

Code Compliance Certificate

207037/1

Section 95, Building Act 2012



The Owner

Name of Applicant: Yves Peter Jeanine Obus & Maggie De Vadder
Mailing address: 176 Richardson Road
RD 6
GORE 9776

Business Phone:

Mobile:

Home Phone:

Facsimile number:

Email address:

Contact Details

Contact name: Fraemohs Homes
Mailing address: PO Box 256
KAIAPOI 7644

Landline:

Mobile:

Daytime:

After hours:

Facsimile number: 03 323 8442

Email address:

The Building

Street address of building:	176 Richardson Road RD 6 GORE
Legal description of land where building is located:	Sec: 762 SD: Hokonui
Current, lawfully established, use:	Detached Dwelling
Year Constructed:	2011

Building Work

Building Work: Construct new 3 bedroom dwelling to replace existing dwelling.
Building consent number: 207037/1
Issued by: Gore District Council

Code Compliance

The building consent authority named below is satisfied, on reasonable grounds, that —
(a) the building work complies with the building consent.

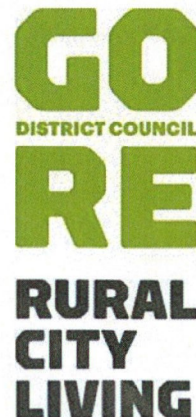

.....
Gillian Bedwell

Regulatory - Assets Administrator on behalf of Gore District Council

Date: 09/12/2015

Limitations of this Code Compliance Certificate 207037/1

- This Code Compliance Certificate has been issued because the Gore District Council was satisfied, on reasonable grounds, that at the date of its issue, the building work was completed in accordance with the Building Code in force at the date of issuing the Building Consent, (and where applicable, any previously approved waiver or modification of the Building Code contained in the building consent for the work).
- Since the date the Building Consent was granted, the Building Code may have been amended. This certificate is not a representation that the building work meets the requirements of any amendments to the Building Code made since the Building Consent was issued.
- This Code Compliance Certificate is not a guarantee that the whole of the work has been completed in accordance with the Building Code or Building Consent, but that the Council was reasonably satisfied.
- The Code Compliance Certificate relates only to the state of the building work at the date of issue, and is not a statement that the building will remain sound throughout its life.
- Various types of building methods and materials do have specific requirements for ongoing inspection, cleaning & maintenance. The owner needs to be familiar with these standard practices, manufacturer's instructions, and warranty conditions which must be complied with in order to maintain the integrity of the building work. All materials and components will deteriorate over time.
- Regular Inspection and maintenance by the building owner is particularly important in the harsh environment and climate experienced in the Gore District. In some cases – complete replacement of building components will be a requirement where they have deteriorated, or have passed their manufacturer's warranty period – for example – sealants, waterproofing membranes, paint coatings.
- No representation is made as to the compliance of all items of building work on the specific site to which this Code Compliance Certificate pertains. This certificate relates solely to the building work specifically described in it. It does not relate to any other work. The Gore District Council cannot be held responsible for any other subsequent, or preceding building work, including maintenance, which has been done other than in accordance with an approved building consent.
- Nobody should rely solely upon this Code Compliance Certificate as representing that the building work is weather tight or otherwise sound, fit for its purpose and of acceptable quality. It is a snapshot only, which assesses the Building's compliance with the Building Consent, and Building Code on the date of issue. The soundness of the building will depend, among other things on its subsequent use and the ongoing maintenance performed.



Application for Code Compliance Certificate

207037/1

Section 92, Building Act 2004

Building Consent No: **207037/1**
 Issued by: **Gore District Council**
 Location: **176 Richardson Road RD 6 GORE**
 Description of work: **Construct new 3 bedroom dwelling to replace existing dwelling.**

Owners Name: Obus Maggie De Vadder & Obus Yves Peter
Postal Address: Jeanie
 176 Richardson Road
 RD
 GORE 9776

Landline: 03/ 208 31 39
Mobile:
Fax: Maggie 021 0538 129
 Yves 027 / 356 6366

Contact Name: Fraemohs Homes
Postal Address: PO Box 256
 KAIAPOI 7644

Landline:
Mobile:
Fax: 03 323 8442
Email:

The following evidence of ownership is attached to this application showing full name of legal owner(s) of the building:

- ☐ copy of certificate of title ☐ agreement for sale and purchase
☐ Lease ☐ other (specify)

Agent: (only complete this section if the application is being made on behalf of the owner)

Name of Agent:

Contact Person:

Mailing Address:

Street Address:

Contact Phone: Cell Phone:

After Hours: Fax Number:

Email Address: Website:

Relationship to Owner:

First point of Contact:

The first point of contact with the Building Consent Authority (Gore District Council) regarding this consent is:

- ☐ Owner ☐ Contact Person detailed above

☐ Agent detailed above; or

☐ Other (specify)

Application:

All building work to be carried out under the above building consent was completed on:

The licensed building practitioner(s) (LBP's) who carried out or supervised the restricted building work is/are as follows:

Name	Licensing Class	Licensed building practitioner number (or registration number if treated as being licensed under Section 291 of Building Act 2004)	Particular work carried out or supervised

The personnel who carried out building work other than restricted building work are as follows:

Jan Sinclair electrician
Paul Richardson (Lorier) plumber / drainlayer
Yves Obus / De Vadder Maggie building work

List names, address, phone numbers, and where relevant and if not provided above) licensed building practitioner numbers or Plumbers, Gasfitters, and Drainlayers Board registration numbers. Please continue on additional sheet if required.

The following specified systems are contained on the compliance schedule for the building and, in the opinion of the personnel who installed them, are capable of performing to the performance standards set out in the building consent: (List specified systems)

.....
.....
.....

Please continue on additional sheet if required.

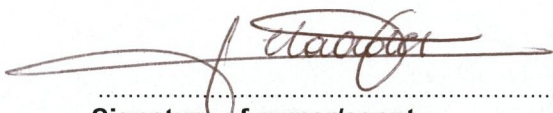
I request that you issue a code compliance certificate for this work under Section 95 of the Building Act 2004.

The code compliance certificate should be sent to: ☒ Owner;

☐ Agent detailed above; or

☐ Contact Person detailed above;

☐ Other (specify)


Signature of owner/agent

on behalf of and with the authority
of the owner (delete one)

Maggie De Vadder
Name of Person
Signing

30/11/2015
Date

Attachments

The following documents are attached to this application (please tick):

- ☐ Memoranda (records of building work) from licensed building practitioner(s) stating what restricted building work they carried out or supervised.
- ☐ Other documents from the personnel who carried out the work.
- ☐ Evidence that specified systems are capable of performing to the performance standards set out in the building consent.



Electrical Certificate of Compliance

for a low voltage installation if prescribed electrical work has been done on any part of it and the prescribed electrical work involved placing, replacing, or repositioning conductors or fittings attached to conductors.

No. 3794629

No. of attachments

To be completed whether or not an inspection is required.

CUSTOMER INFORMATION - PLEASE PRINT CLEARLY

Name of customer

Mh X Obus

Phone: 208 3139

Address of installation

176 Richardson Road

Postal address of customer (if not as above)

DECLARATION OF CONFORMITY (Please tick (✓) appropriate boxes)

In accordance with Regulation 58 of the Electricity (Safety) Regulations 2010, the design of the installation or part of the installation to which this certificate applies

- (a) complies with either Part 2 of AS/NZS 3000:2007 ☒ or Part 1 of AS/NZS3000:2007 and Regulation 59 ☐ and
 (b) the supply system of the installation or part of the installation to which this certificate applies is
 230V/400 V MEN ☐ or attached other system ☐

RK DETAILS

16 No. of lighting outlets

1 No. of ranges

14 No. of socket outlets

1 No. of water heaters

Was any installation work carried out by the homeowner?

☒ Yes ☐ No

Please tick (✓) as appropriate where work includes:

☒ Mains

☒ Main earthing system

☒ MEN Switchboard closest to point of supply

☐ Electric lines

Description of work carried out (If necessary attach any pages with work done) new house

2 fans 4 sensors

CERTIFICATION OF WORK (Please tick (✓) appropriate boxes)

I certify that the completed installation or part of the installation to which this certificate applies

- ☒ has been installed in accordance with the design detailed in the Declaration of Conformity section above
☐ has had tests which are required by the Electricity (Safety) Regulations 2010 satisfactorily completed
☒ has an earthing system that is correctly rated
☒ contains fittings which are safe to connect to a power supply
☒ is safe to connect to a power supply

ELECTRICAL WORKER DETAILS

Name

Jan Smclaw

Registration No.

I2112

Company

Contact Ph No.

021685616

Signature

[Signature]

Date

21-9-12

INSPECTION DETAILS

Electrical work requiring inspection by a registered electrical inspector

- ☒ Mains work (mains, MEN switchboards closest to the point of supply, or main earthing systems) ☒ Attached other ☒ Work carried out in accordance with Part 1 of AS/NZS 3000:2007

I certify that the items identified above are electrically safe and that the inspection has been carried out in accordance with the Electricity (Safety) Regulations 2010.

Name

J Shepherd

Registration No.

I2

Signature

[Signature]

Date

21/9/2012

Contact Ph No.

03 2086741

Scanned

APPROVED

DEFINITION

"S93 Time in which building consent authority must decide whether to issue code compliance certificate

- (1) A building consent authority must decide whether to issue a code compliance certificate for building work to which a building consent relates within—
 - (a) 20 working days after the date specified in subsection (2); or
 - (b) any further period after the date specified in subsection (2) that may be agreed between the owner and the building consent authority concerned.
- (2) The date referred to in subsection (1)(a) and (b) is—
 - (a) the date on which an application for a code compliance certificate is made under section 92; or
 - (b) if no application is made, the expiry of—
 - (i) 2 years after the date on which the building consent for the building work was granted; or
 - (ii) any further period that may be agreed between the owner and the building consent authority concerned.
- (3) Subsection (1) applies whether or not an application for a code compliance certificate is made under section 92.
- (4) A building consent authority may, within the period specified in subsection (1), require further reasonable information in respect of the application for a code compliance certificate, and, if it does so, the period is suspended until it receives the information.

This notice advises you that your building consent as described on the reverse is due to reach its 2 year anniversary. You may apply for an extension to this building consent. To do so, please complete the details below and return to the Building Control Department within 14 days from receiving this notification.

REQUEST FOR AN EXTENSION

I Maggie De Vadder hereby apply for an extension to building consent 207037

The reason for requesting an extension is:

walls settling (wooden type walls)
(saving money)

How much work is left to complete?

painting a finishing ceilings

How long to you want the extension for? 1 February 2016

My intended date to have these works completed is as soon as possible

Please note that if an extension is granted it will be granted only to the date requested above.

[Signature]
Signature

23/7/2014
Date

NOTE: If the work included in this building consent has been completed but has not had a final inspection, please contact the Building Control Department as soon as possible before the above date to arrange a final inspection. Failure to have a final inspection may result in the Code Compliance Certificate not being able to be issued which could affect future sales of this property.

Office Use Only

Extension approved: ☒ Yes ☐ No
Reason for decision:

Length of extension: 23.07.14

Officer's signature and Date

Updated Authority
24/7/2014

FIELD/INSPECTION SHEET

Building Consent No: 207037

Date Applied: 11/17/2011

Contractor: TBA

Owner: Obus Yves Peter Jeanie

Project Description: Construct new 3 bedroom dwelling to replace existing dwelling.

Project Address: **176
RICHARDSON RD**

Officer Name: *M. J. J. J.*

Officer Signature: *M. J. J. J.*

All building elements must be ticked (✓) either Y:Yes, N:No, or NA

General				Building Envelope			
Building Element	Y	N	NA	Building Interior	Y	N	NA
Have all previous inspections passed?	✓			Warning Systems / Smoke Alarms	✓		
Are there any outstanding requisitions?		✓		Personal Hygiene	✓		
Have all energy certificates been received?	✓			Laundering	✓		
Have all producer statements been received?			✓	Lighting			✓
Building Exterior				Seismic Restraints	✓		
Gutters	✓			Waste Traps	✓		
Down-pipes	✓			Wall and Ceiling Linings	✓		
Surface water disposal	✓			Joinery	✓		
Protection from flooding <i>on PILES NO FLOOD</i>	✓			Glazing	✓		
Access routes	✓			Slip Resistance	✓		
Barriers/Handrails	✓			Barriers/Handrails			✓
Gully Traps	✓			Internal Moisture	✓		
Venting	✓			Food Preparation	✓		
Manholes			✓	Airborne and Impact Sound			✓
Silt-Traps			✓	Solid Fuel Heater	✓		
Wall Cladding	✓			Electricity	✓		
Wall Flashing Details	✓			Energy Efficiency			✓
Wall Junction Details	✓			Gas			✓
Roof Covering	✓			Ventilation	✓		
Roof Flashing Details	✓						
Misc Penetrations	✓						
Flat Roofing System			✓				

SITE INSPECTIONS REQUIRED					
CONSTRUCTION			PLUMBING / DRAINAGE		
Inspections	Signature	Date	Inspections	Signature	Date
☒ Siting	<i>RA</i>	13.3.12	☒ Underfloor		
☒ Foundations/piles	<i>RA</i>	13.3.12	☒ Prelining pipe	<i>RP</i>	29.08.12
☐ Pole holes (sheds)			☒ Waste and soil	<i>RP</i>	29.08.12
☐ Pre-floor Slab			☒ Foul water	<i>RP</i>	29.08.12
☒ Sub floor framing	<i>RA</i>	16.4.12	☒ Stormwater	<i>RP</i>	29.08.12
☐ Blockwork			☐ Driveway sump		
☒ Cavity batten preline	<i>RA</i>	1.6.12	☒ Water Heater / Wetback	<i>RP</i>	22.07.14
☒ Window flashings/tape			☒ Tempering valve	<i>RP</i>	22.07.14
☐ 1/2 height brick cavity			☐ Backflow preventor		
☒ Bracing fixings/screws	<i>RA</i>	20.6.12	☒ Drainage plan	<i>RP</i>	29.08.12
☒ Pre-roof fixings/screws	<i>RA</i>	20.6.12	☒ Effluent field	<i>RP</i>	29.08.12
☒ Moisture content			☐ Street/Road opening		
☒ Framing prelining	<i>STEVE</i>		☒ FINAL	<i>RP</i>	22.07.14
☒ Insulation	<i>STEVE</i>	12.04.13			
☒ Claddings	<i>STEVE</i>	12.04.13			
☐ Disabled facilities			OTHER DETAILS		
☐ Fire ratings			☐ Compliance Schedule		
☒ Smoke alarms	<i>STEVE</i>	12/04/13	☐ Evacuation Scheme		
☒ Heating appliance	<i>RP</i>	22.07.14			
☒ FINAL	<i>RP</i>	9.12.15			

Inspection Notes / Comments		(Tick P : Pass or F : Fail and initial)		
Date:	Notes/Comments	Y	N	Initial
	First inspection loaded into ACS <i>Email Tracy</i>			
13.3.12	first inspection pile holes and siting, siting ok pile holes no straight and need cleaned out. Pile details changing from Ancore to brace piles. Told owner to call when piles are set up before pouring	P	F	<i>RA</i>
16.3.12	pre pour piles in place holes clean out informed him to make holes more centered			

Inspection Notes / Comments continued		(Tick P : Pass or F : Fail and initial)		
Date:	Notes/Comments	P	F	Initial
	to give post side clearance from chel. 1/2 ready ok to pour	✓		RD
22/3/12	Reinspected post and holes well cleared out Good post Ground Clearances Anchor post in correct Place front East end quite high ^{out} of the Ground will need to be braced Piles at Front.	✓		RD
16.4.12	Sub floor fixing. 12KN fixings to brace piles and Joist to Beams. both sides All standard Piles have 4 galv. 4inch nails with two Stakes 2 nails fitted Brace for Brace Piles 100x125 used D12 galv Bolts good clearance from ground. floor is up and down some work needed to straighten up before wall framing can be done	✓		RD
27.4.12	Reinspect sub floor. Piles have been Trimmed and pecked H5 Timber has been used for packers all fixing have been reinstated as per Plans. ok to continue	✓		RD
9.5.12	Framho Framing Started Bottom Row inside and out Set up. Holes drilled through cavity down to sides floor. Base of cavity has had two coats of Maltseal. Vent holes are at 400g.	✓		RD

Inspection Notes / Comments continued		(Tick P : Pass or F : Fail and initial)		
Date:	Notes/Comments	P	F	Initial
1/6/12	Cavity inspection wall formed up to full height Poly insulation fitted two thirds up with H3.2 cavity batts fitted to Eexterior of Poly to space of Very wet inside cavity. Need covered ASD and not to dry before closing of window openings this should let the cavity dry.			
21/6/12	Top plate Ribson Board has the 12m Rod Bent over and nailed down @ 1200mm this is the means as to clamp the walls down. All trusses in place and tension straps to each one every hole nailed out partition are being fitted with two 90mm Blue partition Screws			
29-08-12	Plumber- Drainer CORE PLUMBING SERVICES "PAUL" CHECK WATER PIPES - POLYETHYLENE AND FITTINGS - LAGGED PRESSURE TESTED, PVC SOIL SACK - WELL SUPPORTED - GOOD FILL - SOLVENT CEMENT JOINTS - CEMENT USED - 100mm PVC FOUL AND STORM WATER DRAINS - SEPTIC TANK 4500L. "BURFORD" Liquor licence approved SWTO WATER TANK - FOR POTABLE WATER SUPPLY - SEWER BUILT DRAINAGE PLAN Energy Certificates attached Have all financial contributions been paid? (These must be paid in full before a CCC can be issued)			
		✓		Leah
		Y	N	
		Y	N	
		Y	N	

OK to Issue CCC **Yes / No**

P: PASS, inspection passed. Work can proceed
F: FAILED, inspection failed. Re-inspection required.

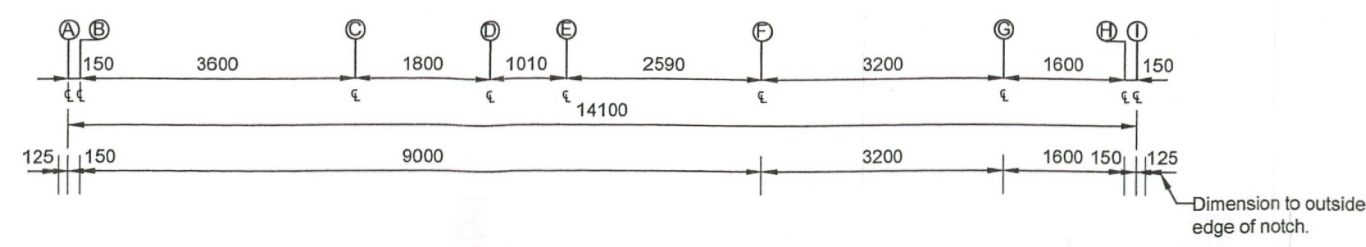
Signature of Technical Officer

Date

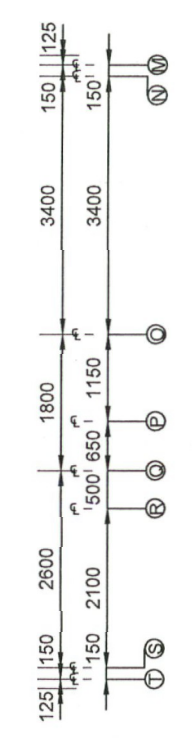
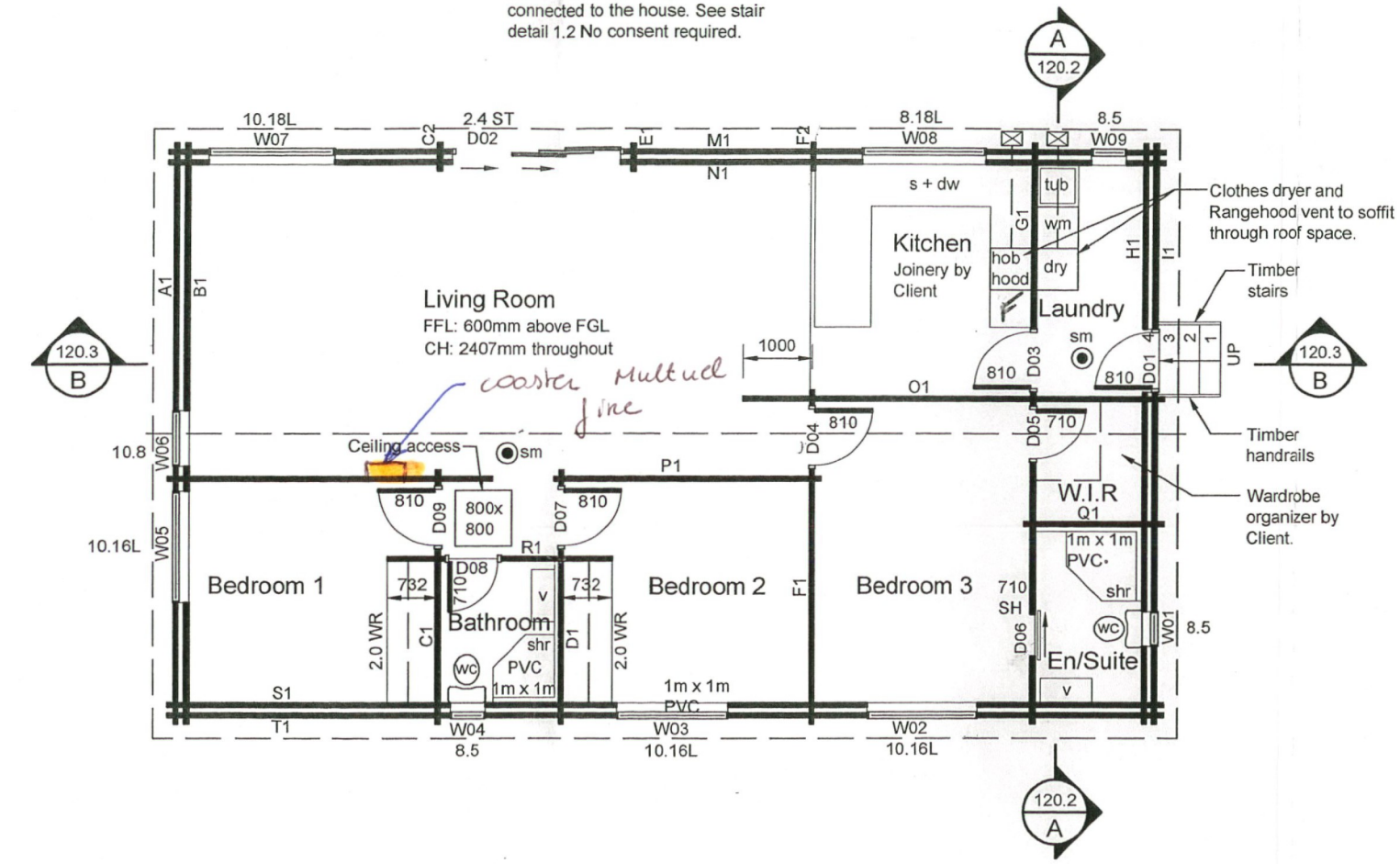
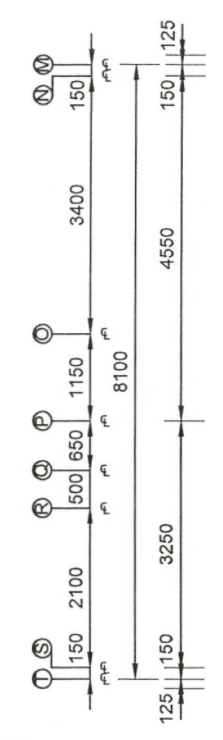
9-12-15

Consent No: 207037

Inspection Notes / Comments		
Date:	Notes/Comments	Signature
30.08.12	PAUL - KERRIAN - EFFLUENT FIELD - DRAW FROM SBR TANK - 100mm PVC - EFFLUENT FIELD DRAIN 100mm PVC WITH SLOTS - 25mm CLEAN RIVER GRAVEL - SEE AS BUILT DRAINAGE PLAN	OK Lester
21.02.13	Site visit ceiling battled and lined with 2mm Gib & the ceiling insulated some issues with ceiling levels and the settling of the walls will need to be checked at a later stage. fire is in place on a hearth with correct distance to front of floor protector 300 - 110 fire is bolted down, good 100mm back clearances. flue has ^{NO} spigot fixing. flue configuration is not correct and have asked to reinspect when fixed to supplied details (F) Steve	
14.10.13	ONSITE RE HEATER - FLUE SHIELD - THERE IS NO HEATER SHIELD ON THE INSTALLATION INSTRUCTIONS. OWNER GOING TO CONTACT FIRENZO.CO.NZ RE FLUE SHIELD	Lester
23.07.14	FLUE SHIELD IN PLACE - RE CHECKED FLUE/LINER AS PER MANUFACTURERS INSTALLATION INSTRUCTIONS OUTER LINER - INNER LINER. - TEMPERING VALVE IN PLACE. DWELLING PROGRESS. SOME PAINTING - BATTENS OVER GIB BOARD JOINTS. SEALED BACK VANITY - OUTSIDE COMPLETED. ELECTRICAL CERTIFICATE TO COME.	Lester
9.12.15	Wet areas have been sealed and battens placed over Gib-board joints to the ceilings in the wet areas walls are sealed. timber & vinyl floor coverings. All items signed as completed on the field sheets on this basis approved for CCC.	✓ MBS.

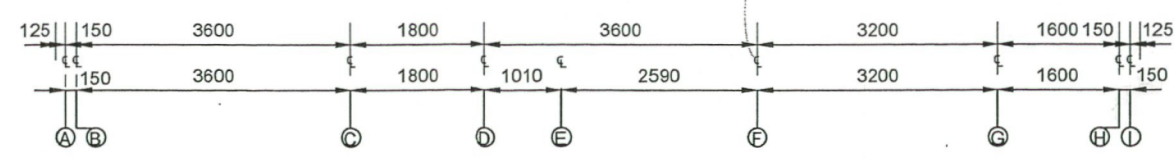


Deck outside doors by Client. Not connected to the house. See stair detail 1.2 No consent required.



GENERAL NOTES:	
All dimensions are nominal and are to be checked on site before commencing work	
Unless noted otherwise all timbers H1.2 SG8 to NZS3604:2011 and NZS3602:2003	
All work to comply with the Relevant Sections of the New Zealand Building Code	
KEY:	
Tie Rod:	T X
Lintel Bolt:	B X
Smoke Alarm:	sm
Kitchen Sink:	s
Dishwasher:	dw
Washing Machine:	wm
Laundry Tub:	tub
Vanity:	v
Toilet Suite:	wc
Shower:	shr

PROPOSED PLAN
1:100



AMENDMENT		BY	
Amendment - R0 Date - - Description - -		DESIGN	Jared Lane
		DRAWN	AC
		CHECKED	JL
NOTES		APPROVED	
		Date	
		This drawing and its contents are the property of Fraemohs Industries Limited 2007. Any unauthorised employment or reproduction, in full or in part, is forbidden.	

FRAEMOHS HOMES

SOLID TIMBER • ECO-FRIENDLY

Free Phone 0800 80 98 99 | www.fraemohs.co.nz

TITLE MAGGIE AND YVES OBUS FRAEMOHS WEKA HOUSE 176 RICHARDSON ROAD, GORE Proposed Plan				
STATUS CONSENT AND CONSTRUCTION			WALL THICKNESS 63	
SCALE As Noted @ A3	PLOT DATE 1 November 2011	JOB NUMBER 11116	SHEET 110.1	REVISION R 0



FIRENZO
WOODFIRES

Please read this booklet, for the safe installation of your

COASTER

MULTI FUEL FIRE

The Appliance and Flue System must be installed in accordance with AS/NZS2918. Consult with the building authority having jurisdiction to determine the need for a permit prior to commencing the installation. Failure to follow these instructions may also void your fire insurance and warranty.

INDEX

Item	
1	Warnings
2	Installation Responsibilities
3	Floor Protector Requirements & Clearances
4	Assembly Instructions
5	Flue Requirements
6	Flue Installation Instructions
7	Water Heating



1. WARNINGS

THIS APPLIANCE SHOULD BE MAINTAINED AND OPERATED AT ALL TIMES IN ACCORDANCE WITH THESE INSTRUCTIONS.

The Coaster is tested to AS/NZS 2918:2001.

If this heater is incorrectly installed a house fire may result. For your safety follow the installation instructions carefully.

Do NOT connect the heater to a chimney serving another appliance.

Although the exterior of the heater may appear cool, contact with the unit may cause burns, warn children and others of the possibility of injury should they touch the heater.

Do NOT dry clothing or unseasoned wood directly in contact with the heater.

Keep all household combustible materials at least 600mm away from front of the heater. This includes clothing, furniture, wood, newspaper, plastic, matches, etc.

DO NOT USE FLAMMABLE LIQUIDS OR AEROSOLS IN THE VICINITY OF THIS APPLIANCE WHEN IT IS OPERATING.

Use caution when reloading with fuel. Do NOT attempt to load fuel into the heater when the fire inside the stove is at or near its peak.

Do NOT burn large quantities of paper or combustible material that would create an extremely hot/quick fire.

USE ONLY DRY WOOD. AVOID BURNING WET OR GREEN WOOD.

THE USE OF SOME TYPES OF PRESERVATIVE TREATED WOOD AS A FUEL CAN BE HAZARDOUS.

TIMBER TREATED WITH COPPER CHROMIUM AND ARSENIC TYPE PRESERVATIVES WILL LEAVE TOXIC RESIDUES IN THE ASH, FIREBOX OR WITHIN THE FLUE; TIMBER OFFCUTS FROM BUILDING CONSTRUCTION WILL OFTEN CONTAIN BORIC SALTS. THE COMBUSTION OF THIS MATERIAL OVER PROLONGED PERIODS CAN PRODUCE ADVERSE EFFECTS ON REFRACTORY LINING IN SOLID FUEL APPLIANCES. EMISSION OF POISONOUS GASES CAN ALSO BE EXPERIENCED WITH THE BURNING OF TREATED WOOD.

Driftwood with salt content will also cause rapid deterioration of the heater and should not be used.

Edited 07/02/2011

2. INSTALLATION RESPONSIBILITIES

WARNING: THE APPLIANCE AND FLUE SYSTEM SHALL BE INSTALLED IN ACCORDANCE WITH AS/NZ 2918:2001 AND THE APPROPRIATE REQUIREMENTS OF THE RELEVANT BUILDING CODE OR CODES.

ANY MODIFICATION OF THE APPLIANCE THAT HAS NOT BEEN APPROVED IN WRITING BY THE TESTING AUTHORITY IS CONSIDERED TO BE IN BREACH OF THE APPROVAL GRANTED FOR COMPLIANCE WITH AS/NZS 2918:2001.

CAUTION: MIXING OF APPLIANCE OR FLUE-SYSTEM COMPONENTS FROM DIFFERENT SOURCES OR MODIFYING THE DIMENSIONAL SPECIFICATION OF COMPONENTS MAY RESULT IN HAZARDOUS CONDITIONS. WHERE SUCH ACTION IS CONSIDERED, THE MANUFACTURER SHOULD BE CONSULTED IN THE FIRST INSTANCE.

Strict adherence to these instructions will meet these standards.

Any variation from these installation instructions or any doubt about them must be checked against the requirements of the Standards.

WARNING:

Care must be taken to protect the wetback coil and associated pipe work if being installed in a hard/corrosive water area. Damage caused to the Wetback coil if fitted in a hard/corrosive water area will not be covered under the manufacturer's warranty.

Please leave this manual with the owner when installation is complete.

Please complete for your records:

Coaster Serial Number: _____

Purchased from: _____

Date of purchase: _____

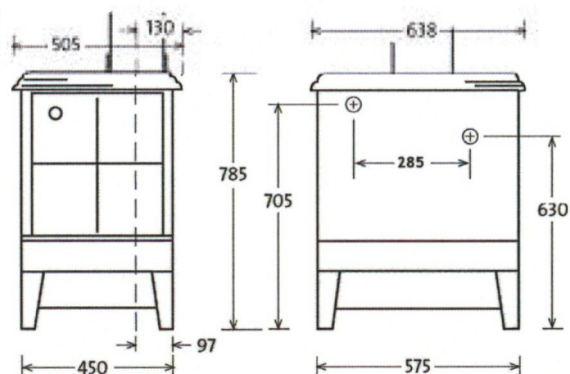
3. FLOOR PROTECTOR REQUIREMENTS AND CLEARANCES

If the heater is to be placed on or within 500mm of a heat sensitive floor, a floor protector will be required. This shall consist of a continuous layer of heat resistant material extending under the appliance to the perimeter of the protector. All joints shall be fixed to prevent separation and shall be sealed to prevent any spilt ash or embers contacting any heat sensitive material. Overall protector size shall be as per diagram.

The heater and floor protector must be fixed to the floor for seismic restraint. Anchor points are provided in the feet of the unit.

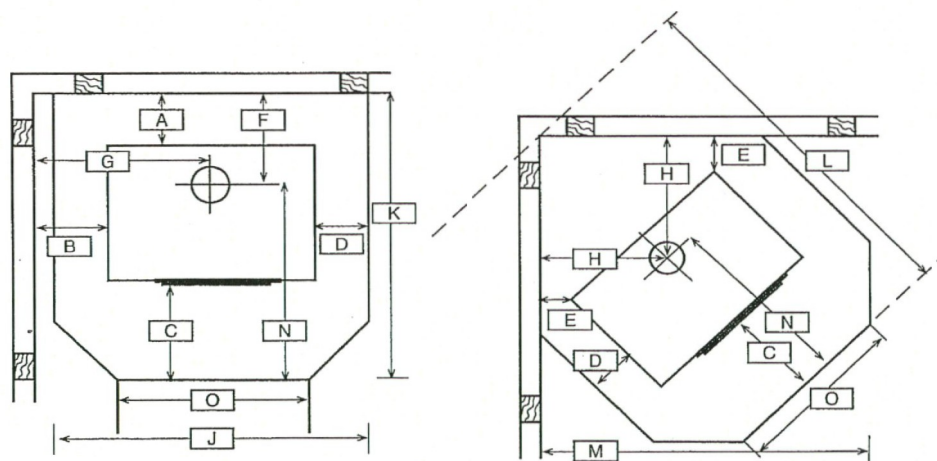
Coaster Multi Fuel

HOT WATER OUTPUT		5kw or 3kw
HOT WATER TAPINGS		1" BSP
FLUE SIZE		150mm
FIREBOX SIZE	COAL	WOOD
HEIGHT	320mm	350mm
WIDTH	460mm	460mm
DEPTH	320mm	380mm



COASTER MULTI FUEL - (All clearances are with flue pipe shield & Grill on rear cast top)

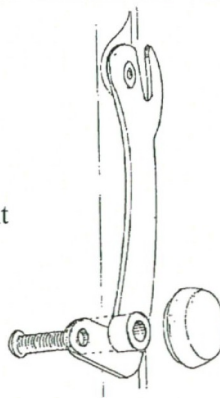
A	B	C	D	E	F	G	H	J	K	L	M	N	O
100	275	300	110	100	230	595	420	860	905	1270	1095	675	600



Clearances are to a heat sensitive material
Clearances are in accordance with the requirements of AS/NZS 2918:2001

4. ASSEMBLY INSTRUCTIONS

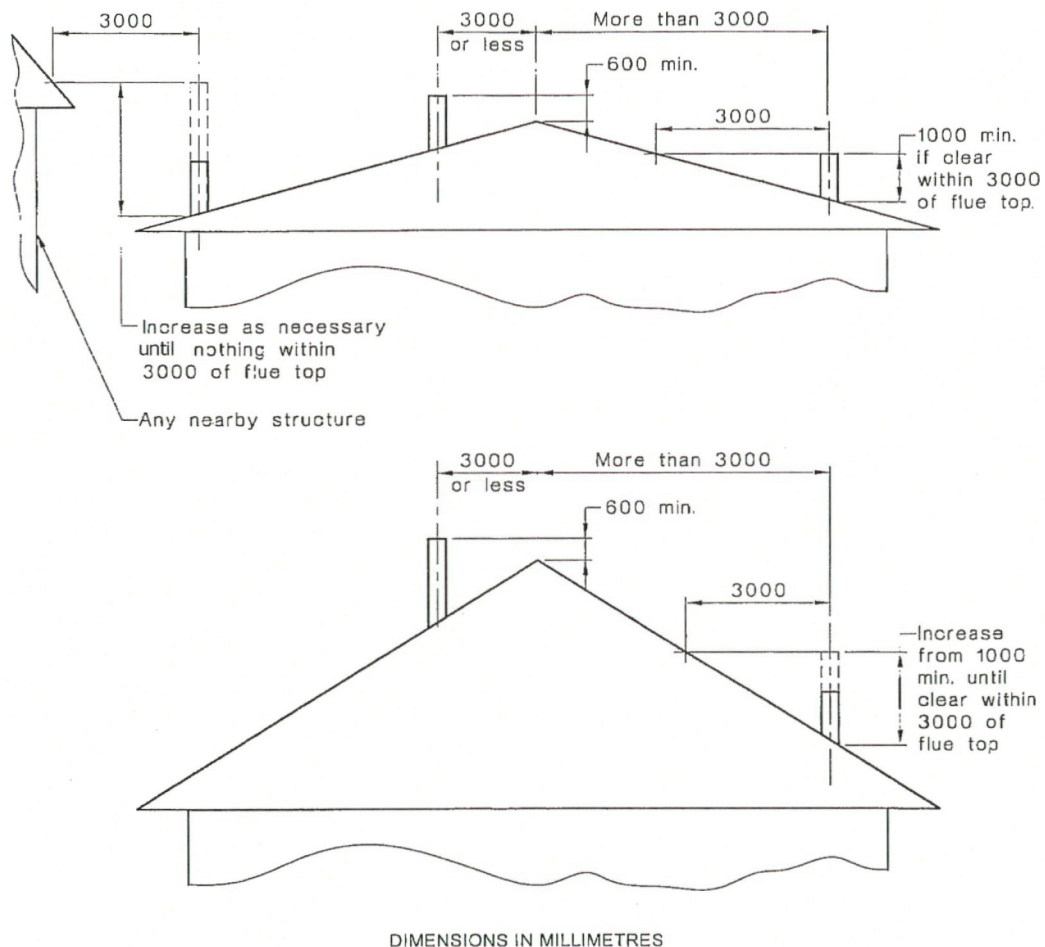
1. Remove all packaging and timber.
2. Remove loose parts from inside the firebox.
3. Position the base with angle steel down onto the floor protector, taking the necessary final clearance into consideration. The base has the flue centre indicated on the flat steel bracket. The label next to this point states the minimum clearances from the base to combustible surfaces. These measurements coincide with the figures on page 4 for the heater clearances when assembled.
4. At this point a hole in the ceiling to accommodate the flue may be cut and the liners installed.
5. Remove both front and rear top castings.
6. Place firebox on base. Secure with brackets provided.
7. Fit the wetback in accordance with accepted plumbing practice - please refer to page 8. Ensure wetback is NOT pushed down; if it touches or comes in contact with the baffle bricks this will cause wear which will void your warranty.
If NO wetback is to be fitted please ensure that blanking plugs are attached to the two holes in the rear of the upper chamber.
8. Replace the rear top casting and refit the front top casting ensuring it fits neatly into the rear sealed channel.
9. Refit the stainless steel spigot in the top rear section of the firebox.
10. Assemble and fit flue as per instructions (page 6 & 7). Fit flue shield.
11. Place the cook top grill (which must be fitted) on the top rear casting of the fire and secure to the rear heatshield on the fire with the bolts provided.
12. Secure the wood-burner to the floor protector for seismic restraint. DUE TO NZ BEING AN EARTHQUAKE PRONE COUNTRY, IT IS IMPORTANT TO ANCHOR THE FIRENZO FIRE DOWN IN CASE OF EARTH MOVEMENT.
13. Assemble and fit the decorative rails.
14. Fit handle as per drawing:
15. Fit the control knob - place the flat on the knob to the flat on the air control shaft situated on the right hand side of the fire. Press home firmly.



5. FLUE REQUIREMENTS

Flue components should be made of 304 or 316 grade stainless steel or vitreous enamel and approved 150mm diameter as per NZ standards 2918:2001, with reference to clearances with a flue shield. A flue shield must consist of a minimum of 180 degree stainless steel, which shields the rear section of the first length of flue. A 360 degree flue shield is available which has a 180 degree mesh front for good looks. Flues should be regularly checked for leaks and cleaned on a yearly basis (see page 11).

MINIMUM HEIGHT OF FLUE SYSTEM EXIT

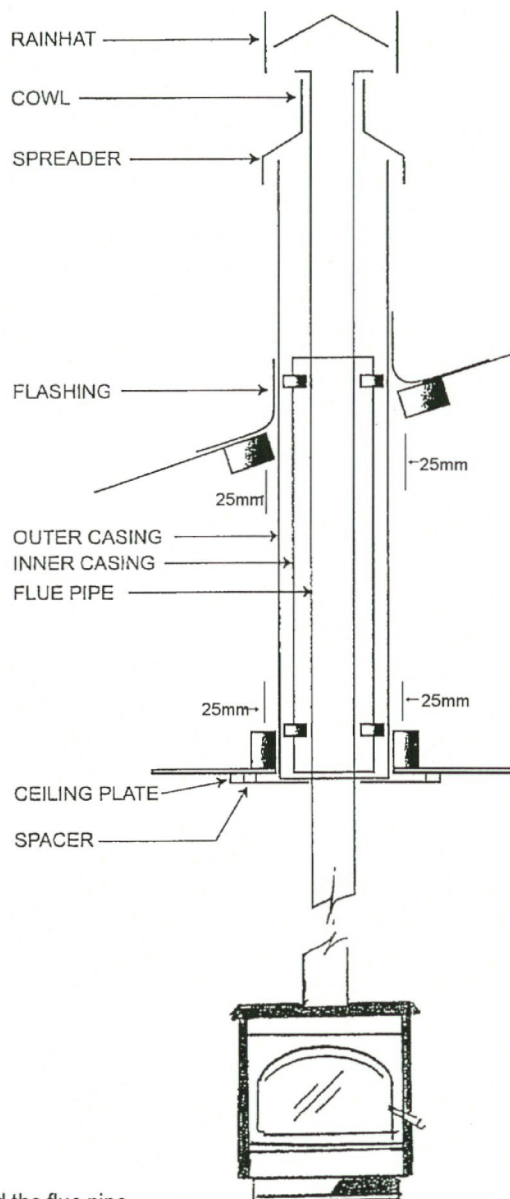


NOTES:

1. The flue pipe shall extend not less than 4.6m above the top of the floor protector.
2. The flue cowl must be at least 600mm above the highest point of the roof if within 3 metres of it, or 1 metre above the roof penetration if more than 3 metres from the ridge.
3. No part of the building, or any adjacent building may be in or above a circular area of a horizontal radius of 3 metres from the flue exit.

6. FREESTANDING FLUE SYSTEM

1. Position heater on floor protector ensuring all heater clearances are correct as per clearances on page 5.
2. Once the location is confirmed, the appliance and floor protector shall be fixed to the floor itself (refer to page 6 & 7).
3. Extend a plumb line from the centre of the fire flue pipe spigot to the ceiling. Mark position on ceiling and roof.
4. Trim hole and nog as required ensuring that a 25mm safe clearance between combustible materials and flue components is maintained. Fix with non combustible spacers and screws or clouts on all four sides.
5. Cut and frame (when required) an opening in the roof, position the outer casing through the roof until it is flush with the under side of the ceiling, making sure as with the ceiling there is a 25mm safe clearance between non-combustible materials and the flue components. Fix as in step 4.
6. Fix appropriate flashing around outer casing to the roof to ensure a weatherproof seal.
7. Assemble flue pipe sections ensuring all seams are in line, the assembly is straight and crimped. Ends are pointing downwards. Fix each joint with three stainless rivets or self-tapping screws.
8. Place ceiling plate with folded edges upwards over heater spigot.
9. Position the flue pipe into the heater spigot. The flue pipe can either be lowered from the top as a single unit or fed up from the room a length at a time, ensuring that all joints are fixed properly.
10. Slide the inner casing into place, between the outer casing and the flue pipe.
11. The flue pipe must extend 200mm above the outer casing.
Note: Extra lengths of flue pipe, inner and outer casing may be required to achieve the minimum clearance from the roof.
12. Slide top spreader over flue pipe down into outer and inner casing and tighten.
13. Slide cowl over flue pipe until it rests on spreader. Secure with rivets or self-tapping screws.
14. Fit rainhat. Do not fasten as it must be removable for flue pipe cleaning.
15. Fix ceiling plate to ceiling maintaining an even gap all around the flue pipe.
Note: Ensure ceiling plate is spaced off from the ceiling with ceramic spacers supplied.
16. Fit flue shield.



CAUTION: Mixing of appliance or flue system components from different sources or modifying the dimensional specifications of components may result in hazardous conditions. Where such action is considered the manufacturer should be consulted in the first instance.

WARNING: The appliance and flue system shall be installed in accordance with AS/NZS 2918:2001 and the appropriate requirements of the relevant building code or codes.

7. WETBACK

The Coaster can be fitted with either a 3kwt or 5kwt wetback to supplement the hot water system.

WARNING:

DO NOT CONNECT TO AN UNVENTED HOT WATER SYSTEM.

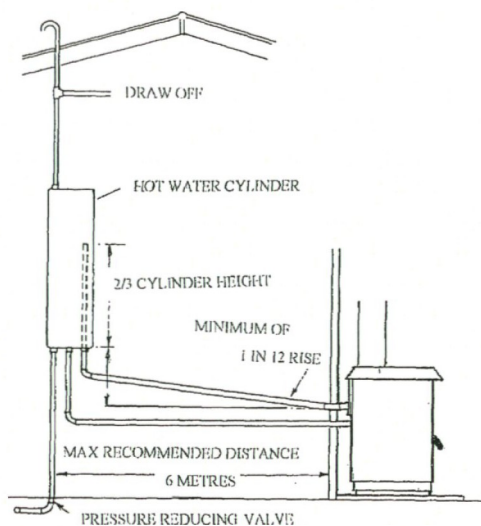
DO NOT USE THIS FIRE WITHOUT WATER RUNNING THROUGH THE WETBACK.

Care must be taken to protect the wetback coil and associated pipe work if being installed in a hard/corrosive water area. Damage caused to the Wetback coil if fitted in a hard/corrosive water area will not be covered under the manufacturer's warranty.

INSTALL IN ACCORDANCE WITH AS 3500.4.1 OR NZS 4603 AND THE APPROPRIATE REQUIREMENTS OF THE RELEVANT BUILDING CODE OR CODES.

For best performance apply the following rules:

1. Keep it simple with the shortest and straightest possible pipe run.
2. The heater should be within 6 metres of the hot water cylinder, the closer the better.
3. Keep all flow pipes rising - the cylinder should be at least 300 mm above the wet-back outlet.
4. Use only 25mm supply and return pipes.
5. Where possible the pipes should be insulated.



FIRENZO

WOODFIRES

BY

Hewitsons Limited

Manufacturers of:

Lady Kitchener

Contessa

Coaster

Bronte

Dante

Viking

Zealandia

Athena

Aqualux

Forte

Plaza

Deco

68 Austin Street

PO Box 3231

Onekawa

Napier 4142

Phone: 06 8438260

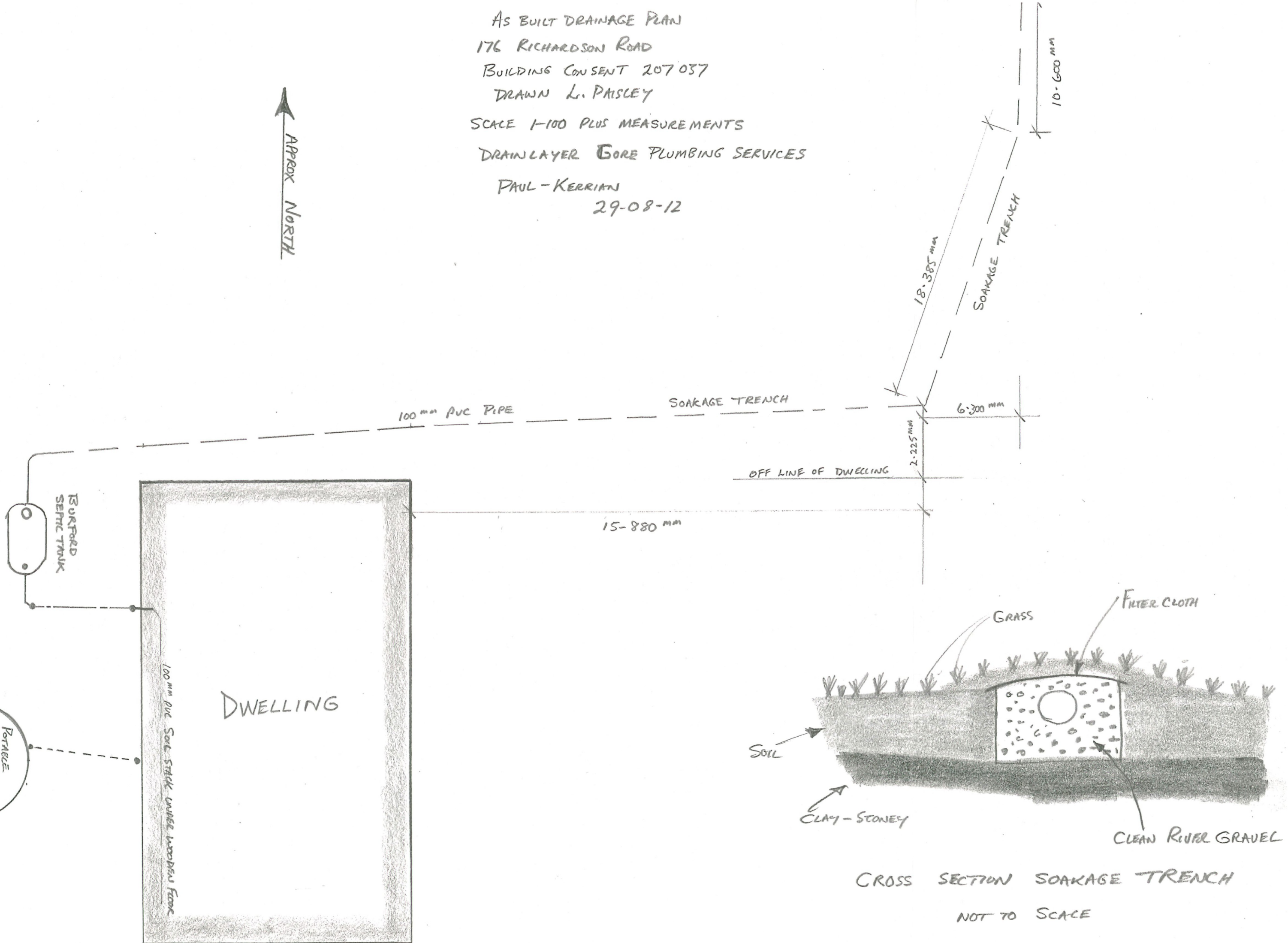
Fax: 06 8430505

Email: hothouse@firenzo.co.nz

Web: www.firenzo.co.nz

AS BUILT DRAINAGE PLAN
176 RICHARDSON ROAD
BUILDING CONSENT 207037
DRAWN L. PAISLEY
SCALE 1:100 PLUS MEASUREMENTS
DRAINLAYER GORE PLUMBING SERVICES
PAUL - KERRIAN
29-08-12

APPROX NORTH



CROSS SECTION SOAKAGE TRENCH

NOT TO SCALE

BUILDING CONSENT No. 207037 / 1

Section 51, Building Act 2004



29 Civic Avenue
P O Box 8
GORE
Phone (03) 209 0330
Fax (03) 209 0357

The Owner:

Name of Owner:

**Obus Yves Peter Jeanie
Obus Maggie De Vadder**

Mailing address:

**176 Richardson Road
RD
GORE 9776**

Phone numbers:

Landline:

Mobile:

Daytime:

After hours: **(03) 208 9054**

Facsimile number:

Email address:

Contact Details:

Contact name:

Fraemohs Homes

Mailing address:

**PO Box 256
KAIAPOI 7644**

Phone numbers:

Landline:

Mobile: **029 323 8005**

Daytime: **03 375 9009**

After hours:

Facsimile number: **03 323 8442**

Email address: **tim@fraemohs.co.nz**

The Building:

Street address of building:

176 RICHARDSON RD, GORE

Legal description of land where building is located:

**SEC 762 BLK LXX HOKONUI SD
Valuation No: 29390 / 43901**

Building Work:

The following building work is authorised by this building consent:

Construct new 3 bedroom dwelling to replace existing dwelling.

