

ENTERED

I.T — means Intercepting Trap
 F.A.I — means Fresh Air Inlet
 I.P — means Inspecting Pipe
 I.Y — means Inspection Junction

REFERENCE
 Y.P — means Junction Pipe
 G.T — means Gully Trap
 W.C — means Water Closet
 B.V — means Back Vent

APPLICATION No.
 M.V — means Main Vent
 T.V — means Terminal Vent
 I.C — means Inspection Chamber
 D.P — means Down Pipe

Scale — 1:200

FRONT BOUNDARY

NORTH

OWNER: MR LAUS BEULINK

LOCATION: 25c MISSY CRESCENT

LOT No.: 19

D.P: 468242

SECTION:

BLOCK:

NAME: MDMAY

REG NO.: 14582

SIGNATURE: MDMAY

(Please Print)

(Registered Drainlayer)

Sycamore 60844

NZBC F5: Construction and Demolition Hazards

Acceptable Solution F5/AS1

1.0 Work-Site Barriers

1.0.1 The necessity for barriers will depend mainly on the site location. The need will be greater in areas with high levels of pedestrian traffic (i.e. in Central Business Districts), than in industrial or rural areas. Barriers are not necessary for domestic dwellings up to 2 storeys above ground level unless specific hazards exist.

At all work-sites hazard evaluation will take account of:

1. Pedestrian counts adjacent to the site.
2. Car parking adjacent to the site.
3. Location of neighbouring buildings.
4. Presence of neighbouring work-sites or recreation areas.
5. Proximity to schools or early childhood centres.
6. Proximity to housing.
7. The depth of a water hazard.
8. The period of time for which ponded water will be present.
9. The accessibility and 'visibility' of the site.

1.0.2 If a work-site is not completely enclosed, and unauthorised entry by children is likely, it is acceptable for specific hazards to be fenced only when workers are absent from the immediate vicinity.

1.1 Site fences and hoardings

1.1.1 Fences and hoardings shall extend at least 2.0 m in height from ground level on the side accessible to the public.

1.1.2 An acceptable fence may be constructed with galvanised chainlink netting having a maximum sized grid of 50 mm x 50 mm. Post spacing shall be a maximum of 2.5 m, and the gap between the bottom of the fence and ground no greater than 100 mm.

Soakpit calculation

Roof Area: 212.9m²

212.9×16.7 (L/10min duration based on 100mm/hr (E1))
 $3555.4 \div 1000 = 3.55$ m³
 3.55×0.38 (boulder capacity) = 1.35 m³
 $3.55 + 1.35 = 4.9$ m³ pit volume required

1200ø x 1500mm deep = 1.7m³

Therefore 3 pits required



Cautionary Notes:

BUILDING CONTRACTOR TO ASSESS SITE TO ENSURE DAYLIGHTING & 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 FOUNDATIONS.

Construction Notes:

Before building is erected on site, all rubbish, noxious matter and 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 not be allowed to accumulate in buildings subfloor. Any fill to be dry & approved by engineer & compacted down in accordance with NZS.3604.2011

Contractor to

- confirm ground has adequate bearing to comply with NZS 3604: 2011
- locate all service connections points on site prior to commencement of works. Check invert levels or pipes and manholes.
- confirm plumbing route and fixture positions on site prior to commencement of works.
- locate all electrical and 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.

HIRB = Height in Relation to Boundary

Sediment Control:

- No building work will be started on this project until the construction of an approved stormwater outfall has been completed for this proposed Lot
- All erosion and sediment control structures are to be inspected and maintained daily
- Prevent any backfill or debris from ashing onto council or neighbouring properties
- All ground cover vegetation outside the immediate building area to be preserved during the building phase
- All erosion and sediment control measures are to be installed prior to commencement of earthworks
- Stockpiles of clay and materials are to be covered with impervious sheeting
- Roof water downpipes to be connected to the main stormwater system as soon as roof sheathing & spouting is installed
- No building work will be started on this project until the construction of an approved stormwater outfall has been completed for this proposed Lot

Lot: 19

DP: 468242

Site Area: 1001m²

Floor Area: 182m²

Site Coverage: 18.2% (max 40%)

Maximum Building Ht: 7.5m

Territorial Authority: Central Otago District Council

Planning Zone: Residential Resource Area 3

Client Details :

Louis & Cheryl Beulink

Address:

25c Missy Crescent
Pisa Moorings

OS512

VH 175

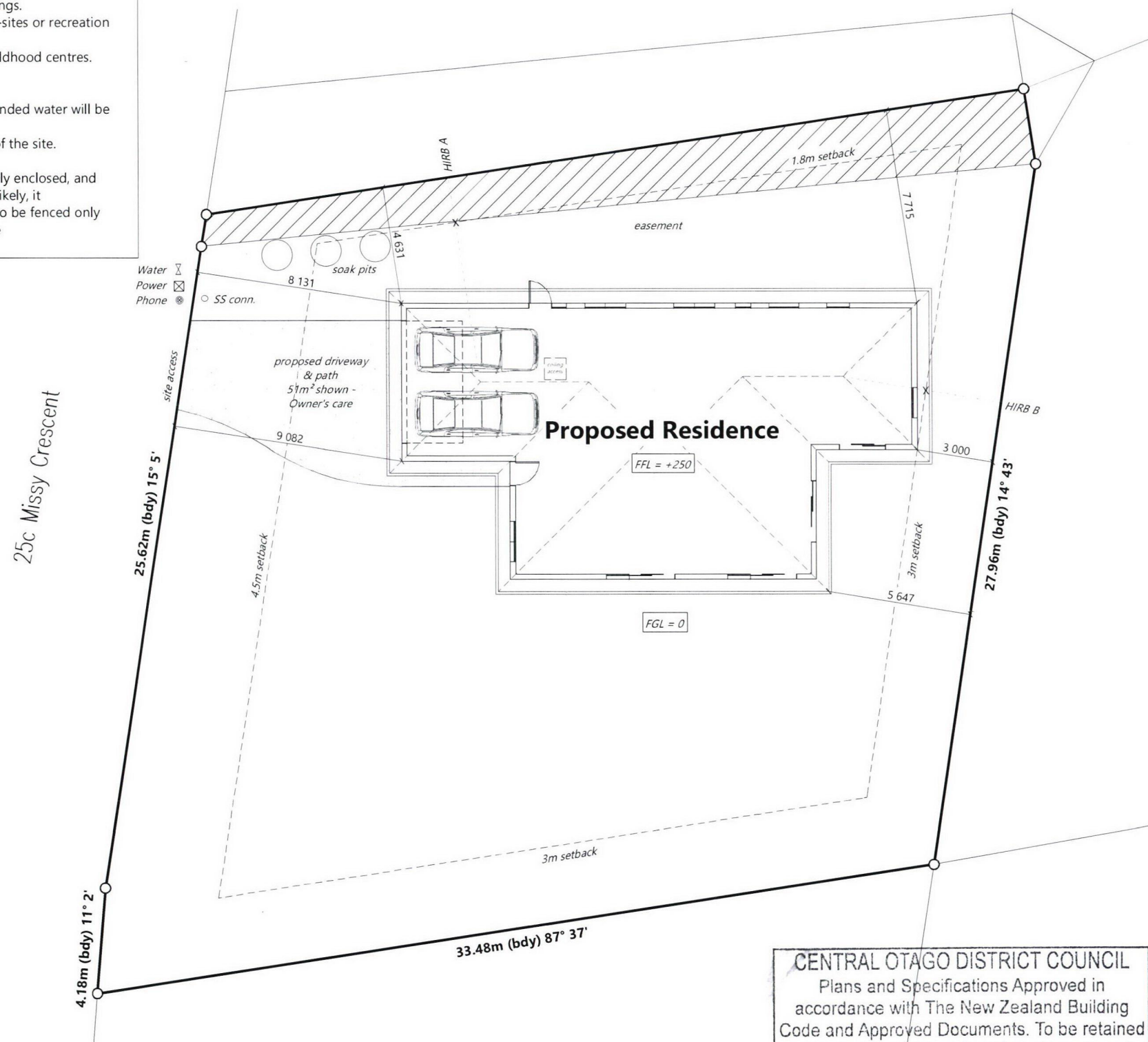
Site Plan

Scale: 1:200 Date: 4/07/2014 Sheet no: 2

Drawn: DG Check: N.Davis
 Wind: V. High Earthq: 2 Exposure: B Snow: NS-0.9kPa

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 Plans and Specifications Approved in
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 Code and Approved Documents. To be retained
 on the building site and produced on request.

Signed: [Signature] Date: 5/8/14

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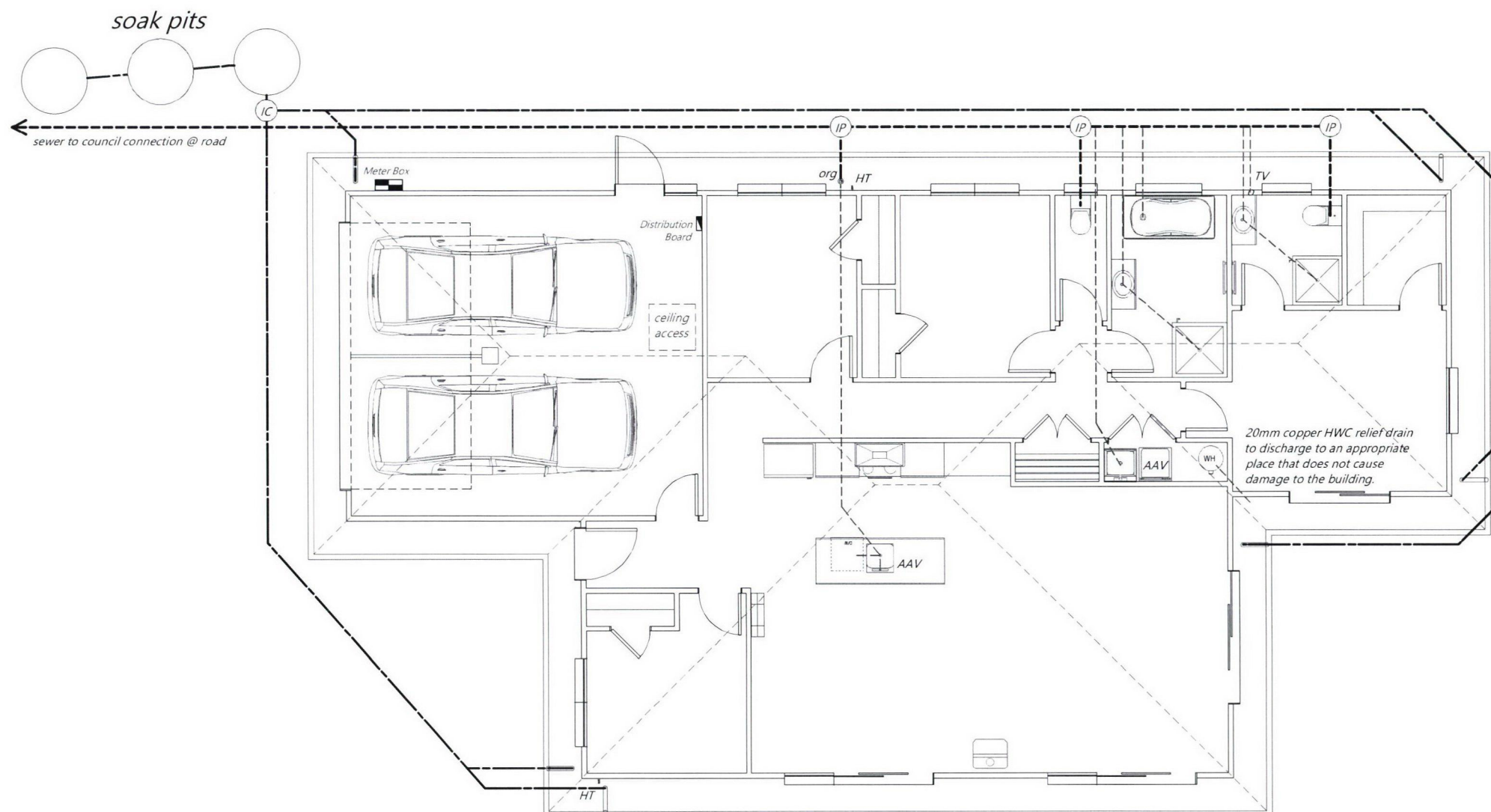
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Proposed New Home For

Louis & Cheryl Beulink
25c Missy Crescent
Pisa Moorings





Construction Notes:

Plumbing to AS/NZS:3500.2.2 (min 1:60 pipe gradient) by qualified tradesman.

Contractor to locate all service connections on site prior to earthworks confirm all boundary setbacks & restrictions comply with current regulations prior to commencement of foundations.

All waste pipes PVC. Sizes, fall, venting & discharge to be confirmed by NZ qualified plumber. Confirm positions of available services cabling etc on site prior to any excavation

Water supply:

Internal water pipes to Polybutylene.
All pipework and pipes exposed to freezing to be lagged with closed cell foam

Fixture unit rating:

= 33 units
Water Closet - 6 (x2)
Bath - 4
Basin - 1 (x2)
Dishwasher - 3
Shower - 2 (x2)
Laundry tub - 5
Kitchen sink - 3

TABLE 3.5

SIZE AND RATING OF VENTS

Size of vent pipe DN	Fixture units discharging to drain	Vent rating
40	>1	0.5
50	>10	1
65	>30	2
80	>175	3
100	>400	6

NB: DN80 minimum vent when connected to septic tank

Plumbing Legend as per AS/NZS 3500

Symbol	Item	Symbol	Item
IP	Inspection point	DN100 PVC SS pipe, DN100 min water closets (ref specs) min 1:60 gradient	
Downpipe		DN100 PVC SW pipe, min 1:120 gradient	
HT	Hose Tap	min PVC fixture waste pipe sizes: DN40 basins, single head showers, baths, sinks, dishwasher & ldy tubs, DN50 multiple heads showers, DN65 unvented branch drains exceeding 2.5m long (max 5 fixture unit rating)	
org	Overflow relief gully	DN65 to all wastes discharging directly into drain under slab min 1:40 gradient.	
oTV	Terminal vent	20mm HWC vent drain (copper)	
AAV	Air admittance valve		

Water supply pipe (from water tank or council mains) = DN20

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Drainage Plan

Drawn: DG Check: N.Davis
Wind: Earthq: Exposure: Snow: V. High 2 B NS-0.9kPa

Scale: 1:100 Date: 4/07/2014 Sheet no: 3

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APPROVED JOINT
silicone not permitted

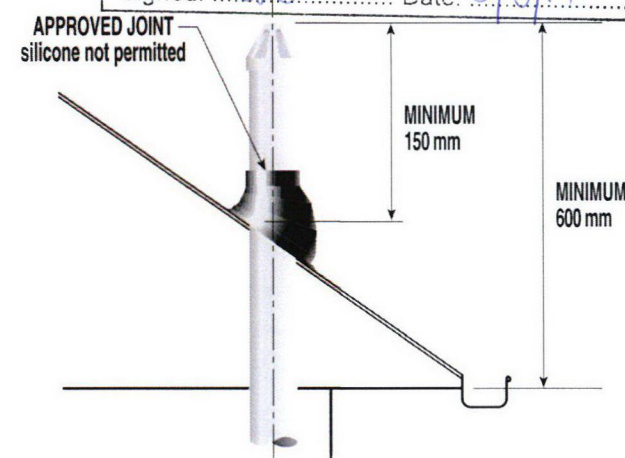
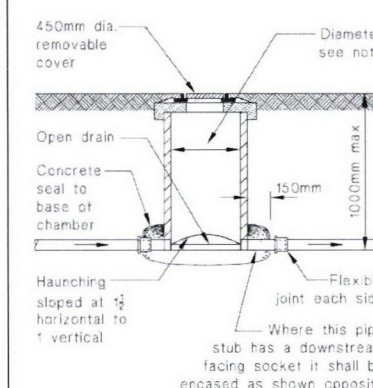


Figure 11: Typical Inspection Chamber
Paragraphs 3.5.3, 3.7.1 and 3.7.4



SECTION

NOTE:
Inspection chamber diameter to be:
-450 mm for drains 100 mm dia or less.
-600 mm for drains greater than 100 mm dia.

NZBC: E1 Surface Water

3.7 Access for maintenance

3.7.1 Access for maintenance shall be provided on all drains. Access is to be achieved via an inspection point, rodding point, inspection chamber or access chamber, complying as appropriate with Figures 10, 11 or 12.

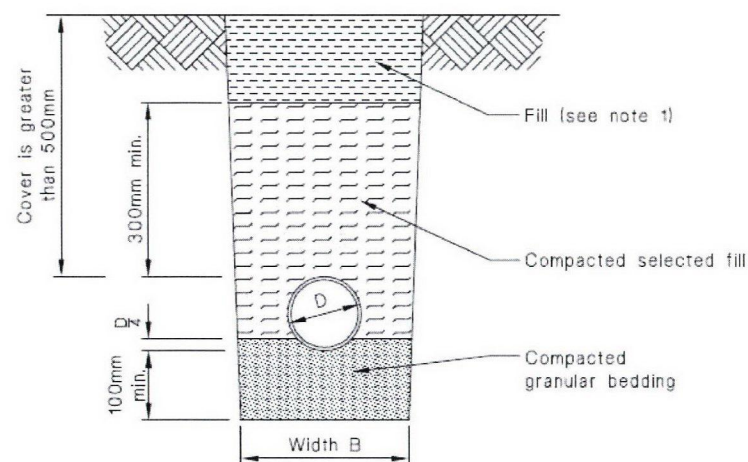
3.7.2 Points of access shall be spaced at no further than:
a) 50 m where rodding points are used.
b) 100 m where inspection points, inspection chambers or access chambers are used.

3.7.3 Points of access are required at:
a) Changes in direction of greater than 45°,
b) Changes in gradient of greater than 45°, and
c) Junctions of drains other than a drain, serving a single downpipe, that is less than 2.0 m long.

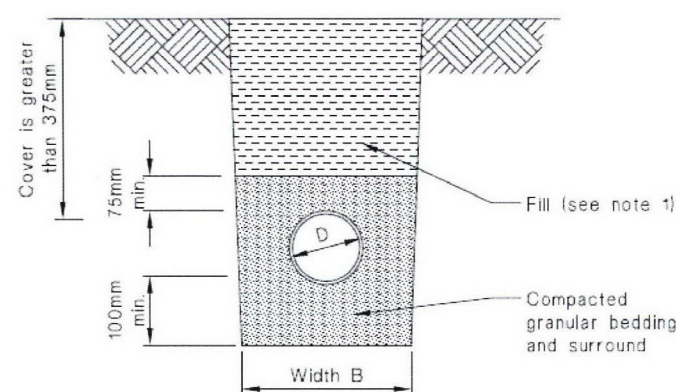
3.7.4 Inspection chambers or access chambers (see Figures 11 and 12) shall be provided where changes in both gradient and direction occur and where either is greater than 22.5°.

3.7.5 Where the depth to the invert of the drain exceeds 1.0 m, an inspection chamber is not acceptable and an access chamber shall be used.

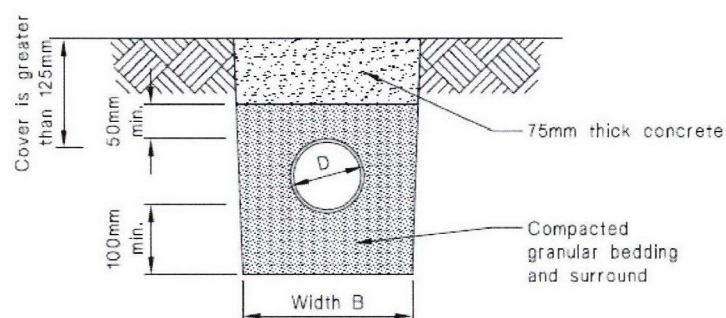
Figure 13: Bedding and Backfilling
Paragraphs 3.9.2, 3.9.4 and 3.9.5



(a) Cover greater than 500 mm
Bedding type 'B' of NZS 4452



(b) Cover greater than 375 mm
Bedding type 'D' of NZS 4452



(c) Cover greater than 125 mm

NOTE:

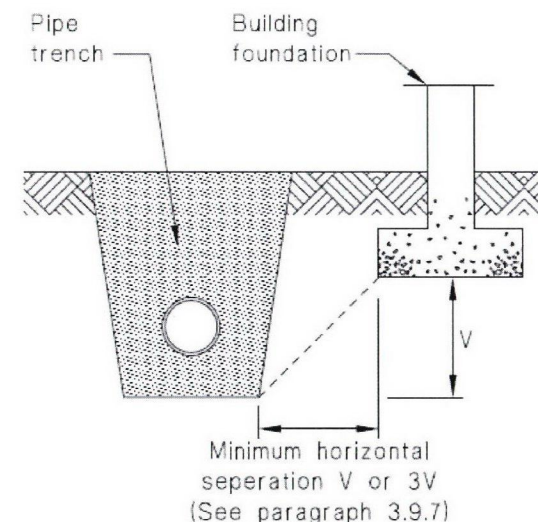
1. Fill shall be:
 - Ordinary fill where drains are located below gardens and open country.
 - Compacted selected fill where the drains are located below residential driveways and similar areas subjected to light traffic.

Proximity of trench to building:

3.9.7 Proximity of trench to building

For light timber frame and concrete masonry buildings founded on good ground and 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 distance 'V' (see Figure 14) to the underside of any building foundation. Where the trench is to remain open for periods longer than 48 hours, the minimum horizontal separation shall increase to 3V in all ground except rock.

Figure 14: Relationship of Pipe Trench to Building Foundation
Paragraph 3.9.7



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NZBC: E1 Surface water:

3.9 Bedding and backfilling

3.9.1 General

NZBC B1 requires all drains be constructed to withstand the combination and 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 and backfilling

Figure 13 gives acceptable solutions for the bedding and 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 and 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 2.5 m.

