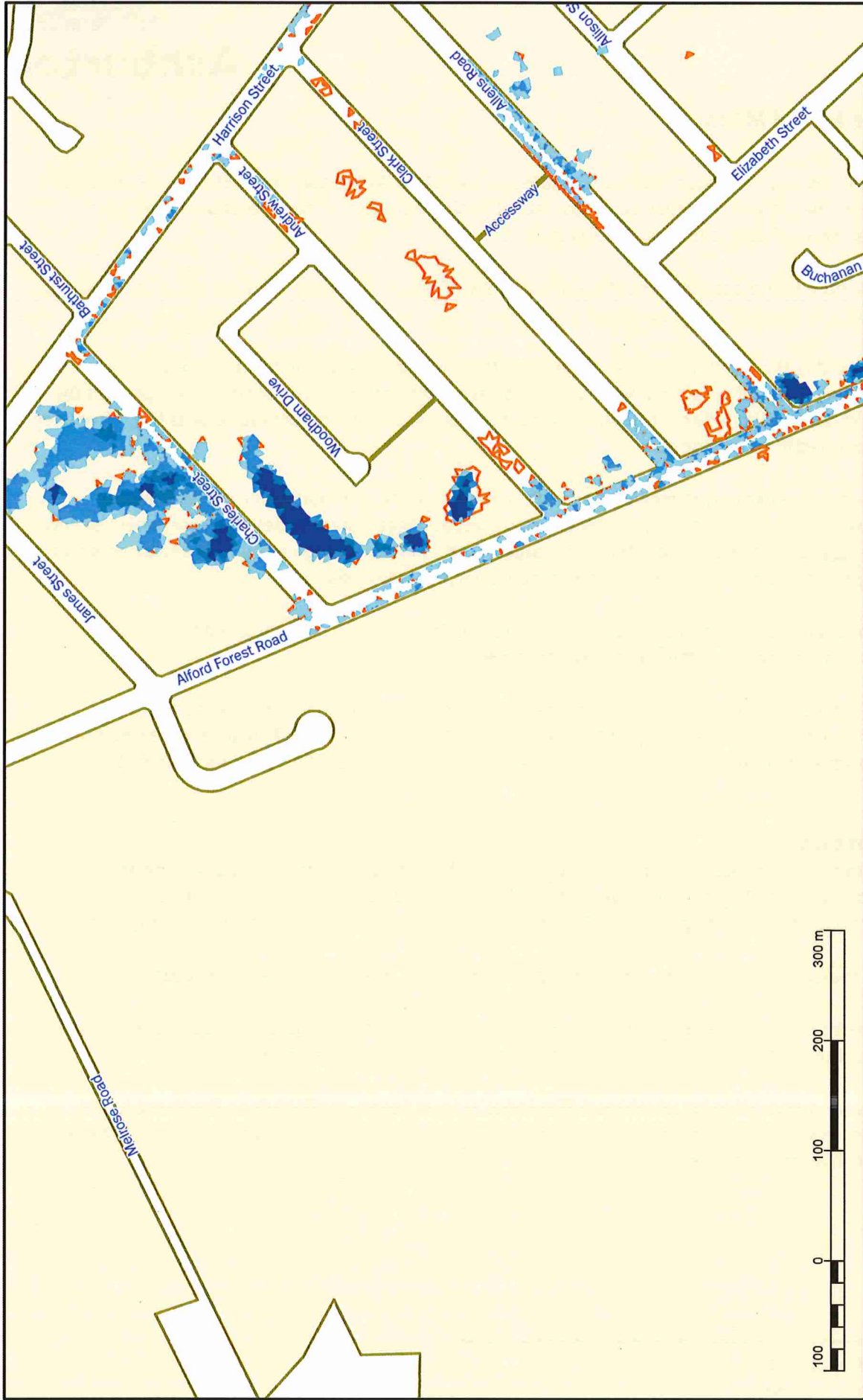
ASHBURTON DISTRICT COUNCIL

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	U34	U35
	U40	U41
	U46	U47



Flood Map 1% AEP 48hr

Scale: 1:4,906



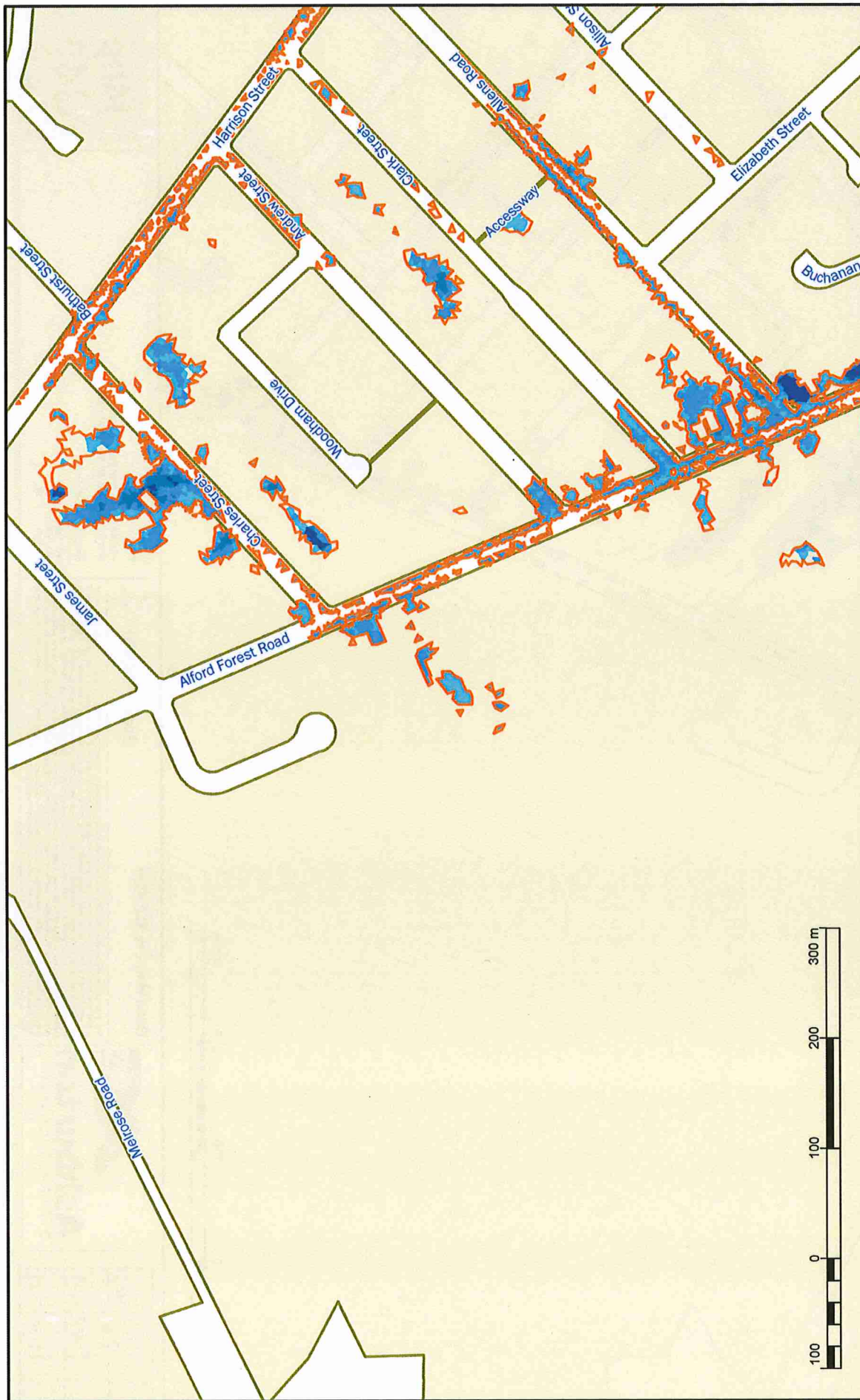
Key:

Predicted Impact of Future Growth
and Climate Change in Flood Extent

Predicted Flood Depth

- 50 - 100mm
- 100 - 200mm
- 200 - 300mm
- >300mm

The information contained in this GDS has been taken from Ashburton District Council's databases and maps. It is made available in good faith but is not guaranteed. If the information is used for any purpose other than that for which it was provided, the user assumes all responsibility. While we have attempted to produce a flood map that is as reliable as possible, Ashburton District Council and Opus International Consultants accept no responsibility for the accuracy or completeness of the information. The map is intended to provide a general indication of the predicted likelihood of flooding from the stormwater network for defined areas, based on the best available information at the time of preparation and is subject to uncertainty. The mapping is not sufficiently detailed to account for individual properties, as individual properties may be subject to local factors not considered in the modelling. Please note that isolated pockets of deep water may be due to elevation discrepancies in the LIDAR surface.



U34	U35	U41	U47
U40	U46	U47	



Flood Map 2% AEP 2hr

Scale: 1:4,906

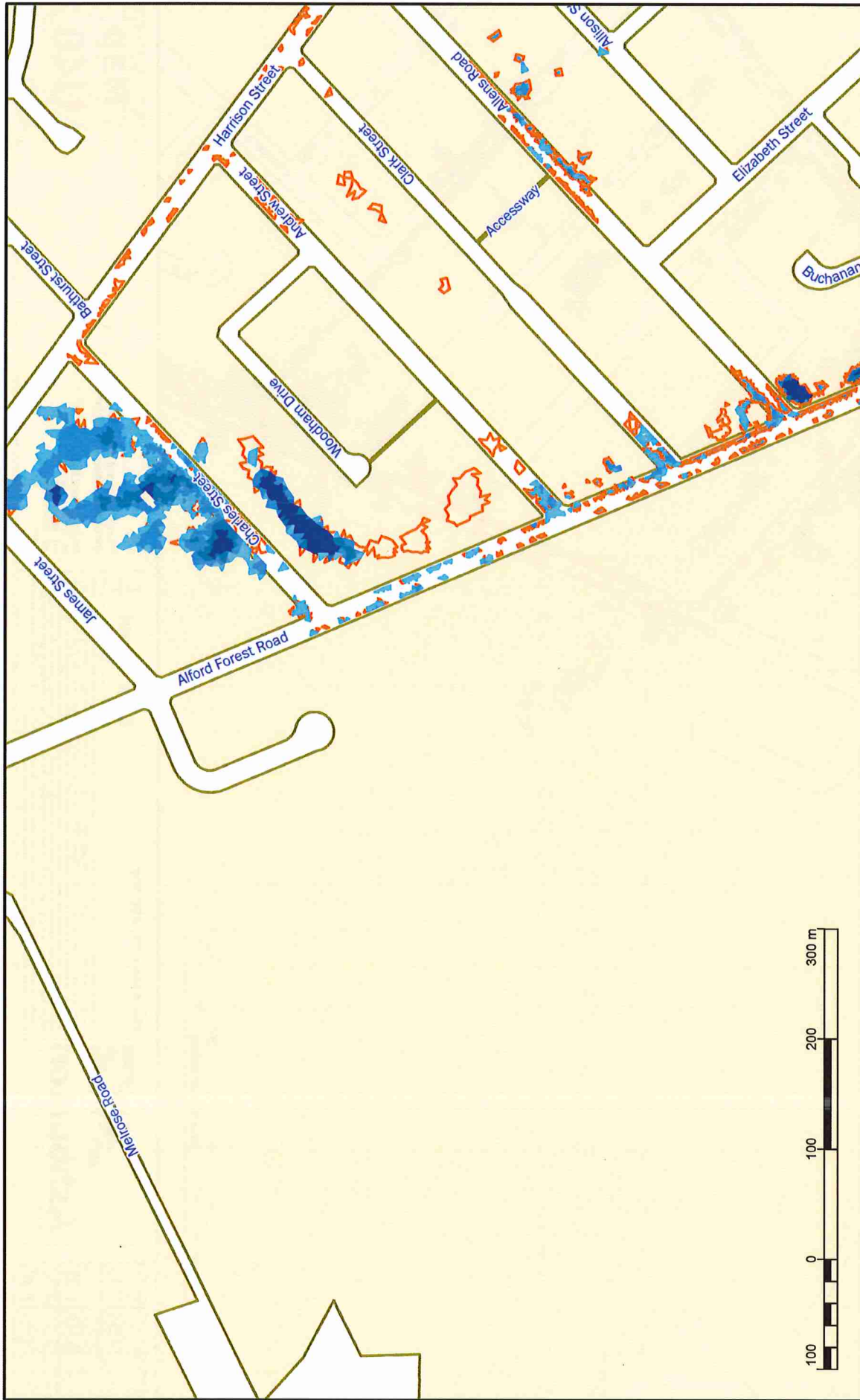
Key

Predicted Impact of Future Growth and Climate Change in Flood Extent

Predicted Flood Depth

- 50 - 100mm
- 100 - 200mm
- 200 - 300mm
- >300mm

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Map

U40

9/11/2015

Key:
Predicted Impact of Future Growth
and Climate Change in Flood Extent

Predicted Flood Depth

- 50 - 100mm
- 100 - 200mm
- 200 - 300mm
- >300mm

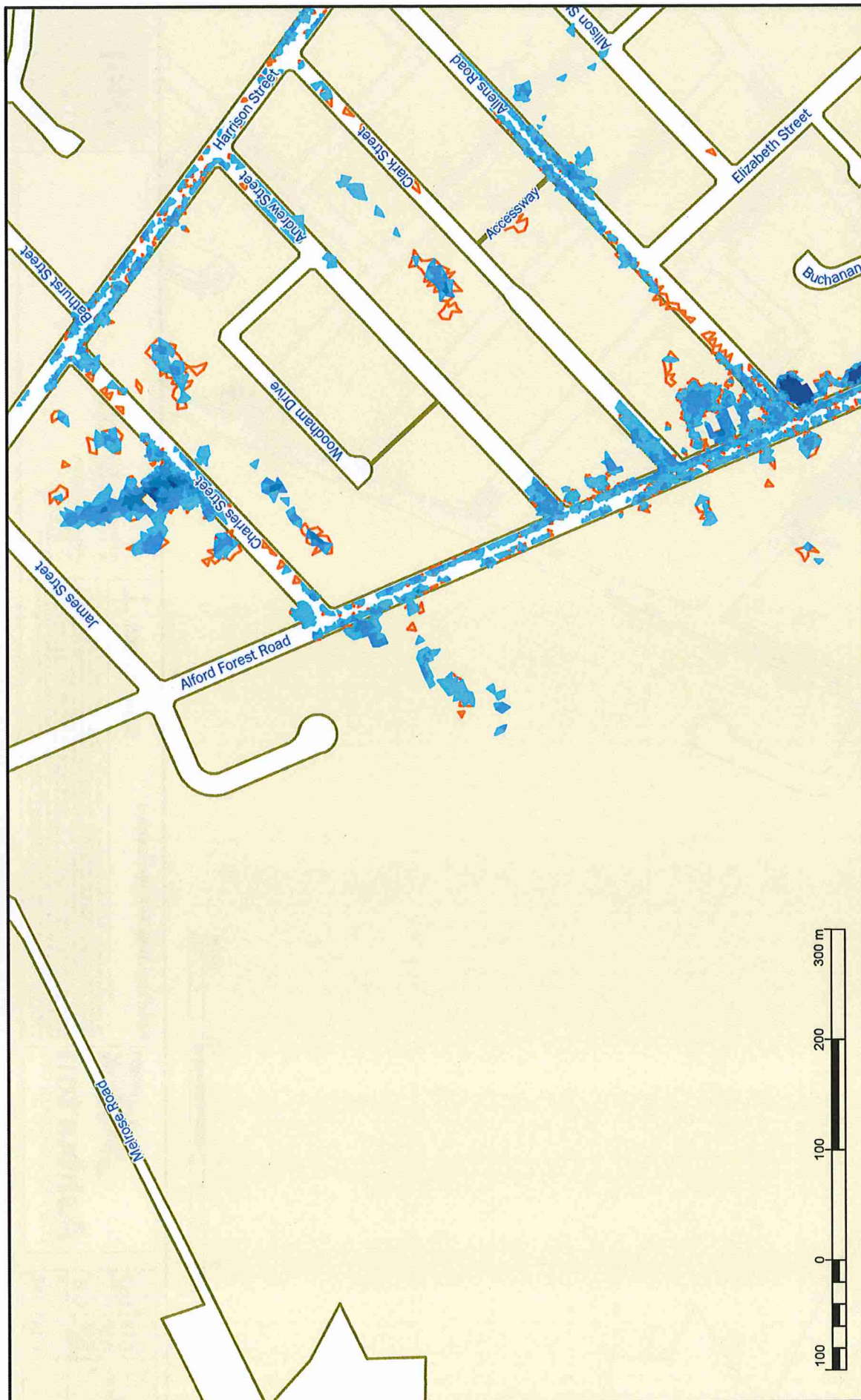
Scale: 1:4,906

Flood Map 2% AEP 48hr



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U34	U35
U40	U41
U46	U47



Map U40

9/11/2015

Key:

Predicted Impact of Future Growth
and Climate Change in Flood Extent

Predicted Flood Depth

- 50 - 100mm
- 100 - 200mm
- 200 - 300mm
- >300mm

Scale: 1:4,906

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Flood Map 10% AEP 2hr



U34	U35
U40	U41
U46	U47



Property Information for Property No: 8833

Address Property postal

Property Address	Alternative Address
8 Woodham Drive ASHBURTON	8 Woodham Drive ASHBURTON 7700

Legals from PNR Info

Land Id	P&R Legal Description	Certificate Of Ownership	Parcel Included
16376	LOT 12 DP 33267	CB14A/92	3347235

Owner Name(s)

Property No	Assessment No	Ownername
8833	2452445200	Paul Crouchley

Building Consents

Consent Number	Consent Type	Lodgement Date	Decision	Bc Granted	Bc Issued	Ccc Issued	Proposed Use	Activity Description
BC010017	BLDGCON	12/01/2001	CCCIssued		23/01/2001	26/02/2001	Enlarge kitchen & living area.	Internal alts to dwelling.
BP3738C	BLDGCON	28/02/1978			28/02/1978			Plumbing/drainage
BPC002335	BLDGCON	03/09/1984			05/09/1984			Install a kent logfire
BPH116363	BLDGCON	22/08/1977			26/08/1977			Erect a dwelling
BPI031741	BLDGCON	28/02/1979			01/03/1979			Erect a garage

Resource Consent within 100 meters

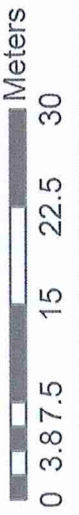
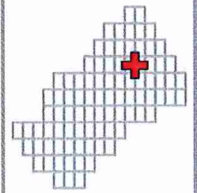
Property No Within 100M	Consent Number	Location
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About this Document	Disclaimer	Date: 11/05/2021
This map has been created for the purpose of showing basic locality information of the Ashburton District Council area. Property boundary line network data is supplied by Linz. Any error should be reported to the GIS Section, Ashburton District Council.	This map is representative of the information currently held by Ashburton District Council. While every effort has been made to ensure the accuracy of the information, Council accepts no responsibility for any errors or omissions. Any feedback on omissions or errors would be appreciated.	



20631	Subdiv:SUB07/0116: 19/09/2007 S224 Grant	22B Charles Street ASHBURTON :Proposed 3 Lot Subdivision at 22 and 24 Charles Street Ashburton. Lots 22 and 23 DP 33267
21499	LandUse:LUC08/0123: 13/11/2008 GRANTED	127 Harrison Street ASHBURTON :dispensation in respect to setback from an internal boundary on property at 127 Harrison Street legally described as Pt Lot 51 DP 306
21500	LandUse:LUC08/0123: 13/11/2008 GRANTED	127A Harrison Street ASHBURTON :dispensation in respect to setback from an internal boundary on property at 127 Harrison Street legally described as Pt Lot 51 DP 306
20361	Subdiv:SUB07/0030: 29/03/2007 S224 Grant	138 Harrison Street ASHBURTON :Proposed lots 1 - 3 being subdivision of lots 31-33 DP366438 at Harrison Street
21499	ResCon:SUB08/0116: 11/11/2008 S224 Grant	127 Harrison Street ASHBURTON :subdivision of Pt Lot 51 DP 306 into two residential allotments
21500	ResCon:SUB08/0116: 11/11/2008 S224 Grant	127A Harrison Street ASHBURTON :subdivision of Pt Lot 51 DP 306 into two residential allotments
8823	ResCon:SUB16/0063: 27/09/2016 GRANTED	115 Harrison Street ASHBURTON :Resource consent to subdivide one existing site zoned Residential C in order to create one additional allotment at 115 Harrison Street, Ashburton
21499	ResCon:SUBA16/0007: 29/04/2016 GRANTED	127 Harrison Street ASHBURTON :Section 348 right of way over Lot 2 DP 415208 in favour of Lot 1 DP 415208 at 127 Harrison Street, Ashburton
21919	LandUse:RC740007: 01/07/1974 Granted	6 Woodham Drive ASHBURTON :erect three flat units
16410	LandUse:RC030157: 06/10/2003 GRANTED	3 Woodham Drive ASHBURTON :ERECT A DWELLING WHICH DOES NOT COMPLY WITH 35% SITE COVERAG REQUIREMENT - 3 WOODHAM DRIVE ASHBURTON LOT 15 DP 33267

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Scale: 1:561 (Printed at A4)

Report for Property No: 8833

R58	R59	R60
R64	R65	R66
R71	R72	R73
R78	R79	R80



11-May-21

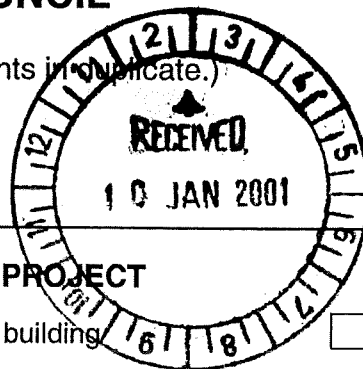
BUILDING CONSENTS

BUILDING PERMITS

APPLICATION FOR BUILDING CONSENT TO ASHBURTON DISTRICT COUNCIL

(Cross each applicable box. Attach relevant documents in duplicate.)

Part A: General (Complete Part A in all cases)



APPLICANT*

Name: Lorraine Jamison
 Mailing Address: 8 Woodham Drive
Ashburton
 Contact (print name, address and position):
Paddy Strange
43 Nursery Drive
'Builder'
 Phone: 3080023 Fax: 3080023

* Under Section 30 of the Building Act 1991, the applicant must be the owner of the land on which building work is contemplated or a person who or which has agreed in writing, whether conditionally or unconditionally, to purchase the land or any leasehold estate or interest in the land, or to take a lease of the land, while the agreement remains in force.

FOR COUNCIL USE

P.I.M./Consent No: BC010017
 Received: 11 / 01 / 01
 P.I.M./Consent Fee: \$ 130.00
 Receipt No: 643881
 Invoice No: 84015

Consent No:
 Received: / /
 Consent Fee: \$
 Receipt No:
 Invoice No:

PROJECT

New or relocated building ☐
 Alterations/Additions ☒
 Demolition ☒
 Proposal to remove walls in kit area,
remove back door, install gas fire, install french door
 Intended use(s) (in detail):
enlarge kitchen & living area.

Intended life:
 Indefinite but not less than 50 years ☒
 Specified as years
 Being stage of an
 intended stages
 Estimated value (inclusive of GST):
 \$ 8500.00

PROJECT LOCATION

Street address (if any):
8 Woodham Drive
Ashburton.

Legal description (as shown on certificate of title or rates notice, if any):

Valuation No: 2452445200
 (For example: Lot 12 DP 33267; or Section SO Survey or Registration District; or Maori block number and name; or combination of those. If none apply, give whatever information is necessary to identify the location.)

THIS APPLICATION IS FOR:

- ☒ Building Consent only, in accordance with Project Information Memorandum No.:
- ☐ Both Building Consent and a Project Information Memorandum.

Part B: Project Details

(Complete Part B only if you have not applied separately for a Project Information Memorandum)

The project involves the following matters (cross each applicable box, if any, and attach relevant information in duplicate):

- ☐ Location, in relation to legal boundaries, and external dimensions of new, relocated, or altered buildings.
- ☐ New provisions to be made for vehicular access, including parking.
- ☐ Provisions to be made in building over or adjacent to any road or public place.
- ☐ New provisions to be made for disposing of stormwater and wastewater.
- ☐ Precautions to be taken where building work is to take place over existing drains or sewers or in close proximity to wells or water mains.
- ☐ New connections to public utilities.
- ☐ Provisions to be made in any demolition work for the public, suppression of dust, disposal of debris, disconnection from public utilities, and suppression of noise.
- ☐ Any cultural heritage significance of the building or building site, including whether it is on a marae.

Part C: Building Details

(Complete Part C in all cases)

This application is accompanied by (cross each applicable box, attach relevant documents in duplicate):

- ☐ The drawings, specifications, and other documents according to which the building is proposed to be constructed to comply with the provisions of the New Zealand Building Code, with supporting documents, if any, including
- ☐ Building certificates
- ☐ Producer statements
- ☐ References to accreditation certificates issued by the Building Industry Authority.
- ☐ References to determinations issued by the Building Industry Authority.
- ☐ Proposed procedures, if any, for inspection during construction.

1x Insp - Prelim / Completion

Part D: Key Personnel

(Complete Part D as far as possible in all cases. Give names, addresses, and telephone numbers. Give relevant registration numbers if known.)

Designer(s):

Building certifier(s):

Builder(s) Backyard Enhancements - Paddy Strange
43 Nursery Drive (03) 3080023

Registered drainlayer:

Registered plumber: Paul Summerfield

Registered gasfitter: Paul Summerfield

Registered electrician:

Other:

Part E: Compliance Schedule Details

E1: Systems necessitating a Compliance Schedule

(Complete Part E1 for all new buildings and alterations except single residential dwellings)

The building will contain the following (cross each applicable box and attach proposed inspection, maintenance, and reporting procedures):

- ☐ Automatic sprinkler systems or other systems of automatic fire protection.
- ☐ Automatic doors which form part of any fire wall and which are designed to close shut and remain shut on an alarm of fire.
- ☐ Emergency warning systems for fire or other dangers.
- ☐ Emergency lighting systems.
- ☐ Escape route pressurisation systems.
- ☐ Riser mains for fire service use.
- ☐ Any automatic back-flow preventer connected to a portable water supply.
- ☐ Lifts, escalators, or travelators or other similar systems.
- ☐ Mechanical ventilation or air conditioning system serving all or a major part of the building.

- ☐ Any other mechanical, electrical, hydraulic, or electronic system whose proper operation is necessary for compliance with the New Zealand Building Code.
- ☐ Building maintenance units for providing access to the exterior and interior walls of buildings.
- ☐ Such signs as are required by the New Zealand Building Code in respect of the above-mentioned systems.
- ☒ None of the above.

**E2: Other systems and features to be included in the
Compliance Schedule**

(Complete Part E2 only if the building contains one or more of the systems listed in Part E1)

The building will contain the following (cross each applicable box and attach proposed inspection, maintenance, and reporting procedures):

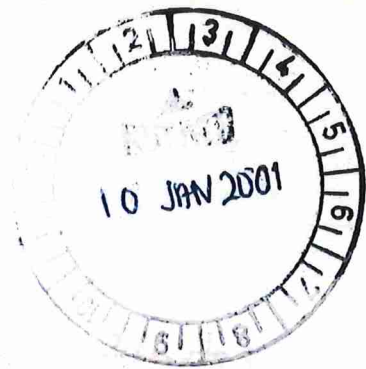
- ☐ Means of escape from fire.
- ☐ Safety barriers.
- ☐ Means of access and facilities for use by persons with disabilities which meet the requirements of Section 25 of the Disabled Persons Community Welfare Act 1975.
- ☐ Hand-held hoses for fire fighting.
- ☐ Such signs as are required by the New Zealand Building Code or Section 25 of the Disabled Persons Community Welfare Act 1975.