This building consent is issued under section 51 of the Building Act 2004. This building consent does not relieve the owner of the building (or proposed building) of any duty or responsibility under any other Act relating to or affecting the building (or proposed building).

This building consent also does not permit the construction, alteration, demolition, or removal of the building (or proposed building) if that construction, alteration, demolition, or removal would be in breach of any other Act.

This building consent is subject to the following construction endorsements:

No conditions were required on this consent

Compliance Schedule:

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



Tracey Youngman

Issuing Officer

On behalf of: **Gore District Council**

Date: **9 February 2012**

Advice Notes are attached to this Building Consent.

Please ensure that the signed and stamped documents are kept onsite during the construction process.

ADVICE NOTES

Consent No: 207037 / 1

Name: Obus Yves Peter Jeanie Obus Maggie De Vadder

Address: 176 RICHARDSON RD, GORE

Description of works: Construct new 3 bedroom dwelling to replace existing dwelling.

These Advice Notes shall be read in conjunction with the above building consent.

-
- Smoke alarms with hush facility to be installed in dwelling as per NZBC F7.
- Council requires a copy of the Energy Works Certificate upon completion of the work.
- Window 1 and 4 require safety glass to be fitted as per NZS 4223, Part 3 1999.
- Kitchen design to be provided to the Building Control Officer for confirmation BEFORE installation.
- R1: Traffic Management Plan
- All work undertaken within the road corridor (boundary to boundary) must be carried out in accordance with an appropriate traffic management plan (TMP) approved by the Gore District Council Roadway department. The TMP must be signed and submitted to GDC by a qualified and current Site Traffic Management Supervisor (STMS) a minimum of 5 working days prior to the work commencing. The STMS must be within 30 minutes travelling time of the site and must attend the site if requested by GDC Roadway staff.
- R2: Corridor Access Request
- A Corridor Access Request form must be filled out and submitted to the GDC Roadway Manager a minimum of 5 working days prior to the proposed work commencing. The work in the road corridor shall not start until the GDC Roadway Department has issued a Works Approval Notice (WAN) permit. All conditions required by the WAN must be fully complied with
-
- R3: Approved Roadway Contractor
- Work within the road corridor shall be carried out or supervised by an appropriately experienced roadway contractor approved by the GDC Roadway Department. Past compliance with WAN's, TMP's, and GDC specifications along with employment of a suitable STMS, use of appropriate staff, materials, plant and methodology. Evidence that the contractor has the ability and commitment to comply will also be taken into consideration.
-
- R5: Rural Vehicle Crossings Location/Type Approval
- New or altered vehicle crossings shall only be constructed at the location approved by the GDC Roadway Manager. The type of crossing to be constructed, domestic, milk tanker or commercial shall be determined by the GDC Roadway Manager
-
- R6: Vehicle Crossing Construction
- New or altered urban vehicle crossings shall comply with the requirements of the appropriate GDC specifications and to the satisfaction of the GDC Roadway Manager. This includes compaction testing by GDC roadway staff prior to surfacing.
-

Gore District Council

Building Consent Issuing Process Sheet

(to be filed with the Building Consent Application)

To be used as an aid, by the Building Control Officer, when processing Building Consents at the Processing table

- It is expected that there will be a tick in every line and that this will indicate that the BC application complies with the New Zealand Building Code. If it doesn't comply leave the line blank until it does.
- The shaded areas are not to be filled in.
- This document is to be used for all Building Consent applications.

Owners Name: Obus Yves Peter Jeanie
Project Location: 176 RICHARDSON RD, GORE
Proposed job: Construct new 3 bedroom dwelling to replace existing dwelling.
Date: 11/17/2011

PIM INFORMATION DETAILS					BUILDING CATEGORIES			
Wind Zone	Medium (50)	High (51)	Very High (52)	SPECIFIC DESIGN		App	Ins	Date
Inundation	1	2	3	4	28	46	Other (detail):	RES 1 1 12/11/11
Snow Loading	5 (53)	0/5kPA (54)	1kPA (55)	Specific Design (56)	spec. design			Initial RP
Zoning	Residential (62)	Commercial (63)	Industrial (64)	Rural (61)	Mixed (177)	COM		
Potential contamination						Compliance Schedule required: Y / N		
Location to mines or quarry's						Existing Compliance Schedule: Y / N		
Heritage information						New or amended		
Essential Services Information								
Vehicle access details						Financial Contribution required: Y / N		
Planning requirements						Invoice generated: Y / N		

Documents to be contained on Property file with this consent:	YES	N/A
Application Form	✓	
Plans & Specifications (site specific, stamped and signed)	✓	
Processing Check Sheet	✓	
Producer Statements	✓	
Enquiries relevant to consent	✓	
PIM (once granted)	✓	
Building Consent (once granted)	✓	
Copies of all inspection notes (including any notices to fix issued)	✓	
Energy Certificates	✓	
Field Sheet	✓	
Application for CCC	✓	
Copy of CCC	✓	
Additional information (specify)		✓
As Built Plans	As Built Drawings	✓

OK TO APPROVE & GRANT CONSENT

YES / **NO**

31-1-12

Approving Officers Signature & Date

Checked by BCM: RP Date: 8/2/12

Reason if no: _____

Are there consent conditions: Y ☐ N ☒

ADVICE NOTES:

92 96 ~~174~~(public) ~~175~~(residential) 176(Fire Fighting) (delete if not applicable)

Road, i/b: 168, 169, 170, 172, 173.

Window 1 and 4 require safety glass to be fitted as per NZS 4223 part 3

Kitchen Design to provided to BCO for Confirmation before installation

	Clause	Items	Alternative solution	N/A	Complies		Comments Including Endorsements, Conditions & Requirements NOTE:- there must be comments
					P & D	Build	
PIM	S31 - S39	Have you filled in PIM			✓		
BA 2005	S47	Does this application need to go to the NZFS - DRU?				✓	NO
	S71 - 74	Building on land subject to natural hazards (eg inundation)				✓	NO
	S75 - 83	Building on 2 or more allotments				✓	NO
	S112	Alterations to existing Buildings				✓	NO
	S100 - 107	Is a compliance schedule required				✓	Yes / NO / Needs amending
	S114 - 116	Change of use				✓	NO
	S118	Assess and Facilities - does the building need them				✓	NO
	S122	Is it an earthquake prone building				✓	NO
	S222	Required inspections marked on site Inspection report sheet			✓	✓	
B1	Structure	Foundations				✓	3604 Spec and shown
		Floor & Sub-Floor				✓	3604 Spec and shown
		Wall Framing	✓				PSI JS SPENCE B1/VM1 B1/ASI
		Roof Framing				✓	PSI In Ling
		Trusses require a fully developed design				✓	PSI In Ling Mite K B1/VM1
		Other (please specify)		✓			
B2	Durability					✓	B2 ASI SPEC
C1	Outbreak of Fire	Solid Fuel Appliances		✓			
		Oil or Gas Appliances		✓			
C2	Means of Escape	Single Escape				✓	Multiple
		Exits				✓	OK
		Travel Distance				✓	< 25m
C3	Spread of fire	External fire separation				✓	Well clear of boundary
		Internal Fire separation		✓			
		Fire protection systems		✓			
		Smoke Control		✓			
C4	Structural stability During Fire			✓			
D1	Access Routes	Disabled access		✓			
		Stairs, Handrails		✓			
		Slip resistant Surfaces		✓			
		Lift required		✓			
D2	Mechanical Installations for Access	Producer Statement required		✓			
E1	Surface Water	Confirm FFL is min. 200mm above the 2% event level				✓	E1 ASI
		Hard surface areas		✓			
		Drainage system			✓		POTABLE WATER SUPPLY

	Clause	Items	Alternative solution	N/A	Complies		Comments Including Endorsements, Conditions & Requirements NOTE:- there must be comments
					P & D	Build	
E2	External Moisture	Risk Matrix				✓	3
		Cavities	✓				PSI John Spence & E2 ASI
		Materials				✓	E2 ASI Spec Ref.
		Penetrations/openings Flashings	✓			✓	E2 ASI SPEC Window Flashings AS
E3	Internal Moisture	Impervious, Overflow, Thermal resistance, Ventilation	✓			✓	E3 ASI & PSI John Spence AS
F1	Hazardous Agents on site	MWH via the PIM		✓			
F2	Hazardous Building Materials	Glazing				✓	F2 ASI SPEC Safety Glass shown
F3	Substances & Processes	Hazardous Substances PIM note (9)		✓			
		Trade waste		✓			
		Gas, Solid, Liquid		✓			
F4	Safety from Falling	Barriers		✓			
		Restrictors		✓			
F5	Construction & Demolition Hazards	PIM note (13) or schedule of proposed safety procedures		✓			
F6	Lighting for Emergency	Possible compliance schedule		✓			
F7	Warning Systems	Possible compliance schedule		✓			
		Smoke alarm				✓	F7 ASI SPEC ALARMS shown
F8	Signs			✓			
G1	Personal Hygiene	Number of fixtures			✓		9
		Location of fixtures			✓		DWELLING
		Type of fixtures			✓		2 WC'S 2 VANITIES 2 SHOWERS HWC (Men + Women + Uni + Accessible) TUB - SINK
G2	Laundering	Number of facilities			✓		TUB - WASHING MACHINE
G3	Food preparation and prevention of contamination	Personal Services, Offensive trades, commercial food premises - Send to EHO				✓	G3 ASI SPEC T.B.C
G4	Ventilation	Natural, Mechanical, gas- fuel appliances				✓	G4 ASI SPEC Rooms 5% of 7 opening
G5	Interior Environment	Heating, Space and Accessibility requirements				✓	
G6	Airborne & Impact Sound	STC, IIC		✓			
G7	Natural Light	% of glass, Visual awareness				✓	710% OK
G8	Artificial Light	Access routes, Common spaces, exit s		✓			
G9	Electricity	Is it part of this BC application - PS1				✓	EMC Required on Completion
G10	Piped Services	Fuel gas only - all others alternate solution		✓			
G11	Gas as an Energy Source	Is it part of this BC application. AS1 / NZS5261		✓			
G12	Water	Back flow prevention		✓			
		Cold Water			✓		OWN SUPPLY - ROOF WATER
		Hot Water			✓		ELECTRIC TEMPERING VALVE
		Non-Potable		✓			
G13	Foul Water	Drainage			✓		SEPTIC TANK
		Sanitary Plumbing			✓		SOIL STACK - VENT - WASTES - WATER PIPES
		Septic tank			✓		4500L SEPTIC TANK - SOAKAGE FIELD

	Clause	Items	Alternative solution	N/A	Complies		Comments Including Endorsements, Conditions & Requirements NOTE:- there must be comments
					P & D	Build	
G14	Industrial Liquid Waste	Containment, Disposal		✓			
		Trade waste		✓			
G15	Solid Waste	Storage		✓			
		Access		✓			
		Design		✓			
H1	Energy Efficiency	R - value building					✓ H1 Calculations improvement with Change.
		R - value plumbing			✓		ALL RELEVANT CLAUSES
	Have you Stamped the plans and specification				✓		
	Have you signed the plans and specification				✓		
	Have you signed the application form				✓		
	Consent documents sorted ready for issuing				✓		

Date Requested	Details Information Requested	Date Received	Info Adequate		Date Re-requested	Officers Initials
			YES	NO		
29.11.11	RFI Sent to Tim Foster Fraemohs	5.12.11	✓		06.12.11	DR
	Additional Received	8.12.11	✓		08.12.11	DR
	Additional Received Kea Burns	22.12.11	✓		22.12.11	DR
	Additional Received Tim Foster	27.1.12	✓			DR
8.2.12	Phoned owner Re Kitchen in Regards to G3.					
	Owner will consult BCO before Commissioning Kitchen.	8.2.12	✓			DR

Producer Statements received from: (name)	Date Author Checked	Adequate		Officers Initials
		YES	NO	
JS SPENCE CPENG 35414 (E3ASI)	30.1.12	✓		DR
JS SPENCE CPENG 35414 BIVMI BIASI	30.1.12	✓		DR
IN Ling for Mitek CPENG Truss	30.1.12	✓		DR

Peer Review sent to:	Date sent	Date review received	Officers Initials

CONSENT CONDITIONS:	(These can only be the 5 prescribed conditions as allowed under the Building Act)

22 November 2011

Yves Obus & Maggie De Vadder
176 Richardson Road
RD 6
GORE 9776

29 Civic Avenue, Gore 9710
PO Box 8, Gore 9740
Southland, New Zealand

Phone (03) 209 0330
Fax (03) 209 0357
Email info@goredc.govt.nz

Dear Yves & Maggie

NEW DWELLING: BC 207037/1 – 176 RICHARDSON ROAD

I refer to the building consent to erect a new dwelling at 176 Richardson Road, Gore. The proposal has been reviewed to ensure compliance with all Council's planning regulations. As previously advised there are regulations relating to fire fighting that are required to be complied with from 1 January 2012:

The site plan provided with the Building Consent shows that water storage will be provided on the site in the way of a single 30,000 litre tank. I wish to draw to your attention the requirements of the New Zealand Fire Service Fire Fighting Water Supplies Code of Practice SNZ PAS 4509:2008. The relevant requirements with the Code of Practice in this case are:

- A. The installation of a dedicated fire fighting water supply of at least 20,000 litres within a 30,000 litre tank within 90 meters of any dwelling. Alternatively, a 7,000 litre fire fighting reserve can be provided for each dwelling in association with a domestic sprinkler system. Storage may be above or below ground.
- B. Heavy-duty vehicle access a minimum of 4.5 metre wide and 11 metre long to a connection site on a hardstand area suitable for a fire service appliance parking. Access shall be maintained at all times to the hardstand areas. The connection site shall be within 6 metres of the water source.
- C. Connections that are compatible with the Fire Service equipment. The fittings are to comply with the following standard, being either:
 - 70mm instantaneous couplings (female) to NZS 4505, or
 - 100mm and 140mm suction coupling (female) to NZS 4505 with the hose tail of the same diameter as the threaded coupling, e.g. 140mm coupling to have 140mm hose tail.

Compliance with the Code from 1 January 2012 is compulsory for all new houses erected in rural areas. As a consequence, you should be providing at least 20,000 litres of water available for fire fighting at all time. It is recommended that this supply be provided by way of a separate tank designed to meet the standards listed above.

Should you require any clarification of the matters referred to in this letter do not hesitate to contact me 03-209 0330.

Yours faithfully

Rosie Given
RESOURCE MANAGEMENT PLANNER



NEW ZEALAND INSTITUTE OF
ARCHITECTS
INCORPORATED



ACENZ



PRODUCER STATEMENT – PS1 – DESIGN

(Guidance notes on the use of this form are printed on the reverse side*)

ISSUED BY: OTS GROUP LTD.
(Design Firm)

TO: MAGGIE & YVES OBUS
(Owner/Developer)

TO BE SUPPLIED TO: GORE DISTRICT COUNCIL
(Building Consent Authority)

IN RESPECT OF: NEW DWELLING
(Description of Building Work)

AT: 176 RICHARDSON ROAD, GORE.
(Address)

LOT DP SO

We have been engaged by the owner/developer referred to above to provide INTERNAL MOISTURE – EXTERIOR WALLS services in respect of the requirements of
(Extent of Engagement)

Clause(s) E3 – INTERNAL MOISTURE 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 Department of Building & Housing E3/AS1 or
(verification method / acceptable solution)

☐ Alternative solution as per the attached schedule

The proposed building work covered by this producer statement is described on the drawings titled GABLE WALL EDGE & LONGITUDINAL WALL EDGE and numbered D01 AND D01A BY FRAEMOHS HOMES.

together with the specification, and other documents set out in the schedule attached to this statement.

On behalf of the Design Firm, and subject to:

- (i) Site verification of the following design assumptions
- (ii) All proprietary products meeting their performance specification requirements;

I believe on reasonable grounds 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.

I, JOHN S SPENCE am: ☒ CPEng 35414 #
(Name of Design Professional)

☐ Reg Arch #

I am a Member of: ☒ IPENZ ☐ NZIA and hold the following qualifications: BE (HONS)

The Design Firm issuing this statement holds a current policy of Professional Indemnity Insurance no less than \$200,000*.

The Design Firm is a member of ACENZ ☒ YES ☐ NO

SIGNED BY J S SPENCE ON BEHALF OF OTS GROUP LTD
(Design Firm)

Date 27 JANUARY 2012 (signature) [Signature]

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

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

CONDENSATION CALCULATION (BS EN ISO 13788: 2002)

U-value of element = 0.3 W/sq.m./K calculated as BS EN ISO 6946

Project
Element

The construction has the following layers:

	Material thickness mm	Thermal conductivity K	Thermal resistance R	Vapour Resistivity MN.s/g.m	Vapour Resistance MN.s/g
Internal surface resistance			0.13		
1 Fraemohs Profile (Internal)	63	0.13	0.485	60	3.78
2 EPS board (15 Kg.m3)	70	0	1.94	40	2.8
3 slightly ventilated air layer (max 300mm)	17	0	0.172	5	0.085
4 timber(softwood)	63	0.13	0.485	60	3.78
external surface resistance			0.13		

SURFACE TEMPERATURE TO AVOID SURFACE CONDENSATIONLocation: Invercargill
Humidity class 3
Building class dwellings with low occupancy**SURFACE CONDENSATION**

No surface condensation is likely

Calculation of the internal temperature factor using internal humidity classes

Month	external temp.(C)	external RH (%)	ext.vap. pressure	PA. excess	int.vap. pressure	minimum sat.VP	minimum int.temp	internal temp.(C)	internal temp.factor
January	14	0.808	1290	243	1558	1947	17.1	20	0.515
February	13.9	0.835	1325	247	1597	1996	17.5	20	0.587
March	12.5	0.843	1221	303	1555	1944	17.1	20	0.608
April	10.4	0.863	1087	388	1515	1894	16.7	20	0.651
May	8	0.869	931	486	1466	1832	16.1	20	0.678
June	5.6	0.884	803	583	1445	1806	15.9	20	0.716
July	5.2	0.889	785	599	1445	1806	15.9	20	0.724
August	6.4	0.864	830	550	1436	1795	15.8	20	0.692
Sept.	8.3	0.822	899	473	1420	1775	15.6	20	0.627
October	10	0.789	968	405	1413	1767	15.6	20	0.556
November	11.3	0.787	1053	352	1440	1801	15.9	20	0.524
December	13	0.79	1182	283	1494	1868	16.4	20	0.49

The internal temperature factor for July is the most critical.

The maximum temperature factor of 0.96 is greater than 0.724 so no surface condensation is likely

INTERSTITIAL CONDENSATION

The structure is free of interstitial condensation in any month.

Calculation in accordance with BS 5250:2002 and BS EN ISO 13788:2002

Using Dewpoint version 3.02 (03.02.09)

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Marshall
Waterproofing
Professional Solutions

SPECIFICATION
FOR
PROTECTO WRAP
PROTECTO TAPE
(EIFS TAPE)

BRANZ Appraisal Certificate # 450 (2005)

www.mwnz.com

PROTECTO TAPE SPECIFICATION (EIFS TAPE)

PRODUCT DESCRIPTION

Protecto Tape is a self adhering, conformable, modified SBS (styrene-butadiene-styrene) rubberized asphalt tape. Protecto Tape has a fabric top that provides a base to which most plaster or texture coat finishing systems are able to be applied, creating a monolithic finish.

Protecto Tape can be used as a waterproofing membrane under conventional metal or timber parapet caps and also as a flashing for behind cladding junctions. Protecto Tape when used in conjunction with Protecto Wrap Detail Tape can be used to form saddle flashings or any awkward flashing requirement.

Protecto Tape is 1.0mm thick and available in 75mm, 150mm, 300mm, 400mm, 600mm and 900mm wide by 30m long rolls.

Accessories used in conjunction with Protecto Tape

- Protecto Tak – a light blue spray on primer/adhesive available in a 369gm can and used to prepare the surface for the application of the tapes. Can be use on a wide range of substrates including polystyrene, building wrap, fibre cement and timber.
- #80 Primer – a solvent based primer/adhesive available in 1lt, 4lt and 20lt containers. #80 primer is applied by brush or roller and is used to prepare concrete and steel for the application of the tapes.
- Protecto Wrap Detail Tape – a highly conformable tape that can be stretched and moulded. Used to detail awkward areas before the application of the Protecto Tape.
- JS160H mastic – an asphalt mastic available in 310ml cartridges. Used at Protecto Tape junctions, terminations and penetrations.

FEATURES /BENEFITS

- Adaptable to fit most flashing requirements.
- Zero waste as tapes can be overlapped.
- Wide range of widths available.
- Can be used as a sealing bandage over fixing blocks on external walls.
- Will self seal around mechanical fasteners as long as no pilot holes are drilled.
- Can be directly plastered or rendered.
- Fast and easy to install.

STORAGE

Store all materials in a dry place at temperatures between 10° C and 32° C. Do not store in direct sunlight. Do not remove membrane from the carton until ready for use and always replace in the carton for storage

Handling and storage of the materials, whether on-site or off-site is the responsibility of the installer.

DURABILITY

On the basis that the exposure to the weather does not exceed 30 days, Protecto Tape can be expected to have a serviceable life of at least 15 years.

When used as a waterproofing tape over the joins in RAB board the exposure can be 90 days.

SAFETY PRECAUTIONS

The materials must be kept away from direct exposure to heat and flames. Extra precautions must be taken when using the #80 primer and JS160H mastic in areas where there is insufficient ventilation. Do not breathe the fumes. Avoid contact with skin. Wear eye and face protection.

SURFACE PREPARATION

The surface to receive Protecto Tape must be clean, dry and free of any foreign matter that may adversely effect adhesion.

Allow treated timber to breathe for a minimum of 7 days before installation of Protecto Tape.

When using Protecto Tape with a given plaster or finishing system, it is advisable to confirm its suitability with the manufacturer.

Protecto Tape must be separated from sources of heat.

The use of Protecto Wrap is not designed to overcome poor detailing and workmanship.

Do not install Protecto Tape in temperatures lower than 7°C.

PRIMERS

PRIMERS (General)

The recommended primer/adhesive must be applied to all substrates before the installation of Protecto Tape. Failure to apply the correct primer/adhesive could result in tape to substrate delamination.

Ensure nail holes are filled and allowed to dry for a minimum of 24 hours before applying the primer. This is particularly important when using solvent based fillers.

When using the #80 primer allow the application to cure for approx. 30 minutes before installing the tape. Primer should be touch dry when cured. The time required will depend on the air temperature.

PRIMER (Selection)

POLYSTYRENE

Use Protecto Tak spray on primer/adhesive. A light spray is all that is required. When using Protecto Tak it is necessary to keep the spray nozzle at least 150mm away from the polystyrene surface to avoid spray penetration.

BUILDING WRAP

Use Protecto Tak spray on primer/adhesive.

Ensure building wrap is securely fastened.

FIBRE CEMENT SHEETING

Use either Protecto Tak spray on primer/adhesive or Protecto Wrap #80 primer.

Remove excess dust from the sheet surface before applying the primer.

TIMBER

Use either Protecto Tak spray on primer/adhesive or Protecto Wrap #80 primer.

Ensure timber has been allowed to breathe for a minimum of 7 days prior to the application.

MASONRY

Use Protecto Wrap #80 primer.

Fill voids and grind any sharp protrusions. Surfaces must be clean and dry.

STEEL

Use Protecto Wrap #80 primer.

Ensure that the surface is free of any rust, flaky paint or any material that will affect adhesion.

PROTECTO TAPE

INSTALLATION OF PROTECTO TAPE

PRIMING

Ensure surfaces are clean, dry and free of any sharp protrusions. Apply the correct substrate primer and allow to cure where required.

DETAILING

Use Protecto Wrap Detail Tape (JS 500) in areas such as the hand rail to wall junctions, steps in the parapet or handrail, around penetrations or in any area that requires a flexible tape to create a flashing or seal. Stretch and mould the Detail Tape into position and press firmly onto the substrate.

- Ensure the correct primer is applied before installing the Detail Tape.
- The Detail Tape should be long enough to allow the Protecto Tape to overlap by a minimum of 100mm.
- The Detail Tape should be covered as much as possible with Protecto Tape when

PROTECTO TAPE INSTALLATION

- Select the most suitable roll width for the application and cut to the length.
- Shape the tape to fit, ensuring it will cover any areas that have been detailed.
- Roll up the cut length of Protecto Tape with the backing paper to the outside of the roll.
- Peel back approximately 50mm of the backing paper.
- Position the tape on the substrate and press firmly into place.
- Continue unrolling the Protecto Tape and removing the backing paper while smoothing the tape onto the substrate.
- Firmly press or roll along the top then sides of the installed Protecto Tape to ensure maximum adhesion.
- Seal all junctions, protrusions and overlaps with JS160H mastic.

Protecto Tape must extend a minimum of 50mm down each side of a parapet or hand rail.

When applying long runs of tape, tear off and discard short lengths of the backing paper as it is removed. This will assist the installation procedure.

JOINING THE TAPE

Protecto tape must be lapped a minimum of 100 mm for all joints. JS160 H Mastic must be used.

- Trowel JS160H mastic to fully cover the 100mm lap on the installed tape.
- Remove a section of the backing paper from the overlapping tape.
- With the minimum of 100mm overlap, lay the second piece of Tape into the mastic and out onto the substrate.
- Continue removing the backing paper and rolling the tape firmly into place.
- Remove excess mastic and smooth the remainder into the overlap edge.

All installed tape must be firmly pressed or rolled to maximize adhesion.

PROTECTO TAPE

REPAIRS

Should air become trapped under the membrane at any stage of installation, puncture the bubble and expel any trapped air. Press and roll the punctured area to attach the tape to the substrate, then apply a bead of JS160 H mastic over the puncture and trowel smooth.

NOTES

Protecto Tape is not UV stable and must be covered. If the tape is exposed for longer than the durability times it must be replaced.

When rendering or plastering over Protecto Tape you must bed in a fibre glass mesh coat. This mesh coat must extend a minimum of 100mm past all edges of the Protecto Tape.

When installing a metal cap flashing over Protecto Tape a 5mm packer must be used under the flashing to stop the metal contacting the tape.

The membrane may discolour some sealants – It is recommended that the compatibility of sealants with the tape be checked with the sealant manufacturer before application.

Handrails must not be top fixed through the Protecto Tape.

WARRANTY

The products are warranted to be free of defect in manufacture for a period of 15 years. This warranty is limited to the replacement of the Protecto Wrap products only.

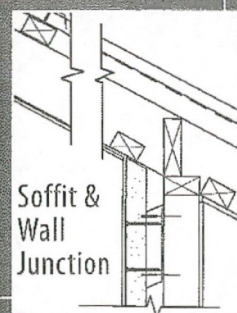
PROTECTO TAPE

WATERPROOFING MEMBRANE TAPE

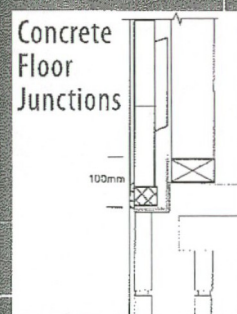


Marshall
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Professional Solutions

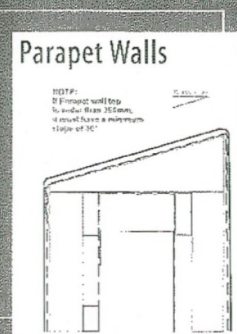
15
YEAR
Warranty



Soffit &
Wall
Junction



Concrete
Floor
Junctions



Parapet Walls

TEKTON®

Protecto Tape

The waterproofing membrane
tape for exterior protection
solutions. Render/plasterable.



BRANZ Appraised
Appraisal No. 450 [2005]



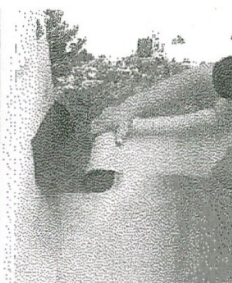
The versatile membrane tape for your exterior waterproofing solutions. BRANZ Appraised for use over polystyrene, fibre cement, masonry and timber substrates.

Protecto Tape

30m rolls

PRIMER TABLE

	Protecto Tak	#80 Primer
Polystyrene	✓	✗
Fibre Cement	✓	✓
Masonry	✗	✓
Steel	✗	✓



Select correct Primer from table.

Apply primer and allow to tack off.

Apply Protecto Wrap Detail Tape where flashing is required.

Remove backing paper and apply Protecto Tape



Cut and fold Protecto Tape to fit.



Apply JS160 Mastic to all overlaps and joints. NB: 100mm overlap required when joining tape.



Trowel mastic smooth and press overlaps firmly together.



Press firmly all installed membrane to maximise adhesion.



Protecto Tak Primer/Adhesive

369gr aerosol.

A spray on primer/adhesive, coloured blue for easy identification.



#80 Primer Adhesive

Available in 1L, 4L and 20 Litre pails.



Detail Tape

150mm wide x 15m rolls. Conformable tape that can be stretched and moulded to any shape.

Protecto Tape

75mm, 150mm, 300mm, 400mm and 600mm wide rolls x 30m in length. Fabric topped to accept plaster.



JS160 Mastic

A semi liquid form of the membrane.

benefits of protecto tape system

- BRANZ APPRAISED Appraisal # 450 (2005)
- FAST AND EASY TO INSTALL
- CAN BE PLASTERED/RENDERED DIRECTLY OVER
- 15 YEAR PRODUCT WARRANTY
- ADAPTABLE TO FIT MOST FLASHING REQUIREMENTS
- ZERO WASTE AS TAPES CAN BE OVERLAPPED

please note:

- Protecto Tape System must be installed over smooth, clean, dry surfaces only. Treated timber must be allowed to weather for a min. of 7 days prior to the application of primer and membrane.
- Protecto Tak primer must be used on Polystyrene and Fibre Cement sheeting before installation. Ensure nail holes are filled and allowed to dry for a minimum of 24 hours prior to priming.
- Protecto Wrap #80 primer must be used on Concrete and steel before installation.
- Protecto Tape is not UV stable and must be covered within 28 days of installation, or be replaced.
- When installing a metal cap flashing over Protecto Tape, you must use a 5mm packer under the flashing to stop the metal contacting with the membrane.
- When rendering or plastering over Protecto Tape, you must bed in a fibreglass mesh coat extending a minimum of 100mm past all edges of the Protecto Tape.
- Sealants must not make contact with Protecto Tape. Always use a bond breaking tape or backer rod behind sealants.

other professional solutions by Marshall Waterproofing

- Protecto Sill System - Window and door protection, BRANZ Appraisal # 444 (2005).
- Anti Fracture Membrane (AFM) - crack suppression and waterproofing for under tiles. Interior BRANZ Appraisal # 461 (2005). Exterior BRANZ Appraisal # 449 (2005).
- Protecto Wall - Tanking and below ground applications, BRANZ Appraisal # 517 (2006).
- Pro-Joist - Cantilevered deck joist protection, BRANZ Appraisal #497 (2006).
- Pro-Drain 8 - The protection board that creates a neutral pressure zone between the foundation wall and subsoil.
- Tekton House Wrap - Building wrap of the future, BRANZ Appraisal # 548 (2007).

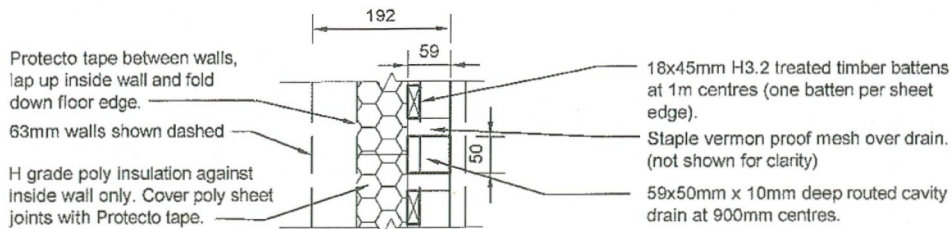
Oct 2007



Marshall
Waterproofing
Professional Solutions

Marshall Waterproofing Ltd, PO Box 9411, Greerton, Tauranga, New Zealand
Phone: 07 543 0948 FREE PHONE: 0800 776 9727
Facsimile: 07 541 1029
Email: info@mwnz.com

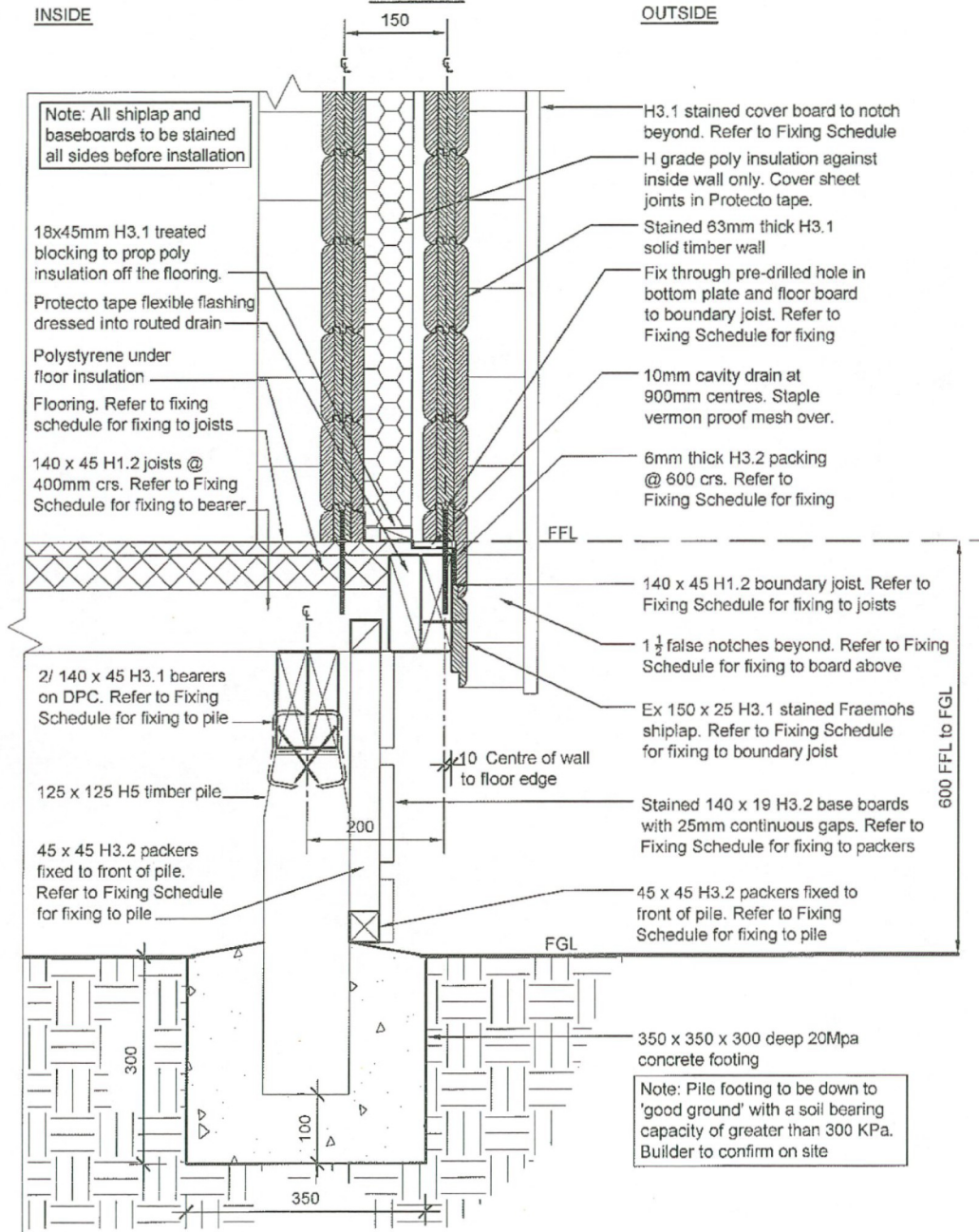
www.mwnz.com



PLAN VIEW

INSIDE

OUTSIDE



D01

Double Wall Floor Edge - Long

1:10

NOTE: ALL FIXINGS WITHIN 600MM OF GROUND ARE TO BE STAINLESS STEEL

REFER TO FIXING SCHEDULE FOR ALL FIXINGS

Fraemohs Industries Ltd
1200 Main North Road, Belfast
PO Box 256, Kaiapoi 7644,
New Zealand

Ph +64 3 375 9009
Fx +64 3 323 8442
E manager@fraemohs.co.nz

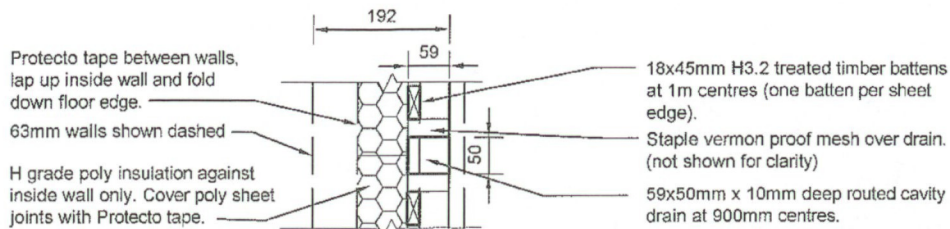


**FRAEMOHS
HOMES**

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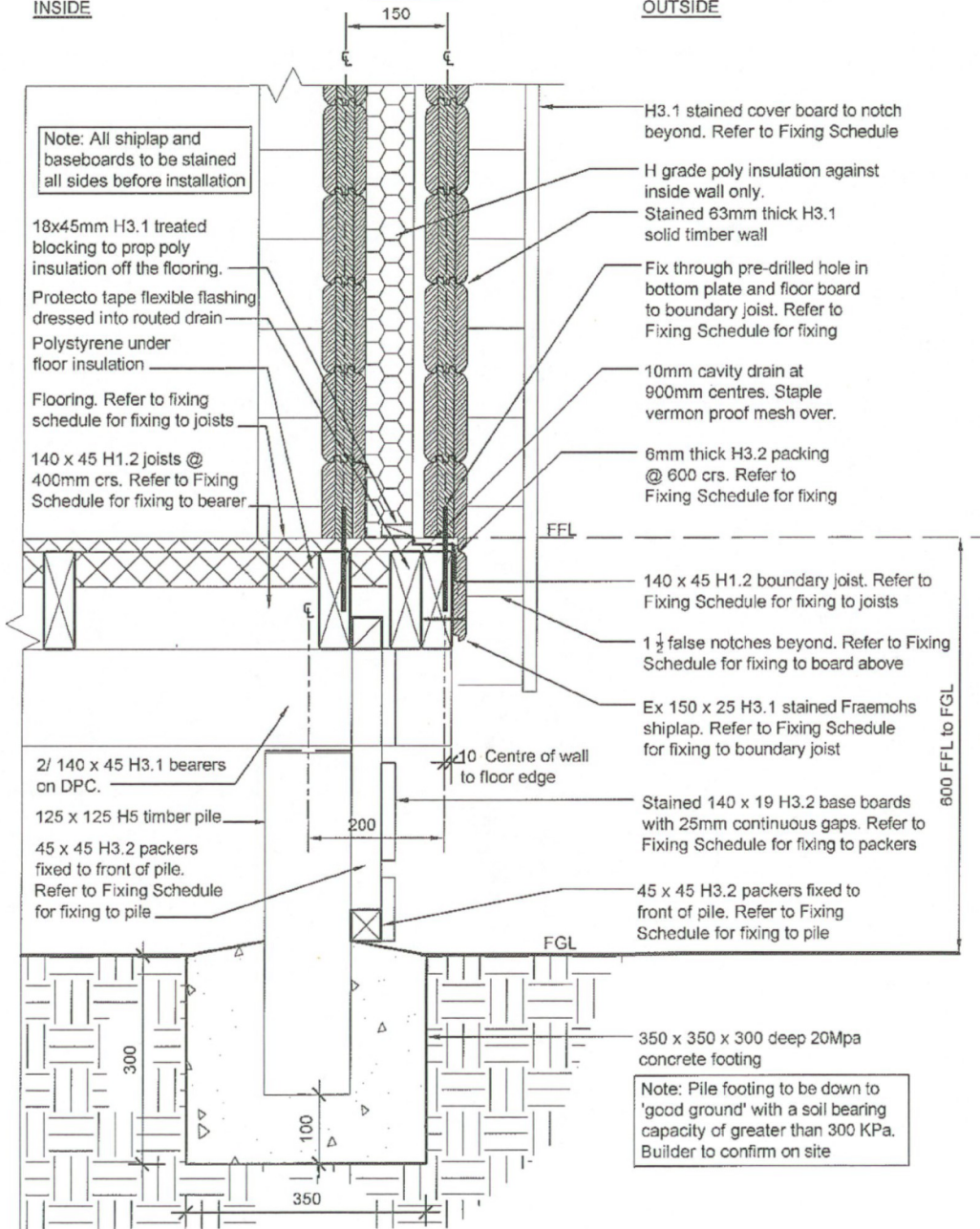
Free Phone 0800 80 98 99 | www.fraemohs.co.nz

TITLE Longitudinal Wall Edge		
DRAWN Adam Cooper	SCALE As Noted @ A4	
APPROVED -		
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SHEET D01		REVISION R 1



INSIDE

OUTSIDE



D01a

Double Wall Floor Edge - Gable

1:10

NOTE: ALL FIXINGS WITHIN 600MM OF GROUND ARE TO BE STAINLESS STEEL

REFER TO FIXING SCHEDULE FOR ALL FIXINGS

Fraemohs Industries Ltd
1200 Main North Road, Belfast
PO Box 256, Kaiapoi 7644,
New Zealand

Ph +64 3 375 9009
Fx +64 3 323 8442
E manager@fraemohs.co.nz



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TITLE Gable Wall Edge

DRAWN Adam Cooper

SCALE

APPROVED -

As Noted @ A4

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WALL THICKNESS 63

SHEET

D01a

REVISION
R 1

11 January 2012

Yves Obus and Maggie De Vadder
176 Richardson Road
RD 6
GORE 9776

Dear Yves & Maggie

BUILDING CONSENT 207037/1
NEW DWELLING - 176 RICHARDSON ROAD

After being approached by Maggie requesting permission to start demolition of the existing house prior to the Building Consent being issued, it has been confirmed that the part of the consent which covers the demolition of the existing house can be granted.

You need to ensure that the power supply is disconnected by a registered electrician and the existing septic tank has been emptied and backfilled with hard fill. An inspection of the septic tank is required once it has been emptied.

Please be aware that the Gore District Council holds no responsibility in the event that the Building Consent is not granted for the new dwelling due to the lack of supporting information from Fraemohs.

If you have any questions regarding this, please do not hesitate to contact me.

Yours sincerely

A handwritten signature in dark ink, appearing to be 'S Holden', written in a cursive style.

Steve Holden
BUILDING CONTROL OFFICER

Stephen Holden

From: Stephen Holden
Sent: Thursday, 22 December 2011 12:20 p.m.
To: 'Ken Burns'
Subject: RE: Obus house, BC application number 207037/1

Thanks Ken, this may support the building application ,but I still require the information that i asked for from Tim Foster. At this stage I have had no further communication from Tim
And i will be away till the 9th of Jan. This consent is still suspended until I have received the information required.

Yours Sincerely

Steve Holden.

From: Ken Burns [mailto:ken@fraemohs.co.nz]
Sent: Thursday, 22 December 2011 11:25 a.m.
 Stephen Holden
 Russell Paterson
Subject: Obus house, BC application number 207037/1

Hi Steve and Russel,

I have been asked to send you some details for the previous Fraemohs 'Double wall' homes we have built to help clarify some issues with the new dwelling building consent application number 207703/1.
I have attached the floor plans and double wall details for the following two dwellings which we have built in 2009/2010.

1. Shearer house which was approved by Selwyn District Council, building consent number 090693
2. Lawson house which was approved by the Waitaki District Council, building consent number 207605

If you require any further information please let me know.

Kind regards

--

Ken Burns

Fraemohs Homes

DDI: 03 375 9136

Fax: 03 323 8442

Mobile: 029 323 8004

Web : www.fraemohs.co.nz

Russell Paterson

From: Russell Paterson
Sent: Monday, 9 January 2012 11:06 a.m.
To: 'nkupenga@waitaki.govt.nz'
Cc: 'smay@waitaki.govt.nz'; Stephen Holden
Subject: Lawson house consent No 207605
Attachments: 20120109100048114.pdf

Hi Ned,

Happy new year to you and your guys,

We are processing a new Fraemohs home in this district and have asked several questions regarding the lack of a vapour barrier within the twin wall construction to protect the insulation from possible condensate, etc.

We have been sent some indicative plans for a dwelling consented by Waitaki DC as stated above for comparison, also another dwelling consented in Selwyn with similar profile details, although cavity drain holes have been added in our application.....apparently to drain any moisture trapped during construction ?

Is it possible for your BCO who dealt with the Lawson house to discuss these points with our BCO Steve Holden as he would like some more background information to assist processing.

Steve can be contacted on 03 2090383 or 0274 673022 or email as above.

Regards

Russell Paterson

Building Control Manager
Gore District Council
Ph 03 2090330
DDI 03 2090353
Fax 03 2090357
rpateron@goredc.govt.nz

Russell Paterson

From: Ken Burns <ken@fraemohs.co.nz>
Sent: Thursday, 22 December 2011 11:25 a.m.
To: Stephen Holden
Cc: Russell Paterson
Subject: Obus house, BC application number 207037/1
Attachments: Lawson.pdf; Shearer.pdf

Hi Steve and Russel,

I have been asked to send you some details for the previous Fraemohs 'Double wall' homes we have built to help clarify some issues with the new dwelling building consent application number 207703/1. I have attached the floor plans and double wall details for the following two dwellings which we have built in 2009/2010.

1. **Shearer** house which was approved by Selwyn District Council, building consent number 090693
2. **Lawson** house which was approved by the Waitaki District Council, building consent number 207605

If you require any further information please let me know.

Kind regards

--

Ken Burns

Fraemohs Homes

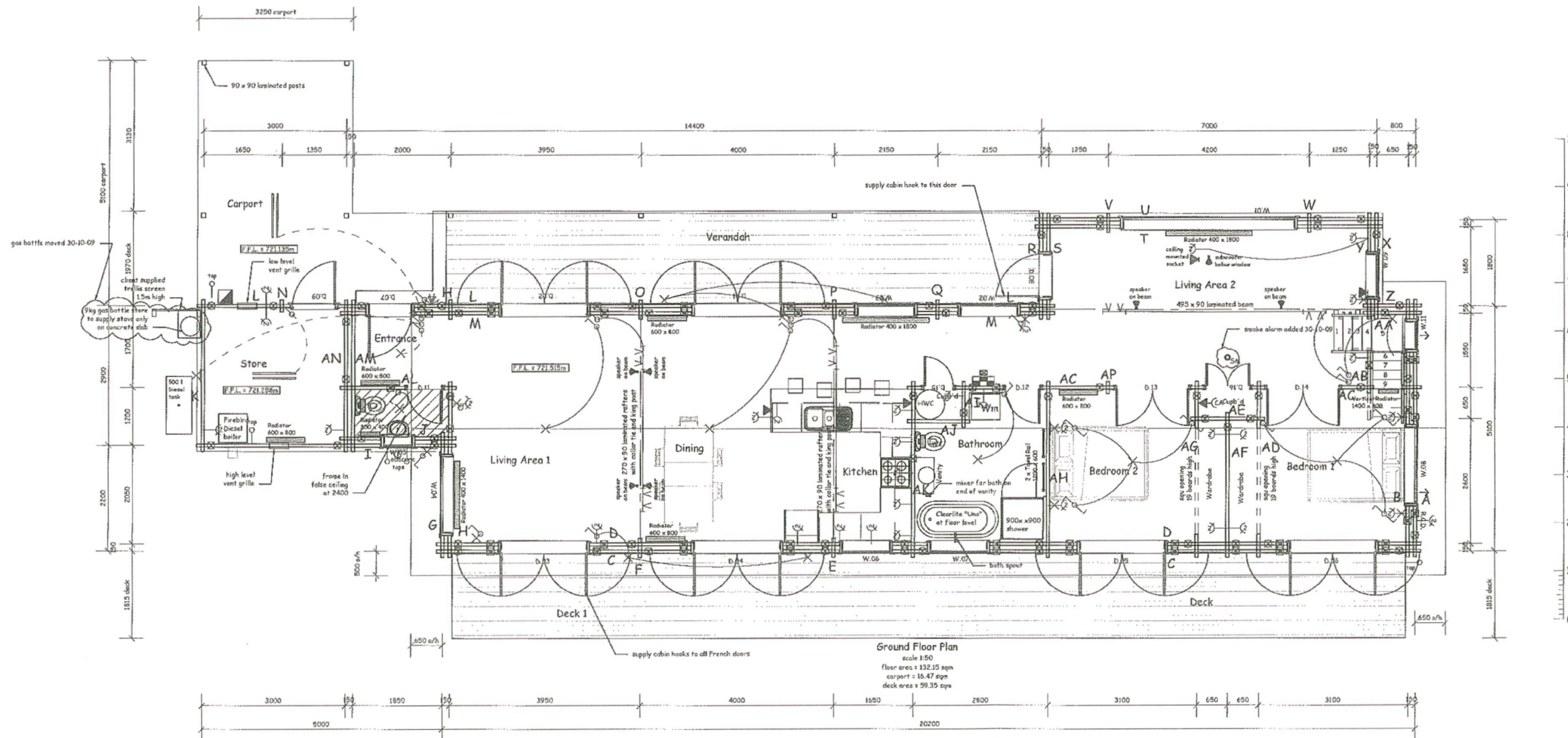
DDI: 03 375 9136

Fax: 03 323 8442

Mobile: 029 323 8004

Web : www.fraemohs.co.nz

* supporting information for
similar homes issued with
consents in other areas.



