101 Guyton Street
P O Box 637, Whanganui
Phone: (06) 349 0001
Fax: (06) 349 0000
Email: wdc@whanganui.govt.nz
Web: www.whanganui.govt.nz

WHANGANUI DISTRICT COUNCIL
Te Kaunihera a Rohe o Whanganui

CERTIFICATE ATTACHED TO PROJECT INFORMATION MEMORANDUM OR BUILDING CONSENT

Section 37, Building Act 2004

Restrictions on commencing building work under the Resource Management Act 1991

PIM No:	***BCon18/0058***
Valuation or Property No:	***75420***
Building Consent No:	***BCon18/0058***

Restrictions on commencing building work under the Resource Management Act 1991

The building work referred to in the attached project information memorandum or building consent is also required to have a resource consent under the Resource Management Act 1991:

Resource Consent required

As this resource consent will or may materially affect the building work to which the attached project information memorandum or building consent relates, until it has been granted:-

1. No building work may proceed until the Resource Consent has been approved and granted.

Failure to comply with the requirements of this notice may result in legal action being taken against you under the Resource Management Act 1991.

On behalf of Whanganui District Council	***Signature of Council Officer***
Dated this: 9 March 2018	GJ Hoobin **Environmental Standards Team Leader**

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INSPECTION RECORD

This record, together with the Building Consent and approved plans, is to remain on the construction site at all times.

Project Location	***TO BOOK AN INSPECTION PLEASE PHONE WDC BUILDING CONTROL ON 349 0001 AND QUOTE THE FOLLOWING APPLICATION NUMBER:***	***BCon18/0058***
28 Simon St WHANGANUI		
Description of Work	**Construct a new detached dwelling 168M2.**	

Applicant	G J Gardner Homes Ltd PO Box 695, Whanganui Mail Centre, Whanganui 4540

SUMMARY OF CONDITIONS

Building Consent Number BCon18/0058

PIM Conditions

Code	***Condition***
	All work on the project must comply with the requirements of the NZ Building Code.
	A PIM only document is not an approval to build. A Building Consent is required before building work commences.
	W.D.C will follow up on building work not completed within two years of building consent issue.
	A Building Consent lapses and is of no effect if the building work has not been started within 12 months of the date of issue.
	If the building is public premises it may not be occupied until either a code compliance certificate or certificate for public use has been issued.
	Please note [Electrical, and Gasfitting subtrades do not form part of the building consent inspection process. However, Council is required to receive 'Energy Certificates' from both of these trades before issue of a Code Compliance Certificate].
PIMconnect	Existing 20mm NB water connection 10.99m off the right hand boundary. Existing 100mm diameter 20.07m off the left hand boundary @ 1.05m deep at the boundary. Stormwater to be disposed of on site.

Building Consent Conditions

Code	***Condition***
BCPropBdy	[Informative note: The property boundary must be defined before any construction commences.]

Your project's inspections are listed on the next page...

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Please Note: A minimum of 48 hours notice is required for the booking of an inspection. The inspection record sheet and accompanying building consent documentation must be on site for use by the inspector at the time of the inspection.

All inspections are to be carried out by BCA Building Inspectors unless prior arrangements have been made by the BCA to have an approved qualified person inspect specific items (eg. Engineer). Inspections shall be carried out in accordance with the attached schedule of inspection types. It is the owner's responsibility to ensure all necessary inspections are carried out as required. Please contact WDC if you are unsure what requires inspection – do not cover or enclose any building work without inspection.

Note: Further inspections may incur additional cost at time of Code Compliance Certificate issue.

Inspections Record For Building Consent Number BCon18/0058

Inspection	*When to Request*	*Date*	*Inspector*	*Complies with Code*	*Reinspect*	*Notes*		
CONCRETE SLAB INSPECTION	Prior to placing Concrete							
FRAMING INSPECTION	When all framing is complete.							
BRICK MASONRY INSPECTION	When bricks have been laid to sill height.							
BUILDING PRELINE INSPECTION	Before Internal linings are fixed.							
POST LINE INSPECTION	To inspect fixings. Prior to covering up.							
FINAL BUILDING AND PLUMBING COMBINED INSPECTION	On Completion							
PLUMBING SUBFLOOR INSPECTION	Before covering up							

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WHANGANUI DISTRICT COUNCIL
Te Kaunihera a Rohe o Whanganui

PLUMBING PRELINE INSPECTION	Before covering up							
SANITARY DRAINS INSPECTION	Before backfilling drains							
STORMWATER DISPOSAL INSPECTION	Before backfilling drains							
CONSTRUCTION REVIEWS (NO INSPECTION)						Before requesting a final inspection please supply the following information: Application for Code Compliance Certificate (Form 6) Certificates relating to any gas and electrical work that has been carried out. As-Built Drainage plan. Memorandum of Restricted Building Work (RBW) for all required trades.		

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WHANGANUI DISTRICT COUNCIL
Te Kaunihera a Rohe o Whanganui

BUILDING CONSENT NUMBER BCon18/0058

Section 51, Building Act 2004

The building:

Street address of building:	***Legal description of land where building is located:***
28 Simon St WHANGANUI	Lot 31 DP 511856 0.0510 Ha
Building name:	***Location of building within site/block number:***
Level/unit number:	

The owner:

Name of Owner:	
Mrs J Lim, Mr HT Oh	
Mailing address:	***Street Address/registered Office:***
A2/59 Halswell Street Wanganui 4500	A2/59 Halswell Street Wanganui 4500

Phone numbers:

Landline:		***Mobile:***	021668587
Daytime:	063451143	***After hours:***	
Facsimile number:			
Email address:		***Website:***	

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

Contact Person:	
G J Gardner Homes Ltd	
Mailing address:	***Street Address/registered Office:***
PO Box 695, Whanganui Mail Centre, Whanganui 4540	PO Box 695, Whanganui Mail Centre, Whanganui 4540

Phone number:

Landline:		***Mobile:***	021766368
Daytime:	3453563	***After hours:***	
Facsimile number:			
Email address:		***Website:***	

Building Work

The following building work is authorised by this consent

Project
Construct a new detached dwelling 168M2.

Intended Use	***Intended Life***
Single Detached Residential	50+ Years
Estimated Value ($)	
$288534.00	

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 of 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.

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CONDITIONS OF BUILDING CONSENT NUMBER BCon18/0058

Section 51, Building Act 2004

This Building Consent is issued Subject to the following conditions:

Building Act 2004, Section 37:

Territorial authority must issue certificate if resource consent required

(1) This section applies if a territorial authority considers that—

a. a resource consent under the Resource Management Act 1991 has not yet been obtained; and
b. the resource consent will or may materially affect building work to which a project information memorandum or an application for a building consent relates.

(2) The territorial authority must issue a certificate, in the prescribed form, to the effect that until the resource consent has been obtained—

a. no building work may proceed; or
b. building work may only proceed to the extent stated in the certificate.

(3) The certificate must be—

a. attached to the project information memorandum; or
b. if no project information memorandum has been applied for, provided to the building consent authority.

Additional requirements:

Building Act 2004, Section 90:

Inspections by Building Consent Authorities

Agents authorised by the building consent authority for the purposes of this section are entitled, at all times during normal working hours or while building work is being done, to inspect

(a) land on which building work is being or is proposed to be carried out; and

(b) building work that has been or is being carried out on or off the building site; and

(c) any building.

Informative notes:

- [Informative note: The Building Consent, conditions, inspection sheet, and approved plans must be kept on site at all times until completion of the project.]
- [Informative note: Failure to request inspections will risk the non-issuing of a code compliance certificate and the structure may be deemed non-complying.]
- [Informative note: Any inspection time required over and above that allowed may incur a further charge.]

- [Informative note: Under Section 52, a building consent lapses and is of no effect if the building work to which it relates is not commenced within 12 months after the date of issue.]

- [Informative note: Under Section 93, if the owner has not made application within 24 months, the BCA (Building Control Authority), must decide whether or not to issue a CCC (Code Compliance Certificate).]

Compliance Schedule:

A compliance schedule (CS) is not required for this building.

‡Attachments

‡Copies of the following documents are attached to this building consent:
‡Project information memorandum number BCon18/0058'
‡Inspection record
‡Section 37

Signed for and on behalf of the Whanganui District Council

GJ Hoobin
Environmental Standards Team Leader **Date**: 14 March, 2018

101 Guyton Street
P O Box 637, Whanganui
Phone: (06) 349 0001
Fax: (06) 349 0000
Email: wdc@whanganui.govt.nz
Web: www.whanganui.govt.nz

WHANGANUI DISTRICT COUNCIL
Te Kaunihera a Rohe o Whanganui

PROJECT INFORMATION MEMORANDUM NUMBER BCon18/0058

Section 34, Building Act 2004

G J Gardner Homes Ltd
PO Box 695
Whanganui Mail Centre
Whanganui 4540

Project Location	***Assessment Number/Legal Description***
28 Simon St WHANGANUI	Lot 31 DP 511856 0.0510 Ha
Category	***Description of Work***
New Residential Dwellings - $200001 & over	Construct a new detached dwelling 168M2.
Intended Life	***Estimated Value ($)***
50+ Years	288534.00

This Project Information Memorandum is confirmation that the proposed work may be undertaken, subject to the provisions of the Building Act 2004 and any requirements of the Building Consent (number BCon18/0058), which has been granted.

This Project Information Memorandum is subject to the following conditions:

Building Act 2004, Section 37:

Territorial authority must issue certificate if resource consent required

(1) This section applies if a territorial authority considers that—

a. a resource consent under the Resource Management Act 1991 has not yet been obtained; and
b. the resource consent will or may materially affect building work to which a project information memorandum or an application for a building consent relates.

(2) The territorial authority must issue a certificate, in the prescribed form, to the effect that until the resource consent has been obtained—

a. no building work may proceed; or
b. building work may only proceed to the extent stated in the certificate.

(3) The certificate must be—

a. attached to the project information memorandum; or
b. if no project information memorandum has been applied for, provided to the building consent authority.

- **Existing 20mm NB water connection 10.99m off the right hand boundary.**
- **Existing 100mm diameter 20.07m off the left hand boundary @ 1.05m deep at the boundary.**
- **Stormwater to be disposed of on site.**

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WHANGANUI DISTRICT COUNCIL
Te Kaunihera a Rohe o Whanganui

- **All work on the project must comply with the requirements of the NZ Building Code.**

Signed for and on behalf of the Whanganui District Council

GJ Hoobin
Environmental Standards Team Leader **Date**: 9 March 2018

144 Westmere Station Road
R.D1
Wanganui
Ph(06) 3480422
M 0279362169
Email coker.d.l.e@xtra.co.nz

13/03//2018

Project Number: BCon18/0058
Project Location: 28 Simon Street Wanganui
Project Description: Construct a detached dwelling 168m2.Construct

Refer to: "1st request for further information" letter.

(Att Dave Kenning Roading)

(Att Michael Beech Resource Management Planner)

1. Vehicle crossing has been moved to comply with Performance standard 12.5.5(c) Chapter 12 of the district plan 10mtrs from limit line at intersection Please see sheet # 2

Regards
Dave Coker

BP114150

144 Westmere Station Road
R.D1
Wanganui
Ph(06) 3480422
M 0279362169
Email coker.d.l.e@xtra.co.nz

07/03//2018

Project Number: BCon18/0058
Project Location: 28 Simon Street Wanganui
Project Description: Construct a detached dwelling 168m2.Construct

Refer to: "1st request for further information" letter.

(Att Dave Kenning Roading)

1. Vehicle crossing has been moved to comply with Performance standard 12.5.5(c) Chapter 12 of the district plan 10mtrs from limit line at intersection Please see sheet # 2&3

   (Att Michael Beech Resource Management Planner)

2. Vehicle crossing has been moved to comply with Performance standard 12.5.5(c) Chapter 12 of the district plan 10mtrs from limit line at intersection Please see sheet # 2&3

   (Att Ben Nyssen Cadet Building Control Officer)

2. Bracing amended please see sheet # 154 & bracing calcs.

Regards
Dave Coker

BP114150

COMPUTER FREEHOLD REGISTER
UNDER LAND TRANSFER ACT 1952

Search Copy

R.W. Muir
Registrar-General
of Land

Identifier	795546
Land Registration District	Wellington
Date Issued	29 September 2017

Prior References
647520 731433

Estate	Fee Simple
Area	510 square metres more or less
Legal Description	Lot 31 Deposited Plan 511856

Proprietors
Hee Taek Oh and Jinsoon Lim

Interests

Appurtenant hereto is a stormwater drainage right created by Easement Instrument 6756582.3 - 17.2.2006 at 9:00 am

Appurtenant hereto is a right to drain sewage created by Easement Instrument 9279664.3 - 21.12.2012 at 11:25 am

The easements created by Easement Instrument 9279664.3 are subject to Section 243 (a) Resource Management Act 1991

Appurtenant to part formerly Lot 33 DP 496413 is a right to stormwater drainage created by Easement Instrument 10131050.4 - 21.7.2015 at 9:45 am

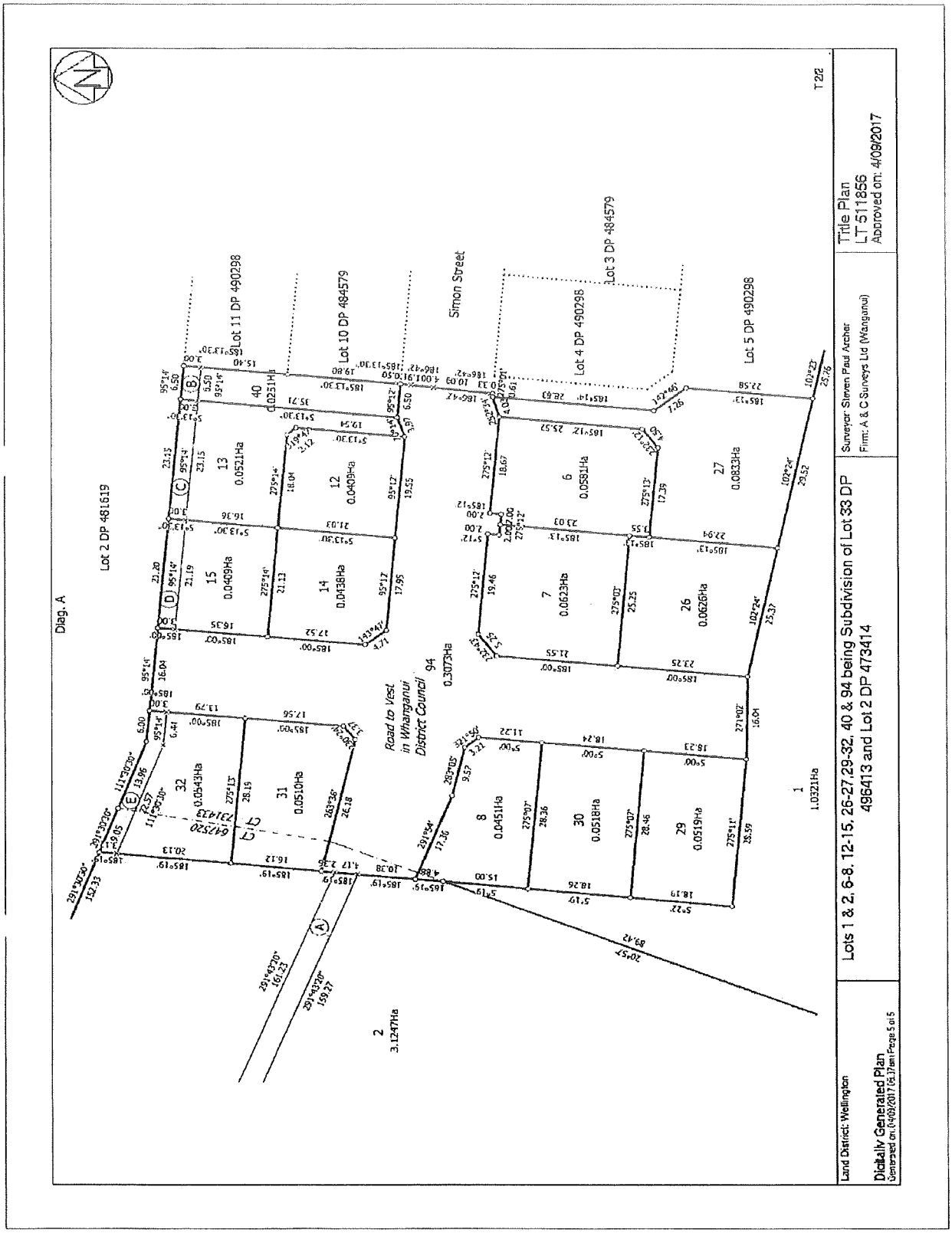
The easements created by Easement Instrument 10131050.4 are subject to Section 243 (a) Resource Management Act 1991

Appurtenant to part formerly Lot 33 DP 496413 is a right to stormwater drainage created by Easement Instrument 10268326.4 - 1.12.2015 at 8:51 am

The easements created by Easement Instrument 10268326.4 are subject to Section 243 (a) Resource Management Act 1991

10967623.2 Mortgage to ANZ Bank New Zealand Limited - 28.11.2017 at 11:49 am

Identifier 795546



OWNER DECLARATION

(I request that you issue a BC and/or PIM for the building work described in this application)

Owner name:	Hee Taek Oh + Jinsoon Lim				
Authority to act as agent	I authorise the agent named to sign and act on my behalf in all matters in relation to this building consent	Yes:	☑	No:	☐
Owner Signature:	Verbal	Date:	2-2-18		
Agent name:	GJ Gardner Homes				
Agent signature:	JWhristison	Date:	2-2-18		

Vehicle Crossing Permit

Whanganui District Council — Streets
Infrastructure Bylaw 2008

WHANGANUI DISTRICT COUNCIL
Te Kaunihera a Rohe o Whanganui

Permit No.

1. Property owner details

1a. Name: Hee Taek Oh + Jinsoon Lim

1b. Contact Person/agent (If owner is a corporation, partnership or trust):

1c. Postal address: Unit A2 59 Halswell Street, Wanganui

1d. Contact numbers: Phone | Mobile: 021668587 | Fax

1e. Email: Wedd0313@gmail.com

2. Property details

2a. Site Address (Specify unit/level number, location of building within site/block number, building name and street name): 28 Simon St, Wanganui

2b. Currently lawfully established use:

2c. Legal description: Lot 31 DP511856.

2d. Rapid number (rural):

3. Description of project

3a. Detailed description of the development/ project (tick one)

- [x] Urban
- [ ] Rural
- [ ] Commercial
- [ ] Other (please specify)

3b. Width of proposed vehicle crossing: 3.6

3c. Estimated value of the work: $ 850 including GST.

4. Council approved contractor undertaking the work

4a. (Refer to list of approved contractors provided in the guide): Trevs concrete

OFFICE USE ONLY

Date received		*Application #*		*Document #*		*Other*	
Property ID		*Legal ID*		*Receipt #*		*Amount Paid*	$

Whanganui District Council, 101 Guyton Street, PO Box 637, Whanganui 4540
Phone 06-3490001, Fax 06-3490000
Email: wdc@whanganui.govt.nz, web: www.whanganui.govt.nz

5. Diagram for vehicle crossing location

5a. Provide a site plan to show the location of the proposed vehicle crossing, and, if applicable, location of water toby, trees, streetlights or poles, stormwater sump and other services/street furniture, such as bus stops, signs etc.

6. Applicant's declaration

PRIVACY STATEMENT

Information on this form is required to be provided under the acts, regulations and bylaw administered by the Council and is required to process your application. This information has to be made available to members of the public, including business organisations. In appropriate circumstances, it may also be made available to other units of the council, council's approved contractors and other government agencies.

Under the Privacy Act 1993, you have the right to access the personal information held about you by the council and you can also request that the council correct any personal information it holds about you.

I understand that as the applicant, all correspondence related to this application will be made to me.

I confirm that I have read and understood the Privacy Statement and that the information provided on the application form is true and correct.

MChristson

Signature

Michelle Christson 2 / 2 / 18

Name of person signing: *(please print clearly)* Dated

OFFICE USE ONLY

Reference no:

Owner ID:

Parcel Prop ID

Tax Invoice GST No: 51 700 449 Credit No: 778030.921 VX

Date Received:

Fee Payable (incl. GST) $

Received by:

Receipt no:

Loaded by:

Date Paid:

Date Loaded:

Roading and Assets

Approved by WDC:

Logged:

First inspection date:

Final inspection date:

Notes:

Memorandum from licensed building practitioner: Certificate of design work

Section 45 and Section 30C, Building Act 2004

Please fill in the form as fully and correctly as possible.

If there is insufficient room on the form for requested details, please continue on another sheet and attach the additional sheet(s) to this form.

THE BUILDING

Street address: Lot 31 Simon Street		
Suburb: Springvale		
Town/City	Wanganui	Postcode: 4501

THE OWNER

Name(s): Hee Taek Oh & Jinsoon Lim	
Mailing address:	
Suburb:	PO Box/Private Bag:
Town/City: Wanganui	Postcode:
Phone number:	Email address:

BASIS FOR PROVIDING THIS MEMORANDUM

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

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

I David Coker carried out / supervised the following design work that is restricted building work

PRIMARY STRUCTURE: B1

Design work that is restricted building work		Description	Carried out/ supervised	Reference to plans and specifications
Tick(✓)if included *Cross (X) if excluded*		*[If appropriate, provide details of the restricted building work]*	*[Specify whether you carried out this design work or supervised someone else carrying out this design work]*	*[If appropriate, specify references]*
Primary structure				
All RBW Design work relating to B1	(✓)		(√) Carried out ( ) Supervised	
Foundations and subfloor framing	(✓)	*Concrete foundations On Ground*	✓) Carried out ( ) Supervised	Sheets 5,6 & 11
Walls	(✓)	*Framing to be 90x45 SG8 H1.2 600mm ctrs external walls 2.4 high 2 rows of dwangs* *Internal walls 90x45 SG8 H1.2 @ 600mm ctrs 2 rows of dwangs*	(✓) Carried out ( ) Supervised	Sheets #11
Roof	(✓)	*Trusses as per manufacturers design*	(√) Carried out ( ) Supervised	Sheet # 11 Truss design certificate
Columns and beams	()		() Carried out ( ) Supervised	
Bracing	(✓)	*Gib EzyBrace system*	(✓) Carried out ( ) Supervised	Sheet # 16, 17 also bracing calculations
Other	( )		( ) Carried out ( ) Supervised	
EXTERNAL MOISTURE MANAGEMENT SYSTEMS: E2				
All RBW design work relating to E2	(✓)		(✓) Carried out ( ) Supervised	
Damp proofing	(✓)	*DPM under concrete slab*	(✓) Carried out ( ) Supervised	Sheet #5, 6 & 11
Roof cladding or roof cladding system	(✓)	*Metal Tile*	(✓) Carried out ( ) Supervised	Sheet # 11,21 & 22
Ventilation system (for example,	(✓)	*Brick Cavity*	(✓) Carried out ( ) Supervised	Sheet # 6, 11, 18 & 19

subfloor or cavity)			
Wall cladding or wall cladding system (✓)	*70 Series Brick*	(✓) Carried out ( ) Supervised	Sheet # 11,18 & 19
Waterproofing ()		() Carried out ( ) Supervised	
Other (×)		( ) Carried out ( ) Supervised	

FIRE SAFETY SYSTEMS: C1 – C6

Emergency warning systems, evacuation and fire service operation systems, suppression or control systems, or other (×)		( ) Carried out ( ) Supervised	

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

Note: continue on another page if necessary.

WAIVERS AND MODIFICATIONS

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

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

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

Note: continue on another page if necessary.

ISSUED BY

Name: David Coker	LBP or Registration number: BP114150

The practitioner is a: (✓) Design LBP ( ) Registered architect ( ) Chartered professional engineer

Design Entity or Company (optional): D C Design

Mailing address (if different from below):

Street address / Registered office: 144 Westmere Station Road RD1

Suburb: Brunswick Town/City: Wanganui

PO Box/Private Bag:	Postcode: 4571
Phone number: 06 348 0422	Mobile: 027 936 2169
After Hours:	Fax: 06 348 0422
Email address:coker.d.l.e@xtea.co.nz	Website:

DECLARATION

I David Coker [*name of practitioner*] , LBP,

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

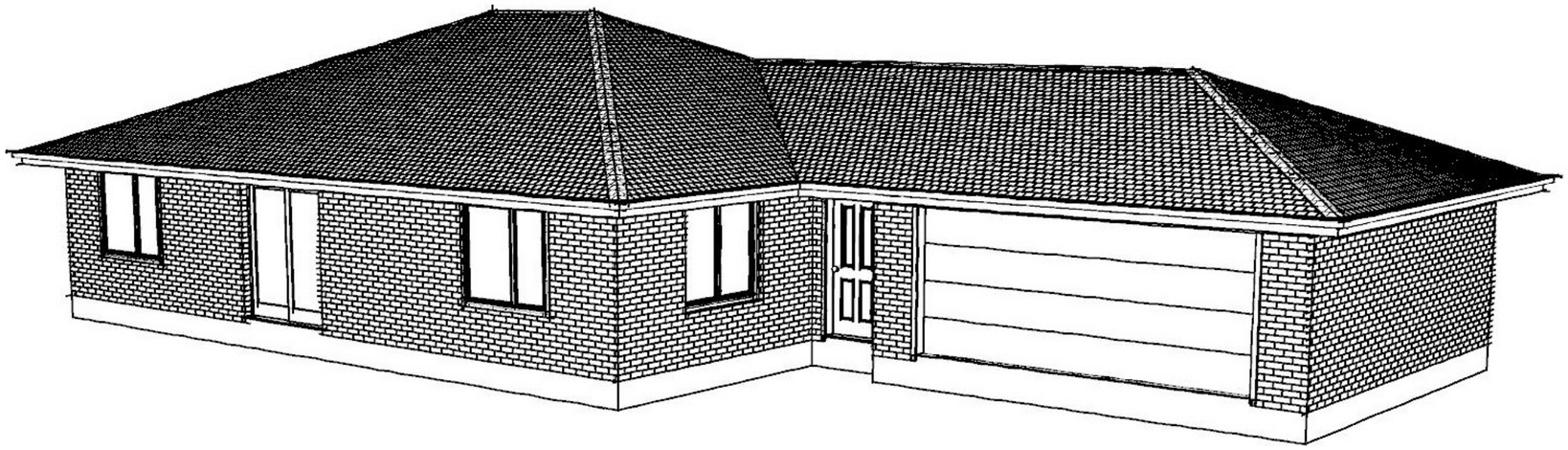
- Complies with the building code; or
- ~~Complies with the building code subject to any waiver or modification of the building code recorded on this form~~.

Signature: DG Coker

Date: 16/12/2017

G.J. Gardner. HOMES
New Zealand's favourite home builder
G.J. Gardner Homes
Castle Homes Wanganui Ltd
126 Guyton Street Wanganui
Phone 06 345 3563
Fax 06 345 3564

PROPOSED NEW RESIDENTIAL DWELLING FOR
Hee Taek Oh & Jinsoon Lim
Lot 31 Simon Street
Wanganui



dcDESIGN ARCHITECTURAL DESIGN
p. 06 348 0422 m. 027 936 21 69
▪ New Homes ▪ Alterations
▪ Light Commercial
▪ Project Management

CAUTIONARY NOTES:
BUILDING CONTRACTOR TO ASSESS SITE TO ENSURE DAY-LIGHTING & BUILDING RESTRICTIONS ARE COMPLIED WITH.
NO LIABILITY FOR ENCROACHMENT SHALL BE HELD BY DESIGNER IF SITE IS NOT SURVEYED BY A REGISTERED SURVEYOR PRIOR TO COMMENCEMENT OF FOUNDATION.