Signed by/for and on behalf of the applicant:

Name: Patk Sturge

Position: Builder

Date: 10 - 01 - 01



For rotation to ...

... ..

... .. replace
... ..

... .. new
... ..

... ..
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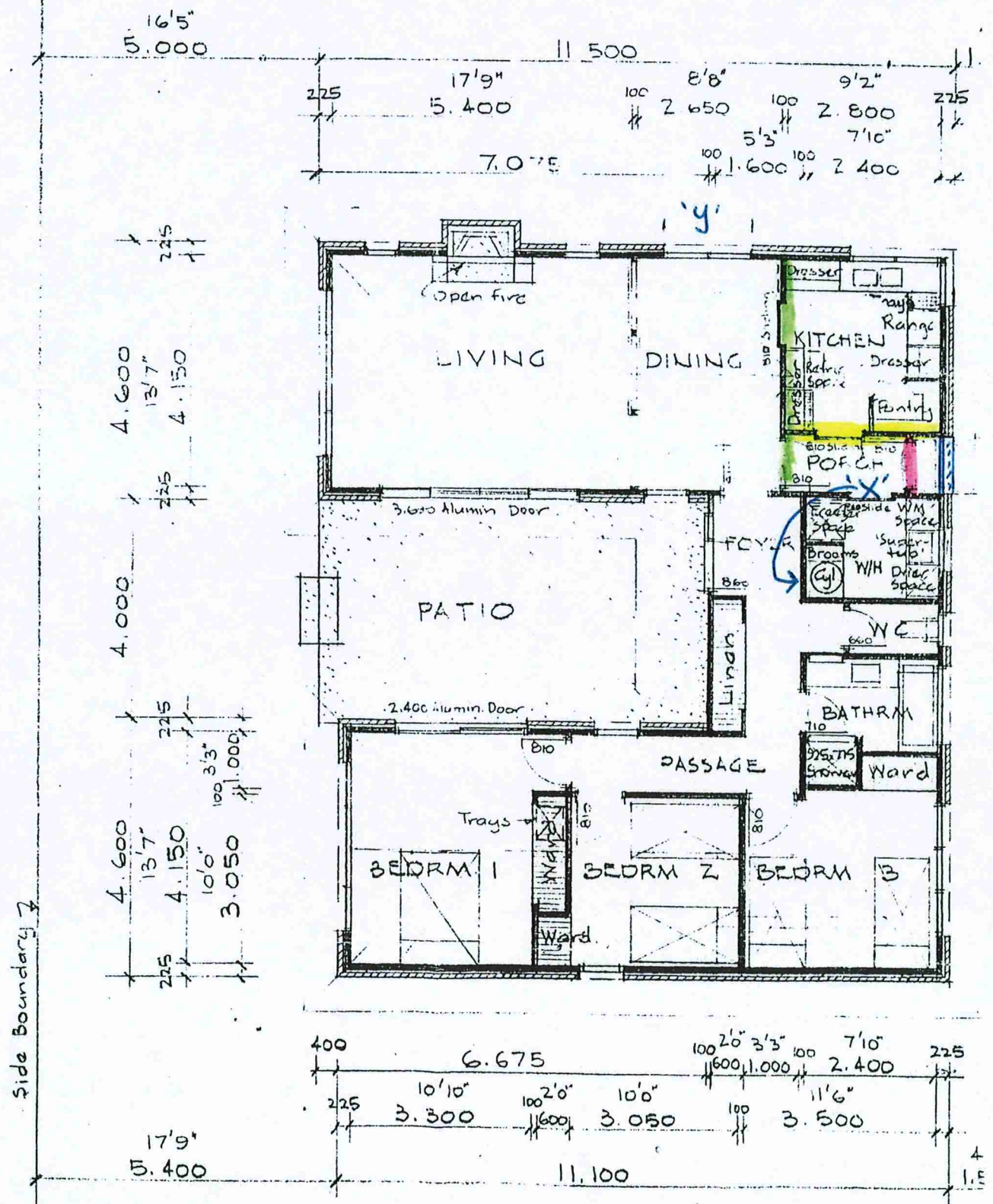
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SOUTH WEST ELEVATION



FLOOR PLAN Area: 113.8 m² (1225 sq.ft) over plates.
Imperial measurements shown are to nearest inch only

RESIDENCE - WOODHAM DRIVE, ASHBURTON, F



BOROUGH OF ASHBURTON

PLEASE REPLY:
HEALTH & TOWN PLANNING OFFICER,
P.O. BOX 85, ASHBURTON
PHONE 5139

PERMIT APPLICATION.

FOR INSTALLATION OF A HEATING APPLIANCE

I hereby apply for permission to install a

..... KENT LOG FIRE
(Make and Type of Unit)

Wet back Yes/No. Name of Plumber. R MERRIN

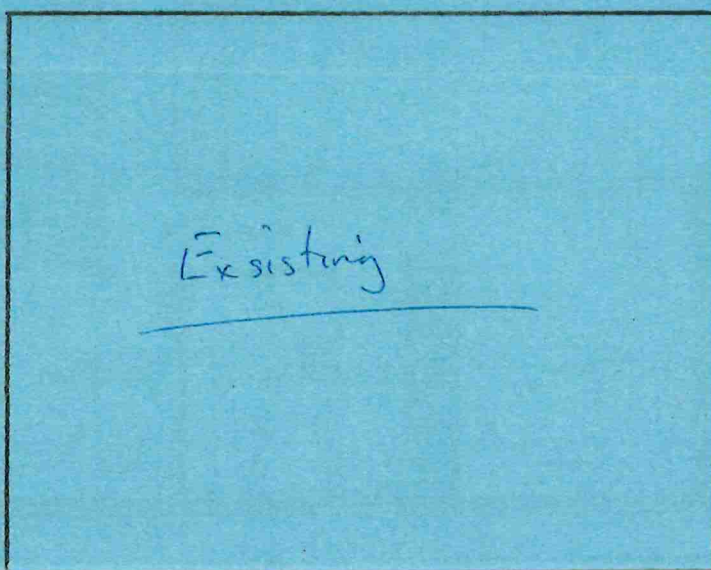
For..... D F GORDON
(Name of Owner)

at..... 8 WOODHAM DRIVE
(Address)

I agree to install as per the manufacturers requirements and will
advise your office giving 24 hours notice prior to fixing the ceiling
plate.

Value of Unit and Installation \$.. 995 ..Date.. 3/9/85 ..

Signed. D F Gordon ..Address.. 8 WOODHAM DRIVE ..



Sketch of
← Position of
Unit in Room.

Office Use Only.

Permit Fee \$.. 15-00 ..Receipt No.. 11823 ..Date.. 3-9-84 ..

Lot..... 12D.P. 33267T.S.

Valuation No. 24524/452 ..

Permit No. C002335 ..Date.. 5/9/84 ..

File No.

77/91 ✓

BUILDING INSPECTOR'S
FIELD SHEET

AUTHORITY

Stats. No. **C 002335**

ASHBURTON Borough Council

No. _____

Inspector: M. _____

File No. 77/91

Receipt No. _____

Date Permit Issued 1 / 1 / _____

OWNER	
Name	<u>D I GORDON</u>
Mailing Address	<u>5 WOODHAM DRIVE</u> <u>ASHBURTON</u>

BUILDER	
Name	<u>OWNER</u>
Mailing Address	_____

PROPERTY ON WHICH BUILDING IS TO BE ERECTED/DEMOLISHED

SITE	
Street No.	<u>8</u>
Street Name	<u>WOODHAM DRIVE</u>
Town/District	<u>ASHBURTON</u>
Riding	_____

LEGAL DESCRIPTION	
Valuation Roll No.	<u>24524/452</u>
Lot	<u>12</u>
D.P.	<u>33264</u>
Section	_____
Block	_____
Survey District	_____

DESCRIPTION OF PROPOSED WORK AND MAIN PURPOSE OF USE

<u>DOMESTIC SOLID FUEL HEATER</u>

FLOOR AREA		DWELLING UNITS	
Whole Sq. Metres	<u>995</u>	Number Erected	<u>1</u>
ESTIMATED VALUES \$	Building	<u>995</u>	
	Plumbing		
	Drainage		
	TOTAL	<u>995</u>	

NATURE OF PERMIT (TICK BOX)	
☐	NEW BUILDING — exclude domestic garages and domestic outbuildings
☐	FOUNDATIONS ONLY
☒	ALTERED, REPAIRED, EXTENDED — include conversions and resited buildings
☐	NEW CONSTRUCTION OTHER THAN BUILDINGS — include demolitions
☐	DOMESTIC GARAGES AND DOMESTIC OUTBUILDINGS

FEES APPLICABLE

Building Permit	\$ <u>15</u>	Water Connection	\$ _____	Receipt No.	<u>11823</u>
Street Damage Deposit	\$ _____	Vehicle Crossing Levy	\$ _____	Date of Payment	<u>31/9/84</u>
Building Research Levy	\$ _____	M.S. Plumbing	\$ _____	Authorised Officer	_____
Plumbing	\$ _____		\$ _____		
Drainage	\$ _____		\$ _____		
Sewer Connection	\$ _____	TOTAL:	\$ <u>15</u>		

Special Conditions: LEG FIRE No W/B.

STANDARD NOTICE ATTACHED

5/11/84

Date Inspected

REMARKS (e.g. stage reached with work)

12/11/84

SAH

[illegible]

COMPLETED (Signature) _____ Date / /

ASHBURTON BOROUGH COUNCIL.

Building Application Form.

Dated this 28 day of Feb 1979

To the Health and Town Planning Officer:

I hereby apply for permission to ^{erect}~~alter~~ Garage
~~add~~

At No. 8, Woodham Drive ~~Street/Road~~,

for Mr. and Mrs. G. Bird according to

Locality Plan and detailed plans, elevations, cross sections,
and specifications of building deposited herewith

Estimated Value:	Building	\$ <u>2850</u> - 00
	Plumbing and Drainage	\$ <u>52</u> - 00
	Total	\$ <u>2902</u> 00

If Value Over \$20,000:

Estimated month of Commencement _____ Year _____

Estimated month of Completion _____ Year _____

Particulars of Building: Foundations Concrete
Walls 200mm Covered Block.
Roof Trough Roof.
Area of Ground Floor 43 Sq metres.
Area of Outbuildings _____ Sq metres.

Particulars of Land: Lot No. 12 D.P. No. 33267
or Town Section _____

Proposed purposes for which every part of building is to be used
or occupied (describe separately each part intended for use or
occupation for a separate purpose): Garage

Yours faithfully,

Owner: <u>G. Bird</u>	Builders: <u>I. R. Ferguson</u>
Address: <u>8 Woodham Drive</u>	Address: <u>79 Thomson Street</u>
<u>Ashburton</u>	<u>Tinwald</u>

OFFICE USE ONLY:

RECEIPT NO. 5012 Date: 25/2/79 Valn. Ref. No. 24524/452

Building Permit Fee.

14.00

Research Levy.

Plumbing and Drainage.

Water Connection Fee.

Sewer Connection Fee.

Stormwater Connection Fee.

Bridge Blocks.

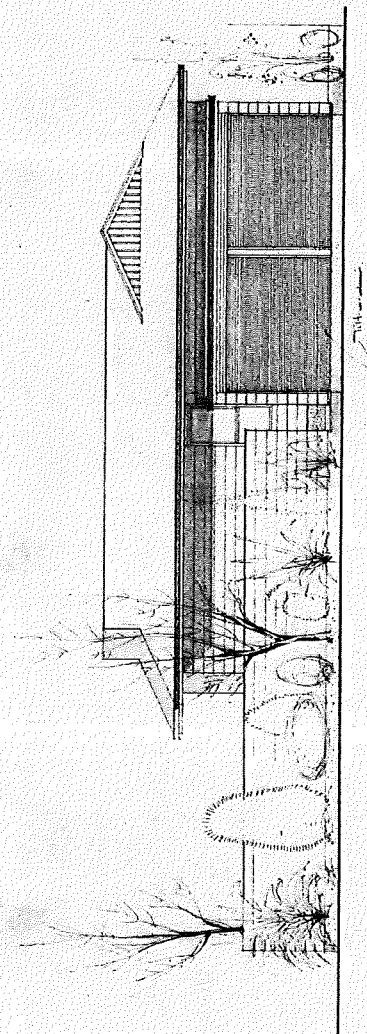
Footpath Deposit.

TOTAL.

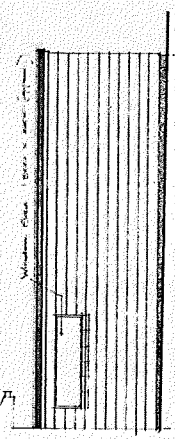
Permit No. E031741

Date Issued. 1-3-79

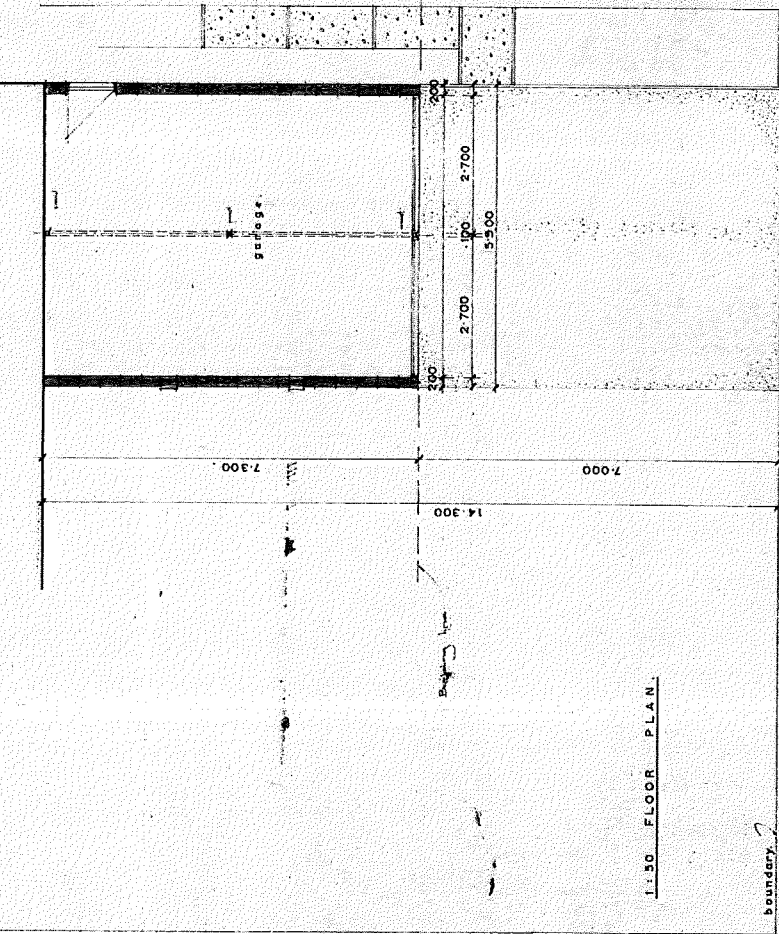
44/91



ELEVATION - WOODHAM DRIVE.

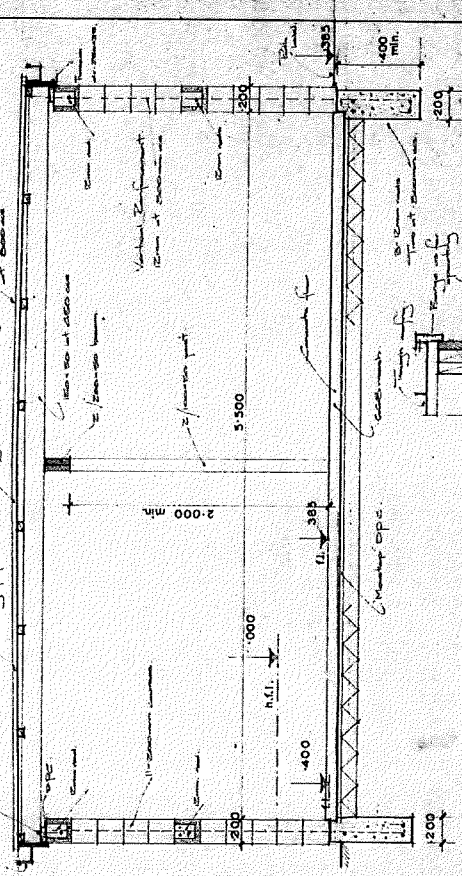
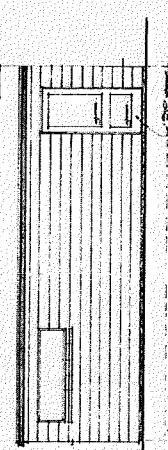


N. W. ELEVATION.

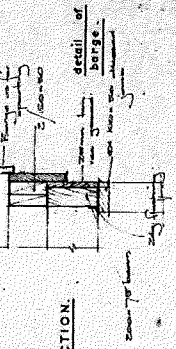


1:50 FLOOR PLAN.

S. E. ELEVATION



1:20 CROSS SECTION.



Garage : Mr. Mrs. E. Bird . 8 Woodham Drive . Ashburton .

scale : 1:50, 1:20
date : 15-4-78.

OWNER: G BIRD

ADDRESS:

BUILDER: I R FERGUSON

PLUMBER:

Bruce 24815

Address of Property 8 WOODHAM DRIVE

Legal Description: LOT 12 DP 33267.

Sewer

Water

Stormwater

Footpath Dep.

Inspection Date

Permit No. 1031741

Receipt No. 5022

File No.

177/91

Inspected by

1-3-79

1-3-79

10-4-79

13-6-79

GARAGE

FOUNDATION

FLOOR.

PILES THRU FILLING.

[Signature]

Application for Permit for Plumbing or Drainage Work

To the Health and Town Planning Department,
Ashburton Borough Council,
P.O. Box 85, Ashburton.

I, the undersigned, hereby apply for permission to have the work described herein carried out for Mr. G. Beed
in premises situated at 8 Woodham Drive
Legal Description : Lot 12 D.P. 33267 T.S.

Proposed Work : Plumbing/Drainage to : Dwelling — ~~Flats~~ — ~~Commercial or~~
Industrial — Other (state)

Estimate Cost of :

- (a) Plumbing \$ 1000.
(b) Drainage \$ 400.

TOTAL \$ 1400.

Dated this 28th day of February 1978

Contractor Carroll Hairs

Enclosed Permit Fee of \$ 15-00

Signature A.J. Hairs

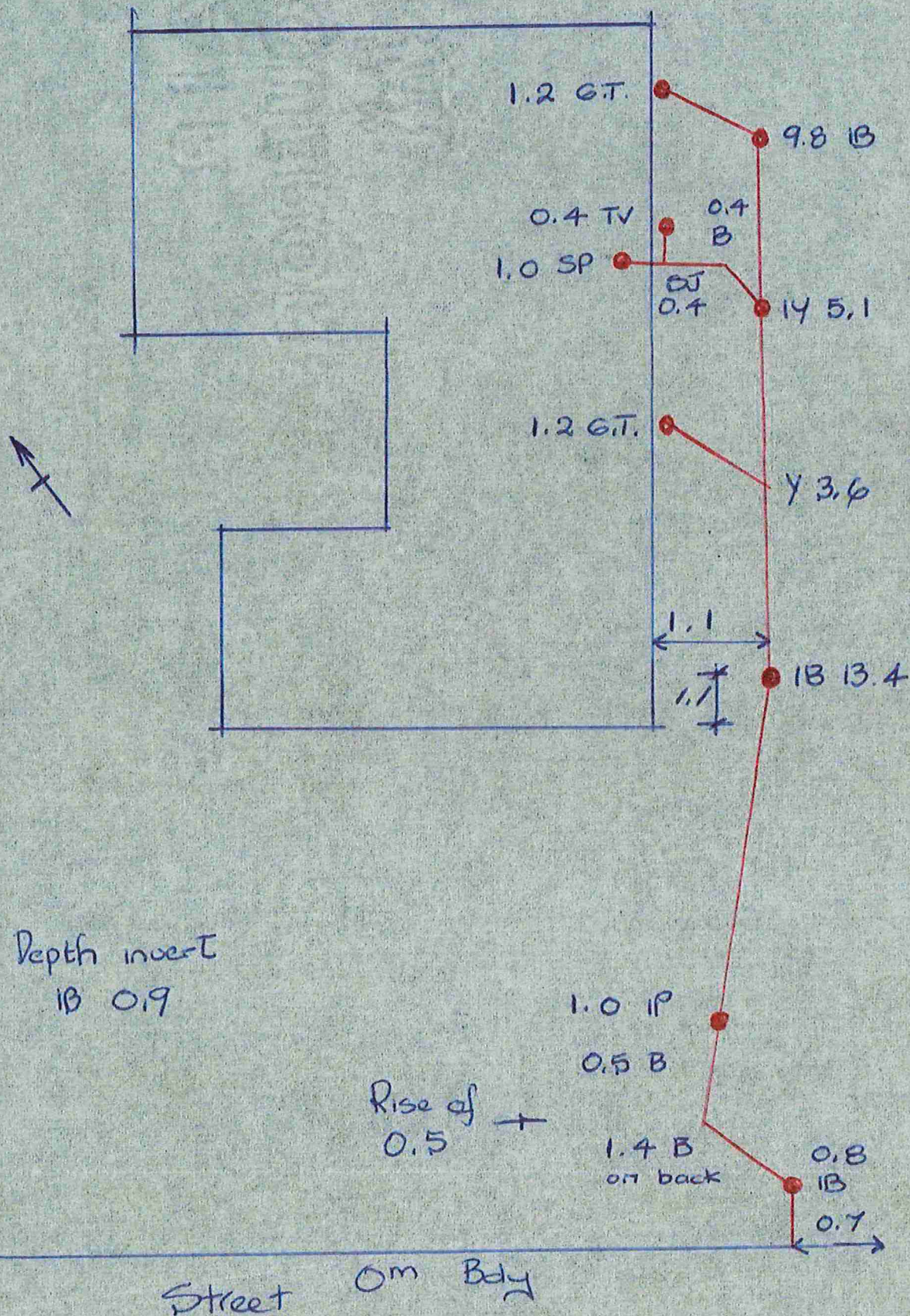
PERMIT FEES		
Date	Estimated Value of Work *	Fee Payable
Receipt No. <u>3980</u> \$ <u>15-00</u>	Not Exceeding \$200.00	\$ 3.00
	Exceeding \$201.00 but not exceeding \$400.00	5.00
	" \$401.00	7.00
	" \$601.00	9.00
	" \$801.00	11.00
	" \$1001.00	13.00
	" \$1201.00	15.00
	" \$1401.00	17.00
	" \$1601.00	19.00
	" \$1801.00	21.00
	" \$2000.00	\$21.00 plus \$2.00 for every \$200.00 or part thereof in excess of \$2000.00
Permit No. <u>3736</u>		

* In assessing the value of the work, no single fitting shall be deemed to have a value exceeding \$100.00.

28/2/1948

G. BIRD Woodham Drive
Cavill & Mairs P. D.

77/91



ASHBURTON BOROUGH COUNCIL.

Building Application Form.

Dated this 22 day of Aug 197

To the Health and Town Planning Officer:

I hereby apply for permission to ^{erect}~~alter~~ D.W.G.
_{add}At No. 8, Woodham Drive ~~Street/Road~~,for Mr. B.W. Bird according toLocality plan and detailed plans, elevations, cross sections,
and specifications of building deposited herewith

Estimated Value:	Building	\$ <u>21727-00</u>
	Plumbing and Drainage	\$ <u>1920-00</u>
	Total	\$ <u>23647-00</u>

Name of Registered Plumber Cecil and Mairs.

Particulars of Building:	Foundations	<u>Concrete.</u>
	Walls	<u>Concrete Block.</u>
	Roof	<u>Diamond Metal.</u>
	Area of Ground Floor	<u>113.8</u> Sq metres
	Area of Outbuildings	_____ Sq metres

Particulars of Land: Lot No. 12 D.P. No. 33267
or Town Section _____Proposed purposes for which every part of building is to be used
or occupied (describe separately each part intended for use or
occupation for a separate purpose): D.W.G.

Yours faithfully,

Owner: <u>B.W. Bird.</u>	Builders: <u>H. Ferguson</u>
Address: _____	Address: <u>79 Thomson Street</u>
	<u>Tipton</u>

OFFICE USE ONLY:

RECEIPT NO 3562 Date: 23.8/77 Valn. Ref. No. 24524/452

Building Permit Fee.	<u>64.00</u>	Permit No. <u>H116363</u>
Research Levy.	<u>12.00</u>	
Plumbing and Drainage.		Date Issued. <u>26.8.77</u>
Water Connection Fee.	<u>65.00</u>	
Sewer Connection Fee.	<u>270.00</u>	
Stormwater Connection Fee.	<u>30.00</u>	
Bridge Blocks.		
Footpath Deposit.		
TOTAL.	<u>441.00</u>	

SUMMARY OF DWELLING SPECIFICATIONS

CHECKED FOR ISSUE OF PERMIT

Owner ... G. W. BIRD

Address ... 8. WOODHAM DRIVE ...

Permit No. ... H/16363

✓ Specified Correctly

✗ Specifications Incomplete

<u>Site Plan</u>	✓	<u>Exterior Wall Sheathing</u>	
<u>Foundation.</u>		1. Weather Boards	—
1. Depth	✓	2. Building paper	✓
2. Width	✓	3. Veneer	✓
3. Reinforcing	✓	<u>Gable Ends</u>	
4. Vents	✓	1. Lining	<u>SHIPLAP</u> ✓
5. Vents at terrace	—	2. Building paper	✓
<u>Concrete Floor</u>		<u>Plumbing</u>	
1. Hardfill	✓	1. Type of water pipe	
2. Site Concrete	—	(a) cold	<u>PVC</u> ✓
3. Damp-proof course	—	(b) hot	<u>COPPER</u> ✓
4. Main Floor slab	—	2. Supply tank	
5. Reinforcing	—	(a) Tray	✓
6. Bottom plate	—	(b) Overflow	✓
<u>Wooden Floor</u>		3. Cylinder	
1. Sleepers	✓	(a) Exhaust	✓
2. Joists	✓	(b) Sludge pipe	✓
3. Bottom Plate	✓	4. Wastes	<u>PVC</u> ✓
4. Flooring	✓	5. Back vents	—
<u>Framing</u>		6. Terminal vent	✓
1. Studs	✓	<u>Drainage</u>	
2. Opening studs	✓	1. Connect to sewer	✓
3. Trimmers	✓	2. Rubber ring joints	✓
4. Top plate	✓	<u>Stormwater</u>	
5. Braces	✓	1. To Street Channel	✓
6. Ceiling joists	✓	2. To Soak Pits	
7. Runners	—	<u>Heating:</u>	
8. Rafters	✓	1. Open fire	✓
9. Collar ties	✓	2. Electric	—
10. Purlins	✓	3. Fuel-oil	—
<u>Roof covering</u>		4. Space Heater	—
1. Corrugated Iron	✓	5. Incinerator	—
2. Netting and building paper	✓		
3. Tiles	—		
<u>Ventilated Food Storage Cupboard</u>	✓	<u>Isolation W.C. Compartment</u>	✗

SPECIFICATION: of work to be done and materials to be supplied in the erection and completion of a RESIDENCE at WOODHAM DRIVE, ASHLINGTON, for Mr. & Mrs. G.W. KIRD, who hereinafter will be termed the Employers.