10
9
8
7
6
5
4
3
2
1
0

SCALE

LEGEND	
⊗	Hurricane Rod
⊗	Steel Stiffener
○	Clip Joint

LEGEND	
⏏	Switch
⏏	Switch (Two Way)
⏏	Power Point (Single)
⏏	Power Point (Double)
⏏	Power Point (Double RCD Protected)
⏏	Socket (TV Aerial)
⏏	Socket (Cable)
⏏	Socket (Lead Speaker)
⏏	Socket (FM Aerial)
⏏	Socket (Data)
⏏	Socket (Telephone)
⏏	Loud Speaker
⏏	Light (Pendant Light)
⏏	Light (Wall Light)
⏏	Light (1 Spotlight)
⏏	Light (2 Spotlights)
⏏	Light (3 Spotlights)
⏏	Light (Fluorescent Tubes)
⏏	Light (Recessed Lights)
⏏	Light (Recessed Lights)
⏏	Light (Outdoor Sensor Light)
⏏	Motion Sensor
⏏	Alarm Keypad
⏏	Smoke Alarm
⏏	Residual Panel
⏏	Heater
⏏	Extract Fan
⏏	Heated Towel Rail
⏏	Meter Panel
⏏	Switch Board
⏏	Irrigation Switch System
⏏	Under-floor Heating Manifold
⏏	Outside Tap

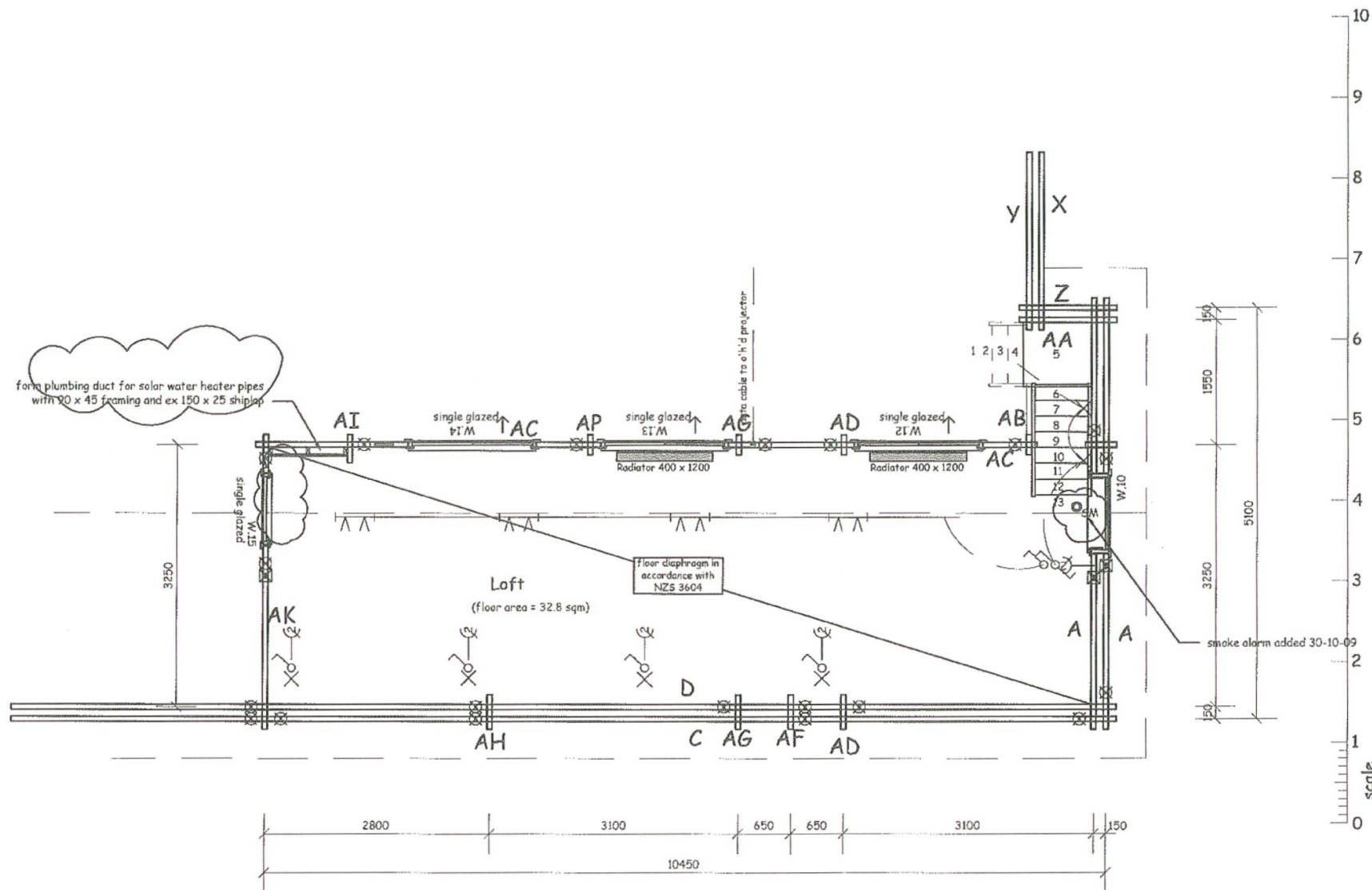
ISSUE	COMMENTS	DATE
A	amend as per client notes dated 11-08-09	11-08-09
B		

ISSUE	COMMENTS	DATE
C	reduce length by 400mm reduce width by 200mm reduce roof overhang by 450mm reduce window sill	11-08-09
D	add verandah roof and reduce carport to single, delete window from store	11-08-09
E	delete 14.15 and replace with 2.14.15 window (north elevation)	11-08-09
F	move Living Area 2 window, remove gap opening at entrance add ventilation grilles to store	11-08-09
G	Electrical layout added Kitchen and bathroom altered to clients requirements	11-08-09
H	add central heating components adjust electrical layout	11-08-09
I	Add radiators, diesel boiler and diesel tank	11-08-09
J	adjust electrical layout	11-08-09

FOR NUMBER	09106
CLIENT	J. Shearer
SITE ADDRESS	9 Cheeseman Terrace Castle Hill Village
PROJECT WALL THICKNESS	63

DRAWN BY	VSJW
CHECKED BY	VSJW
DATE DRAWN	09-08-09
SCALE	1:50
DRAWING TITLE	Ground Floor Plan
DRAWING NUMBER	A-02-01-J

FRAEMOHS HOMES
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ISSUE	COMMENTS	DRAWN	DATE
A	make loft window wider with 2 casement sashes	VSW	20-08-09
B	adjusted to suit ground floor plan changes	VSW	12-08-09
C	internal windows to have sash cupb'd removed and plumbing duct stable door centralised electrical layout added	VSW	30-07-09
D	add central heating components adjust electrical layout	VSW	21-08-09
E	Add radiators	VSW	23-08-09
F	change stable door to window	DB	27-08-09
G			
H			

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JOB NUMBER	09106
CLIENT	J. Shearer
SITE ADDRESS	9 Cheeseman Terrace Castle Hill Village
PROJECT WALL THICKNESS	63

DRAWN BY	VSW
DATE DRAWN	12-05-09
SCALE	1:50
CHECKED PM	
CHECKED CONSENT	
CHECKED MANUFACTURING	
CHECKED CONSTRUCTION	

DRAWING TITLE
First Floor Plan

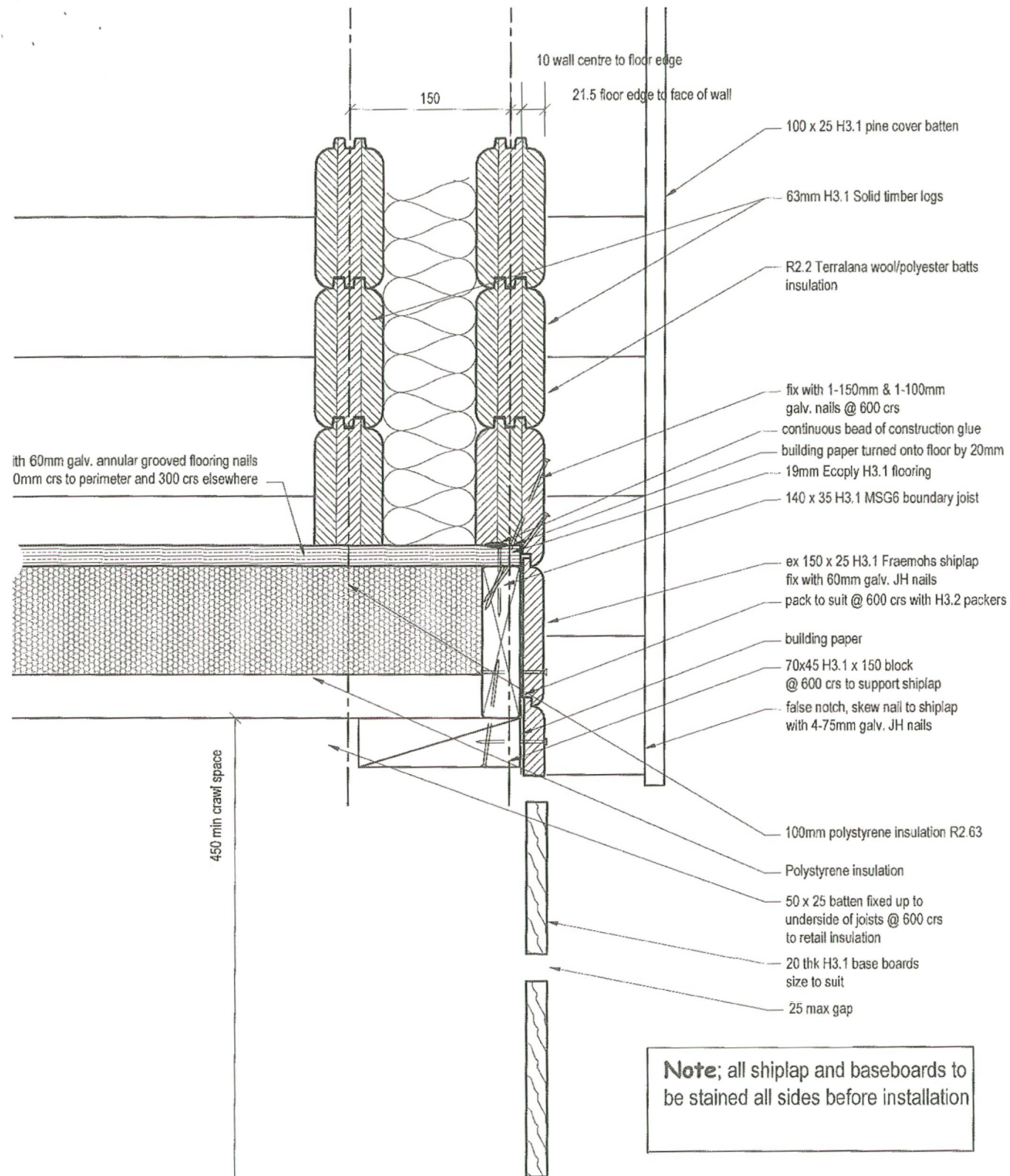
DRAWING NUMBER
A-02-02-E

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Ph +64 3 375 9009 | Fax +64 3 323 8442 | Email manager@fraemohs.co.nz Freephone 0800 80 98 99 | www.fraemohs.co.nz

Contractor to verify all dimensions, all work not covered by producer statement to comply with NZS3604

30/10/2009 2:03:22 p.m.



Thermal performance
Floor construction insulation value = R3.2

Drawn : VSW
Date : 07-07-08
Checked :
Date :
Scale : 1:5

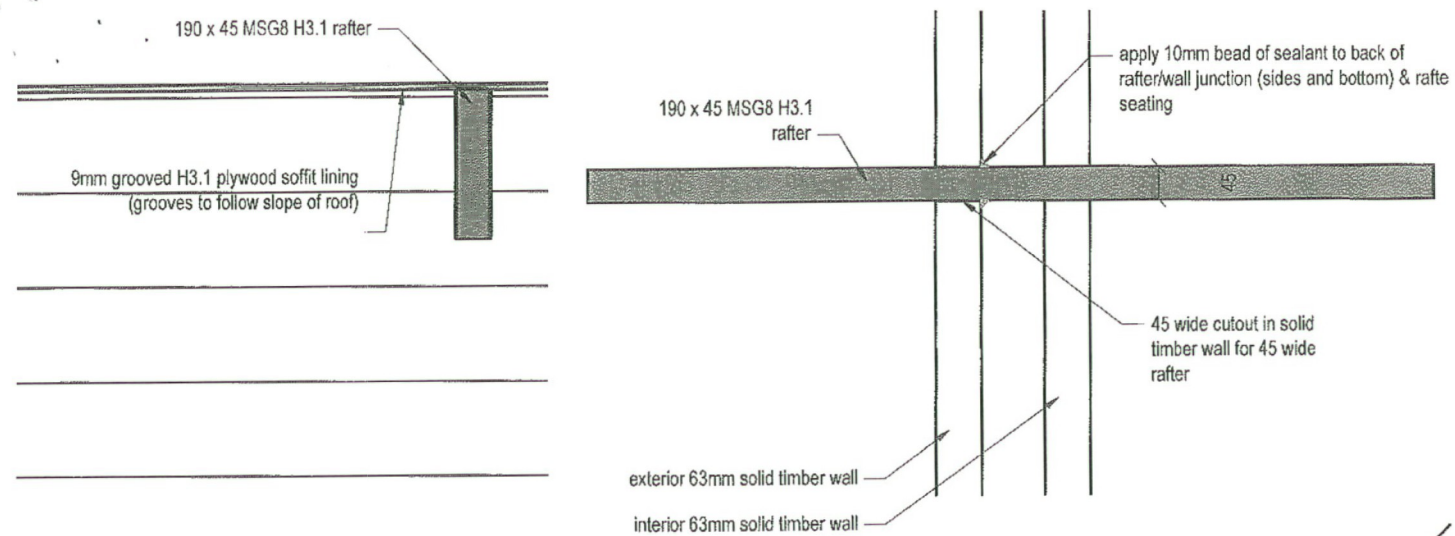
Detail Description
Timber Floor
Edge
10/09/2009 12:05:57 p.m.

Floor : Timber
Walls : 213
Roof :

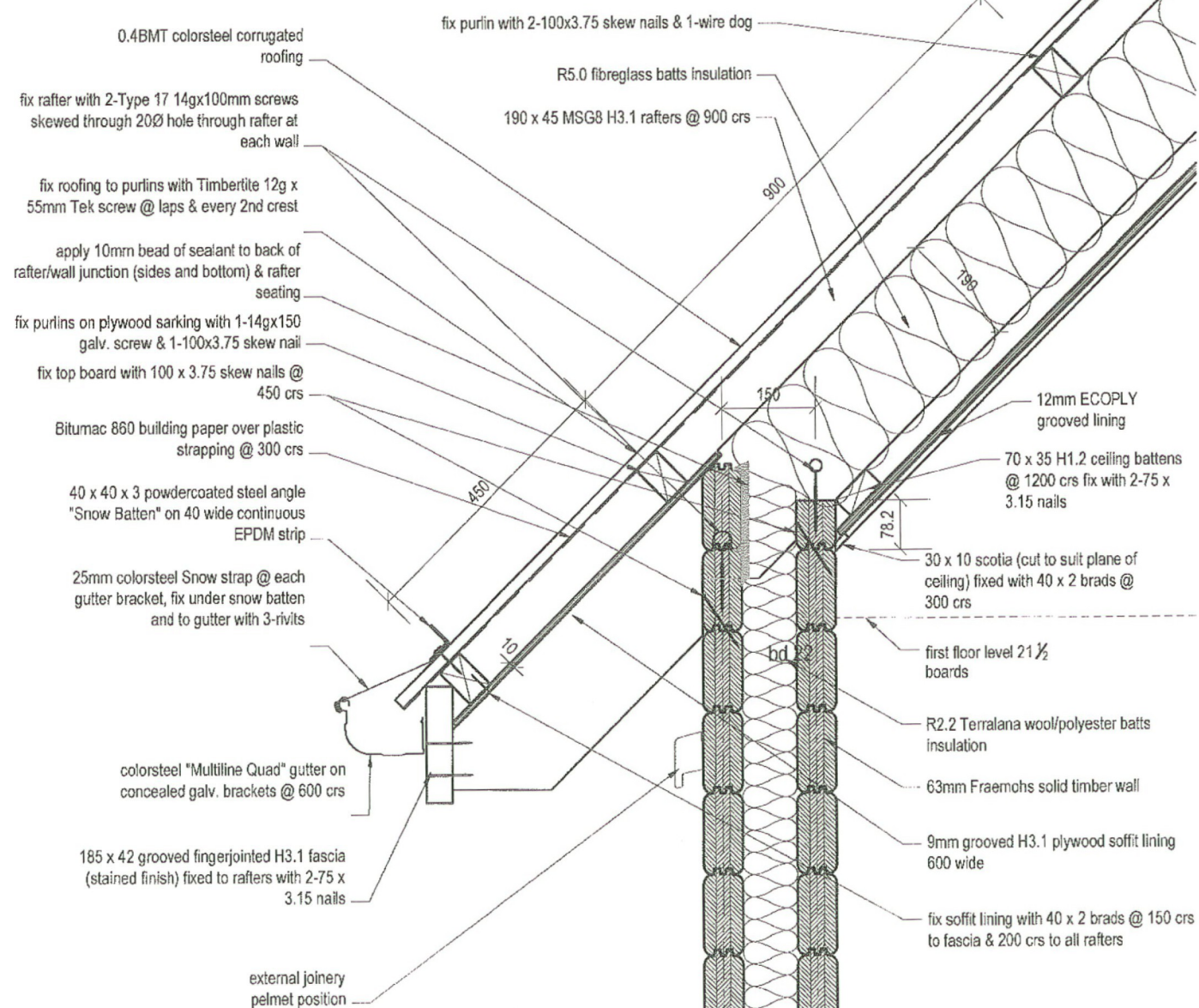
Detail Code
06.10.01

FRAEMOHS HOMES
SOLID TIMBER • ECO-FRIENDLY

Fraemohs Industries Ltd 11200 Main North Road, Brfist 1 P.O. Box 5251 Christchurch, New Zealand
Ph +64 3 375 9029 Fax +64 3 323 8412 Email monger@fraemohs.co.nz FreePhone 0800 80 88 88 | www.fraemohs.co.nz



**Rafter/Wall Junction
Plan**



Drawn :
Date : 14-08-09
Checked :
Date :
Scale : 1:10

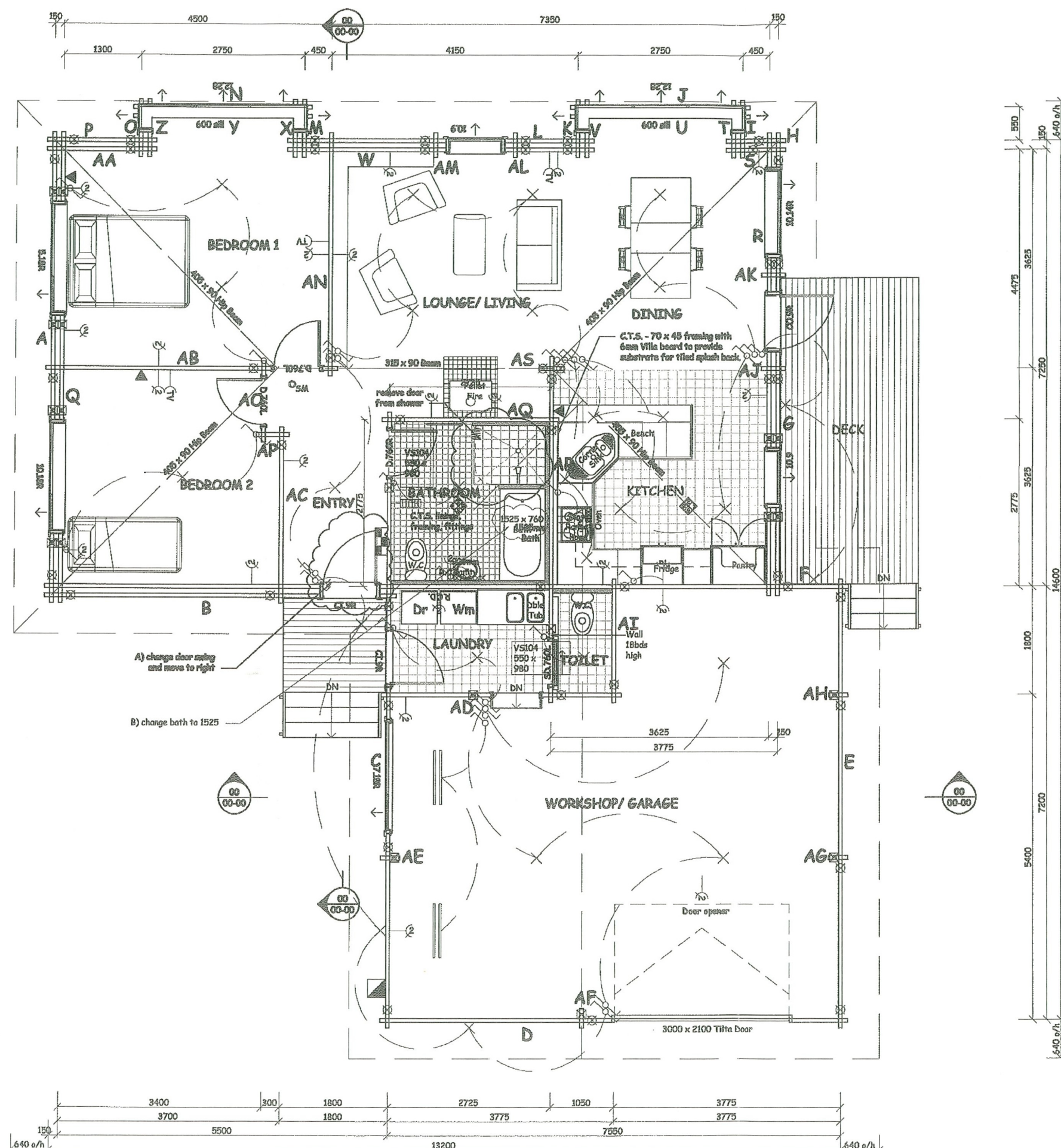
Detail Description
45° Raking soffit Overhang
Detail
15/09/2009 12:06:22 p.m.

Floor :
Walls : 63+63
Roof : R4.8

Detail Code
07.01.01

**FRAEMOHS
HOMES**
SOLID TIMBER • ECO-FRIENDLY

Fraemohs Homes Ltd | 1200 Miles North Road, Deckert | PO Box 206, Kaipoi 7644, New Zealand
Ph: +64 3 375 8809 | Fax: +64 3 323 8442 | Email: sales@fraemohs.co.nz | Freephone 0800 80 98 99 | www.fraemohs.co.nz



LEGEND	
	Switch
	Switch (Two Way)
	Power Point (Single)
	Power Point (Double)
	Power Point (Double RCD Protected)
	Socket (TV Aerial)
	Socket (Cable)
	Socket (Loud Speaker)
	Socket (FM Aerial)
	Socket (Data)
	Socket (Telephone)
	Loud Speaker
	Light (Pendant Light)
	Light (Wall Light)
	Light (1 Spotlight)
	Light (2 Spotlights)
	Light (3 Spotlights)
	Light (Flourescent Tubes)
	Light (Hollywood Lights)
	Light (Recessed Lights)
	Light (Outdoor Sensor Light)
	Motion Sensor
	Alarm Keypad
	Smoke Alarm
	Readout Panel
	Heater
	Extract Fan
	Heated Towel Rail
	Meter Panel
	Switch Board
	Irrigation Switch System
	Underfloor Heating Manifold
	Outside Tap

ISSUE	COMMENTS	DRAWN
A	amend as per e-mail 28-05-08	new
B	amend as per e-mail 29-10-08	new
C		
D		
E		
F		
G		
H		

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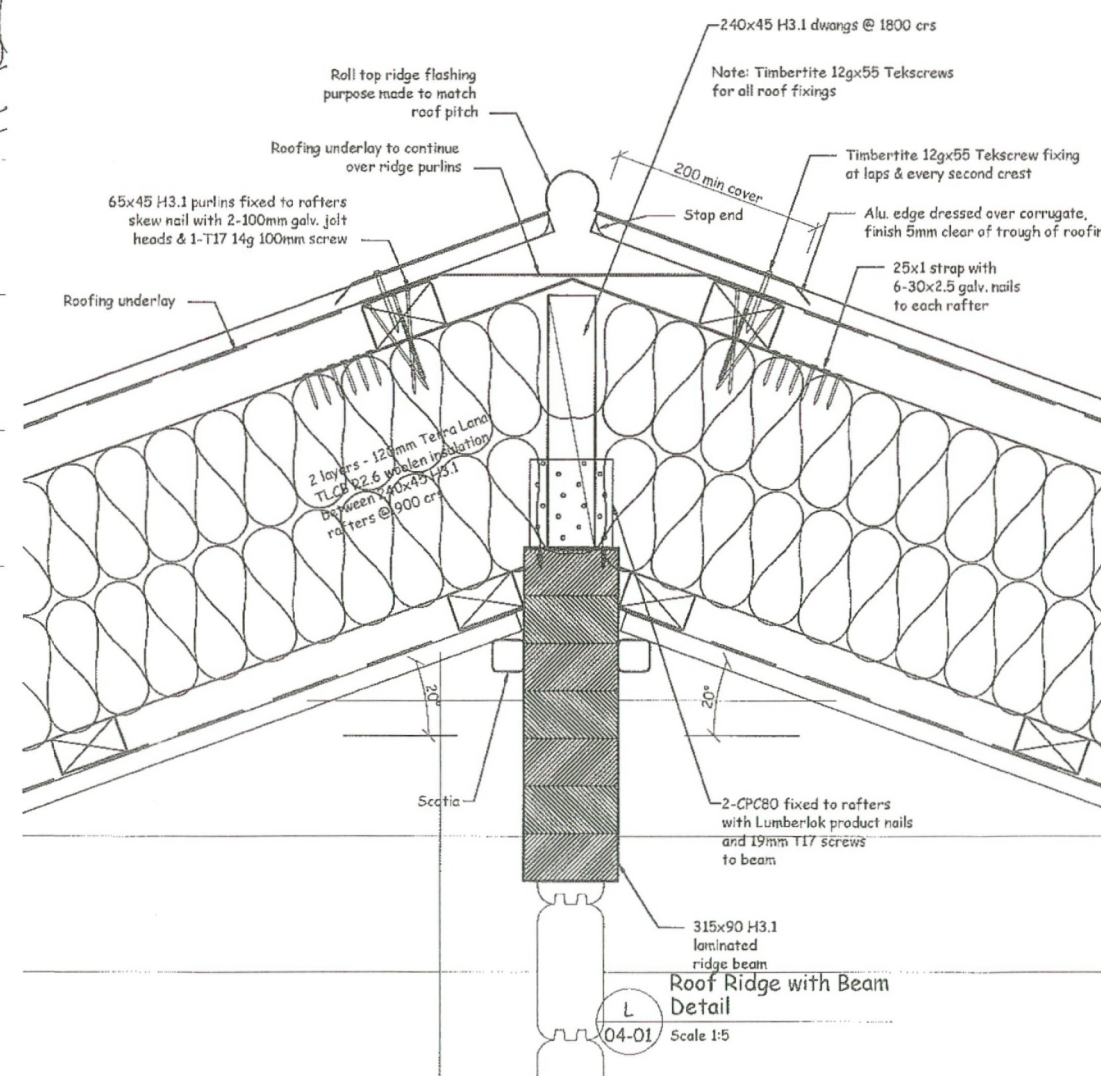
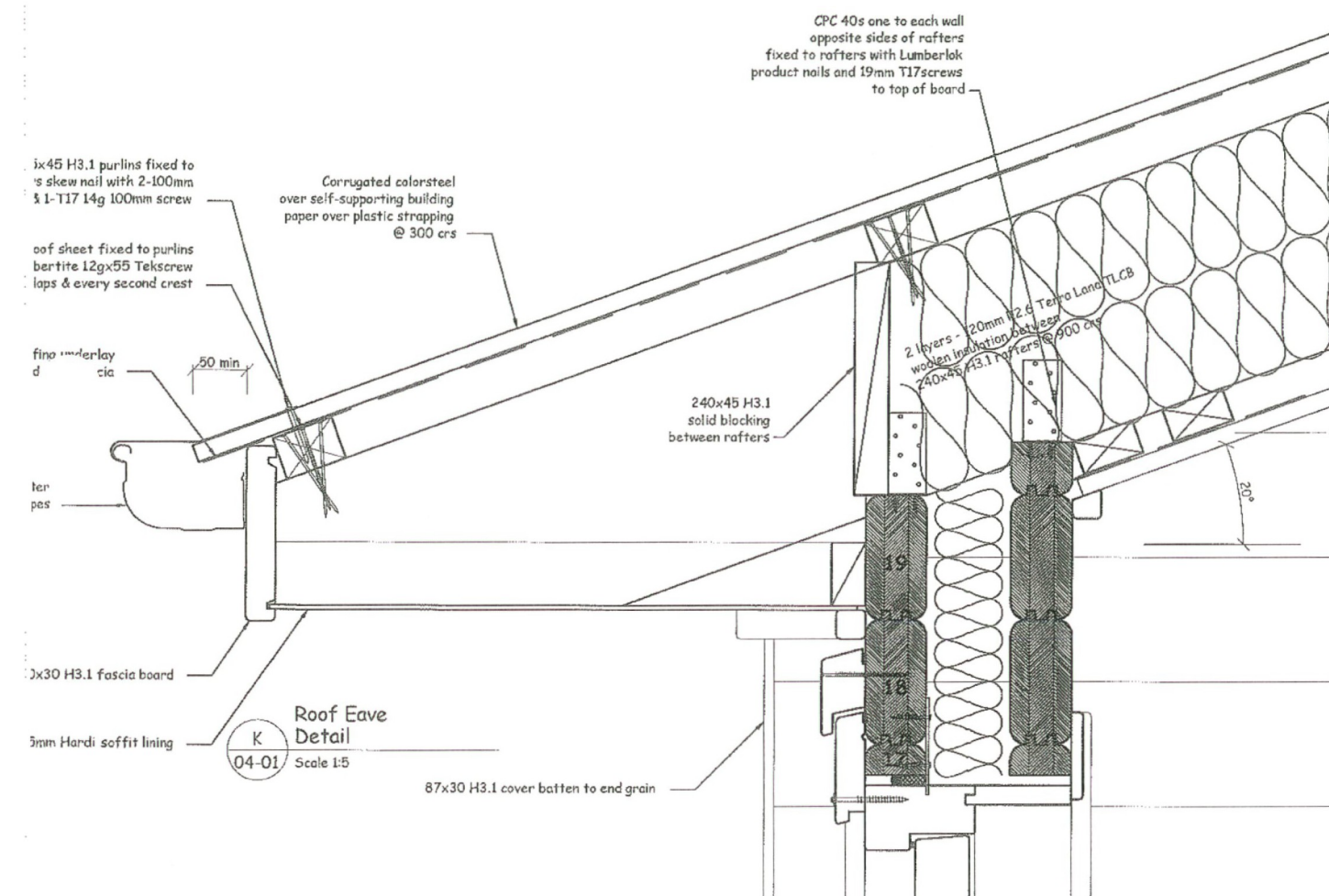
JOB NUMBER
08105
CLIENT
Lawson
SITE ADDRESS
**Huxley Tce
Lake Ohau**
PROJECT WALL THICKNESS
63

DRAWN BY
DATE DRAWN
SCALE
CHECKED FOR
CHECKED AGAIN
CHECKED MANUFACTURING
CHECKED CONSTRUCTION

DRAWING TITLE
Ground Floor Plan

DRAWING NUMBER
C-02-01





ISSUE	COMMENTS	DRAWN	DATE
A			
B			
C			
D			
E			
F			
G			
H			

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JOB NUMBER
08105

CLIENT
Lawson

SITE ADDRESS
Huxley Tce
Lake Ohau

PROJECT WALL THICKNESS 63

DRAWN BY
DATE DRAWN
SCALE
CHECKED PTM
CHECKED CONSENT
CHECKED MANUFACTURING
CHECKED CONSTRUCTION

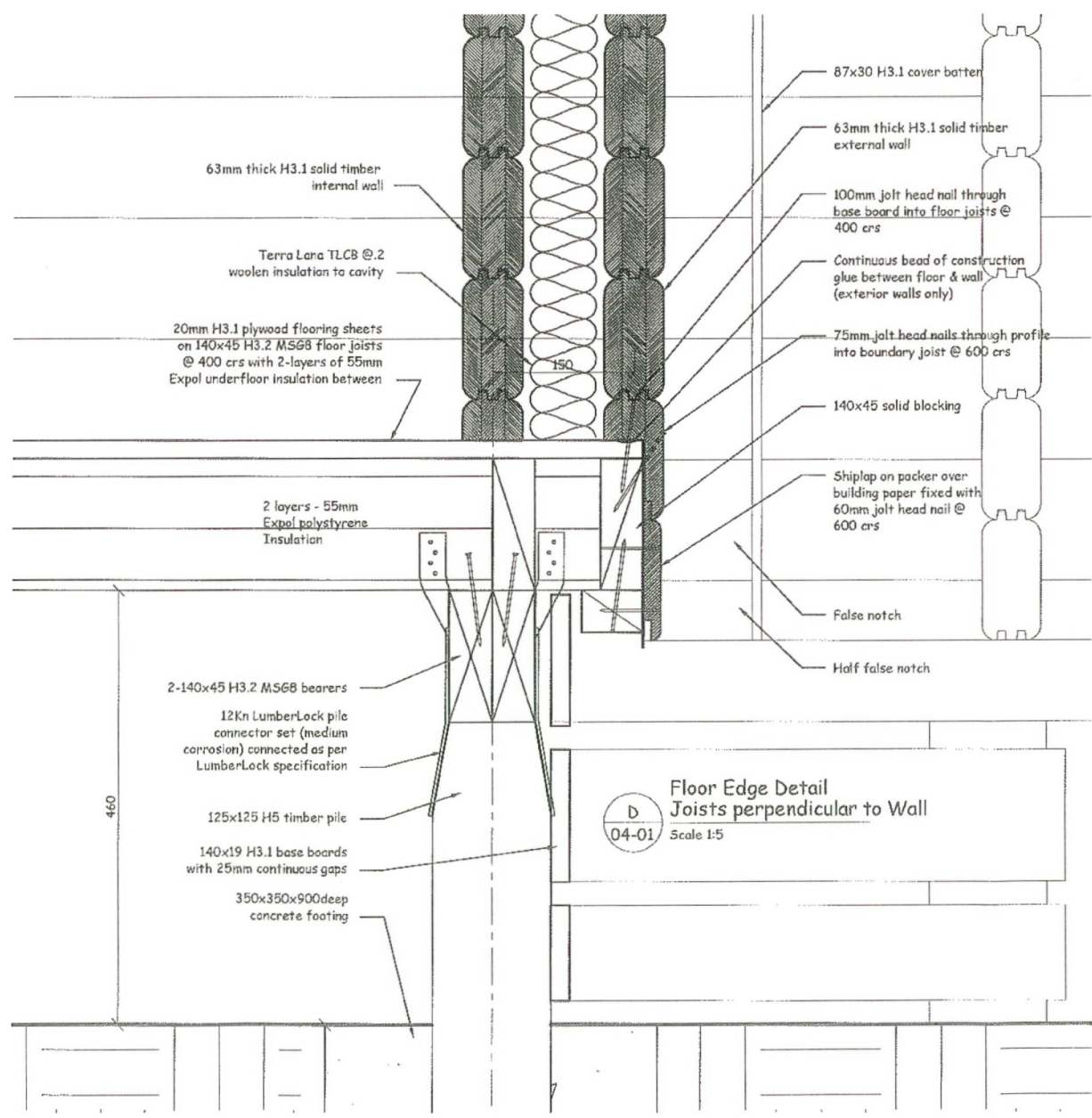
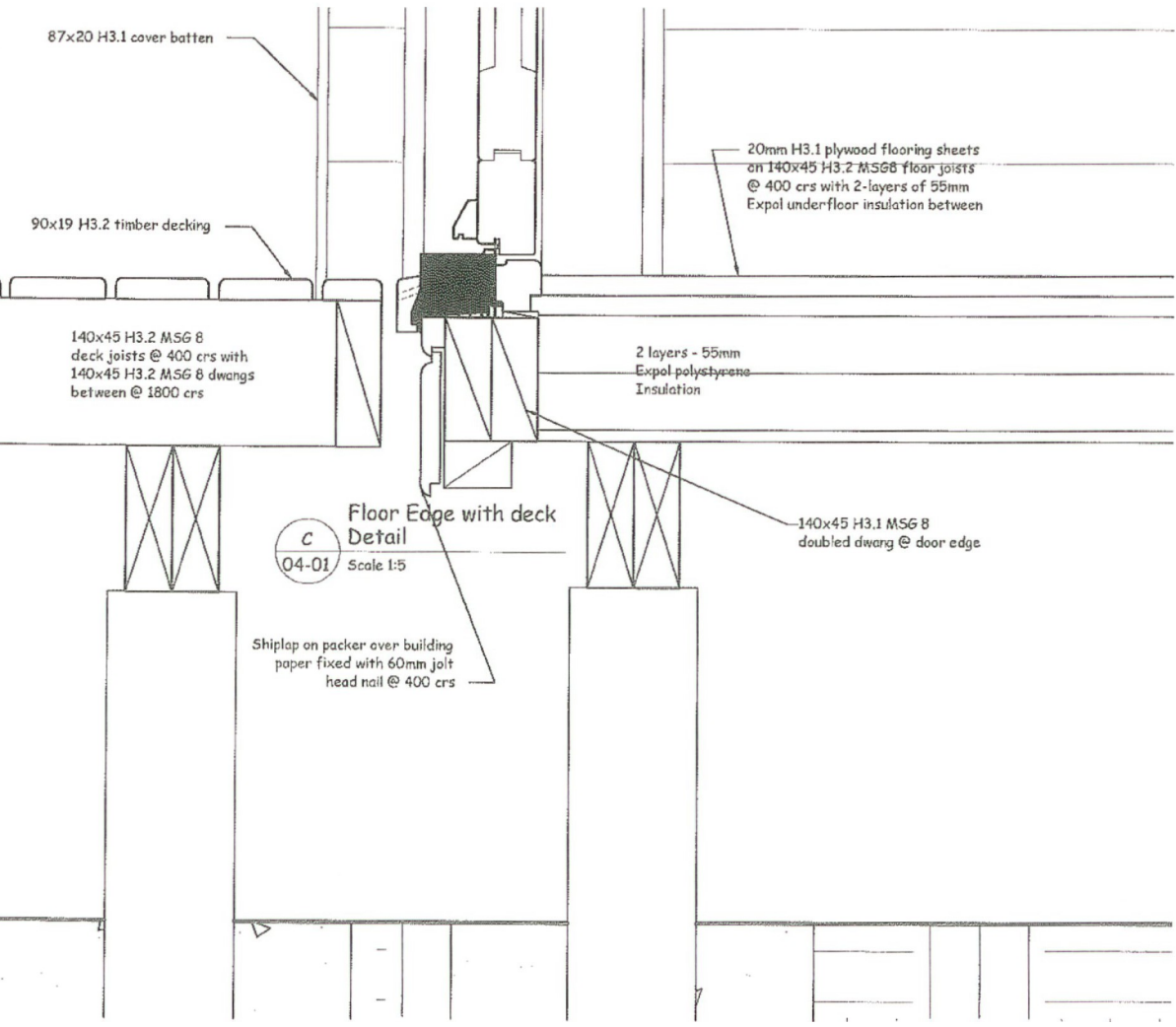
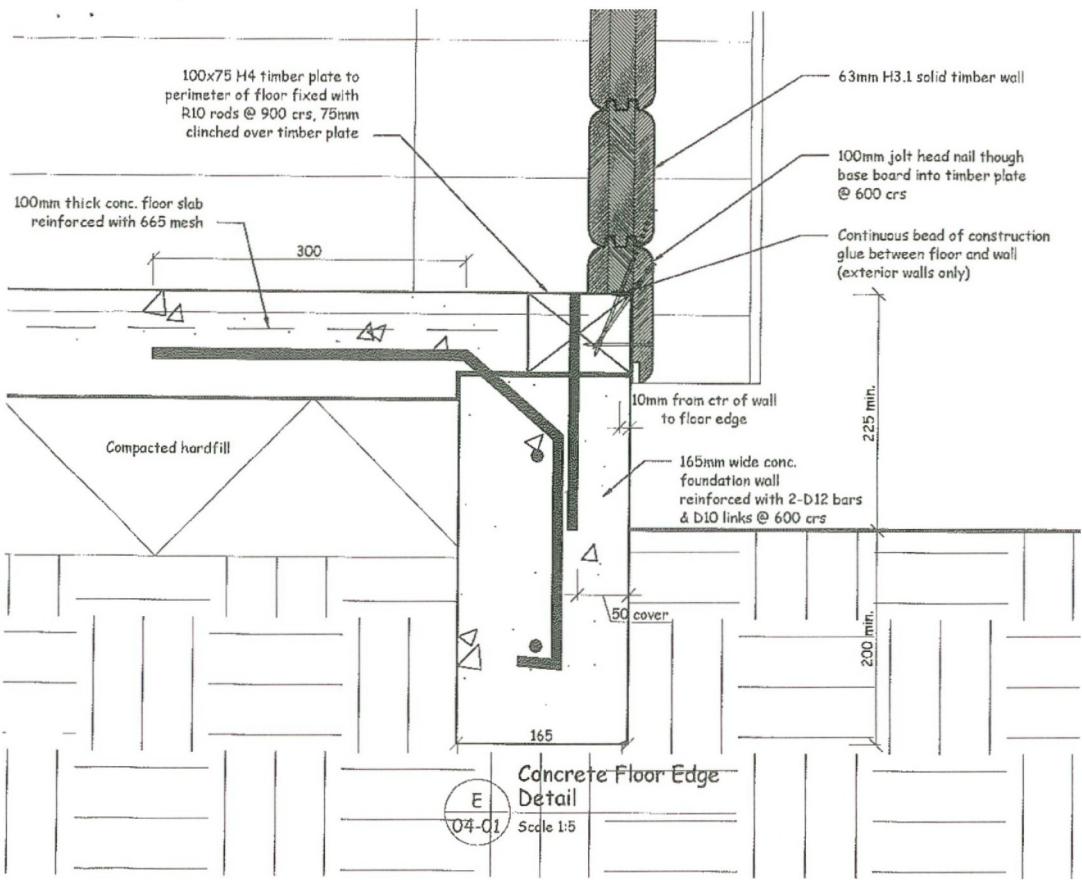
O.B.
08-10-08
1:5

DRAWING TITLE
Roof Details
House

DRAWING NUMBER C-04-04-

FRAEMOHS HOMES
SOLID TIMBER • ECO-FRIENDLY

Fraemoths Industries Ltd | 1200 Main North Road, Bellfast | PO Box 5251, Christchurch, New Zealand
Ph +64 3 376 9009 | Fax +64 3 323 8442 | Email manager@fraemoths.co.nz **FreePhone 0800 80 98 99** | www.fraemoths.co.nz



ISSUE	COMMENTS	DRAWN	DATE
A			
B			
C			
D			
E			
F			
G			
H			

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JOB NUMBER
08105

CLIENT
Lawson

SITE ADDRESS
**Huxley Tce
Lake Ohau**

PROJECT WALL THICKNESS **63**

DRAWN BY
DATE DRAWN
SCALE
CHECKED PJA
CHECKED CONSENT
CHECKED MANUFACTURING
CHECKED CONSTRUCTION

O.B.
08-10-08
1:5

DRAWING TITLE
**Floor Edge Details
Concrete + Timber**

DRAWING NUMBER **C-04-03-**

FRAEMOHS HOMES
SOLID TIMBER • ECO-FRIENDLY

9 March 2009

Attention: Corey
Fraemohs Industries
P O Box 256
Kaiapoi 7644

Dear Applicant

RE: Building consent application 207605 5 Huxley Terrace, Lake Ohau



Your building consent application has now been approved subject to the following conditions:

- **Please Note: The Building Act requires the installation of smoke alarms (hush type), to be fitted within 3 metres of all bedroom doors, for all new and altered dwellings that require a building consent.**
- **Producer statement is required for roof trusses over garage to be submitted and approved prior to any work commencing on site.**
- **Details of the Ve Lux skylight are to be supplied.**
- **All plumbing and drainage work shall be done by a currently licensed person.**
- **As built plan of drains is required and drains are to be inspected prior to back filling.**
- **Ventilation by open air or mechanical will be required to bathroom, laundry and toilet.**

Building work can not commence until building consent is issued.

Consent will be issued on payment of the enclosed invoice.

The approved plans and specifications plus a list of required inspections will be returned.

If your consent is not uplifted within 6 months a new application may be required.

Yours faithfully


D Herron
Regulatory Administration

Stephen Holden

From: Stephen Holden
Sent: Thursday, 8 December 2011 3:09 p.m.
To: 'Tim Foster'
Subject: RE: consent application

Thanks for your reply Tim, the information supplied is insufficient .as asked before. There needs to be more supporting information, i.e. testing by a recognised laboratory or a BRANZ appraisal or similar

From: Tim Foster [mailto:tim@fraemohs.co.nz]
Sent: Thursday, 8 December 2011 11:54 a.m.
To: Stephen Holden
Subject: Re: consent application

Hi Stephen,

Response to your information request attached.

Regards

--

Tim Foster

Project Manager

Mob: 029 323 8005

Tel: +64 3 375 9009

Fax: +64 3 323 8442

b: www.fraemohs.co.nz

On 7 December 2011 15:35, Stephen Holden <SHolden@goredc.govt.nz> wrote:

Hi Tim attached is a request for further information.

Stephen Holden | Building Control Officer

P [03 209 0330](tel:032090330) | **DDI** [03 209 0383](tel:032090383) | **F** [03 209 0357](tel:032090357) | **C** [0274 664 032](tel:0274664032)

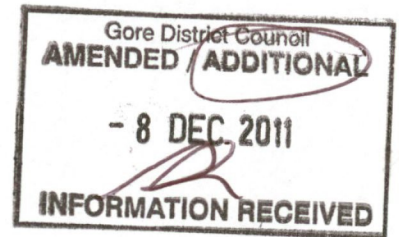
E sholden@goredc.govt.nz | **W** goredc.govt.nz

Gore District Council

29 Civic Avenue, P O Box 8, Gore 9740, New Zealand

08 December 2011

Stephen Holden
Gore District Council
PO Box 8
Gore 9740



Dear Stephen

CONSENT No. 207037/1
176 RICHARDSON ROAD

Thank you for your letters dated 29th November and 6th December 2011.

Further to your request for additional information please find my responses to your questions below:

1. What will stop the insulation getting wet and what will protect the base of the cavity from moisture?

There are two paths of possible water ingress into the cavity; direct ingress via windblown rain and indirect ingress via diffusion and condensation.

Direct ingress is addressed by the supplied Fraemohs alternative solution report which demonstrates proof of performance for the directly comparable single wall system in extreme alpine environments for more than 40 years. ✓

Indirect ingress can be evaluated by using 'BS EN ISO 13788:2002 Hygrothermal performance of building components and building elements. Internal surface temperature to avoid critical surface humidity and interstitial condensation. Calculation methods'.

Calculation by the above standard based on NIWA temperature and humidity data for Invercargill (Attached) shows that condensation will occur during the months of June and July accumulating into a maximum condensation load of 0.115 kg/m². This condensation load will dry out in the months of August and September, with no condensation loading present for the remaining months.

The cavity design utilises Tera Lana Natural Wool Insulation which incorporates the following beneficial properties:

- a. Will absorb moisture up to a quarter of its own weight (in this case 0.181 kg/m²)
- b. The wools sorbancy ensures no moisture is available to be taken up by adjacent timber

- c. Thermal conductivity of the wool is unaffected by moisture uptake to a level of 35%

Given the maximum condensation load calculated is less than the moisture absorption ability of the Tera Lana insulation no interstitial condensation will occur. Further both walls and floor to the cavity are treated to H3.1 providing an additional safeguard.

To demonstrate the conservative nature of the BS EN ISO 13788:2002 calculation I have also included a calculation for a standard stud frame construction with direct fixed plywood cladding. The performance of this wall build up is extremely poor in comparison with the calculation showing condensation occurring between the building wrap and the mineral wool (Pink Batts) insulation for 8 months out of 12. Due to the higher vapour resistance of the plywood cladding versus Fraemohs profile, the model calculates the condensation is unable to dry out during the year creating a risk of materials damage and degraded thermal performance.

- 2. In service history appears to relate to single walled constructions and not double walled. Please provide performance results from this cavity design.**

The provided performance results for the single walled systems are directly related to the double walled variant, in terms of B2 Durability and E2 external moisture as covered by the alternative solution. The only difference is that the external wall in the double wall system does not provide structural stability to the building and therefore under B2 only requires a 15 year life.

I trust these answers are satisfactory. If you require further information please contact me directly on 03 375 9138.

Yours sincerely



Tim Foster B.E (Hons) Civil
Fraemohs Homes

CONDENSATION CALCULATION (BS EN ISO 13788: 2002)

U-value of element = 0.3 W/sq.m./K calculated as BS EN ISO 6946

Project Obus Dwelling

Element External Walls

The construction has the following layers:

	Material thickness mm	Thermal conductivity K	Thermal resistance R	Vapour Resistivity MN.s/g.m	Vapour Resistance MN.s/g
Internal surface resistance			0.13		
1 Fraemohs Profile (Internal)	63	0.13	0.485	60	3.78
2 Tera Lana TLWB2.2	90	0	2.2	7	0.63
3 Fraemohs Profile (External)	63	0.13	0.485	60	3.78
external surface resistance			0.04		

SURFACE TEMPERATURE TO AVOID SURFACE CONDENSATION

Location: Invercargill

Humidity class 3

Building class dwellings with low occupancy

SURFACE CONDENSATION

No surface condensation is likely

Calculation of the internal temperature factor using internal humidity classes

Month	external temp.(C)	external RH (%)	ext.vap. pressure	PA. excess	int.vap. pressure	minimum sat.VP	minimum int.temp	internal temp.(C)	internal temp.factor
January	14	0.808	1290	243	1558	1947	17.1	20	0.515
February	13.9	0.835	1325	247	1597	1996	17.5	20	0.587
March	12.5	0.843	1221	303	1555	1944	17.1	20	0.608
April	10.4	0.863	1087	388	1515	1894	16.7	20	0.651
May	8	0.869	931	486	1466	1832	16.1	20	0.678
June	5.6	0.884	803	583	1445	1806	15.9	20	0.716
July	5.2	0.889	785	599	1445	1806	15.9	20	0.724
August	6.4	0.864	830	550	1436	1795	15.8	20	0.692
Sept.	8.3	0.822	899	473	1420	1775	15.6	20	0.627
October	10	0.789	968	405	1413	1767	15.6	20	0.556
November	11.3	0.787	1053	352	1440	1801	15.9	20	0.524
December	13	0.79	1182	283	1494	1868	16.4	20	0.49

The internal temperature factor for July is the most critical.

The maximum temperature factor of 0.96 is greater than 0.724 so no surface condensation is likely

INTERSTITIAL CONDENSATION

Condensation occurs at one interface (numbered from inside).

Annual condensation at interface 2 Tera Lana TLWB2.2 / Fraemohs Profile (External)

	monthly condensation/ evaporation kg/sq.m	accumulated condensation kg/sq.m
June	0.04728	0.04728
July	0.068	0.11528
August	-0.00319	0.11209
September	-0.12604	0
October	0	0
November	0	0
December	0	0
January	0	0
February	0	0
March	0	0
April	0	0
May	0	0

Condensation at interface 2 starts in June, and continues until July.

Evaporation then starts and continues until September.

The maximum condensation of 0.068 kg/sq.m. is in July

Calculation in accordance with BS 5250:2002 and BS EN ISO 13788:2002

Using Dewpoint version 3.02 (03.02.09)

Copyright Reginald James 2011

CONDENSATION CALCULATION (BS EN ISO 13788: 2002)

U-value of element = 0.42 W/sq.m./K calculated as BS EN ISO 6946

Project Obus Dwelling

Element External Walls

The construction has the following layers:

	Material thickness mm	Thermal conductivity K	Thermal resistance R	Vapour Resistivity MN.s/g.m	Vapour Resistance MN.s/g
Internal surface resistance			0.13		
1 Gib Board (10mm)	10	0.19	0.053	60	0.6
2 mineral wool batt (25 Kg/m3) *	90	0.038	2.368	7	0.63
3 Tyvek HOUSEWRAP	0.5	0	0.001	0	0.17
4 plywood	12	0.13	0.092	450	5.4
external surface resistance			0.04		

* The layer(s) indicated have repeating thermal bridges which are not taken into account in the condensation calculation.

SURFACE TEMPERATURE TO AVOID SURFACE CONDENSATION

Location: Invercargill

Humidity class 3

Building class dwellings with low occupancy

SURFACE CONDENSATION

No surface condensation is likely

Calculation of the internal temperature factor using internal humidity classes

Month	external temp.(C)	external RH (%)	ext.vap. pressure	PA. excess	int.vap. pressure	minimum sat.VP	minimum int.temp	internal temp.(C)	internal temp.factor
January	14	0.808	1290	243	1558	1947	17.1	20	0.515
February	13.9	0.835	1325	247	1597	1996	17.5	20	0.587
March	12.5	0.843	1221	303	1555	1944	17.1	20	0.608
April	10.4	0.863	1087	388	1515	1894	16.7	20	0.651
May	8	0.869	931	486	1466	1832	16.1	20	0.678
June	5.6	0.884	803	583	1445	1806	15.9	20	0.716
July	5.2	0.889	785	599	1445	1806	15.9	20	0.724
August	6.4	0.864	830	550	1436	1795	15.8	20	0.692
Sept.	8.3	0.822	899	473	1420	1775	15.6	20	0.627
October	10	0.789	968	405	1413	1767	15.6	20	0.556
November	11.3	0.787	1053	352	1440	1801	15.9	20	0.524
December	13	0.79	1182	283	1494	1868	16.4	20	0.49

The internal temperature factor for July is the most critical.

The maximum temperature factor of 0.95 is greater than 0.724 so no surface condensation is likely

INTERSTITIAL CONDENSATION

Condensation occurs at one interface (numbered from inside).

