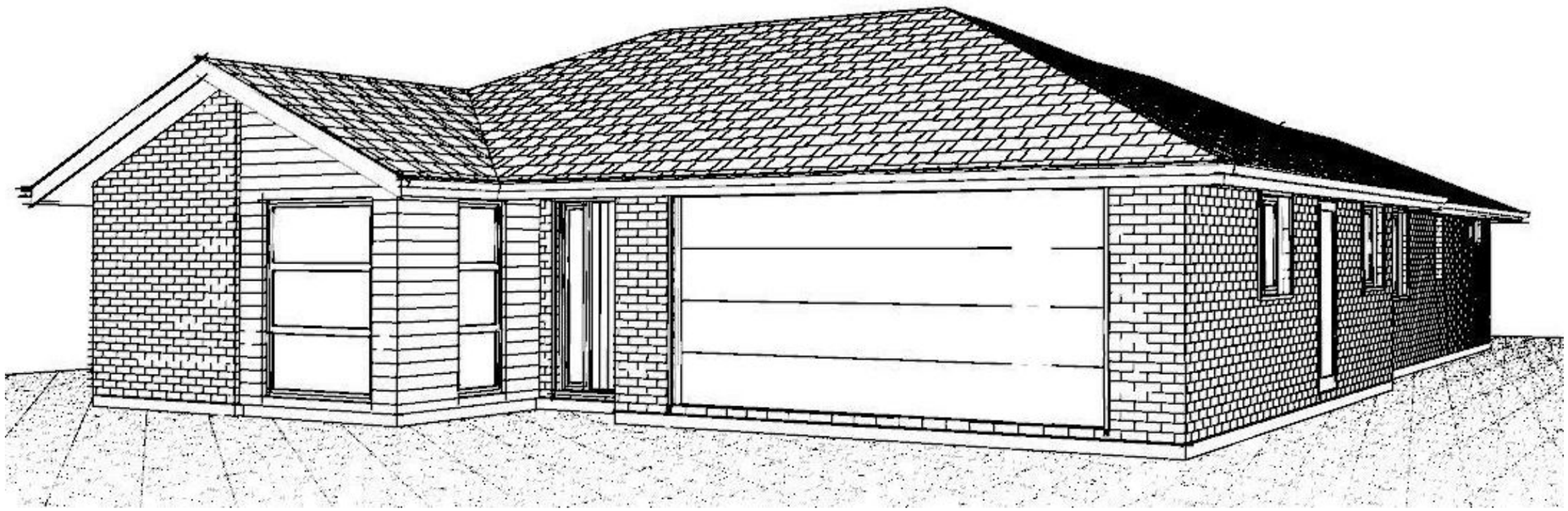

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Job Number:	Original Plan:	Sheet Name:
131534	**'Torea 184'**	**COVER PAGE**

Sales:	Drawn:	QS:	Print Date:	Scale:
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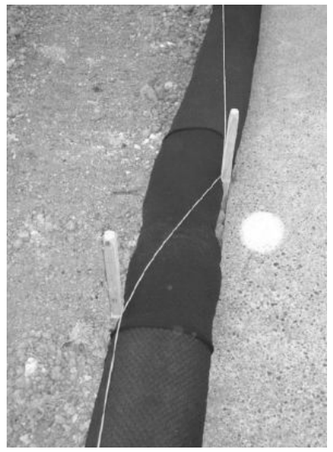
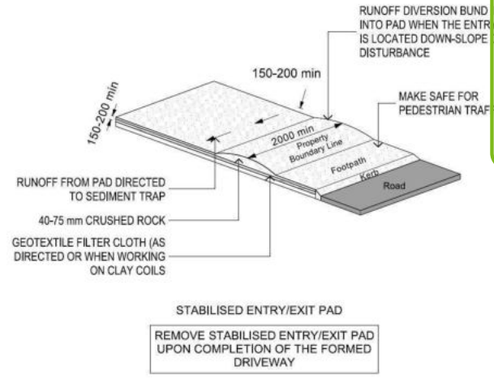
Silt sock joined using a sleeve and pegged and secured using bailing twine with 1 m overlapping joint *(Source: Erosion Control Ltd)*





STABILISED ENTRY/EXIT PAD

REMOVE STABILISED ENTRY/EXIT PAD UPON COMPLETION OF THE FORMED DRIVEWAY

SITE INFORMATION

Site Area :	490.0²
Floor Area (VENEER) :	183.94m²
Site Coverage :	37.54%
Wind	High
Earthquake	2
Exposure	B
Snow	N 4 at 50m (up to 1kPa)