NOTE TO TENDERS: The lowest or any tender will not necessarily be accepted.

The contractors are to state in their tenders the date on which the job could be commenced, and also an approximate completion date. Along with the tenders the contractors are required to forward a list of the sub-contractors which will be employed on this job, and the employers reserve the right to reject any sub-contractors they may wish. Plans and specifications must be returned with the tenders. Failure to comply with the above will invalidate the tender.

THE WORK: consists of the erection of a single storey dwelling in 10.01 concrete block veneer and vertical boarding, resting on concrete foundations, with particle board floors, and roofed with Diamond 'Metric' galvanised roofing.

CONTRACT: This contract includes the supply and delivery of all materials, labour, fittings, tools, plant, scaffolding, etc., complete and necessary for the due and proper completion of the building as shown on the plan and herein specified, in a thorough and workmanlike manner, in accordance with the true and proper intent and meaning of the accompanying drawings and this specification, taken separately or collectively, in strict accordance with the local by-laws. No lower grade than B.A. timber shall be allowed in any part of the work. All timber to be treated so as to get the best results for both seasoning and straightness. All joints to be properly scarfed and checked, or otherwise jointed in an approved manner, and everything securely nailed. In exposed woodwork all nails to be punched. All work to be fixed level, plumb and true and no butts will be allowed where same can be concealed.

BY-LAWS, PERMITS, ETC.: The contractor is to comply with the labour and building by-laws of the district, and to apply for and obtain all necessary permits, and to pay all fees for same. The contractor shall provide everything, in addition to anything herein specified, for the proper and efficient execution and completion of the work.

PROVIDE AND FIX: The words 'provide' and 'fix' shall be construed to mean 'provide and fix' where used separately, unless individually otherwise specified under another trade section.

FIRE INSURANCE: The contractor shall insure the work against loss or damage by fire in an approved office, and in the joint names of the employers and the contractor, and at all times the cover shall be to the full insurable value of the work. All policies and receipts for premiums for such insurances to be lodged with the employers or financing institution.

ACCIDENT COMPENSATION: The contractor and sub-contractors are to take all precautions to ensure that the employers are fully protected from any claims arising out of accident on the work.

SUB-CONTRACTORS: This specification is sub-divided into trade sections for the convenience of reference only, and it shall not be construed that each trade section is an entire and separate contract. All the requirements under these general headings shall apply equally to each and every sub-contractor where applicable. Every trade jointly and severally shall collaborate, wait on, assist, and render all necessary assistance to complementary trades, and shall clear away its own debris.

P.O. (PRIME COST): The employers reserve the right to select, or purchase items under the P.O. (Prime Cost) sums, and the accounts will be adjusted accordingly on completion.

MATERIALS AND WORKMANSHIP: All workmanship must be careful, thorough, and in accordance with the best trade practice, and all materials must be the best of their respective kinds and grades, unless distinctly otherwise specified.

MAINTENANCE: Period to be ninety days after the employers have taken possession. Any defects in materials, workmanship, or any part or parts that require replacing, or adjusting, which have been included in this contract, shall be adjusted or replaced, as specified in this specification, at the contractor's own expense.

SUPERVISION: All materials supplied and used, and all work done, must be to the entire satisfaction of a competent person, or persons, appointed by the employers, or financing institution, as supervisor.

ALTERNATIVE MATERIALS: In the event of any materials herein specified not being procurable at the time it is required, or will tend to stop progress of the contract, such materials may be substituted with other materials, provided however, that the substituted materials conform with the local by-laws, and are to the satisfaction of the employers. The contractor is first to notify the employers of any change intended to be made, and at the completion of the contract will adjust any difference in costs.

CONTINGENCIES: Provision is to be made by the contractor and the employers to meet any contingencies that may arise due to the fluctuations in the prices of various materials or labour. Should there be either a rise or fall in the prices of labour (due to variations in Award rates), or materials (as authorized by Price Tribunal rulings), between the date the tender is submitted, until final payment, an adjustment to the contract price is to be made accordingly, provided that the contract price has been affected by such rise or fall in prices. Cost means NET cost and shall carry no profit to the contractor.

INTERPRETATION: Work shown on the plan and not specified, or specified and not shown, must be supplied as though both shown and specified. Materials shown but not specified must be of the kind commonly employed for the service it is intended to perform. All figured dimensions shall be taken in preference to scale.

STABILITY, ETC.: The contractor shall carefully brace and support all parts of his work against damage by wind, and also protect same from damage by water. He shall also make good damage to adjoining property of every kind arising out of his works.

EXTRAS: No extras are to be supplied, or extra work done, without the prior consent of the employers in writing.

COMPLETION: At regular periods during building operations, and on completion of this contract the contractor shall remove debris which may accumulate from time to time, leave the whole site tidy and fit for gardening, and leave the entire building, including steps, etc. clean and ready for use. All floors shall be left broom clean: all glass work shall be left sound and clean inside and out: and all painted and varnished work shall be left free from spot and dirt. All floors must be sanded right up to the skirtings with a machine sander.

EXCAVATOR.

EXCAVATE as required, foundations for walls, footings, piles, Patio, steps, chimney block, etc. as shown and required to give a solid bearing to the various depths, levels and grades. Remove top soil at Patio, steps and chimney block, and remove all rough vegetation at inside of house foundations. Excavations shall be kept clear of fallen materials and water. Surplus spoil shall be placed where directed by the employers. Black soil shall be conserved and placed where directed by the employers.

BACK FILL AND RAN: carefully around footings and foundations, consolidating as the work proceeds, and make up to natural levels.

HARDCORE FILLING: is required under steps, Patio, chimney block, etc., and shall be composed of stones or other approved hard substance, carefully consolidated and screened off with fine scoria before the concrete is actually laid.

CONCRETOR.

STEEL: used for reinforcing shall consist of round steel rods, complying with conditions and test embodied in B.S.S. 197, accurately fabricated and fixed in position. Hook ends of all rods and lap at least 30 diameters, all laps and intersections being bound together with black lashing wire. Bend all horizontal rods at least 600 mm around angles.

CONCRETE: All concrete work hereafter mentioned to be carried out in accordance with the local by-laws. For general purposes the mixture to be 4 parts of river shingle, passed through a 25 mm screen, and 2 parts of sand, to 1 part of cement, to give a compressive strength at 28 days of at least 17.5 MPa for test cylinder of height equal to twice their diameter.

All to be well mixed.

PLACING: Concrete shall be conveyed and placed so that no separation of the various materials takes place, and it shall be immediately spaded, tamped or rammed into position. Wherever boxing is required it shall be well fitted together and wetted before the concrete is placed.

FOUNDATIONS: to be 125 mm in width with 300 mm wide footings as shown. All foundations, piles, steps, footings, etc. to be dug to solid and trenches to be square at bottom. All foundations to be reinforced with 3 - 12 mm mild steel rods. Piles to be set on footings, well packed around with concrete, and to be 200 x 200 mm concrete, with a 4 mm galv. wire in every pile stapled to sleepers. Floor level to average not less than 650 mm above the ground.

Plasterer to plaster all foundations in natural colour.

VENTS: to be supplied and set in bottom courses of the blockwork by the blocklayer where required.

PATIO AND STEPS: All to be concrete on properly rammed hardfill, and to be built in with main foundations and plastered by the plasterer while concrete is green, with slight grade to outside edges to shed moisture outwards. Four 150 mm wide foundations to outside edges of Patio, reinforced with 2 - 12 mm mild steel rods, and carry 100 mm foundations, similarly reinforced, at approx. 2000 mm centres both ways under Patio slab, and slab to be 100 mm thick concrete on hardfill, reinforced with 665 H.R.C. mesh reinforcing. Provide expansion joints to Patio as required. Alternatively Patio slab may be supported on concrete piles at 1100 mm centres.

SPECIAL NOTE: The Patio slab and foundations for saws and filling to be the responsibility of the employers, apart from this contract. The concreter is to allow for starter rods tied into house foundations as required for Patio reinforcing.

CHIMNEY BLOCK: To be 150 mm thick concrete on hardfill, taken down to a solid bottom and made full size of hearth as required. Hearth slab at open fire to be built up as required to enable the blocklayer to finish as a raised hearth, 2 bricks high. Confer with the blocklayer. All concrete to be well rammed into trenches and boxing.

CARPENTER AND JOINER.

All materials are to be the best of their respective kinds and grades, and laid true to their various levels, and constructed in a proper tradesmanlike manner to make the whole of the works a sound construction, and to comply with the local by-laws in every respect, and to the entire satisfaction of the local authority building inspector. All nails to be galvanised. All exterior timbers, door frames etc. to be primed by the painter before fixing. All dressing grades shall be machine sanded, and all interior work shall be scraped, sanded and finished to the employers' satisfaction. Remove all hammer marks and pencil marks, etc. before any painting work is commenced.

SCHEDULE OF TIMBERS: All measurements are shown in millimetres.

Sleepers on edge at 1400 centres	100 x 75 treated Radiata
Floor joists at 450 centres, double under walls	125 x 90 " "
Plates	100 x 50 " "
Studs at 400 mm centres	100 x 50 " "
Opening studs	100 x 75 " "
Door trimmers at single doors	100 x 75 " "
Trimmers up to 1400 long	100 x 75 " "
Trimmers up to 2000 long	125 x 100 " "
Trimmers up to 2700 long	150 x 100 " " or 2/150 x 90
Trimmers up to 3400 long	200 x 100 " " or 2/200 x 90
Trimmers over 3400 long	2/250 x 90 " "
Rafters at 900 centres	125 x 50 " "
Tie-plates at 1800 centres	150 x 25 " "
Roof struts	100 x 50 " "
Ridges, hips and valleys	200 x 25 " "
Valley boards	150 x 25 " "
Braces, external walls checked to studs	150 x 25 " "
Braces, internal partitions at 45 degrees	75 x 50 " "
Bracing, 2 rows in all walls	100 x 50 " "
Purlins	75 x 90 " "
Flooring	19 mm H.D. T&P. Particle Board
Interior door jambs	125 x 40 D.A.R.F.
Architraves	75 x 25 " "
Skirtings	100 x 16 " "

Interior finishing timbers not mentioned to be D.A.R.F.

Exterior finishing timbers not mentioned to be D.A.R.F. or treated R.F.

SLEEPERS: to be 100 x 75 on edge at 1400 mm centres, supported on piles at not more than 1200 mm centres, and laid true to level. All angles and joints to be spliced over solid bearing.

RAIPTHOLD: All timbers resting on concrete to be protected for the full bearing surface by a 3 ply raipthold pad.

FLOOR JOISTS: to be gauged to an even surface, double under walls, and nailed with 100 mm and 75 mm nails to all bearers. All joints to be lapped on a sleeper.

PLATES: All to be straight and in long lengths, halved at intersections over solid bearing, and checked to receive all studs. To be brought to even width as for studs.

STUDS: All to be brought to an even width and selected for straightness. To be of length to give 2410 mm between floor and ceiling. To be nailed to all plates with 100 mm nails, and checked to receive all trimmers. Provide 3 studs to all wall intersections, well blocked and spiked together. Plasterer to supply and fix 19 mm radius rounded corners to all external corners at Gibraltar Board rooms. Frame for low wall as shown and required between Dining and Living.

Straighten all walls and leave ready for linings.

DWANGS: to be 100 x 50, 2 rows in all walls and cut between studs. Cut in dwangs as required for all fixings for joinery etc., and block behind all skirtings.

BRACES: Wherever possible brace to all external corners with 150 x 25 checked to studs, and where this is not practicable cut in dog leg bracing as required. Brace internal partitions with 75 x 50 cut between studs.

ROOF: Roof to be framed up in a proper manner, with 125 x 50 rafters at 900 mm centres and 150 x 25 tie-cleats at 1800 mm centres, as shown. Strut up from partitions with 100 x 50 struts as required to ridge.

Roof to be 26 gauge Diamond 'Metric' galvanised iron roofing, in single lengths as required, with laps painted both sides with grey metal primer, and fixed to manufacturers instructions with 75 mm 14 g. galv. round head roofing screws and 18 g. square galv. washers over 1.6 mm neoprene washers, by skilled tradesmen on 75 x 50 purlins at not more than 750 mm apart. Allow to eave roof with 38 mm 18 gauge netting and building paper, with 100mm laps.

Rafters to be neatly cut to ridge beams at top and birdsmouthed over plates at bottom and to project past plates at bottom as shown. Fascia to be ex 30 mm D.A.Ht. or treated R.P. grooved to take 4.7 mm Hardiflex and securely nailed to ends of rafters, and with 75 x 50 (100 x 50 at wide overhang) cut between fascia and studs to form eaves, and well nailed to feet of rafters. Carry row of dwangs at block face and intermediate row of dwangs at wide overhang. Lapse under soffits with 4.7 mm Hardiflex with suitable 30 mm moulding ex D.A.Ht. or treated R.P. in wall angle, primed before fixing, and to have Hardiflex flat joint moulding to all joints, evenly spaced.

Form the Japanese gables as shown and required and carry roof over 200 mm from face of boardings to gables and line under with Hardiflex as for soffits. Provide and fix barges ex 40 mm D.A.Ht. or treated R.P. with sub-barges ex 75 x 40 mm D.A.Ht. or treated R.P. and caps to be galv. iron supplied and fixed by the Plumber.

GABLES: Frame up the Japanese gables as required, and line with 150 mm D.A.Ht. or treated R.P. ship-lap vertical boarding, pattern as selected, with building paper behind and with all joints and ends primed and undercoated before fixing. Finish to eave angles with 30 mm D.A.Ht. or treated R.P. mouldings as for soffits.

BEAMS ETC. OVER DINING-LIVING WALL: Allow to build up from low wall at Dining to Living with ex 100 x 100 D.A.R.P. posts with 100 x 50 half-posts at both ends, as shown, to support full length beam over ex 150 x 100 D.A.R.P. Form a trough to top of wall as detailed with ex 200 x 25 bottom and ex 150 x 25 sides, all ex D.A.R.P. Finish to end of wall with suitable facing ex 30 mm D.A.R.P. with small bevelled heads.

CEILING FRAMING: Ceiling joists to be selected for even width and straightness, and shall be spaced at 400 mm centres, well spiked to wall plates. Fix a 200 x 50 runner at approx 1800 mm centres over all joists, well spiked to joists and to have 50 x 50 hangers. Between ceiling joists 75 x 50 noggings shall be cut in as required for cornices etc., and at all edges of ceiling sheets. In no case shall noggings be more than 1200 mm apart.

Straighten all ceilings and leave ready for ceiling linings.

VERTICAL BOARDING: Line exterior walls at Patio where shown and at back door recess and over all exterior doors with 150 mm D.A.Ht. or treated B.P. ship-lap vertical boarding, pattern as selected, with building paper behind. Joints and ends of all vertical boarding to be primed and undercoated by the painter before fixing.

FLOORING: Before flooring is laid remove all shavings, short ends and trade debris from under the floor joists. Flooring to be 19 mm thick, high density, TWP particle board. Check the floor joists level over sleeper plates and cut in 75 x 50 dwangs as required to provide solid bearing to all edges of the sheets. Sheets to be fixed closely butted, working from the centre of the house, with edges shot as required to ensure tight joints, and securely nailed with 64 mm galv. rose head nails to all joists and dwangs at 150 mm centres around edges and 200 mm centres to all intermediate joists, and punch all nails below the floor surface.

Flooring may be laid before any walls are erected provided the carpenter takes adequate precautions to ensure that the flooring is not damaged by exposure to the weather. Any damage so incurred is to be made good by the carpenter.

When ready for finishing the floors they are to be machine sanded on both diagonals, and are to be finished with a fine paper, parallel with the length of the sheets to bring the surfaces up to a first class finish suitable for varnishing, and to the entire satisfaction of the employers. All parts of the floors inaccessible to the machine are to be dressed by hand and finished to approval.

Floor surfaces must present a perfectly level face, kept clean during construction of the job, and protected from weather and disfigurement of any kind.

INSULATION: Cover the whole of the inside face of the exterior studding with double sided aluminium foil insulation paper, fixed with galv. clouts to the plates and studding etc., and well lapped at the edges, and provide and fix breather type building paper to the outside face of the exterior studding.

Provide and lay 75 mm fibre glass insulation over all ceilings of the house, and all neatly and tightly fitted between the framing.

INTERIOR LININGS: All interior walls and ceilings except where otherwise specified hereunder, to be Gibraltar Board, supplied and fixed by the Carpenter. All joints to be on studs, joists or dwangs, and to be nailed with 32 mm galv. P.H. nails at 100 to 125 mm centres on all joints and 225 mm centres on intermediate studs etc. Plasterer to flush off all Gibraltar Board, and to supply and fix 19 mm radius rounded corners to external corners at all Gibraltar Board rooms.

Porch and W/H to be lined throughout with 4.8 mm hardboard. All hardboard to be well nailed to studs, joists etc. with 25 mm cadmium coated panel pins and finished with small v joint, with P.V.C. wallboard mouldings to wall angles.

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Interior Linings: Contd.:

Walls at Bathroom over bath to window board height to be lined with Laminall or Formica Board as selected by the employers, with Gibraltar Board over and to remainder of walls, and with 4.8 mm hardboard to ceiling with approved P.V.C. or aluminium wall-board mouldings as approved to all edges, joints and angles of laminate, as dado rail, etc. and finish to lip of bath with matching bath flash moulding, all packed with white mastic and made waterproof throughout.

Shower to be lined with Laminall or Formica Board as selected by the employers to wall with 4.8 mm hardboard to ceiling, with approved P.V.C. or aluminium wallboard mouldings at all angles, packed with white mastic and made waterproof throughout. Provide drip edge to shower tray as required.

All laminate to be spot glued to wall framing as required. Provide ply strips over aluminium foil to exterior walls as required.

SCOTIA BEC: Allow to provide and fix 30 mm D.A.R.P. scotia to wall-ceiling and to cupboard-ceiling angle at all rooms. Finish all cupboards to walls with small bevelled beads. Provide and fix all other beads and battens as required.

DOOR FRAMES AND JAMBS: All exterior door frames to be D.A.Ht. or treated R.P., and to be grooved, throated and constructed in a proper tradesmanlike manner to details to comply with exterior sheathing requirements, and primed by the painter before fixing. Sills ex 75 mm metal, with alloy weather bar set in, jambs and heads ex 50 mm rebated D.A.Ht. or treated R.P., and all to be sanded. Allow for sidelight to Foyer exterior door frame where shown. Provide and fix all facings etc. as required, and finish to boarding etc with suitable mouldings.

Interior door jambs to be 40 mm D.A.R.P., rebated to suit doors, and all to be sanded. Provide the jambs as required ex 40 mm D.A.R.P. for all sliding doors and for bi-fold doors to Pantzy.

DOORS: All interior doors, except where otherwise specified hereunder, to be selected mahogany flush panel doors, 1980 mm high and to widths as shown, hung on 3 - 89 mm flor. bronze butts with loose pins, and fitted with mortise latch or lock sets and furniture as selected by the employers. Living and Bedroom 1 exterior doors to be anodised aluminium sliding door units as shown of an approved brand, with sliding and fixed panels to each as shown with approved vision rail to all panels, and complete with all necessary fittings, thumb turn latch sets etc., and to be allowed for completely glazed with 5.5 mm clear glass. To be installed strictly to the manufacturer instructions and details, and with mastic seal between frames and blockwork or mortar. Aluminium doors to be handled in such a way during cartage to the site, on the site, and on completion of fitting so that there are no scratches, imperfections and blemishes of any sort. If frames are to be found to be damaged by scratches, imperfections, or blemishes the main contractor will be responsible for the replacement thereof. The exterior door at Foyer to be exterior grade flush panel door, with approved moulded beads to exterior face to give a 3 panel effect, and with mahogany ply to interior, hung on 3 - 89 mm flor. bronze butts with loose pins, and fitted with approved mortise lock set and furniture. Back door to be D.A.Ht. or treated R.P. frame lodge, glass top, flush inside door, hung on 3 - 89 mm galv. steel butts with loose pins and fitted with approved mortise lock set and furniture, and complete with glazing beads.

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Doors: Contd.: Bathroom and W.C. doors to be fitted with latch sets with slide fasteners as approved to inside. Sliding doors from Dining to Kitchen and from Porch to Kitchen and W/H to be mahogany flush panel as above, hung on Henderson 'Marathon' or similar approved sliding door gear, with palmot boxes covering gear and fitted with approved furniture.

KITCHEN CUPBOARD DOORS: to be framed out of 25 mm B.A.R.F. and to be sheathed both sides with selected mahogany ply, and to be hung on 2 - 64 mm flor. bronze butts, 3 to larger doors, and fitted with catches to be selected by the employers. Pantry doors to be matching mahogany flush panel, hung on approved bi-folding door gear and fitted with approved furniture.

WINDOWS: All windows to be anodized aluminium awning and fixed windows of an approved brand, and to be allowed for completely glazed and with locking handles. Bathroom and W.C. windows to have obscure glass as selected by the employers. Carpenter to provide and fix all necessary cavity packing. All windows to be installed strictly to the manufacturers instructions and details and all windows to be finished to interior with factory fitted window boards, aprons and jamb facings etc. as required on B.A.R.F. Window boards at Kitchen, W/H, and Bathroom to be 19 mm waterproof ply, covered with Formica or Laminex as selected by the employers. All windows to have mastic seal between aluminium and blockwork or mortar. All windows to be finished to interior with architraves. Aluminium windows are to be handled in such a way during cartage to the site, on the site, and on completion of fitting so that there are no scratches, imperfections and blemishes of any kind. If frames are found to be damaged by scratches imperfections or blemishes the main contractor will be responsible for the replacement thereof.

HANDMADE: Allow the sum of \$200.00 for the cost only of all door locks, door latches, door furniture, (except at aluminium doors) cupboard catches, drawer pulls, wardrobe fasteners, socket bolts, slide fasteners, hat and coat hooks and cabin hooks, but not to include hinges. Any variation to the above allowance is to be charged for accordingly. The contractor is to allow for fixing. All to be as selected by the employers.

ARCHITRAVES: at all doors and windows to be out of 75 x 25 mm B.A.R.F., pattern as selected by the employers, mitred at corners, and all to be sanded.

SKIRTING: at all rooms to be 100 x 16 mm B.A.R.F., pattern as selected by the employers, and all to be sanded, and to be scribed to floors.

KITCHEN CUPBOARDS: All kitchen cupboards to be framed out of 30 mm B.A.R.F. Shelves to be allowed for on particle board with glazing strip to front edge, or 'Custom Wood', and to be spaced approx. as shown. Allow for all doors as mentioned under 'Kitchen Cupboard Doors'. Provide 90 mm toe space to all kitchen cupboards. All to be as shown on the plan. One drawer where directed to be divided as directed by the employers for cutlery. All drawers to have mahogany faced fronts, plywood bottoms and solid B.A.R.F. stops at back of cupboards. All drawers to have Formica strips to bottom of sides and on top of runners. Provide tray cupboard where shown with vertical division and shelf to one portion. Tray cupboard and dresser beside refig. space to have tops and 150 mm high square upstands and returns as required

Kitchen Cupboards: Contd.: covered with mosaic tiles as selected by the employers.

Allow to provide and fix 7200 mm of 200 mm wide, and 5400 mm of 300 mm wide shelving to Pantry or particle board with clashing strip to front edge, or 'Custom Wood' as directed by the employers. Allow to provide and fix vents to exterior wall and ceiling at Pantry, covered with fine mesh gauze.

SINK TOP: Allow to provide and fix a Herzer a5 or R. & P. Deluxe 6 stainless steel sink top with R.H. return upstand and complete with 1-450 x 300 and 1-400 x 350 bowls with provision at 400 x 350 bowl for the future fitting of a waste disposer unit.

FORMICA: The 2 dresser tops and 150 mm square upstands and returns, and window boards at Kitchen and window boards at Bathroom and W/R. to be covered with Formica or Laminex as selected by the employers, and to include all exposed edges.

W/R CUPBOARDS: Cylinder-brooms cupboard to be as shown. To be framed out of 40 mm D.A.R.P. and doors to be sheathed both sides with hardboard. To have batten shelves spaced approx. as shown to cylinder cupboard and provide fixing for cylinder. Provide vertical partition between cylinder and brooms spaces with solid shelf over as required.

LINEN CUPBOARD: At Passage where shown to be from floor to ceiling in 2 tiers of doors. To be framed out of 40 mm D.A.R.P. and doors to be sheathed both sides with selected mahogany ply. To have full width shelves as shown on particle board with clashing strip to front edge, or 'Custom Wood'. Bottom doors to be sliding, on approved double track wardrobe sliding door gear, with suitable facing covering gear. To be fitted with approved furniture to all doors.

WARDROBES: Wardrobes to be from floor to ceiling in 2 tiers of doors as shown, with shelving as shown on particle board with clashing strip to front edge, or 'Custom Wood', with hook rail and 13 mm pipe hanging rods at bottom cupboards. To be framed out of 40 mm D.A.R.P. and doors to be sheathed both sides with selected mahogany ply. Bottom doors of wardrobe at Bedroom 1 to be sliding doors, hung on approved double track wardrobe sliding door gear, with suitable facing covering gear. All doors to be fitted with approved furniture. Allow to provide and fix a tier of trays inside door where shown at Bedroom 1 wardrobe, with top carried over at return wall.

BATHROOM: Bath to be built in as for walls with panel of Lamiwall or Formica board, with toe space full length. Allow to provide and fix a full length Marlboro or similar approved vanity top as selected by the employers where shown with 250 mm wide continuation of top over end of bath as shown, P.O. sum \$120.00. Build in cupboard under vanity top as shown with toe space, false floor, 1 shelf and doors to suit with 2 tiers of drawers as shown. To be framed out of 30 mm D.A.R.P. and doors to be sheathed both sides with selected mahogany ply. Drawers to have mahogany faced fronts, ply bottoms and solid D.A.R.P. stops at back of cupboard. Provide fixing for mirror and light over as required. Provide and fix a shaving cabinet recessed into the wall where shown and fitted with shelves and 2 mahogany ply sheathed doors, and to have plywood back. Supply and fix a recessed white plastic soap holder to wall over bath and 2 C.P. towel rails to walls where directed.

SHOWER: The opening for curtain to have jambs with sill above the floor draining into shower tray, finished with architraves. Allow to provide and fix to shower opening an approved aluminium track for shower curtain. Cover the walls of shower with Laminall or Formica Board as specified under 'Interior Linings'. Shoulder spray and shower tray to be supplied and fixed by the plumber. Provide and fix a white recessed plastic soap holder to shower wall where directed.

MANTLE SHELF: Allow to provide and fix a mantle shelf to living fire surround on 150 x 75 D.A.Ht., R.P.. To be hand scraped and glass papered.

TOILET PAPER ROLLER: Provide and fix at W.C. a 'Recesso' type fitting as approved for toilet roll.

STAND FOR ROOF TANK: Provide stand over ceiling in roof space where directed for roof tank.

MANHOLES: Provide and fix to floor and ceiling at W/D, manholes to suit and fill with matching panels.

TELEPHONES: The contractor is to arrange with the P. & T. Dept. to wire the house for the installation of the telephones at a suitable time during construction. The employers are to make application and to pay for installation apart from this contract.

JOINTS: The contractor is to arrange an interview between the joiner and the employers to decide final details regarding joinery.

BLOCKLAYER.

GENERAL: The blocklayer is to clear all blocklayer's debris from the site immediately on completion of each stage of his work.