Annual condensation at interface 2 mineral wool batt (25 Kg/m3) / Tyvek HOUSEWRAP

	monthly condensation/ evaporation kg/sq.m	accumulated condensation kg/sq.m
January	-0.31646	0
February	-0.17002	0
March	0.02771	0.02771
April	0.35198	0.37969
May	0.67278	1.05247
June	0.96177	2.01424
July	1.0516	3.06584
August	0.85063	3.91647
September	0.48417	4.40064
October	0.17147	4.57211
November	-0.01645	4.55566
December	-0.24815	4.30751

Condensation at interface 2 starts in January, and does not dry out over the year.

The amount of condensate remaining after 12 months is 4.30751 kg/sq.m.

The maximum condensation of 1.0516 kg/sq.m. is in July

Calculation in accordance with BS 5250:2002 and BS EN ISO 13788:2002

Using Dewpoint version 3.02 (03.02.09)

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natural wool Ceiling and Wall Insulation

Terra
Lana

Natural Wool Insulation

Terra Lana natural wool insulation out performs other insulation products because of it's breathability (ability to absorb moisture when its cool and release moisture when it's hot). It has no nasty health effects and is 100% environmentally friendly.

Applications

- Ceilings and Walls
- New and retrofit
- Residential and commercial buildings

Composition

The wool in Terra Lana natural wool insulation is a carefully selected mixture of clean, recycled off-cuts from New Zealand textile and carpet manufacturers, and pure sheep's wool. The wool is blended with polyester melt bond fibre (<30%) and thermally bonded to form a dimensionally stable structure. The product varies in colour from light to dark grey and can be supplied in slab or roll form.

Installation

Can be ripped and fitted using bare hands without cutting tools.



Natural Benefits

Breathes Warms cool spaces by temporarily absorbing moisture thereby reducing the 'damp chill'.

Air Conditioner The ability to temporarily absorb moisture helps prevent moisture buildup, thus reducing the incidence of condensation and mold. Synthetic Insulation is unable to do this.

Safer Non-irritant, non-allergenic, non-toxic and odourless. Contains no harmful substances. Requires no protective clothing or masks to install.

Durable Maintains its loft and therefore its ability to entrap air for the lifetime of the dwelling. By contrast, the glass fibres in fibreglass insulation can break when subject to movement or vibrations, causing the insulation to slump, reducing its effectiveness over time.

Filter Capable of absorbing close to 100% of the formaldehyde commonly found in most new buildings. Fibreglass does not do this as effectively.

Flame Resistant Terra Lana wool insulation will not ignite unless exposed to naked flame. If exposed to a heat source it will smolder and try to self extinguish.

Noise Barrier Literally absorbs noise from both outside the building and within the premises. It's high Flow Resistance rating means it is suitable for specialised sound control in a wide range of applications.

Degradable Breaks down quickly and safely when composted.

Energy Efficient Takes 7 times less energy to manufacture than equivalent fibreglass products.

100% NATURAL WOOL INSULATION

Product Table

All stock is made to order, with custom sizes available in the R values listed.

Code	R Value	Dimensions (mm)	Recovered Thickness (mm)	Units / Bale	Area / Bale (M ²)	Approximate Coverage (M ²)	Bale Weight (Kg)
Ceiling Blankets							
TLCB2.2	2.2	5m x 870	105	2	8.7	9	12
TLCB2.6	2.6	5m x 870	130	2	8.7	9	16
TLCB3.2	3.2	5m x 870	140	2	8.7	9	17
TLCB3.6	3.6	4m x 870	150	2	7.0	7.3	15
TLCB13.8*	3.8	5m x 430 5m x 1000	180	2 1	9.3	5.0	11
Ceiling Cuts (Slabs)							
TLCC2.2	2.2	1220 x 432	105	20	10.6	11	14
TLCC2.6	2.6	1220 x 432	130	15	7.9	8.5	14
TLCC3.2	3.2	1220 x 432	140	15	7.9	8.5	15
Wall Blankets							
TLWB1.9	1.9	5m x 580	90	4	11.6	12.0	13
TLWB2.2	2.2	5m x 580	90	4	11.6	12.0	16
TLWB2.6	2.6	5m x 580	130	4	11.6	12.0	21
TLWB3.2	3.2	5m x 580	140	4	11.6	12.0	23
Wall Cuts (Slabs)							
TLWC1.9	1.9	1140 x 580	90	20	13.2	13.7	15
TLWC2.2	2.2	1140 x 580	90	20	13.2	13.7	18
TLWC2.6	2.6	1140 x 580	130	15	9.9	10.3	18
TLWC3.2	3.2	1140 x 580	140	15	9.9	10.3	20

* TLCDL consists of three 1.9R rolls per bale: 2 x 430mm rolls to fit between joists and 1x 1000mm roll to fit on top across the joists.

** Coverage relates to standard structure and actual coverage may vary.

Durability

Terra Lana wool insulation has been BRANZ appraised to last for 50 years.

Insect Resistance

Terra Lana wool insulation is manufactured from recycled and new wools that are treated for insect resistance. Bioassay tests by AgResearch give satisfactory insect resistance to *Tineola Bisselliella* (common clothes moth).

Installation

Terra Lana wool insulation can be ripped and fit by bare hands without cutting tools.

Shelf life

Terra Lana Wool Insulation is compression packed into polyethylene bags. The physical and chemical properties of the wool and thermal bonding fibres give the ability to recover to design thickness over time. However, the longer the period and degree of compression, the longer the recovery. Terra Lana natural wool insulation should not be stored in compressed state for longer than 6 months.

BRANZ

Terra Lana natural wool insulation was developed and tested by the Wool Research Institute of New Zealand (WRONZ, now AgResearch) and is BRANZ appraised (Appraisal 682 : 2010).



Terra Lana - naturally better.

Terra Lana Products Ltd

55 Francella St, P.O. Box 19755, Christchurch, New Zealand

Phone: (03) 982 0211 Freephone: 0800 485 262

Fax: (03) 982 0212 Email: info@terralana.co.nz

www.terralana.co.nz

Terra
Lana

Natural Wool Insulation

The logo for Terra Lana, featuring the brand name in a serif font inside a square border.

Natural Wool Insulation

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FAQS

What's the difference between Terra Lana and Pink Batts?

The thermal performance of equal R rated products is the same. Eg R2.6 Terra Lana has the same thermal resistance as R2.6 Pink Batts. Terra Lana is typically around 20% more expensive than Pink Batts however it has three main advantages:

1. Environmentally Sustainable

Most of the wool in Terra Lana natural wool insulation is recycled waste wool from local textile and carpet manufacturers. Sheep wool is completely biodegradable and can be composted without causing harm to the environment.

2. Longer Lasting

The wool is combined with a small amount of melt bond polyester fibre and passed through an oven. The heat melts the polyester which diffuses through out the batting. As the insulation comes out of the oven the melt bond fibre cools, setting the height of the insulation. The natural crimp of the wool fibre plus the resilience of the polyester mean the insulation will maintain it's height for a long time (BRANZ appraised for 50 years) and therefore its ability to entrap air. By contrast, the glass fibres in fibreglass insulation break down over time when subject to movement or vibrations, causing the insulation to slump, reducing its effectiveness.

3. Naturally Healthy

Wool is a protein fibre similar in structure to human hair so even if wool fibres are ingested or inhaled they readily break down into their base proteins and cause no harm. Fibreglass is literally that, fibres made up of fine filaments of glass. If ingested these can aggravate the respiratory system.

Terra Lana wool insulation is non-irritating to the skin and no special procedures or protective clothing are required for regular handling and installation. Fibreglass insulation however can be irritating to the skin and eyes and installers are advised to wear protective clothing and masks.

How is wool insulation better than polyester insulation?

Wool "breathes" as it absorbs and desorbs the moisture within the home. It helps remove the damp chill in older homes and reduces condensation and mould in damp environments (kitchens, bathrooms). The amazing thing is the water molecules are held inside the fibre, leaving the insulation dry to touch. Inert mineral and synthetic fibres do not have this property and therefore do not handle rapid changes in temperature and moisture nearly as well.

Won't Rats and mice want to nest in it?

Rats and mice will nest in anything: Wool, polyester, fibreglass, cellulose. However vermin will not eat Terra Lana because their teeth cannot cut the wool fibres, which then get stuck in their throat. Vermin can, and do, chew fibreglass down to a powder and swallow it.

What about moths and insects?

Terra Lana uses recycled wool treated for insect resistance. Bioassay tests undertaken by AgResearch gave satisfactory insect resistance to common clothes moths.

Why use Terra Lana in low roofs?

Terra Lana's 2 x R1.9 double layer works better than fibreglass and polyester in ceilings with a low roof angles because a 25mm gap is required between the roof and the insulation. The bottom layer can be pushed right out almost to the wall join with the second layer finishing further back. A single layer of fibreglass or polyester must finish before it touches the roof, leaving an uninsulated area around the outer ceiling.

Why is the majority of Terra Lana's product sold as rolls (as opposed to cuts)?

Terra Lana's rolls can generally be installed faster than cuts (batts). The wool batting can be easily ripped cross ways by hand, negating the need for cutting. Gaps can be quickly filled by ripping batting from the end of the roll.

Why are two thinner layers better than one thick one?

If you have existing fibreglass insulation that has slumped (sunk below the top level of your joists), you are best to top it up (between the joists) then lay a second layer perpendicular across the joists. This eliminates any gaps (preventing air movement and heat loss) and prevents thermal bridging (heat loss through the joists, which only have an R value of 0.8). Use Terra Lana's R3.8 double blanket product (2 x R1.9).

Can't I just put one blanket over the top of the joists to prevent thermal bridging?

If the existing insulation is level with the top of the joists then one blanket over the top of the joists and existing insulation will be fine to prevent thermal bridging. However if the existing insulation has sunk below the top of the joists, a blanket straight over the top will create a tent effect at the joists. The resulting gap will allow air movement and therefore heat loss.

What sort of wool is used in Terra Lana insulation?

Most of the wool is recycled waste (off cuts, pit waste) from local carpet and textile manufacturers. Occasionally this is supplemented by low grade virgin wool (bellies, pieces). Wool has the same insulation properties regardless where it has come from.

Why is Terra Lana's Underfloor Insulation better?

1. The large wool component makes it more environmentally friendly than other underfloor products.
2. Terra Lana's underfloor bales are smaller than any of its competitors. Small bales are easier to get down through man hole covers and move around underfloor. The insulation need not be unpacked so it's faster to get to the point of install and the product is protected right up to the time of installation. The stiffer polyester layer protects the integrity of the insulation if it is snagged on the ground or piles.
3. Terra Lana's wool/ polyester laminate easily accommodates varying joist widths and does not require exact cutting for friction fit (eg Expol).
4. Terra Lana's underfloor rolls are stapled to the joists meaning you will never have to worry about them coming loose and falling out.
5. The denser layer of polyester minimizes sagging underneath the floor which can be a problem with single density polyester products.

What are Terra Lana's Advantages Over Other Wool Manufacturers

1. All Terra Lana's core products are BRANZ appraised. BRANZ is a leading NZ authority on building product quality. Not all our competitors have BRANZ appraisals (or an equivalent certification).
2. Terra Lana uses melt bond polyester as the bonding agent. This was the preferred method of bonding developed by the Wool Research Organisation of New Zealand in the 1990s. A competitor uses industrial resin, the other method WRONZ developed but discarded because it is less environmentally friendly, has the potential to break down over time and has inferior structural integrity.
3. Terra Lana has at least twice the manufacturing capacity of any other wool insulation manufacturer in New Zealand, meaning you are most likely to be able to get product when you want it.
4. Terra Lana has superior pricing due to economies of scale and the ownership of our own blending and manufacturing facilities.

Does wool insulation sweat?

Terra Lana natural wool insulation does not "sweat". Wool can absorb moisture up to a quarter of its own weight as a vapor (not as a liquid), hold it within the fibres then release it as the relative humidity decreases. Synthetics and fibreglass do not have this ability and any entrapped moisture is likely to be present as a liquid or "sweat".

Does Terra Lana natural wool insulation affect Laser Frame?

Terra Lana natural wool insulation absorbs and desorbs moisture so contact with Laser Frame is not a problem. In fact it is an advantage as the wool's sorbancy ensures any moisture present is not available to be taken up by the Laser Frame. It is IMPORTANT however to follow the TERRA LANA installation instructions and ensure that the batting is dry before installation.

What happens to Terra Lana natural wool insulation on a cold day?

On a cold day it is normal for the relative humidity to increase. The moisture content of Terra Lana natural wool insulation will increase at the same time to stay in equilibrium. This process releases energy (heat) which has the effect of delaying temperature change longer than would be expected from its thermal or insulation properties alone. This is the "woolly jersey" effect.

What about the "inflation" effect of Terra Lana natural wool insulation?

Terra Lana natural wool insulation does not "inflate" or "deflate". After removal from its bale the batting recovers to its nominal (manufactured) thickness. This is a natural process which may take up to 3 months. It can be sped up by giving it a shake hence our strong recommendation is that all rolls and slabs are shaken as they are installed.

Why is Terra Lana natural wool insulation harder to tear/ cut in one direction?

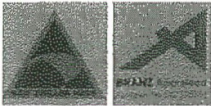
Terra Lana natural wool insulation is manufactured by laying fine layers of wool together in the same direction and bonding them at elevated temperatures. This makes it easier to tear or cut the batting in a crosswise direction.

Is thicker better?

Generally speaking the thicker the batting, the higher the R value. However the insulation's R value will decrease if it is squashed (decreases the amount of trapped air) so it is particularly important in wall cavities that the nominal thickness of the batting does not exceed the height of the studs.

Do gaps between the framing and the batting matter?

YES! Gaps between the timber and the insulation can make a big difference to the R value. BRANZ testing reveals R2.8 insulation with a gap of 16mm reduces to R1.4. That's half the nominal R value! Therefore it is very important to ensure the batting fits snugly amongst the timber framing.



BRANZ
Building Research Association of New Zealand

Terra Lana - Naturally better.

06 December 2011

Tim Foster
Fraemohs Homes
PO Box 256
KAIAPOI 7644

Dear Tim

**CONSENT No. 207037/1
176 RICHARDSON ROAD**

Thank you for your reply to the questions in my letter dated 29 November 2011.

Before I can further process your application, I still have concerns regarding the management of condensation on this design.

In your reply you compared your design with NZS 3604, the main difference is the lack of building paper and a still air gap, in the majority of the designs in 3604 there is some form of air gap and always building paper. When moisture laden air comes in contact with a cooler surface it changes to liquid. For condensation not to form on the inside of the exterior cladding, are we to assume there will be no thermal transfer from the interior to the inside of the exterior cladding?

NZBC E3/acceptable solutions states in Section 1.1.4 for the construction to be acceptable:

- a) Building paper shall extend from the upper side of the top plate to the under side of the bearers or wall plates supporting the ground floor joists.
- b) Insulated cavities shall be enclosed with no ventilation.

Taking the above into consideration I do not believe there can be any comparison to NZBC 3604 or the NZBC acceptable solutions.

The Department of Building and Housing released a guidance document, External Moisture – An introduction to weather tightness

and design principles. In this there is a section on managing vapour migration.

I do not believe your design caters for this.

I have discussed this with the DBH and they are of the opinion, that there needs to be more supporting information i.e. testing by a recognised laboratory, or a BRANZ appraisal or similar.

You mention that the double wall system is a common method of construction in Europe, I would be happy for you to supply some of these designs for comparison to support your application along with test documentation for your design. It is the responsibility of the applicant to provide verification that the system or construction method satisfies the relevant code clauses.

I look forward to receiving the relevant information.

Yours sincerely

A handwritten signature in dark ink, appearing to be 'S Holden', written in a cursive style.

Steve Holden
BUILDING CONTROL OFFICER

Stephen Holden

From: Information at Gore District Council
Sent: Monday, 5 December 2011 2:57 p.m.
To: Stephen Holden
Subject: FW: Attn Stephen Holden re 207037/1 176 Richardson Road



-----Original Message-----

From: Jared Lane [mailto:jared@apdesign.co.nz]
Sent: Friday, 2 December 2011 2:43 p.m.
To: Information at Gore District Council
Subject: Attn Stephen Holden re 207037/1 176 Richardson Road

Hi Stephen,

We are writing in response to your letter dated the 29th Nov 2011 where you ask some pertinent questions about our new double wall systems.

1) Keeping the insulation dry during construction is important. But in a practical sense it often proves to be difficult and some allowance for the insulation to dry out must be made. The holes are primarily there to allow any moisture that has built up in the cavity space a path to leave. It is expected that following a summer the insulation will be fully dry, and if one was really worried about moisture finding its way back up the holes then at that point they can be filled up/covered by fixing a particleboard sheet over them from below.

We do not believe that 'rising'damp' will be able to make any effect on the insulation if this board was left off as the subfloor area is largely open with a subfloor screen, and well ventilated. Having these small openings to the cavity is in our opinion no more vulnerable to atmospheric moisture than insulation in a standard 3604 timber framed wall, on a concrete slab at 225mm from the ground. The only protection for this insulation is the overhang of the cladding. Watertight gaps along the base of the cladding, and the building paper itself are unlikely and infact will impede the escape of any moisture that does find its way in. In short, if you require us to we will advise our client to seal up these holes at the end of their first summer, however we do not believe it is required.

The other issue you raised was with Condensation build up in the cavity. Solid timber copes well with a slow and controlled transmission of moisture and heat. The fear of large condensation build-up in the cavity is unlikely. Even in winter the inside of the wall - where warm and potentially damp air is coming from is separated from the cold side by a blanket of insulation. To use the 3604 house example again our situation would be comparable to warm moist air from the gib lined interior then condensating on the inside of the colder building wrap/cladding. While this may happen in some rare occasions the nature of materials means that they have time to then dry out again. This also adds credence to our assertion that the holes at the base of the cavity should be retained to aid in that drying process.

2) The double wall system is relatively new for us, but is a common method of construction in Europe where solid timber housing has been a conventional construction method for centuries. We are confident in the durability, structural strength and insulation values this offers. Our single wall system has been used successfully in NZ, Japan and the Pacific Islands for over 40 years. We have every reason to believe, based on our experience and professional opinion that this double wall system fully complies with the requirements of the Building Code as an acceptable solution.

3) As verbally instructed during our phone conversation the reference to the 1991 Building Act is a Typo and you can amend this to 2004. Thanks.

Kind regards,

Jared Lane

29 November 2011

Tim Foster
Fraemohs Homes
P O Box 256
KAIAPOI 7644

Dear Tim

**REQUEST FOR FURTHER INFORMATION
BUILDING CONSENT 207037/1
176 RICHARDSON ROAD**

After looking over the plans for this new home I have some concern as to the design of the cavity. The plans show it has 20mm drain holes @ 400 centers to allow moisture and condensation to escape. Will the woolen insulation not get wet and the particle board flooring would then be subject to moisture as well?

Your Alternative Solution Report only appears to cover the in-service history of a single skin design and not the two layer construction which I have been informed has only been used for the past four to five years.

Can you please provide further information to the following questions:

1. What will stop the insulation from get wet and what will protect the base of the cavity from moisture. x
2. In-service history appears to relate to single walled constructions and not doubled walled. Please provide performance results for this cavity design. x
3. In the references, the Building Act 1991 is stated, should this not be the 2004 Act? Please clarify this error. 5/12/11 ✓ 

Yours sincerely



Stephen Holden
BUILDING CONTROL OFFICER

APPLICATION FOR PROJECT INFORMATION MEMORANDUM and/or BUILDING CONSENT

Section 33 or Section 45, Building Act 2004

I request that you issue a
☐ Building Consent & PIM
☒ Building Consent Only
☐ PIM Only
 For the building work described
 in this application



Consent No: 207037/1

The Owner

Under Section 33 or 45 of the Building Act 2004, 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.

Full Name(s): YVES PETER JEANINE OBUS & MAGGIE DE VADDER

Contact Person: MAGGIE DE VADDER

Postal Address: 176 RICHARDSON RD, RDG, CROYDON BUSH, GORE 9776

Daytime Contact Phone: 03 208 3139

Cell Phone: 027 356 6366 Fax:

Email: mag_d3v@hotmail.co.nz

Evidence of Ownership: CT ☒ Other

Project

☒ New or Relocated Building ☐ Alteration
☐ Heating Appliance ☐ Addition
☐ Demolition ☐ Change of Use

Detailed Description of Intended Work: NEW 3 BEDROOM DWELLING TO REPLACE EXISTING DWELLING

Intended Use: (eg domestic dwelling, hotel, motel office) DOMESTIC DWELLING

Is this a change of use? ☐ Y ☒ N
 Estimated Value of Work (incl GST): \$ 200,000
 The value of building work shall be the aggregate of values, determined in accordance with Section 10 of the Goods and Services Tax Act 1985, on all goods and services to be supplied for that building work.

Intended Life: ☒ Indefinite (but not less than 50 years)
☐ Specified as years

Floor Area (m2): Existing
 Ground Floor 115
 First Floor
 Garage
 Area of Addition
 Total Floor Area 115

Tick if this project includes any of the following:

☒ Septic Tank ☐ Solar Hot Water
☒ Rainwater Tank ☐ Heating Appliance

Heater Details

Are you removing an existing fire? ☐ Y ☒ N

If yes, what room and what type:

Have you shown position of smoke alarms? ☒ Y ☐ N

☐ New Unit ☐ Second Hand Unit
☐ Free Standing Unit ☐ Inbuilt Unit
☐ Wetback

If wetbacked, is the hot water cylinder open vented? ☐ Y ☐ N
 Provide details of tempering valve location.

Fuel Type

☐ Multifuel ☐ Diesel
☐ Wood ☐ Other

Make/Model of Unit:

The Building

Project Location (street address): 176 RICHARDSON ROAD, GORE

Legal Description

Valuation Number:

Lot: DP:

Section: 762 Block: LXX

Survey District: HOKONUI

If an Existing Building

Building Name:

Number of Levels:

Level/Unit Number:

Current, lawfully established use: (include number of occupants per level and per use if more than one e.g. boarding house, domestic dwelling, hotel, motel, office, commercial)

Year first constructed:
 (approx date is acceptable eg.c1920, or 1960-1970)

Signed by or on behalf of the Owner

Date

17/11/2011

[Signature] 17/11/2011

PERSONNEL – Please complete as far as possible

Agent

Full Name(s): FRAEMOH'S HOMES
Contact Person: TIM FOSTER
Postal Address: PO BOX 256, KAIAPOI
7644
Daytime Contact Phone: 03 375 9009
Cell Phone: 029 323 8005
Fax: 03 323 8442
Email: tim@fraemoys.co.nz
Relationship to Owner: Designer / Manufacturer
(State details of the authorisation from the owner to make the application on the owner's behalf)

Builder

Full Name(s): TBA
Company:
Postal Address:
.....
Daytime Contact Phone:
Cell Phone:
Fax:
Email:
Signature:

Certifying Plumber and/or Certifying Drainlayer

Full Name(s): TBA
Company:
Postal Address:
.....
Registration Number:
Daytime Contact Phone:
Cell Phone:
Email:
Signature:

Architect

Full Name(s): Jared Lane
Company: AP DESIGN
Postal Address: PO BOX 26125
NORTH AVON, CHRISTCHURCH
Daytime Contact Phone: 03 942 1977
Cell Phone: 021 2777 960
Fax:
Email: jared@apdesign.co.nz

Engineer

Full Name(s): O'LOUGHLIN TAYLOR SPENCE
Postal Address: PO BOX 2373, CHRISTCHURCH
Registration No: 35414
Daytime Contact Phone: 03 379 2734
Cell Phone:
Fax:
Email: john.spence@ots.co.nz

Certifying Gasfitter

Full Name(s):
Postal Address:
Registration No:
Daytime Contact Phone:
Cell Phone:
Fax:
Email:

Electrician

Full Name(s): TBA
Postal Address:
Registration No:
Daytime Contact Phone:
Cell Phone:
Fax:
Email:

LBP/Other

Full Name(s):
Postal Address:
.....
Daytime Contact Phone:
Cell Phone:
Registration Number:
Email:

Other

Full Name(s):
Postal Address:
.....
Daytime Contact Phone:
Cell Phone:
Fax:
Email:

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

Clause <i>Tick relevant clause No. of Building Code</i>		Means of Compliance <i>Refer to relevant compliance documents or detail or alternative solution in plans/specifications</i>			Waiver/Modification required <i>State nature of waiver or modification of building code</i>
		Acceptable Solutions			
☒ B1	Structure	☒ B1/AS1 ☐ NZS3604	☐ B1/AS2 ☒ NZS1170	☐ B1/AS3 ☐ NZS4229 ☐ Alternative Solution	
☒ B2	Durability	☒ B2/AS1 ☐ NZS3604	☐ NZS3101	☐ NZS3602 ☒ Alternative Solution	
☒ C1	Outbreak of fire	☒ C/AS1	☐ NZS 2918	☐ Alternative Solution	
☒ C2	Means of escape	☒ C/AS1		☐ Alternative Solution	
☒ C3	Spread of fire	☒ C/AS1		☐ Alternative Solution	
☒ C4	Structural stability during fire	☒ C/AS1		☐ Alternative Solution	
☒ D1	Access routes	☒ D1/AS1	☐ NZS4121	☐ Alternative Solution	
☐ D2	Mechanical installations for access	☐ D2/AS1 ☐ NZS4332	☐ D2/AS2 ☐ EN81	☐ D2/AS3 ☐ EN115 ☐ Alternative Solution	
☒ E1	Surface water	☒ E1/AS1	☐ AS/NZS3500.3	☐ Alternative Solution	
☒ E2	External moisture	☒ E2/AS1	☐ Specific design & testing	☒ Alternative Solution	
☒ E3	Internal moisture	☒ E3/AS1		☐ Alternative Solution	
☐ F1	Hazardous agents on site	☐ F1/AS1		☐ Alternative Solution	
☒ F2	Hazardous building materials	☒ F2/AS1	☒ NZS4223	☐ Alternative Solution	
☒ F3	Hazardous substances and processed	☒ F3/AS1		☐ Alternative Solution	
☒ F4	Safety from falling	☒ F4/AS1	☐ FSP Act	☐ Alternative Solution	
☒ F5	Construction and demolition hazards	☒ F5/AS1		☐ Alternative Solution	
☐ F6	Lighting for emergency	☐ F6/AS1		☐ Alternative Solution	
☐ F7	Warning systems	☐ F7/AS1	☐ NZS4512	☐ Alternative Solution	
☐ F8	Signs	☐ F8/AS1		☐ Alternative Solution	
☒ G1	Personal hygiene	☒ G1/AS1		☐ Alternative Solution	
☒ G2	Laundrying	☒ G2/AS1		☐ Alternative Solution	
☒ G3	Food preparation & prevention of contamination	☒ G3/AS1		☐ Alternative Solution	
☒ G4	Ventilation	☒ G4/AS1	☐ AS1668.2	☐ Alternative Solution	
☐ G5	Interior environment	☐ G5/AS1		☐ Alternative Solution	
☐ G6	Airborne and impact sound	☐ G6/AS1		☐ Alternative Solution	
☒ G7	Natural light	☒ G7/AS1		☐ Alternative Solution	
☐ G8	Artificial light	☐ G8/AS1	☐ NZS6703	☐ Alternative Solution	
☒ G9	Electricity	☒ G9/AS1		☐ Alternative Solution	
☒ G10	Piped services	☒ G10/AS1	☐ NZS5261	☐ Alternative Solution	
☐ G11	Gas as an energy source	☐ G11/AS1		☐ Alternative Solution	
☒ G12	Water supplies	☒ G12/AS1 ☐ G12/AS2	☐ AS/NZS3500.1	☐ AS/NZS3500.4 ☐ Alternative Solution	
☒ G13	Foul water	☒ G13/AS1 ☐ G13/AS3	☐ G13/AS2 ☐ G13/VM4	☐ Alternative Solution ☐ ASNZS 3500.2	
☐ G14	Industrial liquid waste	☐ G14/AS1		☐ Alternative Solution	
☐ G15	Solid waste	☐ G15/AS1		☐ Alternative Solution	
☒ H1	Energy efficiency	☒ H1/AS1 ☐ ALF Design Manual	☒ NZS4218 ☐ NZS4243	☐ NZS4214 ☐ Alternative Solution	
☐ BCH	Back Country Hut	☐ BCH/AS1			
☐ SH	Simple House	☐ SH /AS1			
☐ Multiproof		☐ Multi use Certificate No.			

Council Use Only

	Y	N/A
Application Form Complete	☒	☐
Site Plan	☒	☐
Elevations	☒	☐
Floor Plan (existing, proposed, new)	☒	☐
Truss Details	☒	☐
Producer Statement	☒	☐
Specification (job specific)	☒	☐
Heater Installation & Flue Details	☐	☐
Plumbing & Drainage Plans	☒	☐
3 Complete Sets of Documents	☒	☐
PIM (transportable)	☐	☒

The above is satisfactory for this application to be accepted for processing: ☒ Y ☐ N Date: 17-11-11

First Point of Contact

☒ Owner ☐ Agent

Consent posted to

☒ Owner ☐ Agent

Consent Fees

Building Consent	\$	1725-00
Accreditation Levy	\$	200-00
BRANZ Levy	\$	200-00
DBH Levy	\$	402-00
Street Asset Deposit	\$	
Resource Consent	\$	
Other	\$	
Total Fee Payable	\$	2527-00

Receipt Number

347476
Cash/Chq/Eftpos/EB

Consent paid for by:

☒ Owner ☐ Agent ☐ Other

	Checked	Date	NA
Building Control Department	Steve	7.2.12	
Plumbing and Drainage	Leiter	23.11.11	
Roading Department	Pau	8.2.12	
Water/Utilities Department			
Parking Department			
Planning Department	21.11.11	Glin	
Fire Service			
External Engineer			

	Yes	No
Compliance Schedule Required	☐	☒
Section 37 Notice Required	☐	☒
Section 72 - 75 Notice Required	☐	☒

Approved for Issue:

Officers Signature

Date

Project Details

The project involves the following matters (tick each applicable box, if any, and attach relevant information in triplicate)

- ☒ Location in relation to legal boundaries
- ☐ Building work over or adjacent to any road or public place
- ☒ Disposal 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 watermain
- ☐ Provisions to be made in the demolition work for the protection of 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.

Project Information Memorandum

- ☐ Subdivision
- ☐ Alterations to land contours
- ☐ New or altered connections to public utilities
- ☐ New or altered locations and/or external dimensions of buildings
- ☐ New or altered access for vehicles
- ☐ Other matters known to the applicant that may require authorisations from territorial authority (specify):

Vehicle Access

Street Crossing	New	☐	Existing	☐
Rural Access	New	☐	Existing	☒
Rapid No. Required	Yes	☐	No	☒

Utilities

New Water Connection	Yes	☐	No	☒
New Sewage Connection	Yes	☐	No	☒
New Stormwater Connection	Yes	☐	No	☒

Compliance Schedule Details

Does this building have a Compliance Schedule? ☐ Y ☒ N

If yes, please supply your Warrant of Fitness and a copy of your Compliance Schedule.

Is this an amendment to an existing Compliance Schedule? ☐ Y ☒ N

If yes, please complete and attach the Compliance Schedule Specified System Form.

If no, do you require a new Compliance Schedule? ☐ Y ☒ N

If yes, please complete and attach the Compliance Schedule Specified System Form.

The following documents are attached to this application:

Plans & Specifications (list):

- ☒ Project Information Memorandum
- ☐ Development Contribution Notice
- ☐ Certificate attached to Project Information Memorandum

Tracey Nevard

From: Pam Courtney
Sent: Thursday, 17 November 2011 1:25 p.m.
To: Tracey Nevard
Subject: New RID and DVR

Hi Tracey

New RID 8418 for 29390 43901 – DVR 8435

Yves Peter Jeanine OBUS and Maggie De VADDER

Pam

Pam Courtney
Mataura Service Centre Co-Ordinator
1 Bridge Street (PO Box 14 Mataura 9356)
Mataura 9712
Phone (03) 203 8115
Fax (03) 203 7615
Email pcourtney@goredc.govt.nz
www.goredc.govt.nz

207037

Gore District Council

Rates/Property Enquiry for RID 8418
For year ended 30 June 2012

Rid Id	Receiver of Assessment	Order	Int Code	Other Names	Name Id	Name
8418	Obus Yves Peter Jeanine	2	OWN	39585	De Vadder Maggie	
Name Id	86 Ruia Street					
39691	GORE 9710					

DVR Data

DVR Id	Valuation Number	Address	Area(ha)	LV	CV	Rateable
8435	29390-43901	176 RICHARDSON RD, GORE	4.5122	0	0	Yes
Legal Desc	SEC 762 BLK LXX HOKONUI SD					
Improvements	FG	Cats / Factors	Rural, Rural P & R Less than \$129,001, Gore District			

Financial Data

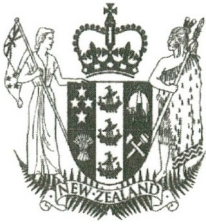
	Charged	Paid	Remitted	Net Due			
Arrears	0.00	0.00	0.00	0.00			
Postponed OB		0.00			Last Instalment:	0.00	
Arrears Penalties	0.00	0.00	0.00	0.00	YTD Instalments:	0.00	
Current Penalty	0.00	0.00	0.00	0.00	Annual Levy:	0.00	
Current	In Advance	0.00					
	0.00	0.00	0.00	0.00			
	Discounted	0.00			Potential Disc	0.00	
	Postponed	0.00			Net Due	0.00	
					To Clear	0.00	
Sundry	OB	0.00	0.00	0.00	0.00	To Clear less Disc	0.00

Levy Details

Code	Levy Description	Rate	Basis	Levied
				0.00

Arrears Details

Year	Code	Levy Description	Charged	Paid	Remitted	Due
			0.00	0.00	0.00	0.00



COMPUTER FREEHOLD REGISTER UNDER LAND TRANSFER ACT 1952



Search Copy


R.W. Muir
Registrar-General
of Land

Identifier SL8C/23
Land Registration District Southland
Date Issued 20 July 1987

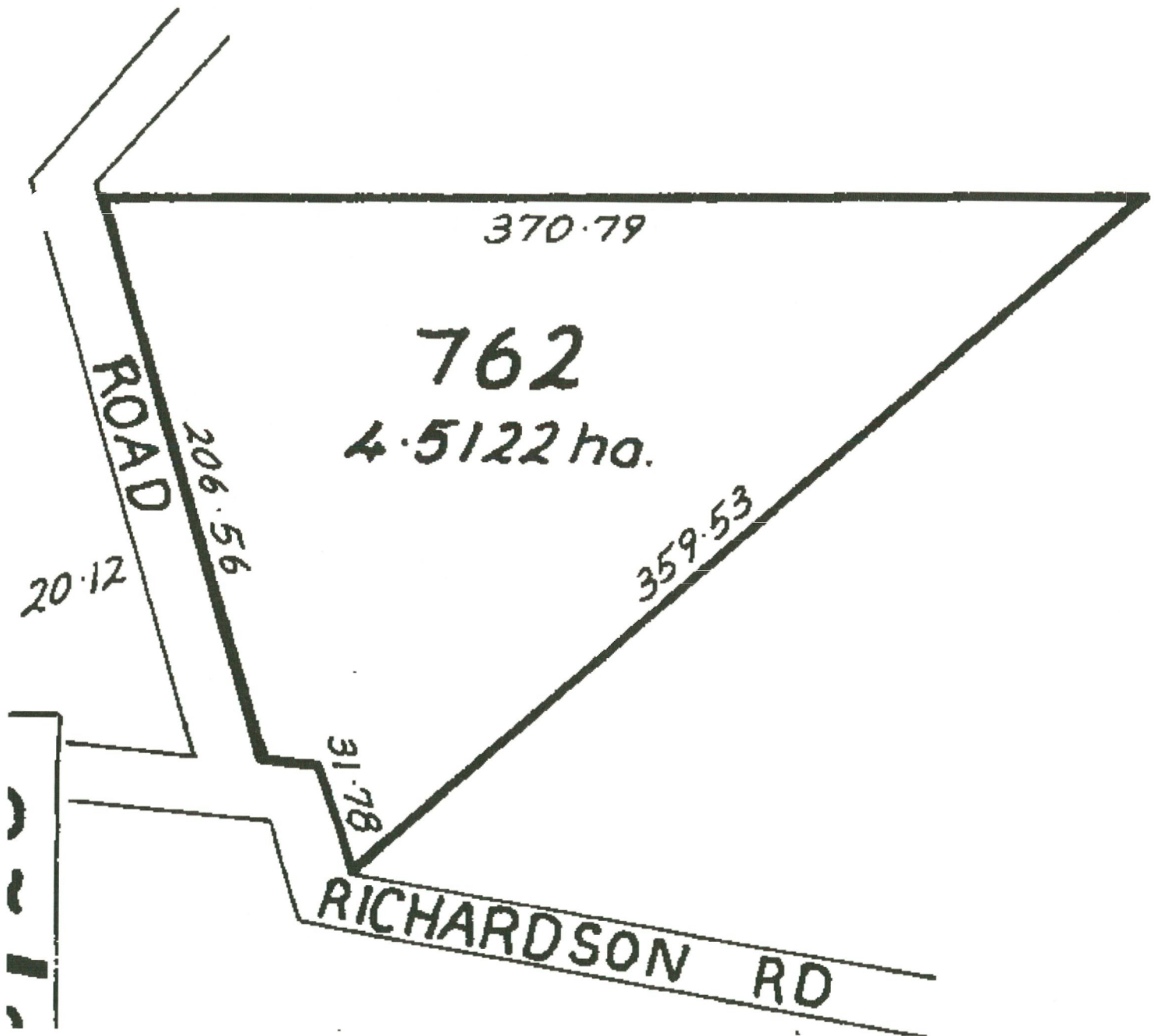
Prior References
SLPR51/178

Estate	Fee Simple
Area	4.5122 hectares more or less
Legal Description	Section 762 Block LXX Hokonui Survey District

Proprietors
Yves Peter Jeanine Obus and Maggie De Vadder

Interests
Subject to Section 8 Mining Act 1971
Subject to Section 5 Coal Mines Act 1979

13.11.0



10 October, 2011

Maggie De Vadder & Yves Obus
176 Richardson Road
Croydon Bush
Gore 9776

Dear Maggie & Yves,

RE: BUILDING CONSENT APPLICATION

Please find attached your completed building consent documentation for submission with the Gore District Council. Please sign and date the application form where indicated and submit to the council with your consent fee (\$4577.00 as per the enclosed council fee calculator sheet) either in person or by post.

Yours Sincerely



Tim Foster
Fraemohs Homes

* Incorrect fee calculation

AP
17/10/11



SPECIFICATION

of work shown on the accompanying drawings

New Fraemohs House

(project name)

at

176 Richardson Road,
RD6,
Croydon Bush
Gore 9776

(project address)

for

Yves & Maggie Obus

(owner's name)

FILE COPY

GORE DISTRICT COUNCIL		
Consent No.	207037/1	
Building	7.2.12	BP
Plumbing	23.11.11	BP
Drainage	23.11.11	BP
Planning	21.11.11	BP
Roading	8.2.12	BP
Utilities		
Reserves		
Licensing		
Parking		
Date		Initials

Job number: 11116

Date: 26-10-11

Allan Pritchard Design Ltd

PO Box 26125 | North Avon | ph. (03) 942 1977 | fax. (03) 942 1948 | apdesign.co.nz

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Note: The standard text in the technical sections of this specification has been customised to suit the project being specified.

PROJECT INFORMATION

<u>Owner</u>	Name:	Yves & Maggie Obus
	Mailing address:	c/o Fraemohs Industries Ltd
	Phone/fax:	Ph: (03) 375 9009, Fax: (03) 323 8442
<u>Contractor</u>	Name:	Fraemohs Industries Ltd
	Mailing address:	P.O Box 256, Kaiapoi 7644
	Phone/fax:	Ph: (03) 375 9009, Fax: (03) 323 8442
<u>Designer</u>	Name:	AP Design Ltd
	Mailing address:	P.O Box 26125, North Avon, Christchurch
	Phone/fax:	Ph: (03) 942 1977, Fax: (03) 942 1948
<u>Project location</u>	Street address:	176 Richardson Road, Gore
	Legal description:	Section 762, Block LXX, Identifier Code SL8C/23
<u>Project description</u>	Type:	New Dwelling
	Intended use:	Single residential building
	Intended life:	Indefinite but not less than 50 years

COMPLIANCE INFORMATION

SITE DATA

Exposure/corrosion zone (NZS 3604, figures 4.1, 4.2)	Zone B
Wind region (NZS 3604, figure 5.1)	A
Topographical class (NZS 3604, tables 5.3, 5.4)	T1 Gentle
Wind zone (NZS 3604, tables 5.1 and 5.2)	High
Earthquake zone (NZS 3604, figure 5.4)	Zone 1

BUILDING DATA

Building classification (NZS 3604, table 1.1)	Residential Dwelling
Floor live load (NZS 3604, table 1.2)	1.5 KPa
Overall height of building (in metres)	5160 metres

11 GENERAL REQUIREMENTS

11.1 THE WORKS

The works are as described in this specification and shown on the drawings.

11.2 PERSONNEL

Owner: The person defined as "owner" in the New Zealand Building Code.

Contractor: The person contracted by the owner to carry out the contract.

11.3 THE SITE

The site of the works, the site address and the legal description are listed under PROJECT INFORMATION. Confine access and work to the area of site indicated on the drawings.

11.4 SPECIFICATION SECTIONS

Sections are for reference and convenience only and do not constitute individual trade sections or work elements. Read all sections together and read 11 GENERAL REQUIREMENTS with all other sections.

11.5 INTERPRETATIONS

Required: Required by the documents, or by a statutory authority.

Proprietary: Identifiable by naming the manufacturer, supplier, installer, trade name, brand name, catalogue or reference number.

Approval: Approval in writing.

Direction: Direction in writing.

Notified: Notified in writing.

11.6 INCONSISTENCIES

If there are any inconsistencies, errors or omissions in or between documents, the contractor must seek direction in resolving it. Figured dimensions take precedence over scaled dimensions; drawings to a larger scale take precedence over drawings to a smaller scale and drawings take precedence over specification.

11.7 SUBSTITUTIONS

A substitution may be proposed where specified products are not available, or if substitute products are brought to the attention of and are considered by the owner as equivalent or superior to those specified. Except where a specified product is not available, the owner is not bound to accept any substitutions. Notify proposed substitution of specified products. Include sufficient information to allow the owner to confirm that the substitution is equivalent or superior to that specified.

11.8 THE WORDS "PROVIDE" OR "FIX"

The words "provide" (or "supply") or "fix" if used separately mean "provide and fix" unless explicitly stated otherwise.

11.9 MANUFACTURERS AND SUPPLIERS

Manufacturers and suppliers requirements, instructions, specifications or details are those issued by them for their particular material, product or component and are the latest edition.

11.10 REFERENCED DOCUMENTS

Reference is made to various New Zealand Building Code (NZBC) acceptable solutions and verification methods for criteria and/or methods used to establish compliance with the Building Act 1991. Reference is also made to various Standards produced by Standards New Zealand (NZS, NZMP, AS/NZS) and to listed Acts, Regulations and various industry codes of practice and practice guides. The latest edition (including amendments and provisional editions) at the date of this specification applies unless stated otherwise. Documents cited both directly and within other cited publications are part of this specification.

11.11 PRECEDENCE OF REFERENCED DOCUMENTS

This specification takes precedence in the event of it being at variance with and requiring a higher standard than, the cited documents. Resolution of any variance must be confirmed in writing and where building consent approval is affected, the change notified to the territorial authority.

11.12 BUILDING CONSENT COMPLIANCE

It is an offence under the Building Act 1991 to carry out any work not in accordance with the building consent. Refer the resolution of matters concerning compliance to the owner for a direction. Where building consent approval is affected refer any change to the territorial authority.

11.13 STATUTORY OBLIGATIONS

Comply with all statutory obligations and regulations of regulatory bodies controlling execution of the works.

11.14 BUILDING CONSENT

Obtain the original or copies of the building consent form and documents from the owner and keep on site. Liaise with the territorial authority and/or the building certifier for all required notices and all inspections required during construction to ensure compliance. Return the consent form and documents to the owner on completion.

11.15 INSPECTIONS

Do not proceed with work noted on the Building Consent for inspection until it has been inspected and passed by the territorial authority inspector.

11.16 PRODUCER STATEMENTS

When producer statements verifying construction are required, provide copies to both the territorial authority and the owner. Provide producer statements in the form required by the Building Act 1991.

11.17 TRADE GUARANTEES AND WARRANTIES

Where specific trade guarantees/warranties are offered covering materials and/or execution of proprietary products or complete installations, provide copies of all guarantees/warranties to the owner.

11.18 SITE ACCOMMODATION

Provide, erect and maintain scaffolding, sheds, toilets, water, power and hoardings. Allow for cartage, craneage, plant hire and storage. Arrange for temporary works and services necessary for the completion of the works.

11.19 HEALTH AND SAFETY

Make the works safe and provide and maintain a safe working environment. Ensure that all those working on or visiting the site are aware of the rules governing site safety, are properly supervised and are not unnecessarily exposed to hazards.

11.20 PROTECT THE WORKS

Protect parts of the work liable to damage until completion of the works. Take all precautions necessary to protect the works from damage by unauthorised entry or inclement weather. Brace and support all parts of the works against damage during construction.

11.21 STORAGE AND PROTECTION

Provide temporary storage areas and protective covers and screens. Fillet stack and protect all framing and structural members from moisture and contamination. Completely protect finishing materials from the weather and damage and store in accordance with the manufacturers requirements. Protect fabricated elements from the weather and damage, and store in accordance with suppliers requirements.

11.22 ANTIQUITIES AND ITEMS OF VALUE AND INTEREST

Report immediately the finding of any fossils, antiquities, or objects of value. Ensure they remain undisturbed until approval is given for their removal.

11.23 MEANS OF COMMUNICATION

All directions and approvals in writing.

11.24 PROGRAMME

Provide a programme for the contract works, including the work of separate contractors being carried out concurrent with this contract. Form of programme: A dated bar chart, identifying the contract work's critical path and all key dates for the provision of labour, materials and elements. Supply a copy of the programme, and any updates to the owner.

11.25 WORKING HOURS

Work on site is restricted to 8.00am to 6.00pm, Monday to Friday, excluding statutory holidays. Work outside these hours may be permitted, with prior approval in writing by the owner.

11.26 RESTRICTIONS

Do not:

- smoke on site
- light rubbish fires on the site
- bring dogs on to or near the site
- bring radios/audio players on to the site.

11.27 QUALITY ASSURANCE

Carry out and record regular checks of material quality and accuracy. Provide all necessary materials, equipment, plant, attendances, supervision, inspections and programming to ensure required standards are met.

11.28 DAMAGE AND NUISANCE

Prevent damage and nuisance from water, fire, smoke, vehicles, dust, rubbish, noise and other causes resulting from the contract works. Comply with the requirements of the territorial authority and relevant Acts and Standards.

11.29 SET OUT AND DATUM

Set out the works to conform with the drawings. Establish a permanent site datum to confirm the existing ground floor level and its relationship to other existing and new building levels.

11.30 EXECUTION OF THE WORK

Conform to the requirements of this specification. Ensure work is level, plumb, and true to line and face. Employ only experienced workers familiar with the materials and techniques specified.

11.31 MATERIALS AND PRODUCTS

Use only new materials and products, unless stated otherwise, of the specified quality and complying with cited documents.

11.32 COMPATIBILITY

Ensure all parts of a construction or finish are compatible and their individual use approved by the manufacturers and suppliers of other parts of the system. Source all parts of a system from a single manufacturer or supplier.

11.33 COMPLETE ALL SERVICES

Ensure completed building services are operational, with temporary labelling removed, required labelling fixed and service instructions provided.

11.34 CLEAR AWAY

Regularly clear away trade debris, unused materials and elements from the site. On completion of the work leave the building clean and ready for occupancy, with all services operating and mechanical parts in good working order. Remove temporary markings, coverings and protective wrappings.

11.35 CLEAN

Clean and wash down external surfaces to remove dirt, debris and marking. Clean interior surfaces including floors, glass, cabinetwork, joinery, sanitary and hardware items.

for removal, use on the site, or until completion of the works.

22

PREPARATION

22.1 SITE SAFETY

Provide proper support for excavations. Cover holes and fence off open trenches and banks.

22.2 FILLING MATERIALS

As selected and to the following details:

Hardfill: Scoria or crushed rock to GAP (General All Passing) 40 grading.

- 22.3 EXCAVATION GUIDELINES
Carry out excavation to the guidelines set by the Occupational Safety and Health Service (OSH) publication: "Approved Code of Practice for Safety in Excavation and Shafts for Foundations".
- 22.4 PROTECT EXISTING
Protect from damage existing buildings, structures, roads, paving and services nominated on the drawings as being retained, throughout the course of the work.
- 22.5 PROTECT TREES
Protect from damage all trees, shrubs, natural site features and existing landscaped areas nominated on the drawings as being retained, throughout the course of the work.
- 22.6 SURFACE PREPARATION
Conforming with NZS 3604, section 3.5, remove all turf, vegetation, trees, topsoil, stumps and rubbish from the area being built on.
- 22.7 UNDERGROUND ELEMENTS AND SERVICES
Break out and remove underground elements and redundant services. Report for instructions when unexpected voids, made-up ground or services are encountered. Seal off the ends of drains or remove to territorial authority approval.
- 22.8 STOCKPILE TOPSOIL
Stockpile excavated topsoil on site where directed. Keep separate from other excavated materials. Spread and level where directed before completion of the works.
- 22.9 GENERAL EXCAVATION
Trim ground to required profiles, batters, falls and levels. Remove loose material. Protect cut faces from collapse. Keep excavations free from water.
- 22.10 EXCAVATION FOR FOUNDATIONS
Take foundation excavations to depths shown. Keep trenches plumb and straight, bottoms level and solid, stepped as detailed and clean and free of water.
- 22.11 INADEQUATE BEARING
If bearing is inadequate then excavate further and backfill with material as follows:
Below slabs on grade: Hardfill
Below footings: 10 MPa concrete
Service trenches: Hardfill
If excavation exceeds the required depths, backfill and compact to the correct level with listed material.
- 22.12 GRANULAR BASE FOR SLABS
To NZS 3604, section 7.5.3. Consolidate with a vibrating roller. Blind the surface with coarse sand or sand/cement and roll ready to receive a dampproof membrane.
- 22.13 GENERAL BACKFILLING
Compact backfilling in 150 mm layers, with the last 200 mm in clean topsoil, lightly compacted and neatly finished off.

23 FOUNDATIONS

- 23.3 TIMBER PILES
Corsican pine or radiata pine, to NZS 3604, clause 6.4.3.3. To NZS 3604, section 6.4 for footing and type.
- 23.4 TIMBER SUB-FLOOR FRAMING
Species and grade as selected. Moisture content in service and level of treatment as set out in NZS 3604, section 4.3. Grading in accordance with NZS 3631 and treatment to NZMP 3640.
- 23.5 ACCESSORIES
Nails: Steel, stainless steel and galvanised steel of pattern to NZS 3604, table 6.8 and section 4 - Durability.
Bolts and screws: Steel, stainless steel and galvanised steel to NZS 3604, section 6 and section 4 - Durability.
Nail plates: Stainless steel and galvanised steel toothed or nailed steel plates to the plate manufacturer's design for the particular locations shown on the drawings.
Concrete: For piles, ordinary grade 17.5 MPa to NZS 3604, section 6.4.5.
- 23.6 SHEET DAMPPROOFING
Rubberised bitumen membrane specifically produced for waterproofing applications, possessing high resistance to water, water vapour and gas permeability and resistant to the attack of ground bacteria and ageing effects, joined using proprietary techniques and applied by the use of special adhesives. Thickness not less than 1.5 mm.
- 23.7 BRUSH ON LIQUID-APPLIED MEMBRANE
Fully stable, water-based colloidal bitumen emulsion.
- 23.8 EXECUTION GENERALLY
Comply with NZS 3602 and NZS 3604 except as varied by this specification. Execution to include those methods, practices and processes contained in the unit standards for the National Certificate in Carpentry and the National Certificate in Joinery (cabinetry, exterior joinery, stairs).
- 23.9 EXCAVATIONS
Refer to 22 PREPARATION.
- 23.12 INSTALL ROUND TIMBER PILES
Prepare for and drive timber piles to NZS 3604, section 6.6. Protect pile heads with a suitable cushion.
- 23.13 INSTALL SQUARE TIMBER PILES
Prepare for, place and secure as detailed on the drawings.
- 23.14 INSTALL SUB-FLOOR FRAMING
Frame up off foundation walls and piles, fabricated, fastened and braced to NZS 3604, section 6.