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 150 mm thick concrete (17 MPa),
- b) Keyed into the sides and floor of the trench by 150 mm,
- c) Extended to 300 mm above the drain or to ground level where the drain cover is less than 300 mm, and
- d) Spaced at:
 - i) 7.5m centres for trench slopes between 1 in 8 and 1 in 5, or
 - ii) 5.0m centres for trench slopes greater than 1 in 5.

3.9.4 Trench width

The width B of the trench shall be no less than the pipe diameter D plus 200 mm.

Trench width at the top of the pipe shall be no more than 600 mm unless the pipe(s) in the trench are covered with concrete, as shown in Figure 13 (c).

3.9.5 Acceptable materials

Acceptable fill materials shown in Figure 13 are:

- a) Bedding material of clean granular noncohesive material with a maximum particle size of 20 mm, or
- b) Selected compacted fill of any fine-grained soil or granular material which is free from topsoil and rubbish and has a maximum particle size of 20 mm, or
- c) Ordinary fill which may comprise any fill or excavated material.

3.9.6 Placing and compacting

- a) Granular bedding and selected fill shall be placed in layers of no greater than 100 mm loose thickness and compacted.
- b) Up to 300 mm above the pipe, compaction shall be by tamping by hand using a rod with a pad foot (having an area of 75 ± 25 mm by 75 ± 25 mm) over the entire surface of each layer to produce a compact layer without obvious voids.
- c) More than 300 mm above the pipe, compaction shall 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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Address:
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Pisa Moorings
OS512
VH 175

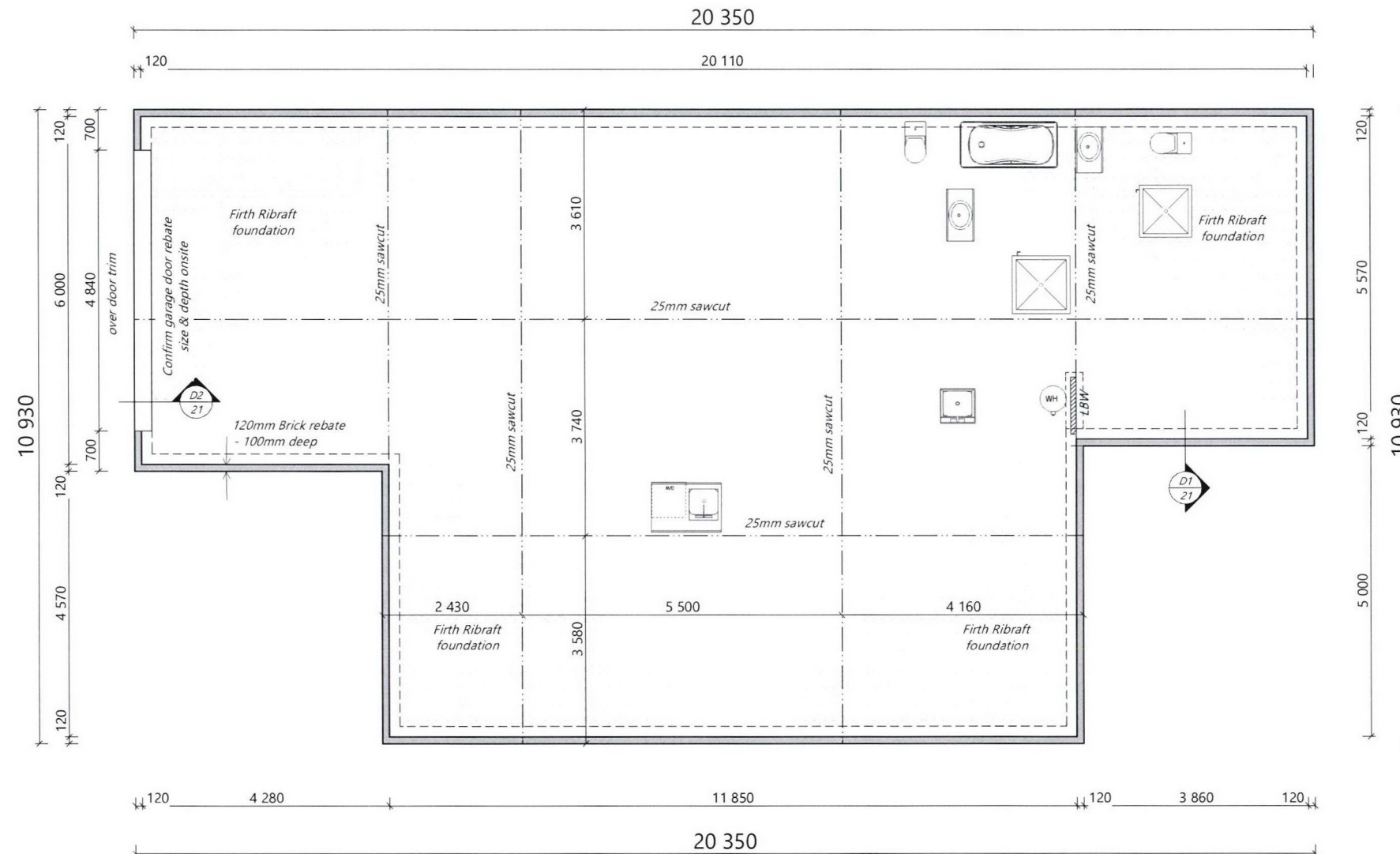
Bedding & Backfilling
Scale: N.T.S. Date: 4/07/2014 Sheet no: 4
Drawn: DG Check: N.Davis
Wind: V. High Earth: 2 Exposure: B Snow: NS-0.9kPa
Call 0800 A1homes 2 1 4 6 6 3
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**Always cross reference the foundation plan with the floor plan prior to setting out.
In the case of ANY discrepancies, call designer for clarification (07) 578 7345**

**Firth RibRaft Floor System laid in strict accordance with the latest FIRTH specification
Design not requiring specific engineering input for the Firth RibRaft Floor System.**

**Firth RibRaft Floor System: reinforced concrete waffle raft floor slab-on-ground.
85mm thick slab supported by grid of ribs, 100mm wide at 1200crs each way. Overall depth 305mm.
300mm wide Edge beams under load bearing walls**



Cautionary Notes:

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

The contractor shall accurately locate the position of all public drains on site prior to starting work. If any discrepancies are found in these drawings then the contractor must contact A1 Homes before proceeding with any further works.

Construction Notes:

Ensure granular hardfill is evenly compacted down in max. 150mm layers in accordance with NZS 3604:2011 to form a solid base with bearing capacity greater than 300kPa. Any areas of fill in excess of 600mm shall be certified by an engineer. Min. 5mm - 25mm max. sand blinding to cover hardfill to ensure the vapour barrier is protected from any granular protrusions. Conc. floor to comply with NZS.3109, surface tolerances, & NZS.3114, maximum deviations of 3mm

Shrinkage control joints

- 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 6m x 6m.

Steel reinforcing within concrete floors and 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 & bathrooms etc before foundation commences

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Foundation Plan		Scale: 1:100	Date: 4/07/2014	Sheet no: 5
Drawn: DG	Check: N.Davis	Call 0800 A1homes 2 1 4 6 6 3		
Wind: V. High	Earthq: 2	Exposure: B	Snow: N5-0.9kPa	www.A1homes.co.nz

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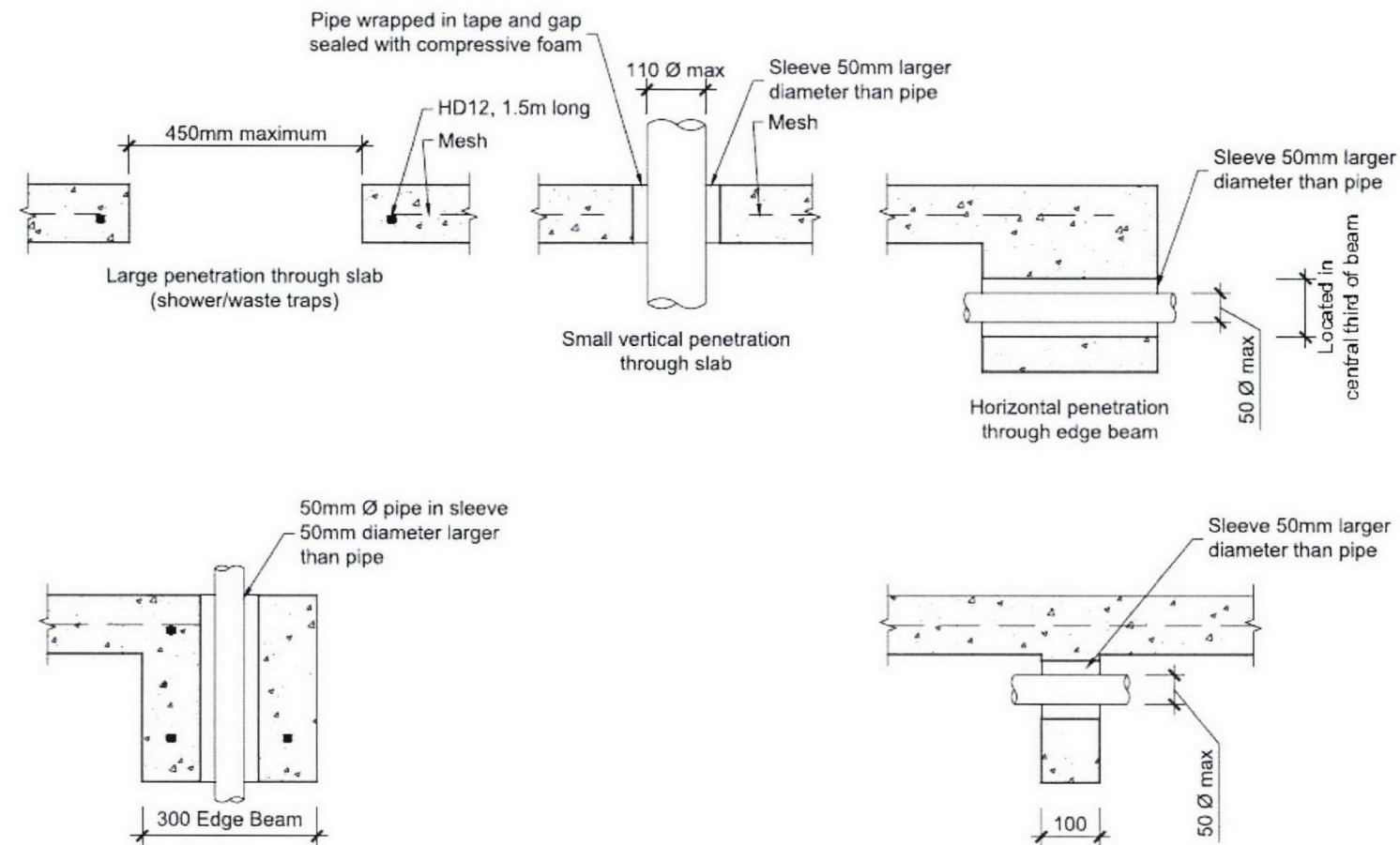


Figure 12 Example of detailing requirements for services

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Pipe Penetrations				VH 175
Drawn: DG	Check: N.Davis	Scale: N.T.S	Date: 4/07/2014	Sheet no: 6
Wind: V. High	Earthq: 2	Exposure: B	Snow: N5-0.9kPa	Rev: 6
<p>Call 0800 A1homes 214663 www.A1homes.co.nz</p> <p>DO NOT scale off drawings. Cross reference all drawings. Any discrepancies MUST be clarified with the designer immediately before commencing works or ordering. NO construction or site works are not to commence until Building Consent becomes unconditional. COPYRIGHT: Any and all drawings commissioned remain the property of A1 Homes Limited, including all copyright and similar rights subsisting in those drawings, and are solely for use as described on the drawings, and may not be used for any other purpose or reproduced in whole or in part without written permission obtained from A1 Homes Limited.</p>				

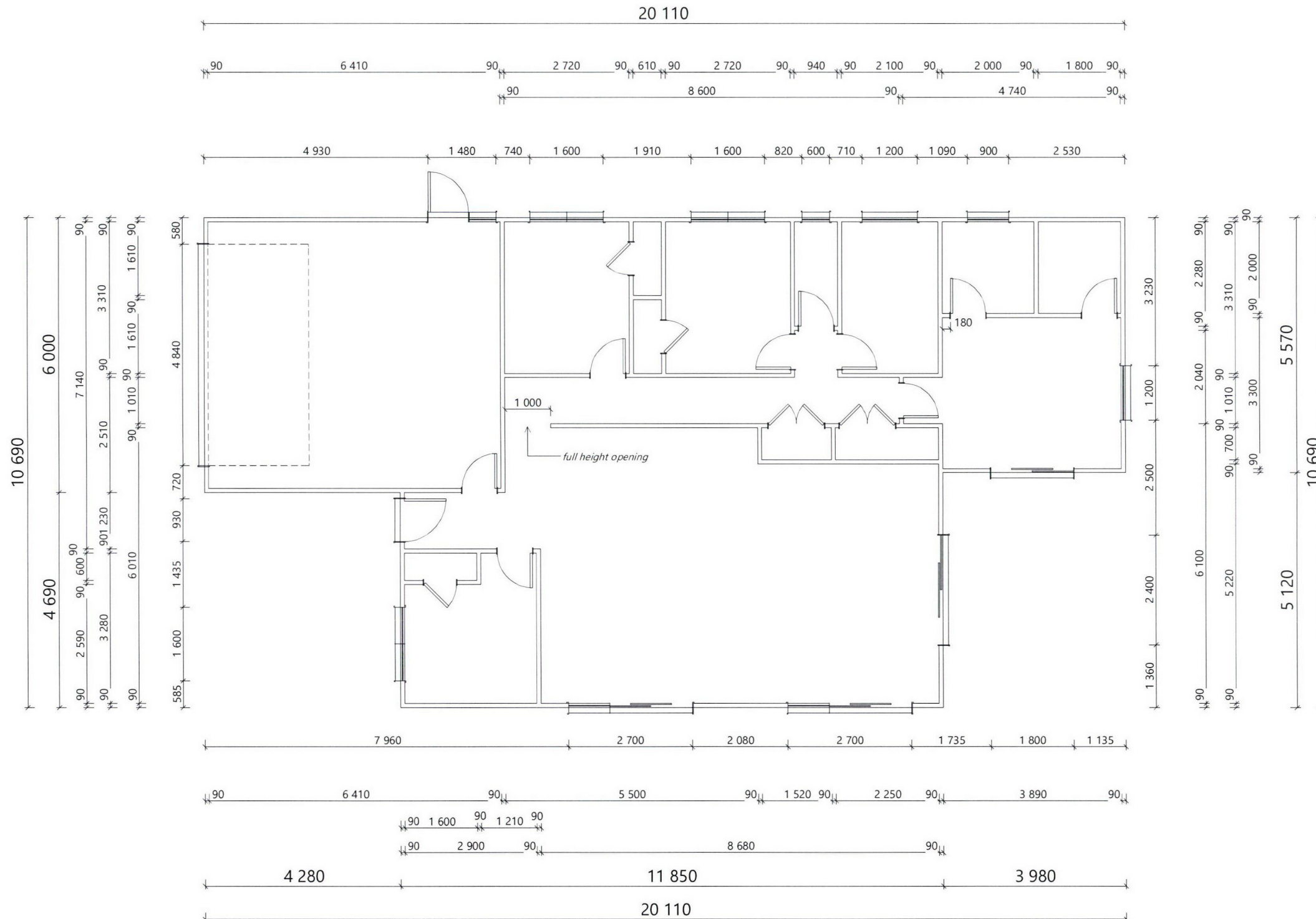
Always cross reference the foundation plan with the floor plan prior to setting out.
In the case of ANY discrepancies, call designer for clarification (07) 578 7345

Cautionary Notes:

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

Joinery sizes shown are box sizes & are preliminary only.
Site measure and confirm all joinery sizes, reporting to designer any changes, PRIOR to ordering joinery. No liability shall be held by designer for incorrect supply of joinery.

Refer to all written dimensions, DO NOT scale off drawings.



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Louis & Cheryl Beulink					
Address:					
25c Missy Crescent					
Pisa Moorings				VH 175	
Framing Plan		Scale: 1:100	Date: 4/07/2014	Sheet no: 7	
Drawn: DG	Check: N.Davis	Call 0800 A1homes 2 1 4 6 6 3			
Wind: V. High	Earthq: 2	Exposure: B	Snow: N5-0.9kPa	www.A1homes.co.nz	
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Separation between electric hob and the Gib lined wall:
Cut out for hob: min. 55mm from back of bench top.
Overhead clearances: not less than 650mm from hob surface to range hood
Side clearances: Where dimension to any vertical combustible surface is less than 150 mm, surface shall be protected to a min. height of 150 mm above hob for full dimension (width or depth) of cooking surface area.
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 laminate, and tiles are examples of suitable materials for these surfaces.
1.6 Wall linings
Wall linings adjacent to appliances and 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 examples of suitable materials for these surfaces.

Cautionary Notes:

Always cross reference the foundation plan with the framing plan prior to setting out

Joinery sizes shown are box sizes & are preliminary only.
Site measure and confirm all joinery sizes, reporting to designer any changes, PRIOR to ordering joinery. No liability shall be held by designer for incorrect supply of joinery.

Refer to all written dimensions, DO NOT scale off drawings.

Construction Notes:

Mains pressure 180L HWC with tempering valve & seismic restraint in accordance with NZBC: 2004 section G12.
The delivered hot water temperature at any sanitary fixture used for personal hygiene shall not exceed 55°C
Electric hobs with vented r/hood. Polybutylene water supply pipes. Hot water supply pipes shall be thermally insulated to comply with H1/AS1 5.0

Tapered edge joints in ceilings
To reduce the risk of cracks caused by substrate movement, back-blocking of tapered edge joints is required in the following situations.

- When timber battens have been used:
Any area containing 3 or more tapered joints
- When steel battens have been used:
Any area containing 6 or more tapered joints

Please confirm layout & fittings of kitchen & bathrooms etc before foundation commences

Log burner fireplace:

- installed to manufacturers specifications
- tiled hearth to extend 450mm from fire mouth
- hearth to comply with NZBC B1: Structure
- hearth owners care

NZS 4305:1996 3.2 Pipe-runs

The developed length of the pipe-run from the water heater to the kitchen sink outlet shall be minimized.

Where the pipe supplying the sink unit is composed of different diameters, the total volume of water in the pipe shall not exceed 2litres

Table 5 – Acceptable maximum pipe lengths

Nominal pipe size (mm)	10	15	20
Length (m)	25	12	7

Refer to G12 AS1 Table 4: Tempering Valve and Nominal Pipe Diameters for minimum acceptable pipe sizes

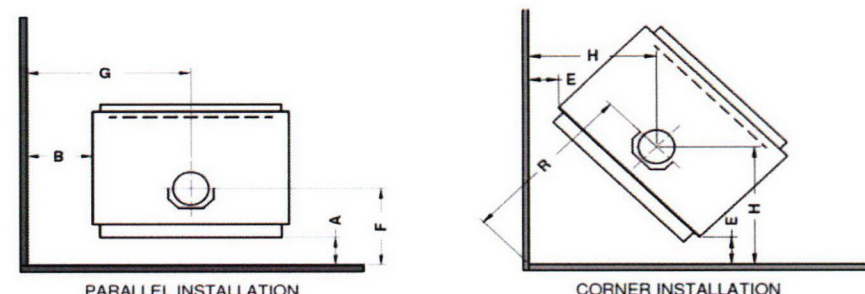
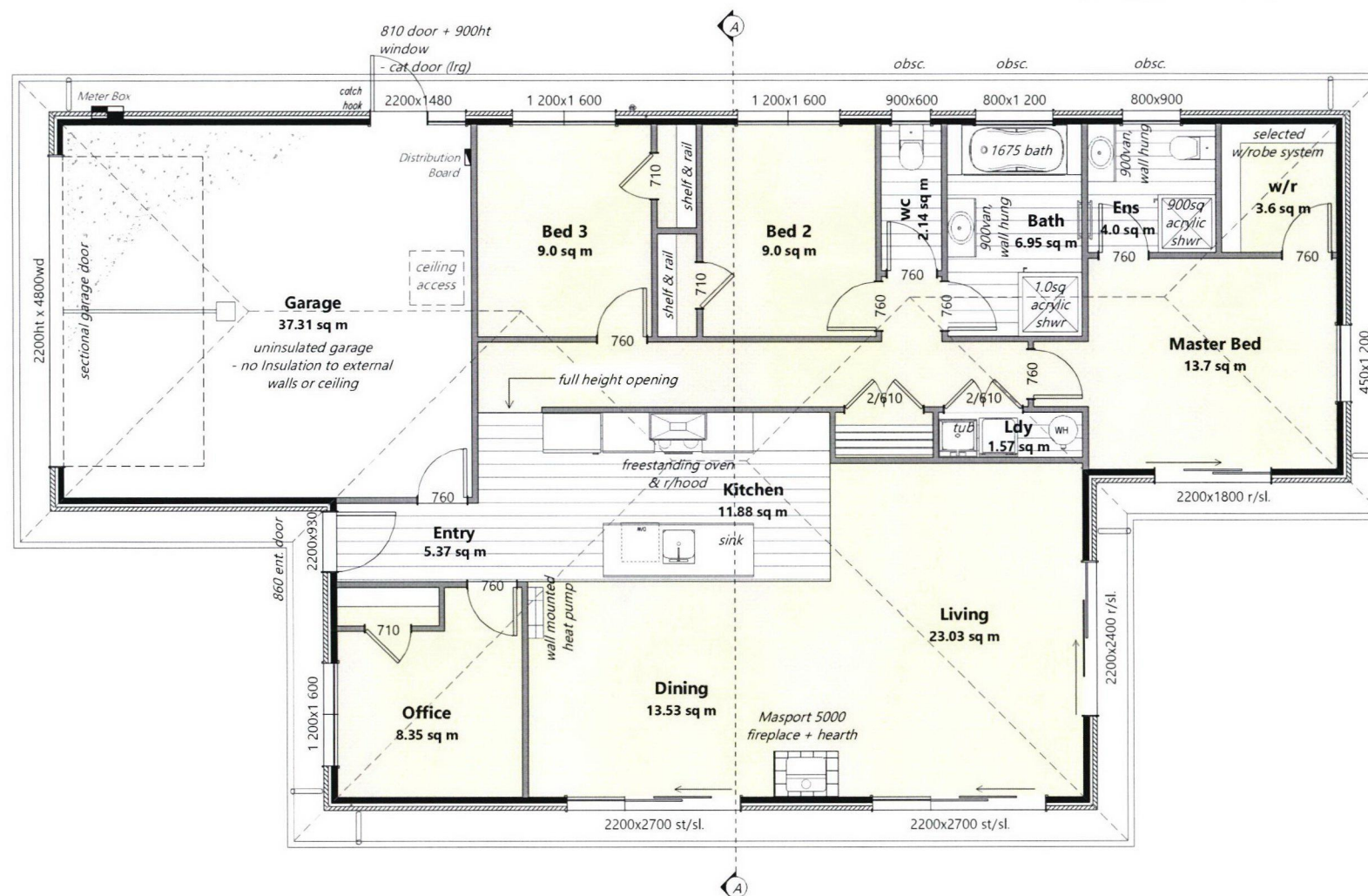
Floor Area:

= 174.5sqm o/frame
= 182.0sqm o/brick

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Floor Plan
Scale: 1:100 Date: 4/07/2014 Sheet no.: 8
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NEW ZEALAND

MINIMUM DISTANCES TO HEAT SENSITIVE WALLS (mm)

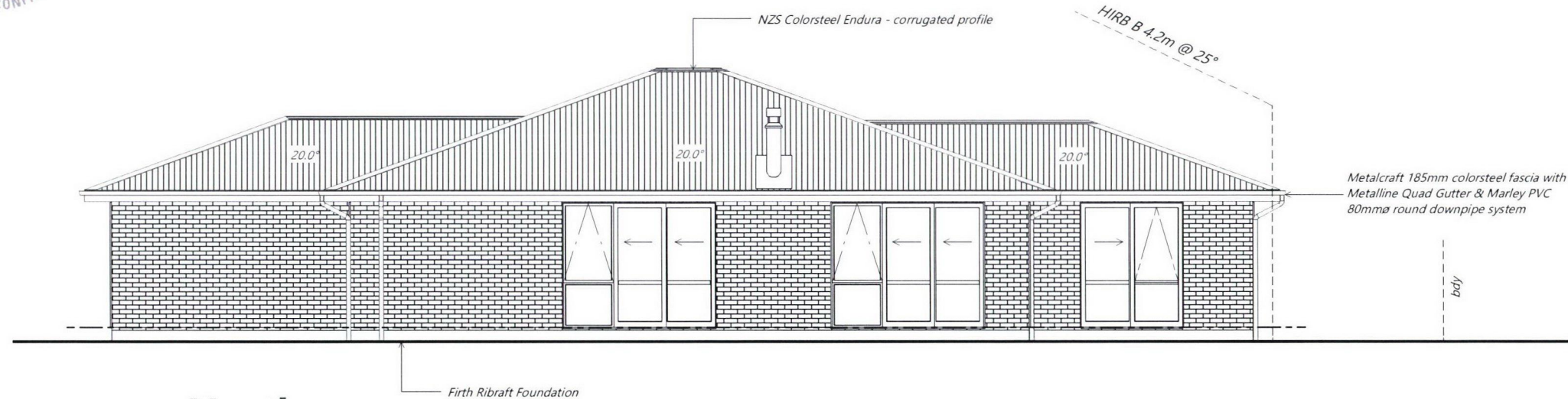
MODEL	FLUE SYSTEM & FLUE SHIELD	A	B	E	F	G	H	R\$
R5000L/R5000P (SW) (Dry/Wet/Fan/Rural)	MASPORT FLUE + MASPORT DOUBLE SKIN SHIELD + TOP FLUE DIVERTER PLATE	128	200	85	324	550	441	624

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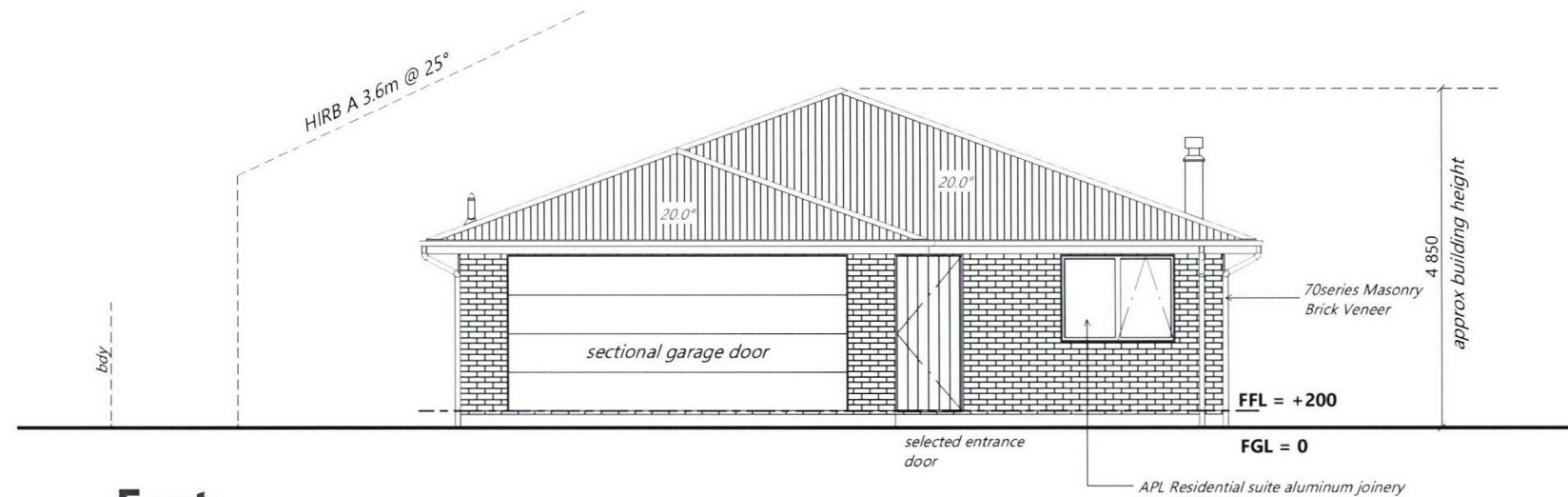
Signed: [Signature] Date: 5/8/14

Floor Finishes:

Carpet = 95.6m² Wet Area = 31.9m²
Master Bed
Bed 2
Bed 3
Office
Living
Dining
Hallways, cupd.s & wdrbs
Bathroom
Ensuite
wc
Kitchen
Entry
Ldy
Concrete = 37.3m²
Garage



North



East

Cautionary Notes:

BUILDING CONTRACTOR TO ASSESS SITE TO ENSURE DAYLIGHTING & 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 FOUNDATIONS.

Construction Notes:

Glazing in accordance with NZS 4223 & 2008 plus amendments
All glazing clear float except for obscure glass to bathrooms & wc
Double glazing to all window and door joinery excluding garage
sg = Safety glass

Aluminium joinery head heights to be 2.2m.
Refer to floor plan for door & window sizes. Joinery schedule & sizes to be confirmed by pre-cut manufacturer & joinery fabricator PRIOR to manufacture by way of communication via e-mail, phone or other.

Minimum slip resistance to steps and landings in accordance with NZBC D1/AS1 Access
Concrete or H5 timber step to all access points (owners care)
- min 150mm below FFL

HIRB = Height in Relation to Boundary

Safety restrictor stays:

Window restrictors are required to outward opening windows that may protrude into walk paths
- Refer to Site plan for 'walk paths'

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Building Envelope Risk Matrix

All Elevations		
Risk Factor	Risk Severity	Risk Score
Wind zone (per NZS 3604)	Very High risk	2
Number of storeys	Low risk	0
Roof/wall intersection design	Low risk	0
Eaves width	Medium risk	1
Envelope complexity	Low risk	0
Deck design	Low risk	0
Total Risk Score: 3		

Client Details :

Louis & Cheryl Beulink
Address:
25c Missy Crescent
Pisa Moorings

OS512

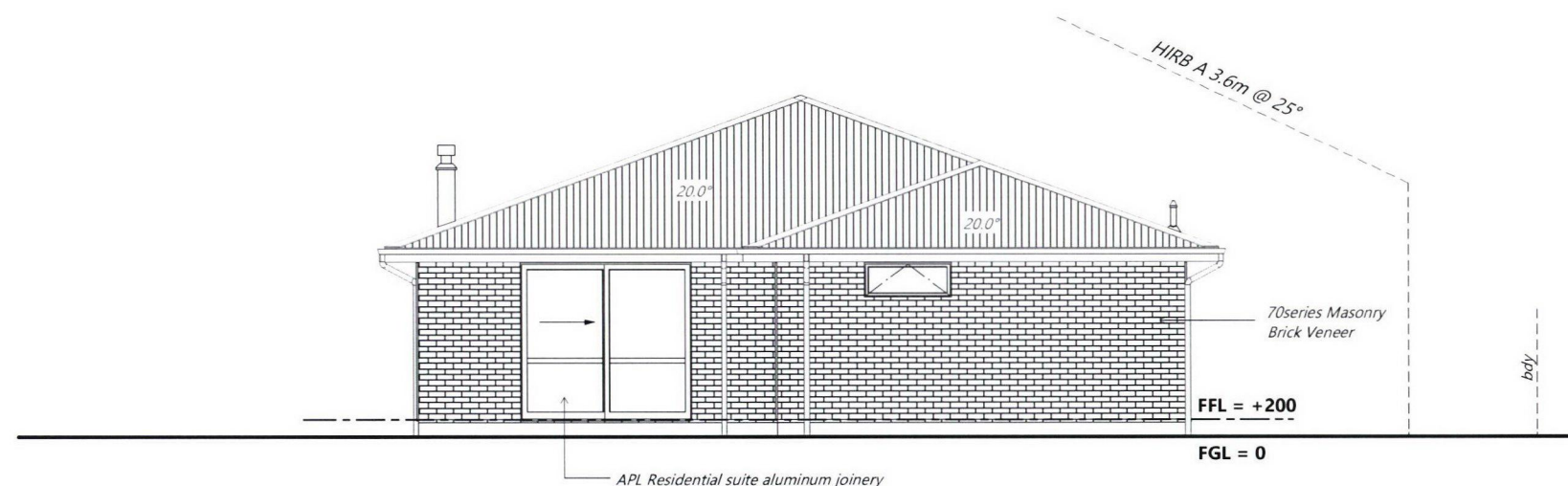
VH 175

Elevations		Scale:	Date: 4/07/2014	Sheet no :
Drawn: DG	Check: N.Davis	1:100	Rev:	9
Wind: V. High	Earthq: 2	Exposure: B	Snow: N5-0.9kPa	Call 0800 A1homes 2 1 4 6 6 3 www.A1homes.co.nz

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South



West

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Building Envelope Risk Matrix

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Eaves width	Medium risk	1
Envelope complexity	Low risk	0
Deck design	Low risk	0
Total Risk Score: 3		

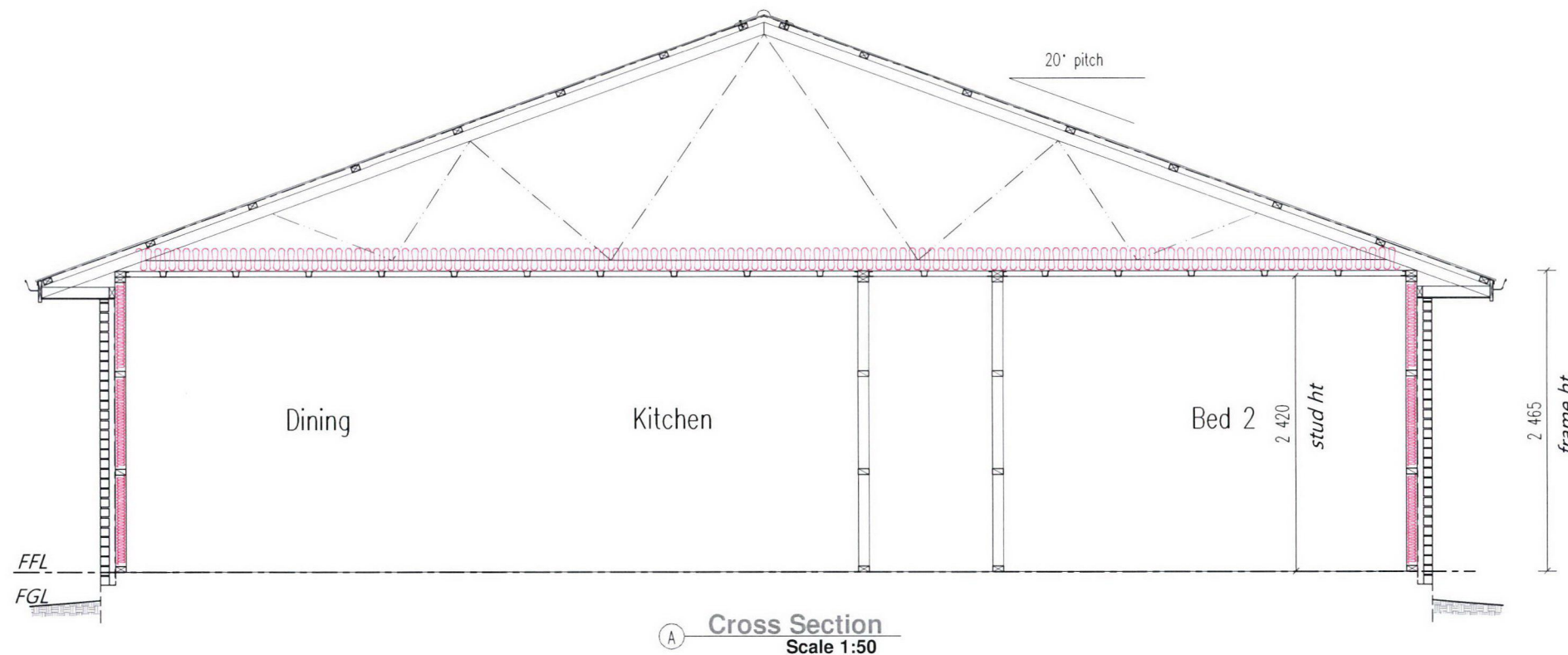
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VH 175

Elevations		Scale:	Date: 4/07/2014	Sheet no.:
1:100		Rev:		10
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Firth RibRaft Floor System laid in strict accordance with the latest FIRTH specification
Design not requiring specific engineering input for the Firth RibRaft Floor System.

Firth RibRaft Floor System: reinforced concrete waffle raft floor slab-on-ground.
85mm thick slab supported by grid of ribs, 100mm wide at 1200crs each way. Overall depth 305mm.
300mm wide Edge beams under load bearing walls

Foundations & Slabs

Firth RibRaft Floor System (Design not requiring specific engineering input for the Firth RibRaft Floor System): reinforced concrete waffle raft floor slab-on-ground.
85mm thick slab supported by grid of ribs, 100mm wide at 1200crs each way. Overall depth 305mm.
300mm wide Edge beams under load bearing walls
laid in strict accordance with the latest FIRTH specification

Min. 5mm - 25mm max. sand blinding to cover hardfill to ensure the vapour barrier is protected from any granular protrusions
Malthoid under all bottom plates, overlapping timber by min. 6mm.

External Walls (SG8)

90x45 H1.2 frame + 90x45 H1.2 top plate, studs @ 400crs max, nogs @ 800crs.

MARSHALL WATERPROOFING Tekton building wrap to all exterior frames, including gable ends.

Standard 10mm gib linings throughout, except wet areas. Fixed to comply with the latest Winstones Gib Manual - level 4 paint finish

Bottom plate fixing:
Concrete - Refer to Ramset table

External Cladding

selected 70 series masonry brick veneer in strict accordance with manufacturers specifications & NZBC:E2/AS1 External Moisture.
Weep holes @ max 800crs to top and base course of bricks and as required @ joinery. Ensure weep holes are free of excess mortar.
E2: 9.2.8 Control joints
9.2.8.1 Clay bricks
Control joints in clay brick masonry veneer are not required, unless specified by the brick manufacturer.

External Joinery

Aluminium joinery installed to comply with NZBC: E2/AS1.
Pre-primed jambs, 20mm grooved liners.
Approved window sealing tape to all openings.
Flashing tape over flashing fixings. Do not fix cladding through flashings.
Glazing to comply with NZS:4223. & 2008 amendments.

Internal Walls (SG8)

90x45 H1.2 frame + 90x45 top plate, studs @ 600crs max, nogs @ 800crs.
Standard 10mm gib linings throughout, except wet areas. Fixed to comply with the latest Winstones Gib Manual.
Bottom Plate Fixing: Ramset HD875 drive pin + washer (or equivalent) @ 600crs

Wet Areas

Floor finish: BATHROOM, ENSUITE, WC, LAUNDRY, KITCHEN, ENTRY
Non-slip vinyl lining over sealed floor. Minimum slip resistance co-efficient for level surface between 0.25 - 0.50 acceptable in accordance with NZBC: D1/AS1 Access.
Option 1 - Cove vinyl up wall 100mm, fix skirting or vinyl smooth edge to wall junction
Option 2 - Waterproof seal vinyl to edge of painted skirting, contractor to comply with NZBC: E3/AS1 Internal Moisture.

Wall & Ceiling finish: BATHROOM, ENSUITE
GIB Aqualine: 10mm to walls and 13mm to ceilings 1/coat GIB Sealer with 2/ coats semi-gloss or gloss, acrylic enamel paint.

Ceilings

Rondo battens fixed to trusses as per manufacturers specifications @ 600crs. Ensure battens are straight prior to lining. 13mm Gib linings with 32mm x 6g GIB® Grabber™Screws @ 600crs. Glue daubs to be minimum of 200mm from centre screw. Do not screw where you glue. 32mm x 6g GIB® Grabber™ Screws @ 200crs around the perimeter. Gib stopping to level 4 paint finish.
1/850sq ceiling access to roof space.

Insulation

R3.6C pink Batts insulation to all ceilings, except garage. (R2.2 batts to house exterior wall perimeters)
R2.4W pink Batts insulation to all exterior wall cavities excluding garage, however including walls between house & garage. Friction fitted.

Roof (SG8)

Pre-fabricated GANGNAIL 20° pitch H1.2 trusses @ 900crs Thermakraft 215 self supporting underlay laid vertically with min 150mm lap.
70x45 H1.2 purlins, spanning 900mm.
Purlin spacings - End Span - 600mm, Intermediate Span - 900crs.
Fixing - Type T - 1/10g self-drilling screw, 80mm long purlin/truss connection (2.4KN fixing)

Colorsteel valley trays fixed to ex 25mm H3.2 valley boards (see detail)

Longrun colorsteel roofing as per elevations. Roofing fixed with compatible roofing nails or screws and sealing washers, by qualified persons with flashings as required to all junctions - flashings fixed with compatible roofing screws and sealing washers
Fixing pattern = C2 fixing pattern = Hit 1, miss 1, hit 1, miss 2
Note: every sheet of roof cladding to span at least 3 supports

8.4.8 Fixings: Corrugated
Fixings shall be as shown in Tables 11, 12, 14 and 15, and shall be a minimum 12-gauge screw, as shown in Figure 39, which complies with Class 4 of AS 3566: Part 2.

8.4.8.1 Fixing requirements

Fixings shall:
a) Be fixed through crests,
b) Penetrate purlins by a minimum of 40 mm for nail fixings and 30 mm for screw fixings,
c) Include sealing washers of:
i) neoprene (having a carbon black content of 15% or less by weight),
ii) profiled washer and EPDM washer where required to allow for expansion of the profiled metal roof cladding.

Soffit

4.5mm Hardiflex soffit lining fixed to 90x45 soffit bearers & 90x45 stringer at wall.
600 all round (refer roof plan), 25x19pp soffit mould.
Colorsteel Fascia & spouting with Marley Downpipe system.

Snow straps as required: Standard Metalcraft 30mm .55 guage colorsteel straps fixed to roof with Tex screws and riveted to the gutter, fixed @ 600 crs.

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Client Details : Louis & Cheryl Beulink Address: 25c Missy Crescent Pisa Moorings		OS512	
		VH 175	
Cross Section		Scale: 1:50	Date: 4/07/2014 Sheet no: 11
Drawn: DG	Check: N.Davis	Call 0800 A1homes 2 1 4 6 6 3 www.A1homes.co.nz	
Wind: V. High	Earthq: 2	Exposure: B	Snow: NS-0.9kPa
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Timber Moisture Content:

Table 4 – Allowable moisture content (%)⁽¹⁾ at time of installation or in the case of framing timber at time of enclosure

Use category level of finish	Air-conditioned or centrally heated buildings	Intermittently heated buildings ⁽²⁾	Unheated buildings
1 Timber to which linings are attached to achieve a "level of finish" 4 to 5	8 – 18	12 – 18	12 – 18
2 Enclosed framing (including roof trusses) to achieve a "level of finish" 0 to 3	12 – 18	12 – 24	12 – 24
3 Load-bearing lintels and beams	8 – 18	12 – 20	12 – 20
4 Weatherboards, exterior joinery and finishing timbers	14 – 18	14 – 18	14 – 18
5 Flooring exposed to ground atmosphere	10 – 14	12 – 16	14 – 18
6 Interior joinery and finish, furniture, corestock	8 – 12	10 – 14	12 – 16
7 Flooring not exposed to ground atmosphere	8 – 12	10 – 14	12 – 16

NOTE –

(1) Allowable ranges of moisture content are specified on the basis that 90 % of pieces shall be within the specified range, the remainder shall be within a further 2 % moisture content above or below. The moisture content of individual boards shall be normally distributed within the range allowed. In special circumstances, e.g. flooring exposed in rooms with large window area, the upper limits may be reduced.