EXTERIOR WALLS: except at end wall of Patio where shown, and at back door recess, to be 1st quality 10.0% concrete cavity blocks and cement mortar, kept 35 mm clear of the studs. All blocks to be square and even in size and texture, and to be delivered dry to the site and kept dry on the site. Build in 'Superior' wall ties at 500 mm maximum centres horizontally and 345 mm maximum centres vertically, securely skew nailed to the face of the studs in a rising position, as the work proceeds, and staggered.

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Exterior Walling: Contd.: Ensure that the carpenter has fixed the building paper to the outside face of the studs before commencing the blockwork. Care to be taken not to damage this building paper during erection of the blockwork. All mortar droppings shall be cleared away from the cavity and off the wall ties and foundations etc. by the blocklayer as the work proceeds.

Provide and set in all 200 x 200 wire reinforced concrete vents to bottom courses of the blockwork as shown and required. Vents to be spaced not more than 750 from all angles and approx. 1000 mm between.

Clean down all blockwork on completion and finish mortar joints with an approved joint, and leave ready for painting by the painter.

SKILLS: to be 16" x 6" x 2" matching blocks, finished as for walls, and to be set in position immediately on completion of laying of block walls.

MORTAR: shall be composed of 3 parts of sand and 1 part of lime, run 7 days before use and immediately before being used gauged 4 parts of mortar to 1 part of cement. Mix in small quantities.

FIREPLACE: Build in to living where shown an 1800 mm wide fire surround 16 courses high of vitrified clinker brickwork with deep raked charcoal coloured mortar joints with large fireplace opening with arched head and approved basket grate. Fireplace to have approved brick tiles hearth raise above the floor on 2 courses of matching brickwork. Confer with the concreter re pouring fireplace slab to suit raised hearth. Build in firebrick back and sides to fireplace as required with necessary slopes and gathers to the flue. Clean down all brickwork on completion. Mantle shelf to be supplied by the Joiner and fixed by the Carpenter. Provide fixing for same.

CHIMNEY: Erect a pre-cast concrete chimney and finish with blockwork to match walls, and to the best tradesman manner, and with a well parged pot extending above the top of the chimney. Reinforce the chimney with 4 - 12 mm rods to full height and properly grouted for their full length. Finish chimney as for walls and rake out joints as required for flashing chimney to roof.

PLASTERING.

SOLID PLASTER: External faces of foundations to be plastered in 3 to 1 sand and cement compo and finished to a roughcast finish. All surfaces of steps and Patio shall be rendered and straightened with 2½ to 1 sand and cement compo, not less than 19 mm thick, and finished to a perfectly smooth, straight and even surface, while concrete is green, with slight grade to outside edges. over

Solid Plaster: Contd.: Form small cove to all angles. Allow for expansion joints to Patio as provided for by the concretor.
All above work to be in natural colour.

INTERIOR FINISHING: Point up and flush off all Gibraltar Board sheets to walls and ceilings at living, Dining Kitchen, Foyer, Passage and Bedrooms with best quality plaster of paris after all hammering is completed and all sheets are properly secured, and finish to a perfectly smooth and even surface ready for papering to walls and painting to ceilings. Allow to finish all ceilings with a light overall stipple finish to the employers' approval.

Carpenter to provide and fix D.A.R.P. scotia to wall-ceiling angles at all rooms. Allow to provide, fix and stop 19 mm radius rounded corners at all external corners to Gibraltar Board rooms.

All plasterer's debris is to be cleared from the site by the plasterer immediately on completion of each stage of his work.

DRAINLAYER.

GENERAL: The drainlayer will carry out the whole of the drainage work in accordance with the by-laws of the local authority, and will clear all drainlayer's debris from the site immediately on completion of each stage of his work.

DRAINAGE: Excavate for and lay all necessary drains from gully traps and W.C. to sewer main. All pipes to be first quality 100 mm earthenware with sound socketed joints, and to be laid true to an even fall. All joints to be rubber ringed and pipes to be wiped clean as the work proceeds. Fill in trenches carefully after the work has been inspected, and make good to ground level. The whole of the drainage and sanitary arrangements to comply with the local by-laws, and to the entire satisfaction of the Sanitary Inspector.

STORMWATER: Stormwater to be piped to street channel if possible. If unable to do so allow to dig soak pits as required to dispose of stormwater, to loose shingle, with a minimum depth of 2400 mm, fill with rubble to within 300 mm of ground level, lay a 75 mm pad of concrete on rubble and replace soil. Lay stormwater drains in 2nd grade sewer pipes, or approved P.V.C. pipes, and inlets to have approved gratings.

PLUMBER.

GENERAL: The plumber will carry out the whole of the plumbing work in accordance with the by-laws of the local authority, and will clear all plumber's debris from the site immediately on completion of each stage of his work.

MATERIALS: All materials used by the plumber must be the best of their various kinds and must fully conform to all or any governing regulations and by-laws.

RIDGING: Supply and fix all 26 gauge galv. ridging, and to be double rivetted and soldered at all joints and fixed in the best tradesman manner. To be neatly notched over ribs of roofing, and to be fixed with roofing screws and galv. and neoprene washers as for roofing.

CAPS: Provide and fix all caps to gables ex 24 gauge galv. iron, with bend at outer edge, and to be fixed with galv. screws, soldered over the heads and roofing screws and washers as for roofing. To be double rivetted and soldered at all joints and fixed in the best tradesman manner.

FLASHINGS: Provide and fix all flashings ex 4lb. lead to make the whole of the building watertight.

SPOUTING AND DOWNPIPES: Provide and fix approved 125 x 125 x 75 Diamond Fascia-gutter to house as required with adequate fall to downpipes to prevent water lying in it, fixed with concealed fascia gutter brackets, fixed to the fascia, at not more than 900 mm centres. Spouting to be double rivetted and soldered at all joints and fixed in the best tradesman manner.

Allow to provide and fix 4 - 75 x 50 mm 24 gauge galv. downpipes to spouting, well fixed to walls, to blocks, not mortar joints, with shoes of downpipes leading to drains.

COLD WATER: Lay on cold water supply from town supply in 19 mm Alkathene piping.

All piping outside the building to be sunk at least 300 mm in the ground, and to enter the building under or through the foundations. Lead in 19 mm P.V.C. piping, to roof tank, bath and tub, with 13 mm branches in P.V.C. piping to sink, basin, washing machine and U.C., and to two hose pipes at exterior of house where directed. Cold water supply to shower to be low pressure supply direct from roof tank in 13 mm P.V.C. piping. P.V.C. piping to be of a brand as approved by the local authority, and to have brass bracketed elbows to fitting connections. All joints to be made in the best approved manner, and all to be a first class job.

ROOF TANK: Provide and fix on stand in roof a 'Hura' plastic tank on regulation tray with overflow through coffit, ball cock and lid.

HOT WATER: Supply and fix a 40 gal. approved, electric, hot water, copper, lagged cylinder to cylinder cupboard, with all necessary fittings, stop cock at inlet, etc., and make all necessary connections from roof tank. Lay points through 19 mm copper piping to tub and bath, with 13 mm branches in copper piping to sink, washing machine, shower and basin. Provide 19 mm copper exhaust pipe through the roof, and 13 mm copper drain pipe to empty the cylinder outside the building with screw stopped end. Lag all hot water piping, including exhaust pipe, with boiler felt securely wired into position.

SINK TOP: A double bowl sink top is to be supplied by the carpenter. Allow to connect to same and provide waste.

BATHROOM: Provide and fix a 1st quality pressed steel, vitreous enamelled, square ended bath, 1675 mm long, and provide waste. Connect to vanity basin supplied and fixed by the carpenter and provide waste.

SHOWER: Provide, install and connect an approved 'Topline' or similar approved C.P. adjustable wall rose, with Topline or similar approved shower mixer set complete to shower. Provide and fix a 925 x 775 mm Horcoar M2 or B. & P. TP1 stainless steel shower tray with Polystyrene and timber base, with turnup at all edges. Waste to be P.V.C. with C.P. grating.

TUB: Allow to supply and fix at W/E where shown on A.H.I. 'Supertub' and leave complete and in first class working order and provide waste. To be complete with cabinet under.

WASHING MACHINE: to be supplied by the employers. Allow to connect to same and provide waste, combined with tub waste.

W.C.: to be provided where shown, complete with earthenware pan of highest quality, double solid white 'Modernite' plastic seat, buffers, etc., low set 'Dux' centre flushing cistern in white plastic case, 19 mm diam. overflow pipe extending 25 mm beyond the face of the exterior wall, 38 mm P.V.C. flush pipe, and to be left complete and in first class working order.

WASTES: to be P.V.C. throughout. All joints to be neatly made and all wastes to discharge into gully traps. All to be securely supported for their full length. Allow for all necessary anti-siphons and back vents.

TAPS: All taps to be 'Hethven' brand, latest model taps and cocks as under.

Bath to have gold 'Crystalline' concealed bath faucet. Basin to have gold 'Crystalline' basin faucet. Sink to have 'Novaline' swing about faucet.

W.C. to have 'Novaline' stop cock. Exterior taps to be plain brass bib cocks with hose connections, and to be fitted to short length of galv. piping extending through the outside walls.

TERMINAL VENT: to be regulation cast iron. Carry above the eave in approved material, with wire cage at top and to be neatly flashed to the roof.

GENERAL: Provide and fix all the above fittings, complete with wastes, plugs, chains, washers, unions, vents, etc. as required. Conceal all piping and run in as short and easy flowing runs as possible, with connections of approved type, and well and securely supported. Leave all work clean and free from grease marks, and all services to be left in first class working order.

PAINTER AND GLAZIER.

MATERIALS: All materials used in this trade must be the best of their respective kinds. On no account must driers be added to any ready mixed paints.

WORKMANSHIP: must be of the highest standard carried out by tradesmen, and finished to the employers' satisfaction. No painting must be done on damp surfaces, or unseasoned timbers, and no exterior painting must be done in damp, frosty or unsuitable weather. All painter's debris must be cleared from the site by the painter immediately on completion of each stage of his work. Clean off all paint spots and marks from all work and leave all work thoroughly clean on completion.

HARDWARE: All locks and fastenings must be removed while painting work is in progress and refixed on completion of same.

TINTS: All colours and tints shall be selected by the employers, and undercoats must vary slightly in shade to indicate the number of coats used, and must be suited to the particular shade of finishing coat to be used.

PROTECTION OF WORK: The contractor must take adequate precautions during and after painting operations to protect his work from dust, dirt or any disfiguration whatsoever, and provision must be made against paints or stains marking floors or other work.

EXTERIOR WOODWORK: including door frames, vertical boarding, etc., and any other exterior work usually painted, whether particularly mentioned or not, to receive one coat of first quality P.V.B. No. 2 red lead priming. Putty all nail holes and cracks and finish with 2 coats of first quality exterior paint to approval.

Note: Tops and bottoms of all exterior doors to be included in the above specification. Joints and ends of all vertical boarding to be primed and undercoated before fixing.

OTHER EXTERIOR WORK: Hardiflex soffits to receive 2 coats of approved P.V.A. paint.

Vent pipe to be painted 1 coat of aluminium paint, and then finished in 2 coats as for woodwork. Spouting and downpipes to be painted in 1 coat of metal primer, and 2 coats of paint as for woodwork.

All exterior blockwork to be sealed and painted in 2 coats of approved paint.

ROOF: to be painted by the employers after adequate weathering.

INTERIOR: Ceilings and finishing woodwork at Kitchen (except cupboard and room doors and drawer fronts) and walls, ceilings and finishing woodwork at Porch, W.C., Bathroom and Shower (except Farnica board dado at Bathroom and walls of Shower) but excepting all mahogany room and cupboard doors at above rooms, all cupboards in above rooms, including insides of all cupboards, to be given a sealing coat of approved sealer, one coat of flat and one coat of first quality enamel.

Tints to be selected by the employers.

PAINT: Ceilings and all finishing woodwork, skirtings, architraves, frames, etc. at Living, Dining, Foyer, Passage and Bedrooms, (excepting all mahogany room and cupboard doors), to be sealed and painted in 2 coats of approved paint, and to include woodwork at insides of wardrobes and cupboards etc.

POLYURETHANE: All mahogany room doors, cupboard and wardrobe doors, and drawer fronts (including at Kitchen and Bathroom) to be sealed with an approved sealer, stop all nail holes and cracks with tinted matching filler, and then finish with 2 coats of approved clear Polyurethane. Allow full 24 hours between coats and rub down lightly between coats with fine glasspaper.

FLOORS: Particle board floors are to be sealed, stopped and finished by the employers.

PAPERHANGING: The paperhanger must ensure that all walls are free from blanch of any sort that will show on the finished work before commencing the paperhanging work. Walls at Living, Dining, Kitchen, Foyer, Passage and Bedrooms, to be sized and hung with papers to be selected by the employers to average \$4.00 per roll. Walls and ceilings inside wardrobes, cupboards, etc. to match walls and ceilings of rooms.

GLAZING: Aluminium windows and doors are to be supplied complete with glass by the supplier of the units.

Glass sidelight at Foyer door, and back door with obscure glass as selected by the employers. Provide and fix the 600 x 1000 mm polished 6 mm mirror over vanity top at Bathroom. To have polished edges and to be fixed with approved mirror screws.

The glazier is to leave all of his glazing work thoroughly cleaned and free from all imperfections, finger marks, putty marks, etc., and shall clear all glazier's debris from the site immediately on completion of his work.

ELECTRICIAN.

The electrician will make all necessary notifications with the local Power Board. All work to be carried out to the satisfaction of the said Power Board, and in accordance with the Wiring Regulations. Allow to supply all necessary materials, and allow to provide light points as under, complete with cords and lamps and allow to fit fittings as selected by the employers to all light points. Allow P.C. sum of \$100.00 for light fittings as selected by the employers.

The electrician is to clear all electrical debris from the site immediately on completion of each stage of his work.

SUPPLY AND METER: Lay on under ground supply as required and provide and fix a meter panel on outside wall where directed, covered with metal hood, with switchboard to interior.

SWITCHES: Provide and fix all switches as required, and where directed, by the employers. All to be white flush pattern as approved.

LIGHTS: Allow to provide and fix: 2 outside light points under eaves: 2 outside wall bracket light points: 13 inside ceiling light points: 3 inside wall bracket light points: all where directed by the employers, and complete with switches where directed.

Allow to provide and fix 3 sets of 2 way switches where directed.

POWER POINTS: Allow to provide and fix 16 wall power points where directed, complete with switches, and set to heights as directed by the employers. These do not include the points as required for the other items individually specified hereunder. There are to be no more than 2 power points to a fuse. Provide and fix 1 P.D.I. combination shaver point to Bathroom where directed.

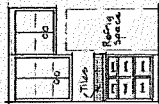
T.V. AERIAL POINTS: Provide and fix 3 T.V. aerial points and tapes carried to over the ceiling, where directed by the employers.

RANGE: Allow to install and connect an electric range as supplied by the employers, and provide switch.

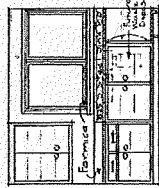
WATER HEATER: Supply, install and connect a 2000 watt element to cylinder, complete with thermostat control, and provide switch outside the cupboard where directed.

HEATER AT BATHROOM: Allow to provide, install and connect an approved wall heater at Bathroom where directed, P.C. sum \$20.00.

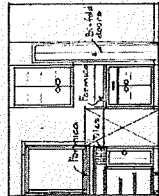
DOOR CHIMES: Allow to provide, install and connect 'Warbler', or similar approved door chimes, where directed, with illuminated pushes at front and back doors, and complete with transformer as required.



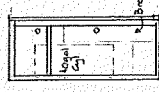
Dresser KITCHEN



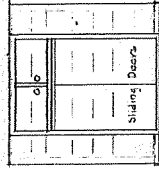
Dresser Sink Cupd Trough KITCHEN



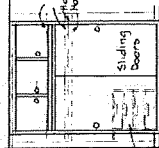
Sink C Trough Range Dresser Pantry KITCHEN



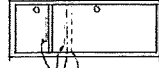
Cupd Brng Cupd W/H



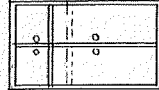
Linen Cupd PASSAGE



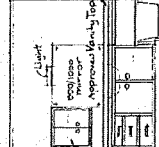
Wardrobe BEDRM. 1



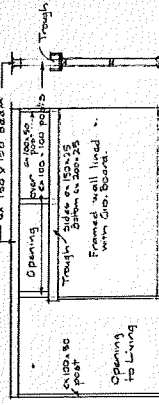
Ward BEDRM. 2



Ward BEDRM. 3

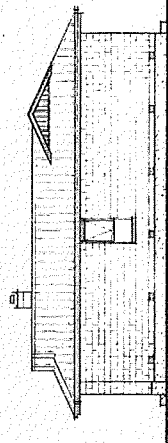


Vanity Cupd Bath BATHRM.

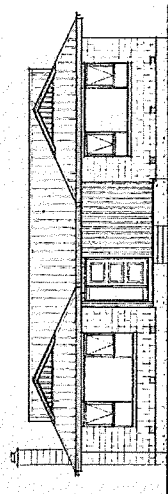


Partitions Dining to Living DINING

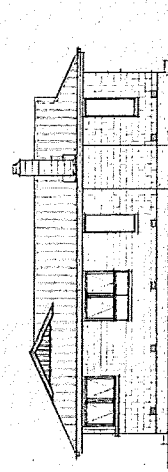
SUGGESTED CUPBOARD LAYOUTS SCALE = 1:50.



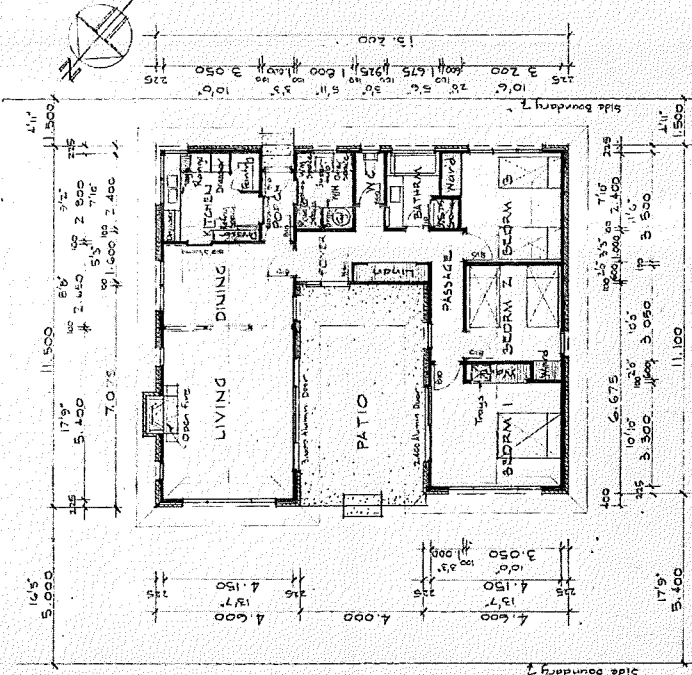
SOUTH WEST ELEVATION



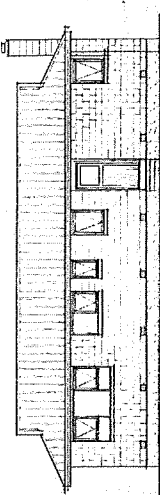
NORTH WEST ELEVATION



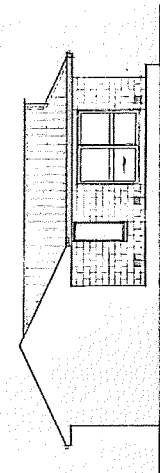
NORTH EAST ELEVATION



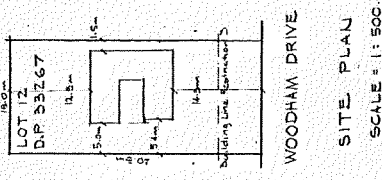
FLOOR PLAN Area: 113.8 m² (1225 sq ft) over plates. Imperial measurements shown are to nearest inch only.



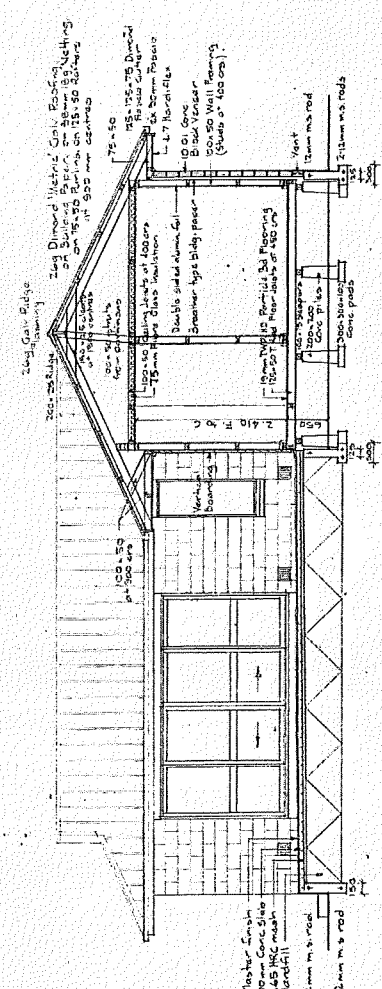
SOUTH EAST ELEVATION



NE ELEVATION - BEDRM WING



S.W. ELEVATION LIVING WING & TYPICAL SECTION SCALE = 1:100.



RESIDENCE - WOODHAM DRIVE, ASHBURTON, FOR Mr. & Mrs. G.W. BIRD.

SCALE = 1:100, 50 & 500

Drawn by: A.J. Dellow, Freelance Draughtsman, 72 Church Street, Ashburton.

OWNER: G W BIRD

Address of Property: 8 WOODHAM DRIVE

ADDRESS:

BUILDER: I R FERGUSON

Legal Description: LOT 12 DP 33267

Bruce 20698

Sewer	✓
Water	✓
Stormwater	✓
Footpath Dep.	

Inspection Date	Permit No. H116363	File No. 44/91	Inspected By
26-8-77 26-8-77 12-10-77 9-11-77 4-2-78 6-3-78	DWELLING Foundation		Pha.

19 January 2021

P Crouchley
552 Frasers Road
RD 8
ASHBURTON 7778

Dear William,

Request to exempt work [EXBC004/21]

Address: 8 Woodham Drive ASHBURTON

The Council has received your request for the earthquake damage repairs.

The Council is satisfied that the work carried out will likely comply with the Building Code and is willing to exempt the work from the requirements of a Building Consent as allowed by the Building Act 2004 Schedule 1.

Exemption Category:- 2

Territorial and regional authority discretionary exemptions

This Exemption means that Council does not issue a building consent, undertake inspections or issue a Code Compliance Certificate for the work that is described in your application. Council will also not accept any liability associated with construction techniques; materials or workmanship; or siting of the building in relation to property easements or network utility operators services.

A copy of the information you have provided will be kept on the Property file at the Council and notification of this exemption will be included with future LIM's or requests for information on the property.

If you require any additional information please feel free to contact me.

Yours faithfully



Michael Wong
Building Services Manager

Project Information Memorandum/Building Consent Application

BAM 002 PIM BC

Form 2

VER. 10

Updated: Jan 2018

Review: Jan 2019

Section 33 or Section 45, Building Act 2004

For Office Use Only:

BC No:

Date Received:

Please return this form to: building@adc.govt.nz or Ashburton District Council, PO Box 94, Ashburton 7740

Application (Only complete items that are applicable to your project)			
I request that you issue a:			
Project Information Memorandum (PIM)	Building Consent *Your project may also require a PIM, you will be advised when you submit your application if this is required	Building Consent and PIM	
Has a PIM been issued previously in respect of this project? If yes , please provide a copy if applicable.		Yes	No ☒
Is this project related to earthquake damage?		Yes ☒	No
Is this consent for a relocated or transportable building?		Yes	No ☒
Building Information			
Building Name (if any): N/A			
Street Address (or Rapid No.): 8 Woodham Drive, Allenton, ASHBURTON 7700			
Legal Description: Lot 12 DP 33267		Valuation No:	
No. of levels: 1	Approx. Year constructed? 1970s	Level\Unit No:	
Currently lawfully established use: residential			
Swimming/Spa Pool: Is there a swimming pool/spa pool on this site or associated with this project?		Yes	No ☒
Total Floor Area (all floors, m ²): 190, appx.		Want to add (m ²): 0	
The Owner			
Owner's Name: Mr. Paul Crouchley			
Contact Person (if different from owner):			
Mail/ Billing Address:			
Street Address/Registered Office:			
Daytime Phone No:		Cellphone: 027 222 3485	
Email Address: pcrouchley@gmail.com		After Hours No:	

The Agent

Note: The Agent will be the first point of contact for communications with the Council/Building Consent Authority regarding this application/building work and will receive all correspondence including all invoices.

Agent's Name: Dr. Zheng Ping Wu. William

Contact Person (if Agent is not an individual):

Mailing/Billing Address: 65 Bethany Road, Rolleston 7614

Street Address/Registered Office: as above

Daytime Phone No:

Cellphone: 021 0814 0973

Email Address: william.wu@sinotek.co.nz

After Hours No:

The Project

Description of building work (E.g. dwelling, commercial, farm shed, garage etc.):

Repair the earthquake damages in accordance with MBIE guidance

Will the building work result in a change of use of the building?

Yes

No



If **yes**, please provide details on intended use:

Intended life of the building:

Indefinite but not less than 50 years



OR Specified as years

Is this project being completed in Phases/Stages?

Yes

No



If so, what stage is this application? (of)

Related BC Numbers:

List Building Consents previously issued for this building (if any):

None

Estimated Value of Building Work on which levy will be calculated (inc. GST) as defined in Section 7 of the Building Act 2004:

\$20,2000

Restricted Building Work

Will the building work include any restricted building work? If **yes**, please provide the following details on all Licenced Building Practitioners involved. If these details are unknown at time of application, they must be supplied before work begins.

Yes



No

Note 1: For the table on the following page, enter the Licensed Building Practitioner (LBP) number or registration number if treated as being licensed under Section 291 of Building Act 2004.

Note 2: A Memoranda/Certificate of Design Work must be submitted for each LBP involved in the Design work. This form can be downloaded from ashburtondc.govt.nz

Name	Licence Class	LBP No.	Mailing Address	Phone No.	Work carried out or supervised
Builder to be arranged after consent					

Project Information Memorandum

Tick the matters relevant to the project. **Complete this section only if you have applied for a PIM:**



Subdivision



Alteration to land contours



New or altered connections to public utilities



New or altered locations and/or external dimensions of the buildings



New or altered access for vehicles



Building work over or adjacent to any road or public place



Disposal of storm water and waste water



Building work over any existing drains or sewers or in close proximity to wells or water mains



Rapid Numbers



Other matters known to the applicant that may require authorisations from the territorial authority.
Please specify:

None

Note: Development Contributions may be levied in cases where extra demand for services is required. Refer to our 'Customer Guide for Development Contributions' for more information.

Building Consent

Complete this section only if you have applied for a building consent:

Note: All plans and specifications must meet minimum requirements set out in the regulations or required by the Building Consent Authority.