- 23.15 **POURED CONCRETE**
Refer to 31 CONCRETE for poured concrete footings and foundations.
- 23.17 **INSTALL SHEET DAMPPROOFING**
Protect horizontal surfaces for dampproofing with a 50 mm layer of 15 MPa site concrete. Ensure surfaces for dampproofing are free from voids, spalled areas, loose particles and sharp protrusions. Masonry joints struck flush. Apply primer, then install the rubberised bitumen membrane system, strictly in accordance with the dampproofing manufacturer's requirements. Carry out work using applicators licensed by the dampproofing manufacturer. Protect vertical surfaces with polystyrene sheets glued to the membrane and taped over joints.
- 23.18 **INSTALL BRUSH ON LIQUID-APPLIED MEMBRANE**
Three coats of water-based emulsion applied in accordance with the membrane manufacturer's requirements. First coat at the rate of 0.20 litres/square metres, with the second and third coats each at the rate of 0.75/square metre. Protect vertical surfaces with polystyrene sheets before backfilling.

31 CONCRETE

- 31.3 **CONCRETE**
Strength as selected. Ready-mix ordinary grade, maximum aggregate size 19 mm. Site mixed ordinary grade, using either separate batching of sand and coarse aggregate, or builder's mix.
- 31.5 **FALSEWORK AND FORMWORK**
Use falsework and formwork of sufficient strength to retain and support the wet concrete to the required profiles and tolerances. Select formwork finish to produce the specified finished quality.
- 31.10 **SURFACE FINISHES**
To comply with NZS 3114, section 105, or as denoted on the drawings. Formwork linings and surface finishes as nominated for both fair face and concealed or exposed surfaces. Surface tolerances to comply with NZS 3114, sections 104 and clause 105.3.2.
- 31.11 **DAMPPROOF MEMBRANE**
Apply membrane to prepared basecourse with 150 mm laps between sheets. Tape seal laps and penetrations with 50 mm wide pressure sensitive plastic tape. Refer to drawings for perimeter details

34 CARPENTRY

- 34.1 **TIMBER FRAMING GENERALLY**
Species, grade and level of treatment as selected and as set out in NZS 3602. Grading to NZS 3631 and treated to NZMP 3640. Mechanical stress grading acceptable as an alternative to visual grading.
- 34.2 **TIMBER FRAMING DRY, CHEMICAL FREE, MECHANICALLY STRESS GRADED**
Species, grade and moisture content in service as selected and as set out in NZS 3602. All structural timber graded SG8, with an average moisture content at supply of 16% or less.
- 34.3 **TIMBER FRAMING DRY, TREATED**
Species, grade and moisture content in service as selected and as set out in NZS 3602. Treated H1.2 minimum to NZMP 3640, with an average moisture content at supply of 16% or less. All structural timber to be graded SG8.
- 34.4 **FLOORING**
As selected and to the following details:
Particle board: Flooring grade high density resin bonded.
- 34.5 **FINISHING TIMBER**
As selected.
- 34.6 **INSULATION**
As selected.
- 34.7 **ACCESSORIES**
Building wrap: Breather type, waterproof.
Damp proof course: 2-ply/3-ply kraft felt strip saturated and coated with bitumen.
Nails, bolts and screws: Steel, stainless steel, galvanised steel of pattern to suit the location and to BRANZ Bulletin 328 "Selection and use of fasteners". To NZS 3604, section 4 for durability.
Nail plates connectors: Stainless steel and/or galvanised steel toothed or nailed plates to the plate manufacturer's design for the particular locations as shown on the drawings and to NZS 3604, section 4 for durability. Galvanised steel and stainless steel connectors and brackets to the connector manufacturer's design for locations shown on drawings and to NZS 3604, section 4 for durability.
- 34.8 **ATTENDANCE**
Provide and fix blocks, nogs, openings and other items as required by others.
- 34.9 **MOISTURE CONTENT**
Maximum allowable moisture content in accordance with NZS 3602 for framing supporting interior linings:
- Framing at erection 24%
- Framing at enclosure 20%
- Framing at lining 16%
- 34.10 **EXECUTION GENERALLY**
To NZS 3604 except as varied in this specification. To include those methods, practices and processes contained in the unit standards for the National Certificate in Carpentry and the National Certificate in Joinery (cabinetry, exterior joinery, stairs). Set out framing in accordance with the requirements of NZS 3604 and as required to support sheet linings and claddings.

- 34.12 **INSTALL FLOOR, WALL AND ROOF FRAMING**
Floors framed and fastened to NZS 3604, section 7. Frame walls to required loading and bracing complete with lintels, sills and nogs, all fabricated and fastened to NZS 3604, section 8. Frame roof to required loading and bracing complete with ridge boards and purlins.
- 34.13 **INSTALL BATTENS**
Fabricate and fasten wall battens to suit the selected wall cladding. Fasten ceiling battens in accordance with NZS 3604, section 13.
- 34.15 **INSTALL INSULATION**
Fit insulation as detailed, to the insulation manufacturer's requirements, and to the requirements of BRANZ Bulletin 357 "Thermal insulation of houses".
- 34.16 **LAY PARTICLE BOARD FLOORING**
Fasten to the flooring manufacturer's requirements and NZS 3604, section 7.2.3. Punch nails, fill holes, then sand with one coarse and one fine paper, hand sanding into corners.

41 WALL CLADDING

- 41.3 **TIMBER SHIPLAP WEATHERBOARD**
As selected, or radiata pine to NZS 3631 for grading, NZS 3602 for selection and NZMP 3640 for treatment.
- 41.6 **TIMBER FASCIAS AND BARGE BOARDS**
As selected, or radiata pine to NZS 3631 for grading, NZS 3602 for selection and NZMP 3640 for treatment.
- 41.7 **EXTERIOR FINISHING TIMBER**
As selected.
- 41.8 **ACCESSORIES**
As selected and to the following details:
Building wrap: Breather type, waterproof.
Nails, screws, fastenings: Metal, size and pattern, to cladding manufacturer's requirements and complying with the relevant aspects of NZS 3604, section 4: Durability.
- 41.9 **METAL FLASHINGS**
As selected.
- 41.10 **MOISTURE CONTENT**
Maximum allowable moisture content in accordance with NZS 3602.
- 41.11 **EXECUTION GENERALLY**
To NZS 3604 except as varied in this specification. Execution to include those methods, practices and processes contained in the unit standards for the National Certificate in Carpentry and the National Certificate in Joinery (cabinetry, exterior joinery, stairs).
- 41.12 **INSTALL WALL WRAP**
Fix wall wrap as detailed and to the cladding manufacturer's requirements.
- 41.15 **PRIME OR SEAL**
Prime (for opaque finish) or seal (for clear finish) front and back faces, edges and end grain (minimum 2 coats) before fixing weatherboards and exterior trim.
- 41.16 **INSTALL TIMBER SHIPLAP WEATHERBOARDS**
Install level, true to line and face, to NZBC acceptable solution E2/AS1, 2.1, and to NZS 3604, section 11.5.2. Refer to NZS 3604 for fixings durability requirements and to BRANZ Bulletin 407 "Walls on exposed sites" for specific provisions.
- 41.19 **INSTALL EXTERIOR TIMBER FINISHINGS**
Install timber fascias, barge boards, facings, beads, trim and enclosures level, true to line and face, with all end grain sealed and joints mitred.
- 41.20 **INSTALL FLASHINGS**
Install flashings, covers and soakers as detailed on the drawings and to BRANZ Bulletins 304 "Flashing design" and 305 "Domestic flashing installation".
- 41.21 **USE OF SEALANTS**
Selection and use of sealants to follow BRANZ Bulletin 284 "Sealed joints in external claddings - 2. Sealants".
- 41.22 **COMPLETE**
Complete all flashings, finishings and trim so the cladding system is completely weathertight.

42 ROOFING

- 42.1 **QUALIFICATIONS**
Use experienced, competent roofers familiar with the materials and techniques specified.
- 42.2 **WIND AND EARTHQUAKE LOADINGS**
Use fixings and methods capable of sustaining the loads appropriate to the area as set out in NZS 3604, section 5 and confirmed under COMPLIANCE INFORMATION.
- 42.3 **PROFILED METAL**
Profile, metal and finish as selected. Accessories, cappings, flashings and fixings to match and to the roofing manufacturer's requirements.
- 42.6 **ACCESSORIES**
Roof underlays: As selected.
Nails, screws, fastenings: Metal, size and pattern, to roofing manufacturer's requirements and complying with the relevant aspects of NZS 3604, section 4: Durability.
Flashings: As selected.

- 42.7 **STORAGE**
Stack roofing and accessories on clean, level areas of the site. Cover and protect from damage and from weather until ready to fix in place.
- 42.8 **SET OUT**
Set out the planned layout before fixing commences, to ensure true lines and the correct relationship to module, grid and roof features. Overlaps to face away from prevailing wind direction.
- 42.9 **LAY ROOF UNDERLAY**
Lay and fix to NZBC acceptable solution E2/AS1, NZS 3604, section 11.2.2.
- 42.10 **TAKE CARE**
Take care to avoid damaging pre-finished roofing both during and after fixing. Mark only with chalk or spirit-based pen. Wear only soft-soled shoes on the finished surface. Remove metal filings daily.
- 42.11 **INSTALL PROFILED METAL**
Use cutting tools recommended by the roofing manufacturer. Fold ends and seal cut edges to the roofing manufacturer's requirements. Fix complete with matching accessories, flashed to roof features and penetrations; all in accordance with the New Zealand Metal Roofing and Cladding Manufacturers' Association Inc. publication "Profiled metal roofing design and installation handbook".
- 42.15 **INSTALL SKYLIGHTS**
Check that the trimmed openings are formed and constructed to suit. Install and fix roof lights/skylights in accordance with the manufacturer's installation instructions. Install flashings and overflashings as detailed and as required to make the installation completely weatherproof. Install selected accessories and hardware. Install and complete operating systems.
- 42.16 **FIXINGS AND SEALANTS**
Refer to the roofing manufacturer's literature for fixing details and to NZS 3604 for fixings durability requirements. Select and use sealants only as recommended by the roofing manufacturer.
- 42.17 **INSTALL COVERS AND FLASHINGS**
Provide apron, verge and ridge flashings. Install and fix as detailed and to the roofing manufacturer's details and to comply with NZBC acceptable solution E2/AS1, 1.0.
- 42.18 **PENETRATIONS**
Flash and overflash penetrations through the roof. Fit proprietary boots to pipework penetrations.
- 42.19 **COMPLETE**
Ensure the work is complete with flashings, undercloaks, valleys, ridges and hips properly installed so the finished roof is completely weathertight.
- 42.20 **CLEAR**
Clear trade debris and unused materials from the roof and surrounds regularly during the work and at completion. Sweep down the completed roof and flush out spoutings, gutters and rainwater pipes.

44 **TIMBER DOORS**

Refer to PROJECT SELECTIONS for specific product, material, accessories and finish selections.

- 44.1 **COMPLIANCE**
External frames, sashes and doors to comply with the performance requirements of NZS 4211 and the listed site data.
- 44.2 **TIMBER**
As selected and to NZS 3602.
- 44.4 **DOORS GENERALLY**
As selected.
- 44.7 **INTERIOR CAVITY SLIDERS**
Hollow core door within a proprietary cavity slider frame, with brand-matched sliding door gear.
- 44.9 **DOOR HINGES**
Size and gauge to carry door size and weight. 3 hinges per door.
Interior doors
Type: loose pin
Size: 89 mm
Material: zinc-plated steel
Pin: loose-pin zinc-plated steel
- 44.12 **DOOR HARDWARE**
Standard Fraemohs hardware..
- 44.13 **FLASHINGS**
As selected or as detailed.
- 44.14 **CONFIRM OPENINGS**
Obtain confirmation of all framing openings on site for dimension, plumb and straightness prior to fabrication or ordering of timber joinery.
- 44.15 **EXECUTION GENERALLY**
To include those methods, practices and processes contained in the unit standards for the National Certificate in Carpentry and the National Certificate in Joinery (cabinetry, exterior joinery, stairs).
- 44.19 **INTERNAL DOOR FRAMES, SOLID REBATED**
Fabricate as detailed. Hang doors to operate freely on hinges, sliding, or bi-fold gear and to the door manufacturer's requirements.
- 44.20 **INTERNAL DOOR LINERS**
Heads and jambs finished minimum 18 mm, with 10 mm planted door stops. Width to match width of lined walls. Hang doors on hinges, sliding, or sliding-folding gear to the door manufacturer's requirements and to operate freely.

- 44.22 INTERNAL CAVITY SLIDERS
Install in accordance with the door manufacturer's requirements.
- 44.23 FIT HARDWARE
Fit hardware selected and provided, all in accordance with the hardware manufacturer's requirements.
- 44.24 CHECK
Check and adjust operation of doors sets, hardware and furniture.

45

ALUMINIUM WINDOWS AND DOORS

- 45.1 CERTIFICATION
Provide a certificate from a laboratory accredited by International Accreditation of New Zealand that the windows and doors offered comply with the performance requirements of NZS 4211 and the listed project site data. Fabrication by a member of the Window Association of New Zealand.
- 45.2 WINDOWS AND DOORS
Brand, finish and type as selected.
- 45.3 WINDOW AND DOOR REVEALS
As selected.
- 45.4 GLASS
As selected, with glass details to 45 GLAZING and complying with NZS 4223.
- 45.5 FLASHINGS
As selected.
- 45.6 ORGANIC POWDER COATING FINISH
To the Window Association of New Zealand's "Specification for powder coatings on architectural aluminium products". All finished surfaces to show uniformity of gloss and colour (to match sample) free of all coating defects.
- 45.7 HARDWARE
As selected.
- 45.8 SEALANT, GLAZING TAPE AND GASKETS
To the window manufacturer's requirements.
- 45.9 FIXINGS
Ensure fixings and bracketing are compatible with aluminium. Do not use electroplated zinc fasteners or brass fastenings.
- 45.10 CONFIRM OPENINGS
Obtain confirmation of all framing openings on site for dimension, plumb and straightness prior to fabrication or ordering of timber joinery.
- 45.11 EXECUTION GENERALLY
In accordance with the requirements of NZS 4211 and the Window Association of New Zealand's "Aluminium Window Handbook" and "Installation code for aluminium joinery products".
- 45.12 HANDLING
Avoid distortion of elements during transit, handling and storage. Prevent pre-finished surfaces from rubbing together. Prevent contact with mud, plaster and cement. Do not deliver to site any elements which cannot be immediately unloaded into suitable conditions of storage.
- 45.13 CORROSION PROTECTION
Seal or suitably coat cut ends and holes drilled in aluminium before the frames are installed. Before fixing, apply bituminous coatings, slips or underlays between dissimilar metals in contact, or aluminium in contact with concrete.
- 45.14 FIX FRAMES
Fix frames rigidly in place without distortion, to the window manufacturer's and the Window Association of New Zealand's "Aluminium Window Handbook" requirements, plumb, true to line and face, weathertight and with all openings operating freely.
- 45.15 DRAINAGE
Anti-condensation channels to sills. All sills to sashes and fixed lights to incorporate positive drainage to the exterior.
- 45.16 GLAZING INSTALLATION
All glass held in aluminium beads and black PVC gaskets.
- 45.17 SAFETY GLASS INSTALLATION
Use in doors, sidelight panels, low level windows and all other locations to comply with NZS 4223, part 3, as modified by NZBC acceptable solution F2/AS1.
- 45.18 INSTALL FLASHINGS
Install flashings to heads, jambs and sills of frames as supplied and required by the window manufacturer and as detailed on the drawings. Finish on head flashings to match window finish.
- 45.19 SEAL FRAMES ON SITE
Seal frames to each other and to adjoining structure and finishes, all as required by the window manufacturer and to make the installation weathertight.
- 45.20 SAFETY
Indicate the presence of transparent glasses for the remainder of the contract period, with whiting, tape or signs compatible with the glass type. Indicators other than whiting must not be applied to the glass surface. Permanent manifestations to comply with NZS 4223, part 3, 303.1.
- 45.21 CLEAN GLASS AND FRAMES
Clean off or remove glass indicators at completion of the building. Clean glass inside and out to a shining finish. Clean down both sides of window and door frames using the methods required by the window and door manufacturer.

- 46.1 GLAZING TAPE
Pressure sensitive, self-adhesive vinyl foam tapes, selected to suit the glazing detail.
- 46.2 GLASS THICKNESS
As selected and to NZS 4223, parts 1 and 3.
- 46.3 FLOAT GLASS
To NZS 4223, part 1, clause 101.2.2.2: Glazing quality (selection G). Thickness as required by NZS 4223, part 1.
- 46.4 PATTERNED GLASS
Translucent, annealed, rolled glass with a decorative pattern on one surface.
- 46.6 TOUGHENED GLASS
Grade A safety glazing material.
- 46.9 SETTING BLOCKS
Neoprene, 80-90 Shore A hardness, set at quarter points or to detail, at the base of glass panes.
- 46.13 EXECUTION GENERALLY
To NZS 4223, part 1, and for human impact safety glazing to NZS 4223, part 3.
- 46.17 SAFETY GLASS INSTALLATION
Use in doors, sidelight panels, low level windows and all other locations to comply with NZS 4223, part 3, as modified by NZBC acceptable solution F2/AS1.
- 46.23 SAFETY
Indicate the presence of transparent glasses, with whiting, tape or signs compatible with the glass type. Do not apply indicators other than whiting to the glass surface. Permanent manifestations to comply with NZS 4223, part 3, 303.1.
- 46.24 CLEAN
Clean off or remove indicators at completion of the building. Clean glass inside and out to a shining finish.

51

INTERNAL LININGS

- 51.1 FRAMING MOISTURE CONTENT
Maximum allowable moisture content in accordance with NZS 3602.
- 51.2 PROTECT
Protect joinery, fittings and finishes already in place from water staining or damage from lining installation. Ensure building is weatherproof before lining work commences.
- 51.3 PLASTERBOARD
As selected. Gypsum plaster core encased in a durable face and backing paper formed for standard use, bracing use, fire rated use and water resistance use.
- 51.5 PLASTERBOARD ACCESSORIES
External angles: Slim type 0.5 mm galvanised steel.
Casing bead: Slim type 0.5 mm galvanised steel or PVC.
Nails: Galvanised clouts 40 mm x 2.5 mm.
Screws: 40 mm x 6 gauge zinc electro-plated bugle head gypsum drywall screws
Jointing compound and paper tape: To the board manufacturer's requirements.
Adhesive: Multi-purpose water based wallboard adhesive.
- 51.9 MEDIUM DENSITY FIBREBOARD
Medium density fibreboard resin bonded. Finish: as selected.
- 51.11 NAILS
Zinc-plated steel, stainless steel and galvanised steel of pattern to suit location and to BRANZ Bulletin 328 "Selection and use of fasteners".
- 51.12 INTERIOR FINISHING TRIM
Timber selection to NZS 3602. Profile as detailed, or to match existing. Jointer profiles to suit location.
- 51.13 SUBSTRATE
To NZS 3604, sections 8, 10, 12, 13 and the standard required by the lining manufacturer's requirements. Ensure moisture content of timber framing is at or below specified levels.
- 51.14 CONFIRM LEVELS OF FINISH
Before commencing work, confirm the surface finish assessment procedures necessary to ensure the specified levels of finish will be obtained. Provide levels of finish as laid down in AS/NZS 2589.1.
- 51.15 LINE PLASTERBOARD CEILINGS AND WALLS
Line ceilings with plasterboard sheets, fastened to the plasterboard manufacturer's requirements. Line walls that are up to 2400 mm high by the horizontal method and walls above 2400 mm high by the vertical method, with plasterboard sheets.
- 51.16 SPECIAL PLASTERBOARD LININGS
Line wet area walls with water resistant plasterboard sheets using adhesive and nail fixing to studs at centres to suit the surface finish. Form bracing panels using high density plasterboard sheets fixed with clout-washers and clouts and to conform with NZS 3604, sections 5.8 and 13.5.
- 51.17 FIX PLASTERBOARD EXTERNAL ANGLES
Fix full length to external corners, with clouts at 100 mm each side staggered.
- 51.19 PLASTERBOARD JOINTING AND STOPPING
Fill joint recess with bedding compound, centre the paper tape, apply second coat of bedding compound followed by a coat of finishing compound. Allow to dry and lightly sand off. Fill nail holes and flush up external angles with two successive coats of bedding compound followed by a coat of finishing compound. Allow to dry and lightly sand off. All to the plasterboard manufacturer's requirements.

- 51.20 LEVELS OF FINISH
Provide levels of finish to standards laid down by AS/NZS 2589.1 as follows:
Level 4: surfaces receiving light texture or wall covering finishes
Level 5: surfaces receiving thin coating finishes.
51.22 INSTALL WOOD PRODUCT LININGS
Fix to timber framing to detail and to the panel manufacturer's requirements.
51.24 INSTALL TRIM
Scribe and fit reveal linings to exterior timber joinery, architraves to interior joinery, skirtings to walls and timber beads to wall/ceiling junctions.

52 FITTINGS

Refer to PROJECT SELECTIONS for specific product, material, accessories and finish selections.

- 52.2 STAIRCASE ELEMENTS
As selected and to NZS 3602.
- 52.5 MEDIUM DENSITY FIBRE BOARD
Urea-formaldehyde resin bonded wood fibre sheet. Printed finish: a dry stamping foil of polyester film with barrier and adhesive layers impregnated with a decorated photogravure print. Melamine veneer: veneered both sides with melamine sheet. Wood veneer: veneered with selected wood veneer.
- 52.6 BACKING BOARD
Urea-formaldehyde resin bonded very fine wood fibre sheet. Maximum thickness 6 mm. Prefinished: veneered one side with melamine sheet.
- 52.7 BENCHTOPS
Construction as detailed on the drawings. Finish as selected.
- 52.8 HARDWARE
Carcase connectors: One-piece steel, straight deep-cut thread, fibre board screws with press fit plastic trim cap.
Carcase fasteners: Knock down type centric sphere zinc alloy connectors with connecting bolts, sleeves and dowels, to suit each particular fastening location.
Hinges: Butt, broad butt, flush butt or overlay, steel, zinc-plated steel, stainless steel, or brass, to suit the location, or as detailed.
Concealed hinges: All-metal zinc alloy, automatic spring and screw-fixed. Plastic button stops.
Drawer runners: Groove mounting type, precision running ball-mounted single-stage extension, bright steel finish system.
- 52.9 GLUES AND ADHESIVES
As approved by the manufacturer for the timber, timber product, or pre-finished timber product joint.
- 52.11 EXECUTION GENERALLY
To include those methods, practices and processes contained in the current syllabus for the National Certificate in Carpentry and the National Certificate in Joinery (cabinetry, exterior joinery, stairs).
- 52.12 TRANSIT AND DELIVERY
Load, transport and unload fittings without distortion or damage and keep covered to protect from the weather. Do not deliver fittings until floor, wall and ceiling surfaces are in place and the fittings can be placed in their final location.
- 52.13 FABRICATION QUALITY
Check site dimensions. Carry out machining within the practices required for the particular timber or wood product being used. Machine drill and cut holes and recesses and form joints to the componentry manufacturer's requirements. Work accurate, square and true to line and face.
- 52.14 FABRICATE JOINERY FITTINGS
Carry out jointing, dowelling and other operations necessary for the proper assembly of the fittings as detailed, with fixings concealed unless otherwise detailed. Use glue joints where provision for shrinkage is not required, with contact surfaces, glueing and pressure all applied to the glue manufacturer's requirements. Locate and drive connectors and fasteners to the bolt manufacturer's requirements. Scribe fit adjustable shelves with 4 shelf pins and locate force fit pin holes at 50 mm maximum centres in solid cheeks. Hang doors on concealed hinges.
- 52.15 FABRICATE DRAWERS
Construct drawers as detailed, using proprietary metal section drawer runners. Fit drawers with 3 mm clearance into the drawer space.
- 52.16 INSTALL JOINERY FITTINGS
Scribe fit on site and install level, square, plumb and true to line and face.
- 52.17 FABRICATE TIMBER STAIRS
To comply with NZBC acceptable solution D1/AS1, 4.0. Closed type, unless detailed otherwise. Ex 50 mm strings, with ex 50 mm treads housed into ex 25 mm risers. House and wedge treads and risers 15 mm into strings, all glued, wedged and blocked. Form nosing overhangs of 25 mm by splaying risers forward to finish flush with the front of the treads. Fabricate and install the handrails and balustrading as detailed, complete with associated metal componentry and hardware.
- 52.18 LINEN CUPBOARD
Fit out with 4 full depth 19 mm x 70 mm timber slat shelves on ex 25 mm scotia bead along ends. Shelf heights to be at 500mm crs starting with the first shelf at 500mm. Allow for access to hot water cylinder
- 52.19 WARDROBES
Fit out with 300 mm wide melamine faced board shelf, on ex 25 mm scotia bead to back and ends. Exposed edges clashed to match. Fit a selected white powder-coated aluminium coat rail to the front edge of the shelf. Shelf heights at 1600mm crs

- 63.1 **QUALIFICATIONS**
Carry out work using competent and experienced painters.
- 63.2 **HEALTH AND SAFETY**
Refer to the requirements of the Health and Safety in Employment Act 1992 and if elimination or isolation is not possible, then minimise the hazards in this work. Refer to BRANZ Bulletin 314 "Removing paint coatings from houses" for the required procedures and precautions when treating or removing lead based paint, burning or sanding off paint, or using solvent based paint removers.
- 63.3 **PAINT**
As selected and to the paint manufacturer's standards for exterior and/or interior primers, undercoats, sealers, stains, clear coatings, solvent-borne and water-borne paints.
- 63.4 **GAP FILLERS**
Linseed oil, putty, plastic wood, wood filler or plastic filler, to suit and to match the surface being prepared.
- 63.5 **INSPECT SURFACES**
Inspect surfaces being painted and report to the owner any that will not, after the preparatory work laid down by the paint manufacturer, allow work of the required standard. Confirm that all areas have adequate lighting and are sufficiently free of other construction activities to enable painting and/or paperhanging work to proceed.
- 63.6 **PROTECT**
Cover up adjoining surfaces and areas liable to damage or over-painting.
- 63.7 **REMOVE HARDWARE**
Remove hardware and door/window furniture and replace on completion. Do not paint over permanently attached hinges, or any hardware items which cannot be removed.
- 63.8 **PRIMING AND SEALING**
Ensure that priming and sealing work needed before or during construction is carried out when required.
- 63.9 **ENVIRONMENTAL CONDITIONS**
Carry out work within acceptable temperature and humidity limits, with timber dry, all to the requirements of the paint manufacturer.
- 63.10 **SELECTIONS**
Confirm all selections, colours and finishes for paint with the owner.
- 63.11 **SHARP EDGES, CRACKS AND HOLES**
Repair as required by the paint manufacturer.
- 63.12 **PREPARE SURFACES**
Prepare surfaces as required by the paint manufacturer. Make good all damage and defects.
- 63.13 **PAINT APPLICATION**
Apply paint by brush and/or roller to suit the location of the coating and to the paint manufacturer's requirements. Do not spray on site without express permission.
- 63.14 **MANUFACTURER'S MANUALS**
Refer to the paint manufacturers' manuals and follow their preparation, sequence and application requirements applying to each system. Ensure all paint coats in any system are supplied by the same manufacturer.
- 63.15 **SCUFF BETWEEN COATS**
Scuff between all coats to remove any dust pick-up, protruding fibres and coarse particles.
- 63.16 **FINISHED PAINT SURFACES**
Finished paint surfaces to show uniformity of gloss and colour, with the correct thickness for each coat, and freedom from painting defects. Ensure finished work is clean and free of any disfigurement.
- 63.19 **CLEAN**
Clean adjoining surfaces, glass and fittings of any paint contamination.
- 63.20 **REPLACE**
Replace hardware without damage to the hardware or the adjoining surfaces.

71

WATER

- 71.1 **QUALIFICATIONS**
Carry out work by or under the direct supervision of a person registered under the Plumbers, Gasfitters and Drainlayers Act ~~1976~~ ²⁰⁰⁶.
- 71.2 **COPPER WATER PIPE**
As selected.
- 71.3 **POLYBUTYLENE WATER PIPE**
Polybutylene tubing complete with fittings and accessories brand-matched.
- 71.4 **POLYETHYLENE WATER PIPE**
Proprietary high-density cross-linked polyethylene composite pipe and fittings.
- 71.5 **INSULATION FOR HOT WATER PIPES**
As selected.
- 71.6 **EXPOSED PIPES**
As selected and to the following details:
- chrome plated copper pipe with chrome plated brass nuts and fittings
- white polyethylene composite pipe with white nuts and accessories
- pipework finish to include escutcheon plates and bends and elbows protruding from walls or fittings.
- 71.7 **GATE VALVES**
De-zincified brass with screwed ends.

- 71.8 ELECTRIC HOT WATER CYLINDER, MAINS PRESSURE
Ceramic-coated steel thermal storage cylinder, insulated and complete with fittings required for installation by the manufacturer.
- 71.12 ELECTROLYTIC ACTION
Avoid electrolytic action by eliminating contact or continuity of water between dissimilar metals.
- 71.13 EXECUTION GENERALLY
Generally carry out the whole of this work and tests to NZBC acceptable solution G12/AS1.
- 71.14 INSTALL COPPER WATER SUPPLY
Size the piping layout to eliminate loss of pressure at any point by simultaneous draw-off. Run pipes in straight runs, firmly fixed to falls, with long radius bends and jointed by brazing or with crox fittings, all to NZBC acceptable solution G12/AS1. Conceal piping, insulate hot water pipework and pressure test before the wall linings are fixed.
- 71.15 INSTALL POLYBUTYLENE/POLYETHYLENE WATER SUPPLY
Size the piping layout to eliminate loss of pressure at any point by simultaneous draw-off. Run pipes complete with all fittings, support and fixing, and jointed to the pipe manufacturer's specifications, all to NZBC acceptable solution G12/AS1. Conceal pipework and pressure test before wall linings are fixed.
- 71.16 OUTLET LOCATIONS
Ensure wall outlets for exposed pipes are level and centred on the fixture to ensure the neat installation of exposed pipework.
- 71.17 INSTALL HOT WATER PIPE INSULATION
Insulate hot water pipes in accordance with the insulation manufacturer's instructions. Cut insulation sections tight between timber framing and tight between the webs of steel studs. Where hair felt is used, wrap around pipes in two layers in opposite directions and secure with galvanised steel wire ties.
- 71.18 INSTALL ELECTRIC HOT WATER CYLINDERS
Install where shown complete with all the necessary fittings to the cylinder manufacturer's requirements and in accordance with NZBC acceptable solution G12/AS1, 4.10.
- 71.19 PENETRATIONS
Provide and fit collars and escutcheon plates to match pipework at penetrations through constructions.
- 71.20 INSTALL TAPS AND FAUCETS
Install taps and faucets in accordance with the tap manufacturer's requirements. Flush out on completion. Check that washers or ceramic discs are operating correctly.
- 71.21 COMPLETION
Pressure test to ensure no leakage and leave in proper working order. Clean tapware and fittings.

73 RAINWATER SYSTEM

- 73.7 ALUMINIUM/ZINC ALLOY COATED PRE-PAINTED STEEL SPOUTING
Profile, jointing, brackets and fittings brand matched and complete to the spouting manufacturer's specifications.
- 73.8 ALUMINIUM/ZINC ALLOY COATED PRE-PAINTED STEEL DOWNPIPES
Seam jointed and complete with stand-off brackets, galvanised screw fixed.
- 73.13 FLASHINGS GENERALLY
Aluminium/zinc coated steel, copperised pure lead, 0.5 mm copper sheet, or proprietary rubberised perforated aluminium strip, all to location, compatibility and design requirements of BRANZ Bulletin 304 "Flashing design".
- 73.14 ACCESSORIES
Domes: Wire mesh in round form with legs to clip inside the outlet opening to the downpipe
Sealants: As selected.
- 73.15 ELECTROLYTIC ACTION
Avoid electrolytic action by eliminating contact or continuity of water between dissimilar metals.
- 73.16 LIAISON
Ensure liaison with associated installations to ensure material selections are compatible and required flashing work is completed.
- 73.19 INSTALL ALUMINIUM/ZINC ALLOY COATED STEEL PRE-PAINTED SPOUTING AND DOWNPIPES
Screw fix brackets, set to falls to outlets, with spouting joints silicone sealed and pop-riveted to the spouting manufacturer's requirements. Screw fix stand off brackets, set pipes plumb and clear of the wall, with joints silicone sealed. Discharge into stormwater bends.
- 73.21 INSTALL FLASHINGS
Scribe fit, fold, lap, seam, or run solder as required by the metal, to flash all roof penetrations, roofing and exterior joinery to prevent weather penetration. Except at expansion joints, allow for 2 rows of rivets to overlapping sheet joints. Install and fix flashings and flashing joints to the criteria stated in BRANZ Bulletins 304 "Flashing design" and 305 "Domestic flashing installation".
- 73.22 INSTALL DOMES
Install wire mesh domes at the top of downpipes.
- 73.24 ENSURE
Ensure rainwater services are operational, flashings complete and the building weathertight.

74.1 QUALIFICATIONS

Carry out work by or under the direct supervision of a person registered under the Plumbers, Gasfitters and Drainlayers Act 1976. **2006**

74.3 UPVC WASTE, SOIL AND VENT PIPES

UPVC pipe, complete with fittings brand-matched to the pipe manufacturer's requirements.

74.4 EXPOSED PIPES AND TRAPS

As selected and to the following details:

- chrome plate on copper pipes and associated copper and brass fittings
- white polybutylene or PVC, including all associated fittings.

74.5 SANITARY FIXTURES

As selected.

74.6 SANITARY ACCESSORIES

As selected.

74.7 EXECUTION GENERALLY

Carry out this work and complete all tests to AS/NZS 3500.2.2.

74.8 ELECTROLYTIC ACTION

Avoid electrolytic action by eliminating actual contact or continuity of water between dissimilar metals.

74.9 INSTALL SANITARY FIXTURES

Fit and install sanitary fixtures and associated screens, elements and hardware, plumb, true to line and rigid, to the fixture manufacturer's requirements. Supply standard chrome plated brass wastes and plastic plugs on chrome plated chains with all basins, tubs and baths.

74.10 INSTALL TRAPS, WASTE AND VENT PIPES

Connect waste outlets to traps and run waste pipes and back vents concealed, sized and fixed to AS/NZS 3500.2.2. Discharge wastes into the drainage system stack, soil pipe, or gully trap as shown. Bird proof mesh to roof vents and vermin proof mesh to untrapped waste pipes.

74.11 PENETRATIONS

At penetrations through constructions provide and fit collars and escutcheon plates to match pipework.

74.12 INSTALL SANITARY ACCESSORIES

Install the selected sanitary accessories.

74.13 TEST

Test soil and waste disposal systems to ensure no leakage exists and leave in working order.

74.14 ENSURE

Ensure all sanitary plumbing fittings and pipework are complete and operational.

75

DRAINAGE

75.1 QUALIFICATIONS

Carry out work by or under the direct supervision of a person registered under the Plumbers, Gasfitters and Drainlayers Act 1976. **2006**

75.2 MATERIALS

- Concrete: 17.5 MPa ordinary grade.
- Reinforcement: Grade 300 deformed bars.
- Ceramic pipes: As selected.
- uPVC pipes: uPVC pipes bends, junctions, fittings and joints.

Drainage/filling materials

Granular fill: Clean gravel or crushed stone or a blend of these. Particle size from minimum 7 mm to maximum 20 mm.

Selected fill: Fine grain soil or granular material suitable for bedding, excluding topsoil.

Ordinary fill: Top soil or other excavated materials.

75.3 FITTINGS

Gully traps: To NZBC acceptable solution G13/AS2, 3.3, complete with grating.

75.4 EXCAVATE

Excavate for drains to a firm even base with correct gradients set in straight runs.

75.5 MANUFACTURER'S REQUIREMENTS

All drainage installations to the pipe and fitting manufacturer's requirements.

75.6 EXCAVATION GENERALLY

Carry out drainage work to AS/NZS 3500.2.2 (foul water) and AS/NZS 3500.3.2 (stormwater) as modified by NZBC acceptable solution B1/AS1, 6.0.

75.7 LAY FOUL WATER DRAINS

Lay drains in straight runs to correct gradients, to discharge into the ~~network utility operators sewer~~ **SEPTIC TANK SYSTEM**. Set inspection fittings on a concrete base.

75.8 INSTALL GULLY TRAPS

Set on concrete 50 mm above surrounding ground or paving and brought up to protect the top of the fitting. Trowel off.

75.9 LAY STORMWATER DRAINS

Confirm the required location of downpipes and finished ground levels before commencing pipework. Set downpipe bends in concrete brought up to protect the top of the bend from damage. Lay drains in straight runs to correct gradients to discharge into the ~~soak pit as indicated on the site plan~~.

WATERCOURSE ON SITE

- 75.14 CONCRETE ENCASEMENT
Concrete encase shallow drains and drains under driveways, on a 100 mm deep 17.5 MPa concrete bed reinforced with three 10 mm mild steel bars. Surround pipes with a polythene membrane to allow movement and encase in 100 mm 17.5 MPa concrete.
- 75.15 FIELD TEST
Field test drains for watertightness to the satisfaction of the territorial authority inspector.
- 75.16 BACKFILL
Backfill drain lines in 150 mm layers, well tamped but without disturbing the drains. Finish off with 150 mm of topsoil, slightly mounded above the finished ground line.
- 75.17 AS-BUILT DRAWINGS
Supply a 1:100 as-built drawing to the territorial authority and the owner on completion.

76 ELECTRICAL

- 76.1 COMPLY
Comply with the Electricity Regulations 1997, NZS 3000 and the New Zealand Electrical Codes of Practice for listed and prescribed work and with the utility network operator's requirements. Apply for the service connection. Arrange for the required inspections of listed work. Pay all fees.
- 76.2 QUALIFICATIONS
Carry out work by or under the direct supervision of a holder of a practising certificate under the Electricity Regulations 1997.
- 76.3 CERTIFICATE OF COMPLIANCE
Supply a certificate of compliance to the owner, as required by the Electricity Regulations 1997. Allow the network utility operator to view before the meter installation, listed work inspection, polarity check and liveness of supply.
- 76.4 DISTRIBUTION BOARD / SUB BOARD
Proprietary manufactured, zinc plated powder coated, or heavy duty plastic, fire resistant enclosed construction, complete with neutral and earth busbars, MCB's and main switch. All protective devices: 6kA MCB's of the appropriate rating. Fit to board manufacturer's requirements where detailed. Recess into wall and ensure fire containment properties of the enclosure is maintained.
- 76.5 CABLES
Tough plastic sheathed copper conductors. Minimum sizes are indicated below. Increase these as necessary due to method of installation, cable length or load.
Lighting circuits: 1.5 mm² on 16 amp MCBs.
Power circuits (domestic): 1.5 mm² on 16 amp MCBs.
Power circuits (domestic - insulated construction): 2.5 mm² on 16 amp MCBs.
- 76.6 ELECTRICAL ACCESSORIES
As selected and to the following details:
Wall boxes: Standard size in plastic, with 2 or more gang size in metal, all screw fixed.
Switch units: 16 amp, 230 volt flush polycarbonate units. For number of switches per unit, dimmer units, neon (indicator or toggle) units, locator units and 2-way units refer to the electrical drawings.
Hot water system switch: One way 20 amp switch complete with clamp for flexible PVC conduit.
Switched socket units: 10 amp, 230 volt flush polycarbonate 3 pin combined switch units.
Shaver/earth leakage protected socket outlets: Earth leakage protected 110/230 volt multiple plug configuration and residual current protected socket outlets, tripping at 30 mA.
Ceiling roses: White plastic mounting base with screwed cover. Terminal type.
Batten holders: Standard white plastic bayonet cap, with cap angled where wall mounted.
Brass liners.
- 76.7 LIGHT FITTINGS
As selected.
- 76.8 ELECTRIC-POWERED FITTINGS AND EQUIPMENT
As selected.
- 76.9 CABLING
Install with a maximum of 8 light outlet units or 4 switched socket units on any circuit. Separate circuits for all electric heating appliances. All cabling run concealed. No TPS cable laid directly in concrete. Locate holes in timber framing for the passage of cables at the centre line of the timber member.
- 76.10 INSTALL SWITCH AND SOCKET UNITS
Fit single and double switch units and socket units level and plumb where shown on the drawings. Install at the following heights (to the centre of the unit) unless shown otherwise on the drawings.
Switch Units: 1000 mm.
Socket Units: 150 mm above work benches.
400 mm elsewhere.
Mount switches vertically and socket units horizontally. Label switch units which control electrical equipment by engraving on the rocker switch.
- 76.11 INSTALL LIGHT FITTINGS
Install selected light fittings in the locations and heights shown on the drawings and in accordance with the fitting manufacturer's requirements.
- 76.12 ELECTRIC HOT WATER SYSTEM
Wire as a separate circuit through a wall-mounted isolating switch, with the cable from switch to element encased in flexible PVC conduit, clamp fixed at each end.

76.14

WIRE FOR PLUMBING FITTINGS

Wire for fittings to the Electricity Regulations 1997 and to the fitting manufacturer's requirements.

76.15

INSTALL SMOKE DETECTORS

Install detectors to the detector manufacturer's requirements, fitted neatly and without damage to the surrounding finish.

76.16

ELECTRIC POWERED FITTINGS AND EQUIPMENT

Install and wire selected fittings and equipment to the Electricity Regulations 1997 and the individual fittings and equipment manufacturer's requirements. Refer to the drawings for required layouts and locations for equipment.

76.17

COMPLETION

Leave all fittings, lamps and tubes operational, with equipment and diffusers clean.

ADDENDA

The following attached addenda form part of this specification

COMPLIANCE SHEET

FRAEMOHS ALTERNATIVE SOLUTIONS REPORT

RESENE WOODMAN STAIN SPECIFICATION

O'LOUGHLIN TAYLOR SPENCE LTD STRUCTURAL PRODUCER STATEMENT

SUB FLOOR BRACING

SEDIMENT CONTROL

REFERENCES

Documents listed below are, when referred to in the text, part of this specification. However, this specification takes precedence in the event of it being at variance with and requiring a higher standard than any cited document.

Acts and Regulations

Building Act 1991

Health and Safety in Employment Act 1992

Plumbers, Gasfitters and Drainlayers Act 1970 ~~1970~~ 2006

Electricity Regulations 1997

New Zealand Electrical Codes of Practice (ECP)

New Zealand Building Code acceptable solutions

B1/AS1	Structure - general	F2/AS1	Hazardous building materials
D1/AS1	Access routes		
E1/AS1	Surface water	G12/AS1	Water supplies
E2/AS1	External moisture	G13/AS2	Foul Water - drainage

New Zealand Standards

AS/NZS 1758 Mechanically stress-graded timber

AS/NZS 2269 Plywood - Structural

AS/NZS 2589 Gypsum linings in residential and light commercial construction
2589.1 Gypsum plasterboard

NZS 3000 Electrical Regulations - Buildings, structures and premises

NZS 3109 Concrete construction

NZS 3114 Concrete surface finishes

AS/NZS 4761 Steel reinforcing materials

NZS 3422 Welded steel fabric of drawn steel wire for concrete reinforcement

NZS 3602 Timber and wood-based products for use in building

NZS 3604 Timber framed buildings

NZS 3631 New Zealand national timber grading rules

NZMP 3640 Minimum requirements of the NZ Timber Preservation Council

NZS 4211 Performance of windows

NZS 4223 Glazing in buildings

Part 1: The selection and installation of glass in buildings

Part 3: Human impact safety requirements

NZS 6803 Acoustics - Construction noise

Building Research Association of New Zealand

Bulletin 284: Sealed joints in external claddings - 2. Sealants

Bulletin 304: Flashing design

Bulletin 305: Domestic flashing installation

Bulletin 328: Selection and use of fasteners

Bulletin 357: Thermal insulation of houses

Bulletin 407: Walls on exposed sites

Department of Labour

OSH Publication: "Approved Code of practice for Safety in Excavation and Shafts for Foundations"

New Zealand Metal Roofing and Cladding Manufacturers' Association Inc

Profiled metal roofing design and installation handbook

Window Association of New Zealand

Aluminium Window Handbook

Specification for powder coatings on architectural aluminium products

Installation code for aluminium joinery products



COMPLIANCE INFORMATION FOR

176 Richardson Road, Gore

SITE DATA

Soil type (NZS 3604, clause 3.2) *The soil is considered to have a bearing capacity of not less than 300kpa because*

A) Existing established buildings show no sign of unsatisfactory behavior in accordance with NZS 3604:1999 clause 3.13.1 a.

B) Initial investigations show no signs of organic top soil, peat or soft clays. site investigation indicates that the soils would provide adequate bearing capacity.

Existing solid timber building with timber foundations. No evidence on site of foundations sinking. Due to the nature of the construction which shall be the same as existing and light roofing it is reasonable to assume under the provisions of NZS 3604 that the ground shall have sufficient bearing capacity.

Exposure/corrosion zone (NZS 3604, figures 4.1, 4.2) **Zone B**

Wind region (NZS 3604, figure 5.1) **A**

Topographical class (NZS 3604, tables 5.3, 5.4) **Gentle T1**

Wind zone (NZS 3604, tables 5.1 and 5.2) **High**

Earthquake zone (NZS 3604, figure 5.4) **I**



Alternative Solution Report

Fraemohs Solid Timber Wall System

Alternative Solution Scope

Solid timber wall system

95mm TIMBER WALLS

3 laminates of kiln dried Pinus Radiata, ex 150 x 40 (95mm finished thickness) double tongue and grooved, resorcinol glued. LOSP treated (H3.1) to NZS 3640:2003 to meet the requirements of NZS 3602.

63mm TIMBER WALLS

3 laminates of kiln dried Pinus Radiata, ex 150 x 25 (63mm finished thickness) double tongue and grooved, resorcinol glued. LOSP treated (H3.1) to NZS 3640:2003 to meet the requirements of NZS 3602.

NZS 3602 Timber and wood-based products for use in building
NZS 3604 Timber framed buildings
NZS 3631 New Zealand national timber grading rules
NZS 3640 Chemical preservation of round and sawn timber

Relevant Building Code Clauses

B2
E2

Comparison with a product previously accepted by a building consent authority

The Fraemohs solid timber wall system (both 63mm and 95mm walls) have been accepted by the following authorities recently and is in use in their areas.

Southland District Council ✓
Queenstown Lakes District
Westland District Council
Buller District Council
Grey District Council
Selwyn District Council ✓
Christchurch District Council
Waimakariri District Council
Hurunui District Council
Tasman District Council
Marlborough District Council

Fraemohs solid timber homes have been built in nearly all District Councils across New Zealand over its near 40 year history.

In-service History

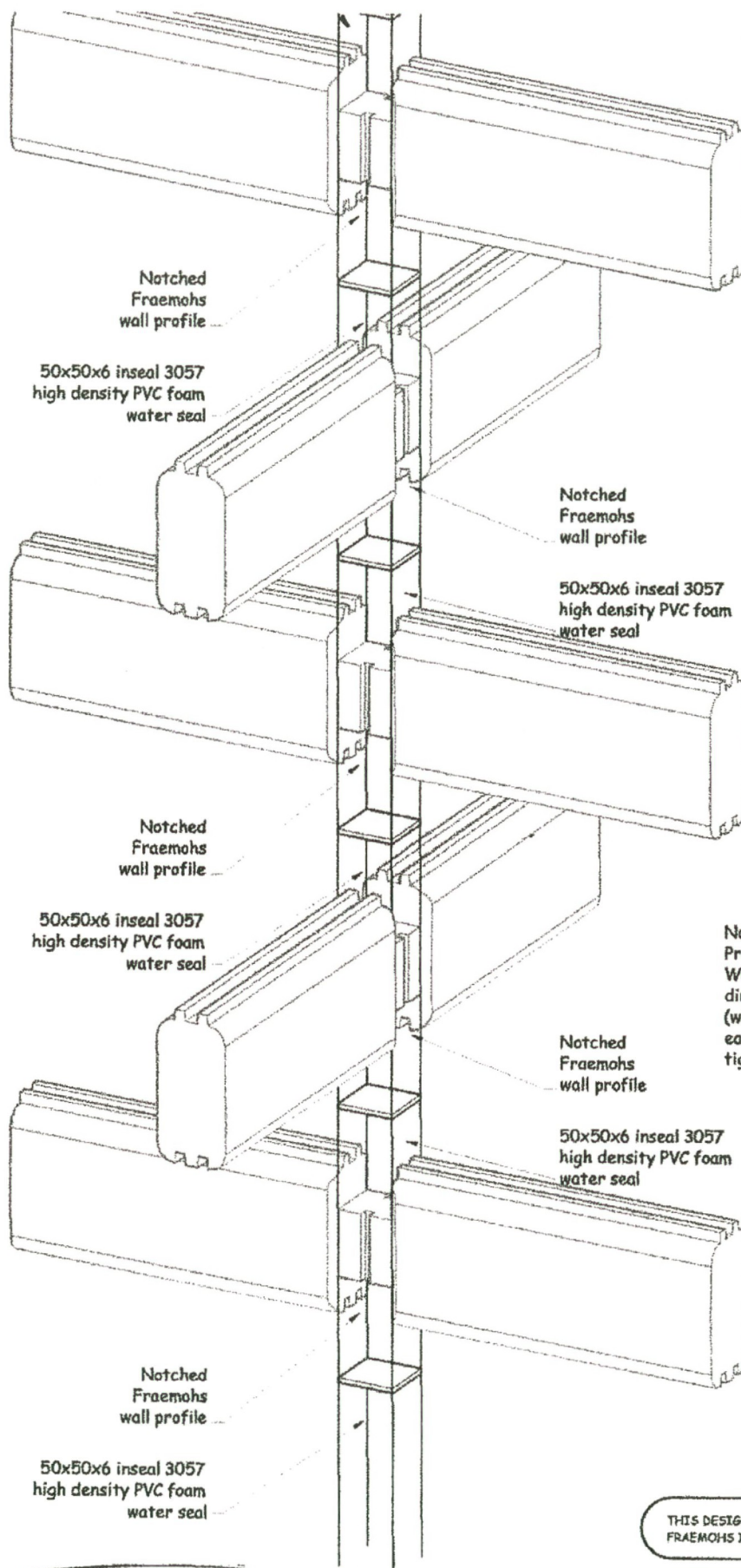
Fraemohs Homes was founded, in New Zealand, in 1968 by Danish Immigrant Monni Fraemohs. In its fortieth year, Fraemohs Homes is one of the longest established housing manufacturers in New Zealand. While detail changes have been made over the years, Fraemohs retains the well proven interlocking solid timber wall system designed in 1968.

The Fraemohs Building system, while unique with its use of laminated, plantation grown, Pinus Radiata, is a copy of the log cabin building systems used in many Scandinavian countries for the last three centuries.

There have been many Fraemohs buildings constructed in extreme alpine areas in New Zealand. Areas such as Castle Hill (where some fourteen Fraemohs homes have been built – the oldest constructed in 1982), Lake Ohau, Mount Cook Village, Cardrona Ski Field and Mount Hutt Ski Field.

Internationally, Fraemohs Homes have been built in many extreme areas including the outback of Australia (Narrogin in Western Australia), the mountains of Japan (various ski fields in the Nagano area including ski huts built for the International Olympic Committee in Hakuba), and resorts in various Pacific Islands including Fiji, Vanuatu, and New Caledonia. The most isolated example of a Fraemohs building is in Port Stanley on the Falkland Islands.