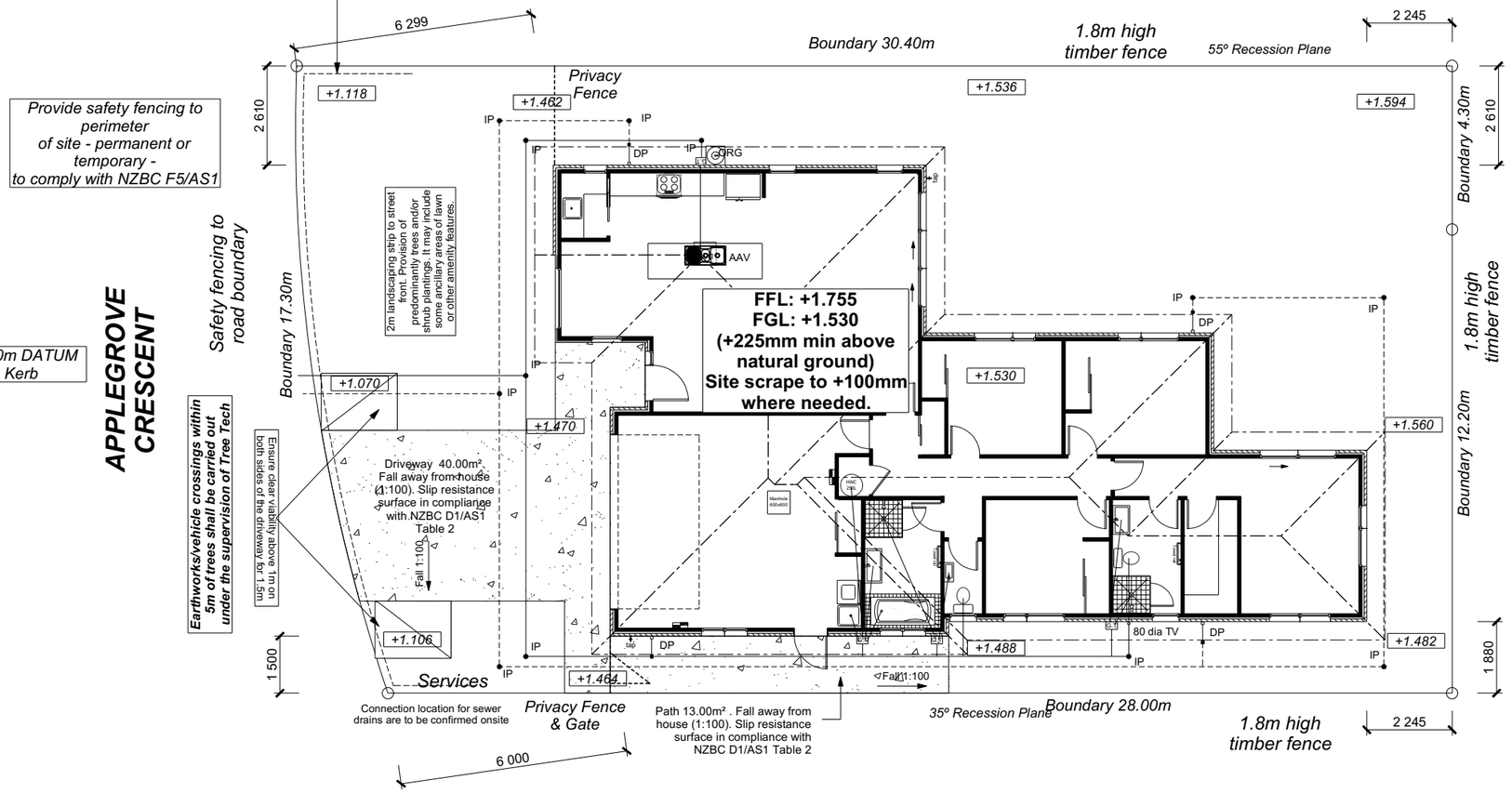
Note: The dimensions shown are from cladding to boundary. Refer to sheet 8 for foundation to boundary dimensions.

Sediment control and site safety requirements are noted in the attached Specifications.

DRAINAGE LEGEND

---------	Stormwater DN100mm uPVC
———	Sewer Drain DN100mm uPVC
DP	Downpipe
GT	Gully Trap
ORG	Overflow Relief Gully
TV	Terminal Vent
AAV	Air Admittance Valve
IP	Inspection Point

Sediment Control Measures:
. 225mm Silt rocks across the front of the boundary pegged down and returning 2m into the site.
- A stabilized entrance 200mm deep with bitumen cloth and backfilled with AP60 with silt rocks for the remaining of the boundary returning 2m into the site to control sediment runoff entering the street.
To be overseen by the Project Manager from Signature Homes.