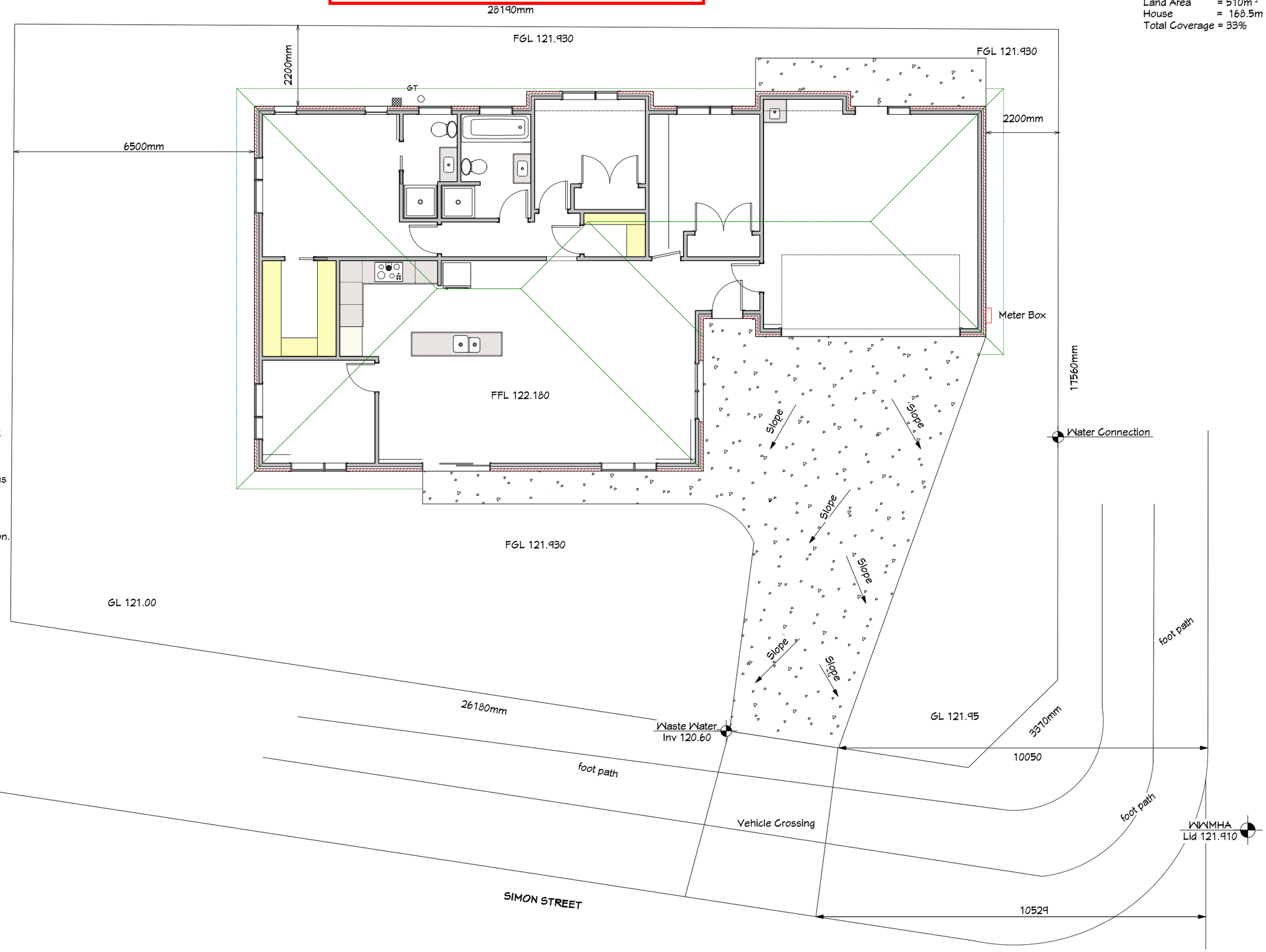
CONSTRUCTION NOTES:
Before building is erected on site, all rubbish, noxious matter & organic matter shall be removed from the area to be covered by the building.
Ensure final building platform & finished ground have an even fall away from building to ensure water is not allowed to accumulate around foundation.
Any fill to be dry & approved & compacted down in accordance with NZS.3604.2011

CONTRACTOR TO
* Confirm ground has adequate bearing to comply with NZS 3604:2011
* Locate all service connection points on site prior to commencement of works, Check invert levels or pipes & manholes.
*Confirm plumbing route & fixtures positions on site prior to commencement of work.
*Locate all electrical & water services on site.
*Confirm on site all boundary bearings, lengths & peg locations on site prior to commencement of works, to ensure house position is correct.

INDEX:

LICENSED BUILDING PRACTITIONER www.dbh.govt.nz BUILDING CONFIDENCE
BP114150

SITE COVERAGE
Land Area = 510m²
House = 168.5m²
Total Coverage = 33%



CAUTIONARY NOTES:
BUILDING CONTRACTOR TO ASSESS SITE TO ENSURE DAY-LIGHTING & BUILDING RESTRICTIONS ARE COMPLIED WITH.NO LIABILITY FOR ENCROACHMENT SHALL BE HELD BY DESIGNER IF SITE IS NOT SURVEYED BY A REGISTERED SURVEYOR PRIOR TO COMMENCEMENT OF FOUNDATION.

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CONTRACTOR TO
* Confirm ground has adequate bearing to comply with NZS 3604:2011
* Locate all service connection points on site prior to commencement of works, Check invert levels or pipes & manholes.
*Confirm plumbing route & fixtures positions on site prior to commencement of work.
*Locate all electrical & water services on site.
*Confirm on site all boundary bearings, lengths & peg locations on site prior to commencement of works, to ensure house position is correct.

A
D B
C

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Drawing Title:	Site Plan			Sheet # 2
Wind Region	A	Wind Zone	High	Scale: 1:100
Earthquake Zone	2	Exposure Zone	C	

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Denotes 40mm uPVC waste pipe min fall 1:40

Denotes 65mm uPVC waste water pipe min fall 1:40 with Air Admittance Valve

Denotes 100mm uPVC Waste water line min fall 1:80

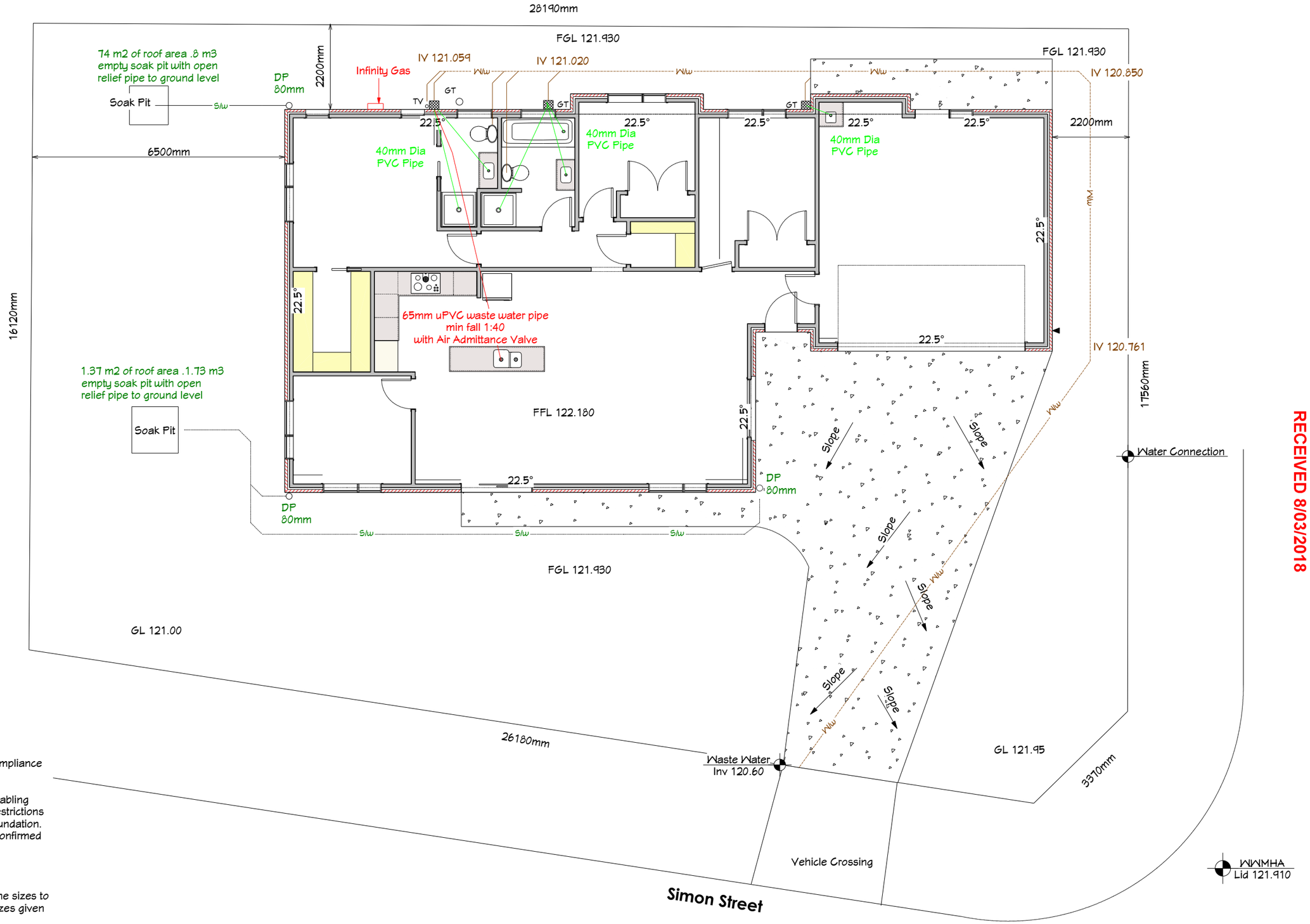
Denotes 90mm uPVC Storm water line min fall 1:90

Denotes Exterior tap

Denotes 80mm Terminal vent
TV

Denotes 80mm Down pipe
DP
80mm

Denotes Gully trap
GT



CONSTRUCTION NOTES:
All Plumbing & Drainage to Comply with NZ Building code compliance document E1,G12 & G13 or AS/NZ3500.2.2

Contractor to locate & or apply for all services connection & cabling on site prior to earthworks confirm all boundary setbacks & restrictions comply with current regulations prior to commencement of foundation. Final connection points for waste water & storm water to be confirmed on site once local authority has installed service connections

WATER SUPPLY
Water connection from water toby to house to be 25mm
BLUELINE WATER PIPE internal water pipe to be Polybutyline sizes to sized to achieve flow rates as given in table 3, or using the sizes given in table 4 Acceptable Solutions G12/AS1.

FIXTURE UNIT RATING
=30

bath	= 4	x 1 = 4
basin	= 1	x 2 = 2
shower	= 2	x 2 = 4
toilet	= 6	x 2 = 12
laundry tube	= 5	x 1 =5
kitchen sink	= 3	x 1 = 3

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Drawing Title:	Drainage Plan			Sheet #	3
Wind Region	A	Wind Zone	High	Scale:	1:100
Earthquake Zone	2	Exposure Zone	C		

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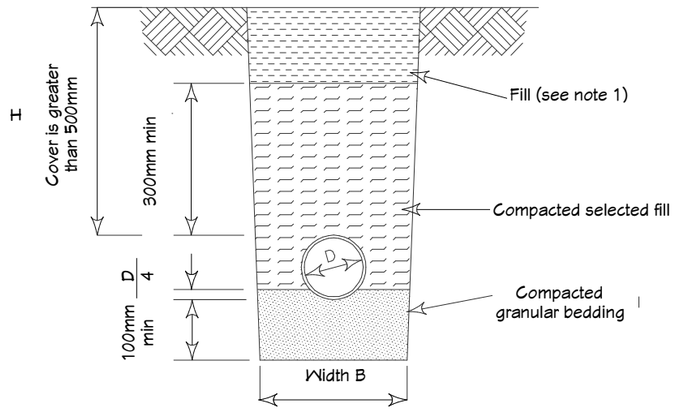
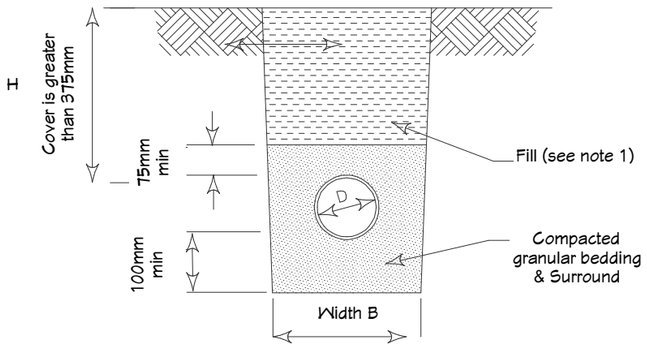
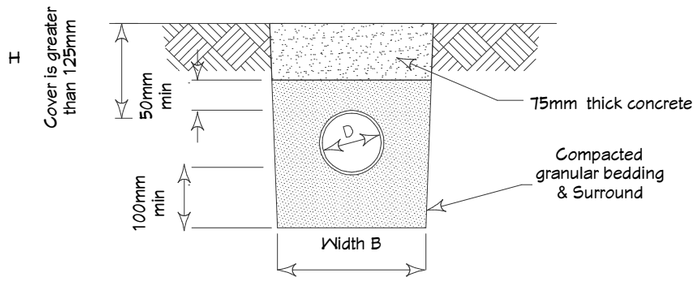
Figure 7: Bedding and backfilling
Paragraphs 5.2.1, 5.3.1 and 5.4.1



(a) Bedding type 'B' of NZS 7643
Cover greater than 500mm



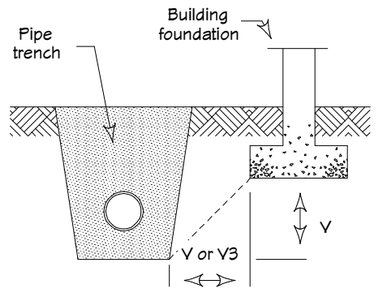
(b) Bedding type 'D' of NZS 7643
Cover greater than 375mm



(c) Cover between 125mm and 375mm

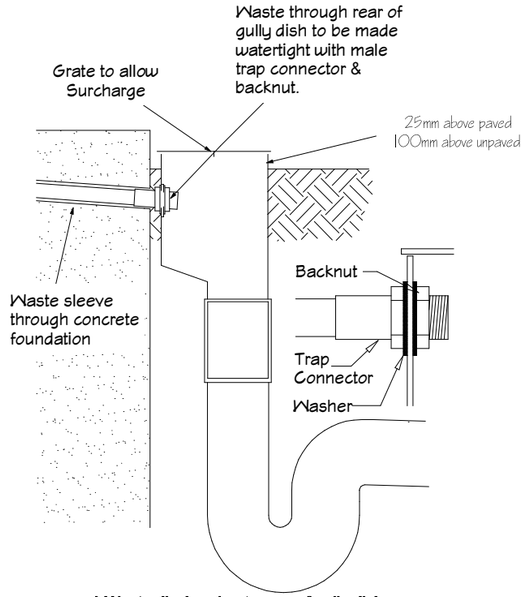
NOTE:
1. Fill Shall be:
- Ordinary fill where drains are located below gardens & open country
- Compacted selected fill where the drains are located below residential driveways & similar areas subject to light traffic

Figure 8: Relationship of pipe trench to building foundation
Paragraph5.6.1

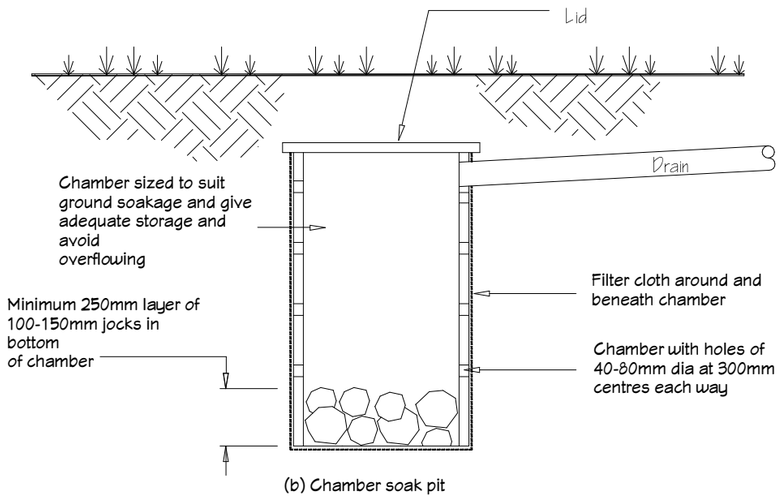


Minimum horizontal separation shall be V or 3V dependant on length of time trench open, see Paragraph 5.6.1

PROXIMITY OF TRENCH TO BUILDING
5.6.1
For light timber framed & concrete masonary buildings founded on good ground & constructed in accordance with NZS 3604 or NZS 4229, pipe trenches which are open for no longer than 48 hours shall be located no closer than V to the underside of any building foundation, as shown in fig 8. Where the trench is to remain open for periods longer than 48 hours the minimum shall increase to 3V in ground except rock.



a) Waste discharging to rear of gully dish



(b) Chamber soak pit

3.9 Bedding & Backfilling
3.9.1 General
NZBC B1 requires all drains be constructed to withstand the combination & frequency of loads likely to be placed upon them without collapse, undue damage, undue deflection or undue vibration.
in addition adequate support needs to be provided to prevent gradients becoming less than those required as a result of:
a) Differential settlement, or
b) Deflection of an unsupported span

3.9.2 Bedding & Backfilling
Fig 13 gives acceptable solutions for the bedding & backfilling of the drainage pipes except where:
a) The trench is located within or above peat, or
b) Scouring of the trench is likely due to unstable soils, or
c) The horizontal separation between any building foundation & the underside of the pipe trench is less than that required by Paragraph 3.9.7, or
d) The cover H to the pipe is more than 2.5m.

3.9.3 Trench slope
Where the slope of the trench is 1 in 8 or greater, anti-scour blocks shall be provided.
These anti-scour blocks shall be:
a) Constructed from 150mm thick concrete (17 Mpa),
b) Keyed into the sides & floor of the trench by 150 mm,
c) Extend to 300 mm above the drain or to ground level where the drain cover is less than 300mm &
d) Spaced at:
i) 7.5m centres for trench slope between 1 in 8 & in 5, or
ii) 5.0 m centres for trench slopes greater than 1 in 5.

3.9.4 Trench width
The width B of the trench shall be less than pipe diameter D plus 200mm .
Trench width at the top of the pipe shall be no more than 600mm unless the pipe(s) in the trench are covered with concrete, as shown in fig 13 (c)

3.9.5 Acceptable materials
Acceptable fill material shown in figure 13 are;
a) Bedding material of clean granular noncohesive material with a maximum particle size of 20mm or
b) Selected compacted fill of any fine-grained soil or granular material which is free from topsoil & rubbish & has a maximum particle size of 20mm, or
c) Ordinary fill which may comprise any fill or excavated material.

3.9.6 Placing & compacting
a) Granular bedding & selected fill shall be placed in layers of no greater than 100mm loose thickness & compacted.
b) Up to 300mm above the pipe, compaction shall be by tamping by hand using a rod with a pad foot (having an area of 75+or- 25mm by 75+or- 25mm) over the entire surface of each layer to produce a compact layer without obvious voids.
c) More than 300mm above the pipe, compaction hall be by at least four passes of a mechanical tamping foot compactor (whacker type) with a minimum weight of 75 kg.

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Checked: Alex Sigley	Variation #	

Drawing Title:	Bedding & Backfilling Type-one Sump & Gully Trap			Sheet #	4
Wind Region	A	Wind Zone	High	Scale:	N.T.S
Earthquake Zone	2	Exposure Zone	C		

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CONSTRUCTION NOTES:

The site requirements of this NZS 3604: 2011 are concerned with soil site conditions under or adjacent to the building.
If a site does not comply with the definition of good ground, the foundations shall be the subject of specific design (SED) & investigation as appropriate.
All foundations shall bear upon solid bottom in undisturbed good ground material or upon firm fill for which a certificate of suitability has been issued under NZS 4431.
Where good ground is at a depth greater than 0.6., the excavation between the good & foundation base may be filled with mass concrete having a minimum strength of 10Mpa at 28 bays.
Granular fill material complying with 7.5.3.2 shall be placed & compacted in layers of 150mm max thickness, over the area beneath the proposed ground slab, so that the total thickness of granular base is not less than 75mm nor more than 600mm.
compact each layer until the material is bound together & does not visibly deform under the weight of a pressed adult heel. SED is required if filling is in excess of 600mm.

7.5.3.2
Granular fill material shall be composed of round gravel, crushed rock, scoria or approved material.
a) Not more than 5% shall pass through a 2.2mm sieve with the exception of conditions in 4.5.3.3:
b) 100% shall pass either.
i) A 19mm sieve for any fill thickness; or
i) A 37.5mm sieve for a fill thickness exceeding 100mm.
Where it can be demonstrated that site conditions ensure that capillary water is unlikely to reach the underside of the slab, then the requirements of 7.5.3.2 (a) can be waived.

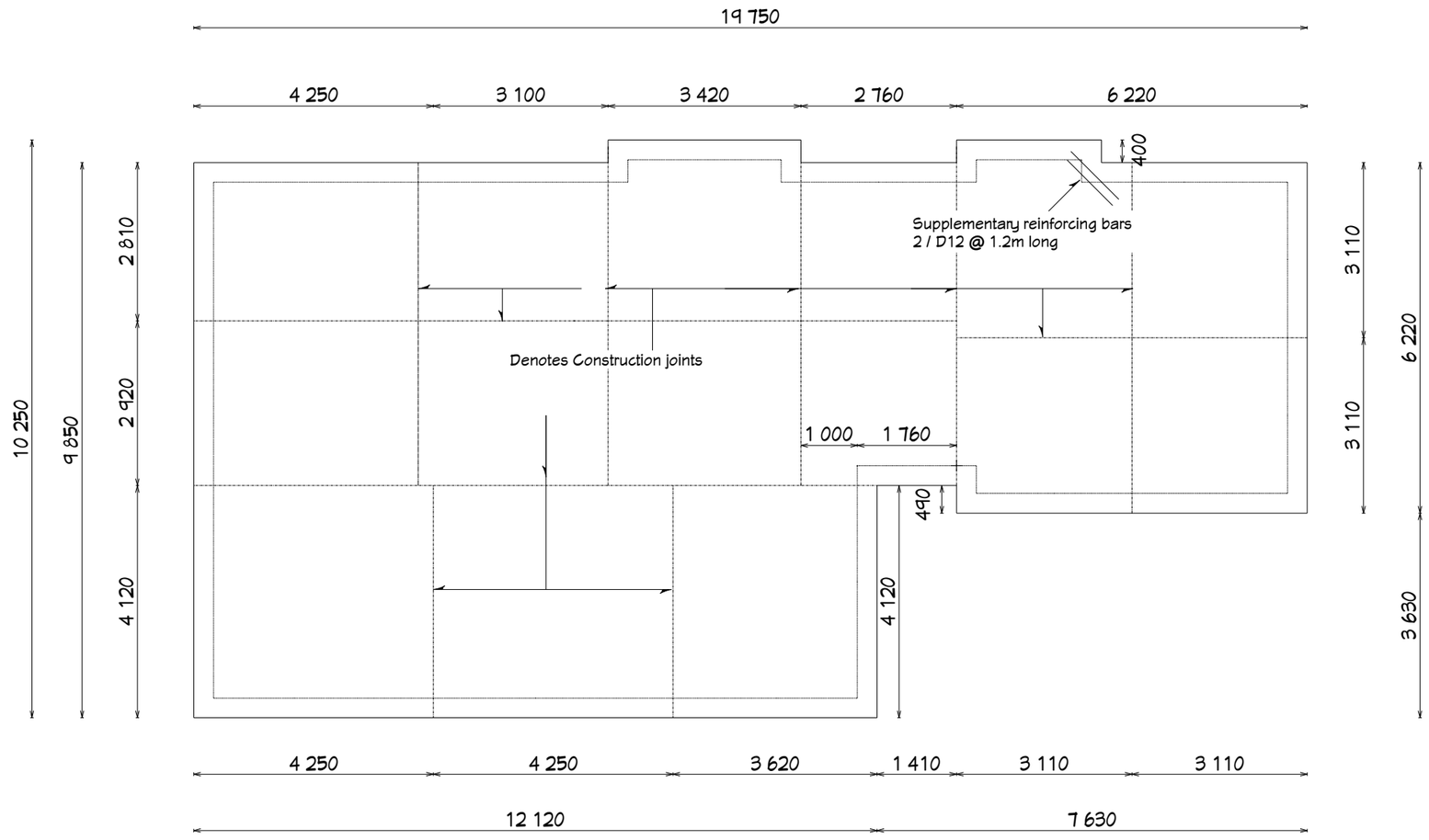
75mm min -20mm round stone max to cover hardfill to ensure the vapour barrier is protected from granular protrusions. Conc, floor to comply with NZS 3109,surface tolerance, & NZS 3114, maximum deviations of 3mm.

Shrinkage control joints -3mm wide x 25mm deep saw cuts to form bays NZS3604:2011 - section 7 Floors 7.5.8.6.4
The bay dimensions formed by either construction or shrinkage control joints shall be limited to a maximum length ; width ratio of 2:1. Maximum bay dimensions in exposed concrete, vinyl or tiled areas to be 6mx6m.

Steel reinforcing within concrete floors & walls of rooms that contain a Bath or Shower must be bonded to the earth system as per AS/NZS 3000:2007 Electrical installations. See clause 5.6.2.5

Confirm layout & fittings of kitchen & bathroom etc before foundation commences

FOUNDATION & SLAB
100mm thick concrete slab, SE62 500E reinforcing mesh, min 225 mm lap on 0.25 polythene
Concrete strength to be 20 Mpa after 28 days
75mm min - 20mm round stone Max, to cover hardfill to ensure the vapour barrier is protected from any granular protrusions
Malthoid DPC underlay under all bottom plates, overlapping timber by min 6mm.



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Drawing Title: Foundation Plan
Sheet # 5

Wind Region	A	Wind Zone	High	Scale: 1:100
Earthquake Zone	2	Exposure Zone	C	

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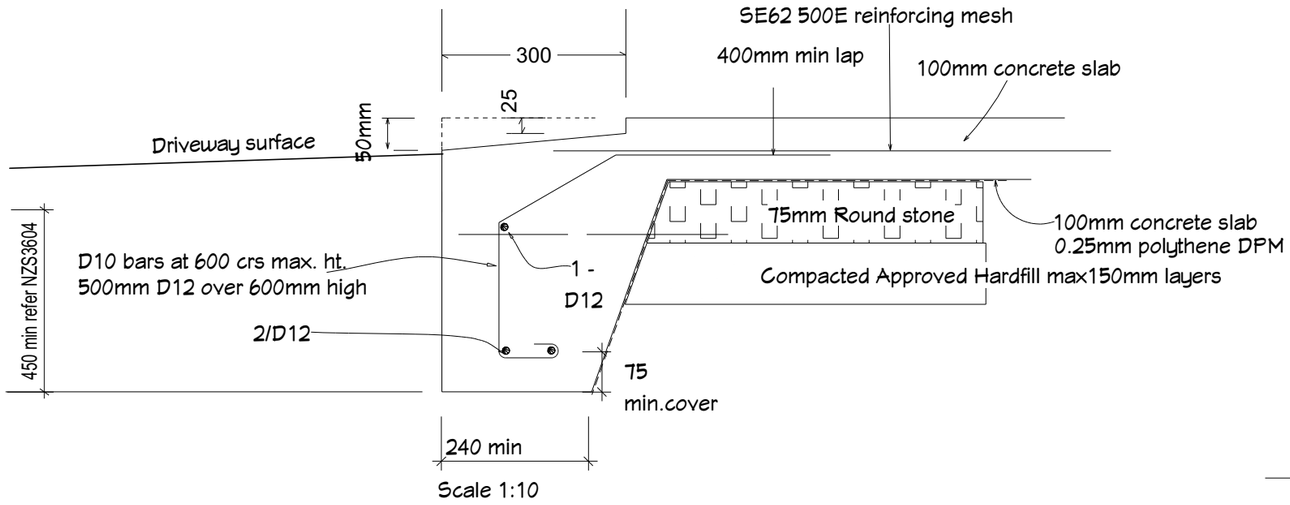
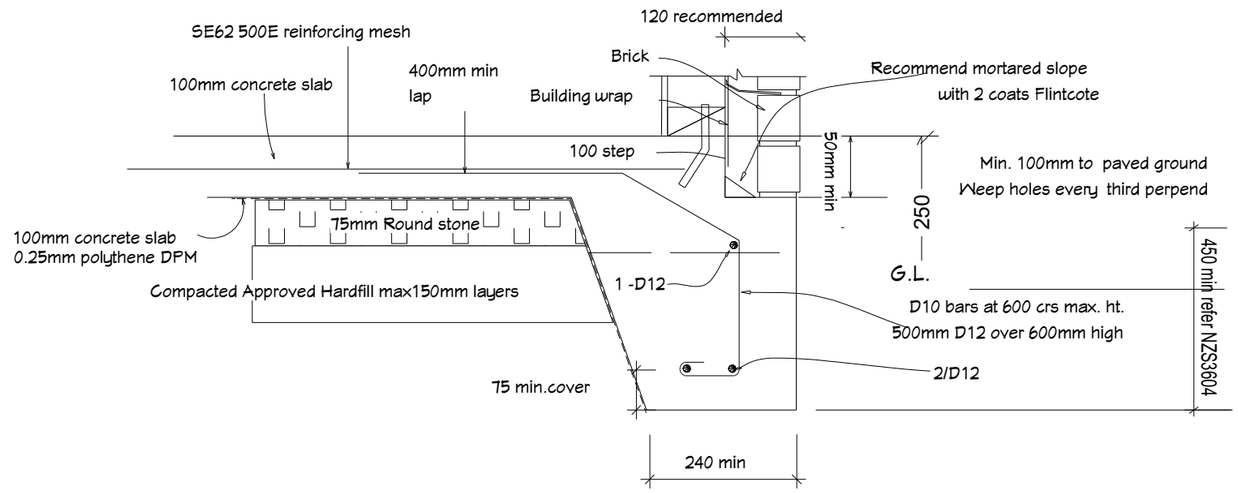
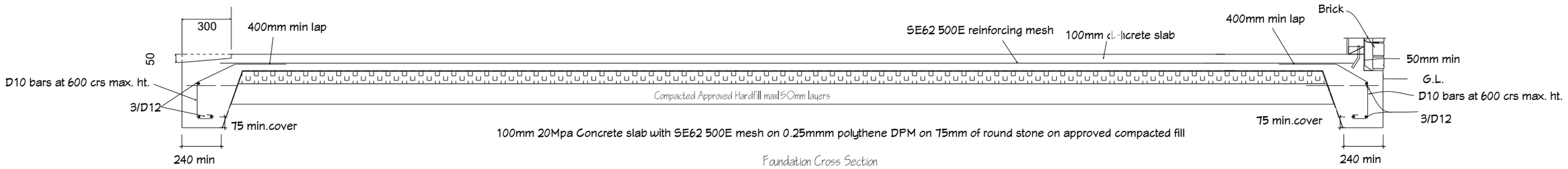


Garage Door Concrete Slab & Foundation



Concrete Slab & Foundation.