(2) Buildings periodically heated by open fires, electric heaters, etc., such as most domestic buildings.

Acceptable Solution E2/AS1
10.0 Construction Moisture

10.1 Moisture in materials
Moisture contained in the building structure at completion of construction shall not be permitted to damage the building elements.
Construction moisture includes the moisture contained in:
a) Timber products as a result of a treatment or manufacturing process,
b) Green timber, and timber or other materials that have been exposed to the weather, and
c) Concrete, mortar or plaster that is not completely cured.

10.2 Maximum acceptable moisture contents
The maximum moisture contents shall be:
a) For timber framing at the time of installing interior linings, the maximum acceptable moisture content shall be the lesser of:
i) 20% for insulated buildings, 24% for non-insulated buildings, or
ii) as specified in NZS 3602,
b) For timber weatherboards and exterior joinery, 20% at the time of painting,
c) For reconstituted wood products, 18% at all times, and
d) For concrete floors, sufficiently dry to give a relative humidity reading of less than 75%
at the time of laying fixed floor coverings.

• Where nail popping, joint peaking and ridges formed by stud warping and twisting are undesirable on the finished surfaces within 12 months of installation of wall linings, kiln dried timber shall be used, or alternatively the timber framing shall be dried to less than 18 % moisture content before wall linings are installed.

• Where timber framing is installed green or kiln dried timber that is wetted and allowed to dry, those members which are likely to deflect under their own weight shall be propped until they dry below a moisture content of 20 %.

Microclimatic Considerations:

In addition to exposure zones, evidence of local environmental effects (microclimates), and those produced by the erection of a structure or installation of equipment, shall be considered.

Significant acceleration of the corrosion of structural fasteners and fixings beyond what could be expected from the geographical location can occur in the following circumstances:

(a) Industrial contamination & corrosion atmospheres;

(b) Contamination from agricultural chemicals or fertilisers; and

(c) Geothermal hot spots. Hot spots are defined as being within 50m of a bore, mud pool, steam vent, or other source.

Microclimatic conditions (a) to (c) require specific engineer design.

Exposure Notes:

Note: Exposure Zone B
(exposure environments as defined by NZS 3604 : fig 4.2 & table 4.1)

Fixings & Fastenings (excludes nails and screws):
Nail Plates - In 'closed' & 'roof space' environments = continuously coated galv. steel
Wire Dogs & Bolts - In 'closed' & 'roof space' environments = hot-dip galv. steel
All other structural fixings - In 'closed' environments = mild steel (uncoated, non-galvanized)

All other structural fixings (except fabricated brackets (1))
- In sheltered environments = hot-dip galv. steel
- In exposed environments = type 304 stainless steel

Nails & screws used for framing & cladding:
Non-structural cladding (15 year durability) = galv. steel
Framing in 'closed' areas including roof spaces = mild steel (3)
Framing in 'exposed or sheltered' areas = galv. steel (3)

*1. - "fabricated brackets" shall be made from 5mm (minimum thickness) mild steel and shall be hot-dip galv.

*3. - steel fixings and fastenings in contacts with timber treated with copper-based timber preservatives (H3.2 or higher) shall be minimum of type 304 stainless steel (exposed and Sheltered environments), and hot-dip galv. steel (all other locations)

Minimum concrete strength after 28 days shall be:
17.5 MPa

Fixing Materials: (as per Acceptable Solution E2/AS1) - for definitions refer to E2/AS1

Hidden/Exposed/Sheltered:

Aluminium, or Bronze, or type 304 stainless steel

Nails = galv. steel

Screws = galv. steel, Painted or unpainted to AS 3566: Part 2

* The use of stainless steel fixings is not recommended by steel manufacturers for use with coated steel in severe marine and industrial environments, as they are considered to cause deterioration

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Signed:  Date: 5/8/14

Client Details:
Louis & Cheryl Beulink

Address:
25c Missy Crescent
Pisa Moorings

OS512

VH 175

Plan Notes

Scale: N.T.S. Date: 4/07/2014 Sheet no: 12

Drawn: DG Check: N.Davis
Wind: V. High Earthq: 2 Exposure: B Snow: N5-0.9kPa

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Table 11: Steel corrugate profiled roofing – 0.4 mm BMT and minimum profile height 16.5 mm
 Maximum spans and fixing patterns. Refer to Paragraph 8.4.6

Purlin spacings (metres)		Wind zones		Extra High
End span	Intermediate span	Low and Medium	High and Very High	
0.4	0.6	C2	C2	C2
0.6	0.9	C2	C2	C1
0.8	1.2	C2	C1	C1

NOTE: C1 fixing pattern is – Hit 1, miss 1...

C2 fixing pattern is – Hit 1, miss 1, hit 1, miss 2...

Purlin size	Max. span	Maximum spacing and fixing in the following wind zones									
		Low		Medium		High		Very high		Extra high	
		Spacing	Fixing	Spacing	Fixing	Spacing	Fixing	Spacing	Fixing	Spacing	Fixing
	(mm)	(mm)	(type)	(mm)	(type)	(mm)	(type)	(mm)	(type)	(mm)	(type)
70 x 45	900	900	S	900	T	900	T	900	T	900	U
70 x 45	900	1200	T	1200	T	1200	T	1050	U	900	U
70 x 45	900	1800	T	1800	U	1400	U	1050	U	900	U
70 x 45	1200	1200	T	1150	T	800	T	600	T	500	T
70 x 45	1200	1300	T	1150	T	800	T	600	T	500	T
90 x 45	1200	1700	T	1450	U	1000	U	750	U	650	U
Fixing type		Description						Alternative fixing capacity (kN)			
S		2 / 90 x 3.15 gun nails						0.8			
T		1 / 10g self-drilling screw, 80 mm long						2.4			
U		1 / 14g self-drilling type 17 screw, 100 mm long						5.5			

NOTE – All fixing types are determined as required for the higher uplift loads at the periphery of the roof (based on local pressure factors in AS/NZS 1170.2).

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Client Details :		OS512	
Louis & Cheryl Beulink			
Address:			
25c Missy Crescent			
Pisa Moorings		VH 175	
Roof & Purlin Fixings		Scale: N.T.S.	Date: 4/07/2014 Sheet no: 13
Drawn: DG	Check: N.Davis	Call 0800 A1homes 214663	
Wind: V. High	Earthq: 2	Exposure: B	Snow: NS-0.9kPa
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LUMBERLOK®

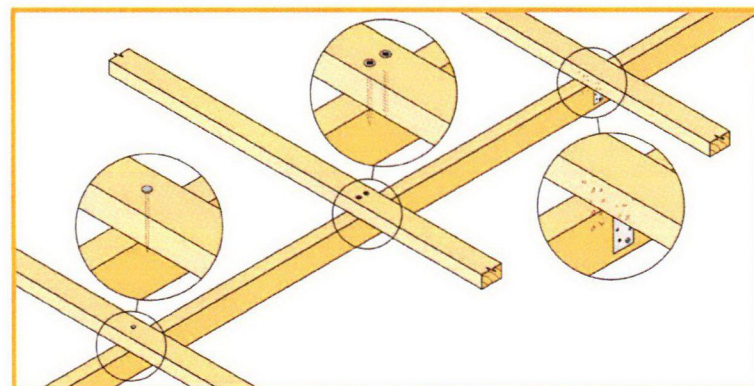
PURLIN & BATTEN FIXING CHART

ALTERNATIVE SOLUTION TO NZS 3604:2011 TABLES 10.10 & 10.12

07/2011

NOTE:

- ★ All purlin and batten sizes are as per NZS 3604:2011.
- ★ All fixings assume that the purlin and battens are installed on their flat over the top of the rafter or truss.
- ★ The minimum fixing requirements apply to all purlin locations within the roof area.
- ★ The LUMBERLOK BLUE SCREW where specified requires a minimum of 30mm penetration into rafter or truss i.e. it is suitable for rough sawn timber up to 50mm thick at 18% moisture content.



SELECTION CHART FIXING OPTIONS

(minimum fixing requirements)

ROOF WEIGHT	MAX. PURLIN SPAN (mm)	MAX. PURLIN CRS. (mm)	WIND ZONE				
			L	M	H	VH	EH
HEAVY ROOF Tile Battens	900	370	A	A	A	A	A
LIGHT ROOF Tile Battens	900	370	A	A	B	C	C
	1200	370	A	B	C	C	C
LIGHT ROOF Purlins	900	900	C	C	C	C	D
	1200	900	C	C	C	D	D
	1200	1200	C	C	D	E	E

Wind Zone:
As per NZS 3604:2011

L = Low Wind
M = Medium Wind
H = High Wind
VH = Very High Wind
EH = Extra High Wind

STANDARD FIXING OPTIONS

FIXING TYPE A
0.55kN

1 NAIL

Note: Two nails may be preferred to prevent batten rolling over with high roof pitches.

FIXING TYPE B
0.8kN

2 NAILS

FIXING TYPE C
2.4kN

1 BLUE SCREW

FIXING TYPE D
3.45kN

2 BLUE SCREWS
OR
2 SKEW NAILS plus 2 WIRE DOGS (for purlin on edge)

FIXING TYPE E
5.5kN

2 NAILS plus 1 CT200
OR
1 PAIR of CPC40

FIXING DEFINITIONS

NAIL = Either 90mm x 3.15 dia. power-driven nail or 100mm x 3.75 dia. hand-driven nail

BLUE SCREW = 80mm x 10 gauge LUMBERLOK BLUE SCREW

WIRE DOG = LUMBERLOK WIRE DOG either LH or RH

CT200 = LUMBERLOK Ceiling Tie CT200 bend over purlin, 4 x LUMBERLOK Product Nails 30mm x 3.15 dia. each end

CPC40 = LUMBERLOK CPC40 with 2 x Type 17-14g x 35mm Hex Head Screws per flange

FIXING TOLERANCES

LUMBERLOK BLUE SCREW

NOTE: Locate fixings within the shaded area. Care to be taken to avoid over tightening of screws.

PURLIN / BATTEN SPLICE FIXING OPTIONS

FIXING TYPE A & B OVER PURLIN SPLICE

NOTE: Skew nail when fixing to 35mm rafter or truss

1 nail in each

FIXING TYPE C, D or E OVER PURLIN SPLICE

90 x 35mm block fixed to chord or rafter with 4 x 75mm nails

- TYPE C
1 SCREW to each purlin
- TYPE D & E
1 NAIL plus 1 SCREW to each purlin

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Signed: *[Signature]* Date: 5/8/14



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Client Details :
Louis & Cheryl Beulink

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Pisa Moorings

OS512

VH 175

Purlin Fixings

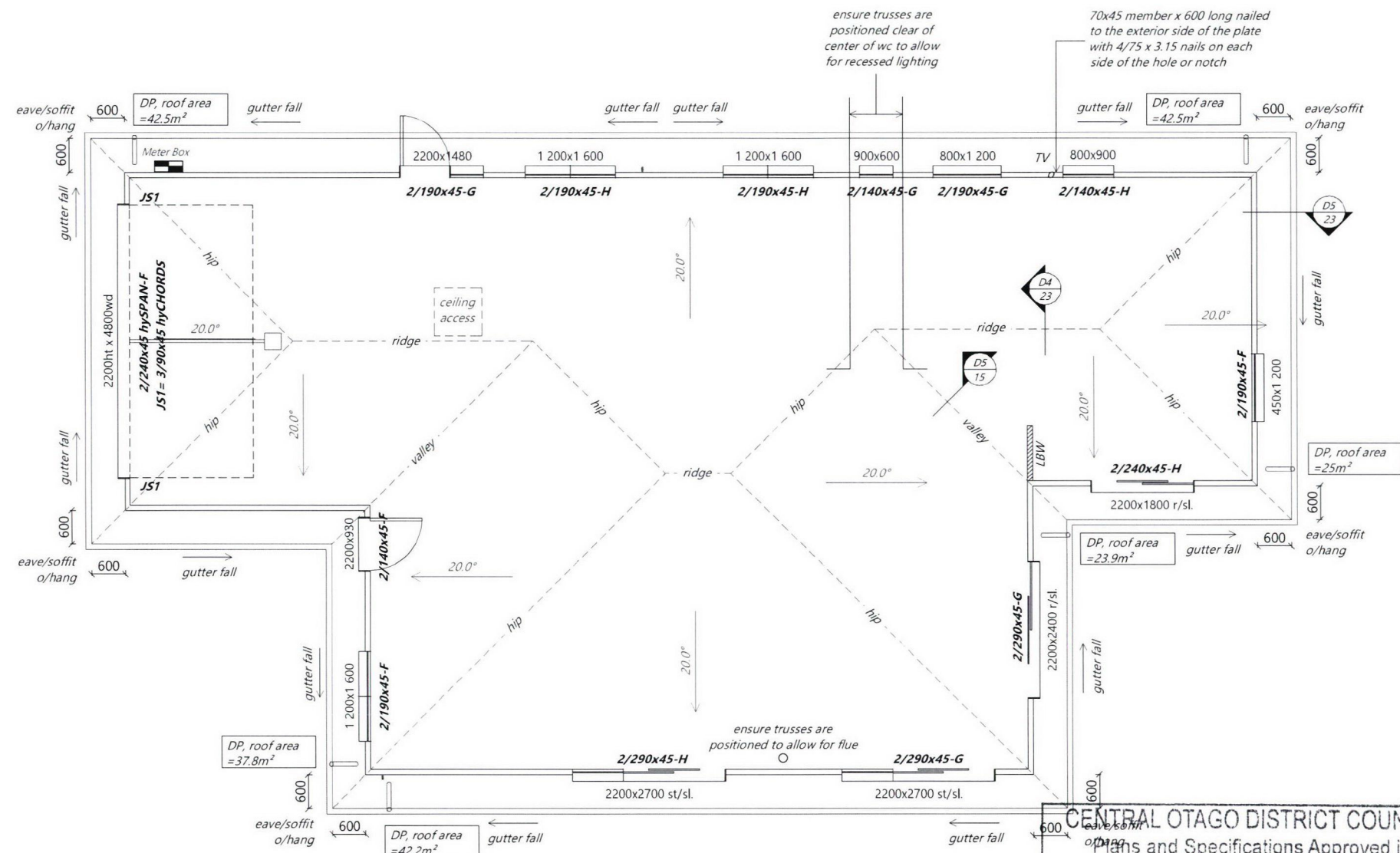
Scale: N.T.S. Date: 4/07/2014 Sheet no: 14

Drawn: DG Check: N.Davis
Wind: V. High Earthq: 2 Exposure: B Snow: N5-0.9kPa

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ALL Lintels and beams have been specified by prenaill, including girder loaded lintels - refer to truss design documents



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Table 5: Downpipe Sizes for Given Roof Pitch and Area
 Paragraph 4.2.1

Downpipe size (mm) (minimum internal sizes)	Roof pitch			
	0-25°	25-35°	35-45°	45-55°
Plan area of roof served by the downpipe (m²)				
63 mm diameter	60	50	40	35
74 mm diameter	85	70	60	50
100 mm diameter	155	130	110	90
150 mm diameter	350	290	250	200
65 x 50 rectangular	60	50	40	35
100 x 50 rectangular	100	80	70	60
75 x 75 rectangular	110	90	80	65
100 x 75 rectangular	150	120	105	90

Cautionary Notes:

This layout is preliminary. Read in conjunction with final PS1 & pre-cut design & documents. Truss manufacturer to inform designer of any further load bearing footing / slab thickenings (piles or bearer lines) that are required to support roof loads. If a discrepancy occurs contact I Design Architecture immediately on 07 543 3586

Construction Notes:

Ensure that all downpipes are positioned clear of Joinery units

Fixings:

- refer to Lumberlok manual

Stud to top plate:

Use Mitek type B fixing

Lintel Key:

190x90 - G Fixing

Size

Trimming Studs:

JS1 = Jamb studs

- refer to CHH Design IT calcs and PS1

Refer to following page for trimming stud requirements

All Lintels GREATER than 1.8m span require an additional trimming stud

Rondo Clip System:

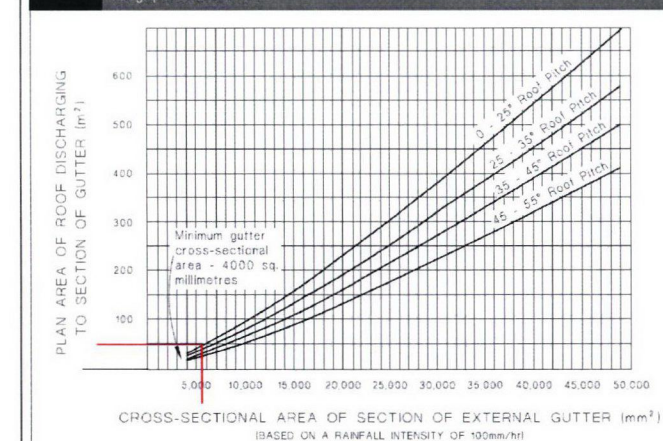
Bottom chord restraints required at 1.800crs

Gutter Calculation

Spouting: Matalcraft Metalline Quad Gutter
 Cross Sectional Area = 5550mm²

Catchment area of roof = 46m²

Figure 15: Cross-sectional Area of External Gutter
 Paragraphs 5.1.2 and 5.1.3



Client Details :
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 Pisa Moorings

OS512

VH 175

Roof Plan			Scale:	Date:	Sheet no :
Drawn:	DG	Check:	1:100	4/07/2014	15
Wind:	Earthq:	Exposure:	Rev:		
V. High	2	B			
Snow: N5-0.9kPa			Call 0800 A1homes 2 1 4 6 6 3		
			www.A1homes.co.nz		

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NZS 3604:2011 8.5.2 Trimming studs

A trimming stud shall be provided to each side of any opening as follows;

- must be the same width as the studs in the wall
- whether single or double, shall not contain holes, notches, checks, or cuts in the middle third of their length.
- Where a doubling stud which provides support for a lintel is shorter by 400 mm or more than the full stud height, its thickness shall not be included as contributing to the thickness of trimming studs from table 8.5

Table 8.5 – Trimming studs (see 8.5.2.1)

Maximum clear width of opening (span of lintel)	Stud thickness required for 600 mm spaced studs	Thickness of trimming studs*
(a) Single storey, top storey or non-loadbearing walls		
(m)	(mm)	(mm)
1.8	35	45
	45	45
	70	90
	90	115
3.0	35	45
	45	70
	70	90
	90	135
3.6	35	70
	45	90
	70	140
	90	180
4.2	35	105
	45	135
	70	210
	90	270
(b) Any other location		
0.9	35	45
	45	70
	70	90
	90	135
1.8	35	70
	45	70
	70	115
	90	135
3.0	35	70
	45	90
	70	140
	90	180

* For brick veneer openings add extra stud for fixing veneer ties.

NOTE – To use this table:

- (1) Enter the row corresponding to the lintel span being considered.
- (2) From the second column, select the thickness of the studs required for the body of the wall, assuming that they are spaced at 600 mm.
- (3) Read the trimming stud thickness from the right side column.

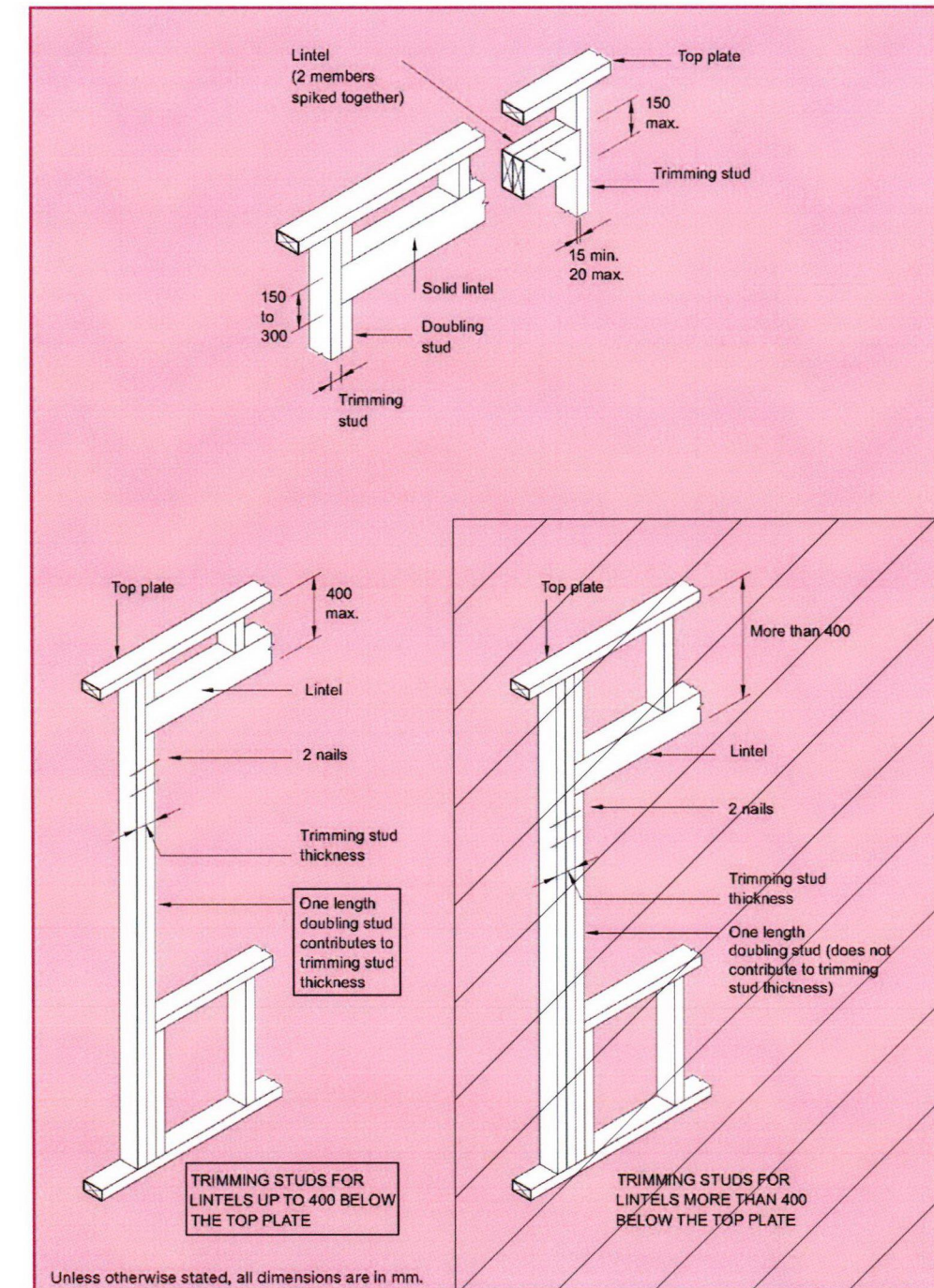
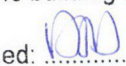


Figure 8.5 – Trimming studs and lintels (see 8.5.2.1)

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Pisa Moorings		VH 175	
Trimming Studs		Scale: N.T.S	Date: 4/07/2014 Sheet no: 16
Drawn: DG	Check: N.Davis	Call 0800 A1homes 2 1 4 6 6 3	
Wind: V. High	Earthq: 2	Exposure: B	Snow: N5-0.9kPa
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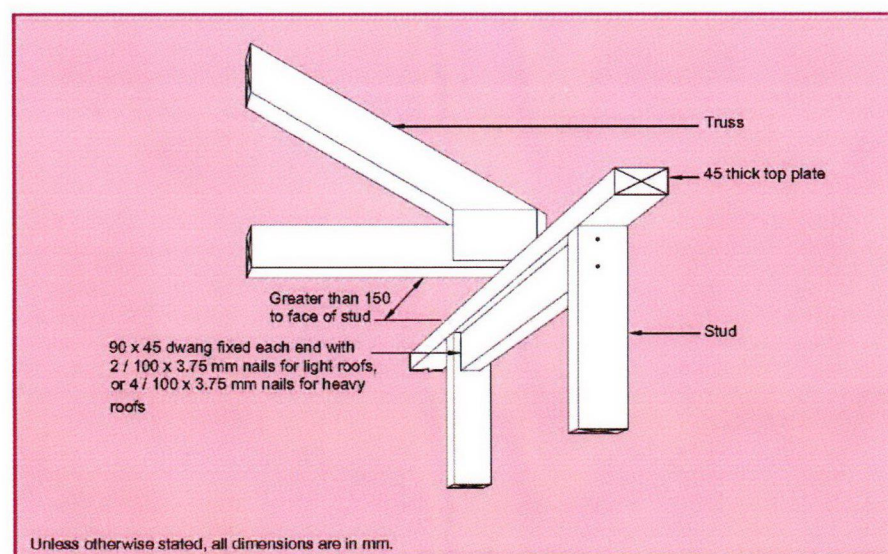


Figure 8.13 – Strengthening top plate (see 8.7.1.1 and table 8.16)

Joints in plates:

Joints in top plates shall be made only over supports being either a stud or blocking.