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Job Number:	Original Plan:	Sheet Name:
131534	**'Torea 184'**	**SITE PLAN**

Sales:	Drawn:	QS:	Print Date:	Scale:
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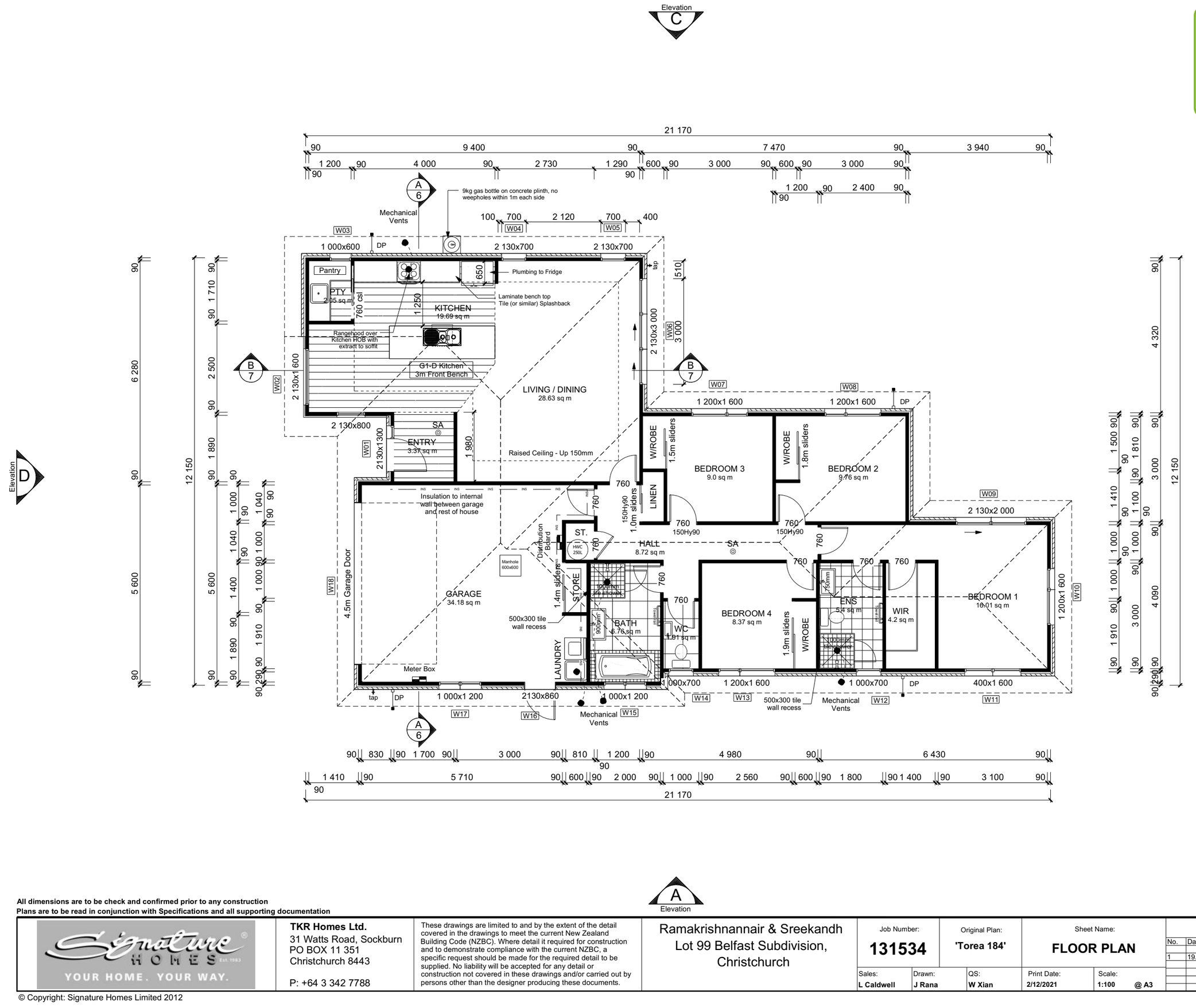

ROOF & WALL CLADDINGS

Roof : 25º Pressed Metal Tiles
Walls : 70 Series Brick Veneer with a 50mm cavity
Linea Weatherboard with a 20mm cavity

DWELLING AREAS

Framing Area: 176.23m² (Perimeter: 68.48m)
Veneer Area: 183.94m² (Perimeter: 69.44m)
Roof Area: 219.39m² (Perimeter: 71.44m)

SMOKE ALARMS (hush type)
Domestic Smoke Alarms to be fitted within 3.0m of sleeping areas and on Escape routes, as indicated on plan. To comply with one of the following standards: UL 217, ULC-S531, AS 3786, BS 5446 (part 1).