100mm 20Mpa Concrete slab with SE62 500E mesh on 0.25mmm polythene DPM on 75mm of round stone on approved compacted fill

Foundation Cross Section
Scale 1:25

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Drawing Title:	Foundation Details			Sheet #	6
Wind Region	A	Wind Zone	High	Scale:	As Indicated
Earthquake Zone	2	Exposure Zone	C		

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CONSTRUCTION NOTES:

Gas hot water to be infinity type & Gas cooking with vented R/hood. Ensure gas appliance installation complies to NZS 5261:2003. Gas appliances to be connected to main pressure gas.

Hot water pipes shall be thermally insulated to comply with H1/AS1 5.0
The delivered hot water temperature at any sanitary fixture used for personal hygiene shall not exceed 55 degrees C

Gas infinity water heater. 300mm from any opening door or window, 75mm from down pipes, 500mm from fuse or electric box, 300mm from wall or corner, 1500mm from ground.
(GAS FITTER TO CONFIRM)

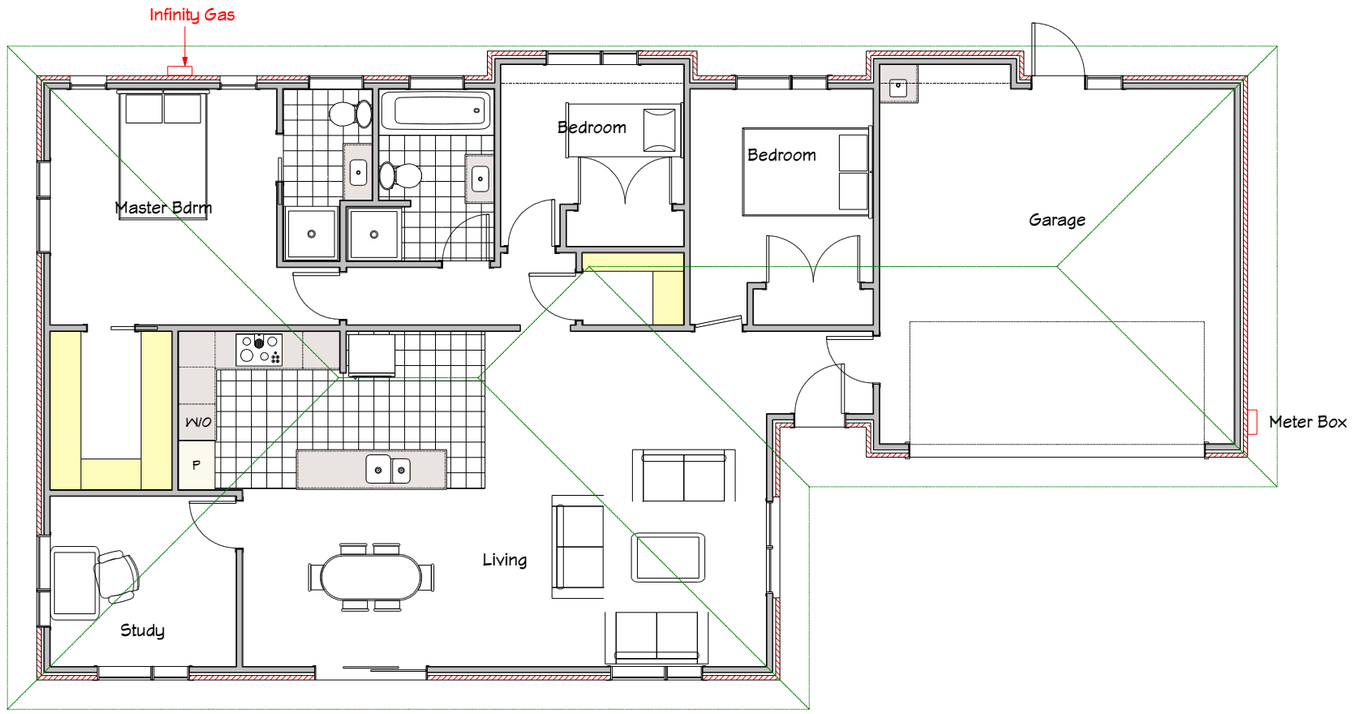
Please confirm layout & fitting of kitchen, bathrooms & laundry etc before foundation commences

NZS 5261:2003 Gas Hob Installation
Cut out for hob 60mm from back of bench top.
Overhead clearance: not less than 600mm from the highest part of hob to range hood.
Side clearance: Where dimension from periphery of nearest burner to any vertical combustible surface is less than 200mm, surface shall be protected to a min, height of 150mm above hob for full dimension (width or depth) of cooking surface area. Horizontal surface shall be greater than 10mm below surface of hob.
Protection of combustible surfaces: 5mm thick ceramic tiles or graphic glass is suitable to protect 10mm Gib board

G3/AS1
1.1.3 Food preparation surfaces shall be easily maintained in a hygienic condition. Stainless steel, decorative high pressure laminates, & tiles are examples of suitable materials for these surfaces.

1.6 Wall linings adjacent to appliances & facilities shall have surfaces that can be easily maintained in a hygienic condition. Stainless steel, decorative high pressure laminate,
tiles wallboards with painted or applied impervious coatings or films, are example of suitable
materials for these surfaces.

FLOOR FINISHES	
Bedrooms Living/ Family Dining Hall	Carpet
Kitchen Ensuite Bathroom Entry	Non Slip Tiles
Garage Laundry	Concrete



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Drawing Title:	Layout Plan & Floor Covering			Sheet #	7
Wind Region	A	Wind Zone	High	Scale:	1:100
Earthquake Zone	2	Exposure Zone	C		

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Bcon18/0058 - WDC Approved Plans - 14/03/2018

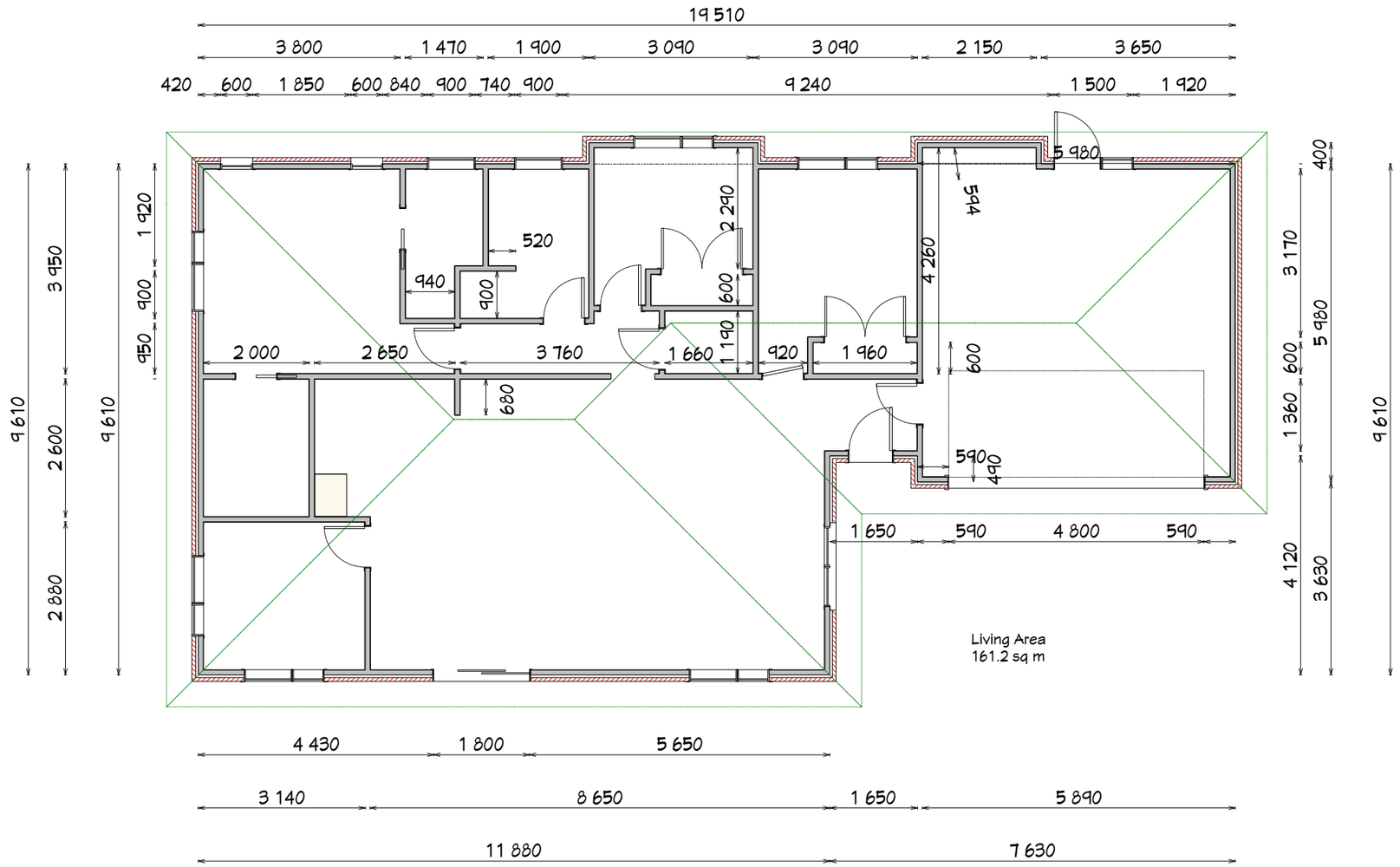
CONSTRUCTION NOTES:

Always cross reference the foundation plan with the floor plan prior
to setting out.

Exterior Joinery Head height to be 2.050 from FFL all sizes to be confirmed on site by manufactory (SITE MEASURE) liner to suit architrave finish

No liability shall be held by designer for incorrect supply of Joinery.

Interior doors shall be of std height 1980mm on 19mm thick jambs to suit architraves.



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Drawing Title:	Dimensioned Floor Plan			Sheet #	8
Wind Region	A	Wind Zone	High	Scale:	1:100
Earthquake Zone	2	Exposure Zone	C		

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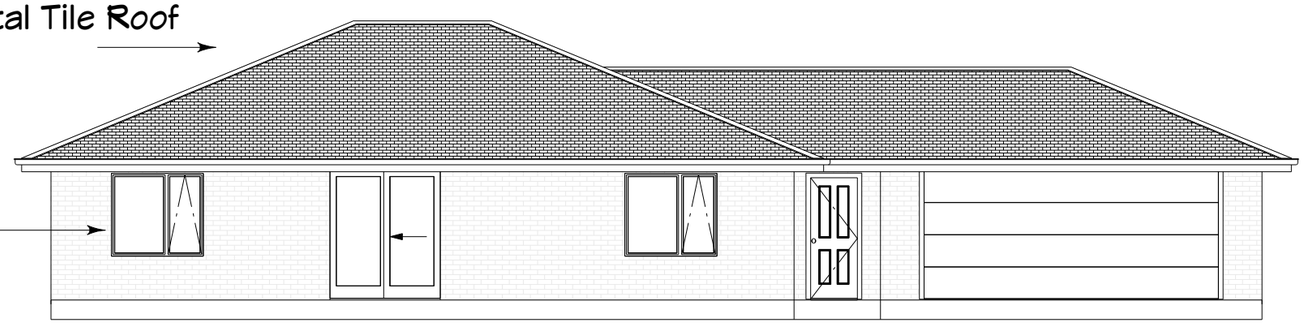
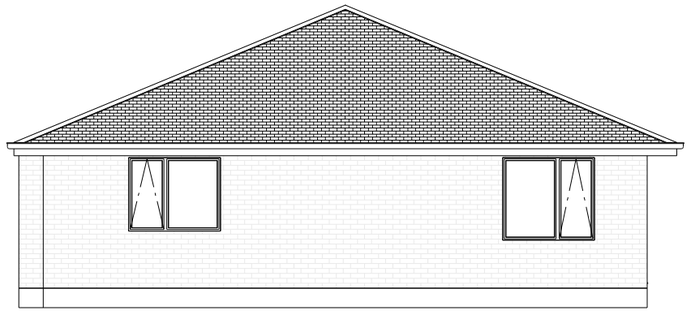
Gerard Metal Tile Roof

Powder Coated Aluminium Joinery

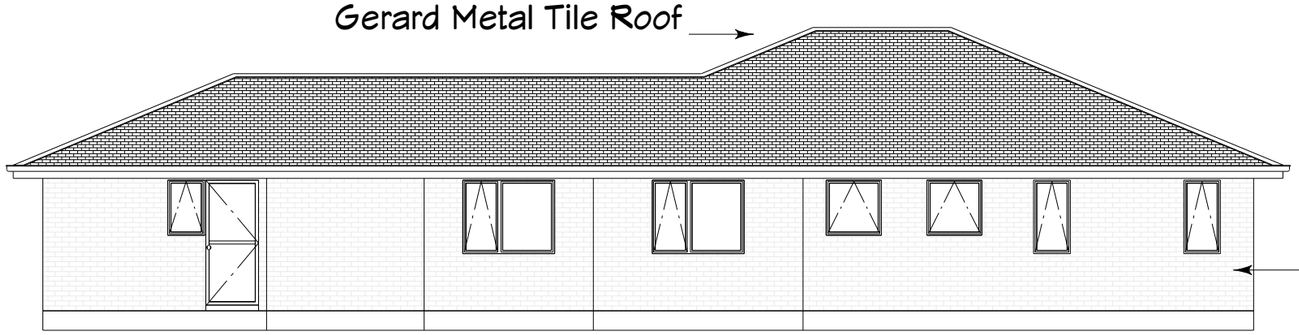


Elevation C



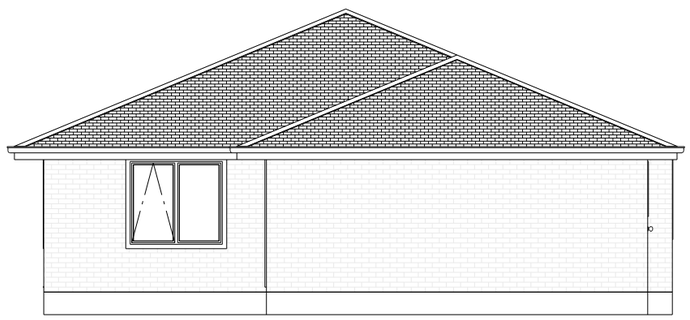
Elevation D

Gerard Metal Tile Roof



70 Series Brick

Elevation A



70 Series Brick

Elevation B

BUILDING ENVELOPE RISK MATRIX

All Elevations		
Risk Factor	Risk Severity	Risk Score
Wind zone (per NZS 3604)	High	1
Number of storeys	Low Risk	0
Roof/wall intersection	Low Risk	0
Eaves width	High Risk	1
Envelope complexity	High Risk	0
Deck & balconies	Low Risk	0
TOTAL Risk Score:		2

CONSTRUCTION NOTES

Glazing in accordance with NZS 4223.3 2016 plus amendments
All glazing clear float except for obscure glass to bathrooms WC & garage. Double glazing to all windows & doors.

Aluminium joinery head heights to be 2.050m Refer to floor plan for exterior door & window sizes. Joinery schedule & sizes to be confirmed by pre-cut manufacturer & joinery fabricator prior to manufacture via e-mail phone or other.

SAFETY RESTRICTOR STAYS:
Windows restrictors are required to outward opening windows that may protrude into walk paths.

NZBC D1/AS1 Access Routes:
Concrete or H5 timber steps to all access points 150mm below FFL
Acceptable Slip Resistance for Walking Surfaces:
* Portland cement concrete
- Broomed (Class5 or 6) or wood float finish (Class U2)
Concrete surface finishes comply with NZS 3144.
- Coated & sand/grit impregnated
The sand/grit which is sprinkled over the complete surface of the final paint coating should be hard angular material such as silica sand or calcined bauxite. The particle size should not be less than 0.2mm so that it is not submerged by the coating & not greater than about 2-3mm so that it remains tightly bound to the surface.
- Exposed aggregate finish
crushed aggregate
* Asphaltic concrete
* Concrete pavers
- Dry press concrete
- Interlocking concrete block pavers to NZS 3116
* Anti-slip tapes
- Will normally require regular replacement to remain effective. To ensure foot contact, tapes should be placed at right angels to the line of travel & be spaced at no more than 150mm centres.

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Drawing Title:	Elevation & Risk Matrix			Sheet #	9
Wind Region	A	Wind Zone	High	Scale:	1:100
Earthquake Zone	2	Exposure Zone	C		

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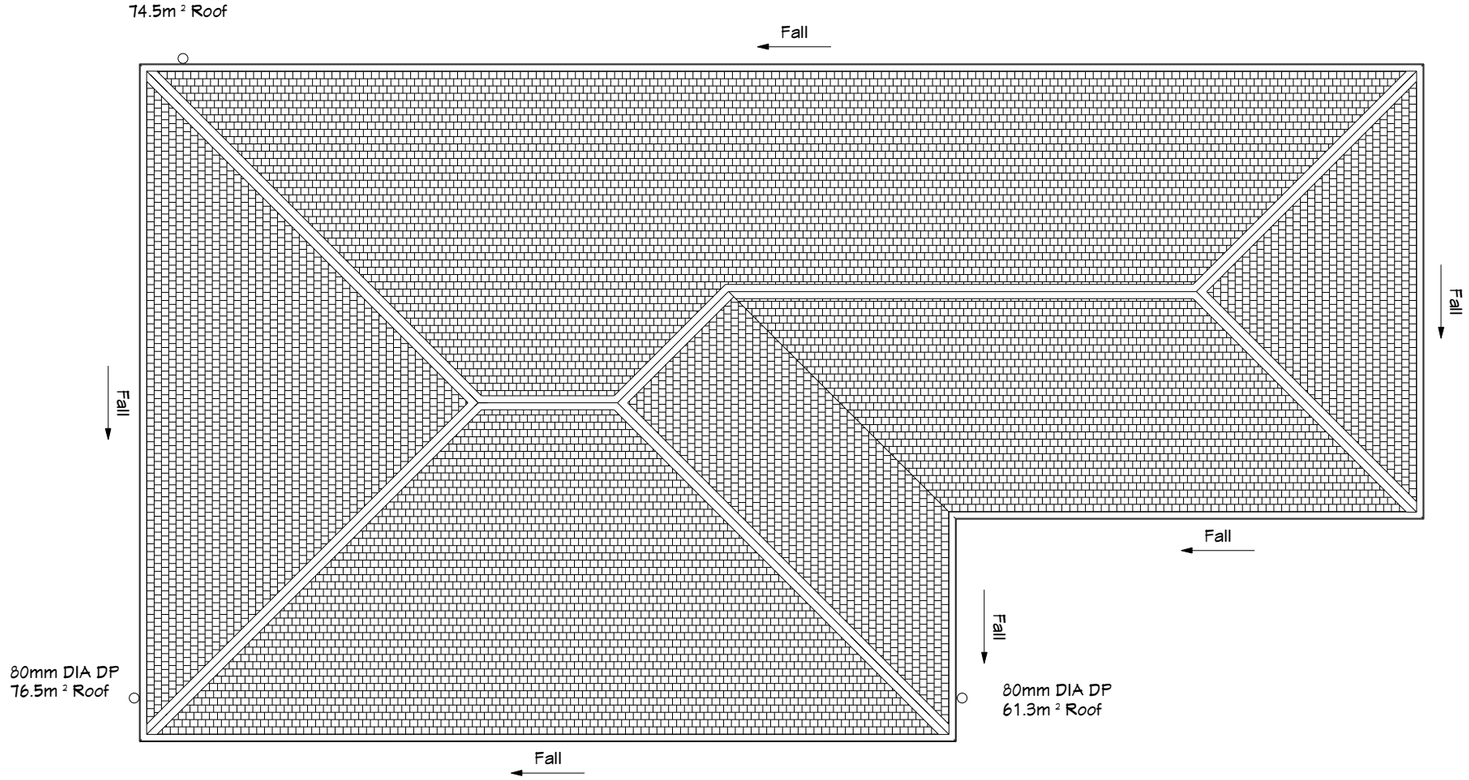
Roof: Pre-Fabricated trusses @ 22.5 degree pitch H1.2 @ 900mm ctrs
& Thermakraft 215 self supporting underlay laid horizontally with min 150mm lap.
with 50x40 H1.2 Roof Tile battens fixed to manufacturers instructions.

Metal Colour Tile roofing fixed with compatible roofing nails & sealed washers,
by qualified persons with flashings as required to all junctions- flashings fixed
with compatible roofing Nails & sealing washers.
E2/AS1 8.3.7 Fixing Pressed metal tiles
Fixing shall :
a) Be 50x2.8mm hot-dipped galvanized painted flat-head annular-grooved
nails. For fixings through the top of the tiles, use neoprene washers containing
no more than 15% by weight carbon black content, with

b) Four fixings per sheet through:
1) the turn-down of the tiles for the body of the roof, and
2) the top of the profile slope for sheets at the eaves, avoiding the
weather channel of the tiles.
Flashings
The roof shall be flashed at all boundaries except at the discharge to gutter

Roof Pitch: 22.5°
Total Roof Surface Area: 212.2m ²
Max Roof Area 80D Downpipe: 98m ²



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Drawing Title:	Roof Elevation			Sheet #	10
Wind Region	A	Wind Zone	High	Scale:	1:100
Earthquake Zone	2	Exposure Zone	C		

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FOUNDATION & SLAB
100mm thick concrete slab, SE62 500E reinforcing mesh, min 225 mm lap on 0.25 polythene. Concrete strength to be 20 Mpa after 28 days
75mm 20mm round stone to cover hardfill to ensure the vapour barrier is protected from any granular protrusions
Malthoid DPC underlay under all bottom plates, overlapping timber by min 6mm.

External walls (SG8 H1.2)
90x45 H1.2 SG8 frame @ 600mm ctrs & 2 rows of dwangs +140x35 H1.2 top plate packer to frames that have trusses set on top.
Dwang at no more than 800mm ctrs.

MARSHALL WATERPROOFING: Tekton building wrap to all exterior frames, including gable ends.
Standard 10mm gib to all walls except wet areas gib aqua line. Fixed to comply with the latest Winstone Gib Manual - level 4 finish.

BOTTOM PLATE FIXING: External walls to comply with NZS 3604; 2011
M12x 135mm Galv Thru Bolts @ no more than 900mm ctrs & no more than 150mm from any opening,

EXTERNAL CLADDING: 70 SERIES CLAY BRICK.
Brick cavity to be 50mm a clean cavity free of mortar bridging the gap is essential to preventing moisture transference.
VENT & WEEP HOLES: the requirement for weep holes along the bottom coarse of bricks is 1/75x10mm weep hole every 800mm. The weep hole requirement also applies across the head of doors, windows & openings. Ventilation at the top of the veneer is required to ensure good circulation, vent size & spacing to be the same as the bottom.
BRICK TIES: Ties to be fixed to framing with 35mmx12g screws, The tie must be at least half way across the width of the brick but also a min cover of 15mm over the end of the tie. Tie must be in stalled with a 5 degree slop down from frame.
Bottom brick tie are to be within 300mm of the base of the veneer or 2 courses whichever is the smaller. Tie to be fixed to studs only @ no more than 600mm ctrs horizontally , 400mm ctrs vertically & no more than 200mm from openings.
Brick rebate to be 120mm wide & 90mm deep.
Brick sills are to have a min slope of 15 degrees:

EXTERNAL JOINERY: Aluminium joinery to comply with NZBC: E2/AS1:
20mm primed jambs suitable for architraves. Approved window seal tape to all openings.
Glazing to comply with NZS:4223. & 2008 amendments.

INTERNAL WALL: (SG8 H1.2) 90x45 H1.2 frames with 140x35 top plate packer studs @ 600mm ctrs 2 rows of dwangs. Standard 10mm gib throughout except for wet areas to be Aqua line gib. Bottom plate fixing: Ramset HD875 driven pin + washer **(or equivalent)** @ 600mm ctrs.

Wet Areas: Floor finish Bathroom, WC, Kitchen.
Non-Slip Tiles over sealed floor. Min slip resistance Co-efficient for level surface between 0.25-0.50 acceptable with NZBC: D1/1 AS1 Access.
Waterproof seal Tiles to edge of painted skirting, contractor to comply with NZBC: E3/AS1.

Ceiling: Rhondo ceiling battens nailed to trusses @ 450mm ctrs.
Ensure battens are straight prior to lining. Fix 10mm std Gib linings with 32mmx6g gib grabber screws @ 600mm ctrs. Glue daubs to be min of 200mm from centre screw. Do not screw where you glue. 32mm x6g Gib grabber screws @ 200mm ctrs around the perimeter. Gib stopping level 4 paint finish. 1/850mm sq ceiling access to roof space.

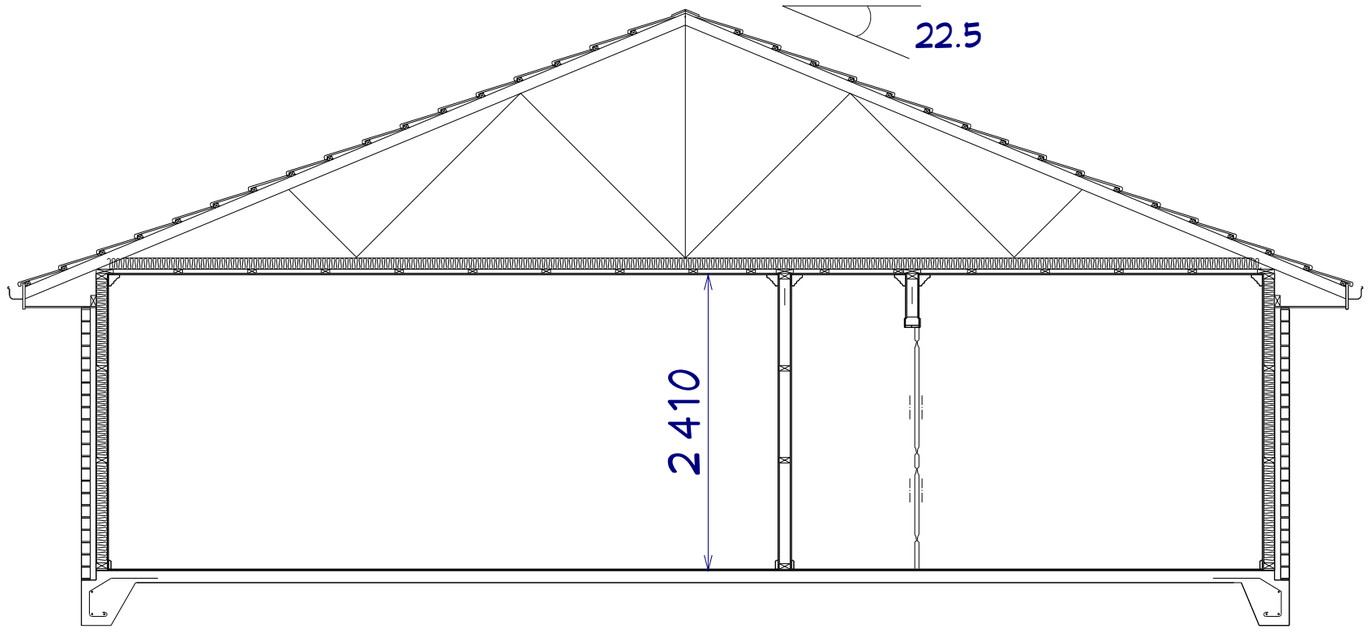
Insulation: R3.2 insulation to all ceilings Maintain 25mm air gap clearance between the insulation & roof underlay.
R2.2 insulation to all exterior wall cavities friction fitted.

Soffits: 4.5mm Hardiflex soffit lining fixed to underside of soffit sprocket.
600mm eaves widths,
Coloursteel concept profile fascia & D gutter or equivalent. Cross section area = 5500 mm2
Coloursteel spouting on concealed brackets

Roof: Pre-Fabricated trusses @ 22.5 degree pitch H1.2 @ 900mm ctrs
& Thermakraft 215 self supporting underlay laid horizontally with min 150mm lap.
with 50x40 H1.2 Roof Tile battens fixed to manufacturers instructions.