Joints in the top plate of a wall that does not contain any wall bracing elements (either in line or at wall intersections), shall be halved and nailed at the joints, see figure 8.14 (A), or be butted over blocking and nailed, see figure 8.14 (B), or be provided with an alternative fixing, having a capacity in tension or compression of 3 kN.

For single-storey buildings the connection in line of the top plate of a wall that contains one or more wall bracing elements shall be jointed according to the bracing capacity of the highest-rated individual wall bracing elements as follows:
(a) Bracing capacity not exceeding 100 bracing units: A 3 kN connection as shown in figure 8.15 or by an alternative fixing of 3 kN capacity tension and compression along the plate;
(b) Bracing capacity exceeding 100 bracing units: A 6 kN connection as shown in figure 8.15 or by an alternative fixing of 6 kN capacity tension and compression along the plate.
(c) Wall top plates to which ceiling diaphragms are attached: A 6 kN connection as shown in figure 8.15 or by an alternative fixing of 6 kN capacity in tension and compression along the plate.

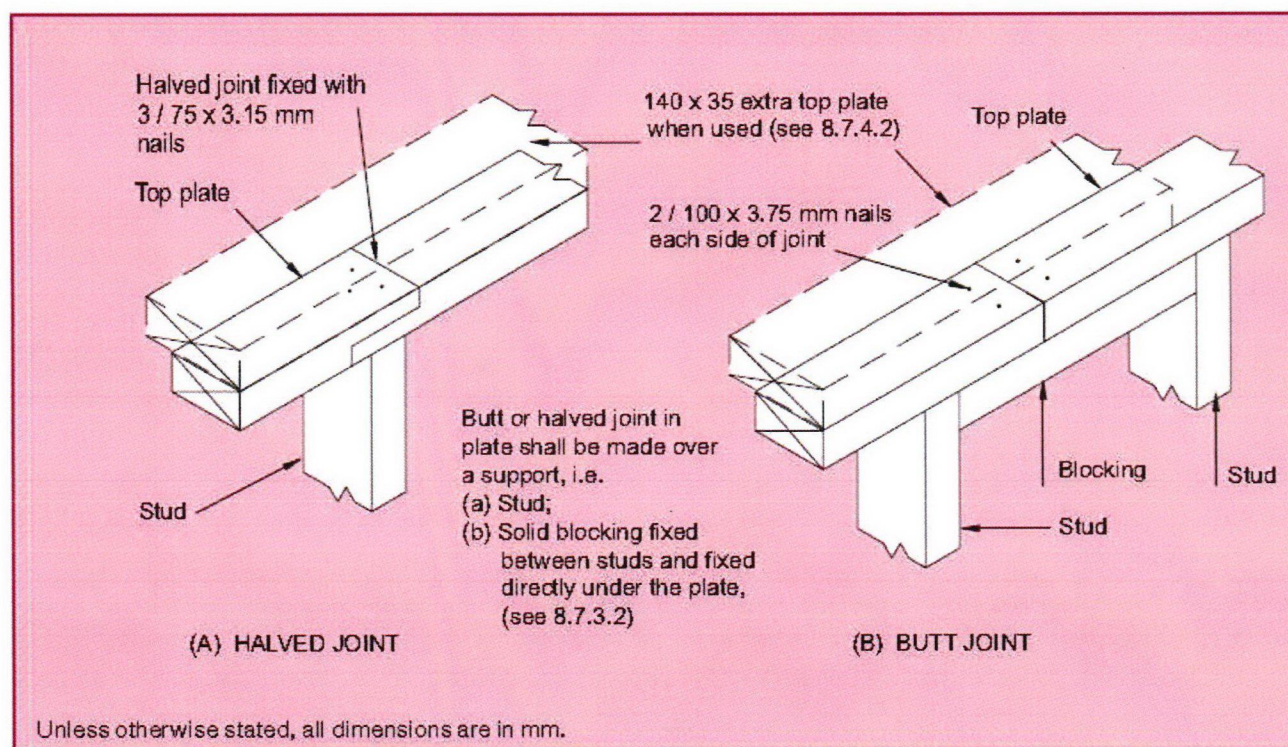


Figure 8.14 – Connecting top plates – Walls not containing bracing (see 8.7.3.2)

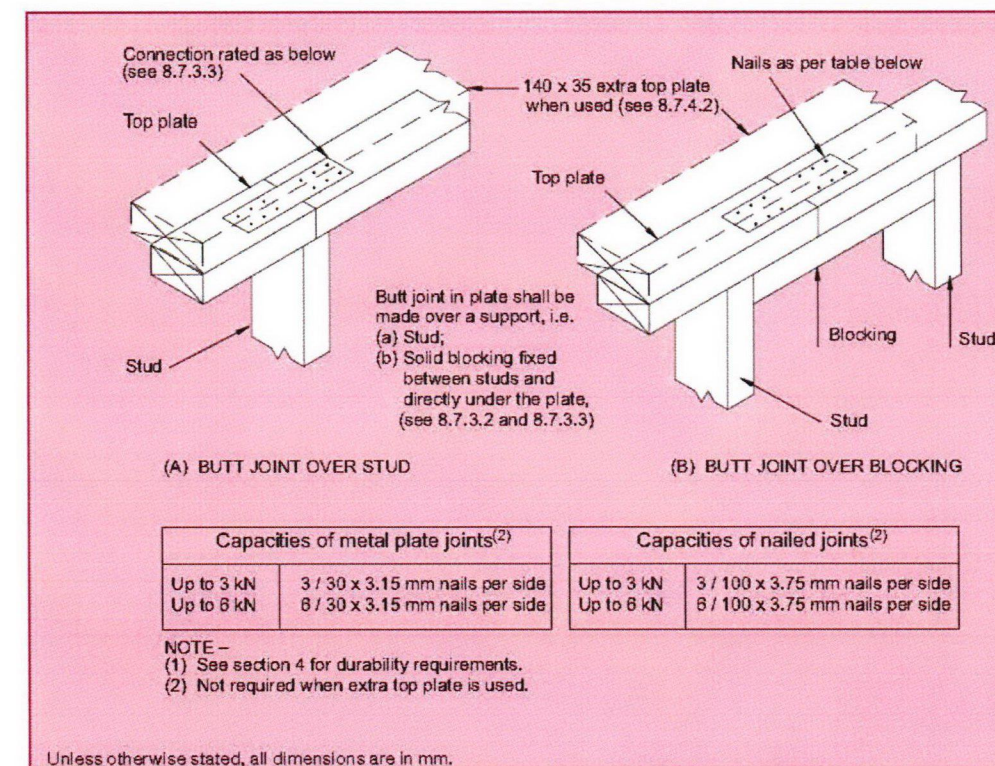


Figure 8.15 – Connecting top plates in line – Walls containing bracing (see 8.7.3.3)

Capacities of metal plate joints ⁽²⁾		Capacities of nailed joints ⁽²⁾	
Up to 3 kN	3 / 30 x 3.15 mm nails per side	Up to 3 kN	3 / 100 x 3.75 mm nails per side
Up to 6 kN	8 / 30 x 3.15 mm nails per side	Up to 6 kN	8 / 100 x 3.75 mm nails per side

NOTE –
(1) See section 4 for durability requirements.
(2) Not required when extra top plate is used.

Unless otherwise stated, all dimensions are in mm.

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Top Plate Jointing		Scale: N.T.S.	Date: 4/07/2014 Sheet no: 17
Drawn: DG	Check: N.Davis	Call 0800 A1homes 2 1 4 6 6 3	
Wind: V. High	Earthq: 2	Exposure: B	Snow: N5-0.9kPa
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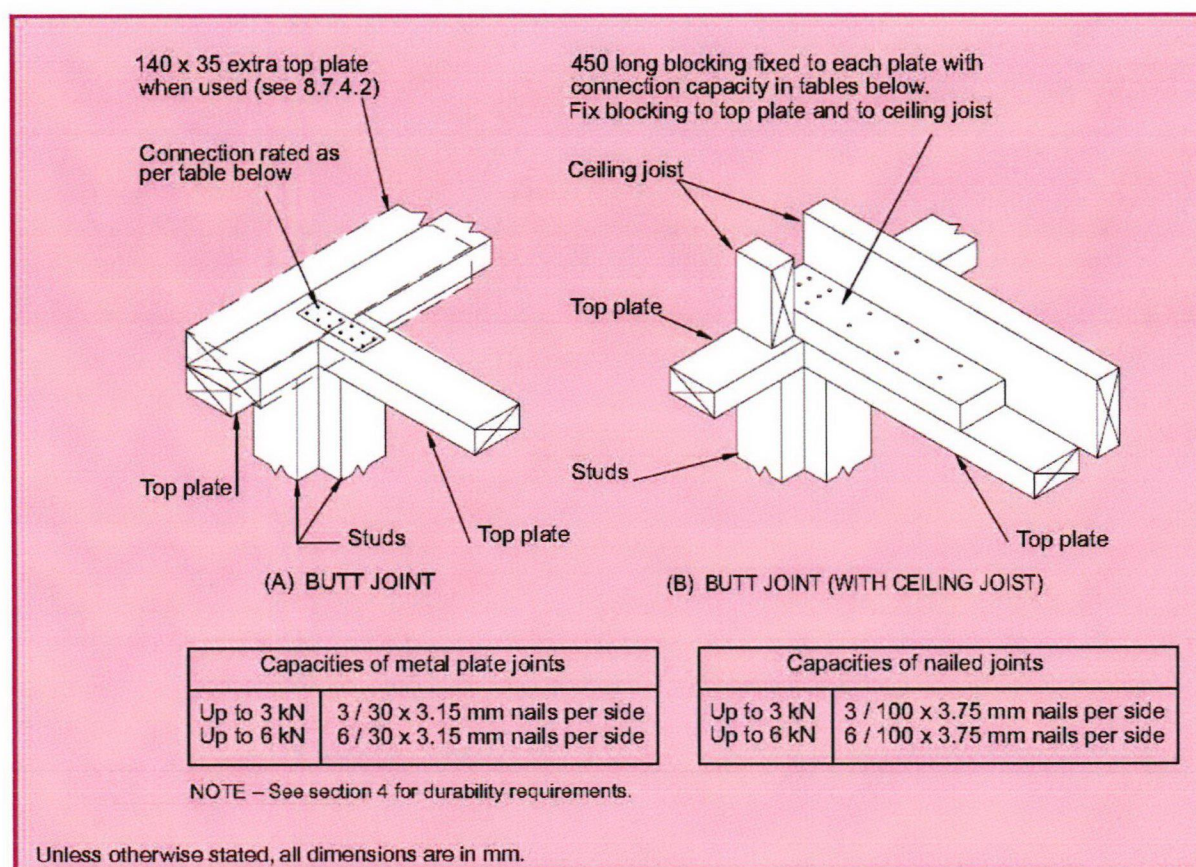


Figure 8.16 - Connecting top plates to external walls at right angles - Walls containing bracing (see 8.7.3.4)

Connecting top plates to external walls:

Each wall that contains one or more wall bracing elements shall be connected at the top plate level, either directly, or through a framing member in the line of the wall, to external walls at right angles to it. Top plate fixing(s) of the capacity in tension or compression along the line of the wall bracing element are given as follows:

(a) For each wall containing wall bracing elements with a total bracing capacity of not more than 125 bracing units: to at least one such external wall by a fixing as shown in figure 8.16 of 6 kN capacity;

(b) For each wall containing wall bracing elements with a total bracing capacity of not more than 250 bracing units: to at least 2 external walls by fixings as shown in figure 8.16 each of 6 kN capacity;

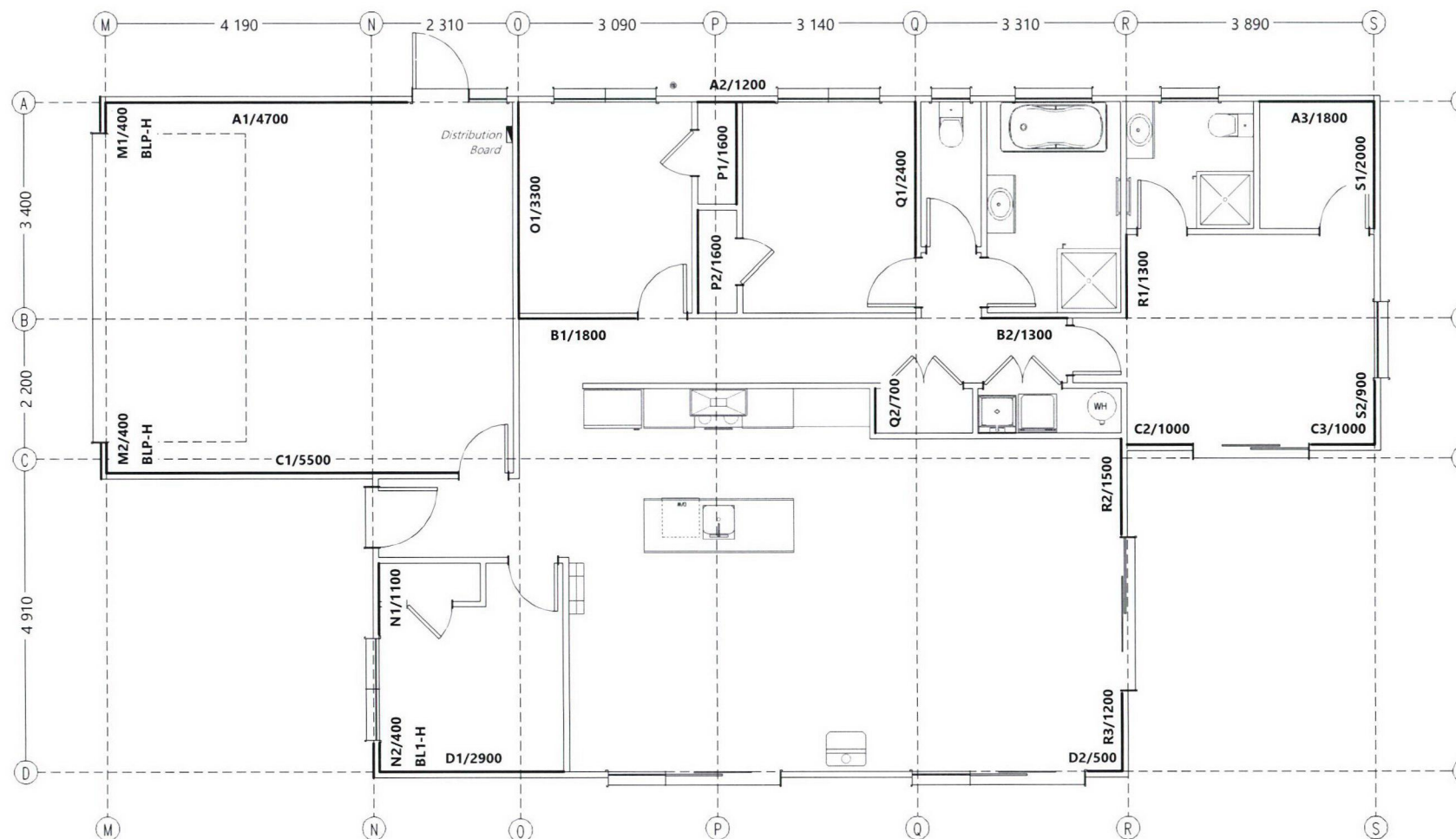
(c) For each wall containing wall bracing elements with a total bracing capacity of more than 250 bracing units: to at least 2 external walls by fixings as shown in figure 8.16 each having a rating of not less than 2.4 kN per 100 bracing units.

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		VH 175	
Top Plate Jointing		Scale: N.T.S	Date: 4/07/2014 Sheet no: 18
Drawn: DG	Check: N.Davis	Call 0800 A1homes 214663 www.A1homes.co.nz	
Wind: V. High	Earthq: 2	Exposure: B	Snow: N5-0.9kPa
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All braces are GS1-N, unless otherwise stated



Cautionary Notes:

ALL GIB® BRACES FIXED IN ACCORDANCE WITH THE LATEST WINSTONES GIB BRACING MANUAL & GIB SITE GUIDE

Bracing Element Table

Brace Type	
GS1-N	10mm GIB std plasterboard on one side, min. length 0.4m
BL1-H	10mm GIB BRACELINE on one side, min. length 0.4m + GIB Handibrac hold down ea. end
BLP -H	GIB BRACELINE on one side, 7mm D-D construction PLY on other, min. length 0.4m + GIB Handibrac hold down ea. end

All braces are GS1-N, unless otherwise stated

Label No.

A1 / 1800

Brace Length

Openings in Bracing Elements

(as per GIB Ezybrace System)

Openings are allowed within the middle third of a wall bracing element's length and height. Neither opening dimension shall be more than one third of the element height. Wall linings are fixed to opening trimmers at 150mm centres. Small openings (e.g., power outlets) of 90 x 90mm or less may be placed no closer than 90mm to the edge of the braced element.

Note to Prenal:

Ply braces are not to be checked into wall frames unless confirmed by prenal as an acceptable solution.

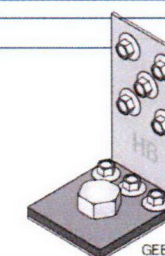


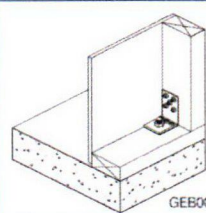
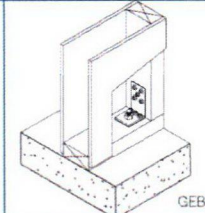
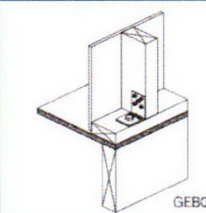
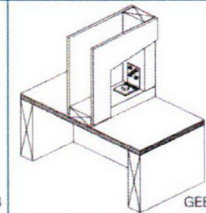
Panel Hold-down Details

GIB HandiBrac® - RECOMMENDED METHOD

Developed in conjunction with Mitek™ NZ, the GIB HandiBrac® has been designed and tested for use as a hold-down in GIB® BL and GSP bracing elements.