Fraemohs Homes are capable of withstanding the worst nature can provide. Examples of Fraemohs buildings surviving extreme events are the 1995 Hanshin earthquake in Kobe, Japan where a 7.2 magnitude earthquake devastated Kobe and the surrounding areas. Several Fraemohs homes were in the area and all were inspected for damage soon after the earthquake – the worst damage being some broken glass. Fraemohs Homes on Taveuni Island in Fiji also survived unscathed when Cyclone Ami struck with deadly force in 2003. Since this event, further Fraemohs units have been despatched and built on Taveuni after locals witnessed their ability to stand up to hurricane strength winds.



Note:-
Precision Notched Fraemohs
Wall Profiles placed in alternating
directions and hammered down
(with Inseal 3057 placed inside
each Notch) to form a water
tight seal.

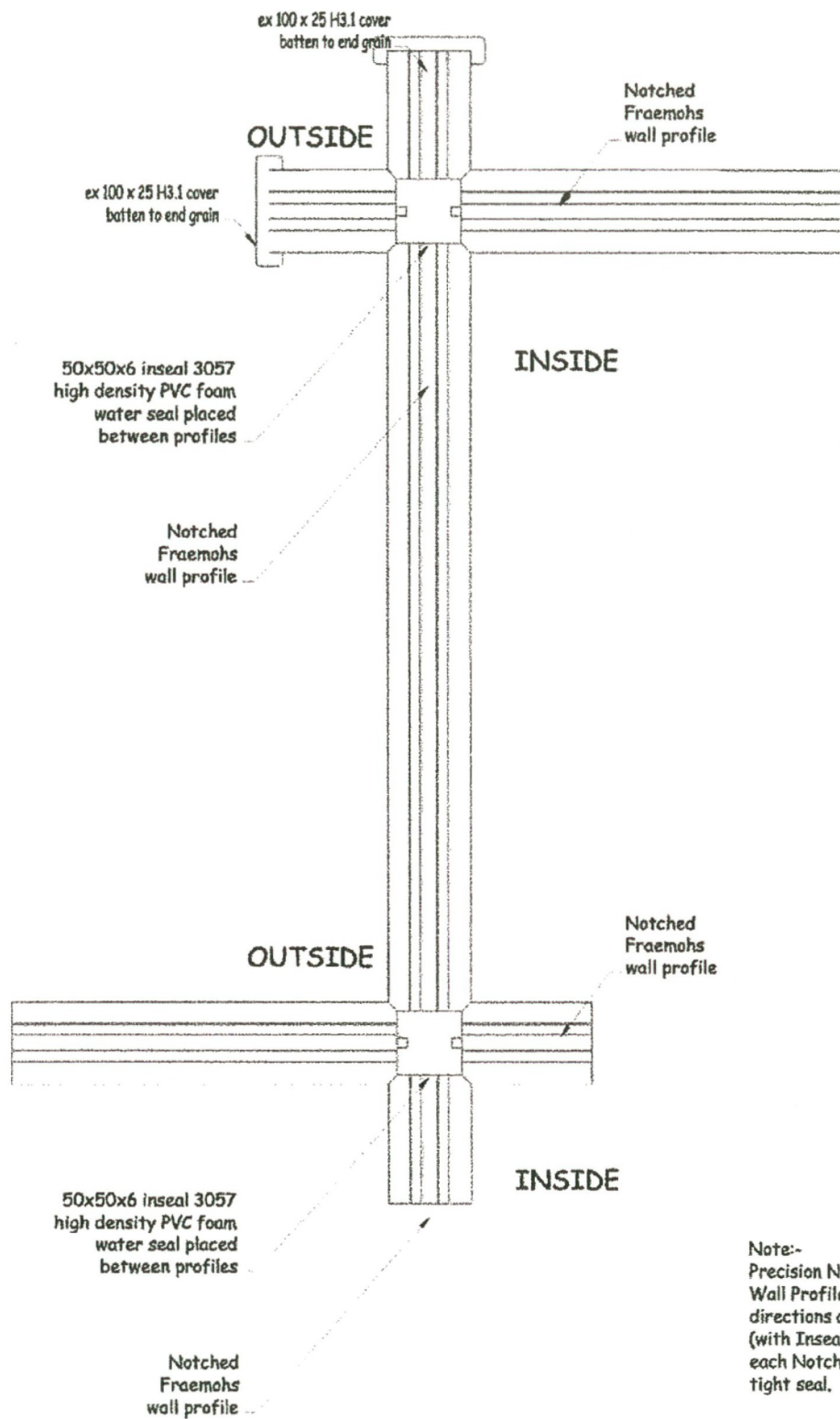
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FRAEMOHS INDUSTRIES LIMITED

DETAIL TITLE

Fraemohs Wall Assembly

DRAWN SMP
CHECKED
DATE 30/01/07
SCALE n/s

Fraemohs Industries Ltd
1201 Main Road, Broom's Barn,
25 km S201, Clonmel, Co. Wick
Tel: +353 (0) 523 87961 Fax: +353 (0) 523 84477 Email: enquiries@fraemohs.co.uk
FREEPHONE 0800 80 98 99 | www.fraemohs.co.uk



Note:-
Precision Notched Fraemohs Wall Profiles placed in alternating directions and hammered down (with Inseal 3057 placed inside each Notch) to form a water tight seal.

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FRAEMOHS INDUSTRIES LIMITED

Fraemohs Industries Ltd
185 Mill Lane Road, Gorse
Hill, Bala, Powys, LL23 7JY, Wales
Tel: 01874 325061 Fax: 01874 325062 Email: sales@fraemohs.co.uk
FREEPHONE 0800 80 98 99 | www.fraemohs.co.uk

DETAIL TITLE

Internal & External Corner Weathering Detail

DRAWN SMP
CHECKED
DATE 30-01-07
SCALE nts

Resene Woodsman Wood Oil Stain

Resene Woodsman Wood Oil Stain for exterior timber is a penetrating solventborne oil stain matching the needs of timber with your desire to achieve the most natural appearance possible.

exterior

Typical uses

- Beams
- Fences
- Garden furniture
- Plywood and profiled sheets
- Timber - dressed and rough sawn
- Weatherboards

Physical properties

Vehicle type	Solventborne
Pigmentation	Natural coloured oxides
Solvent	Hydrocarbon/ester
Finish	Fully penetrating
Colour	Selection of standard colours from the Resene Exterior timber stains colour chart
Dry time (minimum)	24 hours
Recoat time (minimum)	24 hours
Primer required	No
Theoretical coverage	Dependent on surface
Usual no. of coats	2 (new work); 1-2 (old work)
Thinning and clean up	Do not thin; clean up with mineral turps
VOC	Greater than 557 grams per litre (see Resene VOC Summary)

Performance

Performance and limitations

1. Provides a genuine rustic look.
2. Very easy application.
3. Requires minimum surface preparation.
4. Contains powerful fungicides for mould resistance. Avoid contact with plants.

Limitations

1. Will not kill existing mould. Use Resene Moss & Mould Killer (see Data Sheet D80).
2. Will not penetrate through existing coatings. Such areas will need excess wiping off.
3. Will not prevent checking of plywood.
4. Will require maintenance after two summers.
5. Areas coated with this product unmodified may not comply with New Zealand Building Code D1 3.3(d). Refer also to New Zealand Building Code D1 2.0 table 2.

Please ensure the current Data Sheet and Safety Data Sheet are consulted prior to specification or application of product. If in doubt contact Resene.

Woodsman Wood Oil Stain

Surface preparation

Existing stains

Remove all the weakly adhering coating by sanding. Treat with Resene Moss & Mould Killer (see Data Sheet D80).

Exposed timber (greater than one week)

Remove any gross contamination and semi-detached cellulose fibres. Treat with Resene Moss & Mould Killer (see Data Sheet D80).

New timber

Ensure surface is dry and free from dirt, dust and loose material.

Caution

Sanding dusts from some hardwoods are considered carcinogenic and all old timber sanding dusts should be considered potentially harmful. Always wear an efficient dust mask.

Sanding dust from old lead or chromate based paints or old building materials containing asbestos may be injurious to the health if inhaled or ingested. Seek expert advice if the presence of these materials is suspected.

Application

Apply by brush, roller or spray. Saturate surface with Resene Woodsman Wood Oil Stain. During application stir the contents of the container frequently to ensure even distribution of colour. Aim to achieve the targeted coverage for the substrate as outlined below.

Typical coverage

Badly weathered timber

First coat 3-4 square metres per litre.

Second coat 5-7 square metres per litre.

Dressed timber

First coat 10-12 square metres per litre.

Second coat 12-14 square metres per litre.

Apply a third coat 12-14 square metres per litre after about three to six months.

Rough sawn timber

First coat 4-6 square metres per litre.

Second coat 9-11 square metres per litre.

Precautions

1. Will not penetrate through existing coatings or very hard latewood bands. For best results wipe excess Resene Woodsman Wood Oil Stain off with a dry, absorbent, lint-free cloth rubbing along the grain.
2. Contains powerful fungicides. Avoid skin contact. If any skin contact occurs, wash skin thoroughly with soap and water immediately. Do not scrub the skin.
3. FLAMMABLE - Keep away from heat and open flame. Keep closed when not in use.
4. Avoid breathing vapour - use with adequate ventilation.

Please ensure the current Data Sheet is consulted prior to specification or application of Resene products. If the surface you propose to coat is not referred to by this Data Sheet, please contact Resene for clarification.

In Australia
PO Box 785, Ashmore City, Queensland 4214
Call 1800 738 383, visit www.resene.com.au
or email advice@resene.com.au

Resene
the paint the professionals use

In New Zealand
PO Box 38242, Wellington Mail Centre, Lower Hutt 5045
Call 0800 RESENE (737 363), visit www.resene.co.nz
or email advice@resene.co.nz

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GIB EzyBrace® 2011 Software



Demand Calculation Sheet

single storey

V06/11

Job Details

Name Maggie and Yves Obus
Street and Number 176 Richardson Road
Lot and DP Number Section 762 Hokonui SD
City/Town/District Gore
Designer Adam Cooper
Company Name AP Design Ltd
Date 11/10/2011



BRANZ Appraised
Appraisal No.294 [2011]

Select Lining Option

10 or 13 mm GIB® Plasterboard
~~10 or 13 mm~~ GIB® Plasterboard

Building Specification

Number of storeys single
Floor Loading 2kPa
Foundation Type subfloor
Cladding Weight (subfloor) light

Single Floor

Cladding Weight light
Roof Weight light
Room in Roof Space no
Roof Pitch (degrees) 25
Roof height above eaves (m) 2.1
Building height to apex (m) 5.2
Ground to lower floor level (m) 0.6

Complete Single Floor Column only

1
2
0
0.0

Stud Height (m) 2.4
Building Length (m) 14.2
Building Width (m) 8.2
Building Plan Area (m2) 116

0.0
0.0
0.0
0.0
0

Building Location

Wind Zone High

Select by Building Consent Authority Map
or Preference Not Available
Wind Region A 1
Lee Zone no 1
Ground Roughness Open 2
Site Exposure Exposed 2
Topographic Class T1

Earthquake Zone

1

Soil Type

D&E (deep to very soft)

Annual exceedance probability

1/500 (NZS3104:2011 default)

Bracing Units required for Wind

Demand W (BU)			
	subfloor		Walls single
along	705	0	421
across	1167	0	676

Bracing Units required for Earthquake

Demand along / across E (BU)

	Walls		
	subfloor	single	
along	791	617	0
across			0

GIB EzyBrace® 2011 Software

Subfloor Bracing Calculation Sheet					Subfloor Along			V06/11
Along								
Bracing Line		Bracing Elements provided				Wind	Earthq.	
1	2	3	4	5	6	8W	9EQ	
Line Label	Minimum BUs Req/Ach	Bracing Element No.	Supplier	Bracing Type	Number or Length L (m)	BUs Achieved	BUs Achieved	
1	line totals	1	NZS3604	anchor pile	2	320	240	
W	320	2	0	0	0	0	0	
EQ	240	3	0	0	0	0	0	
5	line totals	1	NZS3604	anchor pile	2	320	240	
W	320	2	0	0	0	0	0	
EQ	240	3	0	0	0	0	0	
7	line totals	1	NZS3604	anchor pile	2	320	240	
W	320	2	0	0	0	0	0	
EQ	240	3	0	0	0	0	0	
10	line totals	1	NZS3604	anchor pile	2	320	240	
W	320	2	0	0	0	0	0	
EQ	240	3	0	0	0	0	0	
	line totals	1	0	0	0	0	0	
W	0	2	0	0	0	0	0	
EQ	0	3	0	0	0	0	0	
	line totals	1	0	0	0	0	0	
W	0	2	0	0	0	0	0	
EQ	0	3	0	0	0	0	0	
	line totals	1	0	0	0	0	0	
W	0	2	0	0	0	0	0	
EQ	0	3	0	0	0	0	0	
	line totals	1	0	0	0	0	0	
W	0	2	0	0	0	0	0	
EQ	0	3	0	0	0	0	0	
	line totals	1	0	0	0	0	0	
W	0	2	0	0	0	0	0	
EQ	0	3	0	0	0	0	0	
	line totals	1	0	0	0	0	0	
W	0	2	0	0	0	0	0	
EQ	0	3	0	0	0	0	0	
	line totals	1	0	0	0	0	0	
W	0	2	0	0	0	0	0	
EQ	0	3	0	0	0	0	0	
	line totals	1	0	0	0	0	0	
W	0	2	0	0	0	0	0	
EQ	0	3	0	0	0	0	0	
	line totals	1	0	0	0	0	0	
W	0	2	0	0	0	0	0	
EQ	0	3	0	0	0	0	0	
	line totals	1	0	0	0	0	0	
W	0	2	0	0	0	0	0	
EQ	0	3	0	0	0	0	0	
	line totals	1	0	0	0	0	0	
W	0	2	0	0	0	0	0	
EQ	0	3	0	0	0	0	0	
	line totals	1	0	0	0	0	0	
W	0	2	0	0	0	0	0	
EQ	0	3	0	0	0	0	0	
	line totals	1	0	0	0	0	0	
W	0	2	0	0	0	0	0	
EQ	0	3	0	0	0	0	0	
	line totals	1	0	0	0	0	0	
W	0	2	0	0	0	0	0	
EQ	0	3	0	0	0	0	0	
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	line totals	1	0	0	0	0	0	
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EQ	0	3	0	0	0	0	0	
	line totals	1	0	0	0	0	0	
W	0	2	0	0	0	0	0	
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EQ	0	3	0	0	0	0	0	
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EQ	0	3	0	0	0	0	0	
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EQ	0	3	0	0	0	0	0	
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EQ	0	3	0	0	0	0	0	
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EQ	0	3	0	0	0	0	0	
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EQ	0	3	0	0	0	0	0	
	line totals	1	0	0	0	0	0	
W	0	2	0	0	0	0	0	
EQ	0	3	0	0	0	0	0	
	line totals	1	0	0	0	0	0	
W	0	2	0	0	0	0	0	
EQ	0	3	0	0	0	0	0	
	line totals	1	0	0	0	0	0	
W	0	2	0	0	0	0	0	
EQ	0	3	0	0	0	0	0	
	line totals	1	0	0	0	0	0	
W	0	2	0	0	0	0	0	
EQ	0	3	0	0	0	0	0	
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W	0	2	0	0	0	0	0	
EQ	0	3	0	0	0	0	0	
	line totals	1	0	0	0	0	0	
W	0	2	0	0	0	0	0	
EQ	0	3	0	0	0	0	0	
	line totals	1	0	0	0	0	0	
W	0	2	0	0	0	0	0	
EQ	0	3	0	0	0	0	0	
	line totals	1	0	0	0	0	0	
W	0	2	0	0	0	0	0	
EQ	0	3	0	0	0	0	0	
	line totals	1	0	0	0	0	0	
W	0	2						

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Subfloor Bracing Calculation Sheet					Subfloor Across			V06/11
Along								
Bracing Line		Bracing Elements provided				Wind	Earthq.	
1	2	3	4	5	6	8W	9EQ	
Line Label	Minimum BUs Req/Ach	Bracing Element No.	Supplier	Bracing Type	Number or Length L (m)	BUs Achieved	BUs Achieved	
11 line totals		1	NZS3604	anchor pile	2	320	240	
W	320	2	0		0	0	0	
EQ	240	3	0		0	0	0	
12 line totals		1	NZS3604	anchor pile	2	320	240	
W	320	2	0		0	0	0	
EQ	240	3	0		0	0	0	
15 line totals		1	NZS3604	anchor pile	2	320	240	
W	320	2	0		0	0	0	
EQ	240	3	0		0	0	0	
16 line totals		1	NZS3604	anchor pile	2	320	240	
W	320	2	0		0	0	0	
EQ	240	3	0		0	0	0	
line totals		1			0	0	0	
W	0	2	0		0	0	0	
EQ	0	3	0		0	0	0	
line totals		1			0	0	0	
W	0	2	0		0	0	0	
EQ	0	3	0		0	0	0	
line totals		1			0	0	0	
W	0	2	0		0	0	0	
EQ	0	3	0		0	0	0	
line totals		1			0	0	0	
W	0	2	0		0	0	0	
EQ	0	3	0		0	0	0	
line totals		1			0	0	0	
W	0	2	0		0	0	0	
EQ	0	3	0		0	0	0	
line totals		1			0	0	0	
W	0	2	0		0	0	0	
EQ	0	3	0		0	0	0	

					Wind	Earthq.
Totals Achieved					1280	960
					OK	OK
Totals Required (from Sheet A)					1167	791

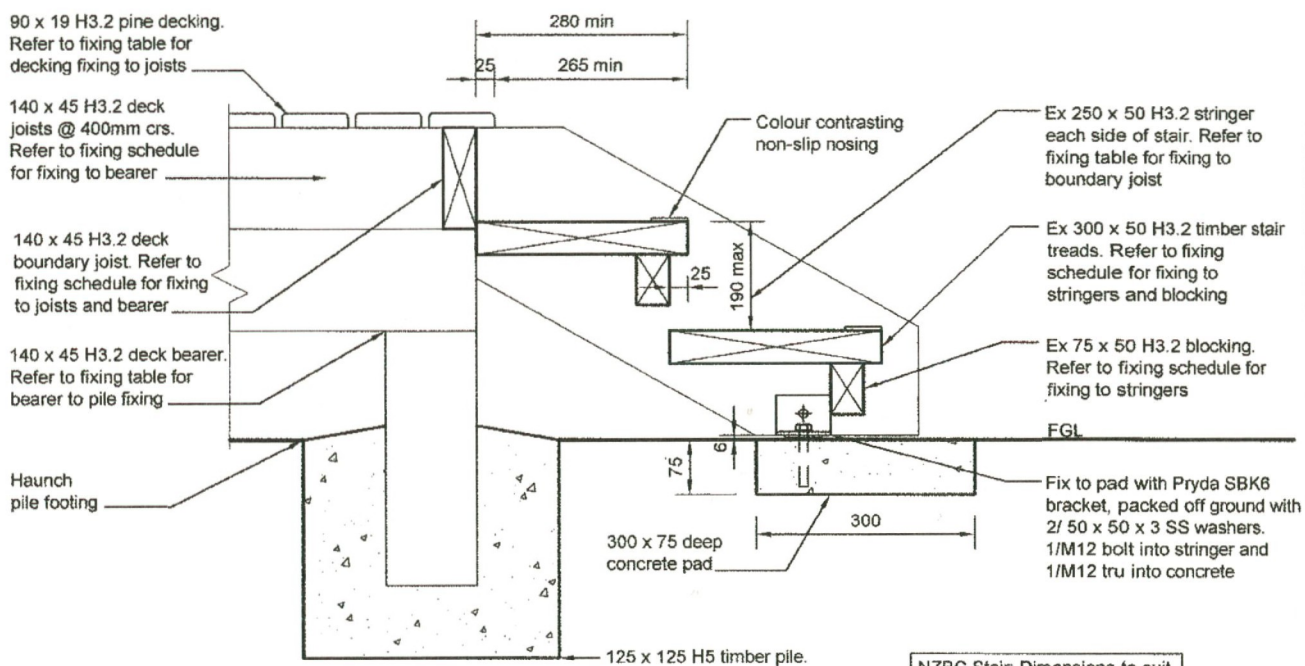
?

Allan Pritchard Limited
Architectural Draughting and Design
55 Retreat Road
Avonside, Christchurch
Ph 942 1977 Fx 942 1948
Cell 027 229 4079



Sediment Run Off from Building sites.
Site: 3c Mc Donnell Road

1. Vehicles involved in the excavation will be delivered to site and then removed via truck. The use of metal grates will minimize any unnecessary disturbance of the ground.
2. The excavated soil will be stockpiled and covered during the project and then flattened out and grassed where directed by the Client
3. Stormwater drains will be laid during construction and all exposed openings of stormwater pipes will either be capped or have a filter fitted over to prevent sediment entering the stormwater system
4. Temporary downpipes connected to PVC flexible pipe laid over the ground will prevent surface water runoff creating sediment problems around the building area
5. The builder will be responsible for checking these measures are maintained at all times.



1.2 Deck Stair Detail - Without Balustrade

1:10

NZBC Stair: Dimensions to suit ground level
 Type: Common
 Tread: 280 min
 Riser: 190 max
 Nosing: 25mm max
 Pitch: 37° max

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TITLE Exterior Timber Steps Without Balustrade

DRAWN Lynn McDonald

CHECKED -

SCALE

As Noted @ A4

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WALL THICKNESS 63/95

SHEET

1.2

REVISION

R 0

SOAK PIT SIZE:

The soak pit has been sized based on an assumed soakage rate of 500mm/hr.

The contractor is to undertake tests on site to confirm the soakage rates of the ground using the following method:

a) bore test holes 100-150mm in diameter to the depth of the proposed soak pit. If ground water is encountered in the bore test hole this depth shall be taken as the depth of the soak pit

b) Fill the holes with water and maintain full for at least 4 hours (unless the soakage is so great that the hole completely drains in a short time)

c) Fill the hole with water to within 750mm of ground level, and record the drop in water level against time, at intervals of no greater than 30 minutes, until the hole is almost empty, or over 4 hours, whichever is the shortest.

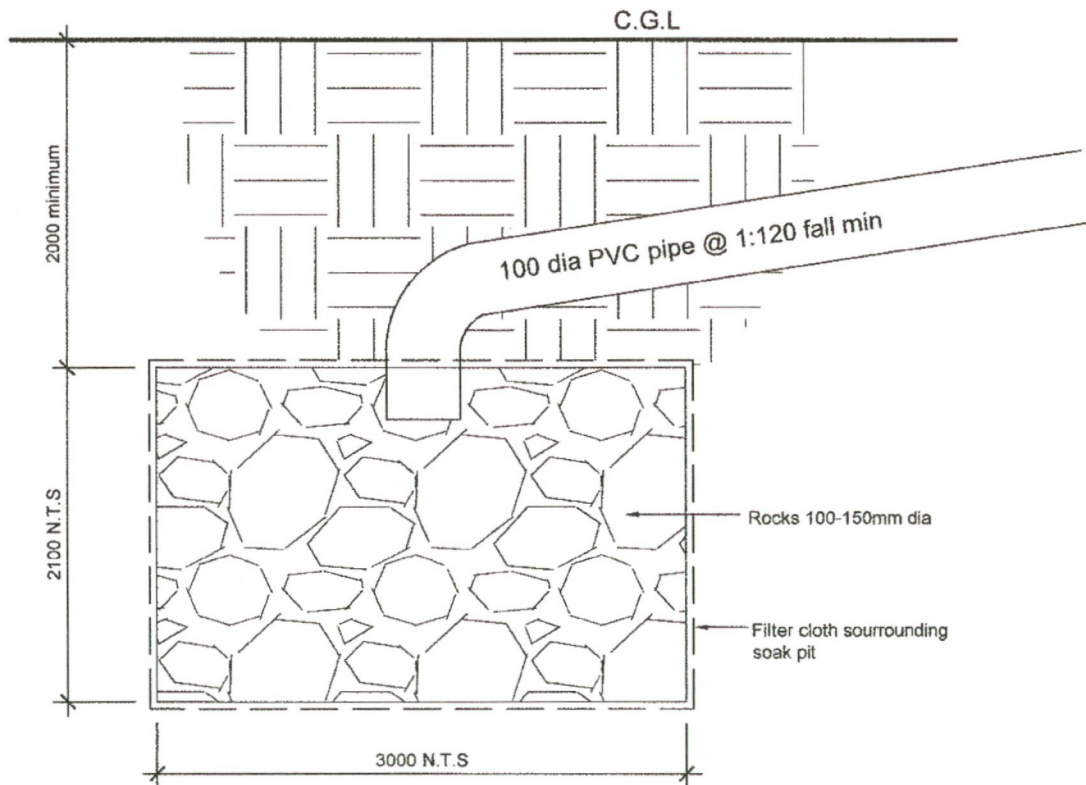
d) Plot the drop water level against time on a graph and the soakage rate is determined from the minimum slope of the curve. If there is a marked decrease in soakage rate as the hole becomes nearly empty, the lower rates may be discarded and the value closer to the average adopted

e) confirm the required depth of the soakage pit using the following formula:

$$V(\text{stor}) = 12.15 - V(\text{soak})$$

where $V(\text{soak}) = 9.42 \times \text{soakage rate} / 1000$

Depth of Soak Pit = $V(\text{stor}) / 0.38 / 9.42$



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TITLE Soak Pit Detail

DRAWN Lynn McDonald
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SCALE
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WALL THICKNESS 63/95

SHEET
1.3

REVISION
R 0

004

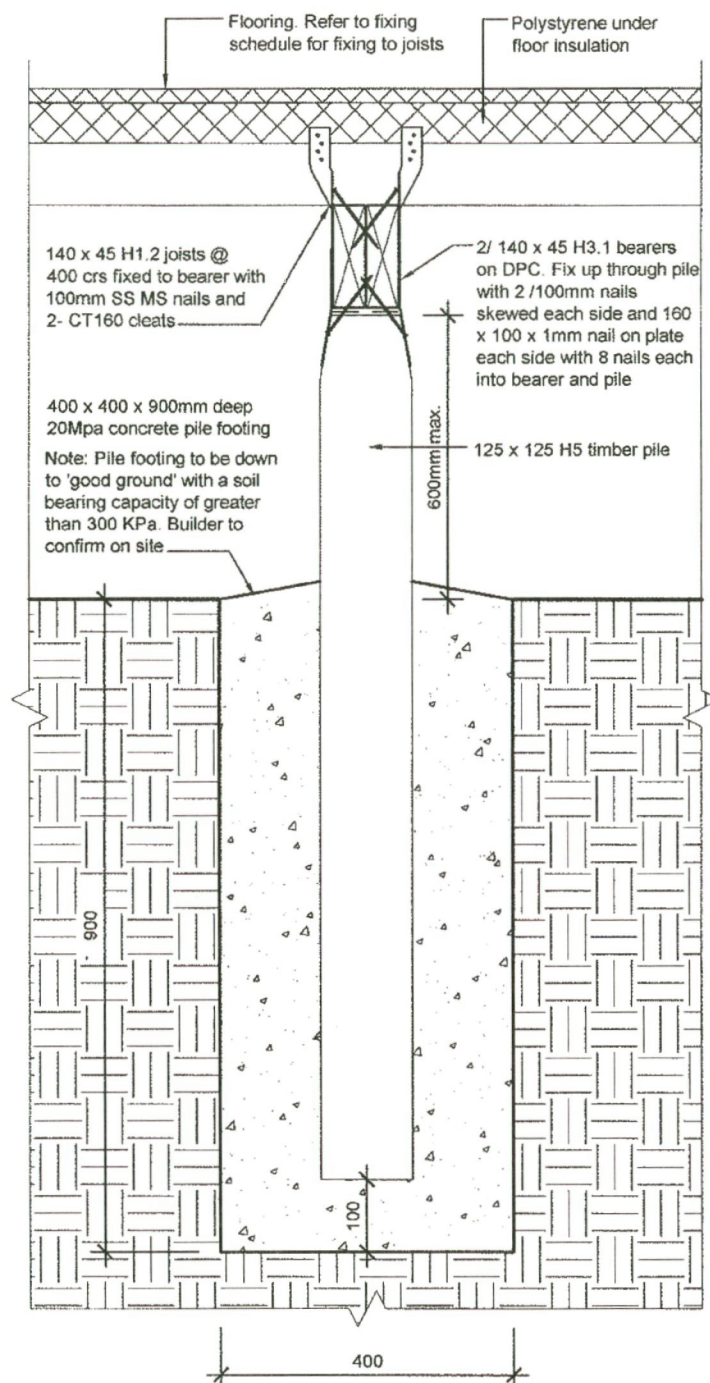
150 mm

100

50

10 mm

GRAPHIC SCALES



2.44 Standard Anchor Pile Footing

1:10

NOTE: ALL FIXINGS WITHIN 600MM OF GROUND ARE TO BE STAINLESS STEEL

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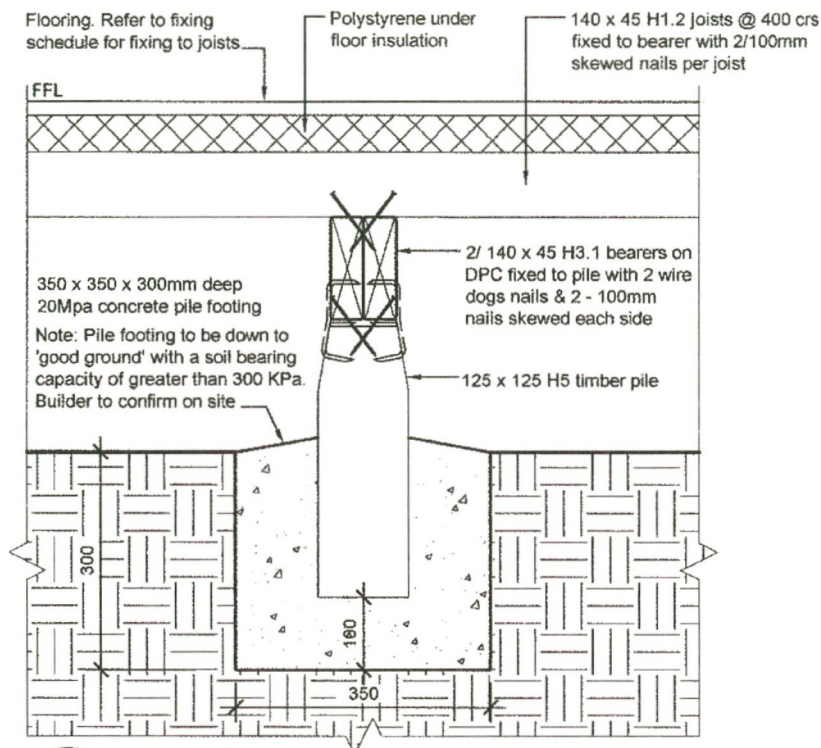


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TITLE Standard Anchor Pile			
DRAWN	Lynn McDonald	SCALE	As Noted @ A4
CHECKED	-	WALL THICKNESS	63/95
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		REVISION	R 0



2.46 Standard Ordinary Pile Footing

1:10

NOTE: ALL FIXINGS WITHIN 600MM OF GROUND ARE TO BE STAINLESS STEEL

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TITLE Standard Ordinary Pile

DRAWN Lynn McDonald

SCALE

CHECKED -

As Noted @ A4

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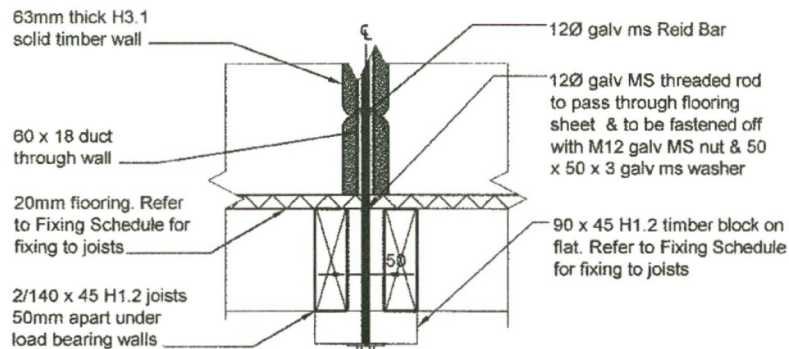
WALL THICKNESS 63/95

SHEET

2.46

REVISION

R 0



3.7 Tie Rod Fixing - Internal - Wall Parallel to Joist

1:10

(PERPENDICULAR SIMILAR)

NOTE: RE TIE RODS WITHIN 600MM OF FGL: Once tightened, apply 3 coats Mulseal waterproofing membrane to exposed bolt head, washer and reid bar

150 mm

100

50

10 mm

GRAPHIC SCALES

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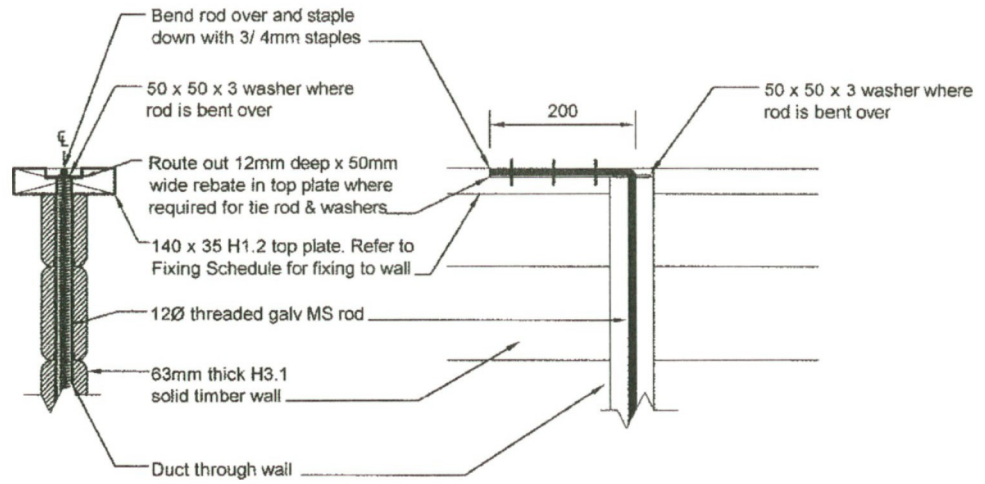


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TITLE Tie Rod Fixing - 63mm Wall - Timber Floor - Internal Base		
DRAWN	Lynn McDonald	SCALE
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SHEET 3.7		REVISION R 0



3.12 Tie Rod Fixing - Top of Wall

1:10

150 mm

100

50

10 mm

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TITLE Internal Wall Tie Rod Fixing - 63mm Wall
- Top

DRAWN Lynn McDonald

SCALE

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WALL THICKNESS 63/95

SHEET

3.12

REVISION

R 0

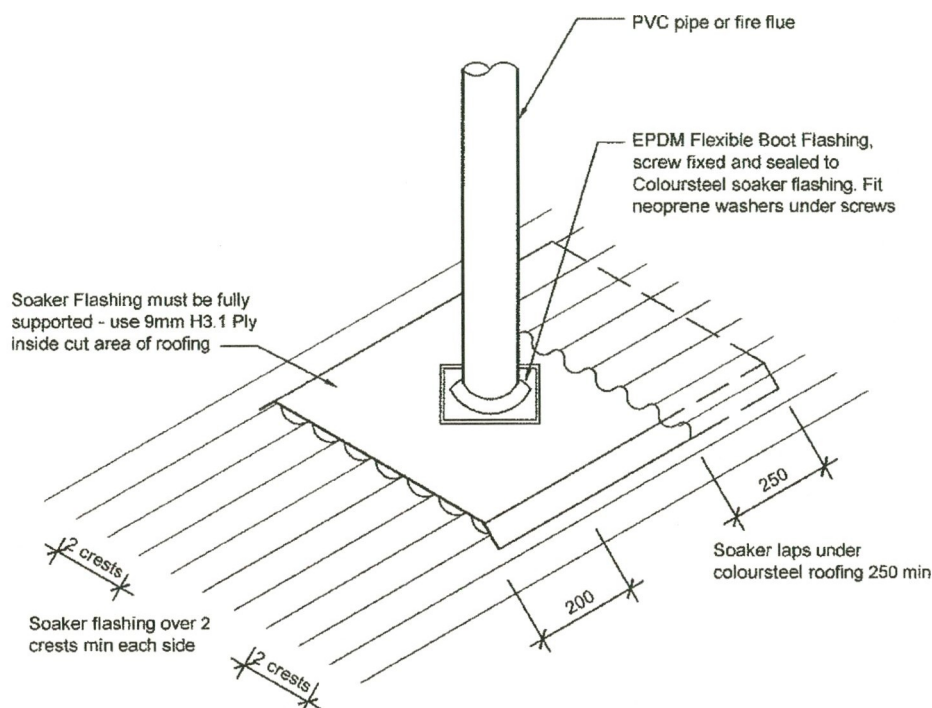
150 mm

100

50

10 mm

GRAPHIC SCALES



9.4 Typical Roof Penetration

1:10

REFER TO FIXING
SCHEDULE FOR ALL FIXINGS

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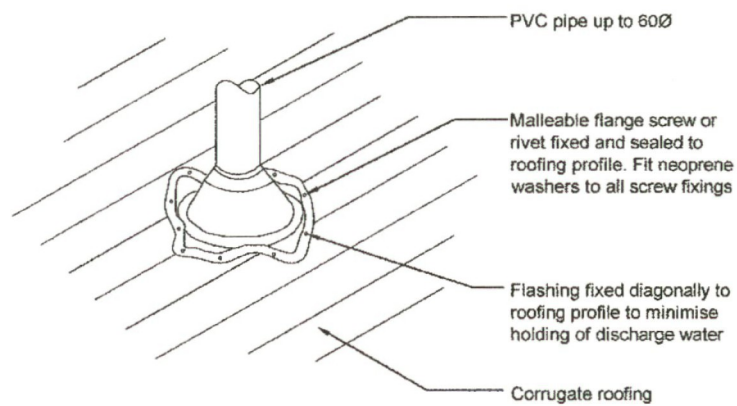


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TITLE Standard Roof Penetration		
DRAWN	Lynn McDonald	SCALE
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WALL THICKNESS 63/95		REVISION
SHEET 9.4		R 0



150 mm

100

50

10 mm

GRAPHIC SCALES

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TITLE Standard Small Roof Penetration		
DRAWN	Lynn McDonald	SCALE
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SHEET 9.4a		REVISION R 0

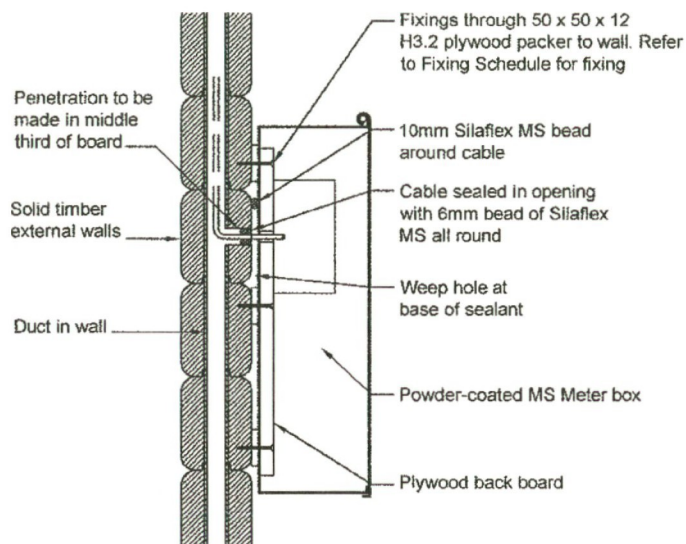
150 mm

100

50

10 mm

GRAPHIC SCALES



9.11 Meter Panel

1:10 (Fraemohs wall, shiplap similar)

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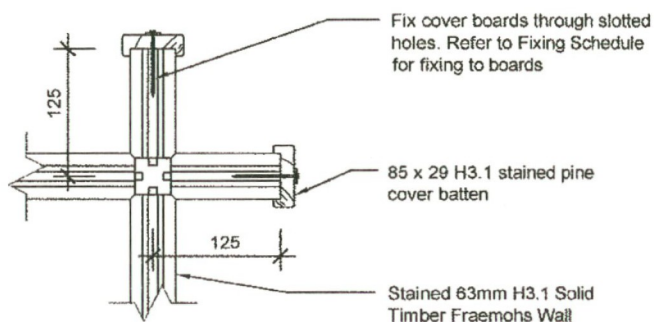


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TITLE Meter Box Fixing			
DRAWN	Lynn McDonald	SCALE	As Noted @ A4
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		SHEET	9.11
		REVISION	R 0



9.21 Cover Batten

1:10

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TITLE Cover Board Fixing - 63mm Wall

DRAWN Lynn McDonald

SCALE

APPROVED -

As Noted @ A4

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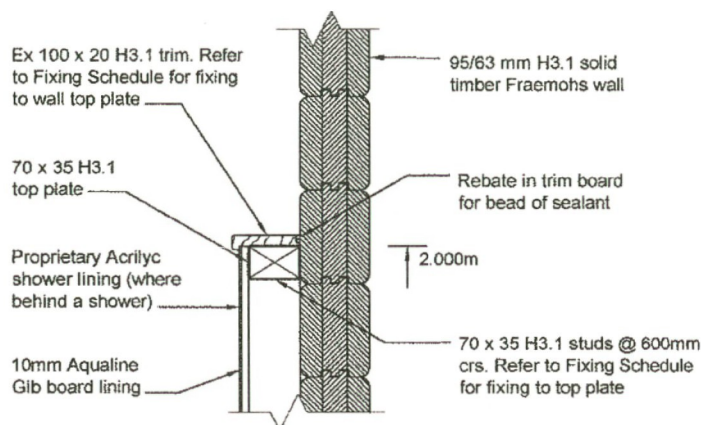
WALL THICKNESS 63/95

SHEET

9.21

REVISION

R 0



9.30 Top of False Wall

1:10

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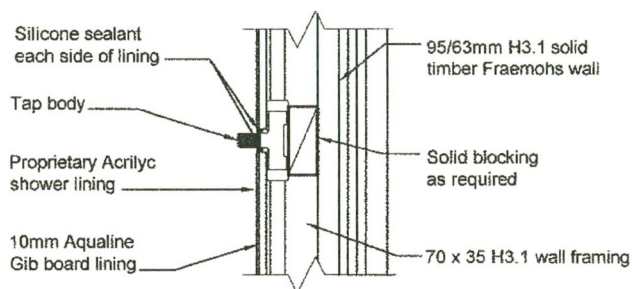


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TITLE Top Of False Wall			
DRAWN	Lynn McDonald	SCALE	As Noted @ A4
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		SHEET	9.30
			REVISION R 0



9.31 Shower Penetration

1:10

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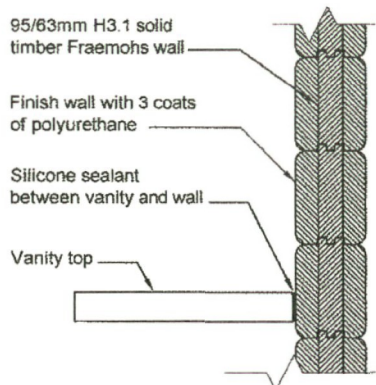


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TITLE Shower Penetration			
DRAWN	Lynn McDonald	SCALE	As Noted @ A4
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		SHEET	9.31
			REVISION R 0



9.32 Vanity to Wall Junction
1:10

150 mm

100

50

10 mm

GRAPHIC SCALES

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TITLE Vanity To Wall Detail

DRAWN Lynn McDonald

SCALE

CHECKED -

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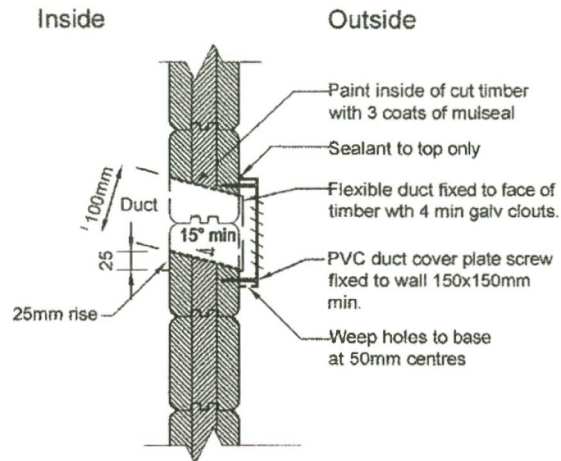
WALL THICKNESS 63/95

SHEET

9.32

REVISION

R 0



9.40 Duct Wall Penetration

1:10

150 mm

100

50

10 mm

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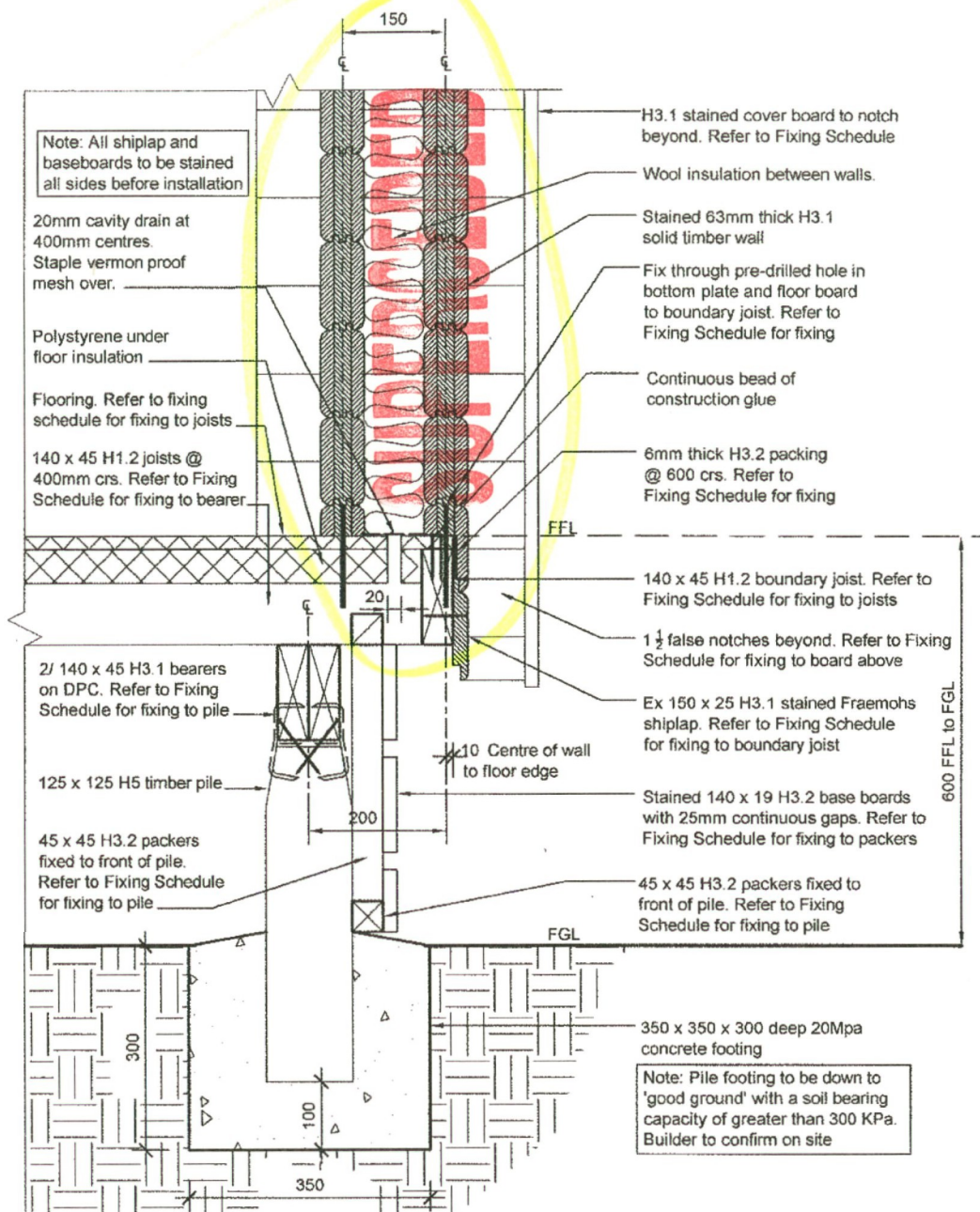


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TITLE Duct Wall Penetration		
DRAWN	Adam Cooper	SCALE
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SHEET 9.40		REVISION R 0



D01

Double Wall Floor Edge - Long

1:10

NOTE: ALL FIXINGS WITHIN 600MM OF GROUND ARE TO BE STAINLESS STEEL

REFER TO FIXING SCHEDULE FOR ALL FIXINGS

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TITLE Longitudinal Wall Edge

DRAWN Adam Cooper

APPROVED -

SCALE

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WALL THICKNESS 63

SHEET

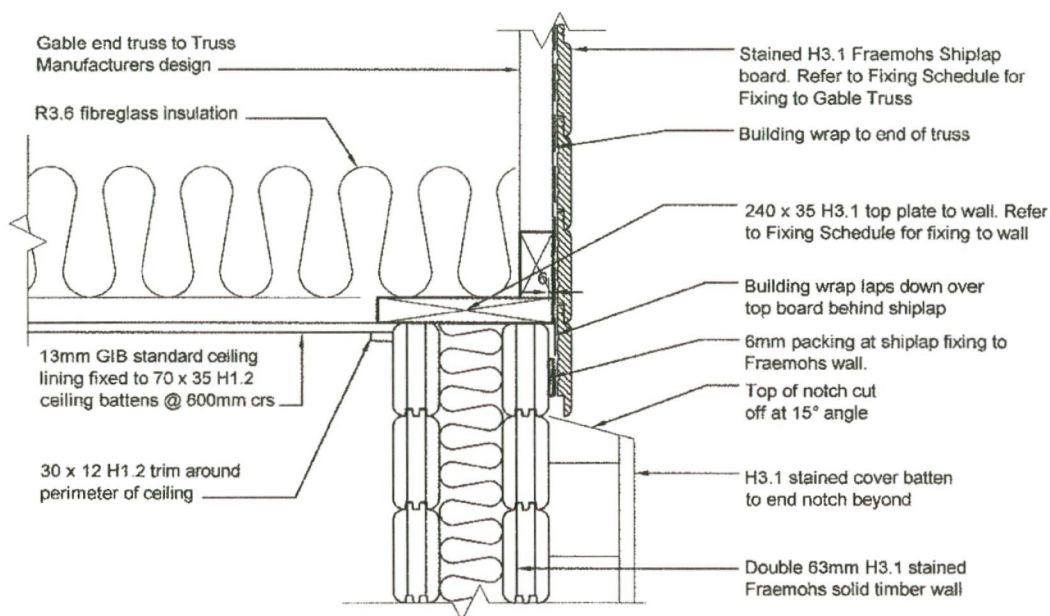
D01

REVISION

R 0



E:\PROJECTS\04 FRAEMOHS\178 Richardson Road\Sheets\0755-D01a Gable Wall Edge.dwg ORIGINAL SHEET SIZE A4 (297x210)



D02 Gable Wall to Shiplap Cladding Junction
1:10

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TITLE Shiplap Cladding To Fraemohs Wall			
DRAWN	Adam Cooper	SCALE	As Noted @ A4
APPROVED	-		
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		SHEET	D02
		REVISION	R 0