Metal Colour Tile roofing fixed with compatible roofing nails & sealed washers, by qualified persons with flashings as required to all junctions- flashings fixed with compatible roofing Nails & sealing washers.
E2/AS1 8.3.7 Fixing Pressed metal tiles
Fixing shall :
a) Be 50x2.8mm hot-dipped galvanized painted flat-head annular-grooved nails. For fixings through the top of the tiles, use neoprene washers containing no more than 15% by weight carbon black content, with

b) Four fixings per sheet through:
1) the turn-down of the tiles for the body of the roof, and
2) the top of the profile slope for sheets at the eaves, avoiding the weather channel of the tiles.
Flashings
The roof shall be flashed at all boundaries except at the discharge to gutter



DRAWINGS PROVIDED BY:
DESIGN ARCHITECTURAL DESIGN

Client Details :
Hee Taek Oh
& Jinsoon Lim
Address:
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Wanganui

G.J. Gardner. HOMES
New Zealand's favourite home builder

Drawn: David Coker	Date:	08/12/2017
Checked: Alex Sigley	Variation #	

Drawing Title: Cross Section
Sheet # 11

Wind Region	A	Wind Zone	High	Scale: 1:50
Earthquake Zone	2	Exposure Zone	C	

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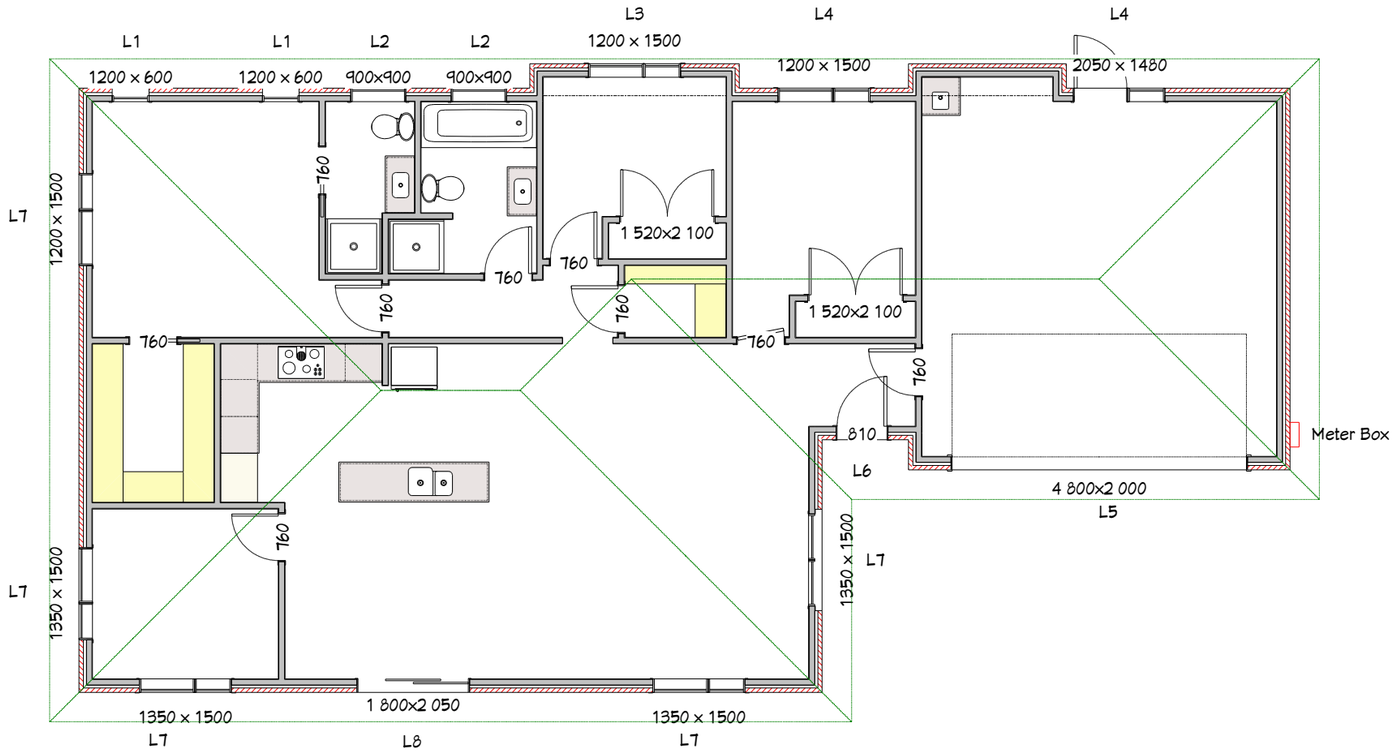
NOTE:
(1) Truss Design takes precedence over lintel sizes shown if different

(2) Window Manufacturer is to site measure before manufacture



Lintels

L1 - 2/90 x 45 SG8
L 2 - 2/90x45 SG8
L3 - 150 x 90 hy90
L4 - 150 x 90 hy90
L5 - 360 x 90 hy90
L6 - 2/90 x 45 SG8
L7 - 150 x 90 hy90
L8 - 150 x 90 hy90

DRAWINGS PROVIDED BY

dc DESIGN ARCHITECTUAL DESIGN

Client Details :
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Drawn: David Coker	Date:	08/12/2017	
Checked: Alex Sigley	Variation #		

Drawing Title:	Window & Lintel Sizes			Sheet #	12
Wind Region	A	Wind Zone	High	Scale:	1:100
Earthquake Zone	2	Exposure Zone	C		

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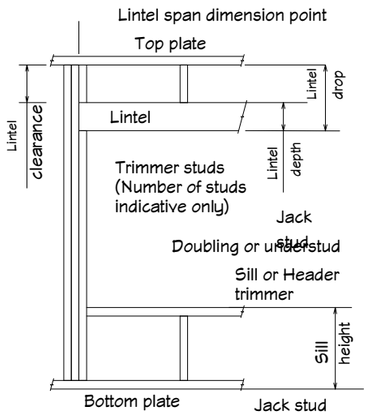
LINTEL FIXING SCHEDULE
ALTERNATIVE TO TABLE 8.14 & FIGURE 8.12
NZS 3604:2011

NOTE:

All fixings are designed for vertical loads only. Dead loads include the roof weight and standard ceiling weight of 0.20 kPa.
Refer to Table 8.19 NZS 3604:2011 for nailing schedule to resist horizontal loads.
These fixings assume the correct choice of rafter/truss to top plate connections have been made.
All fixings assume bottom plate thickness of 45mm maximum. Note: TYLOK options on timber species.
Wall framing arrangements under girder trusses are not covered in this schedule.
All timber selections are as per NZS 3604:2011.

DEFINITIONS



Lintel Supporting Girder Trusses:

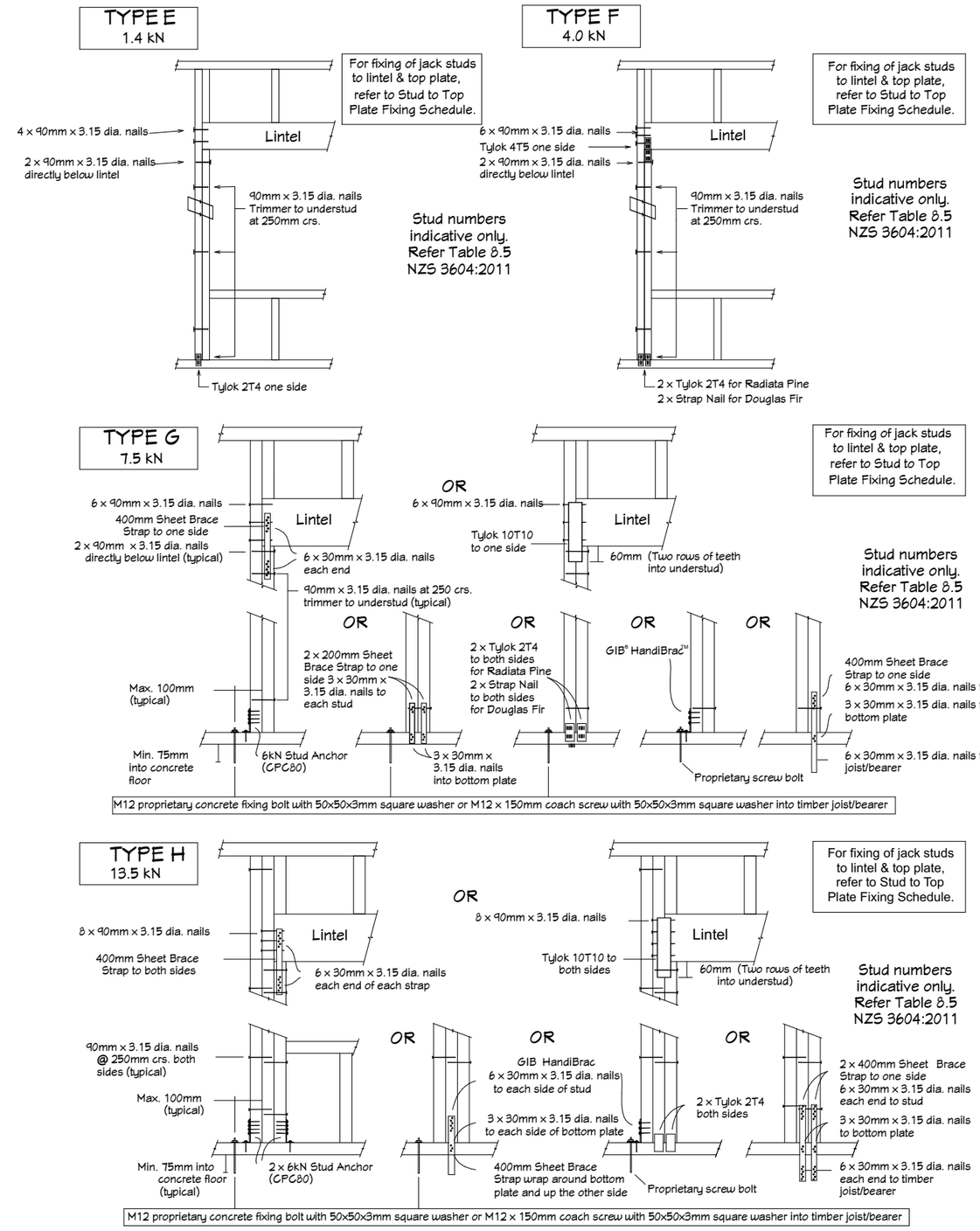
Roof Tributary Area	Light Roof Wind Zone			Heavy Roof Wind Zone		
	L, M, H	VH	EH	L, M, H	VH	EH
8.6 m²	G	G	H	G	G	H
11.6 m²	G	H	H	G	G	H
12.1 m²	G	H	H	G	H	H
15.3 m²	H	H	-	G	H	H
19.1 m²	H	-	-	G	H	-
20.9 m²	H	-	-	H	H	-
21.8 m²	H	-	-	H	-	-
34.3 m²	-	-	-	H	-	-

Notes:
1) Roof Tributary Area = approx. 1/2 x (Total roof area on girder and rafter trusses supported by lintel)
2) Assumed girder truss is at mid-span or middle third span of lintel
3) Use similar fixings for both ends of lintel
4) All other cases require specific engineering design

SELECTION CHART FOR LINTEL FIXING

Lintel Span	Loaded Dimension (See Fig. 1.3 NZS 3604:2011)	Light Roof Wind Zone					Heavy Roof Wind Zone				
		L	M	H	VH	EH	L	M	H	VH	EH
0.7	2.0	E	E	E	E	F	E	E	E	E	E
	3.0	E	E	E	F	F	E	E	E	E	F
	4.0	E	E	F	F	F	E	E	E	F	F
	5.0	E	F	F	F	G	E	E	F	F	F
	6.0	E	F	F	G	G	E	E	F	F	G
0.9	2.0	E	E	E	F	F	E	E	E	E	F
	3.0	E	E	F	F	F	E	E	E	F	F
	4.0	E	E	F	F	F	E	E	F	F	F
	5.0	E	F	F	F	G	E	E	F	F	F
	6.0	E	F	F	G	G	E	E	F	F	G
1.0	2.0	E	E	E	F	F	E	E	E	E	F
	3.0	E	E	F	F	F	E	E	E	F	F
	4.0	E	F	F	F	G	E	E	F	F	F
	5.0	E	F	F	G	G	E	E	F	F	G
	6.0	E	F	F	G	G	E	E	F	F	G
1.2	2.0	E	E	F	F	F	E	E	E	F	F
	3.0	E	E	F	F	F	E	E	F	F	F
	4.0	E	F	F	G	G	E	E	F	F	G
	5.0	E	F	F	G	G	E	E	F	F	G
	6.0	F	F	G	G	H	E	E	F	G	G
1.5	2.0	E	E	F	F	F	E	E	E	F	F
	3.0	E	F	F	F	G	E	E	F	F	F
	4.0	E	F	F	G	G	E	E	F	F	G
	5.0	F	F	G	G	H	E	E	F	G	G
	6.0	F	F	G	H	H	E	E	F	G	H
2.0	2.0	E	F	F	F	G	E	E	F	F	F
	3.0	E	F	F	G	G	E	E	F	F	G
	4.0	F	F	G	G	H	E	E	F	G	G
	5.0	F	F	G	H	H	E	E	F	G	H
	6.0	F	G	G	H	H	E	F	G	H	H
2.4	2.0	E	F	F	G	G	E	E	F	F	G
	3.0	F	F	G	G	H	E	E	F	G	G
	4.0	F	F	G	H	H	E	E	F	G	H
	5.0	F	G	G	H	H	E	F	G	H	H
	6.0	F	G	H	H	-	E	F	G	H	H
3.0	2.0	E	F	F	G	G	E	E	F	F	G
	3.0	F	F	G	H	H	E	E	F	G	H
	4.0	F	G	G	H	H	E	F	G	H	H
	5.0	F	G	H	H	-	E	F	G	H	H
	6.0	F	G	H	-	-	E	F	G	H	-
3.6	2.0	F	F	G	G	H	E	E	F	G	G
	3.0	F	F	G	H	H	E	F	G	G	H
	4.0	F	G	H	H	-	E	F	G	H	H
	5.0	F	G	H	-	-	E	F	G	H	-
	6.0	G	H	H	-	-	E	F	H	-	-
4.2	2.0	F	F	G	G	H	E	E	F	G	G
	3.0	F	G	H	H	-	E	F	G	H	H
	4.0	F	G	H	-	-	E	F	G	H	-
	5.0	G	H	H	-	-	E	F	H	-	-
	6.0	G	H	-	-	-	E	F	H	-	-
4.5	2.0	F	F	G	H	H	E	E	F	G	H
	3.0	F	G	H	H	-	E	F	G	H	H
	3.4	F	G	H	H	-	E	F	G	H	-
	4.0	F	G	H	-	-	E	F	G	H	-
	5.0	G	H	-	-	-	E	F	H	-	-
	6.0	G	H	-	-	-	E	F	H	-	-
4.8	2.0	F	F	G	H	H	E	E	F	G	H
	3.0	F	G	H	H	-	E	F	G	H	H
	3.2	F	G	H	H	-	F	F	G	H	-
	4.0	F	G	H	-	-	E	F	H	H	-
	5.0	G	H	-	-	-	E	F	H	-	-
	6.0	G	H	-	-	-	E	F	H	-	-

LINTEL FIXING OPTIONS



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Drawn: David Coker	Date:	08/12/2017
Checked: Alex Sigley	Variation #	

Drawing Title:	Lintel Fixing Details			Sheet #	13
Wind Region	A	Wind Zone	High	Scale:	N.T.S
Earthquake Zone	2	Exposure Zone	C		

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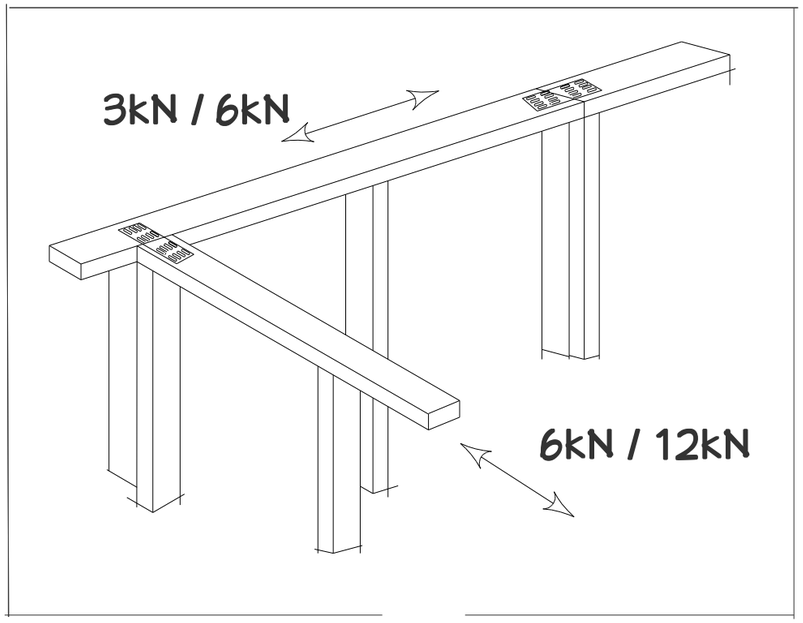
TOP PLATE JOINTING
AS PER CLAUSE 8.7.3 NZS 3604:2011

Top Plates at Right Angles

Connection capacity	LUMBERLOK Connector
6 kN	Tylok 6T10 **OR** 2 x Strap Nails
12 kN	2 x Sheet Brace Straps fixed with 6 x LUMBERLOK Product Nails 30mm x 3.15 dia. per end per strap (24 nails total)

Top Plates in Line

Connection capacity	LUMBERLOK Connector
3 kN	Tylok 6T5 **OR** Strap Nail
6 kN	Tylok 6T10 **OR** 2 x Strap Nails

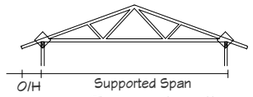


STUD TO TOP PLATE FIXING SCHEDULE
ALTERNATIVE TO TABLE 8.18 NZS 3604:2011

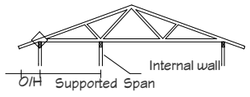
NOTE:

All fixings are designed to resist vertical loads only. Dead loads include the roof weight and standard ceiling weight of 0.20 kPa.
Refer to Table 8.19 NZS 3604:2011 for nailing schedule to resist lateral loads.
These fixings assume the correct choice of rafter/truss to top plate connections have been made.
Gable end wall top plate/stud connections where the adjacent rafter/truss is located within 1200mm of gable end wall with a maximum verge overhang of 750mm, requires fixing type A as shown below.
All fixings assume top plate thickness of 45mm maximum.
Wall framing arrangements under girder trusses are not covered in this schedule.
All timber selections are as per NZS 3604:2011.

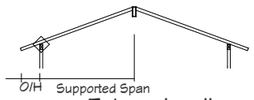
LOADED DIMENSION DEFINITION



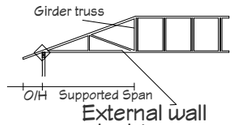
External wall
Standard truss



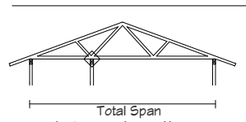
External wall
Internally supported truss



External wall
Rafter roof



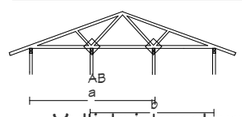
External wall
Jacktruss



Internal wall
Internally supported truss
(overhang dimension does not apply)

EXTERNAL WALL
LOADED DIMENSION =
SUPPORTED SPAN / 2 + O/H

INTERNAL WALL
LOADED DIMENSION =
TOTAL SPAN / 2



Multiple internal walls
(overhang dimension does not apply)

MULTIPLE INTERNAL WALL
LOADED DIMENSION FOR
WALL A = a/2
WALL B = b/2

FIXING SELECTION CHART

(Suitable for walls supporting roof members at 600, 900 or 1200mm crs.)

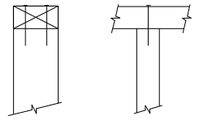
Wind Zones L, M, H, VH, EH, as per NZS 3604:2011

Loaded Dimension (m) Stud Centres			Light Roof Wind Zone					Heavy Roof Wind Zone				
300mm	400mm	600mm	L	M	H	VH	EH	L	M	H	VH	EH
3.0	2.3	1.5	A	A	B	B	B	A	A	B	B	B
4.0	3.0	2.0	A	A	B	B	B	A	A	B	B	B
5.0	3.8	2.5	A	B	B	B	B	A	A	B	B	B
6.0	4.5	3.0	A	B	B	B	B	A	A	B	B	B
7.0	5.3	3.5	A	B	B	B	B	A	A	B	B	B
8.0	6.0	4.0	A	B	B	B	B	A	A	B	B	B
9.0	6.8	4.5	B	B	B	B	B	A	A	B	B	B
10.0	7.5	5.0	B	B	B	B	B	A	A	B	B	B
11.0	8.3	5.5	B	B	B	B	B	A	A	B	B	B
12.0	9.0	6.0	B	B	B	B	B	A	A	B	B	B

FIXING OPTIONS

FIXING TYPE A
0.7 kN

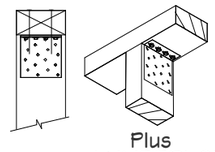
2 x 90mm x 3.15 dia. plain steel wire nails driven vertically into stud.



FIXING TYPE B
4.7 kN

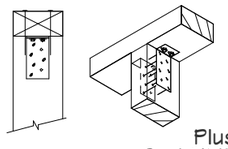
CHOOSE ANY OF THE 3 OPTIONS BELOW

2 x 90mm x 3.15 dia. plain steel wire nails driven vertically into stud

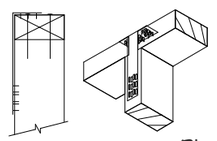

Plus
LUMBERLOK
6kN Stud Anchor
(CPC80)

Recommended for internal wall options to avoid lining issues

2 x 90mm x 3.15 dia. plain steel wire nails driven vertically into stud.


Plus
2 x LUMBERLOK
CPC40

2 x 90mm x 3.15 dia. plain steel wire nails driven vertically into stud.


Plus
LUMBERLOK
Stud Strap
(one face only)

Note:
To calculate the number of B type fixings required, divide the wall length by the stud centres, add 1 to this figure and locate this number of fixings as evenly as possible along the wall length. This figure includes the start and end studs in each wall length.

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Drawn: David Coker	Date:	08/12/2017
Checked: Alex Sigley	Variation #	

Drawing Title:	Top Plate Connections & Stud To Top Plate Fixing			Sheet #	14
Wind Region	A	Wind Zone	High	Scale:	N.T.S
Earthquake Zone	2	Exposure Zone	C		

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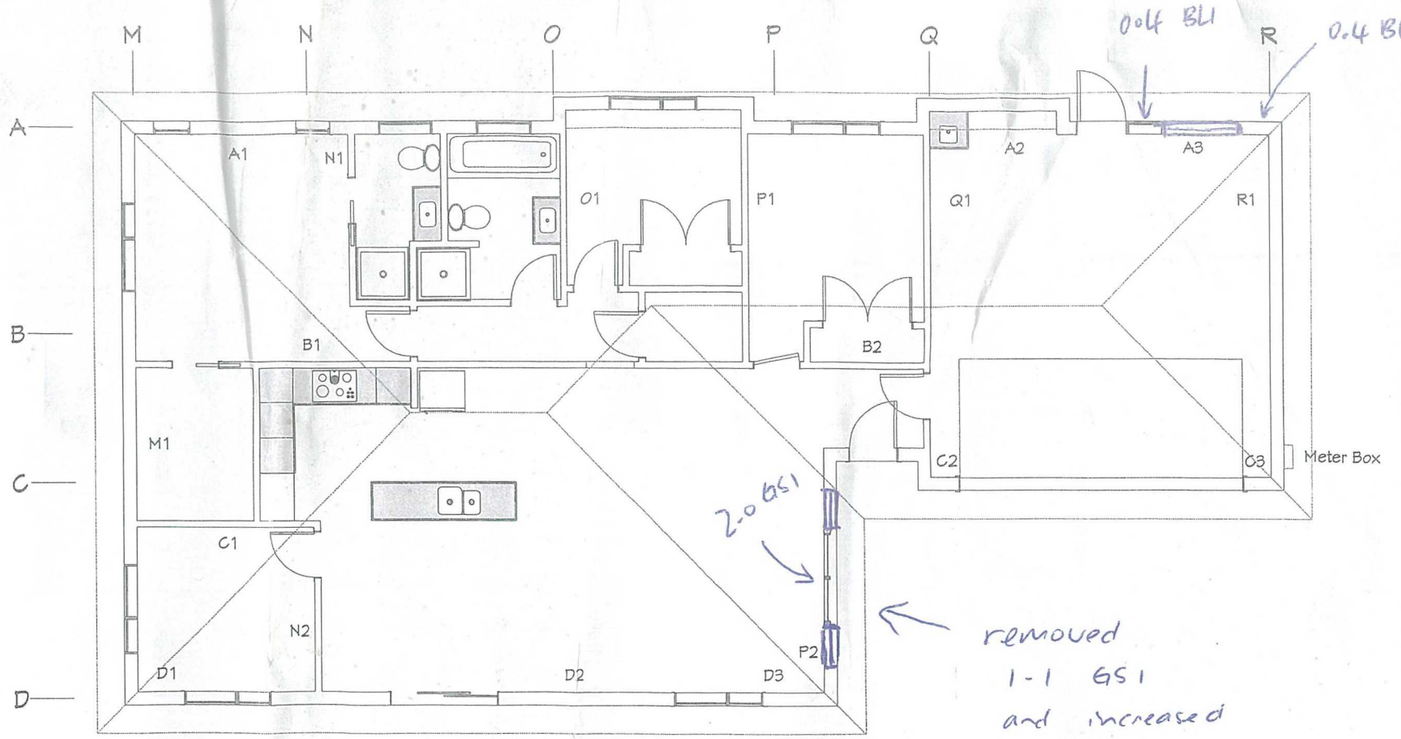
Bracing Element Along	Stud Height (mm)	Length (mm)	Type
	2400		
A1		1850	GS1 - N
A2		2100	GS1 - N
A3		1600	GS1 - N
B1		2500	GS1 - N
B2		1900	GS1 - N
C1		3000	GS1 - N
C2		.450	GS1-N
C3		.450	GS1-N
D1		.750	GS1 - N
D2		3000	GS1 - N
D3		1000	GS1 - N
Bracing Element Across	Stud Height (mm)	Length (mm)	Type
	2400		
M1		2600	GS1 - N
N1		.700	GS1 - N
N2		1900	GS1 - N
O1		2800	GS1 - N
P1		3.8	GS1 - N
P2		1.2	GS1 - N
Q1		4100	GS1 - N
R1		5000	GS1 - N

Removed 1.6 GS1
and added
2 x 0.4 BL1



removed
1-1 GS1
and increased
to
2.0 GS1

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Drawn: David Coker	Date:	08/12/2017	
Checked: Alex Sigley	Variation #		

Drawing Title:	Bracing Plan			Sheet # 15
Wind Region	A	Wind Zone	High	Scale: 1:100
Earthquake Zone	2	Exposure Zone	C	

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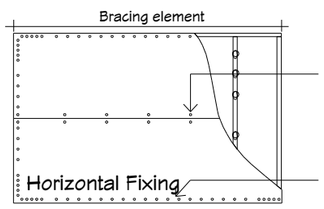
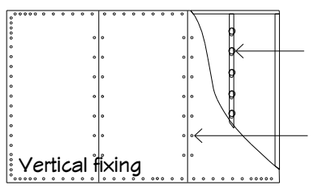
GIB EzyBraceSystems specification GS1-N

Specification code	Minimum length (mm)	Lining requirement
GS1-N	0.4	Any 10mm or 13mm GIB Standard plasterboard to one side only



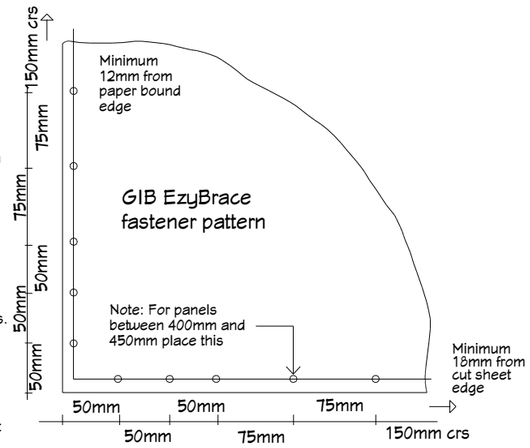
Single 32mm x 6g GIB Grabber High Thread Screws or 32mm x 7g GIB Grabber Dual Thread Screws or 30mm GIB Nails where sheets cross studs.