- The GIB HandiBrac® registered design provides for quick and easy installation
- The GIB HandiBrac® provides a flush surface for the wall linings because it is fitted inside the framing. There is no need to check in the framing as recommended with conventional straps
- The GIB HandiBrac® is suitable for both new and retrofit construction
- The design also allows for installation and inspection at any stage prior to fitting internal linings



Concrete Floor		Timber Floor	
External walls	Internal walls	External walls	Internal walls
			
Position GIB HandiBrac® as close as practicable to the internal edge of the bottom plate	Position GIB HandiBrac® at the stud / plate junction	Position GIB HandiBrac® in the centre of the perimeter joist or bearer	Position GIB HandiBrac® in the centre of floor joist or full depth solid block

Hold-down fastener requirements

A mechanical fastening with a minimum characteristic uplift capacity of 15kN.	12x150mm galvanised coach screw
---	---------------------------------

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VH 175

Bracing Plan

Drawn: DG	Check: N.Davis	Scale: 1:100	Date: 4/07/2014	Sheet no: 19
Wind: V. High	Earthq: 2	Exposure: B	Snow: N5-0.9kPa	

Call 0800 A1homes
 2 1 4 6 6 3

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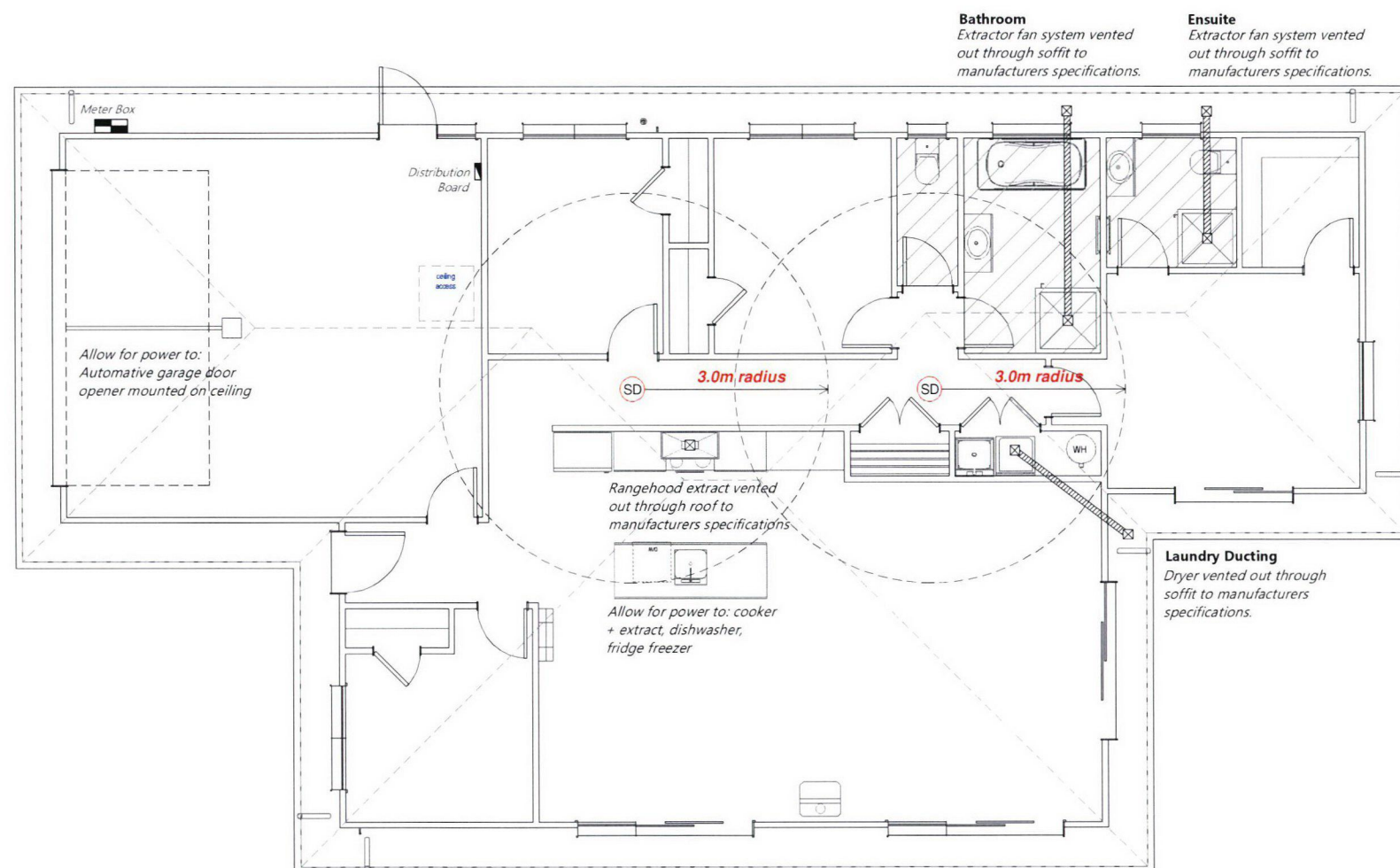
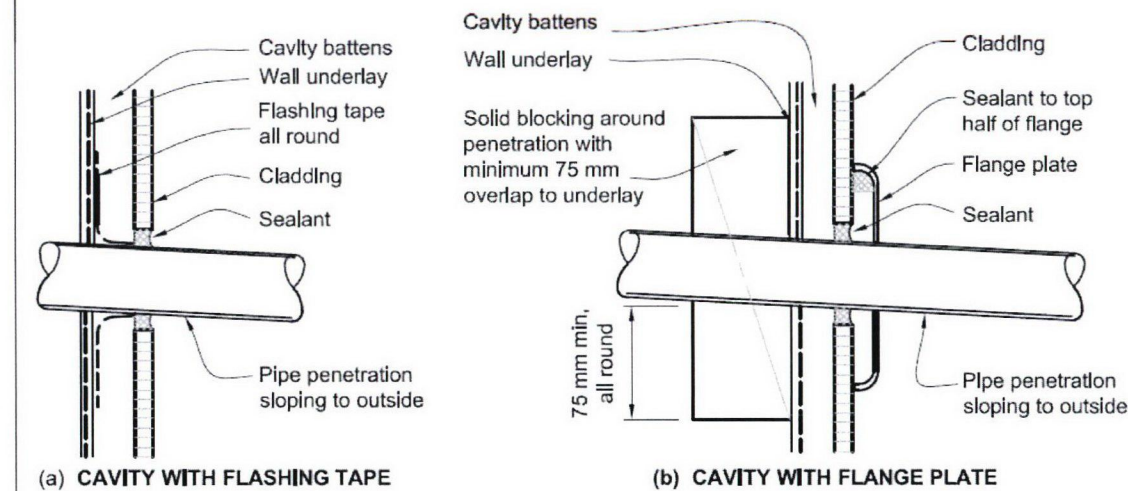


Figure 68: General pipe penetration
Paragraph 9.1.9.3, Figure 126



Notes:

All electrical work & items to comply with;
NZBC F7/AS1, AS/NZS 3000, AS/NZS 3008,
AS 3786, AS/NZS 5000.2: 2006

SD - Approved smoke detectors required within 3.0m of any sleeping space
- first alert or similar. smoke alarms to have both a test & hush button

Position of Smoke detectors:
- Not less than 200mm from a wall
- Ideally in the centre of ceiling where possible (hallways)

Down lights to be CA 80 or CA 135 Rated (max 1 per 5m²).

Ventilation system to vent ducts & r/hood to soffit outlet

Ventilation of Sanitary rooms

Percentage of ventilated opening to be minimum 5% of room floor area

Room	Floor area	Window opening	Percentage
Bath	6.95m ²	800x1200 = .96m ²	13.81%
wc	2.14m ²	900x600 = 0.54m ²	25.23%
Ens	4.0m ²	800x900 = 0.72m ²	18.00%

Mechanical Ventilation Calc:

Laundry: 2.1 x 0.7 x 2.42 = 3.56m³
Recommended air changes for a laundry: 10 - 30
30 x 3.56 = 106.7m³/hr
add 20% = 128 / 3.6 = 35.57 l/s

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VH 175

Electrical Plan

Drawn: DG Check: N.Davis
Wind: Earthq: Exposure: Snow:
V. High 2 B NS-0.9kPa

Scale: 1:100 Date: 4/07/2014 Sheet no: 20

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Brick Tie Type

Seismic Zone	Masonry Veneer	
	less than 180kg/m ²	180-200kg/m ²
1	EL	EM
2	EM	EM(2)
3	EH(2)	EH(2)

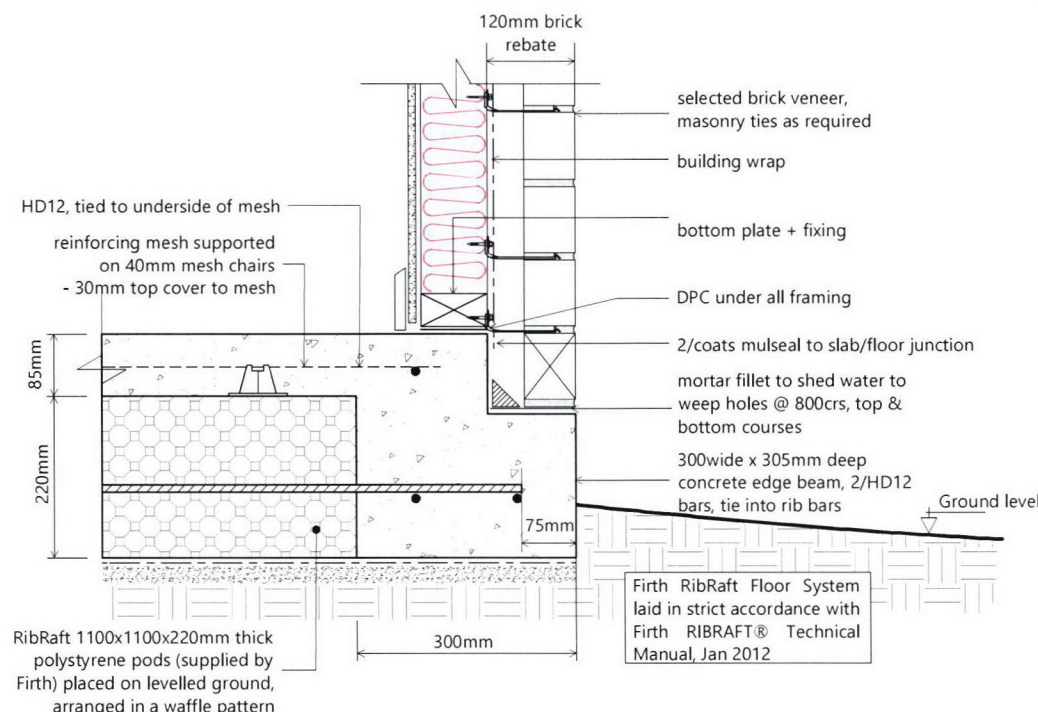
4 & Veneer over 220kg/m² - SED

Notes:

- Max. spacing, 600 horizontal & 400 vertical
- EM may be used if spacings do not exceed 400 horizontal & 300 vertical

Location Placement of Masonry Ties

Location	Placement of Masonry Ties
Unsupported panel sides & edges of openings	Within 300mm of panel side or edge
Top of veneer panels & top of panels under openings	Within 300mm or two courses (whichever is the smaller) of top of veneer
Bottom of veneer panel in masonry rebate sealed with liquid DPC	Within 300mm or two courses (whichever is the smaller) from bottom of veneer
Bottom of veneer panel supported on steel angel lintel	
Bottom of veneer panel in masonry rebate with DPM	In each of the first two courses



D1 Foundation

Figure 65: Levels and garage openings Paragraphs 9.1.3, 9.1.3.4, 9.2.5, Table 18

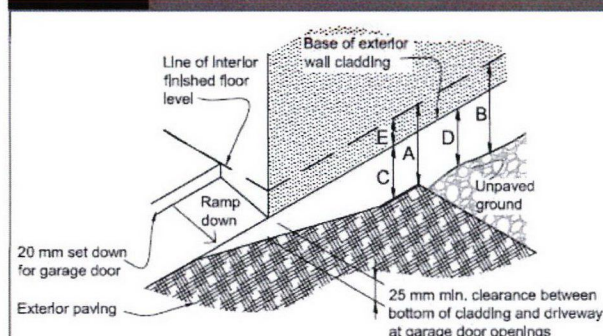
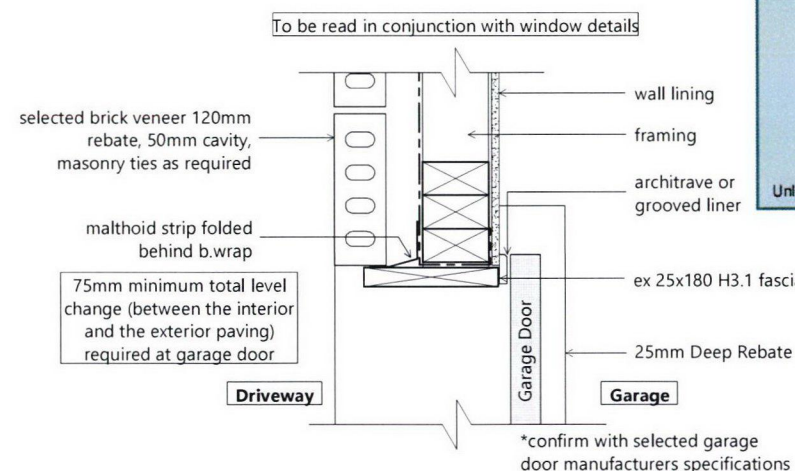


Table 18: Minimum clearances Paragraphs 9.1.3, 9.1.3.1, 9.1.3.2, 9.1.3.3, 9.1.3.4, 9.1.3.5 and 9.2.7

Minimum clearances (mm)	Masonry veneer		Other claddings				
	A	B	A	B	C	D	E
Concrete slab	100	150	150	225	100	175	50
Timber floor	Refer Note 1)		100	175	50	2	

NOTE: 1) Refer to NZS 3604 for requirements.

2) Cladding to extend minimum 50 mm below bearer or lowest part of timber floor framing.



D2 Garage Door Rebate

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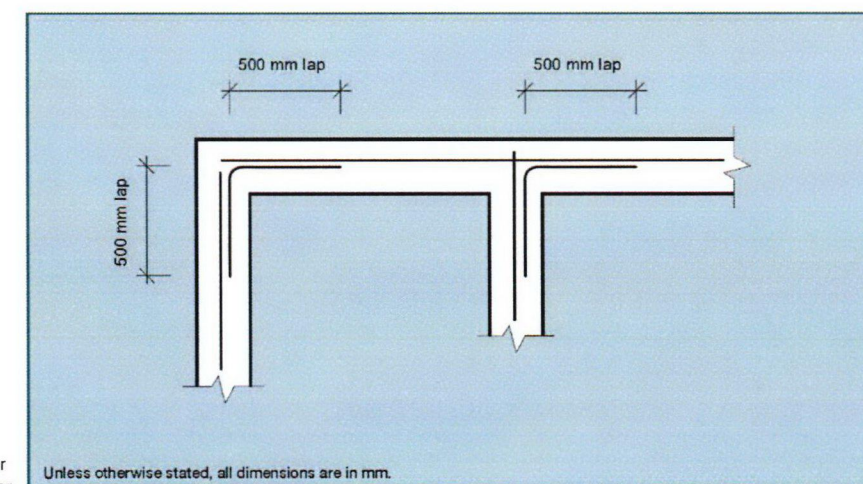
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Ramset™ BOTTOM PLATE FIXING SOLUTIONS 2013

| Meets NZS 3604:2011 Requirements | 90 x 45 Bottom Plate |

Bottom Plate Durability

Fixing Requirements				Installation		
Bottom Plate Location	Bottom Plate Fixing Requirement	Concrete Strength (min.)	Floor Edge Type	Max Spacing	Fastener	Min Edge Distance (FROM OUTERFACE)
External Wall	NZS3604:2011	17.5 MPa	Concrete	900 mm	12120BPAG ¹	55 mm
	Proprietary Bracing Systems (15 kN)	17.5 MPa	Masonry Block	600 mm	T12140GH ¹	
Internal Wall	NZS3604:2011	17.5 MPa	Concrete	900 mm	AS12150GH + RPBA	N/A
	Proprietary Bracing Systems (15 kN)	17.5 MPa	Masonry Block	600 mm	12120BPAG ¹ OR T12140GH ¹	
Internal Wall	NZS3604:2011	17.5 MPa	N/A	900 mm	8x75 Drive Pin & Washer	N/A
	Proprietary Bracing Systems (15 kN)	17.5 MPa	N/A	600 mm	12120BPAG ¹ + RPBA OR T12140GH ¹ + RPBA	



Client Details :
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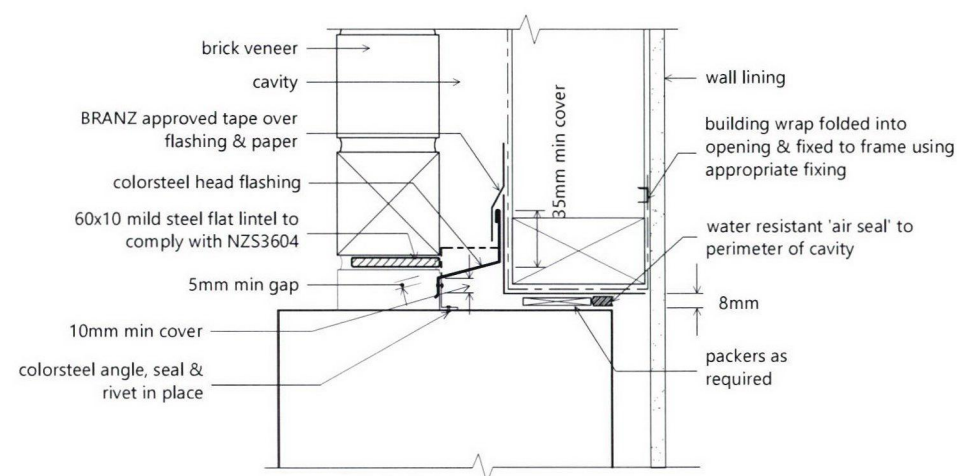
OS512

VH 175

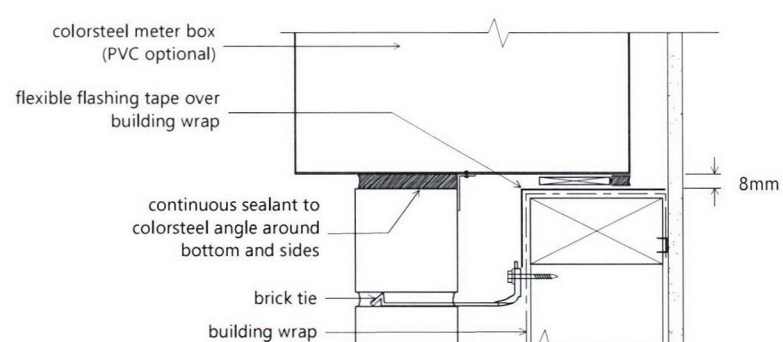
Foundation Details

Scale: 1:10 Date: 4/07/2014 Sheet no: 21
 Rev:

Drawn: DG Check: N.Davis
 Wind: V. High Earthq: 2 Exposure: B Snow: N5-0.9kPa
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Meter Box Head



Meter Box Sill

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Client Details :				OS512		
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Address:						
25c Missy Crescent						
Pisa Moorings						
Cladding Details				Scale:	Date: 4/07/2014	Sheet no :
				1:5	Rev:	22
Drawn: DG	Check: N.Davis	Call 0800 A1homes 2 1 4 6 6 3 www.A1homes.co.nz				
Wind: V. High	Earthq: 2					Exposure: B
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Figure 43: Ridge to hip flashings
 Paragraphs 8.4.11 and 8.4.12

NOTE: Flashing cover varies according to wind zone - refer Table 7.
 For other ridge to hip flashings refer to New Zealand Metal Roofing and Wall Cladding Code of Practice.