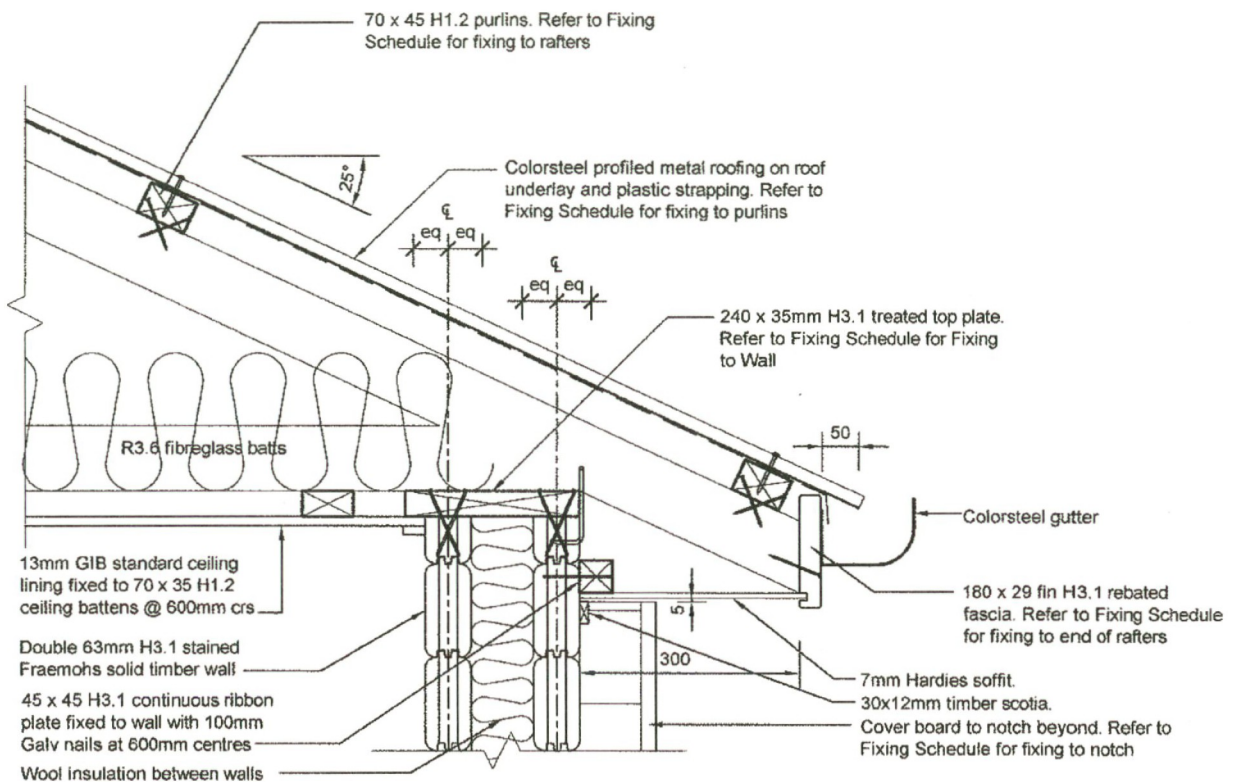
150 mm

100

50

10 mm

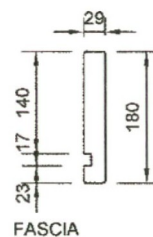
GRAPHIC SCALES



D03

Eaves Detail

1:10



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TITLE Eave Detail

DRAWN Adam Cooper

APPROVED -

SCALE

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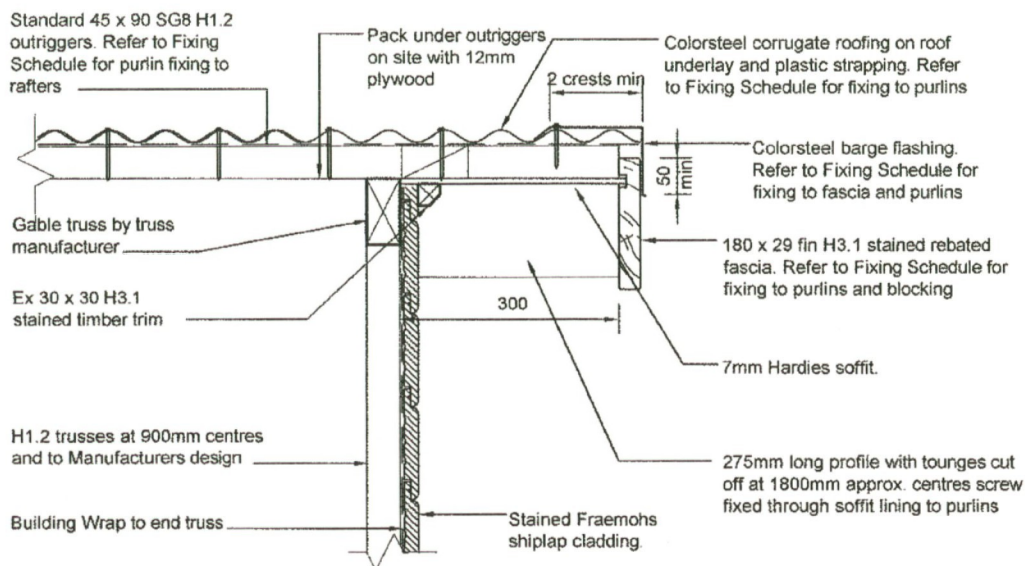
WALL THICKNESS 63

SHEET

D03

REVISION

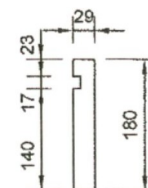
R 0



D04

Barge Detail

1:10



BARGE

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TITLE Barge Detail		
DRAWN	Adam Cooper	SCALE
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SHEET D04		REVISION R 0

SUPERCEL

Stained 63mm thick
H3.1 solid timber wall

25mm flooring. Refer to Fixing
Schedule for fixing to joists

Note: All shi lap and
baseboards to be stained all
sides before installation

H3.1 stained cover board. Refer to
Fixing Schedule for fixing to notch

12Ø Galv steel threaded rod

FEL

60 x 18 Duct through wall

140 x 45 H1.2 boundary joist. Refer to
Fixing Schedule for fixing to joists

12Ø threaded galv MS rod to pass
through flooring sheet & floor joists
& to be fastened off with M12 nut
& 50 x 50 x 3 washer

Timber bearer
and pile

22.5
Centre of wall
to floor edge

D05

Tie Rod Fixing - External Wall - Cross Notch

1:10 GABLE AND LONGITUDINAL WALLS SIMILAR

NOTE: RE TIE RODS WITHIN
600MM OF FGL: Once tightened,
apply 3 coats Mulseal waterproofing
membrane to exposed bolt head,
washer and reid bar

63mm thick H3.1
solid timber wall

60 x 18 duct
through wall

25mm flooring. Refer
to Fixing Schedule for
fixing to joists

2/140 x 45 H1.2 joists
50mm apart under
load bearing walls

12Ø galv ms Reid Bar

12Ø galv MS threaded rod
to pass through flooring
sheet & to be fastened off
with M12 galv MS nut & 50
x 50 x 3 galv ms washer

140 x 45 H1.2 timber block on
flat. Refer to Fixing Schedule
for fixing to joists

D05

Tie Rod Fixing - Section - Cross Notch

1:10

NOTE: RE TIE RODS WITHIN
600MM OF FGL: Once tightened,
apply 3 coats Mulseal waterproofing
membrane to exposed bolt head,
washer and reid bar

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TITLE Tie Rod Fixing - Cross Notch

DRAWN Adam Cooper

SCALE

APPROVED

-

As Noted @ A4

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WALL THICKNESS 63

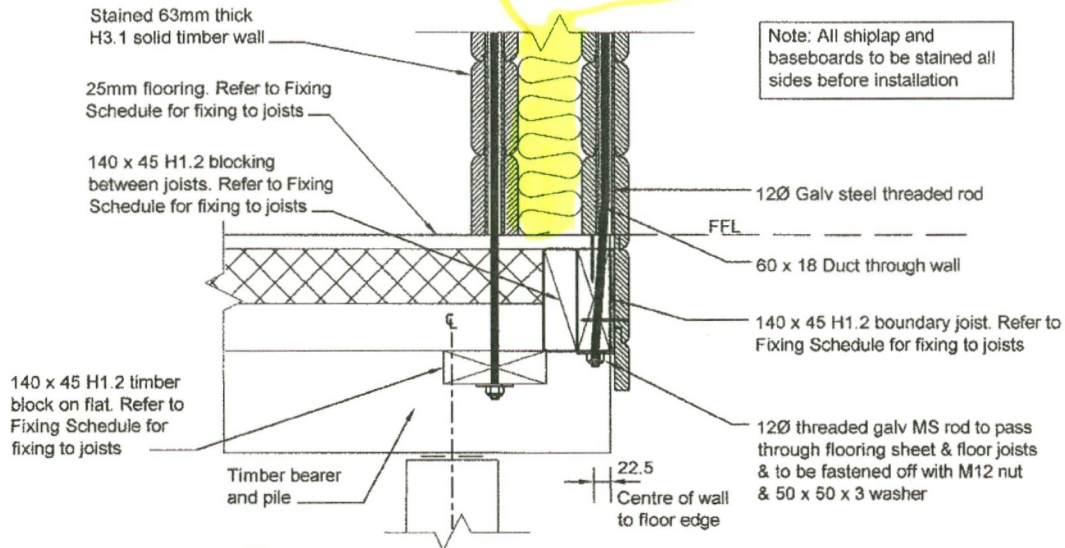
SHEET

D05

REVISION

R 0

SUPERCED

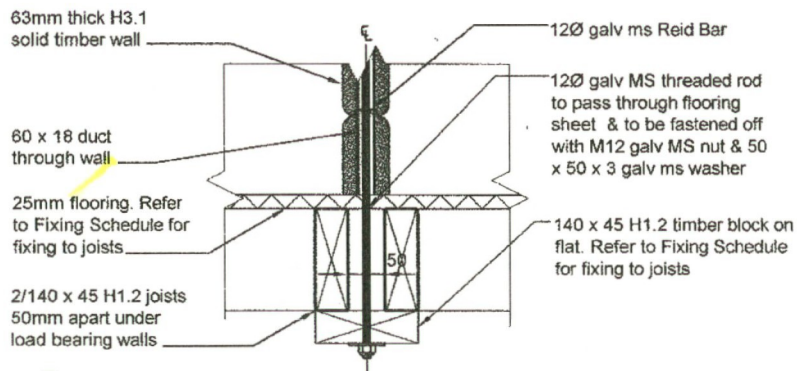


D06

Tie Rod Fixing - External Wall - No Cross Notch

1:10 GABLE AND LONGITUDINAL WALLS SIMILAR

NOTE: RE TIE RODS WITHIN 600MM OF FGL: Once tightened, apply 3 coats Mulseal waterproofing membrane to exposed bolt head, washer and reid bar



D06

Tie Rod Fixing - Section - No Cross Notch

1:10

NOTE: RE TIE RODS WITHIN 600MM OF FGL: Once tightened, apply 3 coats Mulseal waterproofing membrane to exposed bolt head, washer and reid bar

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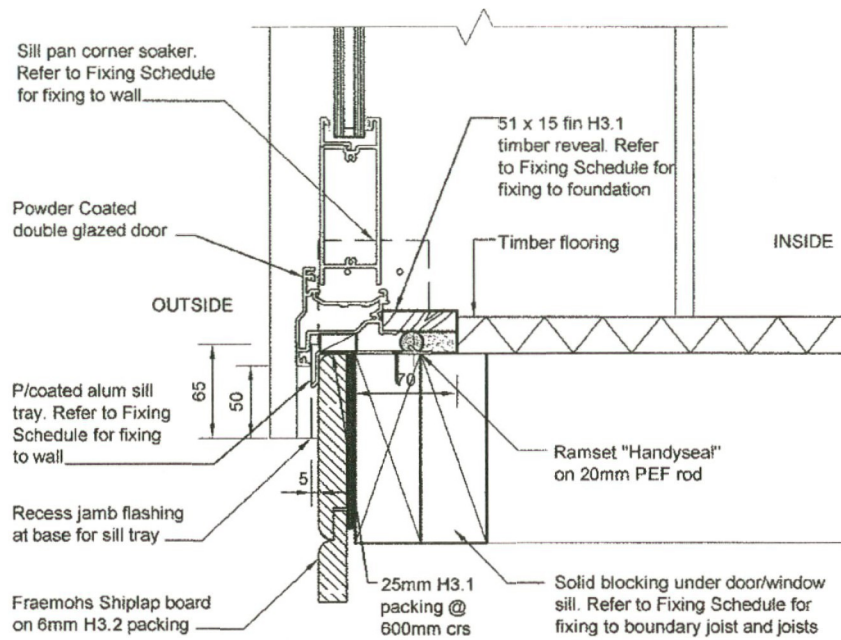
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TITLE Tie Rod - No Notch Wall.		
DRAWN Adam Cooper	SCALE As Noted @ A4	
APPROVED -		
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WALL THICKNESS 63	SHEET D06	REVISION R 0

E:\PROJECTS\0 FRAEMOHS\176 Richardson Road\Sheets\0765-D06 Tie Rod - No notch wall.dwg ORIGINAL SHEET SIZE A4 (297x210)



D07

Internal Opening Door Sill- Timber Floor

1:5

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TITLE Door Sill

DRAWN Adam Cooper

APPROVED -

SCALE

As Noted @ A4

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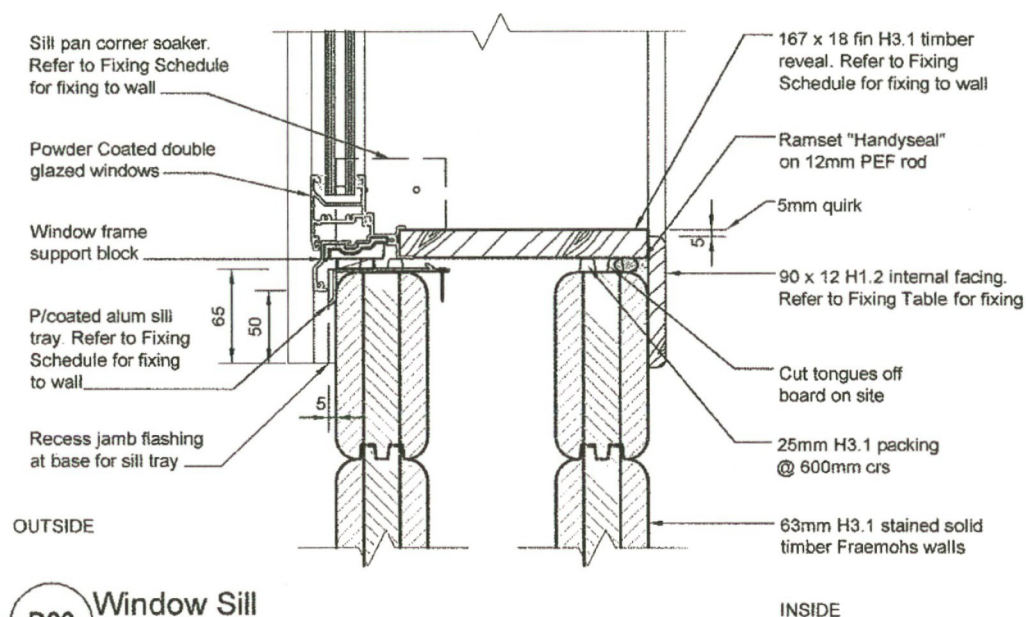
WALL THICKNESS 63

SHEET

D07

REVISION

R 0



D08 Window Sill
1:5

Fraemohs Industries Ltd
1200 Main North Road, Belfast
PO Box 256, Kaiapoi 7644,
New Zealand

Ph +64 3 375 9009
Fx +64 3 323 8442
E manager@fraemohs.co.nz



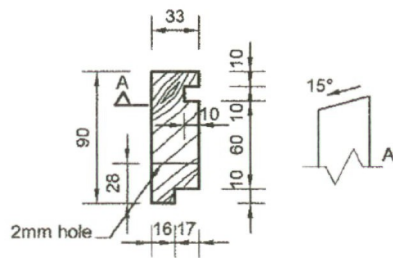
**FRAEMOHS
HOMES**

SOLID TIMBER • ECO-FRIENDLY

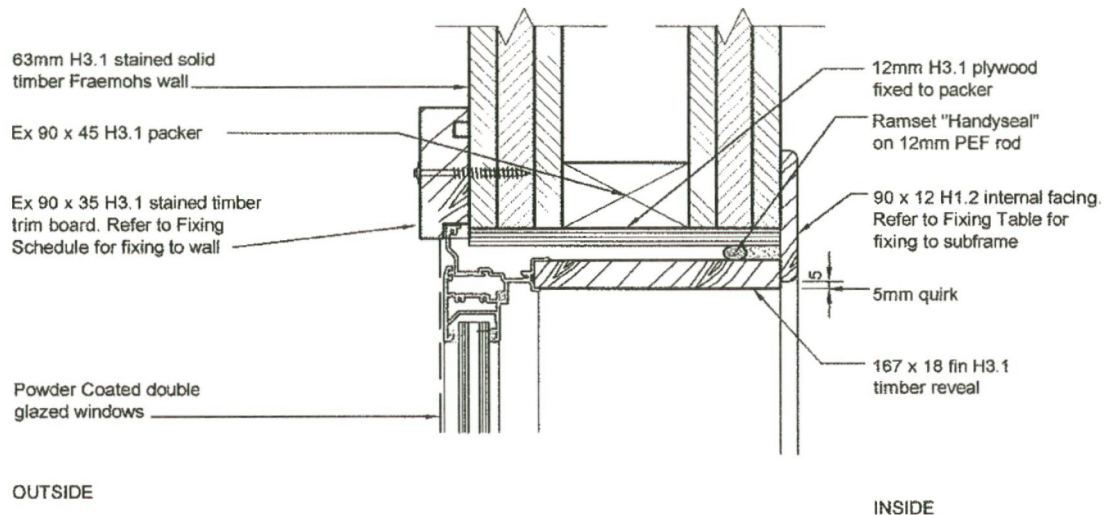
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TITLE Window Sill		
DRAWN	Adam Cooper	SCALE As Noted @ A4
APPROVED	-	
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SHEET D08		REVISION R 0

0765



TRIM BOARD



D09

Window Jamb

1:5

0 10 mm
GRAPHIC SCALES

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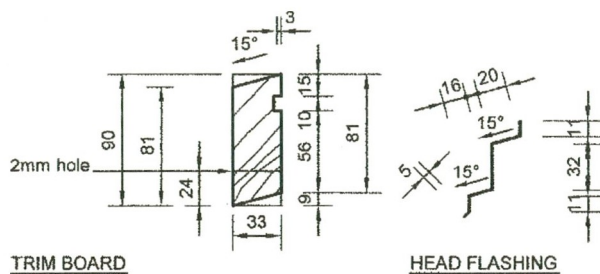
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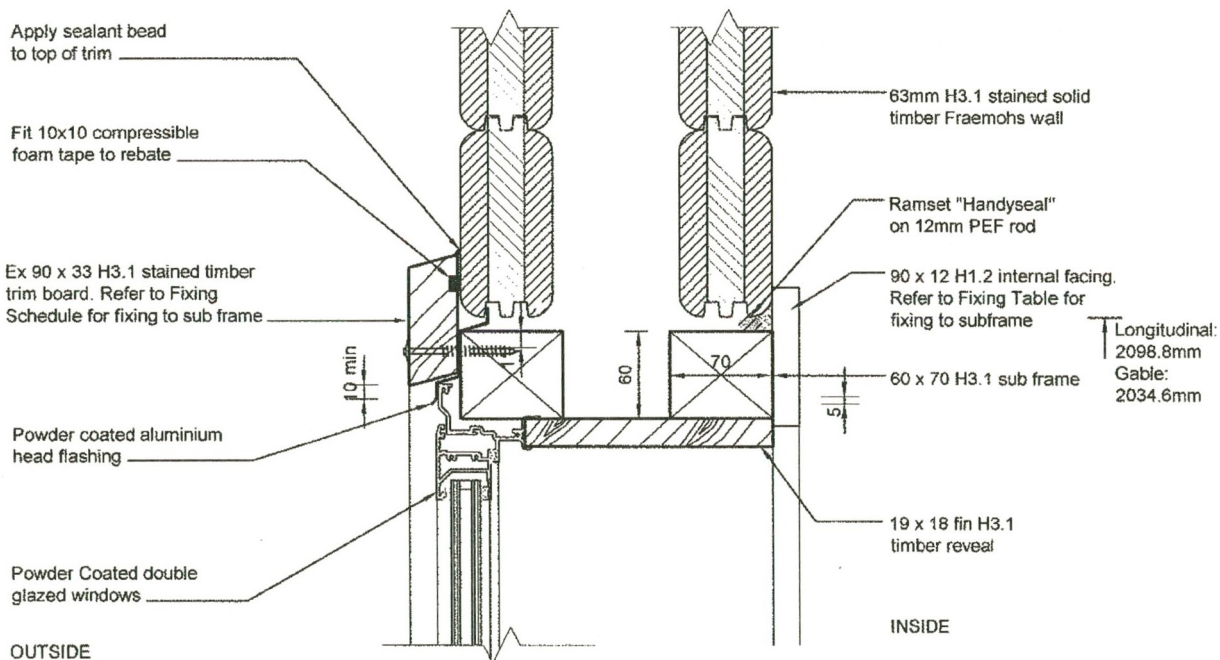
TITLE Window Jamb		
DRAWN	Adam Cooper	SCALE
APPROVED	-	As Noted @ A4
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SHEET D09		REVISION R 0

E:\PROJECTS\05 FRAEMOHS\1176 Richardson Road\Sheet\D09 Window Jamb.dwg ORIGINAL SHEET SIZE A4 (297x210)



Explanatory note:

When installed there will be a larger gap at the head of the window to allow for building settlement. Do not fix architraves until building has settled. Refer to Building Guide



D10

Window Head

1:5

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TITLE Window Head		
DRAWN Adam Cooper	SCALE As Noted @ A4	
APPROVED -		
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SHEET D10		REVISION R 0



ACENZ

Building Code Clause(s) **B1****PRODUCER STATEMENT – PS1 – DESIGN***(Guidance notes on the use of this form are printed on the reverse side*)*

ISSUED BY: **O'LOUGHLIN TAYLOR SPENCE LIMITED**
(Design Firm)

TO: **MAGGIE AND YVES OBUS**
(Owner/Developer)

TO BE SUPPLIED TO: **GORE DISTRICT COUNCIL**
(Building Consent Authority)

IN RESPECT OF: **NEW DWELLING**
(Description of Building Work)

AT: **176 RICHARDSON ROAD, GORE**
(Address)

LOT **DP** **SO**

We have been engaged by the owner/developer referred to above to provide **STRUCTURAL ENGINEERING - WALLS, BRACING** services in respect of the requirements of

(Extent of Engagement)

Clause(s) **B1 (STRUCTURE)** 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 Department of Building & Housing **B1/VM1: B1/AS1**
(verification method / acceptable solution)

☐ Alternative solution as per the attached schedule

The proposed building work covered by this producer statement is described on the drawings titled **PROPOSED NEW DWELLING FOR MAGGIE AND YVES OBUS at 176 RICHARDSON ROAD, GORE** and numbered **100.1, 110.1 to 110.4, 120.1 to 120.3** together with the specification, and other documents set out in the schedule attached to this statement.

On behalf of the Design Firm, and subject to:

- (i) Site verification of the following design assumptions **SAFE BEARING PRESSURE OF 100 KPa**
- (ii) All proprietary products meeting their performance specification requirements;

I **believe on reasonable grounds** 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.

I, **JOHN S SPENCE** am: ☒ CPEng **35414** #
(Name of Design Professional)

☐ Reg Arch #

I am a Member of: ☒ IPENZ ☐ NZIA and hold the following qualifications: **BE (HONS)**

The Design Firm issuing this statement holds a current policy of Professional Indemnity Insurance no less than \$200,000*.

The Design Firm is a member of ACENZ ☒ YES ☐ NO

SIGNED BY **J S SPENCE** ON BEHALF OF **O'LOUGHLIN TAYLOR SPENCE LTD**
(Design Firm)

Date **7 NOVEMBER 2011** (signature) *[Signature]*

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

This form is to accompany **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 1992. 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, Association of Consulting Engineers New Zealand in consultation with the Building Officials Institute of New Zealand. The original suite 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 Review	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 a certificate of completion of building work are Schedule 6 of NZS 3910:2003 ¹ or Schedules E1/E2 of NZIA's SCC 2007 ²
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

This 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)³ (OL1-OL4)². 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 statements 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 Building & Civil Engineering Construction NZS 3910: 2003

² NZIA Standard Conditions of Contract SCC 2007 (1st edition)

³ Guideline on the Briefing & Engagement for Consulting Engineering Services (ACENZ/IPENZ 2004)

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



CALCULATION SHEET

JOB NAME: Olus, Gore.

PAGE NO.:

SECTION: Fraemohs

1.

JOB No.: 1795

DESIGNED:

DATE: 30.9.2011

CHECKED:

• Snow, do AS/NZS 1170.3

Region NS, Elevation 205

$$S_g = 1.25 \times 1.2 \left[1.5 \times 205 / 1000 + 0.3 \right] = 0.91 \text{ kPa}$$

$$S = 0.91 \times 1.0 \times \left[0.7 (60 - 25) / 50 \right] = 0.45 \text{ kPa}$$

• Root, dead load, $G = 0.45 \text{ kPa}$

Lintels $1.2G + S_u = \{ 1.2 \times 0.45 + 0.45 \} \times 8.8 / 2 = 4.4 \text{ kN/m}$

Max opening = 2.8m, R.S. to living room

$$U_n^* = 4.3 \text{ kN-m}$$

Height above opening = 400mm say 2 full boards

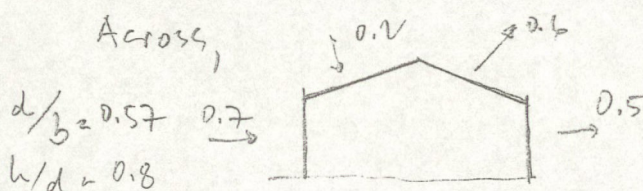
$$\phi U_n = 10.8 \text{ kN-m} \quad (2 \times 2 \text{ boards})$$

Lintels ok

Bracing: do AS/NZS 1170.

Wind $V_{sitB} = 45.0 \times 1.0 \times 0.91 \times 1.0 \times 1.0 = 41 \text{ m/sec}$

$$\rho = 1.0 \text{ kPa}$$



load to eave

$$= \left[(0.7 + 0.5) \times 2.5 / 2 + (0.2 + 0.6) \times \cos 65^\circ \times 2.0 \right] \times 1.0$$

$$= 2.2 \text{ kN/m}$$

Along, Check EQ.

Earthquake

$$CCT = 3.0 \times 0.18 \times 1.0 \times 1.0 = 0.54$$

$$K_{pr} = (1.25 - 1.0) \times 0.7 / 0.7 + 1 = 1.25$$

$$C_d(T) = 0.54 \times 0.925 / 1.25 = 0.4$$

CALCULATION SHEET

JOB NAME: Obus Grove

PAGE NO.:

SECTION: Fraenholm

2

JOB No.: 1795

DESIGNED:

DATE: 30.9.2011

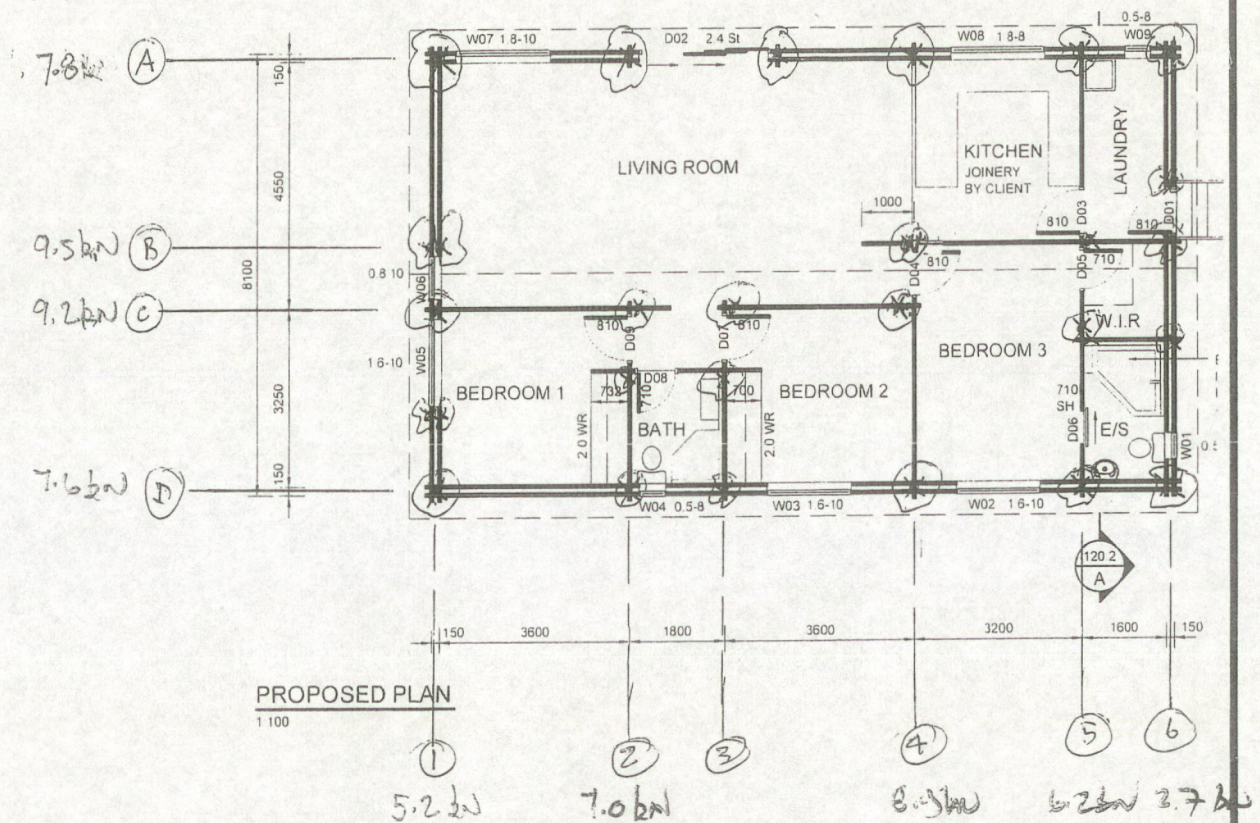
CHECKED:

EQ across, load to eave, roof = $0.45 \times 8.8 \times 0.4 = 1.58 \text{ kn/m}$
+ walls = $0.45 \times 5 \times 2.4/2 \times 0.4 = 1.08 \text{ kn/m}$
2.66 kn/m

EQ is critical.

EQ along, load to eave, roof = $0.45 \times 15.0 \times 0.4 = 2.7 \text{ kn/m}$
+ walls = $0.45 \times 7 \times 2.4/2 \times 0.4 = 1.51 \text{ kn/m}$
4.21 kn/m

load @ corner



Line B, $M^* = 2.4 \times 9.5 = 22.8 \text{ knm}$
Hurricane load = $22.8 / 3.4 = 6.7 \text{ kn}$

OK

Line 1, $M^* = 2.4 \times 7.0 = 16.8 \text{ knm}$
Hurricane load = $16.8 / 2.0 = 8.4 \text{ kn}$

OK

PRECUT CONSTRUCTION LTD

PHONE: (03) 3237687
FAX: (03) 3238103
EMAIL: admin@precut.co.nz

PRE-CONSENT SHEET

DATE: **09-11-2011**

JOB REF #: **PC11212**

CLIENT: **Fraemohs Homes**

JOB ADDRESS: **176 Richardson Road - Gore**

BUILDING CONSENT NUMBER:

TO BE PROVIDED BY: **Gore District Council**

We have been engaged to provide the Trusses and/or Framing for the above project.
To allow completion of the consent application we have supplied the following information:

- (a) Consent Sheet
- (b) Truss Layout
- (c) Producer Statement
- (d) Truss Fixings Report as per Mitek version 20/20 4.6

On advice from the building project owner, the structure will be designed under the following parameters:

WIND ZONE: **High @ 44.0m/s** SNOW ZONE: **200mts 0.9 KPA**

EARTHQUAKE ZONE: **2** ROOF MATERIALS: **LONGRUN IRON**

ROOF TRUSSES: **90X45 Rad SG8 H1.2**

We can advise the following will be provided at the time of manufacture to both the building owner and your office.

- 1. A full 'as built' layout and producer statement .
- 2. Specific Truss Fixings as per Mitek version 20/20 4.6.

Our company requires acknowledgement of this letter , along with the building consent number , as soon as possible.



Correspondence from : **AUCKLAND**
40 Neales Road, East Tamaki 2013
PO Box 58-014, Botany 2163
Phone: 09 274 7109
Fax: 09 274 7100

CHRISTCHURCH
14 Pilkington Way, Wigram 8042
PO Box 8387, Riccarton 8440
Phone: 03 348 8691
Fax: 03 348 0314

PRODUCER STATEMENT for MiTek 20/20™ TRUSS DESIGN - Version 4.6

ISSUED BY: **MiTek New Zealand Ltd**
TO: **Precut Construction**
IN RESPECT OF: **GANG-NAIL Truss Designs**

This producer statement covers the MiTek 20/20™ truss design and the structural performance of the GANG-NAIL plate for the job reference **PC11212** and may be used by a Building Consent Authority to assist in determining compliance with the New Zealand Building Code.

The MiTek 20/20™ truss design program has been developed by MiTek New Zealand Ltd for the design of GANG-NAIL® timber roof, floor and attic trusses in New Zealand. The truss designs computed by MiTek 20/20™ are prepared using sound and widely accepted engineering principles, and in accordance with compliance documents of the New Zealand Building Code and Verification Method B1/VM1; and internationally accepted standard ANSI/TPI 1 - 2002 as an alternative solution to satisfy the requirements of Clause B1 of the New Zealand Building Code.

On behalf of MiTek New Zealand Ltd, and subject to:

- i) All proprietary products meeting their performance specification requirements
- ii) The provision of adequate roof bracing and overall building stability
- iii) Correct selection and placement of GANG-NAIL connector plates
- iv) Correct input of Truss Design Data as shown in the Fabricator Design Statement for this job
- v) The design being undertaken by the accredited fabricator under the terms of the software licence

I believe on reasonable grounds that the trusses, if constructed in accordance with the MiTek 20/20™ truss design and shop drawings, will comply with the relevant provisions of the New Zealand Building Code.

MiTek New Zealand Ltd holds a current policy of Professional Indemnity Insurance no less than \$500,000.

On behalf of MiTek New Zealand Ltd,

Date: August 2010

In Ling Ng, BE (Hons), CPEng, IntPE, MIPENZ (ID: 146585)
TECHNICAL SERVICES MANAGER, MiTek New Zealand Ltd

Job: PC11212

Client: FRAEMOHS

Site: Obus
176 Richardson Road
GoreDescription:
Building Consent No.:
MiTek 20/20 Engineering 4.6.4.28

Phone:

Phone:

MiTek New Zealand Ltd.

Printed: 15:54:05 09 Nov 2011

MITEK FABRICATOR DESIGN STATEMENT

This statement is issued by MiTek accredited fabricator **Precut Construction**, being licensed to use the MiTek 20/20™ software, to the client listed above and may be used by the Building Consent Authority to assist in determining compliance with the New Zealand Building Code.

MiTek 20/20™ TRUSS DESIGN DATA

The MiTek 20/20™ computer design for this job is based on the following design parameters entered into the program. The Fabricator shall ensure that these job details are current and relevant to the project for the design of the GANG-NAIL trusses.

Job Details**Roof Truss**

Timber Group: DDF MSG X 45 H1.2

Roof

Material: Galv Iron .5mm

Dead Load: 0.210 kPa

Restraints: 900 mm centres

Live Load: Q_{ur} = 0.250 kPaQ_c = 1.100 kN

Importance Level : 2

Pitch: 25.000 deg

Ceiling

Material: Gib Board 12mm

Dead Load: 0.200 kPa

Restraints: 600 mm centres

Live Load: Q_c = 1.400 kN

Design Working Life : 50 years

Nominal Overhang: 300 mm

Wind

Area: High (44.0 m/s)

Pressure Coeff: C_{pe} = varies; C_{pi} = -0.30, 0.20**Snow**

Location: Invercargill (N5) at 200 m

Open Ground Load: 0.900 kPa

Basic Roof Load: 0.441 kPa

The timber for these GANG-NAIL trusses shall be treated to the requirements of NZS 3602:2003 and shall be graded to the requirements of NZS 3603:1993. Unless otherwise noted, this design assumes that the steel fixings and timber connectors proposed are located in a "closed environment", as defined by NZS3604:1999 Section 4.

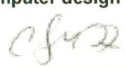
NAIL Truss List

Legend: * = detail only, ? = input only, Txx = failed design, Ø = non certified, Unmarked trusses = designed successfully, LB = lateral bracing required
WB = windbeam required

Truss	Qty	Span (mm)	Pitch (deg)	Spacing (mm)
EN01	2	8163	25.000	882 WB
T01	15	8163	25.000	882
*R01	2	8763	25.000	900

Total quantity : 19

The computer design input has been carried out by:

Signed: 

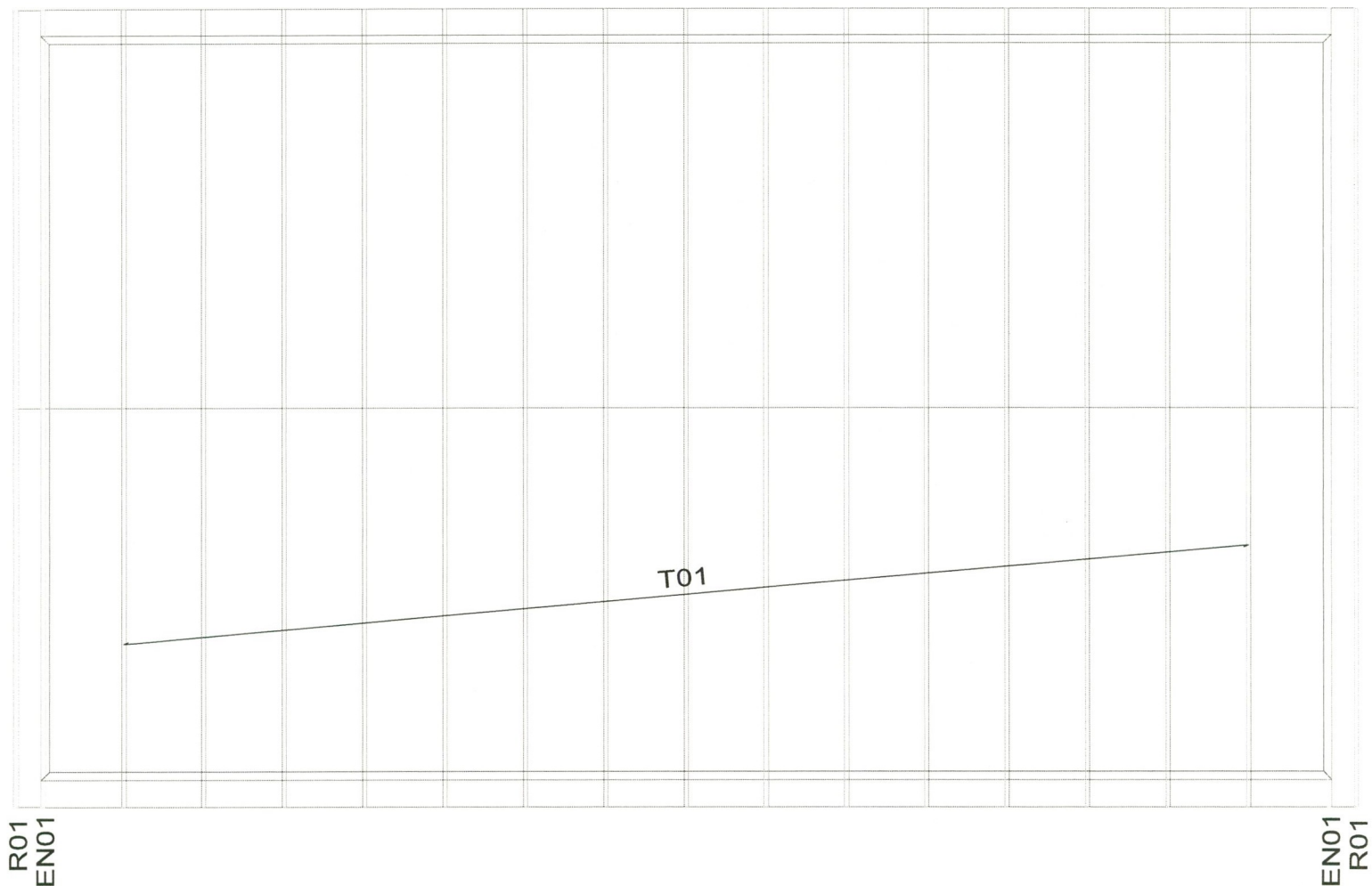
Date: ...Wednesday, 9 November 2011....

Name of Detailer:

Qualifications and Title:

On behalf of:

Precut Construction



Precut Construction

9 Empire Road
Belfast
Christchurch
New Zealand
Telephone:
Fax:

FRAEMOHS
176 Richardson Road
Gore

Job:
PC11212

Building Consent No.:

Scale: 1 : 74

Date: 9/11/2011

Drawn By: Brent McKay

Job Details:

Snow Zone:	Invercargill (N5)	Snow Altitude:	200 m
Wind Area:	High	Design Wind Speed:	44.0 m/s
TC Restraints:	900 mm	BC Restraints:	600 mm
Roof Material:	Galv Iron .5mm	Ceiling Material:	Gib Board 12mm
Roof Live Load:	0.250 kPa	Snow Load:	0.441 kPa
Roof Pitch:	25.000 deg	Truss Centres:	900 mm

Job: PC11212

Client: FRAEMOHS

Site: Obus
176 Richardson Road
GoreDescription:
Building Consent No.:
MiTek 2020 Engineering 4.6.4.28

Phone:

Phone:

MiTek New Zealand Ltd.

Printed: 15:54:27 09 Nov 2011

TRUSS FIXING SELECTION REPORT - Characteristic Loads

Fixings are selected from the LUMBERLOK Brochure 03/4 (Timber Connectors Characteristic Loadings Data)

GANG-NAIL Truss List

Legend: * = detail only, ? = input only, Txx = failed design, Ø = non certified, Unmarked trusses = designed successfully

Truss	Qty	Span (mm)	Joint	Down (kN)	Uplift (kN)	Bearing	----- Fixing -----	
							Qty	Selected
EN01	2	8163	B			Wide		No fixing selected
T01	15	8163	B	7.006	4.030	Cross	15	CT400
			J	7.006	4.030	Cross	15	CT400
*R01	2	8763						

Refer NZS3604:1999 Tables 15.6

Fixing List

Qty	Selected Fixing
30	CT400
2	No fixing selected

Note:

- 1) Fixings have been selected based on loading only. Please check that selected fixings are practical for each situation and that appropriate nailing can be applied on site.
- 2) Fixings are selected from the LUMBERLOK Brochure 03/4 (Timber Connectors Characteristic Loadings Data) with down and uplift characteristic loads of at least the values shown for each joint.

PROPOSED NEW DWELLING

for

MAGGIE & YVES OBUS

at

176 RICHARDSON ROAD, GORE

Sheet List Table			
Sheet Number	Sheet Title	Revision Date	Revision Number
100.1	Cover Sheet & Location Plan	-	0
110.1	Proposed Plan	-	0
110.2	Foundation Layout Plan	-	0
110.3	Floor Framing Plan	-	0
110.4	Roof & Roof Framing Plan	-	0
120.1	Elevations	-	0
120.2	Section A	-	0
120.3	Section B	-	0
150.1	Window and Door Schedule	-	0
160.1	Electrical & Lighting Plans	-	0
160.2	Plumbing Plan	-	0

GENERAL NOTES:

Contractor is to confirm all Dimensions on site before commencing work.

All discrepancies or omissions must be confirmed with the Designer before commencing work.

Unless noted otherwise all dimensions are nominal, including timber sizes. Finished timber sizes shall be greater than or equal to those noted in NZS 3604 part 2.2

All work is to be carried out in accordance with the New Zealand Building Code and local bylaws as they apply eg: ECAN

B1: Structure. Unless noted otherwise all timber is to be SG8, and all timber framing is to comply with NZS 3604 2011.

B2: Durability. Unless noted otherwise all timber is to be CCA treated to H1.2 min. Where Galvanized Brackets and fixings are in contact with CCA treated timber, and are likely to be regularly wetted in service (ie: Deck Framing) the Galv fixings are to be powder coated to prevent corrosion.

C1-4: Refer to the Smoke alarm positions on the Floor Plans. Ensure only approved 'hush type' smoke alarms to AS3786, BS5446 pt1, or UL 217 as per NZBC F7/AS1 are installed.

D1: Access. Ensure all surfaces along exterior access routes are non-slip to the requirements of the code. The minimum level of finish would be:
"Exposed Concrete: Broomed Finished.
"Tiles: Non-slip type.
"Timber steps to be painted with sand impregnated paint.
"Interior Tiled floors in Bathrooms, wet areas and Entryways are to be a non-slip type.

E1: Surface Water. Minimum pipe gradients and sizes.
100 dia SW pipes fall @ 1:120.
4400m3 Spouting falls @ 1:500 min.
80dia Downpipes min.
Impervious surfaces 1:100 fall min.
All pipes passing through concrete are to be lagged in Denso Tape.

E3: 10mm Aqualine Gib behind all wet areas on H3.1 framing. Impervious surface finishes to all Bathrooms, Laundries and wet areas.

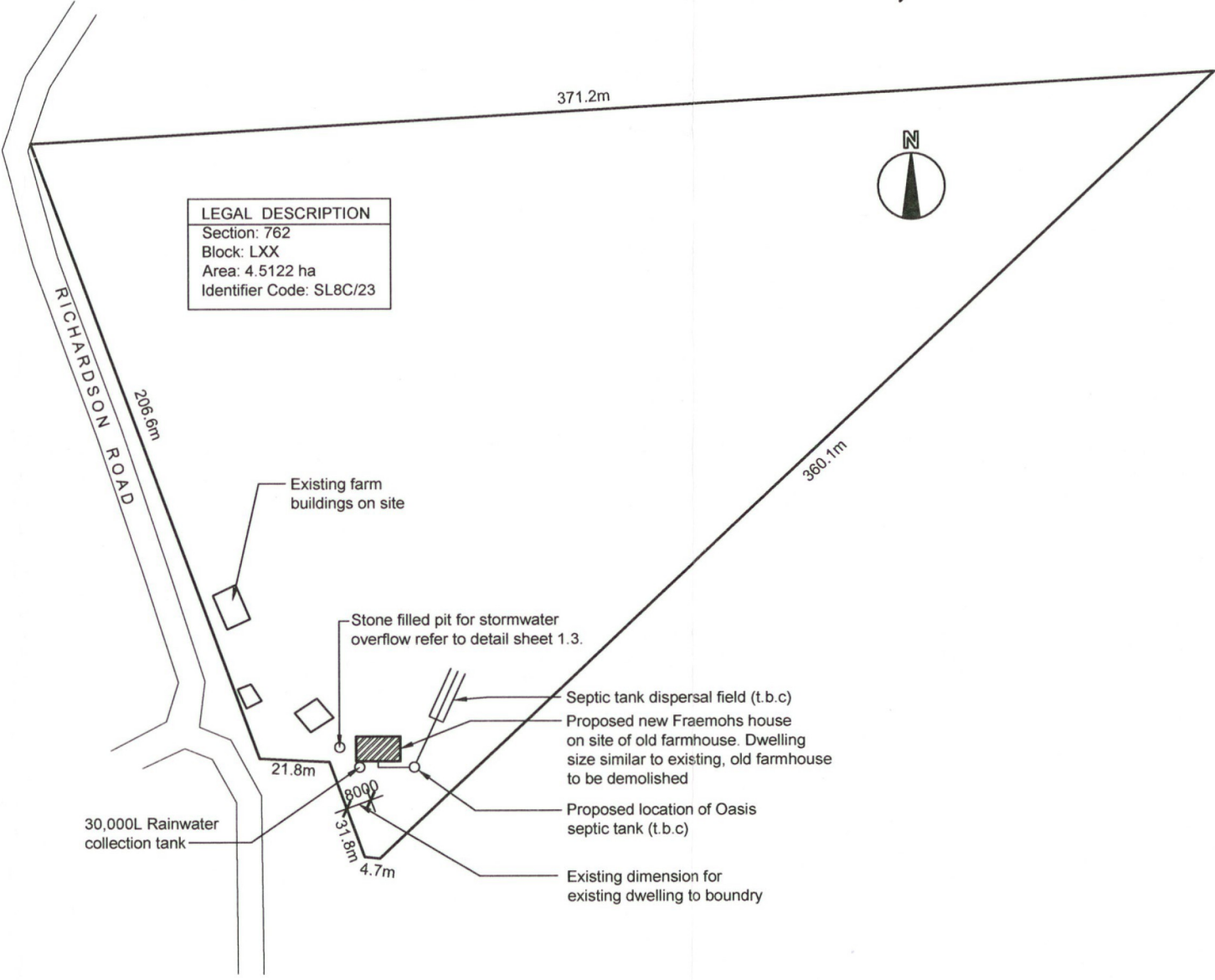
F2: All glazing to comply with NZS 4223 part 3 and to the following.
Framed Shower screen and Bath enclosures Grade A glazing material as per Table 3.1.
Panels and doors with one unframed edge 5mm min thick Toughened Safety Glass
Frameless pivot or hinge doors 6mm min thick Toughened Safety Glass
Glazing within 1500mm above abutting FFL, or standing area of a bath or shower Grade A safety Glazing material in accordance with Table 3.1
Glazing greater than 1500mm above the abutting FFL, or standing level of a bath or shower Annealed glass to NZS 4223: Part 4

G9: Electricity. All Electrical work is to comply with electrical codes of practice and a Certificate of Compliance left with the homeowner.

G13: Foul Water. All work is to comply with NZS/AS 3500 part 2.2. Minimum Gradients: 50mm drains 1:40, 65mm drains 1:40, 100mm drains 1:60

H1: Energy Efficiency. Refer to the elevation table showing how compliance is met.

Exterior
H 3-1



LEGAL DESCRIPTION
Section: 762
Block: LXX
Area: 4.5122 ha
Identifier Code: SL8C/23

LOCATION PLAN
1:2000

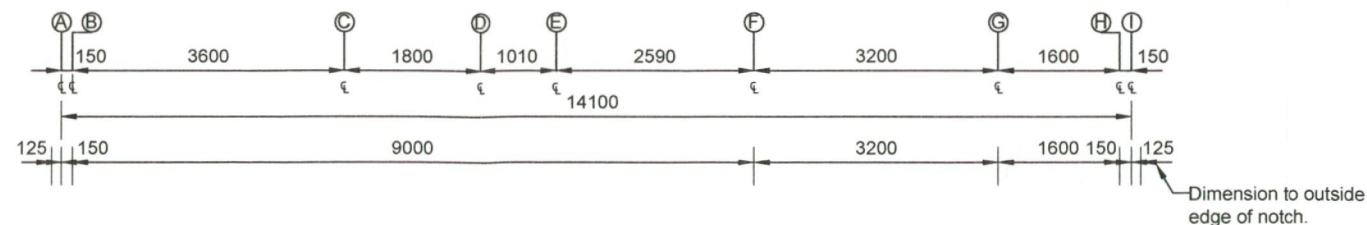
AMENDMENT		BY	
Amendment - R0	Date - -	DESIGN	Jared Lane
Description - -		DRAWN	JL
		CHECKED	JL
NOTES		APPROVED	Date
		This drawing and its contents are the property of Fraemohs Industries Limited 2007. Any unauthorised employment or reproduction, in full or in part, is forbidden.	