32mm x 6g GIB Grabber High Thread Screws, 32mm x 7g GIB Grabber Dual Thread Screws or 30mm GIB Nails where sheets cross studs at 150mm centres to perimeter of bracing element.



Daub of GIB Fix adhesive at 300mm centres to intermediate studs and nogs.

Single 32mm x 6g GIB Grabber High Thread Screws, 32mm x 7g GIB Grabber Dual Thread Screws or 30mm GIB Nails where sheets cross studs at 300mm centres.



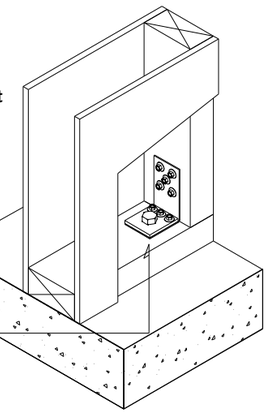
Unless stated all fastener spacings are maximums.

Panel Hold-down Details

Concrete Floor - Internal Wall

The bottom plate at both ends of the bracing element is fixed using a fastener with a proprietary fixing with a minimum characteristic uplift strength of 15 kN. If included in pack see overleaf instruction to install BOWMAC screw bolt.

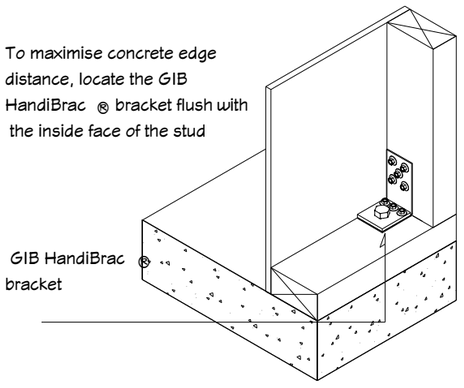
Locate the GIB HandiBrac ® bracket centrally on the stud



Concrete Floor - External Wall

The bottom plate at both ends of the bracing element is fixed using a fastener with a proprietary fixing with a minimum characteristic uplift strength of 15 kN. If included in pack see overleaf instruction to install BOWMAC screw bolt.

To maximise concrete edge distance, locate the GIB HandiBrac ® bracket flush with the inside face of the stud



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Drawing Title:	GIB Fixing			Sheet #	16
Wind Region	A	Wind Zone	High	Scale:	N.T.S
Earthquake Zone	2	Exposure Zone	C		

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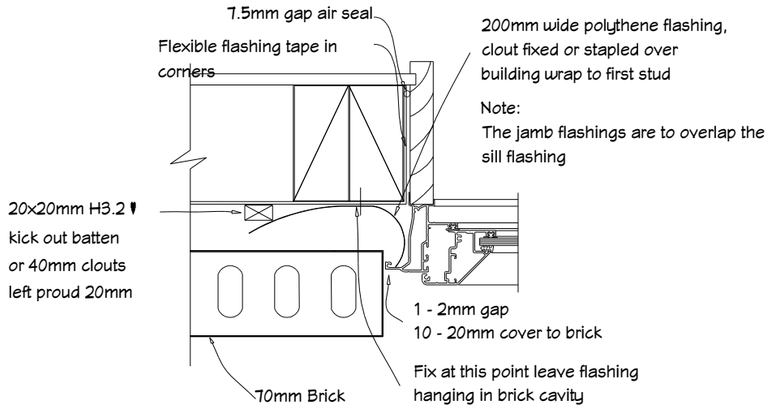
General notes for materials selection

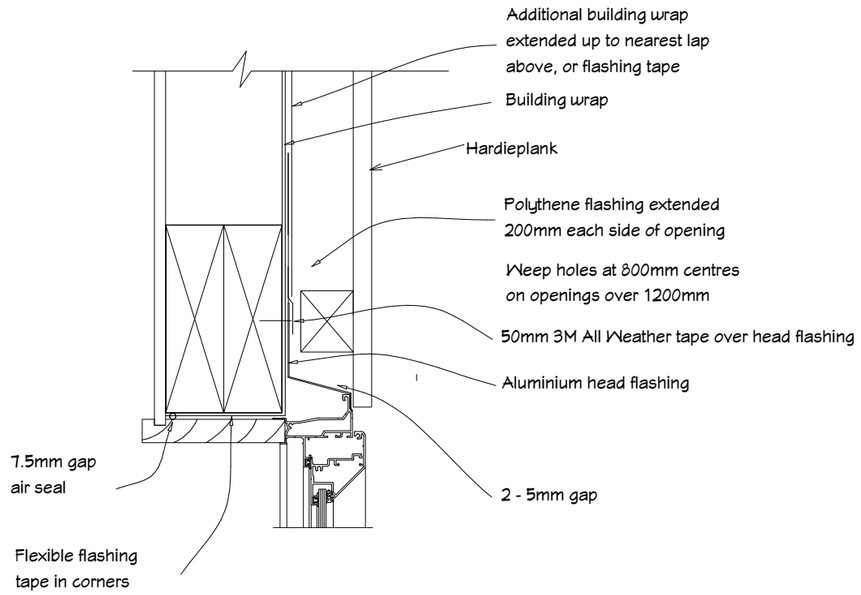
1. Flashing materials must be selected based on environmental exposure, refer to NZS: 3604 : 2011 & Table 20 of NZBC: clause E2/AS1.
2. Building underlay must comply with acceptable solutions NZBC clause E2/AS1.
3. Flashing tape must have proven compatibility with the selected building underlay / James Hardies rigid air barrier & other materials with which it comes into contact as per Table 21 of NZBC: clause E2/AS1.
4. Sill support bars must comply with EM6, E2/VM1 & B2/AS1.

Refer to manufacturer or supplier for technical information for these materials.



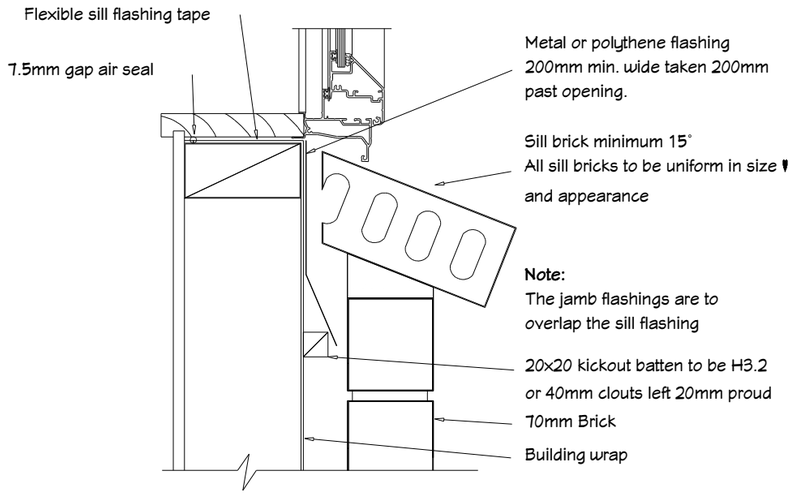
Window Jamb - Aluminium

Scale 1:5



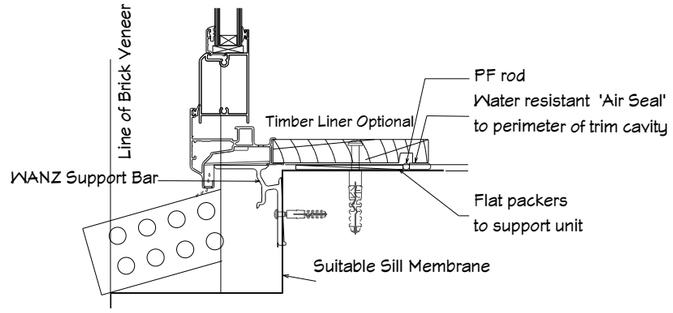
Window Head - Aluminium

Scale 1:5



Window Sill - Aluminium

Scale 1:5



SILL DETAIL - CONCRETE

Scale 1:5

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Drawing Title: Window Flashing Details				Sheet #	17
Wind Region	A	Wind Zone	High	Scale:	1:5
Earthquake Zone	2	Exposure Zone	C		

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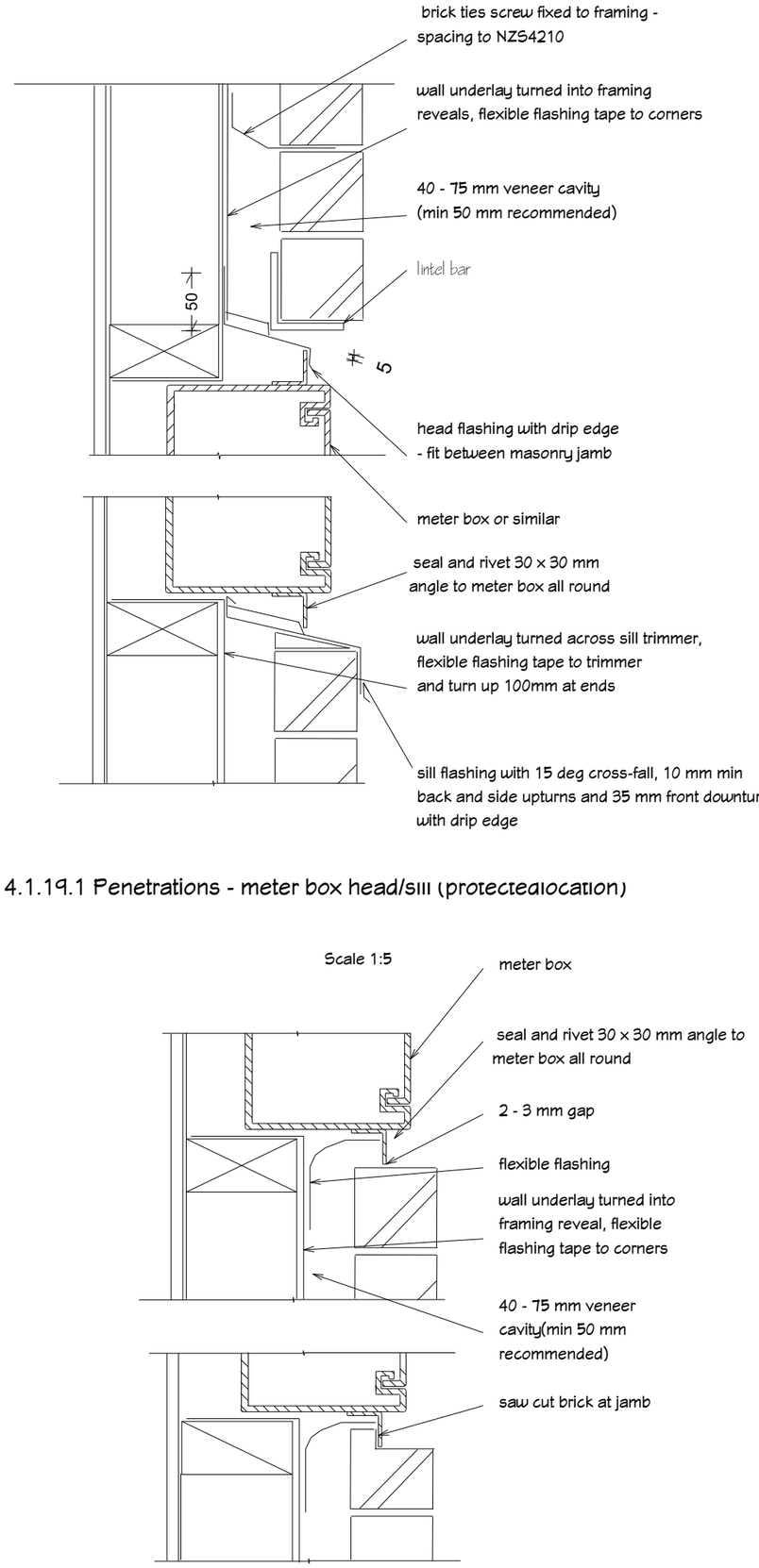
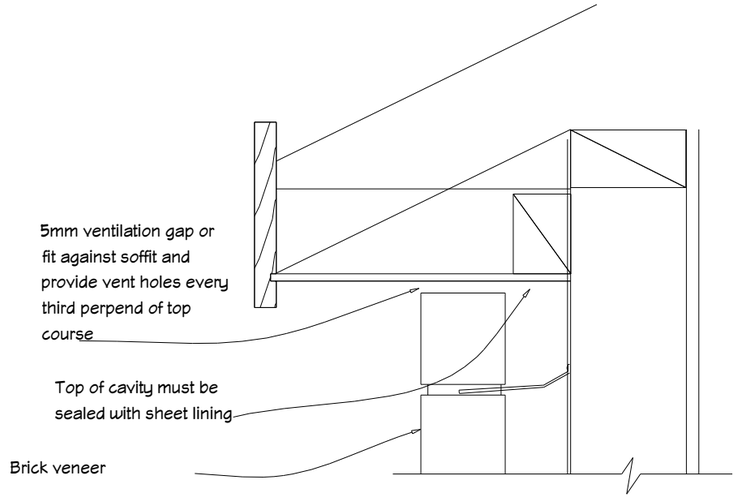


4.1.19.1 Penetrations - meter box head/sill (protectedlocation)

Scale 1:5

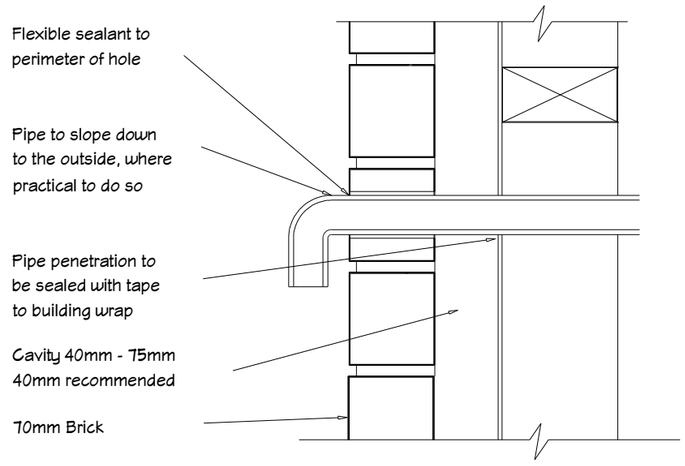
4.1.19.2 Penetrations - meter box jamb (protected location)

Scale 1:5



Flat Soffit Detail

Scale 1:5



Pipe Penetration

Scale 1:5

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Drawing Title:	Brick Meter Box/ Soffit & Penetration Details			Sheet #	18
Wind Region	A	Wind Zone	High	Scale:	1:5
Earthquake Zone	2	Exposure Zone	C		

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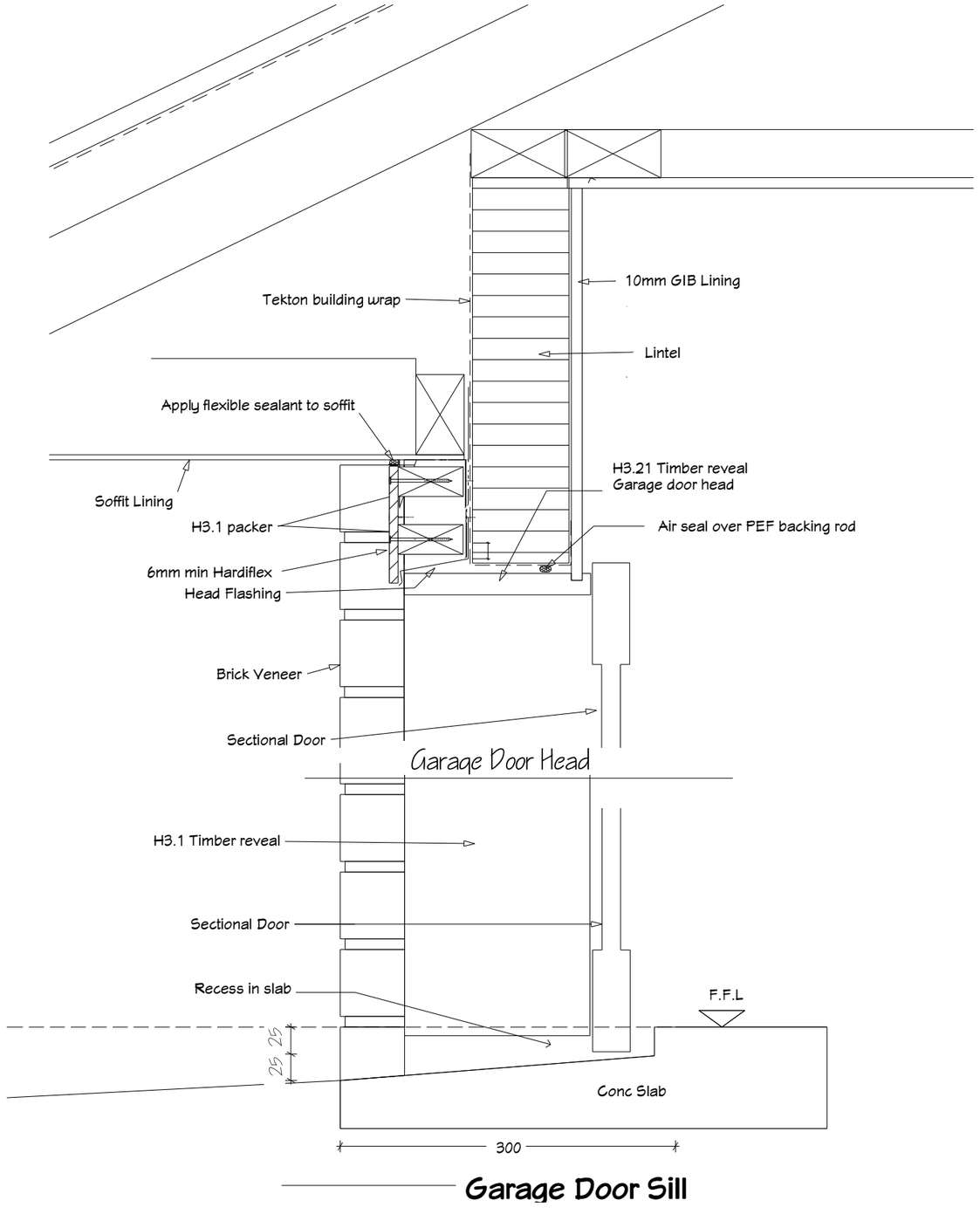
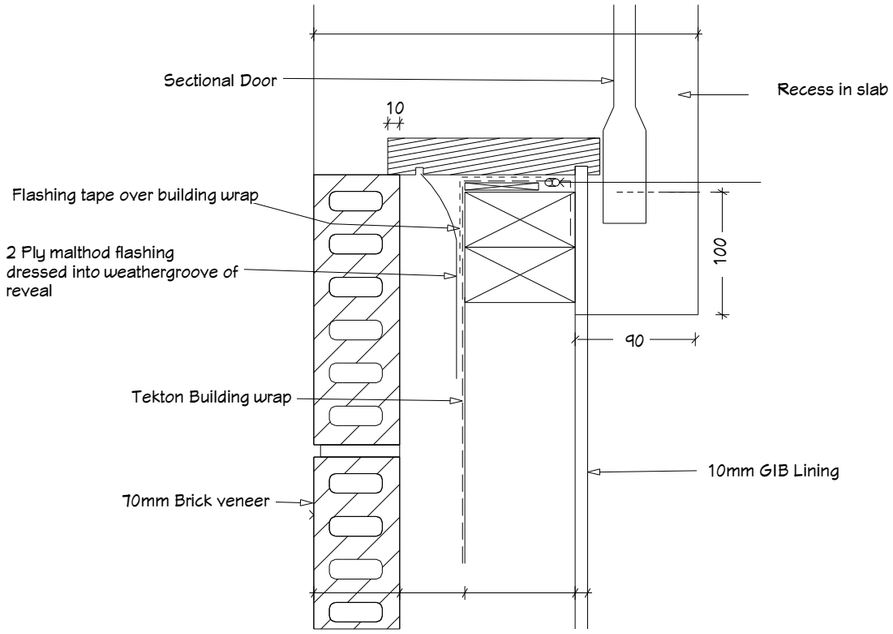


Garage Door Head

Garage Door Sill

Scale 1:5



Garage Door Jamb Detail

Scale 1:5

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Drawing Title:	Garage Door Detail			Sheet #	19
Wind Region	A	Wind Zone	High	Scale:	1:5
Earthquake Zone	2	Exposure Zone	C		

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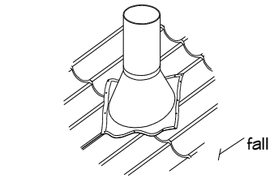
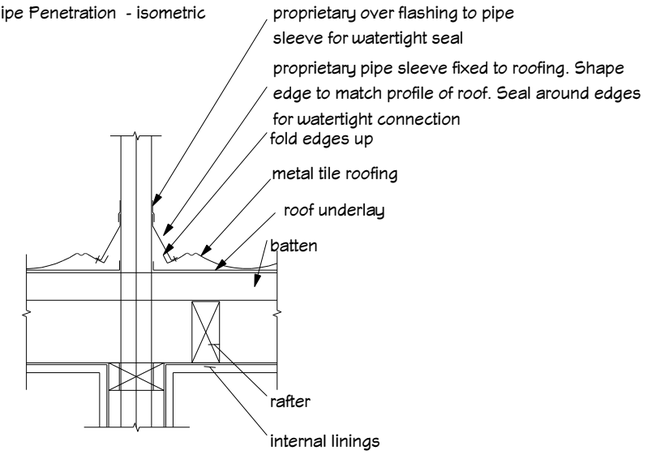
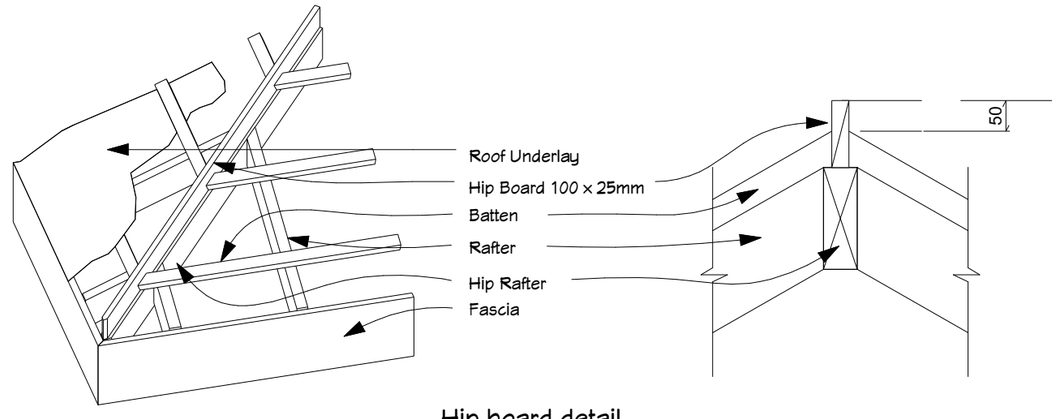


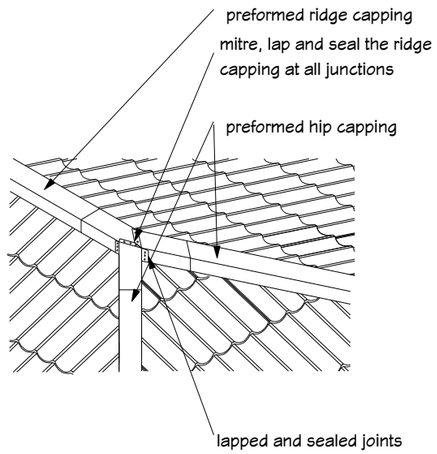
Pipe Penetration - isometric



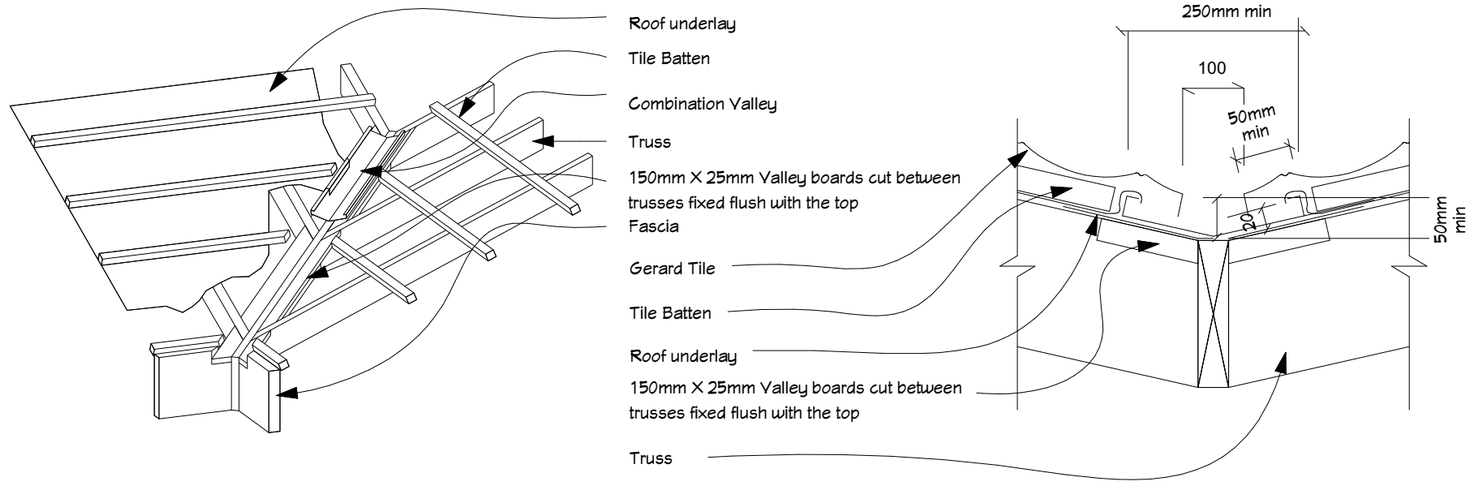
Pipe penetration
Scale 1:10



Hip board detail
Scale 1:10



Metal ridge flashing junction
Scale 1:10



Valley Detail
Scale 1:10

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Drawing Title:	Metal Tile Roof Flashing Details			Sheet #	20
Wind Region	A	Wind Zone	High	Scale:	1:10
Earthquake Zone	2	Exposure Zone	C		

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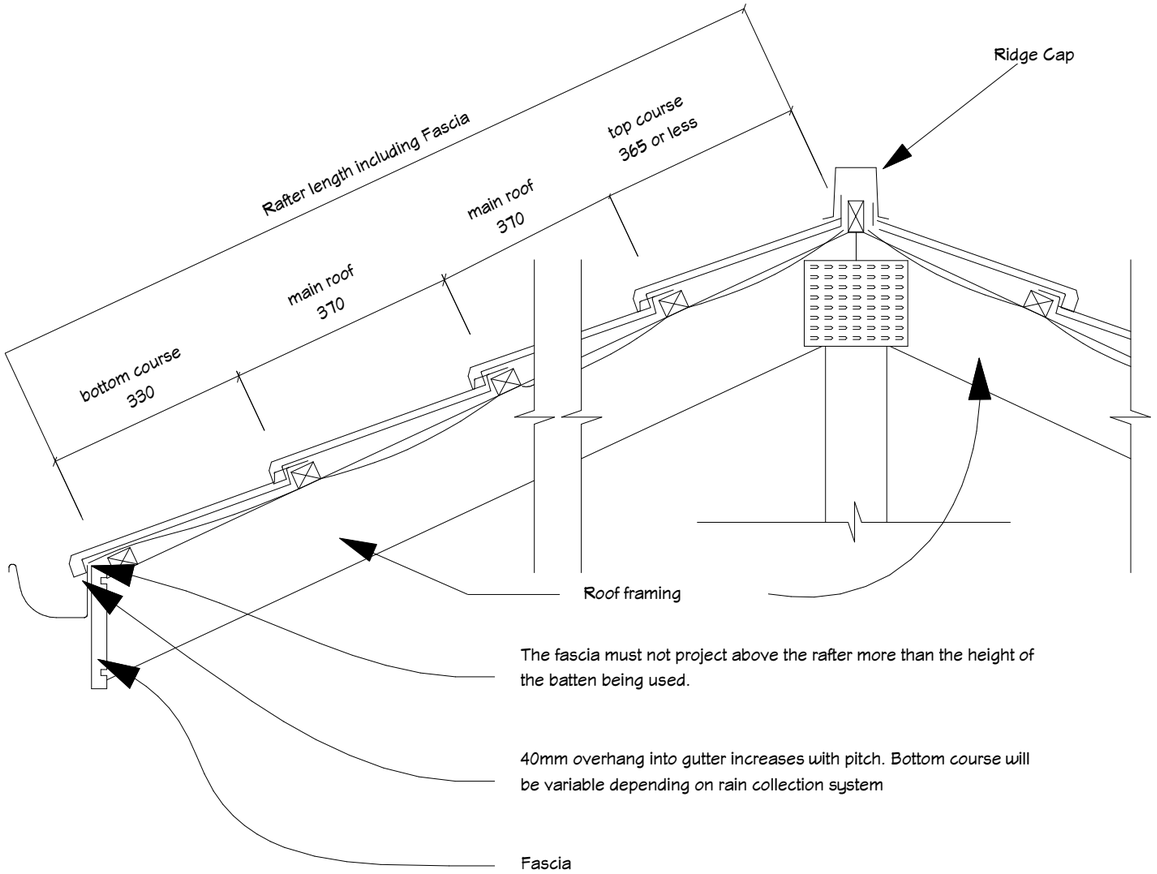
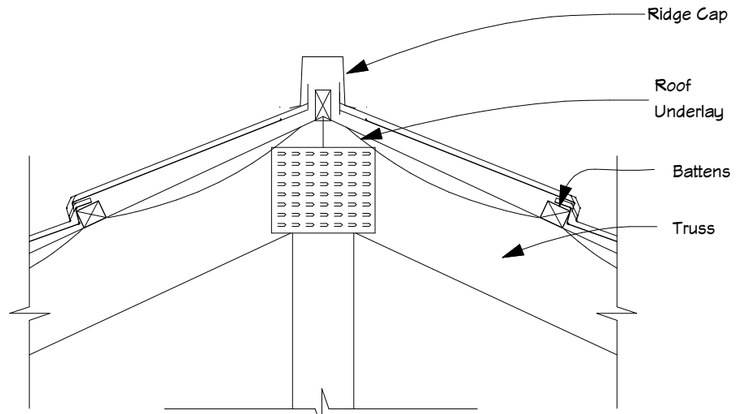


The fascia must not project above the rafter more than the height of the batten being used.