The building work will comply with the Building Code as follows:

BUILDING CODE CLAUSE		MEANS OF COMPLIANCE (refer to the relevant compliance document(s) or detail of alternative solution in the plans & specifications; if not applicable, put n/a)	WAIVER/MODIFICATION REQUIRED (state nature of waiver or modification of building code required)
B1	Structure	NZS3604 ✓ NZS1170 NZS4229 B1/AS1 B1/AS2 B1/AS3 B1/AS4 Other:	
B2	Durability	B2/AS1 NZS3101 NZS3602 NZS3604 Other:	
C1	Objective	C/AS1 – C/AS7 C/VM1 C/VM2 Other:	
C2	Prevention of Fire Occurring	C/AS1 – C/AS7 C/VM1 C/VM2 Other:	
C3	Fire Affecting Areas Beyond Fire Source	C/AS1 – C/AS7 C/VM1 C/VM2 Other:	
C4	Movement to a Safe Place	C/AS1 – C/AS7 C/VM1 C/VM2 Other:	
C5	Access and Safety for Fire-Fighting Operations	C/AS1 – C/AS7 C/VM1 C/VM2 Other:	
C6	Structural Stability	C/AS1 – C/AS7 C/VM1 C/VM2 Other:	
D1	Access Routes	D1/AS1 NZS4121 Other:	
D2	Mechanical installations for access	D2/AS1 NZS4332 EN81 D2/AS2 D2/AS3 Other:	
E1	Surface water	E1/AS1 AS/NZS3500.3 Other:	
E2	External moisture	E2/AS1 E2/AS2 E2/AS3 E2/AS4 Specific design & testing	
E3	Internal moisture	E3/AS1 ES/AS2 Other:	
F1	Hazardous agents on site	F1/AS1 Other:	
F2	Hazardous building materials	F2/AS1 NZS4223 Other:	
F3	Hazardous substances and processes	F3/VM1 Other:	

F4	Safety from falling	F4/AS1 FSP Act Other:	
F5	Construction and demolition hazards	F5/AS1 Other:	
F6	Lighting for emergency	F6/AS1 Other:	
F7	Warning systems	F7/AS1 NZS4512 Other:	
F8	Signs	F8/AS1 Other:	
G1	Personal hygiene	G1/AS1 Other:	
G2	Laundering	G2/AS1 Other:	
G3	Food prep. And prevention of contamination	G3/AS1 Other:	
G4	Ventilation	G4/AS1 AS1668.2 Other:	
G5	Interior environment	G5/AS1 Other:	
G6	Airborne and impact sound	G6/AS1 Other:	
G7	Natural light	G7/AS1 Other:	
G8	Artificial light	G8/AS1 NZS6703 Other:	
G9	Electricity	G9/AS1 Other:	
G10	Piped services	G10/AS1 NZS5601 Other:	
G11	Gas as an energy source	G11/AS1 Other:	
G12	Water supplies	G12/AS1 G12/AS2 AS/NZS3500.1 AS/NZS3500.4 Other:	
G13	Foul water	G13/AS1 G13/AS2 G13/AS3 BS5572 AS/NZS3500.2 Other:	
G14	Industrial liquid waste	G14/AS1 Other:	
G15	Solid waste	G15/AS1 Other:	
H1	Energy efficiency provisions	H1/AS1 NZS4218 NZS4243 ALF Design Manual NZS4214 Other:	

Compliance Schedule

Not applicable if applying for a Project Information Memorandum (PIM) only)

Specified systems associated with this project			
Are there any specified systems being altered, added or to be removed in the course of the building work associated with this project? (specified systems are defined in regulations)			Yes No ☒
SS Code	Specified Systems Note: A Specified System Information Template must be completed for each Specified System. This form can be downloaded from ashburtondc.govt.nz	Applicable Systems	Specified System Information Template Completed?
1	Automatic systems for fire suppression <i>(for example, sprinkler systems)</i>		
2	Automatic emergency warning systems for fire or other dangers <i>(other than a warning system for fire that is entirely within a household unit and serves only that unit)</i>		
3	Electromagnetic or automatic doors or windows <i>(for example, ones that close on fire alarm activation)</i>		
4	Emergency lighting systems		
5	Escape route pressurisation systems		
6	Riser mains for use by fire services		
7	Automatic backflow preventers connected to a potable water supply		
8	Lifts, escalators, travelators, or other systems for moving people or goods within buildings		
9	Mechanical ventilation or air conditioning systems		
10	Building maintenance units providing access to exterior and interior walls of buildings		
11	Laboratory fumes cupboards		
12	Audio loops or other assistive listening systems		
13	Smoke control systems		
14	Emergency power systems for, or signs relating to, a system of feature specified in any clauses of 1 - 13		
15	Any or all of the following systems and features, so long as they form part of a building's means of escape from fire, and so long as those means also contain any or all of the systems or features specified in clauses 1 - 6, 9, and 13		
15a	Systems for communicating spoken information intended to facilitate evacuation; and		
15b	Final exits <i>(as defined by clause A2 of the building code)</i> ; and		
15c	Fire separations <i>(as so defined)</i> ; and		
15d	Signs for communicating information intended to facilitate evacuation; and		
15e	Smoke separations <i>(as so defined)</i>		
16	Cable Cars		
Purpose Groups:		Fire Hazard Category:	Max. Occupant Load:

Required Attachments

Please ensure that you have included these documents to your application. **Tick the documents that you have attached.**

- ✓ Plans and Specifications (2 copies for Residential and Commercial PIM only – 1 copy of Site Plans, Floor Plan and Elevations)
- ✓ Project Information Memorandum
 - Certificate attached to Project Information Memorandum
 - Development Contribution Notice New or altered access for vehicles
 - Evidence of Ownership
 - Building Consent Application Checklist (Residential or Commercial)
 - Memoranda (Certificate of Design Work) from each Licensed Building Practitioner who carried out or supervised any design work that is restricted building work
 - Specified System Information Template for each Specified System
 - Application fee (Refer to our current Schedule of Fees and Charges at ashburtondc.govt.nz)

Note: All plans and specifications must meet minimum requirements set out in the regulations or required by the Building Consent Authority.

Notes by Applicant (Please include any notes or comments you may wish to add)

Method of Payment

Cash	Cheque	Eftpos
Credit Card	Direct Credit	
Fee payer for lodgement fees:		
Fee payer for processing fees prior to BC uplift:		
Fee payer for fees incurred after BC uplift:		

Note: For direct credit, please make payment to account number 03-15920521970-00 include name of applicant and the Building Consent Number (if known). If you don't know the Building Consent number, please enter letters BC in the reference field. This will enable us to match your payment and prevent delays in processing your request.

Privacy Act 2020

Applicants for Building Consents are advised that the details provided on the Building Consent Application form are required to be held in a public register and on file where they may be perused by any interested individual. A summary of information compiled from these forms is also provided to the Councils Valuation Service Provider, Department of Building and Housing, Building Research Association, the media and on request, to the public. The consequence of not providing information is that a Building Consent will not be issued.

Signature

Declaration: I declare as owner or agent of the owner, that I have provided all the information requested on this form, in relation to the project site, known to the owner and agent. I am aware that withholding any such information may invalidate the Project Information Memorandum and the Building Consent issued by Council.

Signed by Owner or on behalf of the owner:

Date:

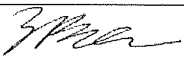


19 Jan 2021

Name: Zheng Ping Wu (William)

Site Inspection Report

Project Name : 8 Woodham Drive, Allenton Project number: 212001
Date : 18/March/2021 Time: 10:00 am Weather: Sunny
Trade(s) Inspected Repair in accordance with MBIE guidance;
EXBC004/21, report and drawings No.ST01 to 08

Inspection details	: Floor re-level and foundation repair. The overall floor level difference is now 26mm, less than 50mm. Hence ok. Plan attached
Outcome	: Pass
Inspected by	: Zheng Ping Wu (William)
Signed	: 
Date	: 6 April 2021

Floor plan of a house with the following rooms and associated numerical values:

- Kitchen:** 8
- Living & Dining:** 2, 2, -2, 2, 4
- Bedroom (Top Left):** -14, -22, -14, -12, -14, -14
- WC:** -14
- Bath:** -8
- Bedroom (Top Right):** -8, -12, -14
- Bedroom (Middle Right):** -14, -14, -10, -14
- Bedroom (Bottom Right):** -12, -16, -14, -8, -10, -8, -6

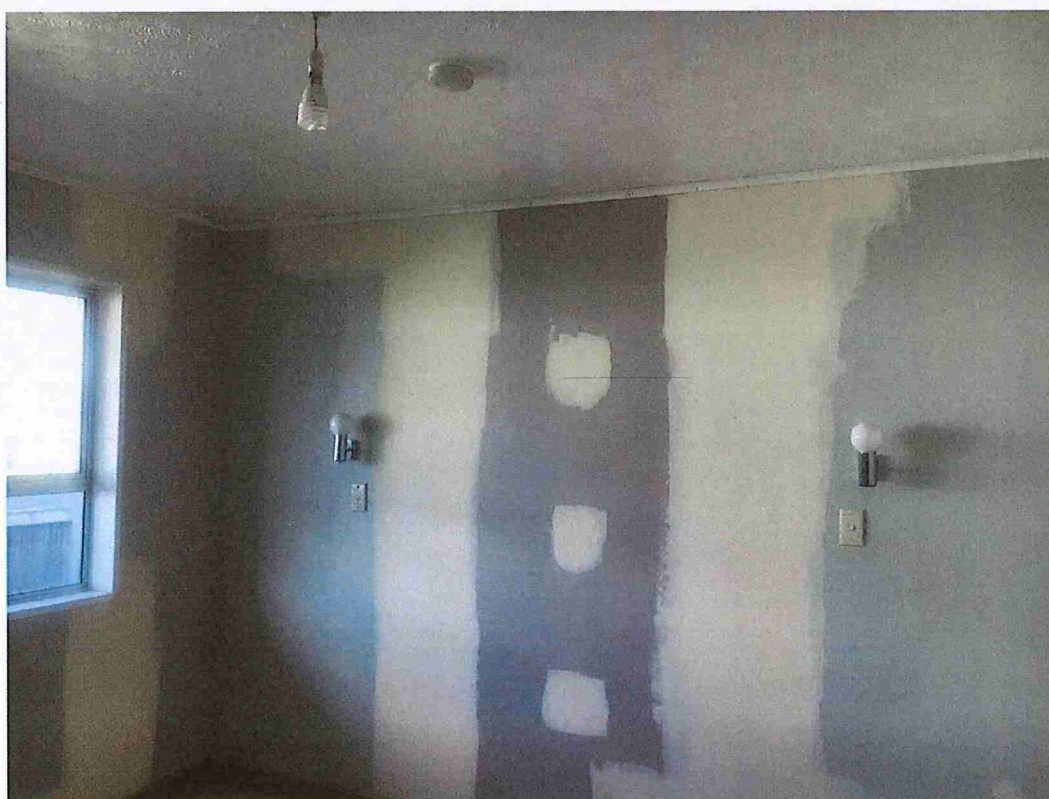
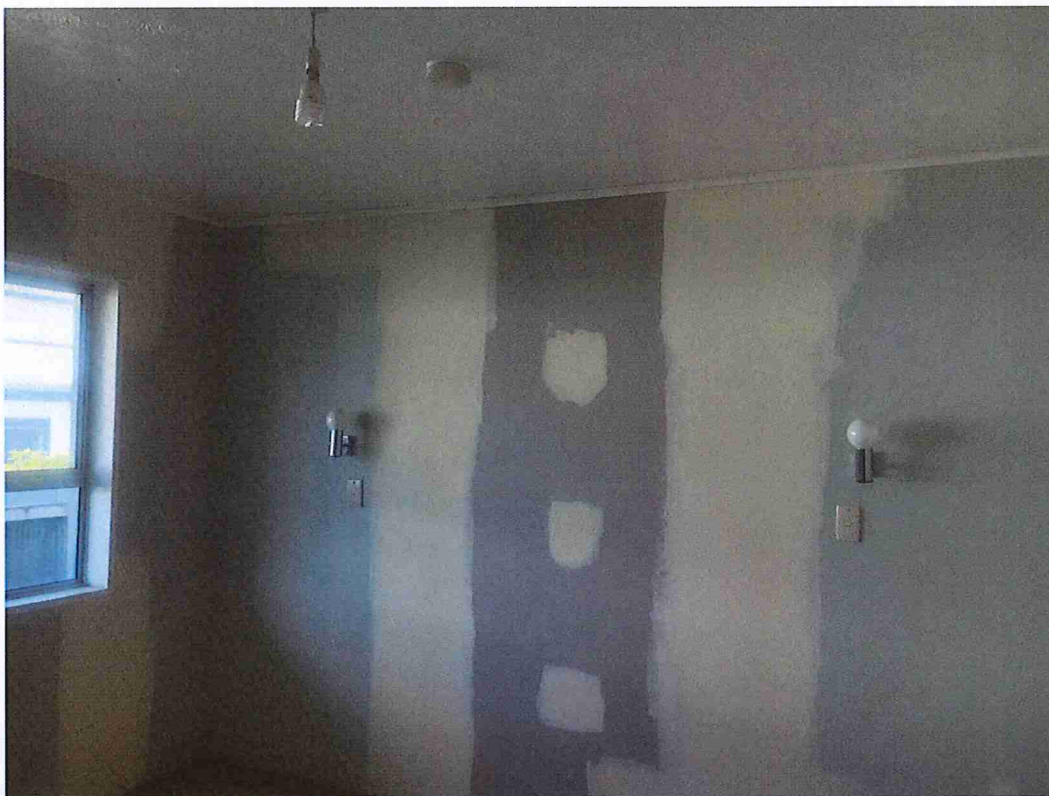
18 March 2021

Floor level measurements after re-levelling









Consenting & Compliance Group

**Producer statement construction
(PS3)**

All sections of this PS3 must be completed

Tick applicable Contractor for:

- | | | | |
|---|---|---|------------------------------------|
| ☒ Building | ☐ Emergency Lighting | ☐ Cladding | ☐ Escalator |
| ☐ Waterproof Membranes | ☐ Drainlayer | ☐ Fire Alarm | ☐ Lift |
| ☐ Mechanical (HVAC) | ☐ Solar Heating | ☐ Other (specify): | |

Author name:

Ben Gill

Author company:

BMA Building Ltd

Site address:

8 Woodham Drive

Description of building work:

re leveling internal piles, new piles installed where needed tied down with stainless cf200s and existing Fixing J.
New driveway/paths with mesh installed. Photos for evidence

Owners Details:

Paul Crouchley

Scope of work covered by statement:

System/Product used (if applicable):

I (constructor):

Ben Gill

have been engaged by

(applicant, designer, main contractor etc)
to construct:

Paul Crouchley

☒ part ☐ all

As specified in the attached particulars of Building Consent Number:

and its attached conditions

I am satisfied on reasonable grounds that the building work specified above has been completed to the extent required by that Building Consent and complies with the NZ Building Code.

NZBC clauses:
(select as applicable)

- | | | | | | | | | | | | |
|--|-----------------------------|-----------------------------|-----------------------------|-----------------------------|-----------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|------------------------------|
| ☒ B1 | ☐ B2 | ☐ C1 | ☐ C2 | ☐ C3 | ☐ C4 | ☐ C5 | ☐ C6 | ☐ D1 | ☐ D2 | ☐ E1 | ☐ E2 |
| ☐ E3 | ☐ F1 | ☐ F2 | ☐ F3 | ☐ F4 | ☐ F5 | ☐ F6 | ☐ F7 | ☐ F8 | ☐ G1 | ☐ G2 | ☐ G3 |
| ☐ G4 | ☐ G5 | ☐ G6 | ☐ G7 | ☐ G8 | ☐ G9 | ☐ G10 | ☐ G11 | ☐ G12 | ☐ G13 | ☐ G14 | ☐ G15 |
| ☐ H1 | | | | | | | | | | | |

I understand that this Producer Statement, if accepted, may be relied on by the Council for the purpose of establishing compliance with the Building Consent.

Registration No:	Or	☐ N/A
BP134367		
Qualifications/Experience:		
N2&A - Carpentry		
Address:		Postcode:
8 Waterford Place Tinwald		7700
Phone:	Fax:	
Mobile:	Email:	
027 5945159	bmgbuildingltd@hotmail.co.uk	
Signature:	Date:	
Ben McIntosh	31/3/2021	

PROPOSED REPAIR WORKS FOR RESIDENTIAL DWELLING AT

8 WOODHAM DRIVE
ALLENTON
ASHBURTON 7700

PROJECT NO. : 212001
DATE : 15 JANUARY 2021
ISSUE : FOR COUNCIL CONSENT

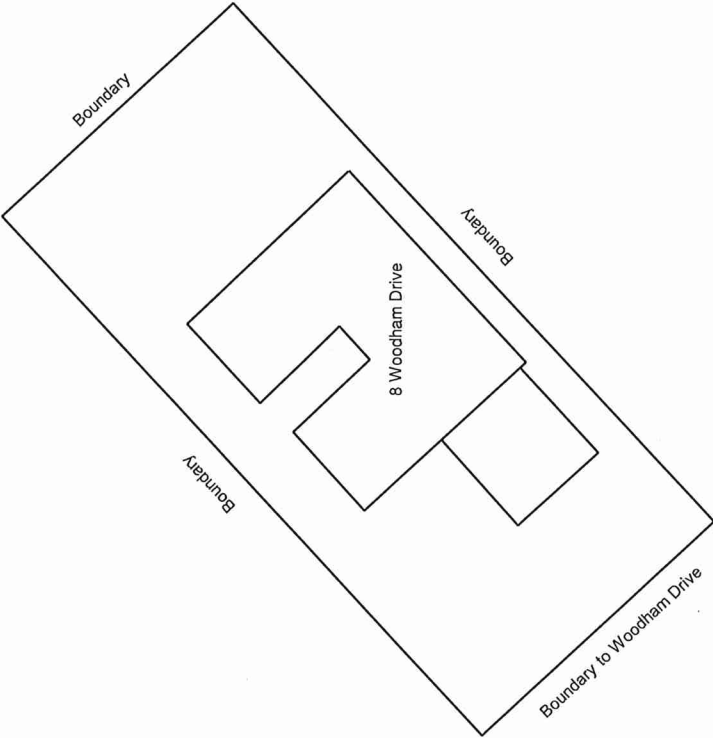
GENERAL NOTES: 1. ENGINEERING DRAWINGS ARE TO BE READ IN CONJUNCTION WITH ALL OTHER RELEVANT DOCUMENTATION 2. DO NOT SCALE ANY DRAWINGS. FOR SETTING OUT INFORMATION, REFER TO ARCHITECTS DOCUMENTATION. 3. THE CONTRACTOR IS TO ENSURE TEMPORARY STABILITY OF BUILDING AND GROUND AT ALL TIMES. ANY TEMPORARY LOADING CONDITIONS IMPOSED BY THE CONSTRUCTION TECHNIQUES ARE TO BE CHECKED BY THE CONTRACTOR. 4. ALL WORKMANSHIP AND CONSTRUCTION PRACTICE IS TO BE TO THE LATEST EDITIONS OF NZ STANDARDS (AND OTHER RELEVANT STANDARDS). 5. ALL WORKS IS TO BE CARRIED OUT TO THE NZ BUILDING CODE AND ANY TERRITORIAL AUTHORITY REQUIREMENTS 6. ANY DISCREPANCIES SHOULD BE IMMEDIATELY REFERRED TO THE ARCHITECT AND ENGINEER FOR RESOLUTION. 7. FOR ANY NOMINATED PRODUCTS, ACCEPTABLE ALTERNATIVE PRODUCTS MAY BE SUBMITTED BY THE CONTRACTOR FOR APPROVAL 8. THE FOLLOWING ABBREVIATIONS HAVE BEEN USED: SOP SET OUT POINT SFL STRUCTURAL FLOOR LEVEL NGL NATURAL GROUND LEVEL FFL FINISHED FLOOR LEVEL UNO UNLESS NOTED OTHERWISE NTS NOT TO SCALE 9. CONTRACTOR AND FABRICATORS SHALL CONFIRM ALL DIMENSIONS PRIOR TO COMMENCEMENT OF WORK. DISCREPANCIES, IF FOUND SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE ENGINEER. 10. ALL THE REPAIR AND STRENGTHENING SHALL BE FINISHED PRIOR TO STARTING THE ALTERATION WORKS. 11. CONTRACTOR SHALL PROVIDE ALL THE HEALTH AND SAFETY MEASURES AS REQUIRED BY THE WORK AND BY THE LATEST RULES, CODES AND STANDARDS. CONCRETE WORK: 1. MATERIAL AND WORKMANSHIP SHALL COMPLY WITH THE REQUIREMENTS OF NZS 3109 CONCRETE CONSTRUCTION. 2. ALL CONCRETE SHALL BE "NORMAL" GRADE FROM A PLANT HAVING A CURRENT "CERTIFICATE OF AUDIT" ISSUED BY THE NZ READYMIX CONCRETE ASSOCIATION. CONCRETE SHALL BE HAVE A MAXIMUM AGGREGATE SIZE OF 20MM UNLESS OTHERWISE SHOWN ON THE DRAWINGS. THE NOMINAL SLUMP OF THE CONCRETE SHALL BE 80MM FOR ALL CONCRETE, SUBJECT TO TOLERANCE SPECIFIED IN NZS 3109, READ-MIXED CONCRETE SHALL COMPLY WITH THE REQUIREMENTS OF NZS 3104. THE READY-MIX CONCRETE SUPPLIER SHALL PROVIDE WITH EACH TRUCK LOAD OF CONCRETE DELIVERED TO SITE A DELIVERY SHOWING THE DATE, THE TIME THAT MIXING WAS COMPLETED, THE SPECIFIED STRENGTH AND SLUMP AND THE WATER : CEMENT RATIO. THE CONTRACTOR SHALL COLLECT THESE DOCKETS AND MAKE THEM AVAILABLE TO THE ENGINEER FOR INSPECTION UPON REQUEST. SITE MIXING OF CONCRETE WILL NOT BE PERMITTED WHERE READY-MIX CONCRETE IS AVAILABLE UNLESS SPECIAL CONCRETE ARE REQUIRED. THE CONTRACTOR SHALL NOTIFY THE ENGINEER IN WRITING WELL BEFORE COMMENCING THE WORK IF THE SITE-MIXED CONCRETE IS INTENDED TO BE USED. 3. THERE SHALL BE NO ADDITION OF WATER OR ANY OTHER MATERIAL TO THE CONCRETE AT THE SITE WITHOUT THE APPROVAL OF THE ENGINEER. THE CONCRETE SHALL NOT BE PLACED AT A TIME OR UNDER SUCH CONDITIONS WHICH WILL NOT PERMIT THE REQUIREMENTS OF THIS SPECIFICATION TO BE MET. SIKAMANT NN SUPER-PLASTICISER MAY BE ADDED TO THE CONCRETE AT A DOSAGE RATE THAT ENSURES THAT THE CONCRETE MEETS THE REQUIREMENTS OF THIS SPECIFICATION AND THE CONTRACTOR'S REQUIREMENTS FOR WORKABILITY. OTHER ADMIXTURES SHALL BE PRESENTED TO THE ENGINEERING FOR APPROVAL BEFORE USE. APPROVED ADMIXTURES SHALL COMPLY WITH NZS 3114 AND THEIR USE IN CONCRETE SHALL BE IN ACCORDANCE WITH THAT CODE. ADMIXTURES SHALL NOT CONTAIN CALCIUM CHLORIDE, NOR SHALL THEY ADVERSELY AFFECT THE REINFORCEMENT OR ANY PROTECTIVE COATING THEREON. ALL ADMIXTURES SHALL BE ADDED AT THE BATCHING PLANT UNLESS THE APPROVAL OF THE ENGINEER IS OBTAINED OTHERWISE. THE HANDLING AND USE OF ALL ADMIXTURES SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S INSTRUCTIONS. 4. THE VARIOUS CONCRETE COMPONENTS SHALL HAVE THE FOLLOWING COMPRESSIVE STRENGTHS AT 28 DAYS. SITE CONCRETE FOUNDATIONS GROUND FLOOR SLABS 17.5 MPa 25 MPa 25MPa 5. CONCRETE SHALL NOT BE PLACED WITHOUT THE PERMISSION OF THE ENGINEER.		RE-LEVELLING NOTES (Timber floor area) 1. RELEVELING WORK TO BE CARRIED OUT OR OVERSEEN BY A COMPETENT, QUALIFIED & SUITABLY EXPERIENCED CONTRACTOR 2. ALL WORK SHALL COMPLY WITH THE RELEVANT CHAPTERS OF NZS 3604:2011, NEW ZEALAND CODE AND APPROVED DOCUMENTS AND ALL OTHER RELEVANT REGULATIONS, STANDARD & ORDINANCES; MBIE REPAIRING AND REBUILDING HOUSES AFFECTED BY THE CANTERBURY EARTHQUAKES; 3. THE CONTRACTOR SHALL ENSURE RE-LEVELLING WORKS DO NOT INCREASE AMOUNT OF THE BUILDING DAMAGES; 4. IT IS THE CONTRACTOR'S RESPONSIBILITY TO LOCATE ALL EXISTING SERVICES AND CONFIRM ALL DIMENSIONS AND SITE CONDITIONS BEFORE COMMENCEMENT OF ANY WORK; 5. ALL TIMBER PILES TO BE TREATED TO NZTPC HAZARD CLASSIFICATION H3 AND OTHER TIMBER TO BE HAZARD CLASSIFICATION H3; ALL CUTS AND NOTCHES SHALL BE TREATED WITH "ENSEAL" TIMBER PRESERVATIVES; 6. TYPICAL FIXINGS BETWEEN PILES AND BEARERS/BOTTOM PLATES AS PER NZS 3604:2011; ALL BOLTS, WASHERS AND NAILS TO BE HOT DIP GALVANISED, USE GRADE 304 STAINLESS STEEL WHERE SUB-FLOOR FIXINGS ARE WITHIN 600MM OF GROUND LEVEL AS PER NZS 3604:2011 SECTION 4-DURABILITY; 7. PACKING TO BE PLACED WHERE REQUIRED ON BEARERS/JOISTS/PILES TO FIT AND WELL NAILED TO EXISTING BEARERS AFTER RE-LEVELLING; 8. BUILDER TO RE-LEVEL FLOOR AND RE-PACK OTHER FLOOR PILES AS PER ENGINEER'S REQUIREMENTS; 9. ALL CONCRETE WORK TO BE CARRIED OUT IN ACCORDANCE WITH NZS 3109, 20MPa FOR CONCRETE FOOTINGS. 10MPa FOR SITE CONCRETE; 10. ALL FOUNDATIONS SHALL EXTEND DOWN TO SOLID BEARING WHICH MUST BE CONFIRMED BY ENGINEER PRIOR TO CONCRETE POUR; 11. SHOULD SOFT CLAD, PEAT OR FILLED GROUND BE ENCOUNTERED ON SITE, THE ENGINEER SHALL BE CONSULTED FOR ADDITIONAL FOUNDATION DETAILS; 12. IF CONCRETE FOOTING LIFTED, ANY VOIDS CREATED SHALL BE FILLED WITH HIGH PRESSURE, FLOW-ABLE AND NON-SHRINK GROUT TO ENSURE NO CAVITIES REMAIN; 13. FINAL CONSTRUCTION DETAILS TO BE CONFIRMED DURING SITE VISIT WITH ENGINEER & CONTRACTOR PRIOR TO WORKS PROCEEDING; 14. CONTRACTOR TO PROVIDE PS3 & FINAL FLOOR LEVEL PLAN CONFIRMING THAT THE FINAL LEVELS COMPLY WITH THE MBIE GUIDANCE AS NOTED ABOVE.
SINO TEK™ ENGINEERING The Trusted Structural Engineer Email: william.wu@sinoitek.co.nz Mobile: (+64) 021 0814 0973	DRAWING TITLE: NOTES PROJECT: PROPOSED REPAIR WORKS FOR RESIDENTIAL DWELLING AT 8 WOODHAM DRIVE, ALLENTON, ASHBURTON 7700 CLIENT: PAUL CROUCHLEY	
ENGINEER: ZPW DATE: January 21 SKETCH NO: 212001-ST-ST01 Rev A PROJ.NO.: 212001		

HAZARDS

New construction area to be fully fenced before commencing construction. All work to comply with NZBC clause F5/AS1 part 1.