FLOOR PLAN NOTES

Dimensions shown are to the frame, GIB thickness not shown.
Mechanical ventilation to comply with G4/AS1
Air Seals to have PEF rod & low expansion foam
All windows and doors centered in room unless shown otherwise
Laundering facilities provided complying with G2/SA1 1.0
Provide sealant under skirting and paint to concrete around tub & W/M fixtures

WALL FRAMING
Stud Height: 2400mm
(2455mm to u/s of bottom chord)

FLOOR FINISHES
Carpet, Tiles & Vinyl

KITCHEN HOB
Gas Hobs

DOORS
Internal Height: 1980mm (leaves)
Type: Hollow core flush panel
Front Door Type: Latitude Aluminium

INTERNAL TRIMS
Scotia: 55mm GIB Coving to Hall, Bedrooms & Bath. Square stop to rest of house and garage

Skirting: 60x12mm Pine, single bevel edge
Architrave: N/A

SHELVING
Shelf & Rails to all wardrobes
4 shelves to Linen cupboard

DRAWING NOTES

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A Elevation

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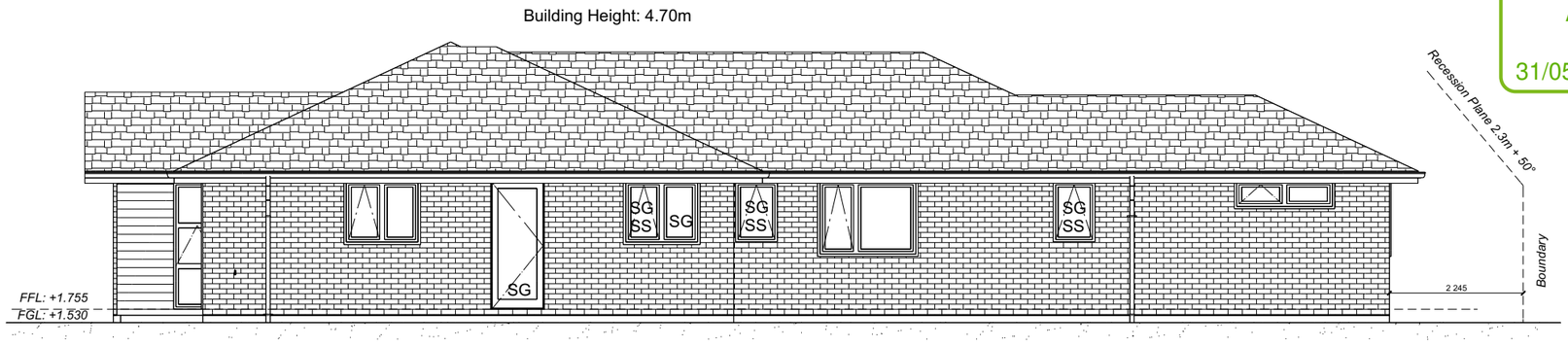
BUILDING ENVELOPE RISK MATRIX		
ELEVATION A		
RISK CRITERIA	RISK	SCORE
Wind Zone	High	1
Number of Stories	Low	0
Roof Wall Junction	Low	0
Eaves Width	Medium	1
Building Envelope	Low	0
Decks & Balconies	Low	0
Total		2



ROOF & WALL CLADDINGS
Roof : 15° Profiled Metal Tiles
Walls : 70 Series Brick Veneer with a 50mm cavity
Linea Weatherboard with a 20mm cavity

ELEVATION LEGEND

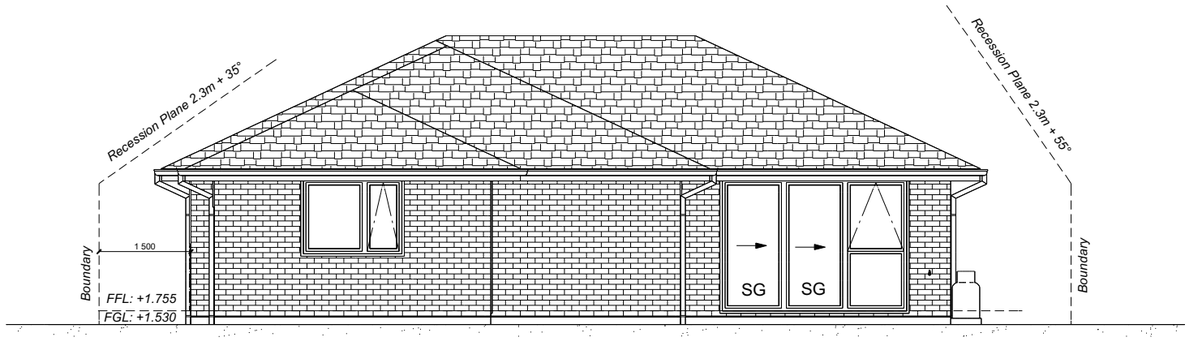
SS	Safety Stays
SG	Safety Glass
ME	Meter Box
TV	Terminal Vent

ELEVATION NOTES
Gutter : Coloured Steel Quad Gutter
Fascia : Coloured Steel185 Fascia
Downpipes : Colorsteel Rectangular 75x55mm
Soffits : Hardiflex 4.5mm
Joinery : Double glazed aluminum

All egress points to have a maximum step down of 190mm.
Access routs to have slip resistance surface in compliance with NZBC D1/AS1 Table 2 and to have a 1:100 fall away from the building