40mm overhang into gutter increases with pitch. Bottom course will be variable depending on rain collection system

Fascia

Batten spacing and rafter length
Scale 1:10



Ridge detail - Truss
Scale 1:10

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Drawing Title:	Metal Tile Roof Flashing Details			Sheet #	21
Wind Region	A	Wind Zone	High	Scale:	1:10
Earthquake Zone	2	Exposure Zone	C		

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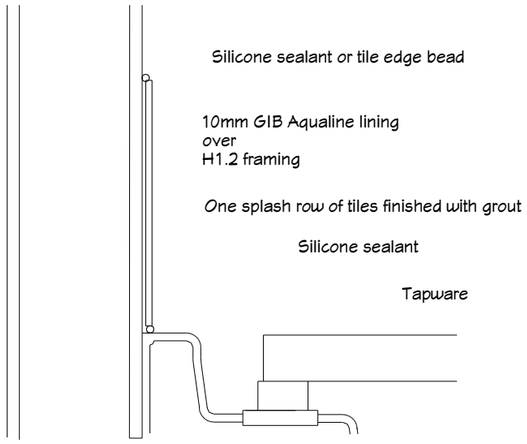
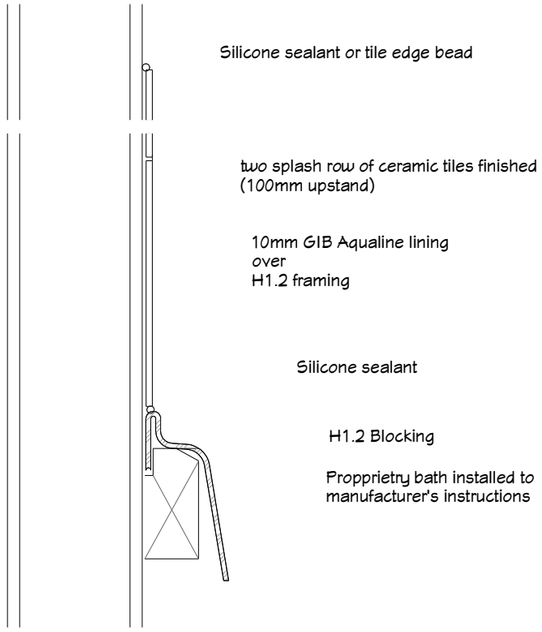
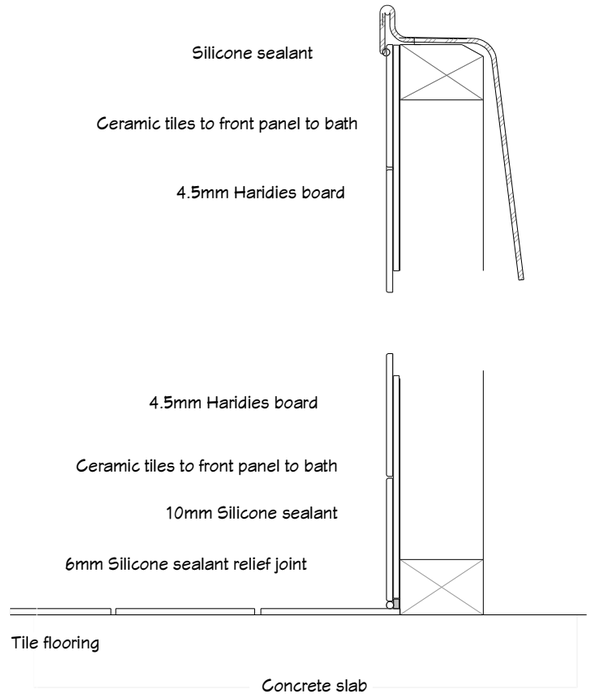


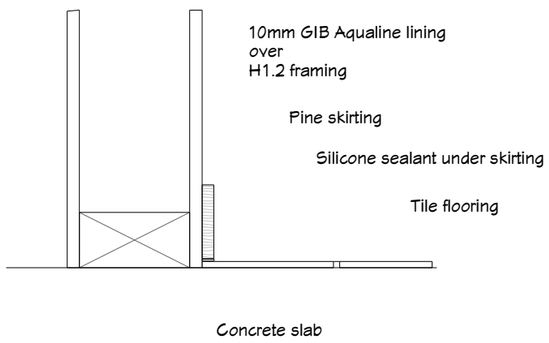
Basin Water Splash Back



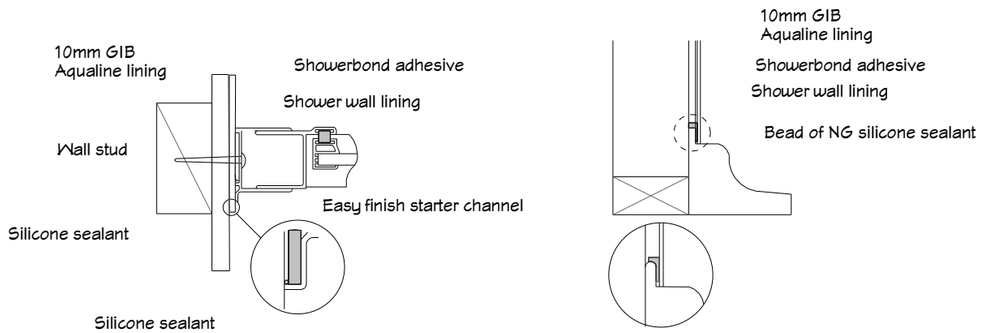
Bath Water Splash Back



Bath & Plinth



Tile Floor Over Concrete



Actylic Shower Detail

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Drawing Title: Wet Area Details — Sheet # 22

Wind Region	A	Wind Zone	High	Scale: N.T.S
Earthquake Zone	2	Exposure Zone	C	

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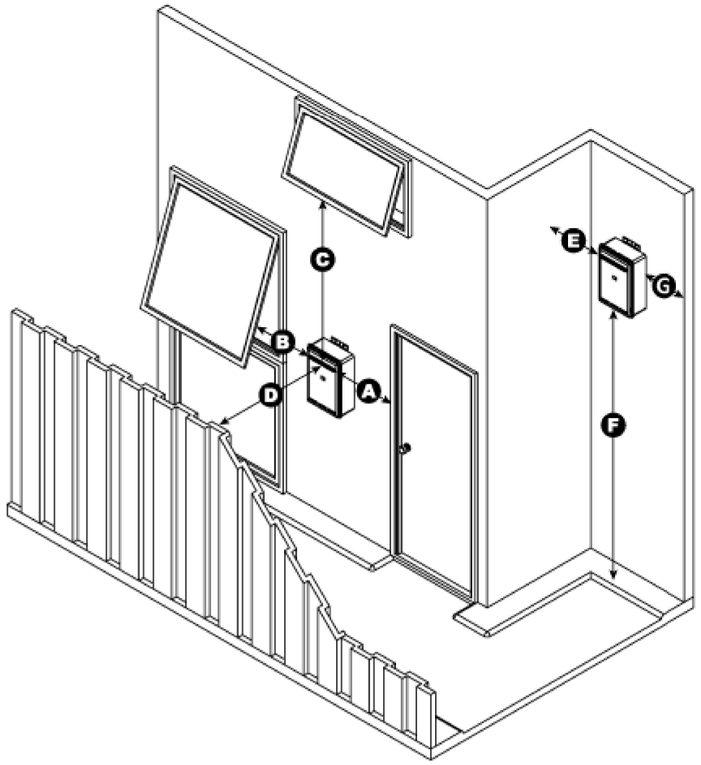
Gas type
NG or LPG

General clearances
The following diagram has been provided to assist you in determining where (and if) an external continuous flow water heater can be positioned. If in doubt, prior to purchase, consult a licensed gasfitter.



Dimension	Infinity VT models Infinity HD200 models Infinity EF models	Infinity HD250 models
A	Min. 300 mm	Min. 500 mm
B	Min. 300 mm	Min. 500 mm
C	Min. 1.5 m	Min. 1.5 m
D	Min. 500 mm	Min. 500 mm
E	Min. 300 mm	Min. 300 mm
F	Min. 300 mm*	Min. 300 mm*
G	Min. 300 mm	Min. 300 mm

Clearance below eaves, balconies, and other projections, for all models is 300 mm.

* Rinnai recommend 1.5 m to give enough clearance for the pipe work, and to safely expel flue gases.

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Drawing Title:	Gas Infinity Placement			Sheet #	23
Wind Region	A	Wind Zone	High	Scale:	N.T.S
Earthquake Zone	2	Exposure Zone	C		

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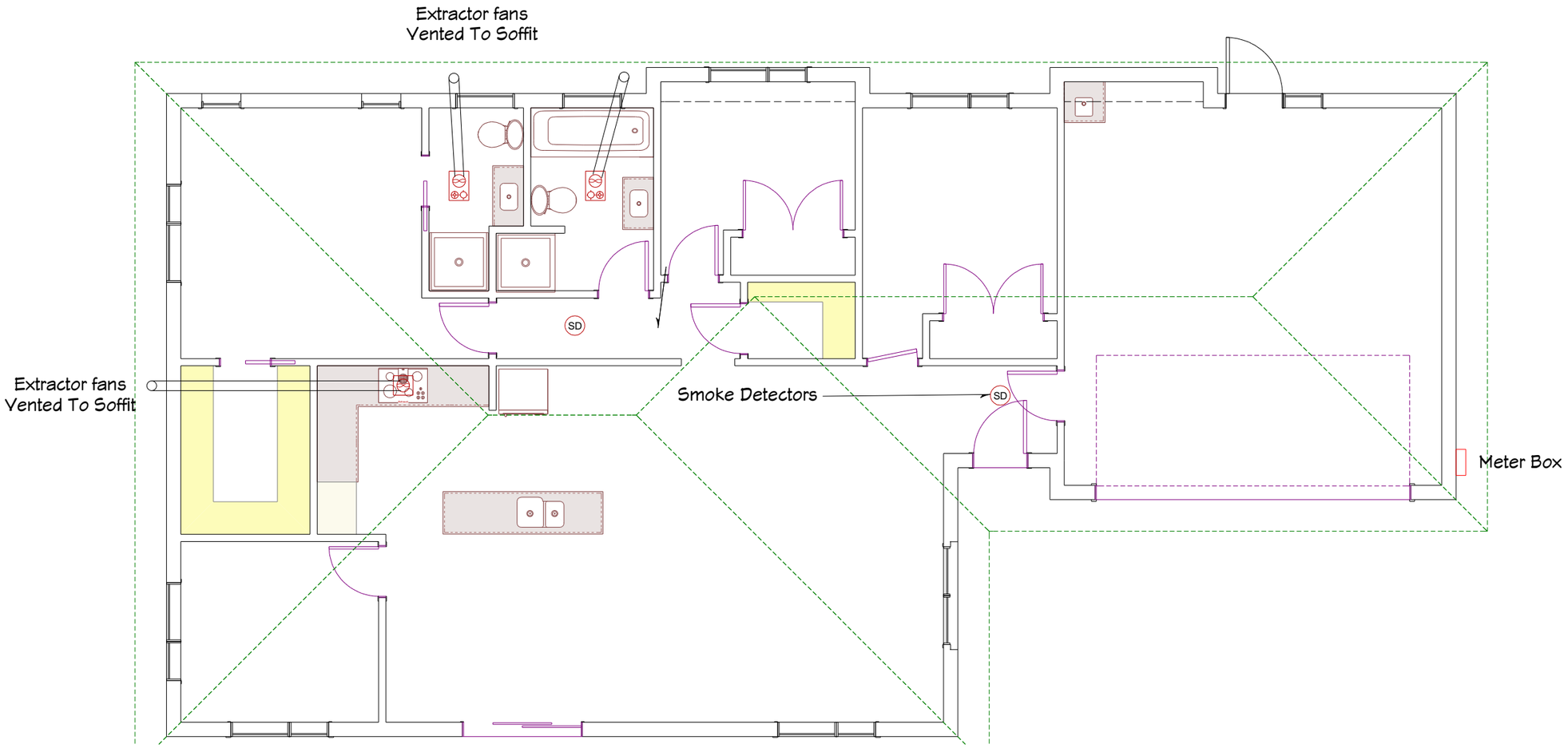
SMOKE ALARMS TO BE SITUATED IN EACH SLEEPING SPACE OR WITH IN 3 MTRS OF A SLEEPING SPACE SMOKE ALARM MUST BE AUDIBLE TO SLEEPING OCCUPANTS ON THE OTHER SIDE OF THE CLOSED DOOR

EXTRACTOR FAN TO BE DUCTED TO OUTSIDE



NOTE
CONFIRM THE LAYOUT OF THE FIXTURES WITH CLIENT AFTER FRAMING IS COMPLETED WHERE
POSSIBLE FIT RCD OUTLET TO FIRST OUTLET ON CIRCUIT SO ALL DOWN STREAM ARE PROTECTED
ALLOW FOR DOUBLE POWER OUTLETS WHERE POSSIBLE.

SMOKE ALARMS TO BE SITUATED IN EACH SLEEPING SPACE OR WITH IN 3 MTRS OF A SLEEPING SPACE SMOKE ALARM MUST BE AUDIBLE TO SLEEPING OCCUPANTS ON THE OTHER SIDE OF THE CLOSED DOOR

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Drawing Title:	Meter Box / Smoke alarm & Extractor fan positions			Sheet #	24
Wind Region	A	Wind Zone	High	Scale:	1:75
Earthquake Zone	2	Exposure Zone	C		

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DURABILITY - PRODUCT SELECTION

ALTERNATIVE SOLUTION FOR TABLE 4.1 NZS 3604:2011

Zones	Fixings	Environment	Product Option
All Zones	Nail plates and timber connectors All other structural fixings	Closed	GANG-NAIL and LUMBERLOK Standard Zinc Coated Product (1) BOWMAC Hot Dip Galvanised (3)
Zone D	Structural fixings	Sheltered and Exposed	LUMBERLOK Stainless Steel 304 (2) BOWMAC Stainless Steel 304 (2)
Zones B and C	Timber pile fixings MORE than 600mm from ground	Sheltered Subfloors vented 7000 mm^2 /m^2 or less	LUMBERLOK Hot Dip Galvanised (4) BOWMAC Hot Dip Galvanised (3)
		Exposed Subfloors vented 7000 mm^2 /m^2 or more	LUMBERLOK Stainless Steel 304 (2) BOWMAC Hot Dip Galvanised (3)
	Timber pile fixings LESS than 600mm from ground	Sheltered and Exposed	LUMBERLOK Stainless Steel 304 (2)
	All other structural fixings	Sheltered	LUMBERLOK Hot Dip Galvanised (4) BOWMAC Hot Dip Galvanised (3)
		Exposed	LUMBERLOK Stainless Steel 304 (2) BOWMAC Hot Dip Galvanised (3)

1. All GANG-NAIL, LUMBERLOK and BOWMAC product complies with Table 4.2 NZS 3604:2011.
2. LUMBERLOK and BOWMAC Stainless Steel product is 304 grade. Regular washing and maintenance will positively affect long term appearance of these items.
3. BOWMAC Hot Dip Galvanised product is to AS/NZS 4680 to 600g/m 2
4. LUMBERLOK Hot Dip Galvanised product is to AS/NZS 4680 to 390g/m 2

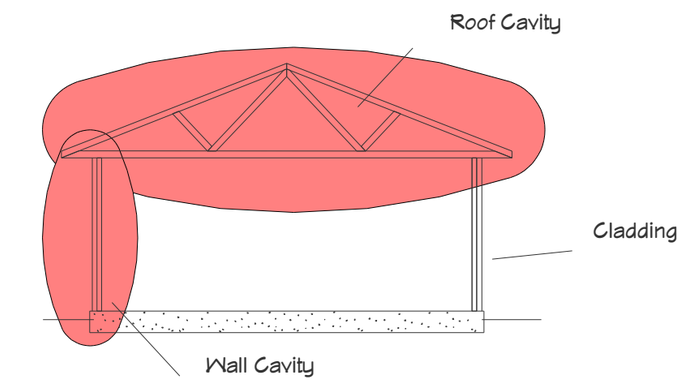
NOTES

Items above refer to GANG-NAIL, LUMBERLOK and BOWMAC product marketed for specific applications with a requirement to last 50 years as an alternative solution to Table 4.1 NZS 3604:2011.

The MiTek New Zealand Limited Durability Flow Chart for product selection is derived from this alternative solution to Table 4.1 NZS 3604:2011. Definitions of zones and environments are derived from NZS 3604:2011.

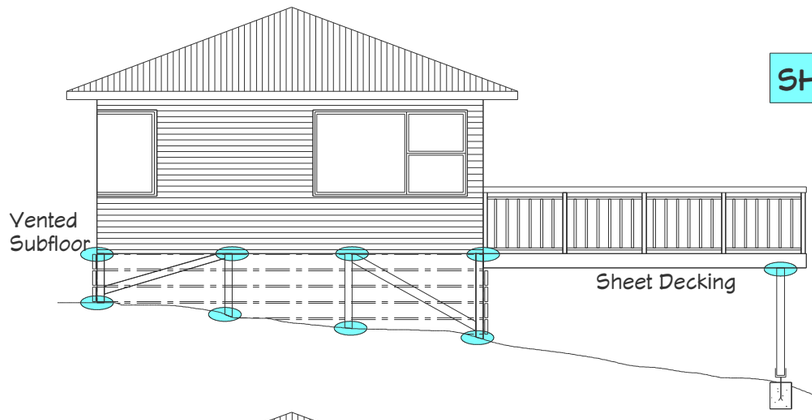
Supporting documents available for this alternative solution:-
Les Boulton and Associates. Materials and Corrosion Consultants Report 00330: Evaluation of Bracket Durability; NZS 3604:2011 and Report 01372: Corrosion of BOWMAC Fixings in Treated Timber.
Optimech Services Metallurgical Consultancy Test Certificate Reports No: 00-134 BOWMAC and No: 01-023 LUMBERLOK Determination of Galvanising Coating thickness.
Product statements January 2012 for LUMBERLOK and BOWMAC products.

DURABILITY FLOW CHART



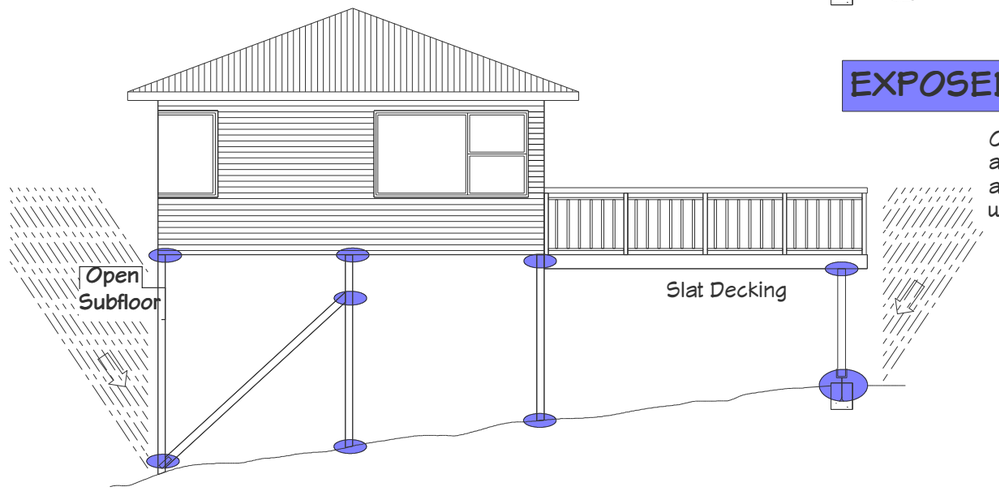
CLOSED

Dry, internal location, not subject to airborne salts or rain wetting.



SHELTERED

Open to airborne salts, but not rain washed.



EXPOSED

Open to airborne salts and rain washed.

DRAWINGS PROVIDED BY dc DESIGN ARCHITECTURAL DESIGN

Client Details : Hee Taek Oh & Jinsoon Lim
Address: Lot 31 Simon Street Wanganui

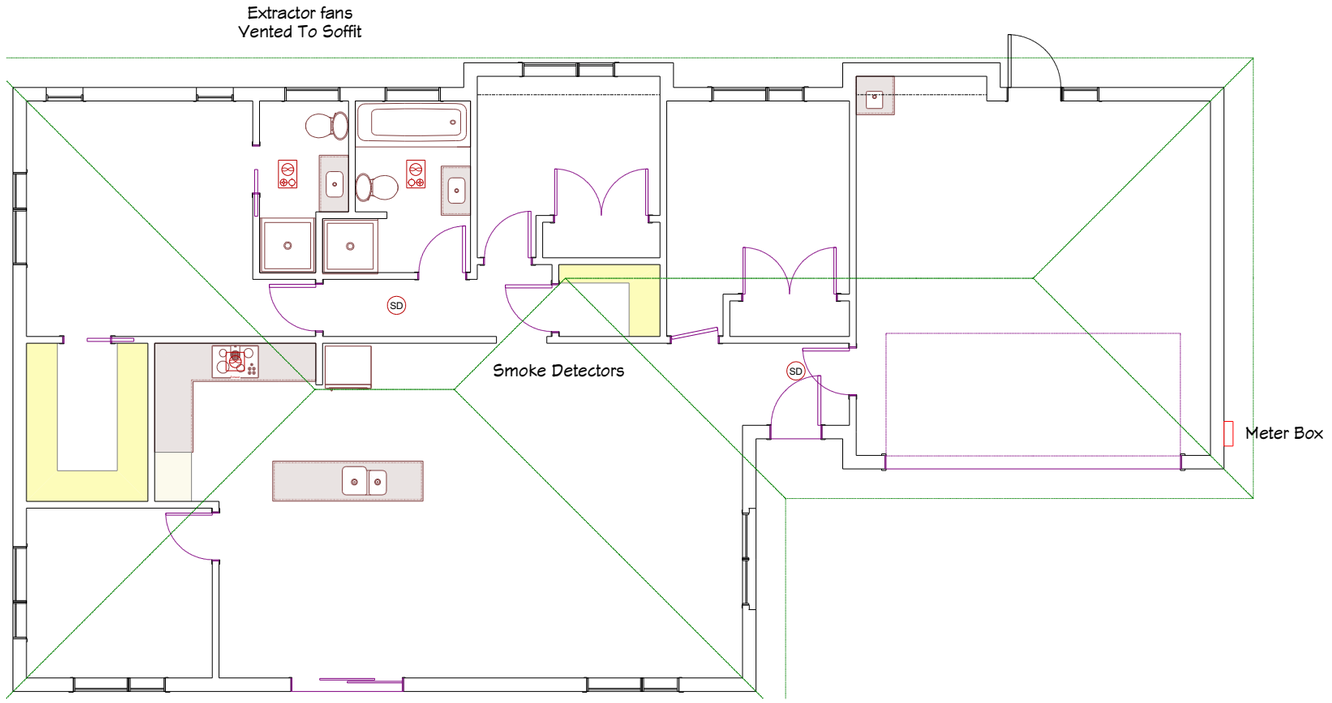
G.J. Gardner. HOMES
New Zealand's favourite home builder

Drawn: David Coker	Date:	08/12/2017
Checked: Alex Sigley	Variation #	

Drawing Title:	Durability			Sheet #	25
Wind Region	A	Wind Zone	High	Scale:	N.T.S
Earthquake Zone	2	Exposure Zone	C		

G.J. Gardner Homes
Castle Homes Wanganui Ltd
P: 06 345 3563
F: 06 345 3564
www.gjgardner.co.nz

LICENSED BUILDING PRACTITIONERS www.dbh.govt.nz BUILDING CONFIDENCE



DRAWINGS PROVIDED BY

dcDESIGN ARCHITECTUAL DESIGN

Client Details :
Hee Taek Oh
& Jinsoon Lim

Address:
Lot 31 Simon Street
Wanganui

G.J. Gardner. HOMES
New Zealand's favourite home builder

Drawn: David Coker	Date:	08/12/2017
Checked: Alex Sigley	Variation #	

Drawing Title:

Sheet # 26

Wind Region	A	Wind Zone	High	Scale:
Earthquake Zone	2	Exposure Zone	C	

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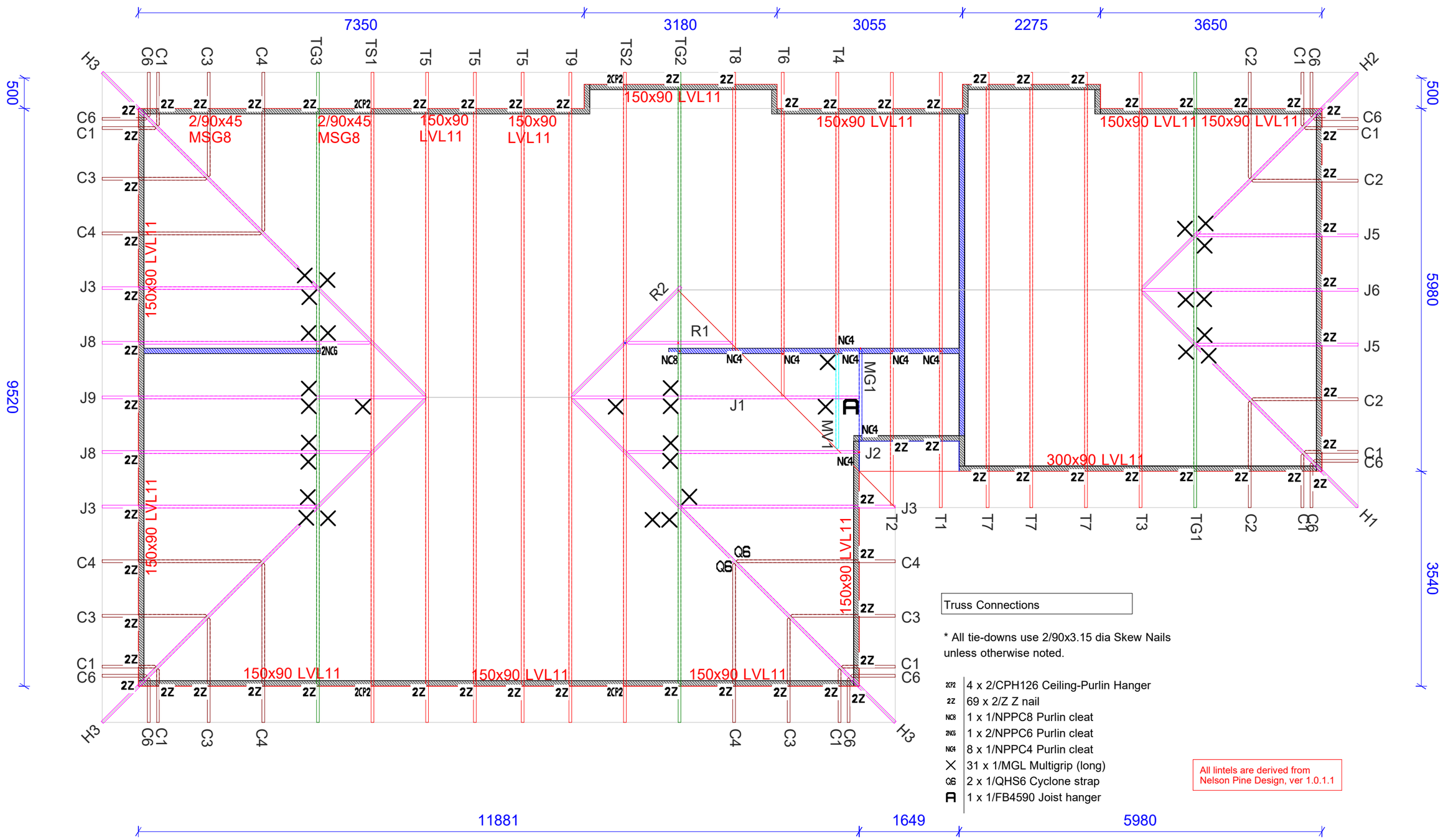
BUILDING CONFIDENCE

Precut Solutions ~ Tauranga, Ph (07) 548 2681,

Date: Friday, 22 December 2017



Truss Connections

* All tie-downs use 2/90x3.15 dia Skew Nails unless otherwise noted.