SEDIMENT CONTROL

- 1) Sediment to be controlled where foundation or roofing drainage area to be removed.
- 2) All sediment control to comply with NZBC E1
- 3) Contractor to oversee all sediment control.
- 4) Strawbales to be laid all boundaries where run off may occur.
- 5) Strawbales to be placed in a 200mm deep trench, tied together and anchored to ground with stakes.
- 6) Surplus gravel to be contained behind sediment fences.



PROPERTY NOTES

Land description: Lot 12 DP 33267
Site area: 725m² appx.
Slope: No slope

Dwelling information:
Gross Floor Area: 190m² appx.
Year built: 1970's appx.

Levels:
Construction: 1
A1. the internal piles without perimeter footing. Block external wall cladding and long-run corrugated roof

Property specification
CERA Zone: -
Technical category: N/A
Wind zone: low
Wind region: A
Exposure Zone: 2
Snow zone: N4

Restricted Building Work covered by this design:
Foundation and floor: Localised perimeter beam crack repair using grouting, pressure injection;
Floor re-levelling

SITE LAYOUT PLAN N.T.S.

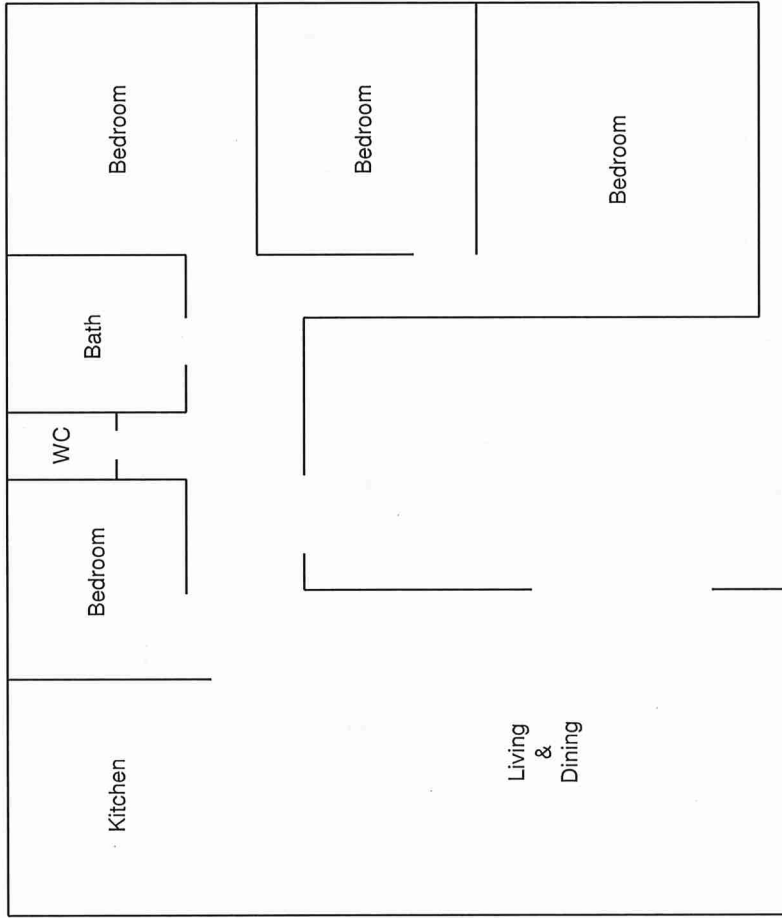
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ENGINEERING
The Trusted Structural Engineer

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Mobile: (+64) 021 0314 0973

DRAWING TITLE: SITE LAYOUT PLAN	ENGINEER: ZPW
PROJECT: PROPOSED REPAIR WORKS FOR RESIDENTIAL DWELLING AT 8 WOODHAM DRIVE, ALLENTON, ASHBURTON 7700	DATE: January 21
CLIENT: PAUL CROUCHLEY	SKETCH NO: 212001-ST-ST02 Rev A
	PROJ.NO.: 212001

NOTE

- 1) The layout and dimensions are approximate based on site inspection



Floor Layout Plan N.T.S.

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 Mobile: (+64) 021 0814 0973

DRAWING TITLE: FLOOR LAYOUT	ENGINEER: ZPW
PROJECT: PROPOSED REPAIR WORKS FOR RESIDENTIAL DWELLING AT 8 WOODHAM DRIVE, ALLENTON, ASHBURTON 7700	DATE: January 21
CLIENT: PAUL CROUCHLEY	SKETCH NO: 212001-ST-ST03 Rev A
	PROJ.NO.: 212001

- 1) Floor level to be re-measured after floor coverings removed and before re-levelling commences to ensure the successful re-levelling operation.
- 2) The drawings are to be read in conjunction with the Engineers evaluation, scoping reports and any relevant photos and documents.
- 3) Contractor to verify the extent of repair. Any discrepancy shall be report to the client and the Engineer.
- 4) Final levelling of floor slopes may vary and should be verified if substantially different from the target levels. Re-levelling to be carried out by an experienced contractor. The contractor needs to endeavour to minimise any subsequent damage occurring whilst re-levelling. Notify the engineer and the client should any damage arises.
- 5) No part of the floor shall have a finished floor level variation greater than 1:200 (0.5%).
- 6) Carpet, vinyl, tile floor covering to be removed before re-levelling commences.
- 7) Patios/Decks/Paths/Concrete steps/Driveways/Fence may need to be removed for re-levelling operation; and to be reinstated afterwards. This is to be discussed and confirmed with the client and Engineer before work commences.
- 8) Contractor to check the underground services before excavation. Also to be checked are the services in the concrete slab and below the concrete slab before cut the access openings in the concrete slab.



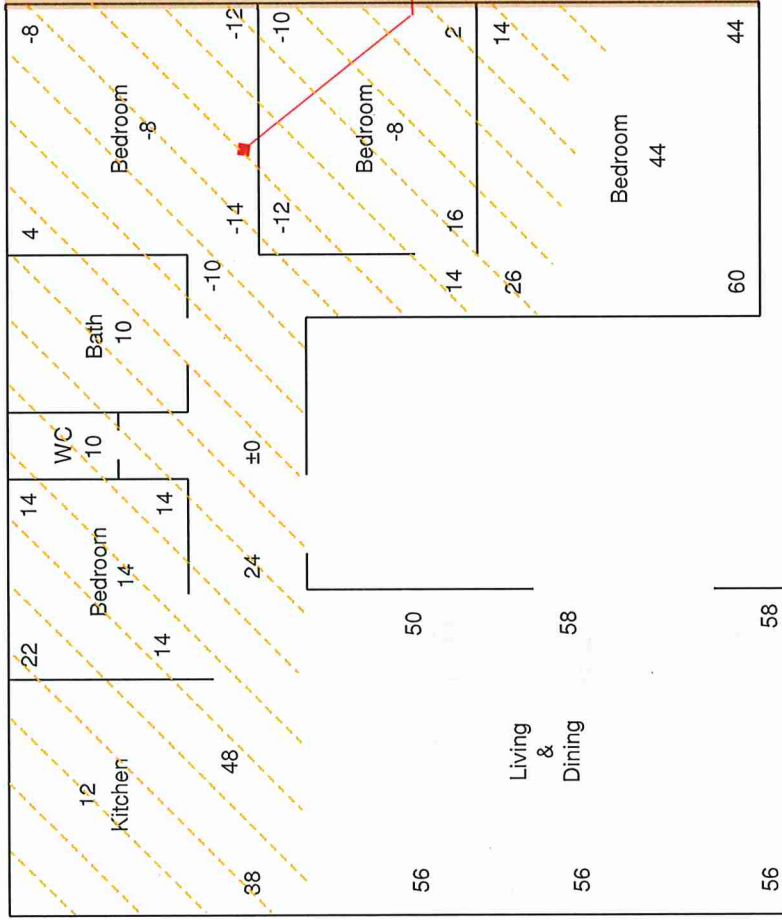
DRAWING TITLE:	FLOOR LEVEL MEASUREMENTS	ENGINEER: ZPW
PROJECT:	PROPOSED REPAIR WORKS FOR RESIDENTIAL DWELLING AT 8 WOODHAM DRIVE, ALLENTON, ASHBURTON 7700	DATE: January 21
CLIENT:	PAUL CROUCHLEY	SKETCH NO.: 212001-ST-ST04 Rev A
		PROJ.NO.: 212001

Note:

- 1) The re-levelling area is indicative and shall be determined on site to achieve the local slope less than 0.5% and the overall floor level less than 50mm

Perimeter Footing:

- 1) For crackwidth < 2mm:
 - Prepare the crack surface for injection by grinding the "v" shape path along the crack line;
 - Pressure epoxy injection repair the crack;
 - Fill back the "v" path using Sikadur 31 CF Normal ;
- 3) For cracks more than 2mm and less than 5mm in width to be repaired using Sikadur 52 or similar approved;
- 4) Cracks between 5mm and 10mm in width to be repaired using Sikadur 31 CF Normal or similar approved;
- 5) For cracks over 10mm in width, report to the Engineer



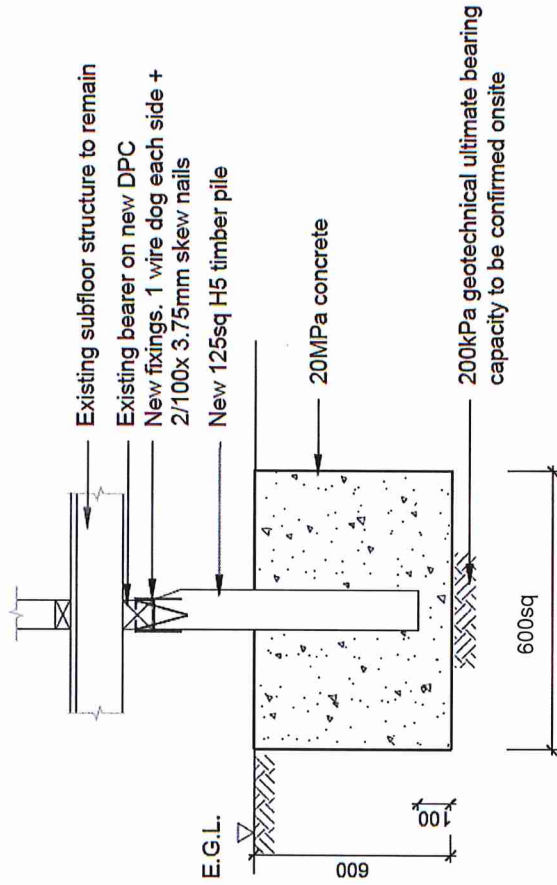
Re-level the perimeter by underpinning method, ST08

Floor

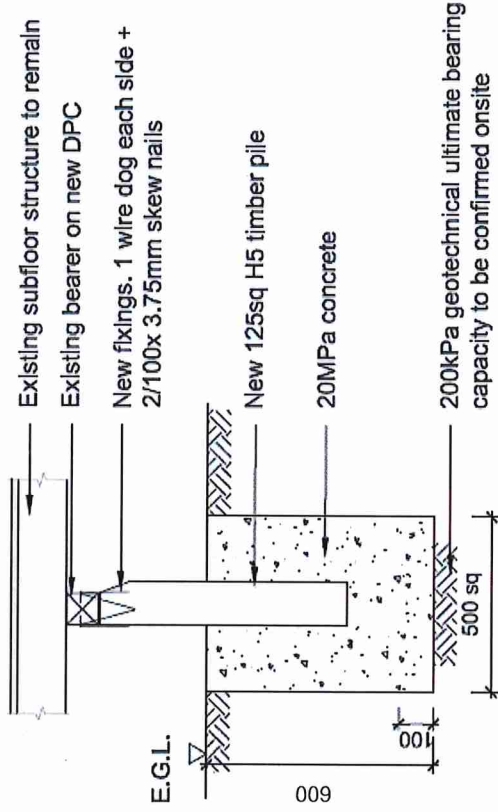
- 1) To be re-levelled to achieve the overall floor level less than 50mm and the local slope less than 0.5% in accordance with MBIE guidance by jack-and-pack, details refer to ST06, ST07; or lowering the floor bearer in accordance with NZS3604

Internal Piles

- 1) Detail inspection to be carried out in the whole sub-floor
- 2) Any damaged connection between pile and bearer is to be reinstated.
- 3) Any pile of the following situation is to be replaced in accordance with the details given in ST06.
 - a. structurally damaged, or;
 - b. tilted more than 15mm/1m, or;
 - c. packed more than 50mm, or;
 - d. misaligned in the row more than 10mm



**DETAIL FOR REPLACEMENT OF PILES (TIMBER
PILE UNDERNEATH LOAD BEARING WALL) N.T.S.**



**DETAIL FOR REPLACEMENT OF PILES
(ORDINARY TIMBER PILE) N.T.S.**

NOTE

- 1) Select the appropriate detail to match with the existing subfloor structures;
- 2) New pile fixings are to comply with NZS3604
- 3) Any new structural connections with 600mm of the ground, including wire dogs, but excluding nails and screws shall be grade 304 stainless steel;
- 4) Existing subfloor frames may be notched in accordance with NZS3604.

DRAWING TITLE: DETAILS

PROJECT: PROPOSED REPAIR WORKS FOR RESIDENTIAL DWELLING AT 8 WOODHAM DRIVE,
 ALLENTON, ASHBURTON 7700

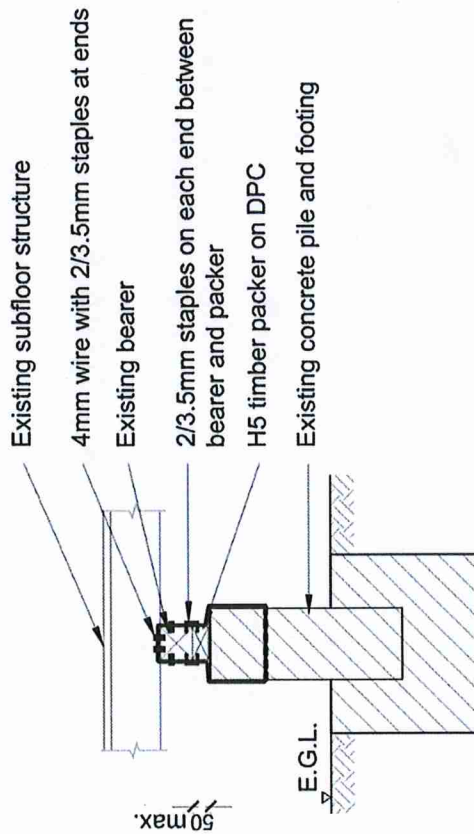
CLIENT: PAUL CROUCHLEY

ENGINEER: ZPW

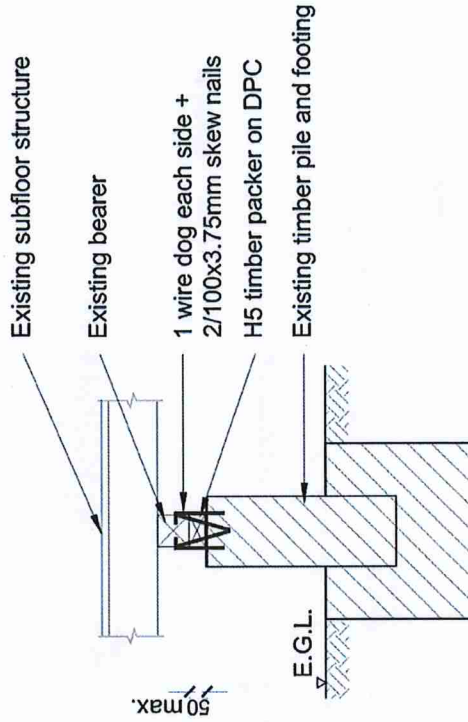
DATE: January 21

SKETCH NO: 212001-ST-ST06 Rev A

PROJ.NO.: 212001



**DETAIL FOR REPACKING OF
ORDINARY CONCRETE PILES N.T.S.**



**DETAIL FOR REPACKING OF
ORDINARY TIMBER PILES N.T.S.**

NOTE

- 1) Select the appropriate detail to match with the existing subfloor structures;
- 2) New pile fixings are to comply with NZS3604
- 3) Any new structural connections with 600mm of the ground, including wire dogs, but excluding nails and screws shall be grade 304 stainless steel;
- 4) Existing subfloor frames may be notched in accordance with NZS3604.

DRAWING TITLE: DETAILS

PROJECT: PROPOSED REPAIR WORKS FOR RESIDENTIAL DWELLING AT 8 WOODHAM DRIVE,
 ALLENTON, ASHBURTON 7700

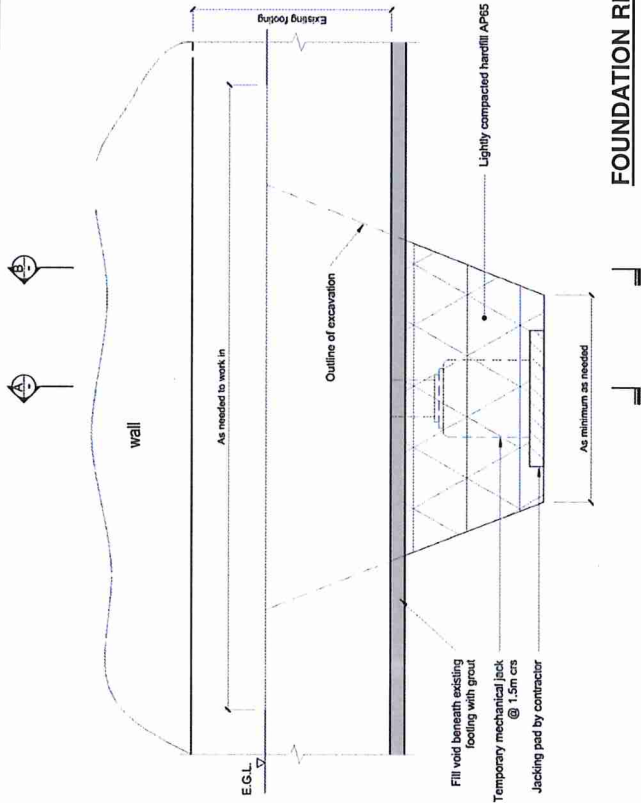
CLIENT: PAUL CROUCHLEY

ENGINEER: ZPW

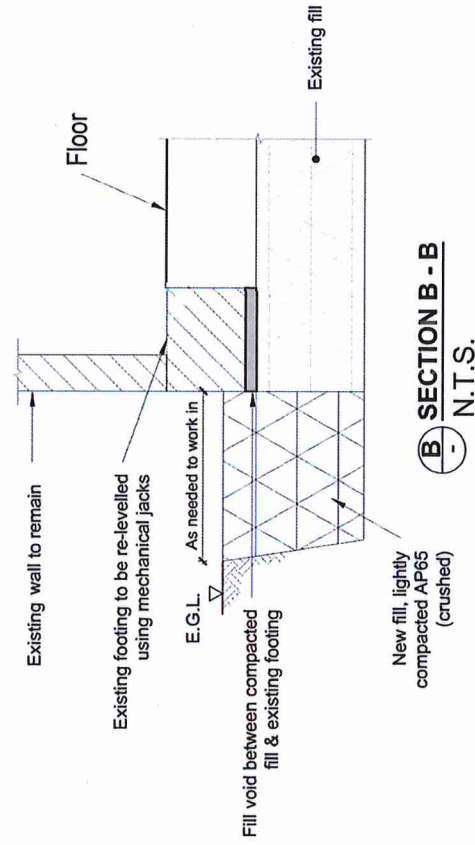
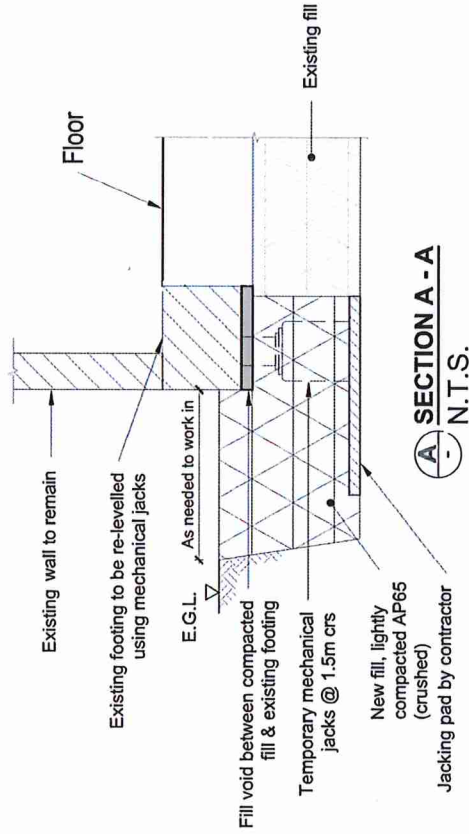
DATE: January 21

SKETCH NO: 212001-ST-ST07 Rev A

PROJ.NO.: 212001



FOUNDATION RE-LEVEL ELEVATION



DRAWING TITLE: DETAILS

PROJECT: PROPOSED REPAIR WORKS FOR RESIDENTIAL DWELLING AT 8 WOODHAM DRIVE,
 ALLENTON, ASHBURTON 7700

CLIENT: PAUL CROUCHLEY

ENGINEER: ZPW

DATE: January 21

SKETCH NO: 212001-ST-ST08 Rev A

PROJ.NO.: 212001

SPECIFICATION-Structural

Repair Works

Sikadur® 52

Low viscosity crack injection epoxy

Positioning Description

A solvent free, two component, low viscosity liquid based on high strength epoxy resins. After mixing it becomes a deeply penetrative liquid with strong adhesive qualities.

Uses

For injecting and filling cracks (0.2 to 5 mm wide) in precast and insitu concrete components to bond the sections together, thereby restoring the structural integrity of the element.

Advantages

- Highly flowable, penetrating and solvent free.
- Shrinkage free hardening.
- Excellent adhesion to most substrates.
- High mechanical and adhesive strength.
- High early strength.
- Chemical resistance typical of epoxy resins.
- Does not become brittle – retains a very slightly flexible nature.

Tests Approvals / Standards

Tested in accordance with BS6319. Complies with ASTM C881-78, Type 1, Grade 1, Class B + C.

Product Data

Type:

Solvent free epoxy resin liquid.

Colours:

Clear Straw colour when mixed.

Packaging:

Supplied in 0.9 litre (1.0kg), 2.78 litre (3kg), 7.43 litre (8kg) units (Component A + B)

Storage & Shelf Life:

Three (3) years in unopened, original containers when stored in dry conditions between 5°C and 25°C.

Technical Data

Density:

Approx. 1.1 kg/litre

Service temp:

< 70°C

Application temp:

5°C to 30°C

Shrinkage:

Negligible

Compressive strength: (at 20°C)

24 hours = 35 MPa approx.
7 days = 45 MPa approx.

Flexural strength:

14 MPa approx.

Tensile strength:

25 MPa approx.

Elastic modulus:

3,500 MPa approx.

Bond strength:

Sandblasted Steel = 15 MPa approx.
Sandblasted Concrete = 3.5 MPa approx.

Pot life (1 Litre mix): (approx. time)

5°C	10°C	20°C	30°C
75 mins.	60 mins.	20 mins.	10 mins.

Coverage rate:

Approx. 3 to 5 m²/litre/coat on floors, depending on porosity.

Application Conditions

Surface Preparation

- All concrete surfaces must be clean and free from any loosely adhering particles, or contaminants such as dirt, oil, dust, grease, etc.
- All cement laitance should be removed by scabbling, sandblasting, etc.
- When Sikadur 52 is used for injection purposes the cracks must be blown out with oil free, dry compressed air. Crack widths between 0.2 mm and 5 mm may be successfully injected.

Mixing

- Add the entire contents of Component B to Component A. Using a Sika mixing paddle attached to a low speed electric drill (max. 500 rpm) mix together for at least 3 minutes.
- Part batching of Sikadur 52 is not recommended unless strict measurement of the components, in accordance with the mix ratio of the factory proportioned pack, is observed and adhered to.



Application	<i>Basic guidelines for crack injection are as follows:</i> - Using Sikadur 31 epoxy adhesive, fasten Sika Injection Flanges over the cleaned and prepared cracks at 300 to 500 mm intervals. The remainder of crack is also sealed off with Sikadur 31. - Once the Sikadur 31 has cured the flanges should be blown through in a continuous sequence with clean compressed air. - After the Sikadur 52 has been mixed it can be loaded into a Sika bulk dispensing gun, adapted to take liquid epoxies. - The Sikadur 52 should be injected (approx. 25 – 30 psi) into the first and lowest flange over the crack until epoxy starts oozing out of the flange immediately above. - Seal off the lower flange and transfer the gun to the new flange above. - Continue this sequence until all flanges have been injected and sealed. - After Sikadur 52 has cured the flanges and Sikadur 31 can be ground from the surface of the crack using an angle grinder or similar. - Allow 5 to 7 days curing for full structural integrity of the repair component to be achieved. - Sika (NZ) Ltd can recommend approved contractors for this specialised work.
Cleaning	- Clean all tools and equipment immediately after use with Sika Thinner C. - It is recommended that protective gloves and clothing be worn during application, however, uncured Sikadur 52 may be removed from skin with warm soapy water. - Cured Sikadur 52 can only be removed mechanically.
Important Notes	- Crack injection work should be left for 5 to 7 days to fully cure before full structural integrity is achieved. - Do not dilute Sikadur 52 with solvent. - In cases where fine cracks occur it may be difficult to attain satisfactory injection of epoxy with hand operated equipment. We suggest a specialist applicator be used for this type of work. - Sikadur 52 will not cure at temperatures below 5°C. - The temperature at which Sikadur 52 is stored during the 24 hours before mixing will govern its pot life when mixed.
Notes	All technical data stated in this Product Data Sheet are based on laboratory tests. Actual measured data may vary due to circumstances beyond our control.
Local Restrictions	Please note that as a result of specific local regulations the performance of this product may vary from country to country. Please consult the local Product Data Sheet for the exact description of the application fields.
Safety Instructions	
Protective Measures	- To avoid rare allergic reactions, we recommend the use of protective gloves. Change soiled work clothes and wash hands before breaks and after finishing work. - Local regulations as well as health and safety advice on packaging labels must be observed. - For further information refer to the Sika Material Safety Data Sheet which is available on request. - If in doubt always follow the directions given on the pack or label.
Transportation Class	Sikadur 52, Component B has a dangerous goods classification for transportation: Haz. Class 8, UN No. 1760, Haz. Chem. 2R, Packing Group III.
Important Notes	- Residues of material must be removed according to local regulations. Fully cured material can be disposed of as household waste under agreement with the responsible local authorities. - Detailed health and safety information as well as detailed precautionary measures e.g. physical, toxicological and ecological data can be obtained from the safety data sheet.

Legal Notes

The information, and, in particular, the recommendations relating to the application and end-use of Sika products, are given in good faith based on Sika's current knowledge and experience of the products when properly stored, handled and applied under normal conditions in accordance with Sika's recommendations. In practice, the differences in materials, substrates and actual site conditions are such that no warranty in respect of merchantability or of fitness for a particular purpose, nor any liability arising out of any legal relationship whatsoever, can be inferred either from this information, or from any written recommendations, or from any other advice offered. The user of the product must test the product's suitability for the intended application and purpose. Sika reserves the right to change the properties of its products. The proprietary rights of third parties must be observed. All orders are accepted subject to our current terms of sale and delivery. Users must always refer to the most recent issue of the local Product Data Sheet for the product concerned, copies of which will be supplied on request.