ELEVATION A

BUILDING ENVELOPE RISK MATRIX		
ELEVATION B		
RISK CRITERIA	RISK	SCORE
Wind Zone	High	1
Number of Stories	Low	0
Roof Wall Junction	Low	0
Eaves Width	Medium	1
Building Envelope	Low	0
Decks & Balconies	Low	0
Total		2



ELEVATION B

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Job Number:	Original Plan:	Sheet Name:
131534	**'Torea 184'**	**ELEVATIONS**

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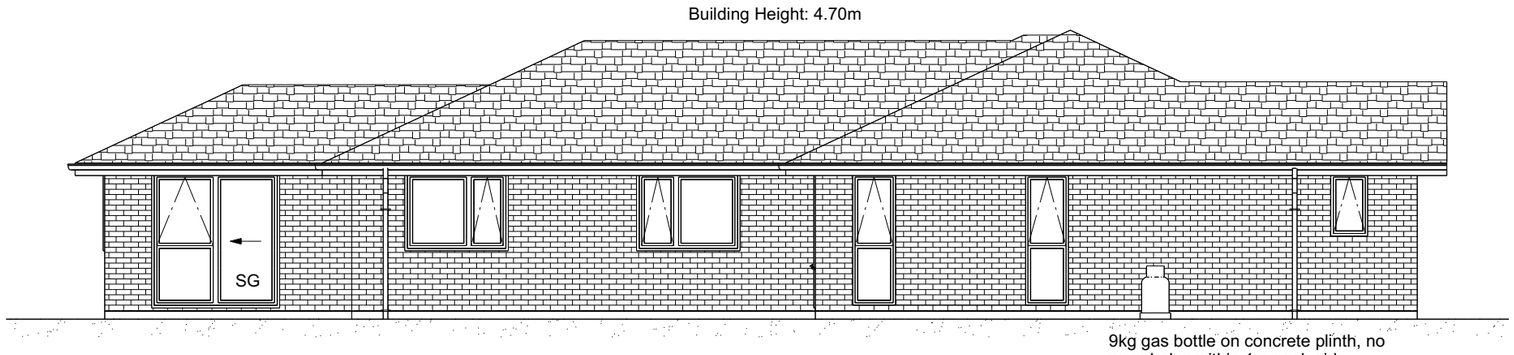
BUILDING ENVELOPE RISK MATRIX		
ELEVATION C		
RISK CRITERIA	RISK	SCORE
Wind Zone	High	1
Number of Stories	Low	0
Roof Wall Junction	Low	0
Eaves Width	Medium	1
Building Envelope	Low	0
Decks & Balconies	Low	0
Total		2



ELEVATION C

ROOF & WALL CLADDINGS

Roof : 15° Profiled Metal Tiles
Walls : 70 Series Brick Veneer with a 50mm cavity
Linea Weatherboard with a 20mm cavity

ELEVATION LEGEND

SS	Safety Stays
SG	Safety Glass
MB	Meter Box
TV	Terminal Vent

ELEVATION NOTES

Gutter : Coloured Steel Quad Gutter
Fascia : Coloured Steel185 Fascia
Downpipes : Colorsteel Rectangular 75x55mm
Soffits : Hardiflex 4.5mm
Joinery : Double glazed aluminum

All egress points to have a maximum step down of 190mm.
Access routs to have slip resistance surface in compliance with NZBC D1/AS1 Table 2 and to have a 1:100 fall away from the building

BUILDING ENVELOPE RISK MATRIX		
ELEVATION D		
RISK CRITERIA	RISK	SCORE
Wind Zone	High	1
Number of Stories	Low	0
Roof Wall Junction	Low	0
Eaves Width	Medium	1
Building Envelope	Low	0
Decks & Balconies	Low	0
Total		2

ELEVATION D

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131534	**'Torea 184'**	**ELEVATIONS**