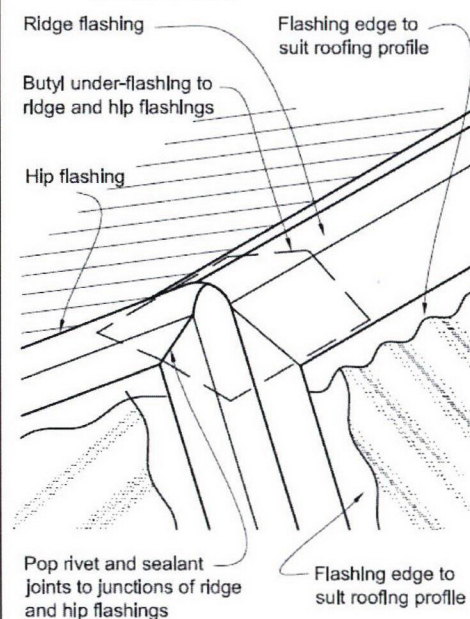
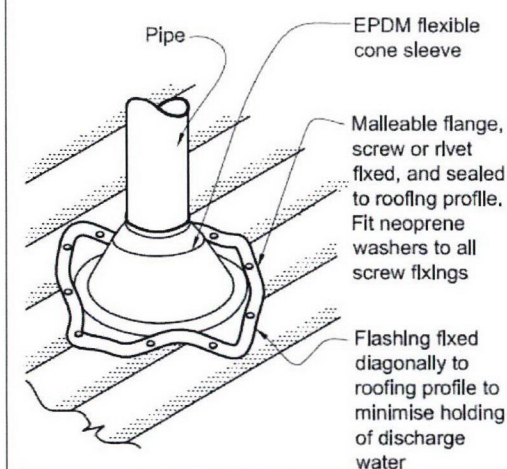
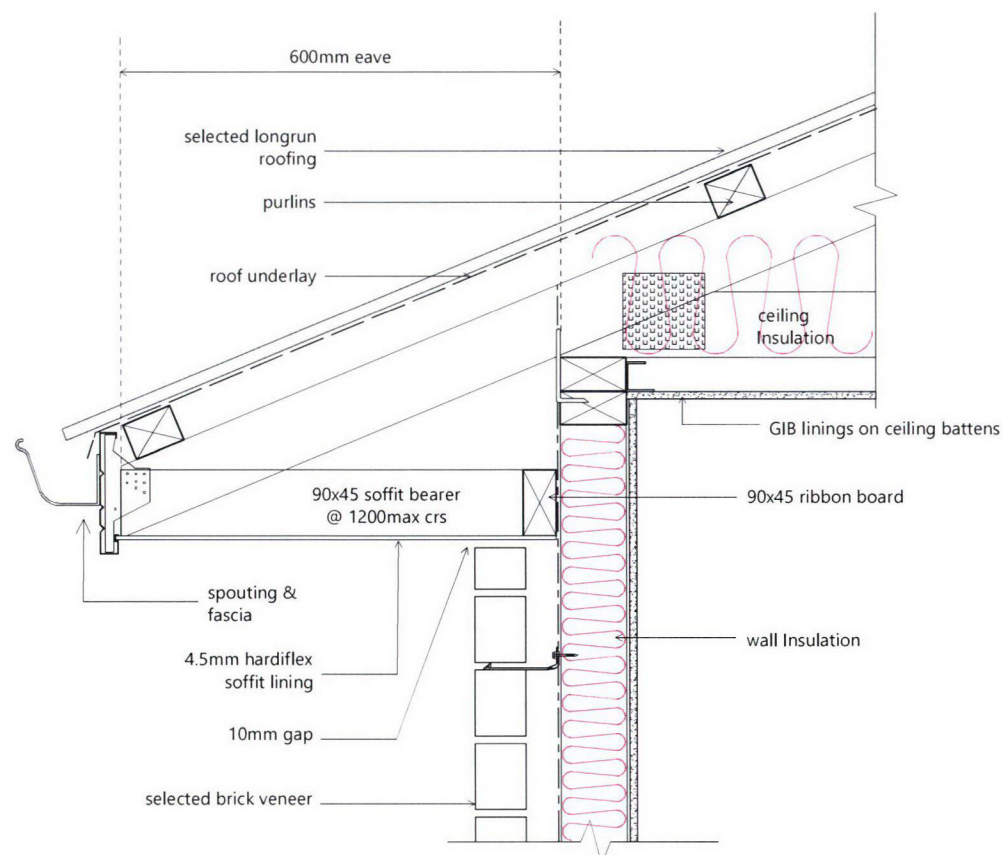


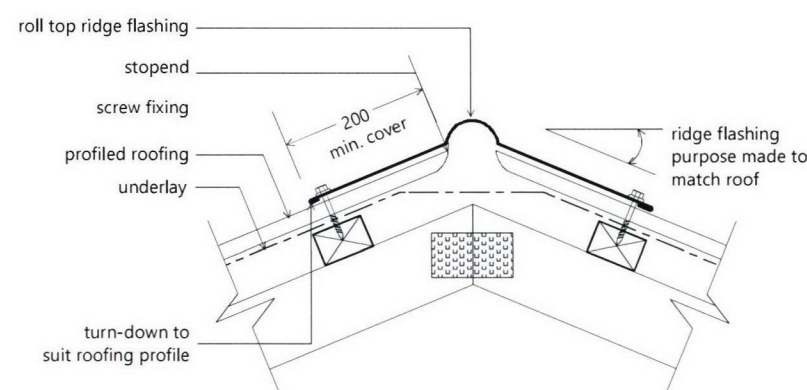
Figure 53: Flashing for small pipes
 Paragraphs 8.3.10, 8.4.17, 9.6.8.5 and 9.6.9.6



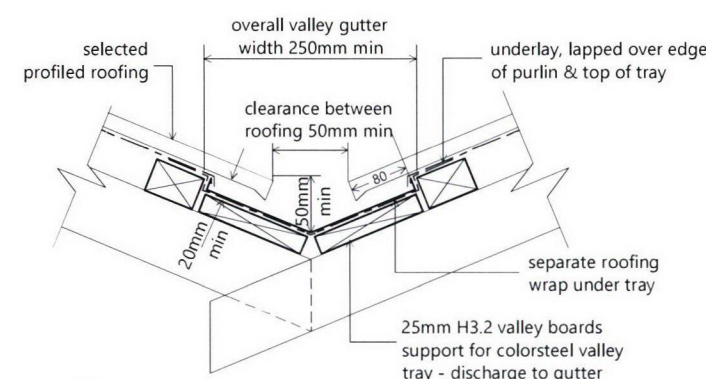
NOTE:
 (1) Max. roof pitch for this flashing 45°, minimum pitch 10° If base of flange covers one or more complete troughs.
 (2) For pipes up to 85 mm diameter.



D3 Eave/Soffit (600mm)
 15

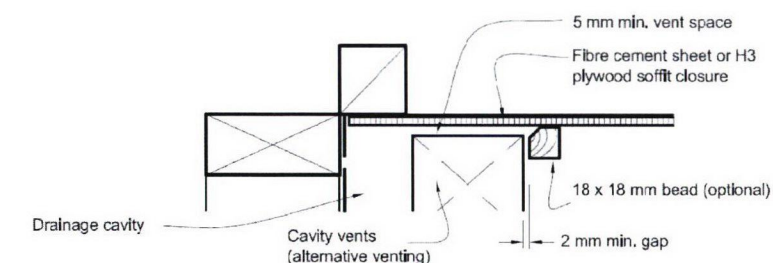


D4 Ridge
 15



NOTE:
 valley to be waterproofed in accordance with E2 clause 8.1.6.2 NZ Building Code

D5 Valley
 15



(I) MASONRY VENEER - SOFFIT DETAIL

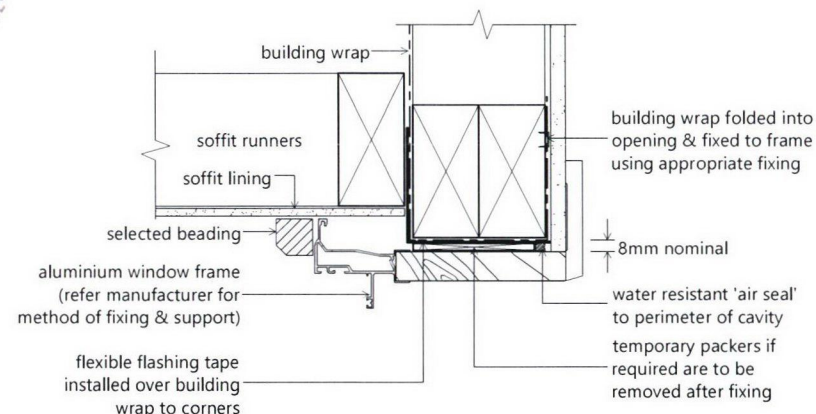
The Brick cavity shall be ventilated to the outside at the top of walls by either similar vents as at the bottom, or a continuous 5 mm minimum gap between the top course and soffit board, with a cover bead to outside that maintains a minimum 2 mm gap to masonry

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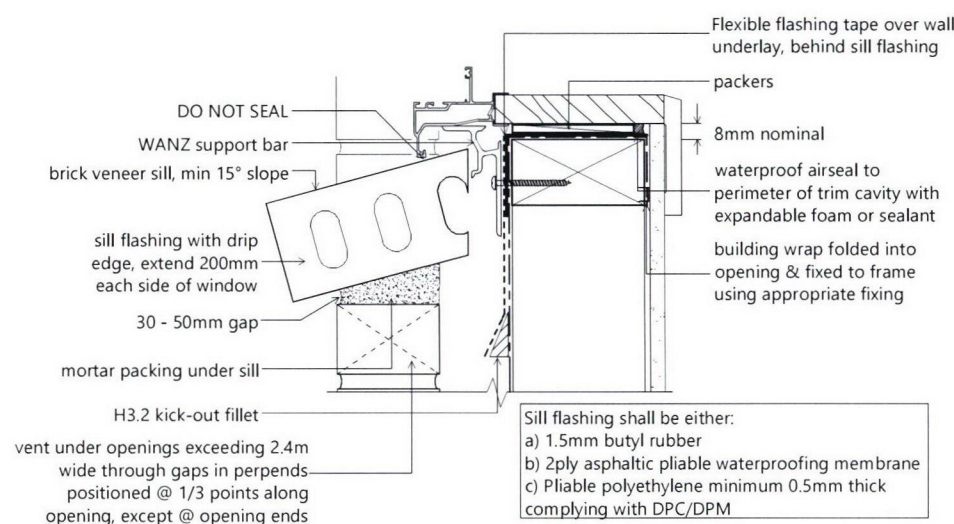
Client Details : OS512
 Louis & Cheryl Beulink
Address:
 25c Missy Crescent
 Pisa Moorings
VH 175

Roof Details				Scale:	Date:	Sheet no :
Drawn:	DG	Check:	N.Davis	1:10	4/07/2014	23
Wind:	Earthq:	Exposure:	Snow:			
V. High	2	B	N5-0.9kPa			

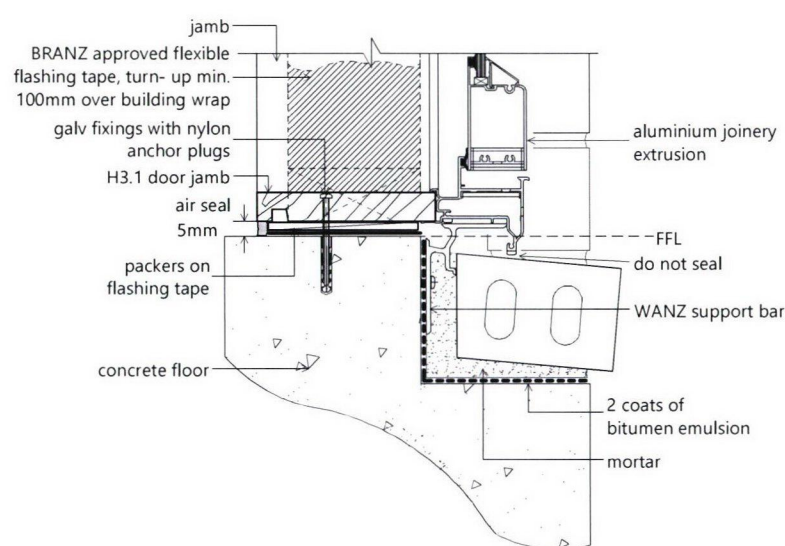
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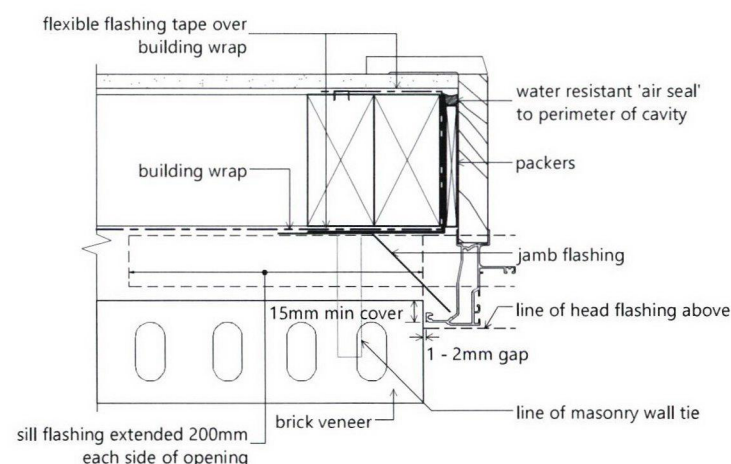
Window Head



Window Sill



Door Sill



Window Jamb

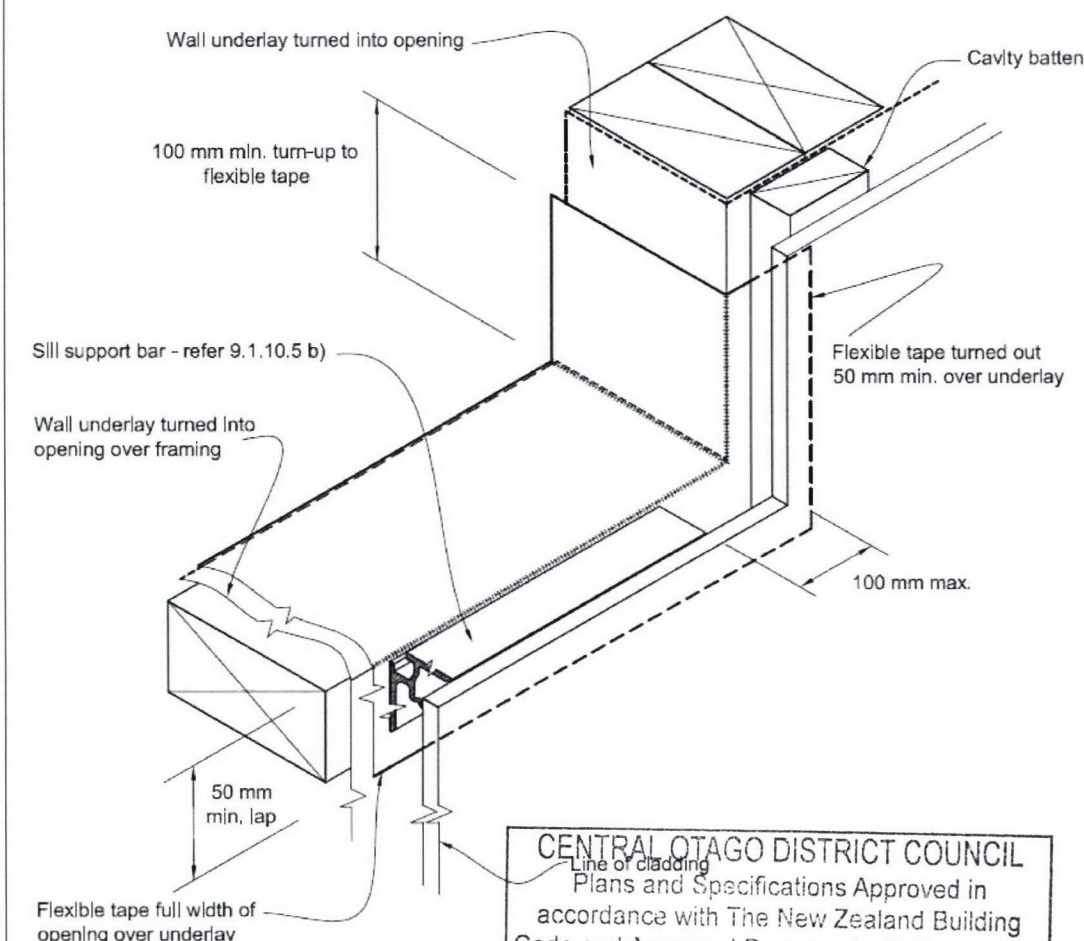
Flexible air seals;
 The air seal shall be installed over a closed cell polyethylene foam (PEF) backing rod, or similar and made of self-expanding polyurethane foam

Backing rods are used for self-expanding polyurethane foam as there is a danger foam will expand to the outside of the wall and form a moisture bridge to the interior.

9.1.10.8 Attachments for windows and doors
 Install windows and doors using pairs of minimum 75 x 3.15 galvanised jolt head nails or 8 gauge x 65 mm stainless steel screws, through reveals into surrounding framing at:
 a) Maximum 450 mm centres along sills, jambs and heads, and
 b) Maximum 150 mm from reveal ends.
 Install packers between reveals and framing at all fixing points, except between head reveals and lintels.

Figure 72B: General window and door opening with drainage cavity
 Paragraphs 9.1.5, 9.1.9.3, 9.1.10.2, Figures 73C, 76, 85, 86, 91, 99, 116 and 128

NOTE:
 (1) Detailed cladding omitted for clarity, refer to specific claddings.
 (2) Head to be treated similarly with continuous wall underlay and flexible tape at corners.
 (3) Refer individual cladding details for jamb flashings.



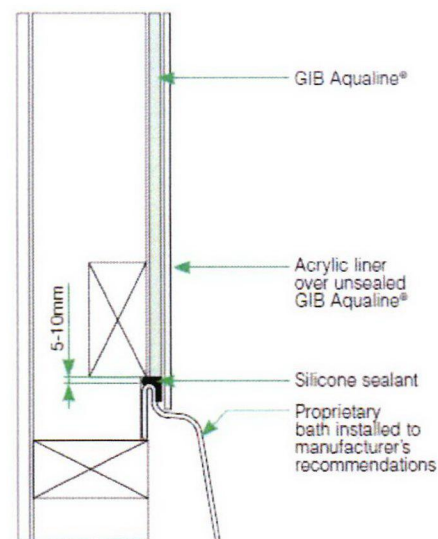
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Flashing tape must be proven compatibility with selected building underlay and other building materials with which it comes into contact as per table 21 of 'E2/AS1'

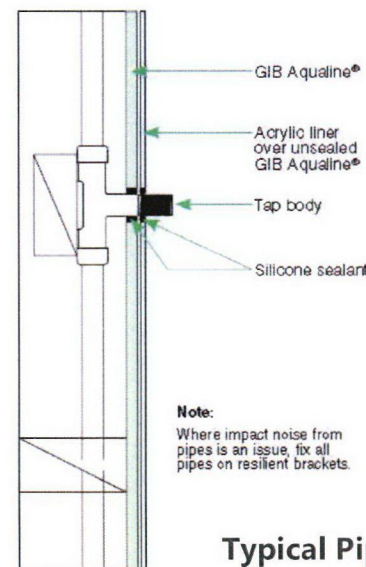
Client Details : OS512
 Louis & Cheryl Beulink
Address:
 25c Missy Crescent
 Pisa Moorings

Joinery Details
 Scale: 1:5 Date: 4/07/2014 Sheet no: 24
 Drawn: DG Check: N.Davis
 Wind: V. High Earthq: 2 Exposure: B Snow: NS-0.9kPa
 Call 0800 A1homes 214663
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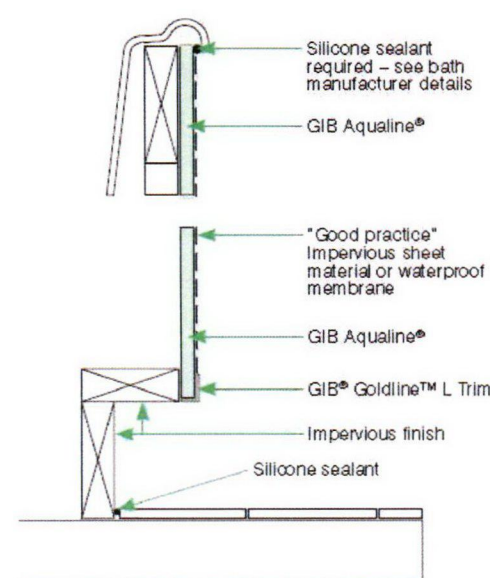
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Bath to Wall Junction

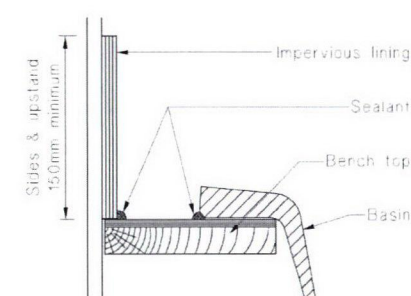
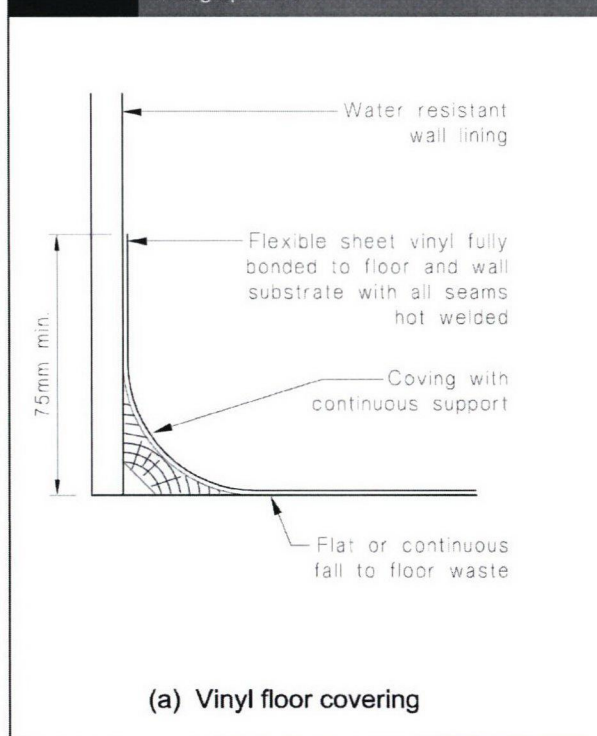


Typical Pipe Penetration

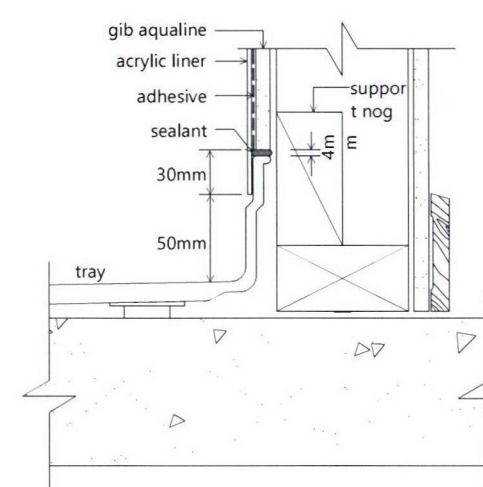
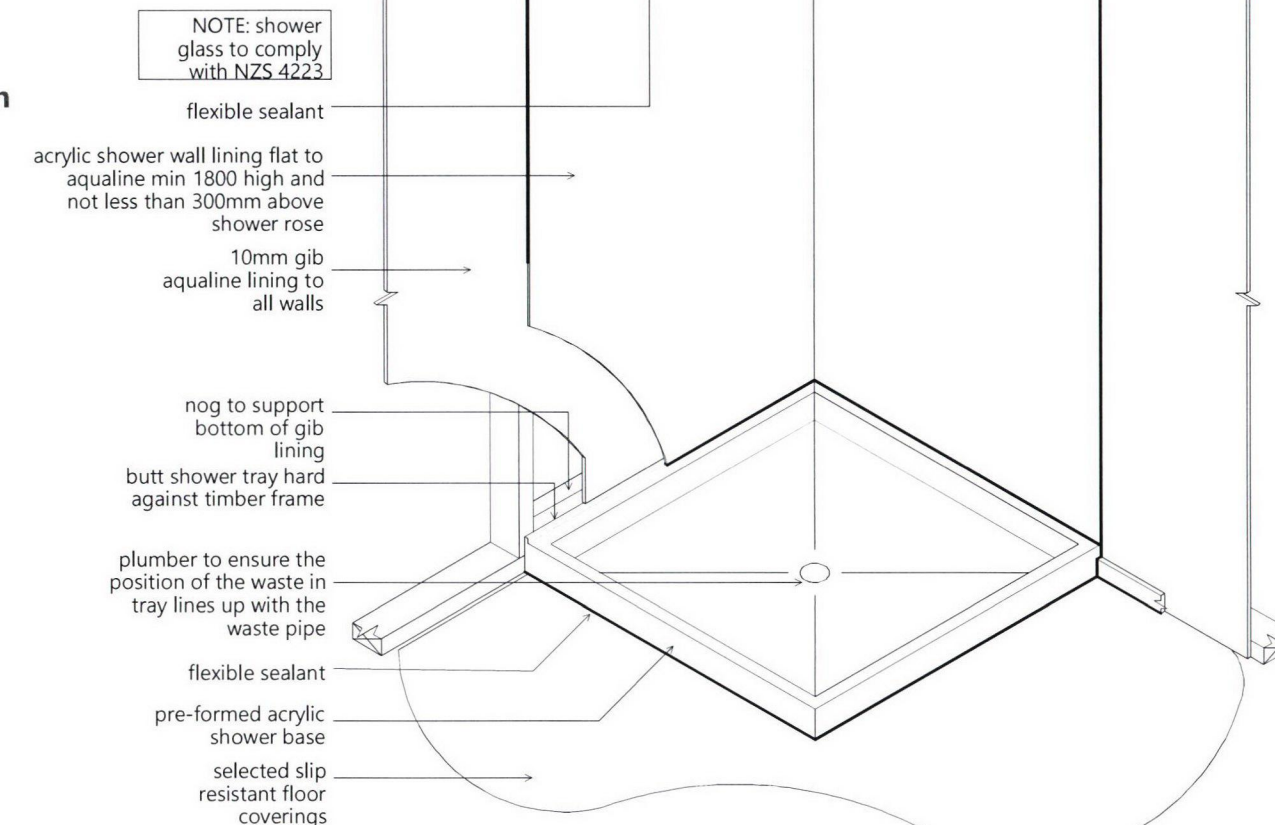