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Sikadur® 52



2/2

PRODUCT DATA SHEET

Sikadur®-31 CF Normal

2-COMPONENT THIXOTROPIC EPOXY ADHESIVE

DESCRIPTION

Sikadur®-31 CF Normal is a moisture tolerant, thixotropic, structural 2-component adhesive and repair mortar, based on a combination of epoxy resins and special fillers, designed for use at temperatures between +10 °C and +30 °C.

USES

Sikadur®-31 CF Normal may only be used by experienced professionals.

As a structural adhesive and mortar for:

- Concrete elements
- Hard natural stone
- Ceramics, fiber cement
- Mortar, Bricks, Masonry
- Steel, Iron, Aluminium
- Wood
- Polyester, Epoxy
- Glass

As a repair mortar and adhesive:

- Corners and edges
 - Holes and void filling
 - Vertical and overhead use
- Joint filling and crack sealing:
- Joint and crack arris / edge repair

CHARACTERISTICS / ADVANTAGES

Sikadur®-31 CF Normal has the following advantages:

- Easy to mix and apply
- Very good adhesion to most construction materials
- High strength adhesive
- Thixotropic: non-sag in vertical and overhead applications
- Hardens without shrinkage
- Different coloured components (for mixing control)
- No primer needed
- High initial and ultimate mechanical strength
- Good abrasion resistance
- Impermeable to liquids and water vapour
- Good chemical resistance

PRODUCT INFORMATION

Chemical base	Epoxy resin	
Packaging	30 kg (A+B)	Pre-batched unit
	6 kg (A+B)	Pre-batched unit
	1.2 kg (A+B)	Pre-batched unit box of 6 x 1.2 kg
Colour	Component A: white Component B: dark grey Components A+B mixed: concrete grey	
Shelf life	24 months from date of production	
Storage conditions	Store in original, unopened, sealed and undamaged packaging in dry conditions at temperatures between +5 °C and +30 °C. Protect from direct sunlight.	
Density	1.90 ± 0.1 kg/L (components A+B mixed) (at +23 °C) (evacuated)	

TECHNICAL INFORMATION

Compressive Strength	Curing time	Curing temperature			(DIN EN 196)
		+10 °C	+23 °C	+30 °C	
	1 day	25 - 35 N/mm²	45 - 55 N/mm²	50 - 60 N/mm²	
	3 days	40 - 50 N/mm²	55 - 65 N/mm²	60 - 70 N/mm²	
	7 days	50 - 60 N/mm²	60 - 70 N/mm²	60 - 70 N/mm²	
Modulus of Elasticity in Compression	~ 4 600 N/mm² (14 days at +23 °C)				(ASTM D695)
Tensile Strength in Flexure	Curing time	Curing temperature			(DIN EN 196)
		+10 °C	+23 °C	+30 °C	
	1 day	11 - 17 N/mm²	20 - 30 N/mm²	20 - 30 N/mm²	
	3 days	20 - 30 N/mm²	25 - 35 N/mm²	25 - 35 N/mm²	
	7 days	25 - 35 N/mm²	30 - 40 N/mm²	30 - 40 N/mm²	
Tensile Strength	Curing time	Curing temperature			(ISO 527)
		+10 °C	+23 °C	+30 °C	
	1 day	2 - 6 N/mm²	6 - 10 N/mm²	9 - 15 N/mm²	
	3 days	9 - 15 N/mm²	17 - 23 N/mm²	17 - 23 N/mm²	
	7 days	14 - 20 N/mm²	18 - 24 N/mm²	19 - 25 N/mm²	
Modulus of Elasticity in Tension	~ 5 000 N/mm² (14 days at +23 °C)				(ISO 527)
Elongation at Break	0.4 ± 0.1 % (7 days at +23 °C)				(ISO 527)
Shrinkage	Hardens without shrinkage.				
Tensile Adhesion Strength	Curing time	Substrate	Adhesion strength	(EN ISO 4624, EN 1542, EN 12188 at +23 °C)	
	1 day	Concrete dry	~2 N/mm² *		
	1 day	Concrete moist	~2 N/mm² *		
	1 day	Steel	~6 N/mm²		
	3 days	Steel	~10 N/mm²		
*100% concrete failure					
Coefficient of Thermal Expansion	5.9 x 10 ⁻⁵ per °C (Temperature range +23 °C – +60 °C)				(EN 1770)
Heat Deflection Temperature	Curing time	Curing temperature		HDT	(ISO 75)
	7 days	+23 °C		+49 °C	
(thickness 10 mm)					

APPLICATION INFORMATION

Mixing Ratio	Component A : component B = 2 : 1 by weight or volume
Consumption	The consumption of Sikadur®-31 CF Normal is ~ 1.9 kg/m ² per mm of thickness.
Layer Thickness	30 mm max. When using multiple units, one after the other. Do not mix the following unit until the previous one has been used in order to avoid a reduction in handling time.
Sag Flow	On vertical surfaces it is non-sag up to 15 mm thickness. (EN 1799)
Product Temperature	Sikadur®-31 CF Normal must be applied at temperatures between +10 °C and +30 °C
Ambient Air Temperature	+10 °C min. / +30 °C max.
Dew Point	Beware of condensation. Substrate temperature during application must be at least 3 °C above dew point.

Substrate Temperature	+10 °C min. / +30 °C max.		
Substrate Moisture Content	Substrate must be dry or mat damp (no standing water). Brush the adhesive well into the substrate.		
Pot Life	Temperature	Potlife*	Open time
	+10 °C	~145 min	—
	+23 °C	~55 min	—
	+30 °C	~35 min	~ 50 min
*200 g The potlife begins when the resin and hardener are mixed. It is shorter at high temperatures and longer at low temperatures. The greater the quantity mixed, the shorter the potlife. To obtain longer workability at high temperatures, the mixed adhesive may be divided into portions. Another method is to chill components A+B before mixing them (not below +5 °C).			

(EN ISO 9514)

APPLICATION INSTRUCTIONS

SUBSTRATE QUALITY

Mortar and concrete must be older than 28 days (depends on minimal requirement of strengths).
Verify the substrate strength (concrete, masonry, natural stone).
The substrate surface (all types) must be clean, dry or mat damp (no standing water) and free from contaminants such as dirt, oil, grease, existing surface treatments and coatings etc..
Steel substrates must be de-rusted similar to Sa 2.5.
The substrate must be sound and all loose particles must be removed.

SUBSTRATE PREPARATION

Concrete, mortar, stone, bricks:
Substrates must be sound, dry or mat damp (no standing water), clean and free from laitance, ice, standing water, grease, oils, old surface treatments or coatings and all loose or friable particles must be removed to achieve a laitance and contaminant free, open textured surface.
Steel:
Must be cleaned and prepared thoroughly to an acceptable quality i.e. by blast cleaning and vacuum.
Avoid dew point conditions.

MIXING

Pre-batched units:
Mix components A+B together for at least 3 minutes with a mixing spindle attached to a slow speed electric drill (max. 300 rpm) until the material becomes smooth in consistency and a uniform grey colour.
Avoid aeration while mixing. Then, pour the whole mix into a clean container and stir again for approx. 1 more minute at low speed to keep air entrapment at a minimum. Mix only that quantity which can be used within its potlife.

APPLICATION METHOD / TOOLS

When using a thin layer adhesive, apply the mixed adhesive to the prepared surface with a spatula, trowel, notched trowel, (or with hands protected by gloves).
When applying as a repair mortar use some formwork.
When using for bonding metal profiles onto vertical surfaces, support and press uniformly using props for at least 12 hours, depending on the thickness applied (not more than 5 mm) and the room temperature.
Once hardened check the adhesion by tapping with a hammer.

CLEANING OF TOOLS

Clean all tools and application equipment with Sika® Colma Cleaner immediately after use. Hardened / cured material can only be mechanically removed.

LIMITATIONS

Sikadur® resins are formulated to have low creep under permanent loading. However due to the creep behaviour of all polymer materials under load, the long term structural design load must account for creep. Generally the long term structural design load must be lower than 20–25 % of the failure load.

A structural engineer must be consulted for load calculations for the specific application.

BASIS OF PRODUCT DATA

All technical data stated in this Data Sheet are based on laboratory tests. Actual measured data may vary due to circumstances beyond our control.

LOCAL RESTRICTIONS

Please note that as a result of specific local regulations the declared data and recommended uses for this product may vary from country to country. Please consult the local Product Data Sheet for the exact product data and uses.

ECOLOGY, HEALTH AND SAFETY

For information and advice on the safe handling, storage and disposal of chemical products, users shall refer to the most recent Safety Data Sheet (SDS) containing physical, ecological, toxicological and other safety-related data.

LEGAL NOTES

The information, and, in particular, the recommendations relating to the application and end-use of Sika products, are given in good faith based on Sika's current knowledge and experience of the products when properly stored, handled and applied under normal conditions in accordance with Sika's recommendations. In practice, the differences in materials, substrates and actual site conditions are such that no warranty in respect of merchantability or of fitness for a particular purpose, nor any liability arising out of any legal relationship whatsoever, can be inferred either from this information, or from any written recommendations, or from any other advice offered. The user of the product must test the product's suitability for the intended application and purpose. Sika reserves the right to change the properties of its products. The proprietary rights of third parties must be observed. All orders are accepted subject to our current terms of sale and delivery. Users must always refer to the most recent issue of the local Product Data Sheet for the product concerned, copies of which will be supplied on request.

PT. Sika Indonesia
Jl. Raya Cibinong-Bekasi km.20.
Cileungsi, Bogor 16820 - Indonesia
Tel. +62 21 8230025
Fax. +62 21 8230026
Website: idn.sika.com
email: sika@idn.sika.com



Sikadur-31CFNormal_en_ID_(11-2017)_1_2.pdf

Product Data Sheet
Sikadur®-31 CF Normal
February 2018,
020204030010000039

Project number: 212001

15 January 2021

Building Consent Authority
Ashburton District Council

Dear Sir/Madam,

**Subject Consent Exemption Application for the Existing Residential Dwelling Repair at
8 Woodham Drive, Allenton, ASHBURTON 7700**

Referring to the above captioned, we, on behalf of the client, would like to attach the documents listed below for your kind consideration.

- 1) Structural plans
- 2) Supporting documents
 - Structural Design Report
 - Memorandum From Licensed Building Practitioner
 - Producer Statement 1 (PS1) and Inspection Schedule
 - Structural Site Inspection report
 - Specifications

We hope the above is in order. Should you have any queries please do not hesitate to contact the undersigned.

Yours faithfully

For and on behalf of SINOTEK Engineering Ltd



Dr. Zheng Ping Wu
Principal Structural Engineer
Certificate IV (Building Construction), BSc.(Hons.), PhD (Structural)
MIPENZ, CPEng

Email: william.wu@sinotek.co.nz

Project No. 212001

15 January 2021

Building Certification and Exemption Team
Civic Offices
Waimakariri District Council

Dear Sir/Madam,

**Subject Consent Exemption Application for the Existing Residential Dwelling
Repair/Relevelling at 8 Woodham Drive, Allenton, ASHBURTON 7700**

1. INTRODUCTION

Sinotek Engineering Ltd has been commissioned to develop a structural solution for the above captioned.

The purpose of this project is to prepare a structural design in accordance with current building codes and MBIE guidance¹. We enclose our structural details of the above captioned, titled "**Proposed Repair Works For Residential Dwelling At 8 Woodham Drive, Allenton, ASHBURTON 7700**" to ensure its structural adequacy for its intended usage, Sheets **ST-01/A – ST07/A** dated **January 21**.

A site structural visual inspection was carried out. It was concluded that the dwelling has minor damages. The overall floor level difference is 74mm. It is greater than 50mm, the threshold for floor re-levelling, whereas it is less than 100mm, the threshold for foundation re-placement. The local floor slope is generally more than 0.5%. In order to ensure the local slope and the overall floor level difference, floor re-levelling is proposed along with local pile replacement.

This report has been prepared solely for the purposes of the client. The information contained herein is confidential, and shall not be passed on to any third party, other than the local Building Consent Authority, without prior written permission of Sinotek Engineering Ltd. No responsibility is accepted for any use outside the scope of this report. This report does not cover weather-tightness, slope stability, suitability of the site (e.g. flooding), or potential future liquefaction of the site.

2. BUILDING CONSTRUCTION

¹ MBIE guidance-Repairing and rebuilding houses affected by the Canterbury earthquakes

The existing residential dwelling is a single building, timber frame with the external block wall and the corrugated long-run roofing. The interior is finished with GIBs, plastered and painted. The site inspection has found minor cracks on wall lining. It is recommended to repair the wall linings and ceiling for any consequential cracks.

3. FOUNDATION

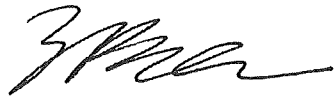
3.1. The house was constructed without perimeter footing. Repair of piles, if needed, are given in the plans.

4. CONCLUSION

We consider that this design complies with the relevant parts of the Building Code and MBIE Guideline; please find our producer statement attached.

If you have any questions regarding the information contained within the report please feel free to contact the undersigned.

Yours faithfully
For and on Behalf of SINOTEK Engineering Ltd



Reviewed By:
ZHENG WU
Principal Structural Engineer
Certificate IV(building construction), BSc (Hons., Structural), PhD (Structural),
MIPENZ, CPEng
Email: william.wu@sinotek.co.nz

Enc 1x Producer Statement;
 1x Memorandum of design works;
 1x Inspection Schedule;
 1x Drawing Set;
 1x Site inspection report

PRODUCER STATEMENT – PS1 – DESIGN

(Guidance notes on the use of this form are printed on page 2)

ISSUED BY: SINOTEK Engineering Ltd

JOB NO: 212001

TO: -

TO BE SUPPLIED TO: Ashburton District Council

IN RESPECT OF: Proposed Repair Work for the Residential Dwelling

AT: 8 Woodham Drive, Allenton, ASHBURTON 7700

PT RS: Lot 12 DP 33267

We have been engaged by the owners/developer referred to above to provide **Structural Engineering Design** services in respect of the requirements of Clause(s) **B1/VM1** of the Building Code for

☐ All or ☒ Part only (as specified in the attachment to this statement), of the proposed building work.

The design carried out by us has been prepared in accordance with:

☒ Compliance Documents issued by Ministry of Business, Innovation & Employment (MBIE) **B1/VM1**: AS/NZS1170:2002; NZS3604; NZS3101.1&2:2006 and MBIE guidance recommendations

and ☐ Alternative solution:

The proposed building work covered by the producer statement is described on the drawings titled **“Proposed repair/strengthening for the residential building at 8 Woodham Drive, Allenton, ASHBURTON 7700”** and numbered **212001, Sheets ST01/A – ST08/A, dated January 21**; together with other documents as set out in our design features report.

On behalf of **SINOTEK Engineering Ltd**, and subject to:

- (i) Site verification of the following design assumptions:
No hidden damage to the walls and foundations.
- (ii) **This certificate does not cover weather-tightness, nor the stability, suitability or potential liquefaction of the site;**
- (iii) Please refer to the attached **inspection schedule** for the inspections that we require;
- (iv) All proprietary products meeting their performance specification requirements;
- (v) This PS1 should be read in conjunction with our design features report and inspection schedule.

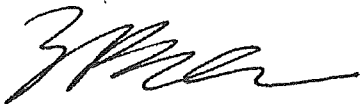
I believe on reasonable grounds that a) the building, if constructed in accordance with the drawings, specifications, and other documents provided or listed in the attached schedule, will comply with the relevant provisions of the Building Code and that b), the persons who have undertaken the design have the necessary competency to do so.

I also recommend the following level of construction monitoring/observation: (refer page 3 for guidance notes on 'CM' categories)

☐ CM1 ☒ CM2 ☐ CM3 ☐ CM4 ☐ CM5

Sinotek Engineering Ltd holds a current policy of Professional Indemnity Insurance no less than \$200,000*.

I, **Zheng Ping Wu**, am CPEng 1025398, am a Member of IPENZ and hold the following qualifications: **BSc(Hons. Structural), PhD (structural), MIPENZ, CPENG**



SIGNED FOR AND ON BEHALF OF SINOTEK ENGINEERING LTD

Date: 15 January 2021

Note: This statement shall only be relied upon by the Building Consent Authority named above. Liability under this statement accrues to the Design Firm only. The total maximum amount of damages payable arising from this statement and all other statements provided to the Building Consent Authority in relation to this building work, whether in contract, tort or otherwise (including negligence), is limited to the sum of \$200,000.*

This form is to accompany **Form 2 of the Building (Forms) Regulations 2004** for the application of a Building Consent.

GUIDANCE ON USE OF PRODUCER STATEMENTS

Producer statements were first introduced with the Building Act 1991. The producer statements were developed by a combined task committee consisting of members of the New Zealand Institute of Architects, Institution of Professional engineers New Zealand. The original suit of producer statements has been revised at the date of this form as a result of enactment of the Building Act (2004) by these organisations to ensure standard use within the industry.

The producer statement system is intended to provide Building Consent Authorities (BCAs) with reasonable grounds for the issue of a Building Consent or a Code Compliance Certificate, without having to duplicate design or construction checking undertaken by others.

- PS1 Design** Intended for use by a suitably qualified independent design professional in circumstances where the BCA accepts a producer statement for establishing reasonable grounds to issue a Building Consent;
- PS2 Design** Intended for use by a suitably qualified independent design professional where the BCA accepts an independent design professional's review as the basis for establishing reasonable grounds to issue a Building Consent.
- PS3 Construction** Forms commonly used as certificate of completion of building work are Schedule 6 of NZS 3910:2013 or Schedules E1/E2 of NZIA's SCC 2001².
- PS4 Construction Review:** Intended for use by a suitably qualified independent design professional who undertakes construction monitoring of the building works where the BCA requests a producer statement prior to issuing a Code Compliance Certificate.

This must be accompanied by a statement of completion of building work (schedule 6).

The following guidelines are provided by ACENZ, IPENZ and NZIA to interpret the producer statement.

Competence of Design Professional

The statement is made by a Design Firm that has undertaken a contract of services for the services named, and is signed by a person authorised by that firm to verify the processes within the firm and competence of its designers.

A competent design professional will have a professional qualification and proven current competence through registration on a national competence based register, either as a Chartered Professional Engineer (CPEng) or a Registered Architect.

Membership of a professional body, such as the Institution of Professional Engineers New Zealand (IPENZ) or the New Zealand Institute of Architects (NZIA), provides additional assurance of the designer's standing within the profession. If the design firm is a member of the Association of Consulting Engineers New Zealand (ACENZ), this provides additional assurance about the standing of the firm.

Persons or firms meeting these criteria satisfy the term "suitably qualified independent design professional".

Professional Indemnity Insurance

As part of membership requirements, ACENZ requires all member firms to hold Professional Indemnity Insurance to a minimum level.

The PI Insurance minimum stated on the front of this form reflects standard, small projects. If the parties deem this inappropriate for large projects, the minimum may be up to \$500,000.

Professional Services during Construction Phase

There are several levels of service which a Design Firm may provide during the construction phase of a project (CM1-CM5 for Engineers³). The Building Consent Authority is encouraged to require that the service to be provided by the Design Firm is appropriate for the project concerned.

Requirement to provide Producer Statement PS4

Building Consent Authorities should ensure that the applicant is aware of any requirement for producer statement for the construction phase of building work at the time the building consent is issued as no design professional should be expected to provide a producer statement unless such a requirement forms part of the Design firm's engagement.

Attached Particulars

Attached particulars referred to in this producer statement refer to supplementary information appended to the producer statement.

Refer Also:

1. Conditions of Contract for Buildings and Civil Engineering Construction NZS 3910:2013
2. NZIA Standard Conditions of Contract SCC 2011
3. Guideline on the Building and Engagement for Consulting Engineering
4. PN Guidelines on Producer Statements

www.acenz.org.nz
www.ipenz.org.nz
www.nzia.co.nz

GUIDANCE ON CONSTRUCTION MONITORING LEVELS

Construction monitoring is a service which provides the client with independent verification (to the extent of the consultant's engagement) that the works have been completed in accordance with specified requirements.

Most construction projects are unique, but unlike manufactured products which are often thoroughly tested and evaluated during construction and prior to being brought into service, the completed project is rarely tested against all design requirements. Construction works are also complex in detail and skilled professional involvement is necessary for the successful execution of such projects.

Five levels of construction monitoring service are defined. The decision as to which level is appropriate will be project dependent.

Factors influencing the level of construction monitoring for a project are:

- The size of the project
- The complexity of the construction works
- The importance of the project
- The experience and demonstrated skill in quality management of the constructor

The primary responsibility for completing the contract works in accordance with the requirements of the plans and specifications is the constructor's.

The involvement of the consultants is important during the construction phase to ensure that;

- The design is being correctly interpreted
- The construction techniques are appropriate and do not reduce the effectiveness of the design; and
- The work is completed generally in accordance with the plans and specifications

The risk of non-compliance can be reduced by increasing the involvement of the consultant. Because the cost of monitoring increases with increasing levels of service the client should consider all factors before deciding upon the most appropriate level of construction monitoring for the project. The table below sets out the five levels of construction monitoring, describes the types of review and indicates where a particular level of monitoring is appropriate. An increase in the quality monitoring of the project works by the consultant significantly reduces the risk that the materials or components do not meet specified requirements, the design has been incorrectly interpreted, and/or poor quality workmanship has been incorporated in the project.

Level	Review	Comment
CM1	Monitor the outputs from another party's quality assurance programme against the requirements of the plans and specifications. Visit the works at a frequency agreed with the client to review important materials of construction critical work procedures and/or completed plant or components. Be available to advise the constructor on the technical interpretation of the plans and specifications	This level is only a secondary service. It may be appropriate where: - For the design consultant when another party is engaged to provide a higher level of construction monitoring or review during the period of construction or - When the project works are the subject of a performance based specification and performance testing is undertaken and monitored by others.
CM2	Review, preferable at the earliest opportunity, a sample of <u>each</u> important work procedure, material of construction and component for compliance with the requirements of the plans and specifications and review a representative sample of <u>each</u> important completed work prior to enclosure or completion is appropriate. Be available to provide the constructor with technical interpretation of the plans and specification.	This level of service is appropriate for smaller projects of a routine nature being undertaken by an experienced and competent constructor and where a higher than normal risk of non-compliance is acceptable. It provides for the review of a representative sample of work procedures and materials of construction. The assurance of compliance of the finished work is dependent upon the constructor completing the work to at least the same standard as the representative sample reviewed.
CM3	Review, to an extent agreed with the client, <u>random samples</u> of important work procedures, for compliance with the requirements of the plans and specifications and review <u>important</u> completed work prior to enclosure or on completion as appropriate. Be available to provide the constructor with technical interpretation of the plans and specifications.	This level of service is appropriate for medium sized projects of a routine nature being undertaken by an experienced constructor when a normal risk of non-compliance is acceptable.
CM4	Review, at a frequency agreed with the client, <u>regular samples</u> of work procedures, materials of construction and components for compliance with the requirements of the plans and specifications and review the <u>majority</u> of completed work prior to the enclosure or on completion as appropriate.	This level of services is appropriate for projects where a lower than normal risk of non-compliance is required.
CM5	Maintain personnel on site to <u>constantly</u> review work procedures, materials of construction and components for compliance with the requirements of the plans and specifications and review completed work prior to enclosure or on completion as appropriate.	This level of service is appropriate for - Major projects -Projects where the consequences of failure are critical -Projects involving innovative or complex construction procedures. The level of service provides the client with the greatest assurance that the completed work complies with the requirements of the plans and specifications.

SINOTEK Engineering will normally expect construction monitoring services to have been completed to a minimum level of CM3 in order to issue a PS4, although we may change this on a project specific basis, at the discretion of the engineer signing the PS1/PS4. Further information of Construction Monitoring can be found at <http://www.ipenz.org.nz/ipenz/practicesupport/endorsedinfo/codes>

INSPECTION SCHEDULE

Job No :
 Job Name : **Repair Work for the Residential Dwelling**
 Client :
 Job Address :
 Date : **January 21**
 Refer to: : Producer Statement - PS1 - Design attached

	SINOTEK to Complete	Work by Others	Notes//Date Completed
• Before commence	☒	☐	
• Sub-floor-before closeup	☒	☐	
• Final Inspection	☒	☐	
• A PS4 will be supplied upon satisfactory completion of the work, inspected as detailed above	☒	☐	

Memorandum from licensed building practitioner:**Certificate of design work**

Section 45 and Section 30C, Building Act 2004

THE BUILDING

Street address: 8 Woodham Drive

Suburb: Allenton

Town/City: Ashburton

SINOTEK Project No: 212001

THE OWNER

Name(s): -

Mailing address: -

Suburb: Allenton

PO Box/Private Bag:-

Town/City: Ashburton

Postcode: -

Phone number:

Email address: -

BASIS FOR PROVIDING THIS MEMORANDUM

I am providing this memorandum in my role as the: Please tick the option that applies (✓)	
(✓)	sole designer of all of the RBW design outlined in this memorandum – I carried out all of the RBW design myself – no other person will be providing any additional memoranda for the project
()	lead designer who carried out some of the RBW design myself but also supervised other designers – this memorandum covers their RBW design work as well as mine, and no other person will be providing any additional memoranda for the project
()	lead designer for all but specific elements of RBW – this memorandum only covers the RBW design work that I carried out or supervised and the other designers will provide their own memoranda relating to their specific RBW design
()	specialist designer who carried out specific elements of RBW design work as outlined in this memorandum – other designers will be providing a memorandum covering the remaining RBW design work

IDENTIFICATION OF DESIGN WORK THAT IS RESTRICTED BUILDING WORK (RBW)

I, Zheng Ping Wu, CPEng 1025398, carried out / supervised the following design work that is restricted building work

PRIMARY STRUCTURE: B1

Design work that is restricted building work	Description	Carried out/ supervised	Reference to plans and specifications
Tick(✓) if included Cross (X) if excluded	[If appropriate, provide details of the restricted building work]	[Specify whether you carried out this design work or supervised someone else carrying out this design work]	[If appropriate, specify references]

Primary structure			
All RBW Design work relating to B1	()		() Carried out () Supervised
Foundations and subfloor framing	(✓)	<i>Floor re-levelling</i>	(✓) Carried out () Supervised
Walls	(✓)	<i>Repair cracks on internal lining</i>	(✓) Carried out () Supervised
Roof	()		() Carried out () Supervised
Columns and beams	()		() Carried out () Supervised
Bracing	()		() Carried out () Supervised
Other	()		() Carried out () Supervised
EXTERNAL MOISTURE MANAGEMENT SYSTEMS: E2			
All RBW design work relating to E2	(x)		() Carried out () Supervised
Damp proofing	()		() Carried out () Supervised
Roof cladding or roof cladding system	()		() Carried out () Supervised
Ventilation system (for example, subfloor or cavity)	()		() Carried out () Supervised
Wall cladding or wall cladding system	()		() Carried out () Supervised
Waterproofing	()		() Carried out () Supervised
Other	()		() Carried out () Supervised
FIRE SAFETY SYSTEMS: C1 – C6			
Emergency warning systems, evacuation and fire service operation systems, suppression or control systems, or other	(x)		() Carried out () Supervised

Note: The design of fire safety systems is only restricted building work when it involves small-to-medium apartment buildings as defined by the Building (Definition of Restricted Building Work) Order 2011.

Note: continue on another page if necessary.

WAIVERS AND MODIFICATIONS

Waivers or modifications of the building code are required () Yes (✓) No

If Yes, provide details of the waivers or modifications below:

Clause	Waiver/modification required
<i>[List relevant clause numbers of building code]</i>	<i>[Specify nature of waiver or modification of building code]</i>

Note: continue on another page if necessary.