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CONSENT PLANS

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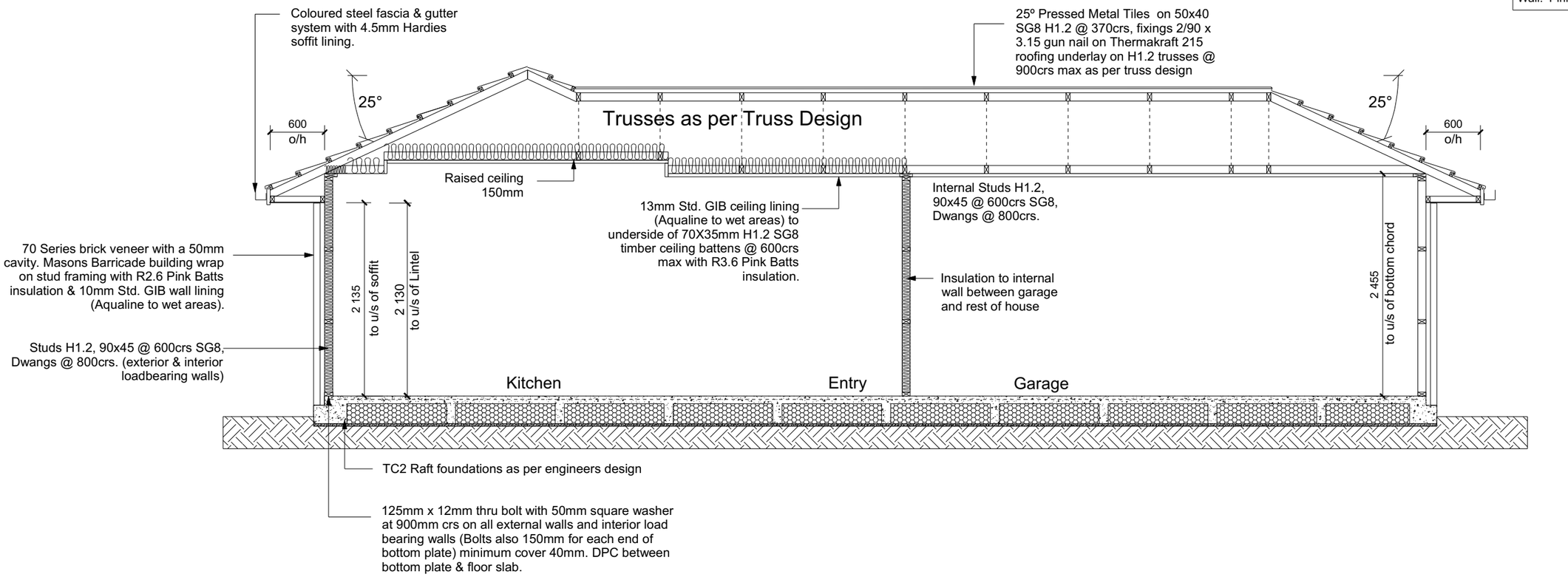
ROOF & WALL CLADDINGS
Roof: 25° Pressed Metal Tiles
Walls: 70 Series Brick Veneer with a 50mm cavity
Linea Weatherboard with a 20mm cavity

CROSS SECTION NOTES
Building wrap is to comply with E2/AS1 & NZS 3604:2011.
Flashing materials must be selected based on environmental exposure. Refer to NZS 3604:2011 & table 20 of E2/AS1.
Flashing tape must have proven compatibility with the selected wrap & other materials with which it comes into contract as per table 21 of E2/AS1.
Fixings shall comply with NZS 3604:2011 Section 4 Durability Tables 4.1-4.3
Unless stated otherwise, timber members on drawings are to be a minimum of SG8 strength graded as per NZS3604:2011.

INSULATION
Ceiling: Pink Batts R3.6 Ceiling Batts
Wall: Pink Batts R 2.6 Wall Batts



CROSS SECTION A-A

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131534	**'Torea 184'**	**CROSS SECTIONS**

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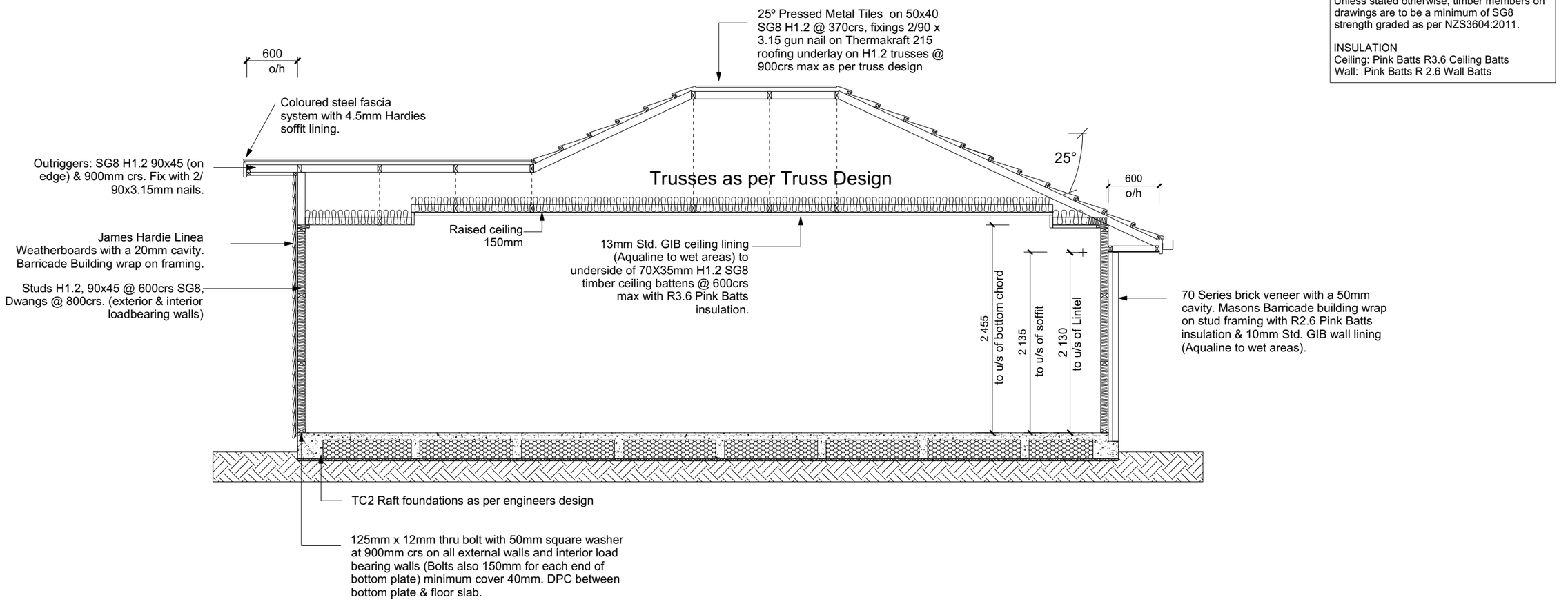
ROOF & WALL CLADDINGS
Roof: 25° Pressed Metal Tiles
Walls: 70 Series Brick Veneer with a 50mm cavity
Linea Weatherboard with a 20mm cavity