2CP2	4 x 2/CPH126 Ceiling-Purlin Hanger
2Z	69 x 2/Z Z nail
NC8	1 x 1/NPPC8 Purlin cleat
2NC6	1 x 2/NPPC6 Purlin cleat
NC4	8 x 1/NPPC4 Purlin cleat
X	31 x 1/MGL Multigrip (long)
Q6	2 x 1/QHS6 Cyclone strap
A	1 x 1/FB4590 Joist hanger

All lintels are derived from Nelson Pine Design, ver 1.0.1.1

H.R Jones & Co Ltd
HRJones Frames & Trusses
Aorangi Street & Turners Road, Feilding
Truss Plant: 06 323 4626 - Phone
06 323 4962 - Fax
Main Office: 06 323 4388 - Phone
06 323 4378 - Fax
Email: enquiries@hrjones.co.nz

AS BUILT LAYOUT

Customer: Oh/Lim Residence

Site Address: Lot 31 Magnolia Crescent
Wanganui

Job Details:

Roofing:	Pressed metal tiles
Pitch:	22.50 Deg.
Truss Spacing:	900
Design Wind Velocity:	44.00 m/s (Ult.)
Detailer:	<None>

Job Ref: Q3581

Scale: As Shown

Sheet:

pryda
www.pryda.co.nz

Precut Solutions
Tauranga, Ph (07) 548 2681,

Date: 22-12-2017
Ver 4.3.4

Fabricator / Designer Statement

Job Ref: **Q3581**

This statement may be used by the Building Consent Authority for compliance purposes and is issued by a licensed truss fabricator using the Pryda Build software.

CLIENT Name: ***Oh/Lim Residence***

SITE Details:

Address : *Lot 31 Magnolia Crescent*
Wanganui

City:

Post Code:

Nominal Design Criteria:

Design working life: 50 years
Building importance: Residential (Importance Level 2)
Roofing: Pressed metal tiles (7.5 kg/sq.m)
Ceiling: 13mm Gib-board (8.5 kg/sq.m)
Top chord battens: 380 mm

Design roof snow load: 0 Pa
(incl. probability factor)
Ground snow load: 0 Pa
Location: Region N1 - lower Nth Island
Altitude above sea level: 399 m

BC restraints: Lateral tie restraints at 1800 mm crs
Standard truss spacing: 900 mm
Standard roof pitch: 22.50 deg.
Ult. design wind speed: 44 m/s (wind classification = High)

Max. eaves height: 3 m
Max. ridge height: 6 m

Int pressure coeff. up: 0.2
Overhang Condition: Metal fascia

The correctness of the Design Criteria used by the Pryda Build truss design software is the responsibility of the fabricator.
Note : Where relevant, a structural fascia beam is required at all hip and dutch hip corners to support the short creeper/rafter overhangs, as shown in AS4440-2004
Note: This statement must be read in conjuction with the truss layout and detail sheets.
Note: Some trusses in this job support roofing and ceiling materials that are different to this nominal data (see individual truss detail sheets).

All truss designs and their connections have been designed using Pryda design software. Additional items such as roof/ceiling plane bracing, special notes, supplementary timber, etc., which may be shown on the plan drawings are the responsibility of others.

All trusses have been manufactured in accordance with the fabrication specifications provided by Pryda, and shall be installed, connected and braced in accordance with the recommendations given in - : AS4440:2004 "Installation of nailplated timber roof trusses" and any other supplementary details that may be provided, such as the Pryda Installation Guides.

Timber verification and grading values are in accordance with clause B1 and timber treatment in accordance with clause B2 of the New Zealand Building Code.

I/we confirm that the trusses for this project have been manufactured in accordance with the fabrication specifications provided by Pryda New Zealand.

Name: Grant Roberts Position: Detailer

Signed:  Date: 22-12-2017

Fabricator / Designer Statement

Job Ref: **Q3581**

Note 1: All timber framing nails are machine-driven, glue coated, or annular/helical deformed shank. Use specified fixings with Pryda connectors as noted.

Note 2: The following trusses have not yet fully passed all of the design criteria, eg:-

Truss Mark	*Status*
R2	Fixings and connections have not been designed.
R1	Fixings and connections have not been designed.

Tie-downs to walls/beams:

All trusses need to be fixed at each timber support with 2 / 90x3.15 dia Skew Nail

C1	1	-	2/Z	JD5	90	JD5	-0.66
C2	1	0	2/Z	JD5	90	JD5	-1.00
C3	1	-	2/Z	JD5	90	JD5	-0.84
C4	1	-	2/Z	JD5	90	JD5	-0.95
H1	1	-	2/Z	JD5	90	JD5	-0.23
H2	1	-	2/Z	JD5	90	JD5	-0.23
H3	1	-	2/Z	JD5	90	JD5	-0.66
J2	1	-	1/NPPC4	JD5	90	JD5	-0.59
J3	1	-	2/Z	JD5	90	JD5	-1.05
J5	1	-	2/Z	JD5	90	JD5	-1.10
J6	1	-	2/Z	JD5	90	JD5	-0.98
J8	1	-	2/Z	JD5	90	JD5	-0.96
J9	1	-	2/Z	JD5	90	JD5	-0.88
MG1	1	-	1/NPPC4	JD5	90	JD5	-0.79
	2	1530	1/NPPC4	JD5	90	JD5	-0.90
T1	3	500	2/Z	JD5	90	JD5	-1.11
	5	1985	1/NPPC4	JD5	90	JD5	-1.99
	9	5980	2/Z	JD5	90	JD5	-1.34
T2	3	500	2/Z	JD5	90	JD5	-0.68
	5	1985	1/NPPC4	JD5	90	JD5	-2.18
	9	5980	2/Z	JD5	90	JD5	-1.45
T3	1	-	2/Z	JD5	90	JD5	-1.94
	7	5980	2/Z	JD5	90	JD5	-1.94
T4	1	-	1/NPPC4	JD5	90	JD5	-1.27
	5	4040	2/Z	JD5	90	JD5	-1.60
T5	1	-	2/Z	JD5	90	JD5	-2.80
	9	9520	2/Z	JD5	90	JD5	-2.80
T6	1	-	1/NPPC4	JD5	90	JD5	-1.69
	5	4040	2/Z	JD5	90	JD5	-1.55
T7	1	-	2/Z	JD5	90	JD5	-2.51
	9	6380	2/Z	JD5	90	JD5	-2.45
T8	1	-	1/NPPC4	JD5	90	JD5	-1.37
	7	4440	2/Z	JD5	90	JD5	-1.18
T9	1	-	2/Z	JD5	90	JD5	-2.80
	9	9520	2/Z	JD5	90	JD5	-2.80
TG1	1	-	2/Z	JD5	90	JD5	-2.76
	7	5980	2/Z	JD5	90	JD5	-2.63
TG2	10	9920	2/Z	JD5	90	JD5	-2.18
	22	-	2/Z	JD5	90	JD5	-0.62
	5	4395	1/NPPC8	JD5	90	JD5	-5.21
TG3	1	-	2/Z	JD5	90	JD5	-1.11
	10	9520	2/Z	JD5	90	JD5	-2.29
	5	3995	2/NPPC6	JD5	90	JD5	-7.40
TS1	1	-	2/CPH126	JD5	90	JD5	-2.87
	8	9520	2/CPH126	JD5	90	JD5	-2.87
TS2	19	-	2/CPH126	JD5	90	JD5	-2.80
	9	9920	2/CPH126	JD5	90	JD5	-2.99

Primary connections (truss to girder):

Truss Marks			*Fixing Details*	
Girder	*Supported*	*Connector*	*Girder*	*Supported*
MG1	J1	FB4590	8/30x3.15d nails	4/30x3.15d nails

Secondary fixings (hip & gable ends, valleys):

All trusses are to be fixed at each support with the following:

Hip truss to truncated girder	3 face nails, bottom chords
Jack truss to truncated girder	3 skew nails or back face nails, bottom chords
Creeper truss to hip truss	3 face nails, top and bottom chords
Top chord extensions	2 skew nails
Valley trusses	1 skew nail

Fabricator / Designer Statement

Job Ref: **Q3581**

Outriggers	2 skew nails

All additional connections are as follows:

Supporting Truss	*Supported Truss*	*Top Chord*	*Bottom Chord*
(Various)	J1	1/MGL	-
	J9	1/MGL	-
	MV1	-	1/MGL
H3	C4	1/QHS6	-
TG1	H1	1/MGL	-
	H2	1/MGL	-
	J5	1/MGL	1/MGL
	J6	1/MGL	1/MGL
TG2	H3	1/MGL	-
	J1	1/MGL	1/MGL
	J2	1/MGL	1/MGL
	J3	1/MGL	1/MGL
TG3	J8	1/MGL	1/MGL
	J9	1/MGL	1/MGL

Fixing Summary:

Connector	*Description*	*Total*	*Fixing Method (per connector)*	
Primary			*Girder*	*Supported Truss*
FB4590	Joist hanger	1	8/30x3.15d nails	4/30x3.15d nails
Secondary			*Supporting Truss*	*Supported Truss*
MGL	Multigrip (long)	11	5/30x3.15d nails	5/30x3.15d nails
MGL	Multigrip (long)	20	6/30x3.15d nails	4/30x3.15d nails
QHS6	Cyclone strap	6	4/30x3.15d nails	4/30x3.15d nails
Tiedown			*Support*	*Truss*
CPH126	Ceiling-Purlin Hanger	8	3/30x3.15d nails	3/30x3.15d nails
NPPC4	Purlin cleat	8	2/12g-11x35 screws	6/30x3.15d nails
NPPC6	Purlin cleat	2	3/12g-11x35 screws	9/30x3.15d nails
NPPC8	Purlin cleat	1	4/12g-11x35 screws	12/30x3.15d nails
Z	Z nail	138		

Precut Solutions
Tauranga, Ph (07) 548 2681,

Date: 22-12-2017
Ver 4.3.4

Producer Statement - PS1 - Design

Job Ref: **Q3581**

This producer statement applies to the structural engineering design software "Pryda Build" supplied by Pryda NZ to

Precut Solutions

These truss designs are in accordance with sound and widely accepted engineering principles. I believe on reasonable grounds that if constructed in accordance with the design, the trusses will comply with relevant requirements of the New Zealand Building Code, Clause B1 and Verification Method B1/VM1. The durability shall comply with the New Zealand Building Code, Clause B2, for building importance level 2 and a design working life of 50 years.

In addition to the above, this software also complies in part with:

ANSI / TPI 1 - 2002 National Design Standard for metal plate connected wood truss construction.

AS 1649 - 2001 Timber - Methods of test for mechanical fasteners and connectors - Basic working loads and characteristic strengths.

The truss designs require that the supporting structure is stable in its own right, and that the trusses will be braced in accordance with the New Zealand Building Code Standard NZS 3604:2011, and any supplementary details provided, including but not limited to Pryda Installation Guides.

Pryda NZ holds a current policy of Professional Indemnity Insurance with cover no less than NZ$2 million. The policy includes the engineering design processes used in the software.

On behalf of Pryda NZ (a division of ITW New Zealand)

Daniel Scheibmair
NZ Engineering Manager
BE, ME (Hons), CPEng, IntPE, MIPENZ (261677)
Pryda New Zealand

BCon18-0058

GIB EzyBrace® Bracing Software

Demand Calculation Sheet

BCon 18/0058

Job Details

Name:	Hee Taek Oh
Street and Number:	Magnolia Crescent
Lot and DP Number:	Lot 31
City/Town/District:	Wanganui
Designer:	David Doker
Company:	D C Design
Date:	Tuesday, 5 December 2017

Building Specification

Number of Storeys	1
Floor Loading	2 kPa
Foundation Type	Slab
	Single
Cladding Weight	Light
Roof Weight	Light
Room in Roof Space	No
Roof Pitch (degrees)	22.5
Roof Height above Eaves (m)	2.225
Building Height to Apex (m)	4.504
Ground to Lower Floor (m)	0.2
Average Stud Height (m)	2.4
Building Length (m)	19.51
Building Width (m)	9.610
Building Plan Area (m²)	168.54

Building Location

Wind Zone = High

Earthquake Zone 2

Soil Type	D & E (Deep to Very Soft)
Annual Prob. of Exceedance:	1 in 500 (NZS3604:2011 Default)

Bracing Units required for Wind

	Along	Across
Single Level	462	884

Bracing Units required for Earthquake

	Along & Across
Single Level	643

BCon18-0058

GIB EzyBrace® Bracing Software

Single Level Along Resistance Sheet

Job Name: Hee Taek Oh

									Wind	EQ
									Demand	
									462	643
									1221 Achieved	1033
Line	Element	Length (m)	Angle (degrees)	Stud Ht. (m)	Type	Supplier	Wind (BUs)	EQ (BUs)	~~1259~~ 273%	~~1113~~ 173%
a	1	1.85		2.4	GS1-N	GIB®	128	111		
	2	2.10		2.4	GS1-N	GIB®	145	126		
	3	~~1.60~~		2.4	GS1-N	GIB®	~~110~~	~~96~~		
	External Length = 19.5								383 OK	333 OK
b	1	2.50		2.4	GS1-N	GIB®	173	150		
	2	1.90		2.4	GS1-N	GIB®	131	114		
									304 OK	264 OK
c	1	3.00		2.4	GS1-N	GIB®	207	180		
	2	0.45		2.4	GS1-N	GIB®	24	26		
	3	0.45		2.4	GS1-N	GIB®	24	26		
	External Length = 7.6								256 OK	232 OK
d	1	0.75		2.4	GS1-N	GIB®	45	44		
	2	3.00		2.4	GS1-N	GIB®	207	180		
	3	1.00		2.4	GS1-N	GIB®	65	60		
	External Length = 11.8								317 OK	284 OK

A3 .4 BL1 36 40

A4 .4 BL1 36 40

RECEIVED 8/03/2018

GIB EzyBrace® Bracing Software

Single Level Across Resistance Sheet

Job Name: Hee Taek Oh

Line	Element	Length (m)	Angle (degrees)	Stud Ht. (m)	Type	Supplier	Wind (BUs)	EQ (BUs)	Wind	EQ
									Demand	
									884	643
									1575 Achieved	1373
									~~1569~~ 171%	~~1319~~ 205%
m	1	2.60		2.4	GS1-N	GIB®	179	156		
	External Length = 9.6								179 OK	156 OK
n	1	0.70		2.4	GS1-N	GIB®	41	41		
	2	1.90		2.4	GS1-N	GIB®	131	114		
									172 OK	155 OK
o	1	2.80		2.4	GS1-N	GIB®	193	168		
									193 OK	168 OK
p	1	3.80		2.4	GS1-N	GIB®	262	228		
	2	~~1.10~~ 2.0		2.4	GS1-N	GIB®	~~74~~ 140	~~66~~ 120	402	348
									~~386~~ OK	~~294~~ OK
q	1	4.10		2.4	GS1-N	GIB®	283	246		
	External Length = 0.5								283 OK	246 OK
r	1	5.00		2.4	GS1-N	GIB®	345	300		
	External Length = 9.6								345 OK	300 OK

Custom Wall Elements

Supplier	System	Min. Length m	Wind BUs/m	EQ BUs/m
EcoPly & EP Barrier	EP1/EPB1-0.4	0.4	80	95
EcoPly & EP Barrier	EP1/EPB1-0.6	0.6	95	105
EcoPly & EP Barrier	EP1/EPB1-1.2	1.2	120	135
EP Barrier	EPBS-0.4	0.4	60	60
EP Barrier	EPBS-0.6	0.6	60	65
EP Barrier	EPBS-1.2	1.2	65	70
EP Barrier	EPBS-2.4	2.4	80	90
EcoPly & EP Barrier	EPG/EPBG-0.4	0.4	100	115
EcoPly & EP Barrier	EPG/EPBG-1.2	1.2	150	150
EcoPly & EP Barrier	EP2/EPB2-0.6	0.6	105	115

DESIGN CERTIFICATE

Technical basis for structural design methodology contained in designIT for houses - New Zealand.

designIT for houses, New Zealand has been developed by experienced timber engineers to assist designers in selecting appropriate sizes of structural laminated veneer lumber products manufactured by Carter Holt Harvey (including hySPAN, hy90, hyONE and hyJOIST) and other generic stress grades of timber, to be used as structural elements for the construction of buildings that fall within the scope of NZS 3604.

The design methodology used for the software complies with the loading and general design requirements contained within AS/NZS 1170 and with timber structural design in accordance with NZS 3603:1993 including Amendment 4 (Verification method B1/VM1, 6.1).

designIT relies on the accurate input of span and loading information by the user. Where accurate inputs are submitted the product and/or stress grade and the size given will comply with the structural requirements of the New Zealand Building Code (NZBC), provided the installation is in accordance with the installation requirements provided by designIT and/or in product literature and/or NZS 3604, or specific engineering design, as appropriate.

Futurebuild LVL and Laserframe components, when used and treated to the required treatment levels prescribed in NZS 3602 and NZS 3604, as modified by Acceptable Solution B2/AS1, will comply with the requirements of the NZBC (Acceptable Solution B2/AS1, 3.2).

References:

NZS 3603:1993 Timber Structures Standard.

NZS 3604:2011 Timber-framed buildings.

AS 1720.1:2010 Timber structures. Part 1: Design methods.

AS 1720.3:2016 Timber structures. Part 3: Design criteria for timber-framed residential buildings

AS/NZS 1170:2002 Structural design actions, Parts 0 and 1.

AS/NZS 1170:2011 Structural design actions, Part 2: Wind actions.

AS/NZS 1170:2003 Structural design actions, Part 3: Snow and ice actions.

This Design Certificate, and any associated warranty/certification, is void where there has been substitution of alternate products not detailed within the Member Specification.

Version date: 3 May 2017

For further information or advice contact:

Carter Holt Harvey Woodproducts New Zealand,
173 Captain Springs Road, Onehunga. Auckland
Telephone: 0800 808 131
Facsimilie: 0800 808 132
Email: designit@chhwoodproducts.co.nz
Web: http://www.chhwoodproducts.co.nz

Specifier details:

Specifier:	David Coker
Business name:	D C Design
Address:	144 Westmere Station Road RD1 Wanganui 4571
Email:	coker.d.l.e@xtra.co.nz

Project & site details:

Project:	Hee Taek Oh & Jinsoon Lim
At (address):	Lot 31 Simon Street
For (owner/s):	Hee Taek Oh & Jinsoon Lim
Design wind zone	High
Snow loading	Design snow zone: N0

MEMBER DESIGN DETAILS

Member 1

1) Member code and description	L1 - Lintels - In single or upper storey load bearing walls
2) Date prepared	16 December 2017

3) Serviceability criteria AS 1720.1: 2010 and AS 1720.3: 2016

4) Design inputs

Span	0.6 m
Roof load width 'RLW'	6.2 m
Roof type and mass	Light roof and ceiling - 40 kg/m²
Nominal wall thickness	90 mm

5) Member specification

Size, stress grade/product	Use 2/90 x 45 SG8 Laserframe
Material type	Dry softwood, machine stress graded and verified (NZS 3622)
Assumed design density	< 480 kg/m²

6) Serviceability

Load case	Limit[3] on average deflection[2]	Estimated average deflection[2]	Rigidity ratio[4]
Long term load - G + Ψ_{LQ}*	2.0 mm	0.6 mm (long term)	3.4
Live load - $\Psi_{s}Q$	2.4 mm	0.2 mm	13.0
Wind load - W_s	3.0 mm	0.6 mm	5.4

*Critical serviceability load case
See 'Notes for interpretation of serviceability data' at the end of this report

7) Reactions

Load case	k_1[1]	Limit States Design Reaction[2,3] End kN[4]
1.35G	0.60	-3.1
1.2G + 1.5Q	0.80	-4.9
1.2G + W_u + $\Psi_c Q$	1.00	-7.0
0.9G + W_u	1.00	4.6

8) Installation requirements

- Provide at least 30 mm bearing at end supports

Member 2

1) Member code and description L2 - Lintels - In single or upper storey load bearing walls

2) Date prepared 16 December 2017

3) Serviceability criteria AS 1720.1: 2010 and AS 1720.3: 2016

4) Design inputs

Span	0.9 m
Roof load width 'RLW'	6.2 m
Roof type and mass	Light roof and ceiling - 40 kg/m²
Nominal wall thickness	90 mm

5) Member specification

Size, stress grade/product	Use 2/90 x 45 SG8 Laserframe
Material type	Dry softwood, machine stress graded and verified (NZS 3622)
Assumed design density	< 480 kg/m²

6) Serviceability

Load case	Limit[3] on average deflection[2]	Estimated average deflection[2]	Rigidity ratio[4]
Long term load - G + $\Psi_L Q^*$	3.0 mm	2.0 mm (long term)	1.5
Live load - $\Psi_s Q$	3.6 mm	0.6 mm	5.8
Wind load - W_s	4.5 mm	1.9 mm	2.4

*Critical serviceability load case
See 'Notes for interpretation of serviceability data' at the end of this report

7) Reactions

Load case	k_1[1]	Limit States Design Reaction[2,3] End kN[4]
1.35G	0.60	-3.4
1.2G + 1.5Q	0.80	-5.4
1.2G + W_u + $\Psi_c Q$	1.00	-7.7
0.9G + W_u	1.00	5.1

8) Installation requirements

- Provide at least 30 mm bearing at end supports

Member 3

1) Member code and description L3 - Lintels - In single or upper storey load bearing walls

2) Date prepared 16 December 2017

3) Serviceability criteria AS 1720.1: 2010 and AS 1720.3: 2016

4) Design inputs

Span	1.5 m
Roof load width 'RLW'	6.2 m
Roof type and mass	Light roof and ceiling - 40 kg/m²
Nominal wall thickness	90 mm

5) Member specification

Size, stress grade/product	Use 150 x 90 hy90
Material type	Structural Laminated Veneer Lumber to AS/NZS 4357

6) Serviceability

Load case	Limit[3] on average deflection[2]	Estimated average deflection[2]	Rigidity ratio[4]
Long term load - G + $\Psi_L Q^*$	5.0 mm	1.7 mm (long term)	2.9
Live load - $\Psi_s Q$	6.0 mm	0.5 mm	11.5
Wind load - W_s	7.5 mm	1.6 mm	4.8

*Critical serviceability load case
See 'Notes for interpretation of serviceability data' at the end of this report

7) Reactions

Load case	k_1[1]	Limit States Design Reaction[2,3] End kN[4]
1.35G	0.60	-3.7
1.2G + 1.5Q	0.80	-5.8
1.2G + W_u + $\Psi_c Q$	1.00	-8.2
0.9G + W_u	1.00	5.3

8) Installation requirements

- Provide at least 30 mm bearing at end supports

Member 4

1) Member code and description L4 - Lintels - In single or upper storey load bearing walls

2) Date prepared 16 December 2017

3) Serviceability criteria AS 1720.1: 2010 and AS 1720.3: 2016

4) Design inputs

Span	1.5 m
Roof load width 'RLW'	4.3 m
Roof type and mass	Light roof and ceiling - 40 kg/m²
Nominal wall thickness	90 mm

5) Member specification

Size, stress grade/product	Use 150 x 90 hy90
Material type	Structural Laminated Veneer Lumber to AS/NZS 4357

6) Serviceability

Load case	Limit[3] on average deflection[2]	Estimated average deflection[2]	Rigidity ratio[4]
Long term load - $G + \Psi_L Q^*$	5.0 mm	1.2 mm (long term)	4.2
Live load - $\Psi_s Q$	6.0 mm	0.4 mm	16.6
Wind load - W_s	7.5 mm	1.1 mm	6.9

*Critical serviceability load case
See 'Notes for interpretation of serviceability data' at the end of this report

7) Reactions

Load case	k_1[1]	Limit States Design Reaction[2,3] End kN[4]
1.35G	0.60	-2.6
1.2G + 1.5Q	0.80	-4.0
$1.2G + W_u + \Psi_c Q$	1.00	-5.7
$0.9G + W_u$	1.00	3.7

8) Installation requirements

- Provide at least 30 mm bearing at end supports

Member 5

1) Member code and description L5 - Lintels - In single or upper storey load bearing walls

2) Date prepared 16 December 2017

3) Serviceability criteria AS 1720.1: 2010 and AS 1720.3: 2016

4) Design inputs

Span	4.8 m
Roof load width 'RLW'	4.3 m

Roof type and mass	Light roof and ceiling - 40 kg/m²
Nominal wall thickness	90 mm

5) Member specification

Size, stress grade/product	Use 360 x 90 hy90
Material type	Structural Laminated Veneer Lumber to AS/NZS 4357

6) Serviceability

Load case	Limit[3] on average deflection[2]	Estimated average deflection[2]	Rigidity ratio[4]
Long term load - G + Ψ_{LQ}*	10.0 mm	7.7 mm (long term)	1.3
Live load - $\Psi_{s}Q$	15.0 mm	2.2 mm	6.9
Wind load - W_s	24.0 mm	6.5 mm	3.7

*Critical serviceability load case
See 'Notes for interpretation of serviceability data' at the end of this report

7) Reactions

Load case	k_1[1]	Limit States Design Reaction[2,3] End kN[4]
1.35G	0.60	-6.3
1.2G + 1.5Q	0.80	-9.6
1.2G + W_u + $\Psi_{c}Q$	1.00	-13.4
0.9G + W_u	1.00	8.1

8) Installation requirements

- Provide at least 30 mm bearing at end supports

Member 6

1) Member code and description	L6 - Lintels - In single or upper storey load bearing walls
2) Date prepared	16 December 2017
3) Serviceability criteria	AS 1720.1: 2010 and AS 1720.3: 2016

4) Design inputs

Span	0.8 m
Roof load width 'RLW'	4.3 m
Roof type and mass	Light roof and ceiling - 40 kg/m²
Nominal wall thickness	90 mm

5) Member specification

Size, stress grade/product	Use 2/90 x 45 SG8 Laserframe
Material type	Dry softwood, machine stress graded and verified (NZS 3622)
Assumed design density	< 480 kg/m²

6) Serviceability

Load case	Limit[3] on average deflection[2]	Estimated average deflection[2]	Rigidity ratio[4]
Long term load - G + Ψ_{LQ}*	2.7 mm	1.0 mm (long term)	2.7
Live load - $\Psi_{s}Q$	3.2 mm	0.3 mm	10.6
Wind load - W_s	4.0 mm	0.9 mm	4.4

*Critical serviceability load case
See 'Notes for interpretation of serviceability data' at the end of this report

7) Reactions

Load case	k_1[1]	Limit States Design Reaction[2,3] End kN[4]
1.35G	0.60	-2.3
1.2G + 1.5Q	0.80	-3.7
1.2G + W_u + Ψ_cQ	1.00	-5.2
0.9G + W_u	1.00	3.4

8) Installation requirements

- Provide at least 30 mm bearing at end supports

Member 7

1) Member code and description L7 - Lintels - In single or upper storey load bearing walls

2) Date prepared 16 December 2017

3) Serviceability criteria AS 1720.1: 2010 and AS 1720.3: 2016

4) Design inputs

Span	1.5 m
Roof load width 'RLW'	6.2 m
Roof type and mass	Light roof and ceiling - 40 kg/m²
Nominal wall thickness	90 mm

5) Member specification

Size, stress grade/product	Use 150 x 90 hy90
Material type	Structural Laminated Veneer Lumber to AS/NZS 4357

6) Serviceability

Load case	Limit[3] on average deflection[2]	Estimated average deflection[2]	Rigidity ratio[4]
Long term load - G + Ψ_LQ*	5.0 mm	1.7 mm (long term)	2.9
Live load - Ψ_sQ	6.0 mm	0.5 mm	11.5
Wind load - W_s	7.5 mm	1.6 mm	4.8

*Critical serviceability load case
See 'Notes for interpretation of serviceability data' at the end of this report

7) Reactions

Load case	k_1[1]	Limit States Design Reaction[2,3] End kN[4]
1.35G	0.60	-3.7
1.2G + 1.5Q	0.80	-5.8
1.2G + W_u + Ψ_cQ	1.00	-8.2
0.9G + W_u	1.00	5.3

8) Installation requirements

- Provide at least 30 mm bearing at end supports

Member 8

1) Member code and description L8 - Lintels - In single or upper storey load bearing walls

2) Date prepared 16 December 2017

3) Serviceability criteria AS 1720.1: 2010 and AS 1720.3: 2016

4) Design inputs

Span	1.8 m
Roof load width 'RLW'	6.2 m
Roof type and mass	Light roof and ceiling - 40 kg/m²
Nominal wall thickness	90 mm

5) Member specification

Size, stress grade/product	Use 150 x 90 hy90
Material type	Structural Laminated Veneer Lumber to AS/NZS 4357

6) Serviceability

Load case	Limit[3] on average deflection[2]	Estimated average deflection[2]	Rigidity ratio[4]
Long term load - $G + \Psi_L Q^*$	6.0 mm	3.0 mm (long term)	2.0
Live load - $\Psi_s Q$	7.2 mm	0.9 mm	8.0
Wind load - W_s	9.0 mm	2.7 mm	3.3

*Critical serviceability load case

See 'Notes for interpretation of serviceability data' at the end of this report

7) Reactions

Load case	k_1[1]	Limit States Design Reaction[2,3] End kN[4]
1.35G	0.60	-4.4
1.2G + 1.5Q	0.80	-7.0
$1.2G + W_u + \Psi_c Q$	1.00	-9.9
$0.9G + W_u$	1.00	6.4

8) Installation requirements

- Provide at least 30 mm bearing at end supports

Notes for interpretation of serviceability data

1. 'average deflection' is an engineering concept based upon a notional estimated load, notional member rigidity and, in some cases, an approximate model of material response to environmental conditions. These parameters are, 'standardised' in AS 1170 and AS 1720. Deflections calculated using this methodology cannot therefore be usefully compared with deflections calculated using other methods, eg GLTAA design methodology.