ISSUED BY

Name: Zheng Ping Wu	LBP or Registration number: 1025398
The practitioner is a: () Design LBP () Registered architect (✓) Chartered professional engineer	
Design Entity or Company : Sinotek Engineering Ltd	
Mailing address (if different from below):	
Street address / Registered office: 65 Bethany Road	
Suburb: Rolleston	Town/City: Rolleston
PO Box:	Postcode: 7614
Phone number: -	Mobile: 021 0814 0973
After Hours:	Fax:
Email address: william.wu@sinotek.co.nz	Website: www.sinotek.co.nz

DECLARATION

I, Zheng Ping Wu, CPEng 1025398, state that I have applied the skill and care reasonably required of a competent design professional in carrying out or supervising the Restricted Building Work (RBW) described in this form, and that based on this, I also state that the RBW:

- Complies with the building code; or
- Complies with the building code subject to any waiver or modification of the building code recorded on this form.

Signature: 

Date: 15 January 2021

Notes:

1. This form is consistent with Clause 45 (a) of the Building Act 2004
2. This form shall only be used for residential projects less than 10m high
3. This form is based on advice received from ACENZ, the Association of Consulting Engineers NZ

Sinotek Project No: 212001

15 January 2021

Mr. Paul Crouchley
8 Woodham Drive
Allenton
ASHBURTON 7700

Email: pcrouchley@gmail.com

Dear Paul, Sir/Madam,

**Subject: 8 Woodham Drive, Allenton, Ashburton 7700
Structural inspection, assessment and repair recommendation**

Sinotek Engineering Ltd has been engaged by Mr Paul Crouchley to provide a structural inspection report for the property at the above mentioned address.

Our inspection and assessment include the visual inspection to the interior and exterior of the building to determine the structural damages caused by the earthquakes since September 2010 to the inspection date.

BUILDING DESCRIPTION

The subject property is a single storey timber framed dwelling situated on a flat site at the captioned address. The house is of a part A2 and part B2 type construction. It means the house has the internal piles without concrete perimeter footing partially. The exterior wall cladding is concrete block. The roof is corrugated long-run roofing. The garage is of concrete slab construction.

Interior wall of the house is finished with GIBs, plastered and painted.

The site is classified as "N/A" as given by the Canterbury Earthquake Recovery Authority (CERA).

EQC liquefaction and lateral observation show minor ejected liquefaction material from the property locality. No site specific geotechnical investigation was undertaken as part of this assessment. No evident lateral movement was observed.

OBSERVED DAMAGE

Exterior

Based on the visual inspection to the accessible locations of the exterior surface of the perimeter of the house, no evident crack was found on the external cladding.

The house was constructed without perimeter footing partially and with perimeter footing partially.

Interior

Interior wall of the house is finished with GIBs, plastered and painted.

Few cracks were found on the wall lining. It is recommended to repair in accordance with the GIB repair manual as shown in the appendix if there is any consequential crack due to the re-levelling.

Floor

A floor level survey using Zip-level Pro-2000 instrument of a typical accuracy of $\pm 3\text{mm}$ was carried out during the inspection. The overall floor level difference is 74mm; it is greater than 50mm, the threshold for floor re-levelling, whereas it is less than 100mm the threshold for the foundation replacement in accordance with MIBE guidance. The local slope is generally more than 0.5%. No significant interior damage was identified due to the earthquakes; it is hence believed that re-levelling with few local pile replacements is applicable to the repair of this property.

It shall be noted that the purpose of the floor level survey is to provide assistance in determining the possible structural damages of the building and therefore should be treated as indicative only. Where a high-level independent and an accurate and credible presentation of the survey information are required, a registered professional surveyor should be engaged to carry out the survey.

Site inspection found the property piles were packed previously. The workmanship is not up to the good practice. These packs shall be corrected to ensure the good quality.

The dwelling floor is currently assessed to have experienced an overall lateral stretch less than 20mm, and does not fall under "foundation re-build indicated" category as per the MBIE guidance.

Given the fact that no sign of any previous significant structural damage or loss of structural support in the super-structure has been identified, we consider the current state of the dwelling is able to provide a sufficient structural integrity for the long-term occupancy upon repair, especially the after the foundation repair.

CONCLUSIONS

The inspection carried out has revealed a minor structural damage to the building exterior and interior. No crack was identified on the external cladding. The measured the overall floor level variation is greater than 50mm; the recommended tolerance given by MBIE guidance. The local slope is more than 0.5% generally. It is our assessment that the property can be repaired in accordance with MBIE guidance.

Based on our observation and structural assessment, we recommend the following repairs to the dwelling for its continuous occupancy and ensure its sufficient/adequate structural integrity.

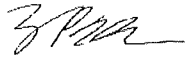
- Re-levelling using mechanical jacking and packing or lowering in accordance with NZS3604 is recommended in accordance with the MBIE guidance along with localised pile replacement. The details shall be referred to the plan in the appendix.
- Repair the wall linings and ceiling in accordance with the GIBs repair manual. The details shall be referred to Appendix
- Plaster and paint inside as needed.

Please refer to the MBIE guidance and manufacturer's specification for the detailed repair methodologies. We purpose to inspect the timber floor connections to the perimeter foundations and piles, as the sub-floor is accessible during the repair works. It should be noted that this assessment was not intended to be a full scope of repairs and therefore should not treated as such.

Many photos were taken. The typical ones are presented in the Appendix A. Floor level measurement is given in Appendix B. The repair methods are given in Appendix C. The repair methods for the GIBs are given in Appendix D.

Yours faithfully,

For and on behalf of Sinotek Engineering Limited



Prepared by:

ZHENG Ping WU (Dr.)

Principal Structural Engineer

Certificate IV (Building Construction), BSc (Hons.), PhD

CP Eng (Australia and NZ), MIPENZ, PE

Email: william.wu@sinotek.co.nz

Enclosed: Appendix A, B, C and D.

1. Limitations

This report has been prepared for the particular project described to us and its extent is limited to the scope of work agreed between the client and Sinotek Engineering Limited. No responsibility is accepted by Sinotek Engineering Limited or its directors, servants, agents, staff or employees for the accuracy of information provided by third parties and/or the use of any part of this report in any other context or for any other purposes.

This report provides the building's overall structural integrity assessment only, not for the detailed and/or local strength assessment.

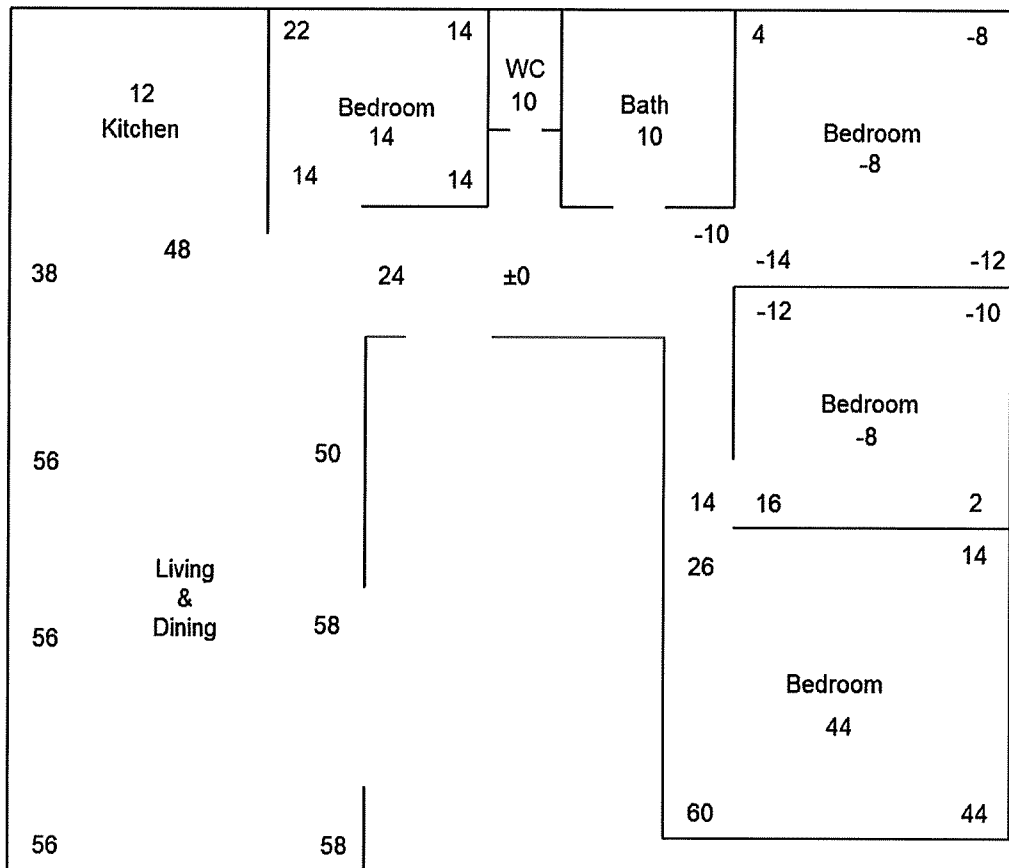
Our assessment is based on a visual inspection of accessible areas only. No liability is accepted for damage, loss or injury in connection with the building incurred after our inspection.

It is possible that there are unobserved issues that may require future remedial work. Future events may exacerbate, or cause new damage. Such issues should be brought to the attention of the engineer.

Note also that our review has not extended to detail checking of structural members and connections under snow, wind or gravity loading, other than where related to the building's overall structural resistance. This report does not cover weather-tightness, nor the stability, suitability or potential liquefaction of the site.

APPENDIX A - Photos

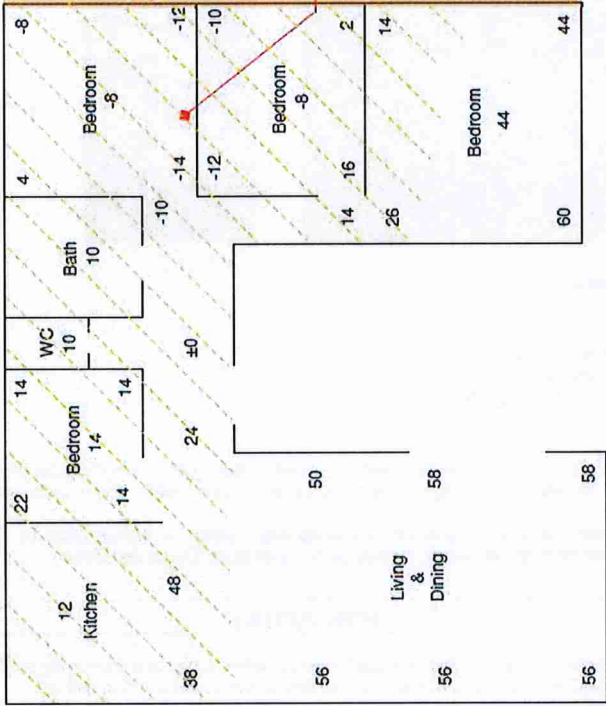
	Aerial view on 24/02/2011		Building view: from the yard
	External cladding: no crack		External cladding: no crack
	Interior wall lining: cracked		Ceiling: no crack
	Subfloor: packed but the workmansh ip is not up to the good practice		Subfloor: packed but the workmanshi p is not up to the good practice

APPENDIX B - Floor Level

APPENDIX C -Repair Methodologies

Note:
1) The re-levelling area is indicative and shall be determined on site to achieve the local slope less than 0.5% and the overall floor level less than 50mm

- Perimeter Footings:
- 1) For crackwidth < 2mm:
 - Prepare the crack surface for injection by grinding the "V" shape path along the crack line;
 - Pressure epoxy injection repair the crack;
 - Fill back the "V" path using Sikadur 31 CF Normal ;
 - 3) For cracks more than 2mm and less than 5mm in width to be repaired using Sikadur 52 or similar approved;
 - 4) Cracks between 5mm and 10mm in width to be repaired using Sikadur 31 CF Normal or similar approved;
 - 5) For cracks over 10mm in width, report to the Engineer



Re-level the perimeter by underpinning method, ST08

Floor

- 1) To be re-levelled to achieve the overall floor level less than 50mm and the local slope less than 0.5% in accordance with MBIE guidance by jack-and-pack, details refer to ST06, ST07; or lowering the floor bearer in accordance with NZS3604

Internal Piles

- 1) Detail inspection to be carried out in the whole sub-floor
- 2) Any damaged connection between pile and bearer is to be reinstated.
- 3) Any pile of the following situation is to be replaced in accordance with the details given in ST06.
 - a. structurally damaged, or;
 - b. tilted more than 15mm/1m, or;
 - c. packed more than 50mm, or;
 - d. misaligned in the row more than 10mm

APPENDIX D - GIB Repair Manual



Information Bulletin
Issue Date: November 2011

GUIDELINES FOR REPAIRING GIB® PLASTERBOARD LININGS IN WIND OR EARTHQUAKE DAMAGED PROPERTIES

Supplement to: GIB® Site Guide, January 2010; GIB® Fire Rated Systems, January 2006; and GIB EzyBrace® Systems 2011

SCOPE OF USE

This information bulletin provides general guidelines for carrying out remedial work to plasterboard wall and ceiling surfaces following damage sustained after a severe wind or earthquake event.



Significant sheet fracture

The information is aimed at;

- Homeowners
- Trades people
- Architectural designers & engineers
- Building Consent Authorities
- Insurance assessors or loss adjusters

NOTE

These guidelines are by necessity of a general nature. Detailed investigation needs to be carried out on a case by case basis to establish the extent of damage to the structure and linings, before commencing repairs.

Prior to carrying out remedial work to plasterboard walls and ceilings, buildings must be checked for structural adequacy, safe entry and working conditions, as well as being straight, plumb and level.

INTRODUCTION

Severe wind or earthquake loading can subject buildings to intense forces and movements placing significant strain on wall and ceiling planes. Resulting damage to wall and ceiling surfaces can often include;

- cracked joints and fastener popping
- sheets being forced from walls
- sheets breaking independently of joints

REMEDIAL WORK

It is important to note that even if remedial work is carried out to a high level of workmanship, the quality of the finished surface may not be exactly as it was prior to the event. Building owners need to take this into consideration when having repair work carried out to their properties.

Ensure a safe working environment before carrying out any remedial work and ensure that there is no danger from items such as;

- contents or cabinetry that has been loosened
- ceiling sheets that might collapse
- damaged electrical services and outlets

Note: This information is provided by Winstone Wallboards Ltd as general guidelines. They do not replace specific technical information provided to the market.





Information Bulletin

Issue Date: November 2011

WALL BRACING

Earthquake and wind damage may cause houses to lose their stiffness and strength resulting in structures being 'loose'. Repairs to gypsum plasterboard linings need to restore structural integrity to prevent future small events repeating the cracking and damage.

Any damaged sections of wall forming part of a bracing element must be replaced with an equivalent sheet material fastened as a bracing element. A key part of remedial work will be to check the original bracing schedule for the building.

Although not essential, it is highly recommended that any other severely damaged plaster board wall sheets are replaced and installed as if they were bracing elements with fastenings as described in GIB® bracing publications. This will provide additional stiffening of the building structure.



Lining detached from the framing requiring replacement of the bracing element.

The checklist that follows has more specific bracing elements & general wall and ceiling repair guidance. Visit www.gib.co.nz/canterburyearthquake and refer to the BUILD article: "Repairing Earthquake Damaged Wall Linings" for more detailed information on this and specific reference to the Canterbury earthquakes.

FIRE RATED SYSTEMS

Consult the original building plans to establish the location of fire rated walls which form part of the building's fire safety system. GIB® Fire Rated systems are common in commercial or multi-unit residential construction and their performance is dependent on strict compliance with the installation instructions contained in GIB® Fire Rated Systems publications. Damage sustained to passive fire resistant walls could seriously compromise the effectiveness of the building's fire safety system. Fire rated walls need to be carefully inspected and if damage is noted, they need to be reinstated in full compliance with GIB® Fire Rated Systems specifications.

COSMETIC REPAIRS

For repair guidance on cosmetic damage, e.g. minor cracking refer to the following checklist and Appendix 1 "Cosmetic Repair Guidelines".

Note: This information is provided by Winstone Wallboards Ltd as general guidelines. They do not replace specific technical information provided to the market.



CHECKLIST FOR REPAIRING GIB® PLASTERBOARD LININGS IN WIND OR EARTHQUAKE DAMAGED PROPERTIES

This checklist will assist trade professionals to reinstate interiors of earthquake or wind damaged residential buildings. Once specific damaged has been identified the following tables give specific recommendations on how to repair.

Failure to adequately reinstate bracing resistance, stiffness and strength is likely to result in cracking or damage of cosmetic repairs following future relatively minor events.

Standard gypsum plasterboard and sometimes special purpose gypsum plasterboard internal linings provide most of the bracing resistance in many light steel and timber framed New Zealand homes. Prior to commencing repairs a bracing assessment of the property must be carried out to determine the location and type of designated bracing elements and the adequacy of bracing resistance. This either involves an assessment of existing bracing plans and calculations or completing a new evaluation (see www.gib.co.nz/ezybrace for bracing design advice and tools). Cosmetic repairs alone may otherwise be vulnerable to damage with any minor future event.

WALLS

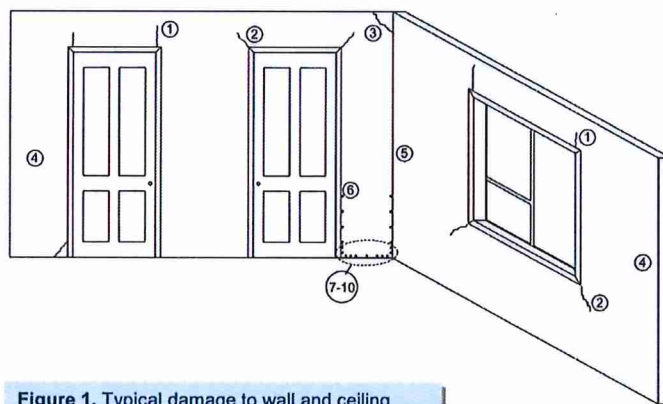
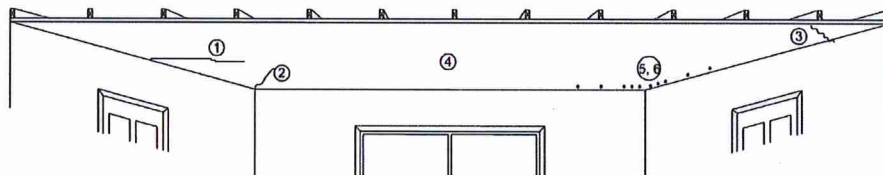


Figure 1. Typical damage to wall and ceiling linings (The numbers shown on Fig. 1 refer to the repair guidelines in the following tables)

Note: The dotted lines indicate where cracking may occur and the dots indicate where fastener stress may occur.

CEILINGS



WALLS

Damage			Repair		Notes
#	Type	Likely Cause	Bracing Element	General Lining	
1	Vertical cracks above or below windows or above doors in joints between plasterboard sheets.	Relative movement of sheets due to wall racking.	For minor cracks in existing jointing, carefully scrape out existing joint compound. Re-stop using GIB® paper tape embedded in GIB Plus 4®, GIB Promix® All Purpose or GIB® Trade Finish® Multi for first and second coats followed by a finishing coat of the same compounds. See Appendix 1 for more details.		This is inherently a weak joint and cosmetic cracking may re-occur if subjected to further movement.
2	Diagonal cracks from the corners of window or door openings.	Sheet fracture around opening due to 'racking' or horizontal structural movement	Replace sheet, re-fasten and finish joints as a bracing element.	See Appendix 1 for repair of minor cracks.	Feather jointing to disguise build up.
3	Diagonal cracks in wall corners	Stress at stud to plate connections due to 'racking' movement	Alternatively overlay with new linings, fixed in a bracing pattern using min. 40 mm fasteners.	Sheet replacement may be necessary for extensive cracking.	
4	"Drummy" or loose linings (hollow sound when tapped)	Buckling of centre sheet and loss of fixing / adhesion	Re-fix centre of sheets using gypsum drywall screws generally at 200 mm centres to intermediate framing. Temporary propping may be required to hold sheets back until all fasteners are installed.		
5	Creasing or cracks in wallpaper and/or fastener tearing at wall intersections	Relative movement of sheets due to racking	Ensure the structure is plumb.		If the wall paper is damaged, re-papering will often be required.
6	Perimeter fastener stress	Sheet to fastener bending due to racking	Check sheet perimeter fasteners. Insert fasteners in between existing ones and repair as for 'general lining'.	Insert fasteners between existing ones. Repair as outlined for loose fasteners in Appendix 1	
7	Fastener stress at bottom plate	Wall racking and sheet lift relative to bottom plate	Replace sheets if fasteners have pulled through or plaster bulges around fastener heads. Alternatively overlay with new linings, fixed in a bracing pattern using min. 40mm fasteners.	Insert fasteners between existing ones. Significant damage to general linings may indicate insufficient bracing resistance. Check bracing design.	Add bracing and perimeter fasteners to general linings where possible.
8, 9, 10	Framing connections such as stud lift, plate lift, Panel hold-down connections	Wall racking induced lift and stressed framing connections	Remove linings. Reinstall framing connections. Re-line and add framing fixings and bracing resistance where possible. Alternatively, fix framing connections, patch and overlay with new linings, fixed in a bracing pattern using min. 40mm fasteners.	(Partially) remove linings to reinstate framing connections and repair. Check bracing design.	Frame lift and framing connection failure is an indication of inadequate bracing provision generally or in specific building locations.

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**CEILINGS**

Damage			Repair		Notes
#	Type	Likely Cause	Ceiling diaphragm	General Lining	
1	Sheet joint cracking	Relative movement of sheets due to racking.	For minor cracks in existing jointing, carefully scrape out existing joint compound. Re-stop using GIB® paper tape embedded in GIB TradeSel® 20 or 45 for first and second coats followed by a finishing coat of GIB Plus 4®, GIB® Trade Finish® Lite or GIB Promix® Lite. For further detail see Appendix 1. For major cracking or if in doubt, replace sheet, re-fasten and finish as a bracing element. Alternatively overlay with new linings, fixed in a bracing pattern using minimum length 40 mm fasteners.		Cut sheet joints are inherently weak and cosmetic cracking may re-occur following future serviceability events.
2	Diagonal cracks from corners	Sheet fracture due to racking movement	Replace sheet and re-fasten and finish joints as a bracing element.	To repair cracking, see Appendix 1 later in this document. Sheet replacement may be necessary for extensive cracking.	Feather jointing to disguise build up.
3	Diagonal cracks across corners		Alternatively and depending on the extent of damage, overlay the ceiling with new linings.		
4	"Drummy" or loose linings (hollow sound when tapped)	Buckling of centre sheet and loss of fixing / adhesion	Re-fix centre of sheets using gypsum drywall screws generally at 200 mm centres to intermediate framing. Temporary propping may be required to hold sheets back until all fasteners are installed.		
5	Cracks and fastener stress at wall intersections	Relative movement of sheets due to racking	Ensure the structure is plumb. Check sheet perimeter fasteners. Insert fasteners in between existing ones and repair as for "general lining". Replace sheets if stress has resulted in fastener pull through or plaster bulging around fastener heads.		Insert fasteners between existing ones. Repair as outlined for loose fasteners in Appendix 1
6	Perimeter fastener stress	Sheet to fastener bending due to racking	Alternatively and depending on the extent of damage, overlay the ceiling with new linings.		

For further information or advice contact the GIB® Technical Helpline 0800 100 442 or visit gib.co.nz/canterburyearthquake

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APPENDIX 1: COSMETIC REPAIR¹ GUIDELINES

1. Minor cracks in joints in plasterboard walls or ceilings².

Scrape out minor cracks with a carbide blade to recreate a recess approximately 60mm wide and approximately 1 mm deep. Do not cut through the plasterboard paper. Clean out and remove any loose plaster, paper or paint, then lightly sand the surface before embedding GIB® paper tape in an air drying multipurpose compound such as GIB Plus 4®, GIB ProMix® All Purpose or GIB Trade Finish® Multi using a trowel or spatula knife. When dry, lightly sand the surface and apply a finishing coat of the same compound. Let thoroughly dry, lightly sand and paint as per the paint manufacturer's requirements. Where internal corner joints are cracked or internal corner trims are broken, clean out and remove any loose plaster, paper or paint and then lightly sand the surface before embedding GIB® paper tape or GIB® Goldline® trim and treating as above.

2. Sheet fracture or breakages³.

Sheet breakage differs from a joint crack in that the plasterboard sheet itself has actually fractured. Often this will have occurred where a sheet has been cut at the corner of a door or window opening or at a change of direction in a ceiling. Sheet fractures can sometimes occur between framing members and are obvious when the sheet is pushed. Smaller breakages less than 300 mm long in non-structural applications can be ground out with an angle grinder and jointed using GIB® paper tape embedded in a setting compound such as GIB Tradset® 20 or 45 and then finished with a light coat of GIB Plus 4®, GIB Trade Finish® or GIB Promix® Lite.

3. Loose fasteners.

Refix or tighten any existing loose fasteners ensuring that the original fastener is slightly below the surface of the board. Place an additional fastener approximately 50mm from the original ensuring that it is just below the board surface. Lightly sand painted surfaces prior to filling fastener heads with a 100mm broad knife using GIB Plus 4®, GIB ProMix® All Purpose or GIB® Trade Finish® Multi. Apply a third finishing coat with a 150mm broad knife. Let dry then sand & paint. The remedial process is described in some detail on pages 80 & 95 of the GIB® Site Guide (Jan 2010).

4. Holes.

If holes have been punched in a wall, it may be more efficient to cut out the damaged area and follow the procedure for repairing holes as described in some detail on page 90 of the GIB® Site Guide (Jan 2010). Sheets with significant damage over a large proportion of its surface should be removed and replaced.

¹ If repairs are performed in cool weather, it is imperative that the room being repaired is heated to above 10 °C as there is a risk of delayed shrinkage occurring if the compound is not dry before painting ("hollow joints").

² Plasterboard sheet joints placed alongside and above or below door and windows are susceptible to cracking due to structural movement. Minor damage is relatively easy to remedy but is unlikely to resist cracking as a result of any major future movement.

³ Any sheet fracture repair will not be as strong as the original sheet material and damage is likely to repeat following any future movement as a result of wind, earthquake, impact or even traffic vibrations. If in doubt, replace.

Note: This information is provided by Winstone Wallboards Ltd as general guidelines. They do not replace specific technical information provided to the market.

Agent Authorization

i Paul Crouchley
(Name of the owner(s))

Being the owner of 8 Woodham Drive Ashburton
(Property address)

Hereby give consent for Sinotek Engineering Ltd (Dr. William ZP Wu)
(Name of the agent)

To act as my engineering/design/application agent for this project.

Signed



Date

11/1/2021

ADDITIONAL INFORMATION

***Section 44A(3) Local Government Official Information
and Meetings Act 1987***

17 November 2015

C H F Thompson & S Thompson
Attention Christopher'S Trust
8 Woodham Drive
ASHBURTON 7700

Dear Sir or Madam,

Ashburton District Council - "Right Pipe" Drainage Audit

An inspection of the drainage system in place at your property at 8 Woodham Drive was undertaken on 17 November 2015.

This letter is to advise that your waste water drainage system meets Council bylaw requirements and no further visits are required.

We would like to thank you for your co-operation in helping to ensure stormwater is being managed properly and our sewerage services meet the requirements of our community.

Yours faithfully

A handwritten signature in black ink, appearing to read 'B. Carver'.

BERTHA CARVER
Asset Field Assistant