CROSS SECTION NOTES
Building wrap is to comply with E2/AS1 & NZS 3604:2011.
Flashing materials must be selected based on environmental exposure. Refer to NZS 3604:2011 & table 20 of E2/AS1.
Flashing tape must have proven compatibility with the selected wrap & other materials with which it comes into contract as per table 21 of E2/AS1.
Fixings shall comply with NZS 3604:2011 Section 4 Durability Tables 4.1-4.3
Unless stated otherwise, timber members on drawings are to be a minimum of SG8 strength graded as per NZS3604:2011.

INSULATION
Ceiling: Pink Batts R3.6 Ceiling Batts
Wall: Pink Batts R 2.6 Wall Batts



CROSS SECTION B-B

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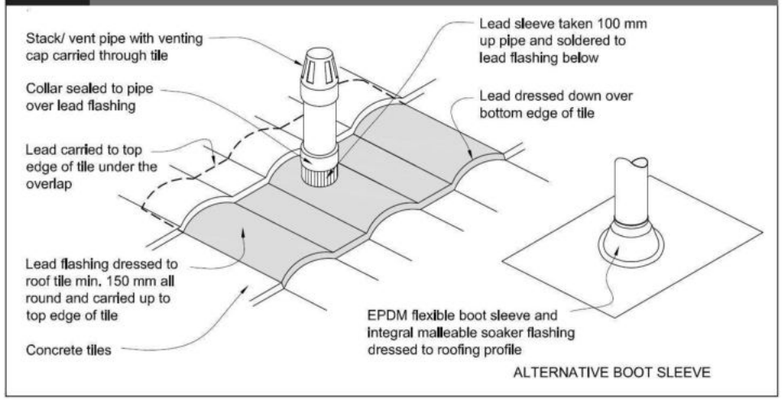
Figure 29: Pipe penetration for masonry tile
Paragraph 8.2.7

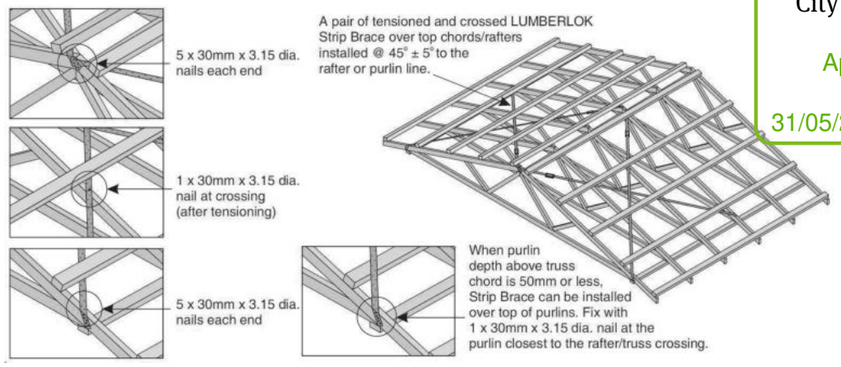


8.3.10 Roof penetrations

Pipe penetrations shall be flashed using *EPDM flashings* similar to that shown for masonry tiles, Figure 29.

Metal Tile Penetration Detail
Scale NTS

- A pair of tensioned and crossed LUMBERLOK Strip Brace running continuously from ridge to top plate installed as detailed below.