FRAEMOHS HOMES

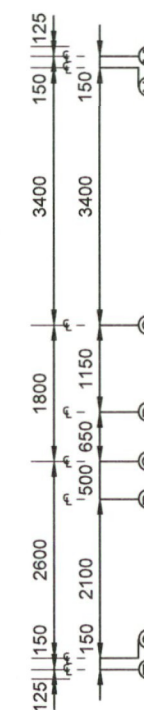
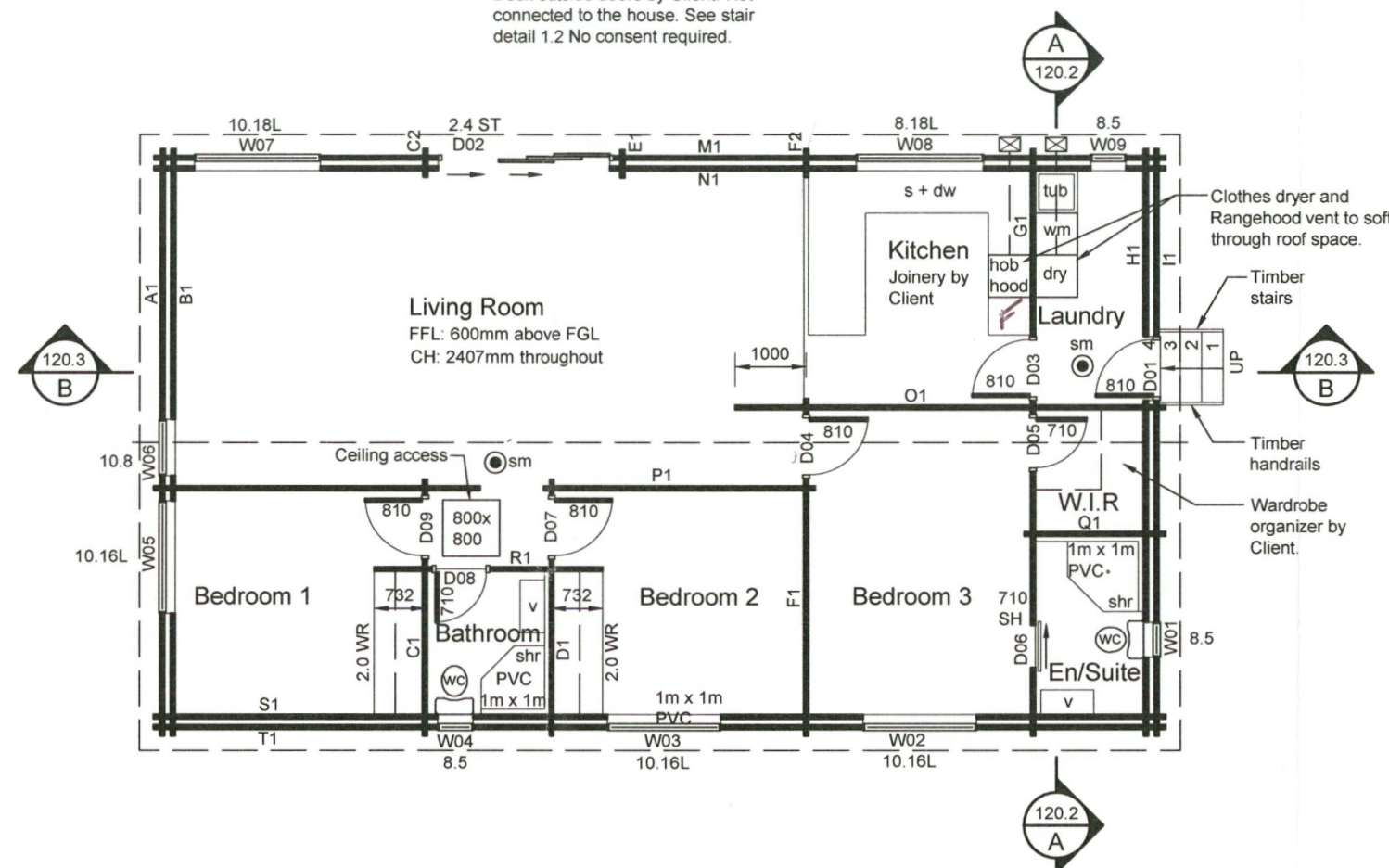
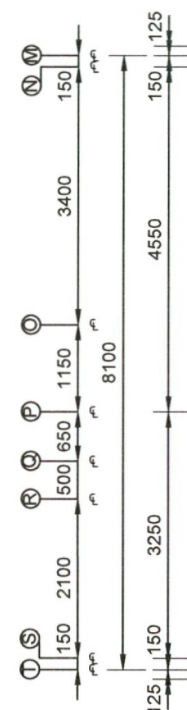
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TITLE MAGGIE AND YVES OBUS FRAEMOHS WEKA HOUSE 176 RICHARDSON ROAD, GORE Cover Sheet & Location Plan			
STATUS Consent and Construction		WALL THICKNESS 63	
SCALE As Noted @ A3	PLOT DATE 1 November 2011	JOB NUMBER 11116	SHEET 100.1
		REVISION R 0	



Deck outside doors by Client. Not connected to the house. See stair detail 1.2 No consent required.



GENERAL NOTES:

All dimensions are nominal and are to be checked on site before commencing work

Unless noted otherwise all timbers H1.2 SG8 to NZS3604:2011 and NZS3602:2003

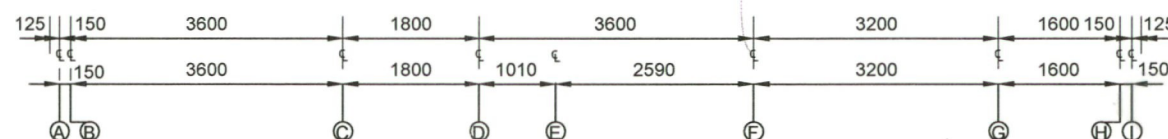
All work to comply with the Relevant Sections of the New Zealand Building Code

KEY:

Tie Rod:	T
Lintel Bolt:	B
Smoke Alarm:	sm
Kitchen Sink:	s
Dishwasher:	dw
Washing Machine:	wm
Laundry Tub:	tub
Vanity:	v
Toilet Suite:	wc
Shower:	shr

PROPOSED PLAN

1:100



AMENDMENT	BY
Amendment - R0	Jared Lane
Date - -	AC
Description - -	JL
NOTES	APPROVED
-	Date
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FRAEMOHS HOMES

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TITLE MAGGIE AND YVES OBUS FRAEMOHS WEKA HOUSE 176 RICHARDSON ROAD, GORE Proposed Plan				
STATUS CONSENT AND CONSTRUCTION			WALL THICKNESS 63	
SCALE As Noted @ A3	PLOT DATE 1 November 2011	JOB NUMBER 11116	SHEET 110.1	REVISION R 0

GENERAL NOTES:

All dimensions are nominal and are to be checked on site before commencing work

Unless noted otherwise all timbers H1.2 SG8 to NZS3604:2011 and NZS3602:2003

All work to comply with the Relevant Sections of the New Zealand Building Code

All Fixings to be galv. steel, except where within 600mm of ground they shall be stainless steel.

SUBFLOOR GRID

This grid relates only to the sub-floor set out. Refer to the Floor Plan for the wall grid.

BRACING

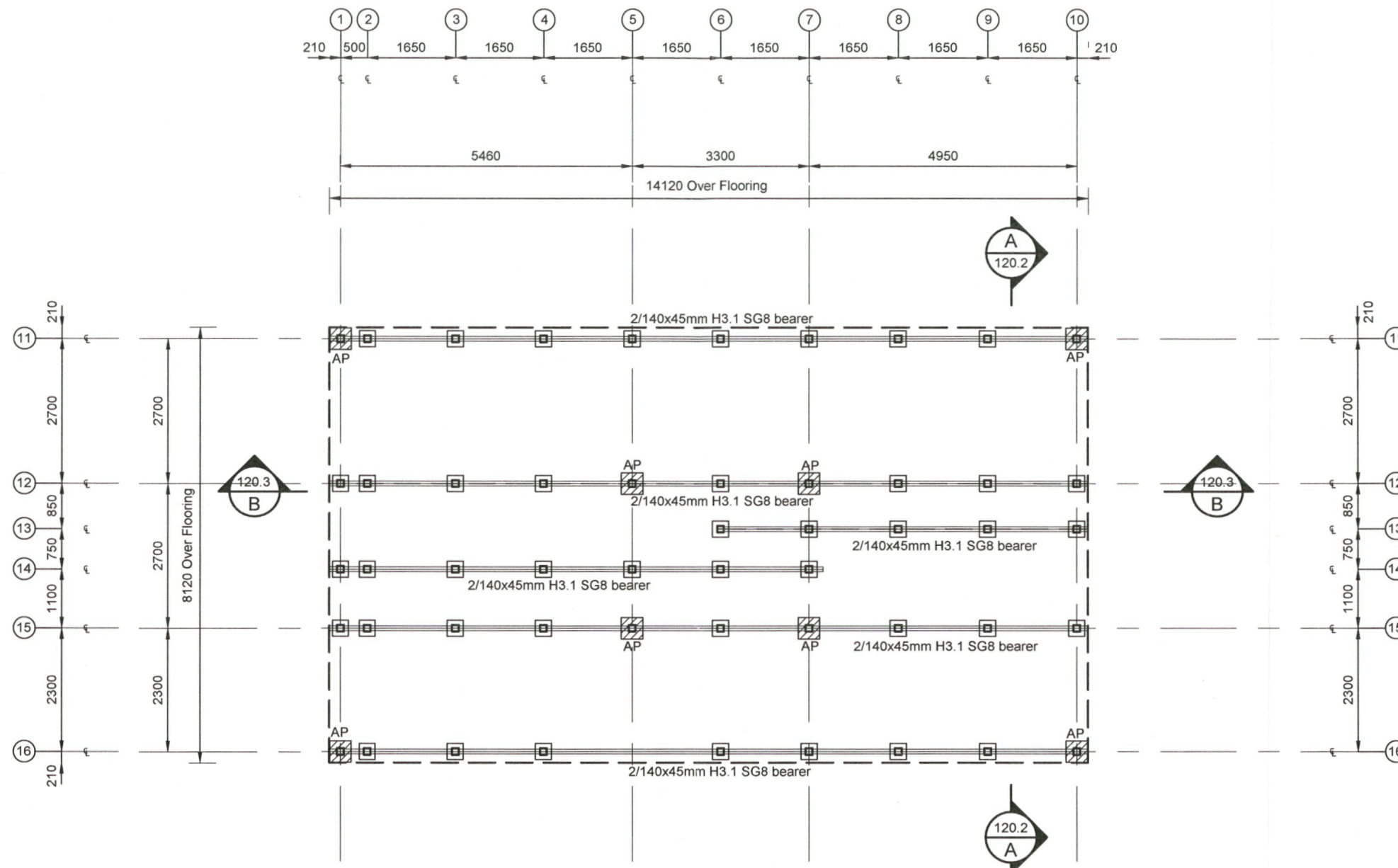
Refer to Specification for Bracing Calculations Sheets with the Bracing Requirement Calculations

KEY:

Anchor Pile
Refer to detail 2.44



Ordinary Pile
Refer to detail 2.46



FOUNDATION LAYOUT PLAN

1:100

AMENDMENT	BY
Amendment - R0 Date - -	DESIGN Jared Lane
Description - -	DRAWN AC
	CHECKED JL
NOTES	APPROVED Date
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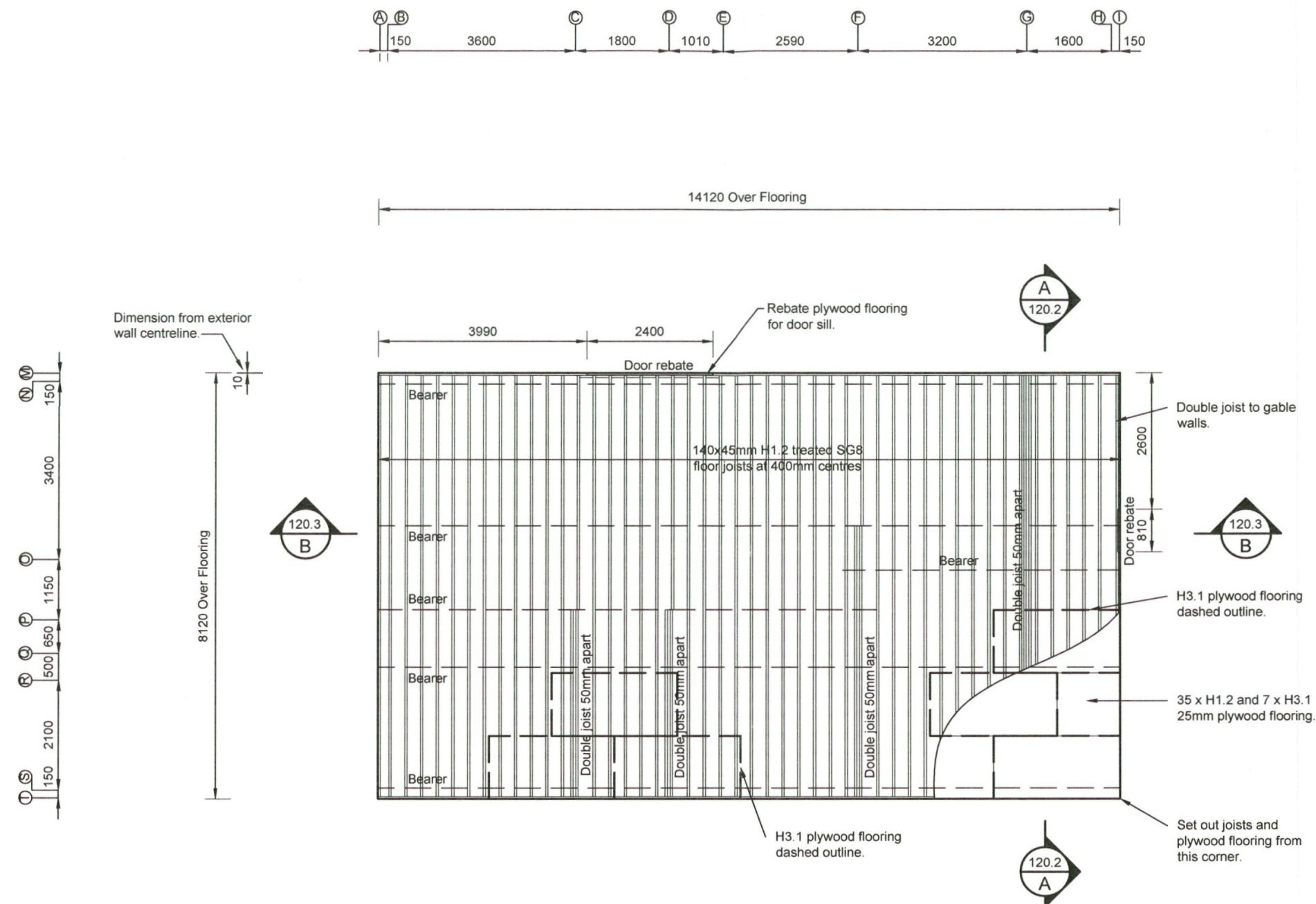


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TITLE MAGGIE AND YVES OBUS FRAEMOHS WEKA HOUSE 176 RICHARDSON ROAD, GORE Foundation Layout Plan				
STATUS CONSENT AND CONSTRUCTION			WALL THICKNESS 63	
SCALE As Noted @ A3	PLOT DATE 1 November 2011	JOB NUMBER 11116	SHEET 110.2	REVISION R 0

E:\PROJECTS\05 FRAEMOHS\176 Richardson Road\Sheets\110.2 Foundation Layout Plan.dwg ORIGINAL SHEET SIZE A3 (420x297)



GENERAL NOTES:

All dimensions are nominal and are to be checked on site before commencing work

Unless noted otherwise all timbers H1.2 SG8 to NZS3604:2011 and NZS3602:2003

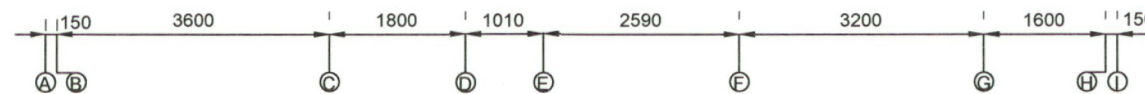
All work to comply with the Relevant Sections of the New Zealand Building Code

PLUMBING

Ensure floor joist layout allows for plumbing as shown. Maximum holes cut in Standard NZS3604 floor joist 1/3 depth of joist or 32mm maximum

FLOORING LAYOUT PLAN

1:100



AMENDMENT		BY	
Amendment - R0	Date - -	DESIGN	Jared Lane
Description - -		DRAWN	AC
		CHECKED	JL
NOTES		APPROVED	
			Date
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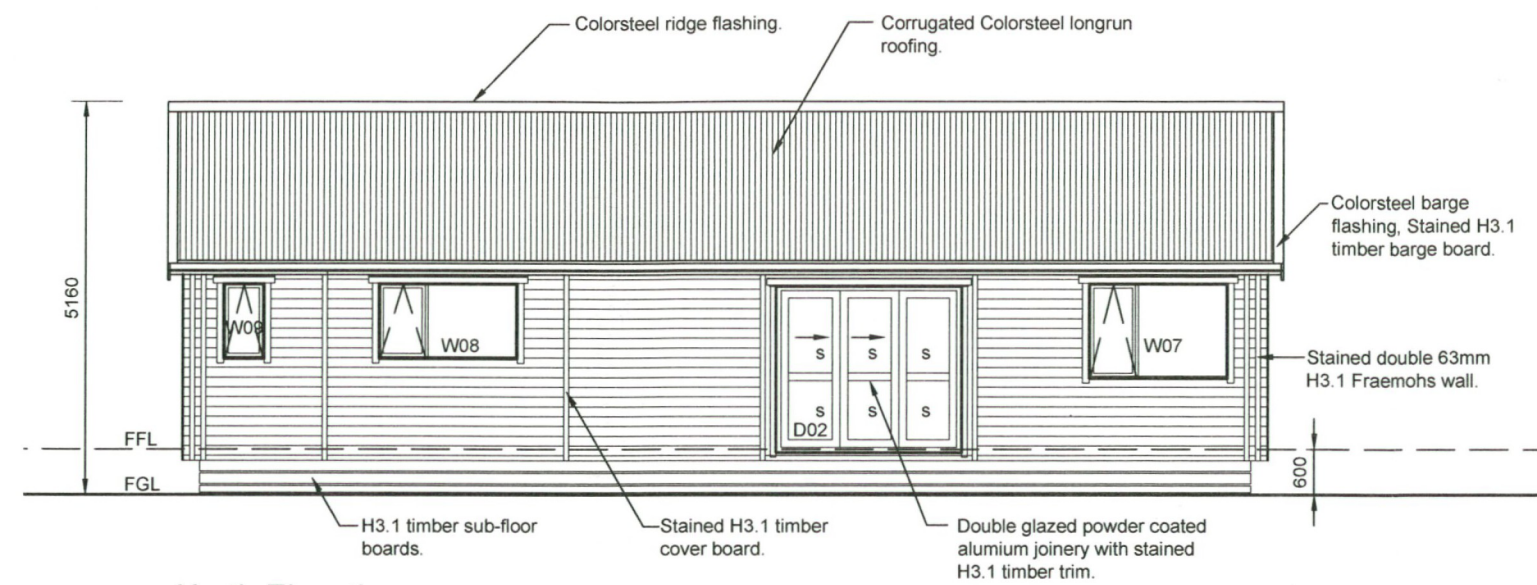


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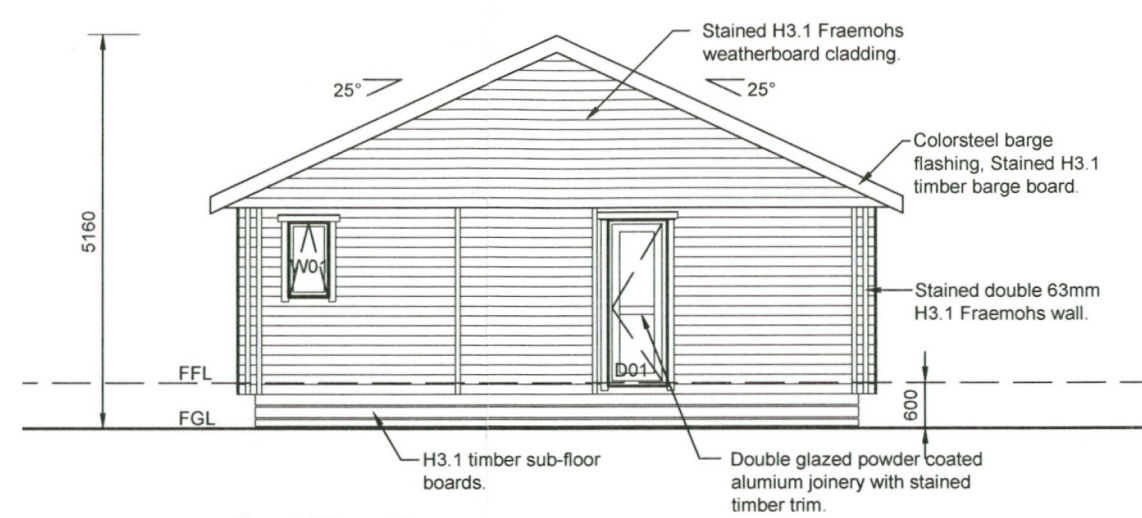
Free Phone 0800 80 98 99 | www.fraemohs.co.nz

TITLE			
MAGGIE AND YVES OBUS FRAEMOHS WEKA HOUSE 176 RICHARDSON ROAD, GORE Floor Framing Plan			
STATUS			WALL THICKNESS
CONSENT AND CONSTRUCTION			63
SCALE	PLOT DATE	JOB NUMBER	SHEET
As Noted @ A3	1 November 2011	11116	110.3
			REVISION
			R 0

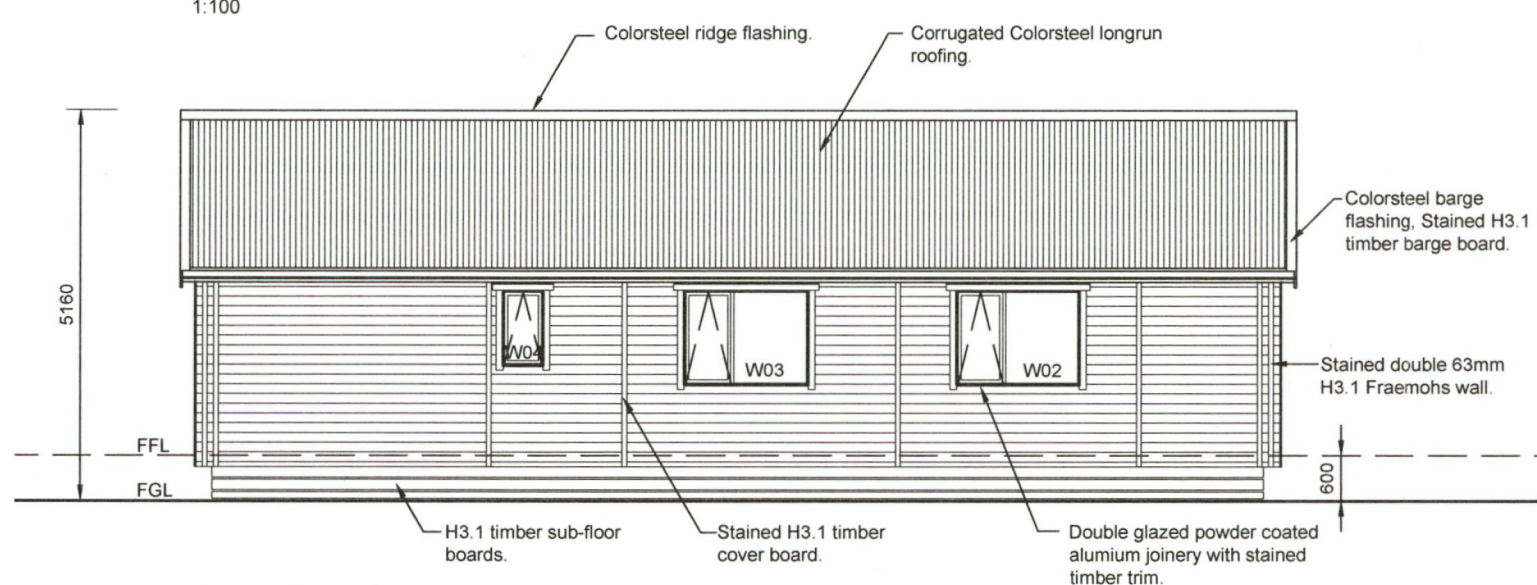
E:\PROJECTS\05 FRAEMOHS\176 Richardson Road\Sheets\110.3 Floor Framing Plan.dwg ORIGINAL SHEET SIZE A3 (420x297)



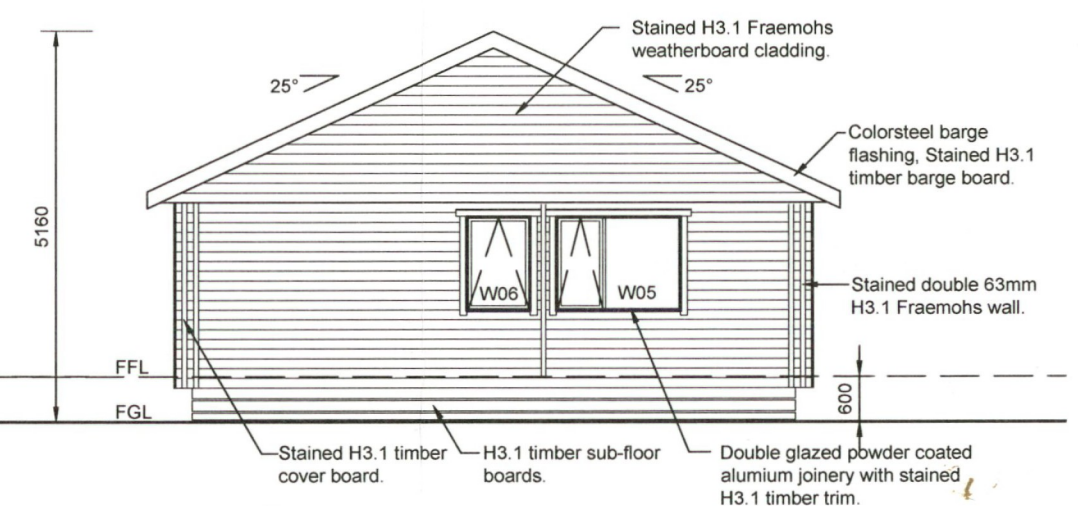
North Elevation
1:100



East Elevation
1:100



South Elevation
1:100



West Elevation
1:100

GENERAL NOTES:		
All dimensions are nominal and are to be checked on site before commencing work		
Unless noted otherwise all timbers H3.1 SG8 to NZS3604:2011 and B1/AS1		
All work to comply with the Relevant Sections of the New Zealand Building Code		
Risk Matrix Calculation: Assume similar conditions exist on all faces of Addition		
Wind Zone:	High	1
# of Storeys	Low	0
Roof/Wall Design	Low (Hip & Gable)	0
Eaves Width	High	2
Envelope	Low	0
Deck	Low	0
A score of 3 allows Timber Weatherboards to be directly fixed to Framing without a cavity		Total = 3

Compliance with NZBC Clause H1: Energy Efficiency:				R-Values of all components meet Schedule minimums:	
Aspect	Total wall m²	Total Glazing m²	Glazing %	Roof:	Yes (R3.4)
North	34.77m²	10.0m²	28.76%	Walls:	Yes (R3.1)
West	20.04m²	3.0m²	14.97%	Floor:	Yes (R1.3)
South	34.77m²	4.5m²	12.94%	Glazing (Vertical):	Yes (R0.26)
East	20.04m²	2.2m²	10.97%	Glazing (Skylights):	N/A
All walls total	109.62m²	19.7m²	17.97%	R-Value of roof takes into account downlights:	Yes (All lights CA rated, at 1 unit/5m² Ceiling)
ESW walls total	74.85m²	9.7m²	12.95%		
Total allowable glazing area as per scheduled method: >30% for Total ESW walls and Total NESW walls				All glazing is double glazed and meets Schedule minimums:	Yes
Area/Perimeter Ratio		2.6		Heated roof, walls and floors meet R values from Table 3 of H1:	NA
Total Area of skylights ≤ 1.2m²: (0m total)		Yes (None)		Note:	
				Fraemohs double wall R-Value calculation R0.61 + Terralana TLWC1.9 + R0.61 = R3.1	

SUPERCEDED

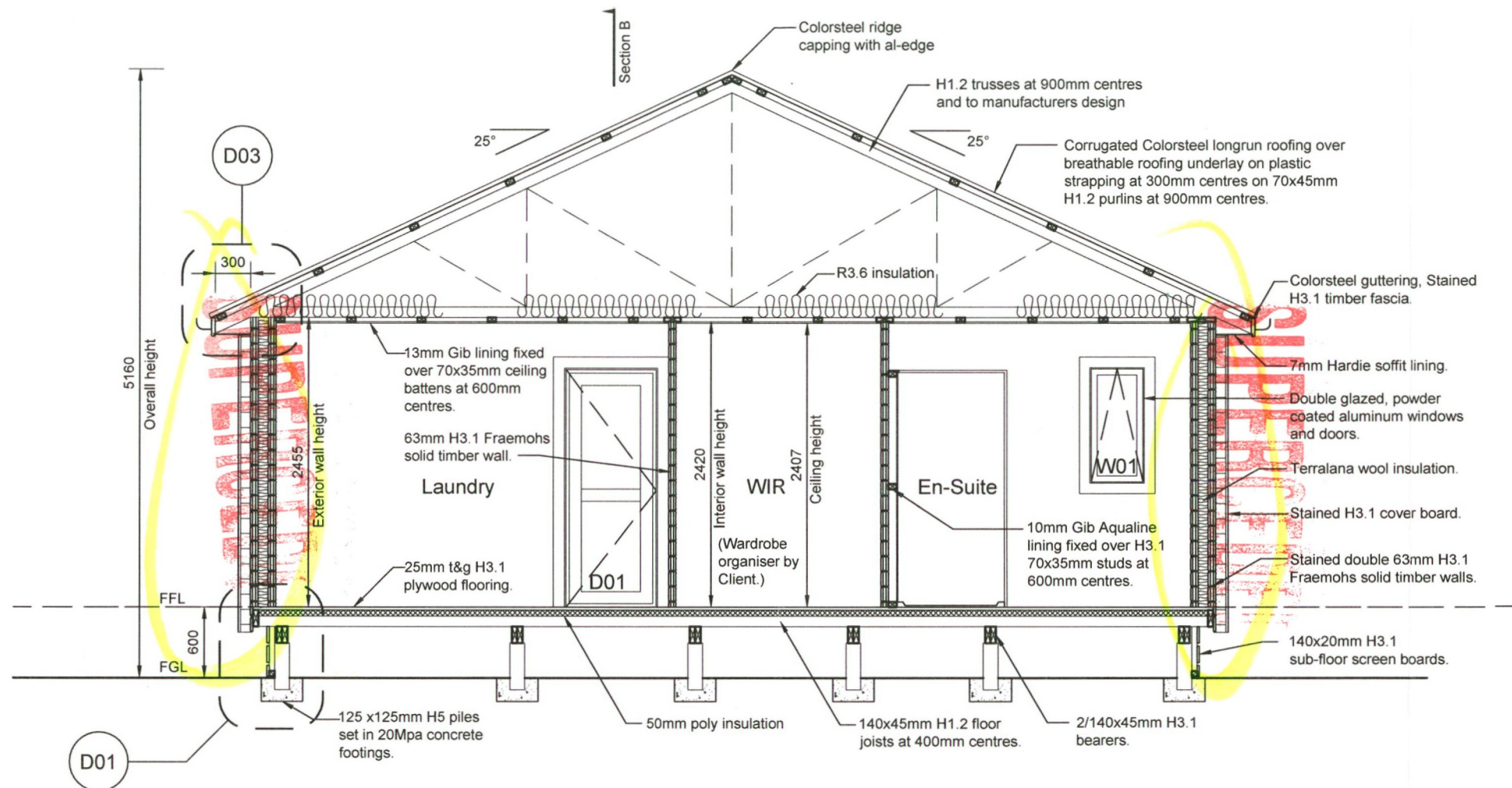
AMENDMENT		BY	
Amendment - R0	Date - -	DESIGN	Jared Lane
Description - -		DRAWN	AC
		CHECKED	JL
NOTES		APPROVED	Date
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TITLE MAGGIE AND YVES OBUS FRAEMOHS WEKA HOUSE 176 RICHARDSON ROAD, GORE Elevations			
STATUS CONSENT AND CONSTRUCTION		WALL THICKNESS 63	
SCALE As Noted @ A3	PLOT DATE 1 November 2011	JOB NUMBER 11116	SHEET 120.1
		REVISION R 0	



Section A

1:50

GENERAL NOTES:

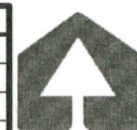
All dimensions are nominal and are to be checked on site before commencing work

Unless noted otherwise all timbers H1.2 SG8 to NZS3604:2011 and NZS3602:2003

All work to comply with the Relevant Sections of the New Zealand Building Code

AMENDMENT	BY
Amendment - R0 Date - -	DESIGN Jared Lane
Description - -	DRAWN AC
	CHECKED JL
NOTES	APPROVED Date

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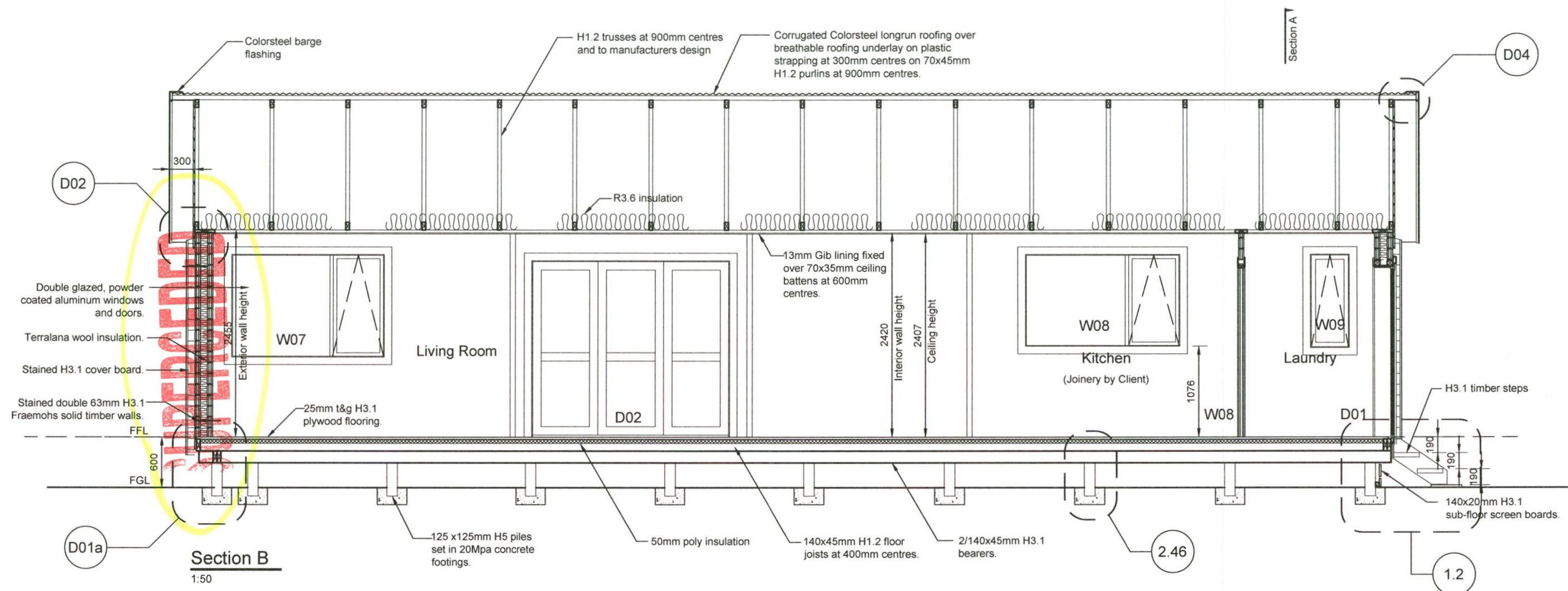
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TITLE MAGGIE AND YVES OBUS FRAEMOHS WEKA HOUSE 176 RICHARDSON ROAD, GORE				
Section A				
STATUS CONSENT AND CONSTRUCTION			WALL THICKNESS 63	
SCALE As Noted @ A3	PLOT DATE 1 November 2011	JOB NUMBER 11116	SHEET 120.2	REVISION R 0

E:\PROJECTS\05 FRAEMOHS\176 Richardson Road\Sheets\120.2 Section A.dwg ORIGINAL SHEET SIZE A3 (420x297)



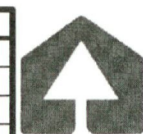
GENERAL NOTES:

All dimensions are nominal and are to be checked on site before commencing work

Unless noted otherwise all timbers H1.2 SG8 to NZS3604:2011 and NZS3602:2003

All work to comply with the Relevant Sections of the New Zealand Building Code

AMENDMENT		BY	
Amendment - R0	Date --	DESIGN	Jared Lane
Description --		DRAWN	AC
		CHECKED	JL
NOTES		APPROVED	
		Date	
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TITLE			
MAGGIE AND YVES OBUS FRAEMOHS WEKA HOUSE 176 RICHARDSON ROAD, GORE			
Section B			
STATUS			WALL THICKNESS
CONSENT AND CONSTRUCTION			63
SCALE	PLOT DATE	JOB NUMBER	SHEET
As Noted @ A3	1 November 2011	11116	120.3
			REVISION
			R 0

E:\PROJECTS\05 FRAEMOHS\176 Richardson Road\Sheets\120.3 Section B.dwg ORIGINAL SHEET SIZE A3 (420x297)

FFL					
Door Type:	10.18L	10.16L	10.8	8.18L	8.5
Number Off:	W07 (L)	W02 (L), W03 (L), W05 (G)	W06 (G)	W08 (L)	W01 (G) W04 (L) W09 (L)
Notes:	* Powder Coated aluminium frame * Double Glazing * Glazing to NZS 4223 * Standard Fraemohs Hardware * Standard Fraemohs 70 x 18mm reveals * 90 x 60 Subframe to head	* Powder Coated aluminium frame * Double Glazing * Glazing to NZS 4223 * Standard Fraemohs Hardware * Standard Fraemohs 70 x 18mm reveals * 90 x 60 Subframe to head	* Powder Coated aluminium frame * Double Glazing * Glazing to NZS 4223 * Standard Fraemohs Hardware * Standard Fraemohs 70 x 18mm reveals * 90 x 60 Subframe to head	* Powder Coated aluminium frame * Double Glazing * Glazing to NZS 4223 * Standard Fraemohs Hardware * Standard Fraemohs 70 x 18mm reveals * 90 x 60 Subframe to head	* Powder Coated aluminium frame * Double Glazing * Glazing to NZS 4223 * Standard Fraemohs Hardware * Standard Fraemohs 70 x 18mm reveals * 90 x 60 Subframe to head

NOTE:

All dimensions are nominal and are to be checked on site before commencing work

All window and door glazing is to comply with the requirements of NZS 4223

s = Safety Glazing to NZS 4223

All reveals are 18mm fin H3.1 Painted Pinus Radiata Clears

ALUMINIUM WINDOWS AND DOORS

Dimensions are over reveals

INTERNAL TIMBER DOORS

Dimensions are over door leaves

Window Elevations - Window Schedule

1:50

FFL			FFL				
Door Type:	D.09L	2.4 ST	Door Type:	D.810L	D.810R	D.710L	D.710R
Number Off:		D02 (L)	Number Off:	D03, D04, D07	D09	D05	D08
Notes:	* Powder Coated aluminium frame * Double Glazing * Glazing to NZS 4223 * Standard Fraemohs Hardware * Standard Fraemohs 70 x 18mm reveals * 90 x 60 Subframe to head	* Powder Coated aluminium frame * Double Glazing * Glazing to NZS 4223 * Standard Fraemohs Hardware * Standard Fraemohs 70 x 18mm reveals * 90 x 60 Subframe to head	Notes:	* Paint quality hollowcore door * Standard Range Flush Panel * Standard Fraemohs hardware * Standard Fraemohs H3.1 pine 97/65 x 18 reveals	* Paint quality hollowcore door * Standard Range Flush Panel * Standard Fraemohs hardware * Standard Fraemohs H3.1 pine 97/65 x 18 reveals	* Paint quality hollowcore door * Standard Range Flush Panel * Standard Fraemohs hardware * Standard Fraemohs H3.1 pine 97/65 x 18 reveals	* Paint quality hollowcore door * Standard Range Flush Panel * Standard Fraemohs hardware * Standard Fraemohs H3.1 pine 97/65 x 18 reveals

Exterior Door Elevations - Door Schedule

1:50

Interior Door Elevations - Door Schedule

1:50

AMENDMENT		BY	
Amendment - R0	Date - -	DESIGN	Jared Lane
Description - -		DRAWN	AC
		CHECKED	JL
NOTES		APPROVED	Date
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TITLE MAGGIE AND YVES OBUS FRAEMOHS WEKA HOUSE 176 RICHARDSON ROAD, GORE Window And Door Schedule				
STATUS CONSENT AND CONSTRUCTION			WALL THICKNESS 63	
SCALE	PLOT DATE	JOB NUMBER	SHEET	REVISION
As Noted @ A3	1 November 2011	11116	150.1	R 0

E:\PROJECTS\05 FRAEMOHS\176 Richardson Road\Sheets\150.1 Window and Door Schedule.dwg ORIGINAL SHEET SIZE A3 (420x297)

150 mm
100
50
10 mm
GRAPHIC SCALES

GENERAL NOTES:

All dimensions are nominal and are to be checked on site before commencing work

Unless noted otherwise all timbers H1.2
SG8 NZS3604:2011 and NZS3602:2003

All work to comply with the Relevant
Sections of the New Zealand Building Code

KEY:

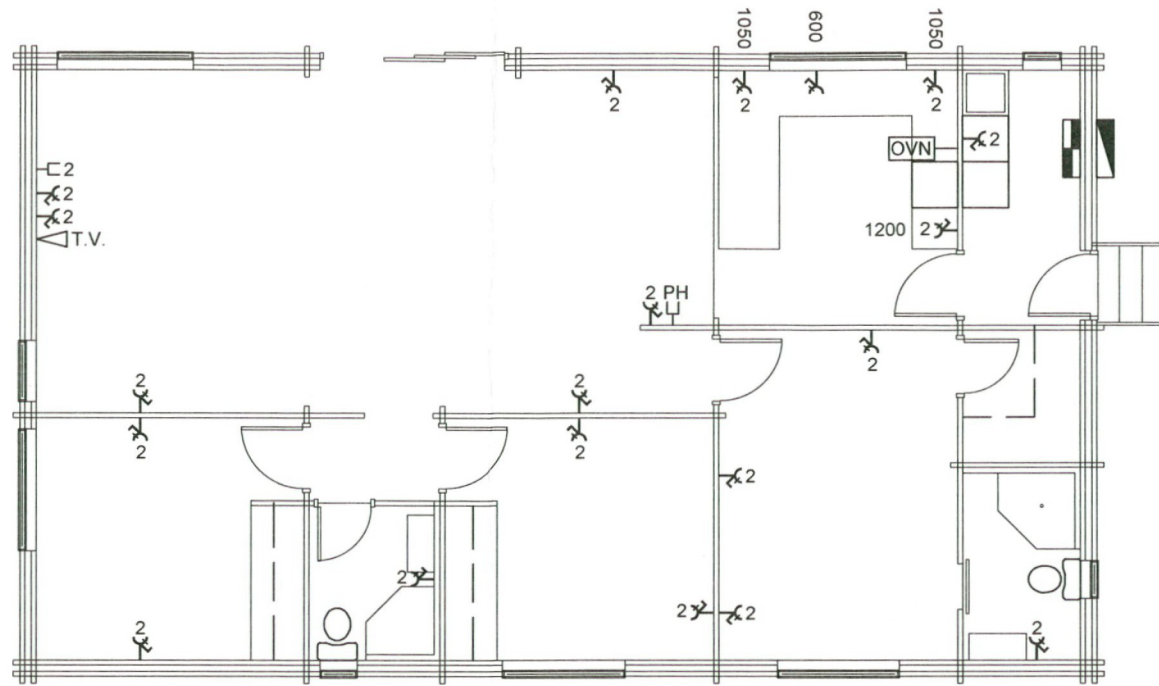
Distribution Board (Residential)

 Meter Board

2

T.V.

PH



Electrical Plan
1:100

GENERAL NOTES:

All dimensions are nominal and are to be checked on site before commencing work

Unless noted otherwise all timbers H1.2
SG8 NZS3604:2011 and NZS3602:2003

All work to comply with the Relevant
Sections of the New Zealand Building Code

KEY:

Single Light Switch

Two-Way Light Switch

X

 Surface Mounted Lighting Fitting

X

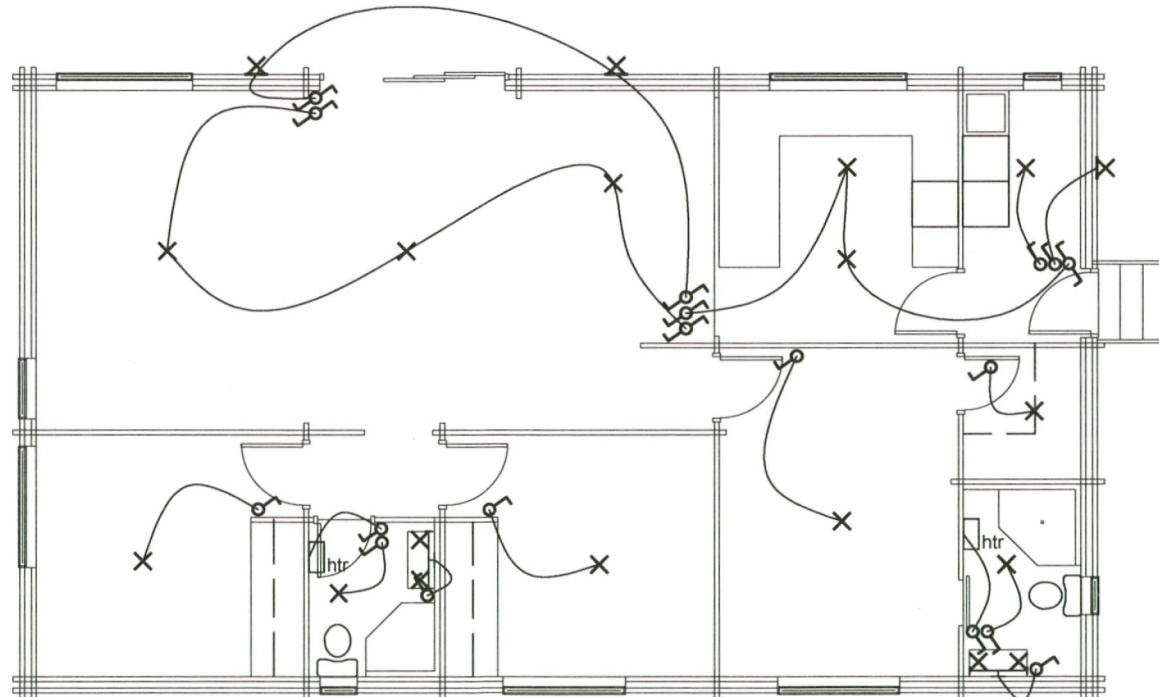
 Wall Mounted Fitting

X

 Bathroom Vanity Light Fitting

htr

 Bathroom Heater



Lighting Plan
1:100

AMENDMENT		BY	
Amendment - R0 Date - - Description - -		DESIGN	Jared Lane
		DRAWN	AC
		CHECKED	JL
NOTES		APPROVED	
-		Date	
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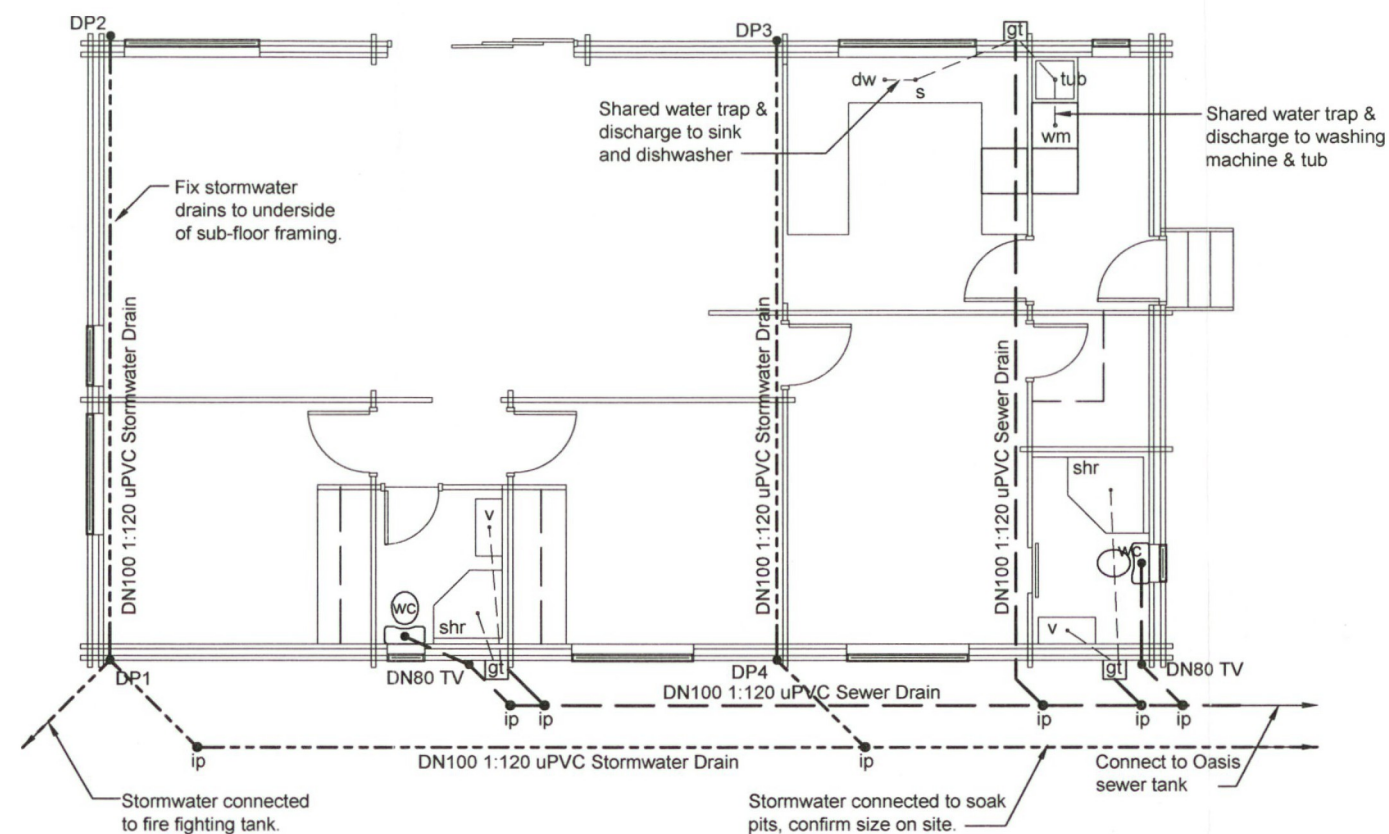
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TITLE MAGGIE AND YVES OBUS FRAEMOHS WEKA HOUSE 176 RICHARDSON ROAD, GORE Electrical & Lighting Plans				
STATUS CONSENT AND CONSTRUCTION			WALL THICKNESS 63	
SCALE As Noted @ A3	PLOT DATE 1 November 2011	JOB NUMBER 11116	SHEET 160.1	REVISION R 0

DRAINAGE LEGEND:	
New Storm water	---
New Foul water	---
Gully Trap	gt
Terminal Vent	tv o
Downpipe	dp o
Inspection Point	ip o
Rodding Point	rp o
Kitchen Sink:	s
Dishwasher:	dw
Washing Machine:	wm
Laundry Tub:	tub
Vanity:	v
Toilet Suite:	wc
Shower	shr
Hot Water Cylinder	hwc
NOTES:	
All dimensions are nominal and are to be checked on site before commencing work	
Unless noted otherwise all timbers H3.1 SG8 to NZS3604:2011 and B1/AS1	
All work to comply with the Relevant Sections of the New Zealand Building Code	
All Plumbing and Drainage work is to comply with the requirements of NZBC G13/AS1	



Plumbing & Drainage Plan

1:100

AMENDMENT		BY	
Amendment - R0	Date - -	DESIGN	Jared Lane
Description - -		DRAWN	AC
		CHECKED	JL
NOTES		APPROVED	
		Date	
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TITLE			
MAGGIE AND YVES OBUS FRAEMOHS WEKA HOUSE 176 RICHARDSON ROAD, GORE Plumbing Plan			
STATUS			WALL THICKNESS
CONSENT AND CONSTRUCTION			63
SCALE	PLOT DATE	JOB NUMBER	SHEET
As Noted @ A3	1 November 2011	11116	160.2
			REVISION
			R 0

E:\PROJECTS\05 FRAEMOHS\176 Richardson Road\Sheets\160.2 Plumbing Plan.dwg ORIGINAL SHEET SIZE A3 (420x297)