Bath to Floor Junction


Figure 1: Floor Coverings at Wall Junctions
Paragraph 2.1.1



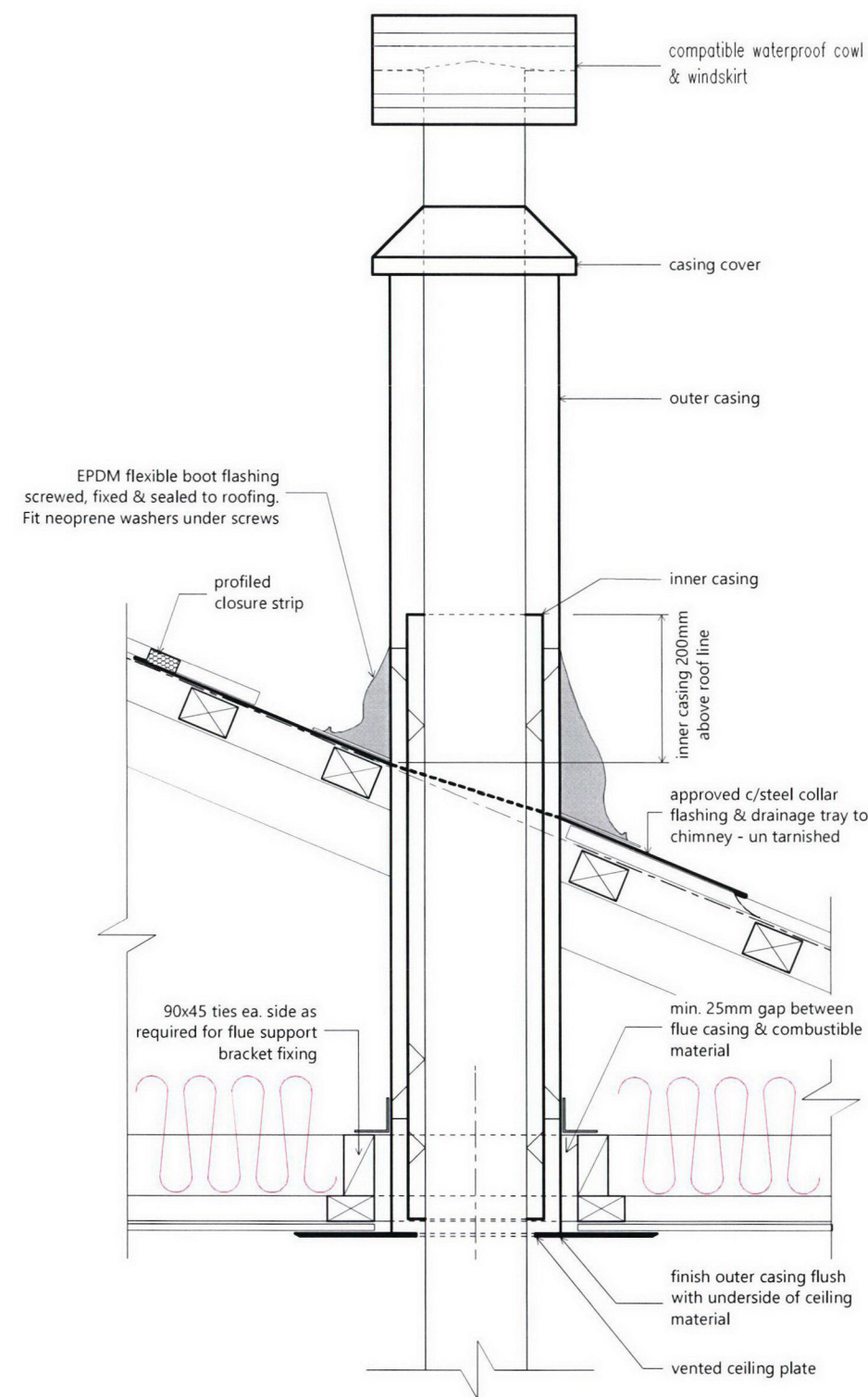
Tub, Sink and Basin Junction



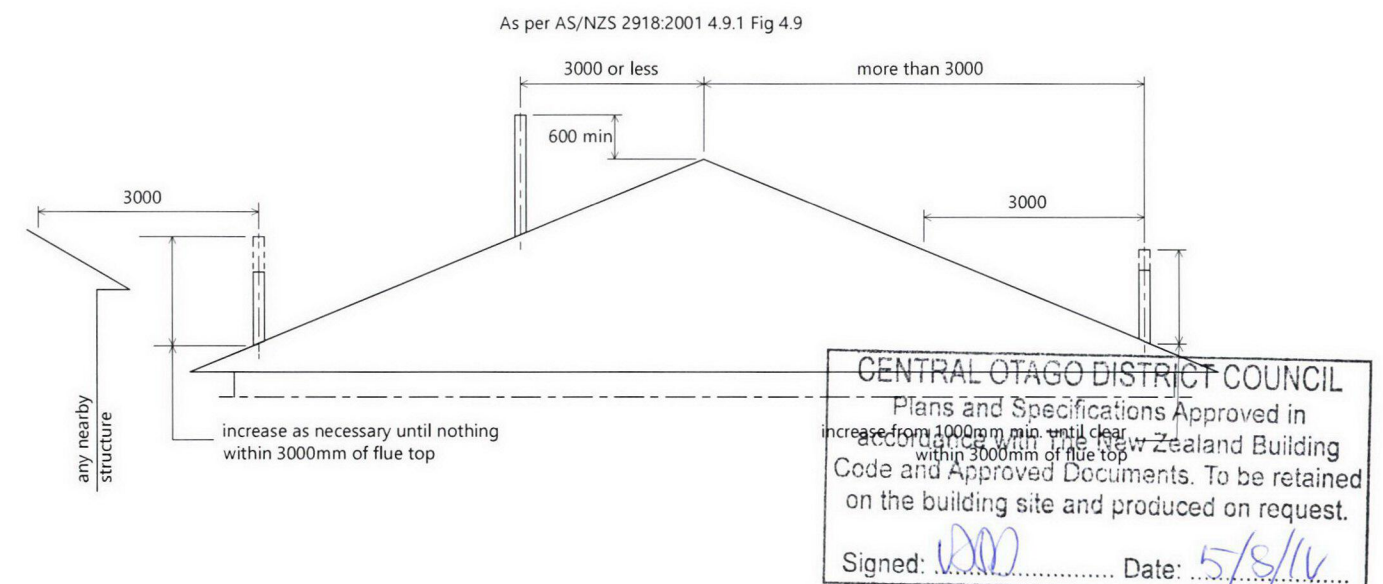
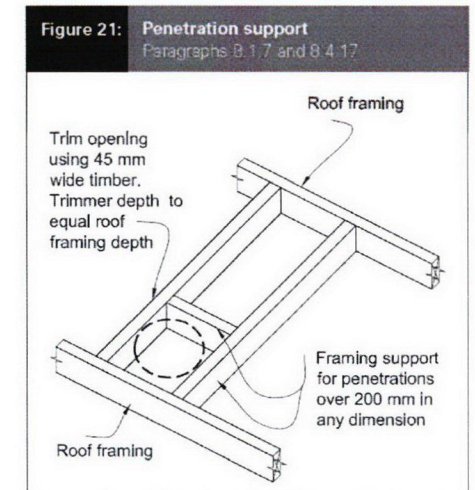
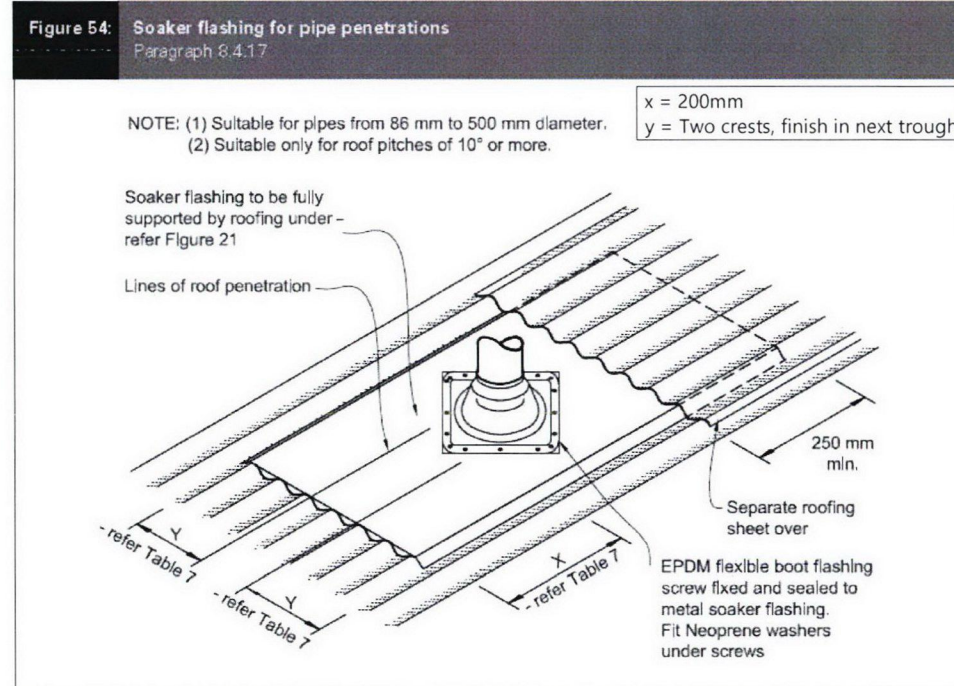
Shower Tray 1:5

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Louis & Cheryl Beulink				
Address:			VH 175	
25c Missy Crescent				
Pisa Moorings				
Wet Area Details		Scale: as shown	Date: 4/07/2014	Sheet no: 25
Drawn: DG	Check: N.Davis	Call 0800 A1homes 214663		
Wind: V. High	Earthq: 2	Exposure: B	Snow: N5-0.9kPa	www.A1homes.co.nz
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Chimney/Flue Penetration



Minimum Flue Heights apply
 - refer to Manufactures Specification

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Louis & Cheryl Beulink					
Address:					
25c Missy Crescent					
Pisa Moorings				VH 175	
Fireplace Details			Scale:	Date:	Sheet no :
			1:10	4/07/2014	26
Drawn:	DG	Check:	N.Davis	Call 0800 A1homes	
Wind:	Earthq:	Exposure:	Snow:	2 1 4 6 6 3	
V. High	2	B	N5-0.9kPa	www.A1homes.co.nz	
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Figure 8: Mains Pressure Storage Water Heater System (unvented)
Paragraphs 6.1.2 and 6.2.1 b)

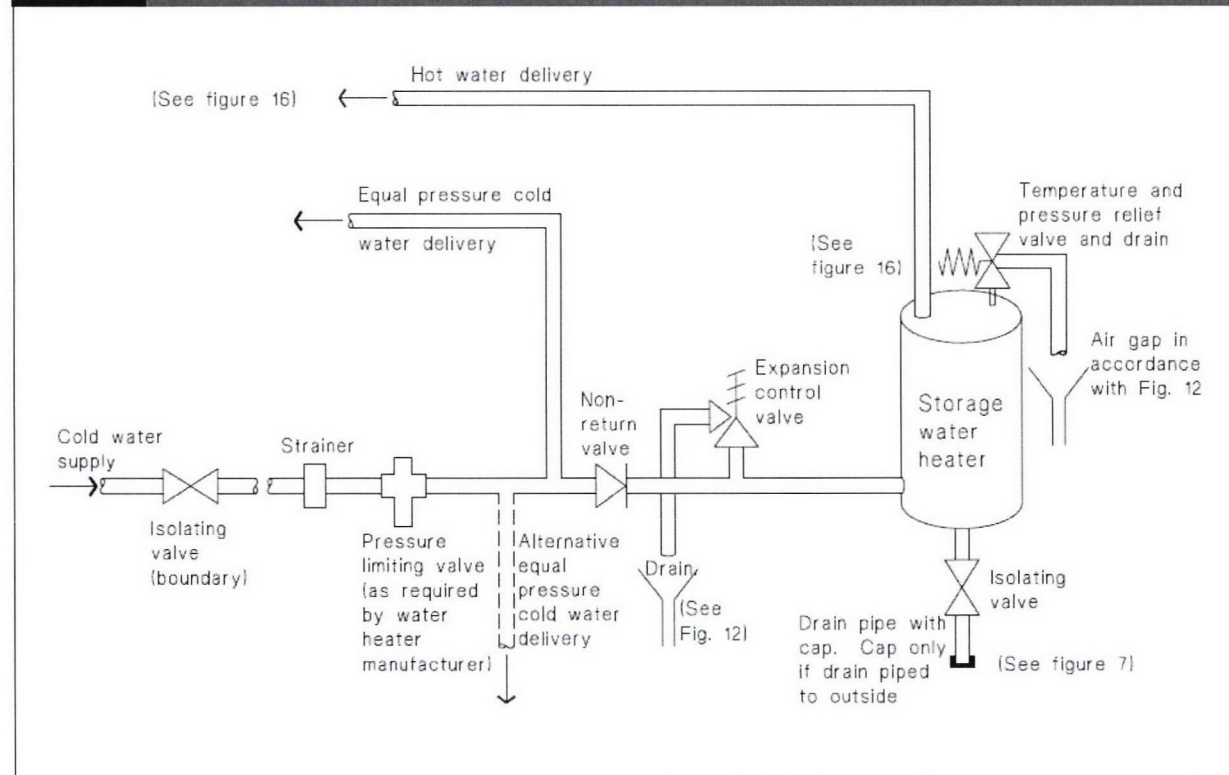


Table 4: Tempering Valve and Nominal Pipe Diameters
Paragraphs 5.3.1 and 6.12.1

	Low pressure (i.e. header tank supply or low pressure)	Low and medium pressure unvented (valve vented) and open vented	Mains pressure
Pressure of water at tempering valve (kPa)	20 – 30	30 – 120	over 300
Metres head (m)	2 – 3	>3 – 12	over 30
Minimum tempering valve size	25 mm	20 mm	15 mm
Pipes to tempering valve	25 mm (see Note 3)	20 mm	20 mm (15 mm optional)
Pipes to shower	20 mm	20 mm (see Note 4)	20 mm (see Note 5) (15 mm optional) (see Note 1)
Pipes to sink/laundry (see Note 2)	20 mm	20 mm	15 mm
Pipes to bath (see Note 2)	20 mm	20 mm	15 mm
Pipes to basins (see Note 2)	15 mm	15 mm	10 mm

Notes:

1. If supplied by separate pipe from storage water heater to a single outlet.
2. This table is based on maximum pipe lengths of 20 metres.
3. 2 m maximum length from water heater outlet to tempering valve.
4. 15 mm if dedicated line to shower.
5. 10 mm if dedicated line to shower.
6. Table 3 pipe sizes have been calculated to deliver water simultaneously to the kitchen sink and one other fixture.

Figure 14: Seismic Restraint of Storage Water Heaters 90 – 360 litres
Paragraph 6.11.4

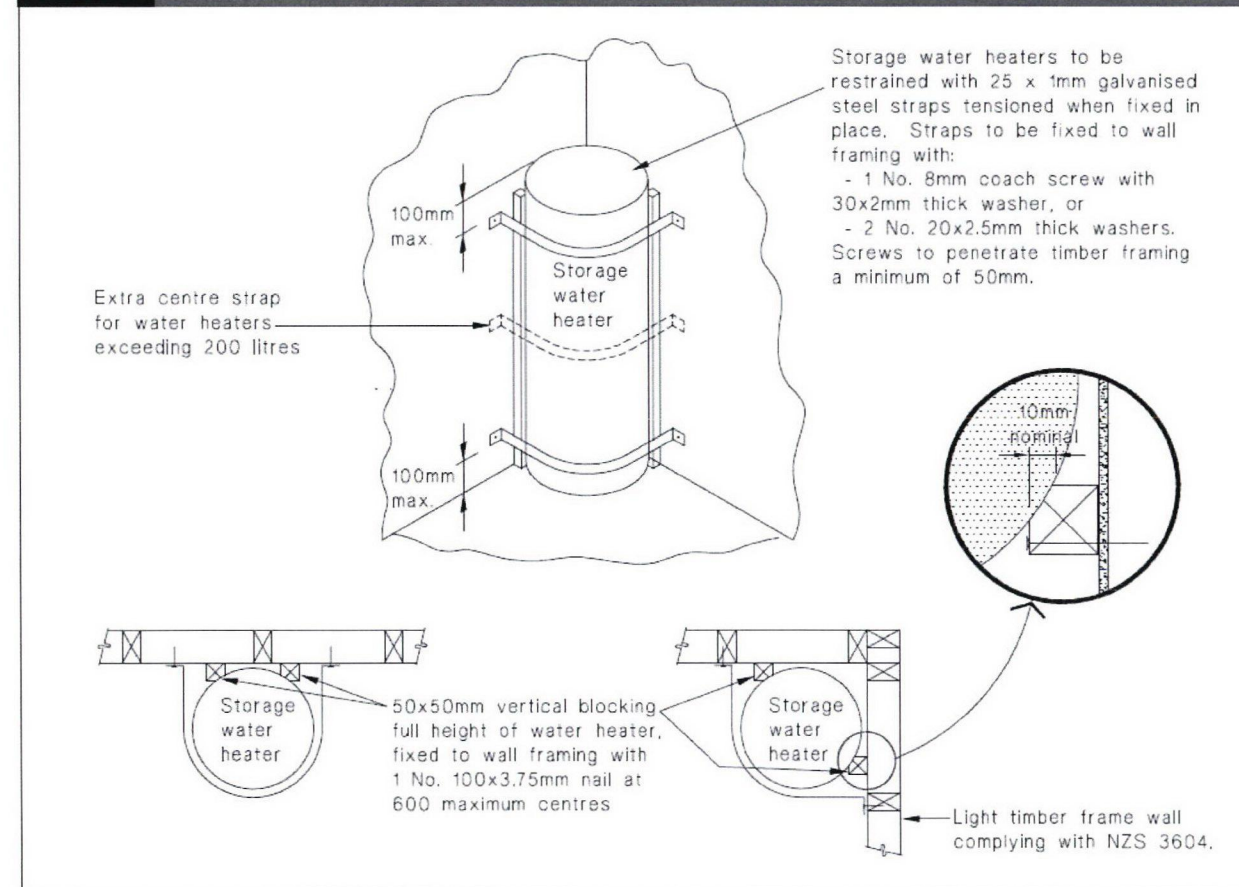
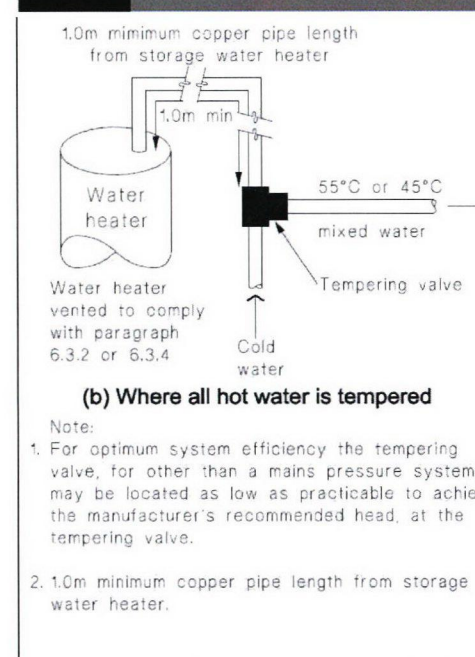


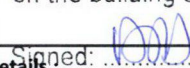
Figure 16: Tempering Valve Installation
Paragraph 6.14.2 a)



- 6.14.2 Hot water delivered from storage water heaters
- a) An acceptable method of limiting hot water temperature delivered from storage water heaters is to install a mixing device between the outlet of the water heater and the sanitary fixture (see Figure 16).
 - b) Tempering valves shall comply with NZS 4617 or AS 1357.2.

Irrespective of whether a mixing device is installed the storage water heater control thermostat shall be set at a temperature of not less than 60°C to prevent the growth of Legionella bacteria.

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 Pisa Moorings

Water Heating
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 Drawn: DG Check: N.Davis
 Wind: V. High Earth: 2 Exposure: B Snow: N5-0.9kPa
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