2. Deflection is the flexural response to load 'out-of-level' measurements of installations are not necessarily deflections and can incorporate 'initial out-of-straightness', whether intended or not. Furthermore, loads can be higher/lower than the notional estimate and in any comparison with measured levels, material variability needs to also be considered. AS 1720 gives the following basis for estimation of upper bound deflections for various materials.

No 1 Framing – visually graded to NZS 3631	Average + 100%
SG grades - mechanically graded to AS/NZS 1748	Average + 43%
GL grades for glulam to AS 1328	Average + 33%
LVL to AS/NZS 4357 (includes hySPAN and hyJOIST)	Average +18%

As can be seen, comparison of the 'average deflection' for different materials, even if calculated on the same basis, does not give the whole picture!

3. The limits referred are those specified in AS 1720.3 for the stated load case.

4. 'Rigidity ratio' expresses the rigidity of the specified beam relative to the rigidity of a notional beam just meeting the serviceability requirements of AS 1720.3

Notes for interpretation of reaction data

1. Duration of load factor 'k_1' for strength as per NZ 3603:1993
2. Negative (-) reactions relate to the 'gravity' or 'downwards' force on the support
3. Positive reactions relate to the 'upwards' forces or 'tie-down' requirement on the support
4. End reaction includes allowance for overhang/cantilever where one has been designed

G.J. Gardner. HOMES

BUILDING SPECIFICATION

for

Lot 31 Magnolia Cres, SPRINGVALE

Between

Hee Taek Oh & Jinsoon Lim
(the Purchaser)

and

Castle Homes Wanganui Ltd
(the Builder)

Job Number: 270373

PURCHASER : Hee Taek & Jinsoon Oh & Lim

SITE ADDRESS : Lot 31 Magnolia Cres, SPRINGVALE

TERRITORIAL AUTHORITY :

PLEASE READ CAREFULLY BEFORE COMPLETING THE SPECIFICATION

INTERPRETATION AND USE OF SPECIFICATION

1 This specification forms part of the contract for the proposed work when executed and initialled by both parties.

2 Where multiple choices are available, only one choice is permitted. If choice/s is/are not clarified by the Purchaser at the time of signing the choice/s is/are to be at the Builder's sole discretion.

3 All items are to be selected within the range as determined by the Builder as allowable for this style of building.

4 The Purchaser acknowledges that the Builder [Castle Homes Wanganui Ltd] is the independent owner and operator of a GJ Gardner Homes franchise and agrees this building contract is exclusively between the Purchaser and the Builder [Castle Homes Wanganui Ltd].

ITEM	DESCRIPTION	INITIAL ALTERATIONS

1. GENERAL

a) Unless otherwise specified, the works shall be constructed in accordance with the Building Act 2004 (as amended) in conjunction with the New Zealand Building Code.

b) Unless otherwise specified, the Purchaser is responsible to provide a house site clear of any obstructions to building including removal of long grass, shrubs and trees where necessary.

c) It is acknowledged by the Purchaser that it is the Purchaser's responsibility to engage a licensed surveyor to peg the boundary corners of the allotment prior to commencement of site works if the survey pegs are not in place.

d) The Purchaser acknowledges that it is their responsibility to provide all weather access suitable to allow vehicles and machinery, as normally used in the building industry, to drive in and out of the property.

e) Unless otherwise specified, the contract price allows that town water supply will be available from an existing main of the Local Authority prior to commencement of construction. Where no such water supply exists, the Purchaser is to arrange at their expense, a temporary fresh water supply for building purposes by means satisfactory to The Builder, and to be available prior to commencement of construction.

f) This contract allows for 240 Volt single phase power being available prior to and during the construction of the dwelling. Where no such power is available the Purchaser is to arrange temporary power to the satisfaction of The Builder at the Purchaser's expense.

g) (i) Complying with statutory obligations and any notices and obtaining relevant approvals is the responsibility of The Builder.

(ii) The Builder and the Purchaser acknowledge that notwithstanding proper requests by the Builder the Local Authority does not on all occasions carry out final inspections in relation to the works. The Purchaser further acknowledges and irrevocable agrees that they will not make any objection to the lack of provision of a final inspection report subsequent to practical completion and further will not withhold or cause to be withheld any progress payments due to The Builder, either directly or through their financier that are due to be paid to The Builder on practical completion of the works.

Purchaser's Initials

Builder's Initials

(iii) The Purchaser acknowledges and agrees that should their financier refuse to advance all or any funds until the provision of a final inspection report from the Local Authority which may not be available, The Builder will at the Purchaser's cost obtain a final inspection report suitable to the financier from a qualified engineer/registered Builder.

h) Unless otherwise specified, all council building fees are paid for by The Builder. Any Bonds called for or development application fees requested by any Local or Other Authority or statutory body are to be arranged and paid for by the Purchaser.

(i) It is the responsibility of the Purchaser to obtain any necessary building consents from relevant developer or land corporation where a covenant applies.

i) An Engineer's soil report, footing and slab designs are to be provided by The Builder. The cost of which is taken from the initial deposit.

j) Should this Contract not proceed for any reason whatsoever all moneys expended by The Builder on Local Authority fees, obtaining soil reports and footing and slab designs, engineers fees and an administration fee of $250.00 for the costs of preparation of contracts and plans shall be deducted forthwith from any deposit paid by the Purchaser. If the deposit paid by the Purchaser is insufficient to cover such costs then the Purchaser shall pay such extra costs to The Builder within fourteen days after receiving notification that the same are due and payable.

k) Colour selection must be completed before council approval has been received to enable the Purchaser's home to be built within the construction period stated in this contract. The colour selection forms part of this contract and any item at a cost above standard allowance will be charged as an extra.

l) (i) Any valuations required by the lending body (other than Council final inspection) are to be the responsibility of the Purchaser to organise.

(ii) The Builder takes no responsibility for any colour variation in the roof tile, brick, ceramic wall and floor tile, between those shown in displays or brochures to those delivered by the manufacturer. These products may vary slightly in colour from time to time and any discrepancy is the responsibility of the manufacturer.

(iii) Electrical plan is to be completed and returned to this office within seven days from the date the Purchaser signs the contract, failing which the standard electrical plan will apply.

(iv) The Purchaser and The Builder hereby agree that any extension of time claimed for practical completion due to wet or inclement weather shall be based on notification pursuant to the relevant clause of the Contract and shall be claimed as per the logged days by the nearest post office or weather bureau.

(v) The Purchaser acknowledges that it is their responsibility to pay a deposit to the electrical authority to connect power. Any delay by the electrical authority in connecting power shall not on its own delay practical completion or final payment to The Builder.

(vii) Where due to soil conditions, Local or Other Authority requirements, pump out tanks, submersible pumps and irrigation systems are needed over and above the normal septic system, the Purchaser agrees to bear the costs thereof and proceed by way of variation pursuant to the relevant clause of the Contract.

m) The Builder reserves the right to charge a $200.00 fee for each variation requested by the Purchaser subsequent to execution of the contract. Variations are deemed to be changes, additions, deletions and alterations to contract, colour selection, allowances or prior variations. Each variation may add one week to the contract time.

n) The Builder accepts no responsibility to contact the owners of adjoining properties in relation to fencing. It is the Purchaser's responsibility to contact the adjoining neighbours to arrange rebates. Should the Purchaser not arrange rebates, The Builder will install the fence(s) as per the contract at the Builder's discretion.

Purchaser's Initials

Builder's Initials

o) The Purchaser acknowledges that they have not relied upon any representations made by The Builder, its agents, employees or workmen in entering into this contract other than those representations as are included in and form part of this contract.

q) Provisional cost or prime sum items (to the value of items) in this contract will be adjusted with a margin for recovery of profit and administration as indicated in the building contract. Adjustments will be made on receipt of final invoice and credited off the final progress claim. These allowances are non-transferable and will be subject to a 5% retention if deleted.

2. EXCAVATION

The Owner acknowledges that after breaking the surface of the ground, if variations are required by the Engineer, or Territorial or Other Authorities, or due to the nature of site access or due to extra excavations or footings required if rock or other obstacles are encountered, then the Builder will notify the Owner as provided for in Clause 4 of the contract and the cost of such variation together with a reasonable allowance for overheads and profits shall be adjusted against the contract sum.

a) Site scrape to house area only.

b) Builder to supply and place compacted hardfill.

c) Excavated material, spoil, etc., to be spread over site by Builder. No allowance has been made to remove any excavated material offsite.

d) Trees, etc. to be N\A. None to be removed.

3. CONCRETOR

a) Floor slab to be concrete slab as per attached details with 20 mpa concrete floated off to a smoothe finish. Finished floor height to be approx 225mm above extisting ground level.

b) Extra piers, beams, steel etc., if required by Engineer or Territorial Authority after Territorial Authority approval are at the Owner's expense.

c) Concrete Pumping is included

d) 82 square metres of concrete drives, patio and paths are included.

e) Concrete finish is to be plain concrete, smooth trowel finish.

4. DRAINLAYER

a) Sewerage installation to be in accordance with the Territorial Authority Approved Plan allowance in contract

b) Water is on town supply.

c) Allowance in contract for stormwater Stormwater is to be piped in accordance with the Territorial Approved plan.

5. BRICKLAYER

a) Builder to supply and lay all bricks. Sills to be bricks laid on edge.

b) Joints to be raked.

c) Mortar colour to be standard grey. Other colours are available for an additional cost.

6. CARPENTER/JOINER

a) Builder is to do all framing and fixing.

Purchaser's Initials

Builder's Initials

b) External frames are to be stress graded, Kiln dried with H1.2 bottom plates built to Manufacturers design or NZ3604
External frames are to be stress graded, Kiln dried built to Manufacturers design or NZ3604

c) Roof Trusses to be to manufacturer's design.

d) All ceiling batons to be Steel Rhondo or Timber at 450 crs

e) WALL BATTS TO BE R2.2
CEILING BATTS TO BE R3.2

7. INTERNAL LININGS

a) All walls to be lined with 10mm Gib Board with the exception of the bathrooms which will be 10mm Aqualine finished off to a level 4

b) All ceilings to be lined with 10mm Gib Board with the exception of the bathrooms which will be 10mm Aqualine finished off to a level 4

c) Cornice to be standard cove pattern 55mm.

8. EXTERNAL WALL CLADDING

a) Bricks to be from Builders standared range

b) Exterior bricks to be natural.

c) Soffits to be 4.5mm Fibre Cement sheeting.

9. DOORS (INCLUDING TYPE, FINISH, FURNITURE)

a) Front entrance door to duramax fibreglass.

b) Exterior laundry door to be swing aluminium glass door.

c) Garage Doors are to be Pressed Panel Sectional Door(s) as per plan. Electric Opener with Remote Control is included.

d) Internal Doors to be Flush Hollow Core Paint Finish.

e) Internal Door Handles to be Sylvan

f) External Door Handles to be Windsor

10. INTERNAL FINISHING TIMBERS

a) Architraves to be nominal 40 x 12mm MDF.

b) Skirting to be nominal 60 x 12mm MDF.

c) Jambs to be nominal 93 x 19mm FJ Pine.

d) Profile to be bevelled.

11. ENTRANCE DOOR FRAMES AND GLAZING

a) Front Door Side Lights are not included.

12. ALUMINIUM WINDOWS AND DOORS

a) Frame finish to be powder coated aluminium (from standard range).Double glazed to NZS4223 pt3

b) Reveals to be pre-primed finger-jointed Pine.

Purchaser's Initials

Builder's Initials

ITEM DESCRIPTION INITIAL ALTERATIONS

13. ROOF COVERING

a) Roof covering to be metal roof tiles from Builder's selection and fixed to Manufacturer's specification.

b) Self Supporting Building Paper is included.

14. PLUMBER/STEEL FASCIA OPERATOR

a) Fascia and gutters to be pre-coated Steel.

b) Downpipes to be 80 mm round PVC.

c) The work will be a NZ Acceptable Solution to comply with the NZ Building Code.

d) The material to be installed will be :
- UPVC under slab - to have a minimum life of 50 years.
- Butaline in the walls - to have a minimum of 50 year durability
- Polyethylene in the ground outside building line, for water supply - to have a minimum life of 25 years.

d) Pipe materials for hot and cold water

Material	Relevant Standard
Hot and Cold	
Copper	NZS3501
Galvanised Steel	NZS/BS 1387
Polybutylene	AS/NZS 2642: Parts 1, 2 and 3
Cold Only	
PVC-U	AS/NZS 1477
Polyethylene	AS/NZS 4130 FOR Pressures up to 2.5 MPa

e) Pipes, Traps and fittings

Air admittance valves	ASSE 1050 or ASSE 1051, EN 12380, AS/NZS 4936
Copper pipe	NZS 3501
Copper fittings	AS 1589
PVC pipe and fittings	AS/NZS 1260
Plastic fittings	AS 2887
PE pipe and fittings	AS/NZS 4401
Elastomeric rings	AS/NZS 4130 or AS 1646
Traps	
Plastic	AS 2887
Copper	AS 1589

15. FIXTURES AND FITTINGS

a) Bath to be Englefeild Sorrento 11 1675 from Builder's selection.

b) Kitchen sink to be 1½ bowl, single drainer with single hole for mixer.

c) Laundry tub to be Robinhood ST3701 Supertub.

d) Shower bases to be Englefield Valencia white frame 1x1

e) Vanity basins to be Englefeild Sapphire 900mm floorstanding

f) W.C. to be Englefield Valencia CC

g) Hot water to be mains pressure Gas Infinity

h) One hose tap to front of house and one to rear as positioned by the Builder.

16. TAPS

a) Kitchen sink taps/mixer to be Sorrento

b) Bathroom, Ensuite, taps/mixer to be Sorrento

Purchaser's Initials

Builder's Initials

17. GAS SERVICE

a) Gas service is applicable.

b) Gas hot water system is included.

18. ELECTRICIAN

AS PER ATTACHED LIST

19. WHITE GOODS

Owner to do nothing. Builder to supply and install all White Goods.

a) Wall Oven to be Fisher & Paykel Performance Range OB60SC5CEX1(S/S)

b) Hot plates to be Fisher & Paykel Performance Range.

c) Rangehood to be Fisher & Paykel Performance Range.

d) Dishwasher to be Fisher & Paykel Performance Range.

e) Garbage Disposal to be Fisher & Paykel Performance Range

20. CABINETMAKER

Builder to supply and install all Kitchen .

a) Kitchen and vanity cupboards are generally 600mm wide with Plastic Laminate Benchtops. Layout as per kitchen plan.

21. PAINTER

Owner to do no painting. Builder to do all painting

a) Refer to Colour Scheme for Selections.

b) External painting by Builder.
1. External AC sheeting two coats of acrylic paint.
2. Any external metal one coat of primer one coat enamel.
3. Other external surfaces according to manufacturer's specifications.

c) External brick walls to be unpainted.

d) Internal Painting by Builder.
(Walls and ceilings to be of two colour.)
1. Ceilings to be one coat sealer and two coats of acrylic paint to Manufacturer's Specification (white base).
2. Walls to be one coat sealer and two coats acrylic paint to Manufacturer's Specification (white base).
3. Inside cupboards wall colour.
4. Wall-paper is not included.

e) Doors, door jambs, architraves, reveals and skirtings to be painted wall colour in low sheen enamel in one colour (skirtings to be acrylic).

22. MISCELLANEOUS

a) Shower screen(s) are glass in aluminium frame with fixed panel and pivot door.

b) Mirrors are 750mm by 900mm

23. ALLOWANCES

Mitsubishi GL50VAD inverter with WIFI module is included.
75 lineal metres of fencing with one gate is included.
Letter box supply and install up to the value of $230.00 including GST is included.

Purchaser's Initials

Builder's Initials

ITEM	DESCRIPTION	INITIAL ALTERATIONS

Hills extenda line is included.

a) Quoted floor coverings to the value of $7365.75 including GST are included.

Dated this 13 day of Oct 2017

SIGNED by the Purchaser .....

In the presence of .....

MEGAN CAROLINE CHRISTIE
SOLICITOR
WHANGANUI

SIGNED by the Builder .....

in the presence of Tony Jones

Purchaser's Initials

Builder's Initials

APPLICATION FOR CODE COMPLIANCE CERTIFICATE (Form 6)

Section 92. Building Act 2004.

1. What is the Building Consent? *Complete this field*

Building consent number:	
Issued by:(name of building consent authority)	

2. Who owns the building? *Complete all fields, using N/A if a field is not applicable*

Owner name:				Title: e.g. Mr, Mrs, Ms, Dr	
Contact person:					
Owner mailing address:					
Street address / registered office:					
Owner email address:					
Owner contact numbers:	Ph:			Cell:	
Are you using an Agent?	☐	Yes	☐	No	*If Yes, please also complete the following*
Who is the first point of contact for further correspondence?	☐	Agent	☐	Owner	
Agent name:					
Agent email:					
Agent contact numbers:	Ph:			Cell:	
Agent mailing address:					
Relationship to owner:					

3. When was the building work completed? *Complete this field*

All building work to be carried out under the building consent specified on this form was completed on:	*dd /mm / yyyy*

4. Who completed the building work? *Complete all fields on each line. You will need to complete one line for each building practitioner. Use a separate sheet if necessary.*

The licensed building practitioner(s) who carried out/supervised the restricted building work is/are:			
Name:	Licensing class:	LBP or registration number:	Work carried out / supervised:

Name:	Licensing class:	LBP or registration number:	Work carried out / supervised:
Tradespeople who carried out building work other than restricted building work are as follows:			
Name:	Address:	Contact number:	Registration number:
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:			

5. Declaration

☐ I understand that this application may *only* be made with the owner's approval. *Please tick to indicate your agreement.*

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	☐	Owner address as per Section 2	☐	Agent address as per Section 2

Name:	
Signature:	
Date:	

You can add a digital signature to this document, either using Adobe or your existing digital signature.

Once you have filled out the form, including signatures, please save the application to your computer. You can then submit the application with supporting documentation to your local Council.

If you are unsure about what information to include in your application, a guidance document is available (**click here**).

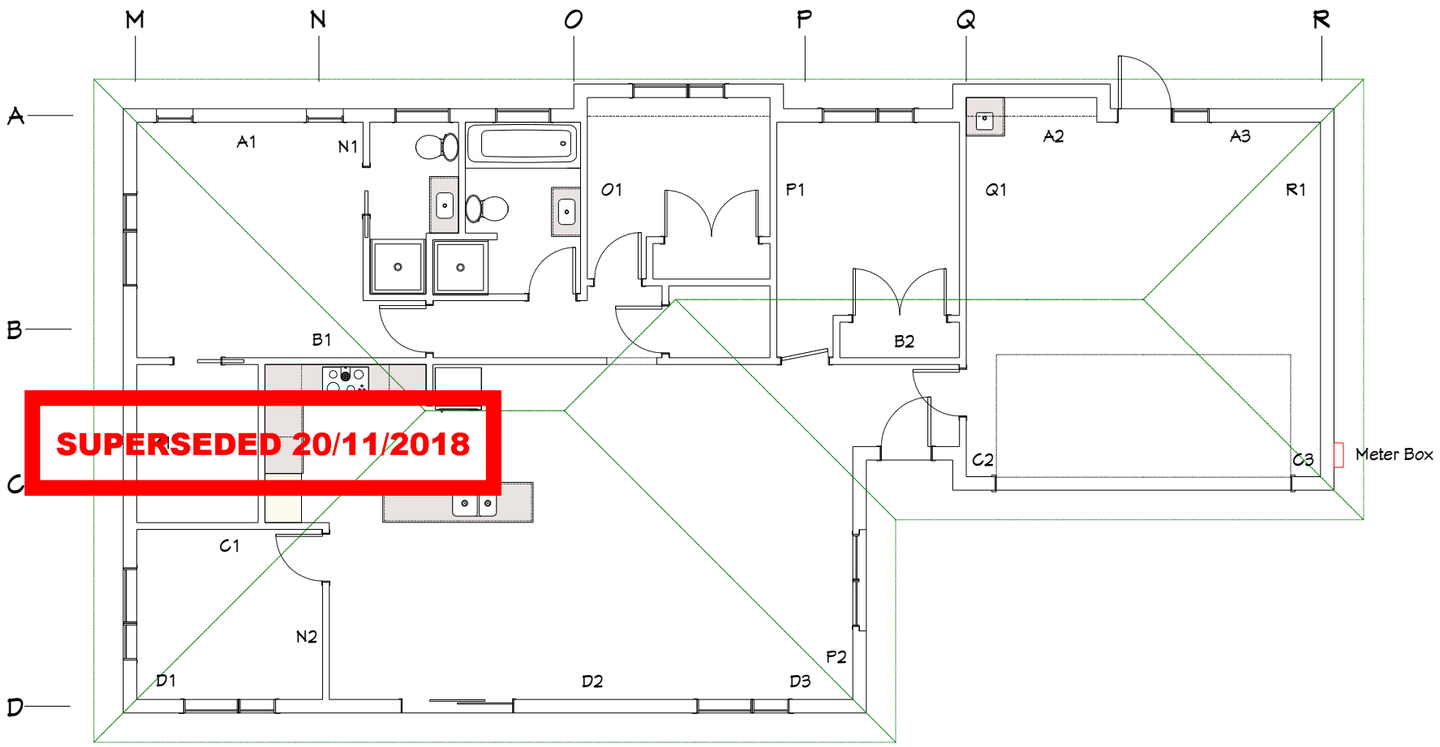
6. Have you attached all required documents?

You are required to provide all the necessary documents to support your application. This includes (but is not limited to) the following sections:

- *Memorandum of Licensed Building Practitioners – Record of Work (for each type of building work completed)*
- *Certificates relating to energy work*
- *Evidence that specified systems are capable of performing to the performance standards set out in the building consent (if changed from the building consent)*
- *Other documents from personnel who carried out the work.*

Refer to your building consent approval letter for a full list of documents required to support your Code Compliance Certificate application.

Bracing Element Along	Stud Height (mm)	Length (mm)	Type
	2400		
A1		1850	GS1 - N
A2		2100	GS1 - N
A3		1600	GS1 - N
B1		2500	GS1 - N
B2		1900	GS1 - N
C1		3000	GS1 - N
C2		.450	GS1-N
C3		.450	GS1-N
D1		.750	GS1 - N
D2		3000	GS1 - N
D3		1000	GS1 - N
Bracing Element Across	Stud Height (mm)	Length (mm)	Type
	2400		
M1		2600	GS1 - N
N1		.700	GS1 - N
N2		1900	GS1 - N
O1		2800	GS1 - N
P1		3.8	GS1 - N
P2		1.2	GS1 - N
Q1		4100	GS1 - N
R1		5000	GS1 - N



DRAWINGS PROVIDED BY:

dcDESIGN ARCHITECTURAL DESIGN

Client Details :
Hee Taek Oh
& Jinsoon Lim

Address:
Lot 31 Simon Street
Wanganui

G.J. Gardner. HOMES
New Zealand's favourite home builder

Drawn: David Coker	Date:	08/12/2017	
Checked: Alex Sigley	Variation #		

Drawing Title:	Bracing Plan			Sheet #	15
Wind Region	A	Wind Zone	High	Scale:	1:100
Earthquake Zone	2	Exposure Zone	C		

G.J. Gardner Homes
Castle Homes Wanganui Ltd
P: 06 345 3563
F: 06 345 3564
www.gjgardner.co.nz

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GIB EzyBrace® Bracing Software

Demand Calculation Sheet

Job Details

Name:	Hee Taek Oh
Street and Number:	Magnolia Crescent
Lot and DP Number:	Lot 31
City/Town/District:	Wanganui
Designer:	David Doker
Company:	D C Design
Date:	Tuesday, 5 December 2017

Building Specification

Number of Storeys	1
Floor Loading	2 kPa
Foundation Type	Slab
	Single
Cladding Weight	Light
Roof Weight	Light
Room in Roof Space	No
Roof Pitch (degrees)	22.5
Roof Height above Eaves (m)	2.225
Building Height to Apex (m)	4.504
Ground to Lower Floor (m)	0.3
Average Stud Height (m)	2.4
Building Length (m)	19.51
Building Width (m)	9.610
Building Plan Area (m²)	168.54

Building Location

Wind Zone = High

Earthquake Zone 2

Soil Type	D & E (Deep to Very Soft)
Annual Prob. of Exceedance:	1 in 500 (NZS3604:2011 Default)

Bracing Units required for Wind

	Along	Across
Single Level	**462**	**884**

Bracing Units required for Earthquake

	Along & Across
Single Level	**643**

GIB EzyBrace® Bracing Software

Single Level Along Resistance Sheet

Job Name: Hee Taek Oh

									Wind	EQ
									Demand	
									462	643
									Achieved	
Line	Element	Length (m)	Angle (degrees)	Stud Ht. (m)	Type	Supplier	Wind (BUs)	EQ (BUs)	1259 273%	1113 173%
a	1	1.85		2.4	GS1-N	GIB®	128	111		
	2	2.10		2.4	GS1-N	GIB®	145	126		
	3	1.60		2.4	GS1-N	GIB®	110	96		
	External Length = 19.5								383 OK	333 OK
b	1	2.50		2.4	GS1-N	GIB®	173	150		
	2	1.90		2.4	GS1-N	GIB®	131	114		
									304 OK	264 OK
c	1	3.00		2.4	GS1-N	GIB®	207	180		
	2	0.45		2.4	GS1-N	GIB®	24	26		
	3	0.45		2.4	GS1-N	GIB®	24	26		
	External Length = 7.6								256 OK	232 OK
d	1	0.75		2.4	GS1-N	GIB®	45	44		
	2	3.00		2.4	GS1-N	GIB®	207	180		
	3	1.00		2.4	GS1-N	GIB®	65	60		
	External Length = 11.8								317 OK	284 OK

Single Level Across Resistance Sheet

Job Name: Hee Taek Oh

									Wind	EQ
									Demand	
									884	643
									Achieved	
Line	Element	Length (m)	Angle (degrees)	Stud Ht. (m)	Type	Supplier	Wind (BUs)	EQ (BUs)	1509 171%	1319 205%
m	1	2.60		2.4	GS1-N	GIB®	179	156		
	External Length = 9.6								179 OK	156 OK
n	1	0.70		2.4	GS1-N	GIB®	41	41		
	2	1.90		2.4	GS1-N	GIB®	131	114		
									172 OK	155 OK
o	1	2.80		2.4	GS1-N	GIB®	193	168		
									193 OK	168 OK
p	1	3.80		2.4	GS1-N	GIB®	262	228		
	2	1.10		2.4	GS1-N	GIB®	74	66		
									336 OK	294 OK
q	1	4.10		2.4	GS1-N	GIB®	283	246		
	External Length = 0.5								283 OK	246 OK
r	1	5.00		2.4	GS1-N	GIB®	345	300		
	External Length = 9.6								345 OK	300 OK

Custom Wall Elements

Supplier	System	Min. Length m	Wind BUs/m	EQ BUs/m
EcoPly & EP Barrier	EP1/EPB1-0.4	0.4	80	95
EcoPly & EP Barrier	EP1/EPB1-0.6	0.6	95	105
EcoPly & EP Barrier	EP1/EPB1-1.2	1.2	120	135
EP Barrier	EPBS-0.4	0.4	60	60
EP Barrier	EPBS-0.6	0.6	60	65
EP Barrier	EPBS-1.2	1.2	65	70
EP Barrier	EPBS-2.4	2.4	80	90
EcoPly & EP Barrier	EPG/EPBG-0.4	0.4	100	115
EcoPly & EP Barrier	EPG/EPBG-1.2	1.2	150	150
EcoPly & EP Barrier	EP2/EPB2-0.6	0.6	105	115