ROOF CLADDING
Roofing : Coloursteel Pressed Metal Tiles
Battens : 50x90 SG8 H1.2 @ 370crs,
Fixings 2/90 x 3.15 gun nail

ROOF PLAN NOTES
Gutter: Coloured Steel Quad Gutter
Fascia: Coloured Steel 185 Fascia
Downpipes: Colorsteel Rectangular 75x55mm
Soffits: Hardiflex 4.5mm

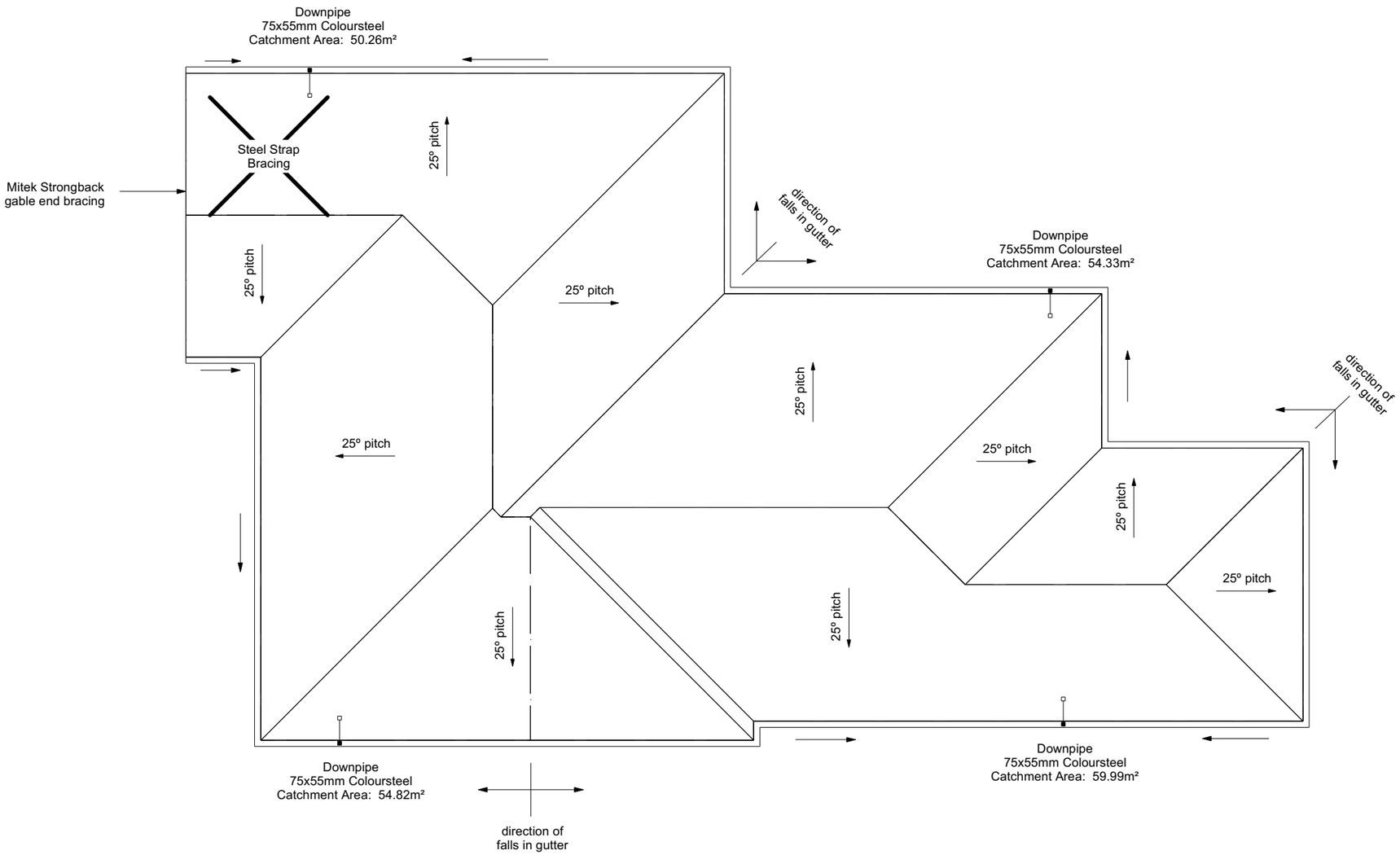
Underlay: Thermakraft 215 roof underlay

Roof Bracing: Diagonally opposed pair 25x1mm galv straps with 8Kn tension capacity.
After tensioning strap, fix to each rafter with 2/ 60x3.15mm nails.
Fold down strap and fix with 3/ 60x3.15mm nails each into the top chord and into the top plate.

Downpipes: 75x55 Rectangle Colorsteel
As per NZBC E1/AS1 Table 5 75x55 down pipes can collect up to 60m² of 0-25° roof plan area.

Use Coloured steel Quad Gutter
As per NZ Metal Roof and Wall Cladding Code of Practice Version 2 section 8 the above gutter with a cross sectional area of 5550mm² can collect up to 60m² of 0-25° roof plan area. Refer to the specifications for exact calculations.

Use Lumberlock top plate fixing chart attached to the main specifications to determine top plate fixings.



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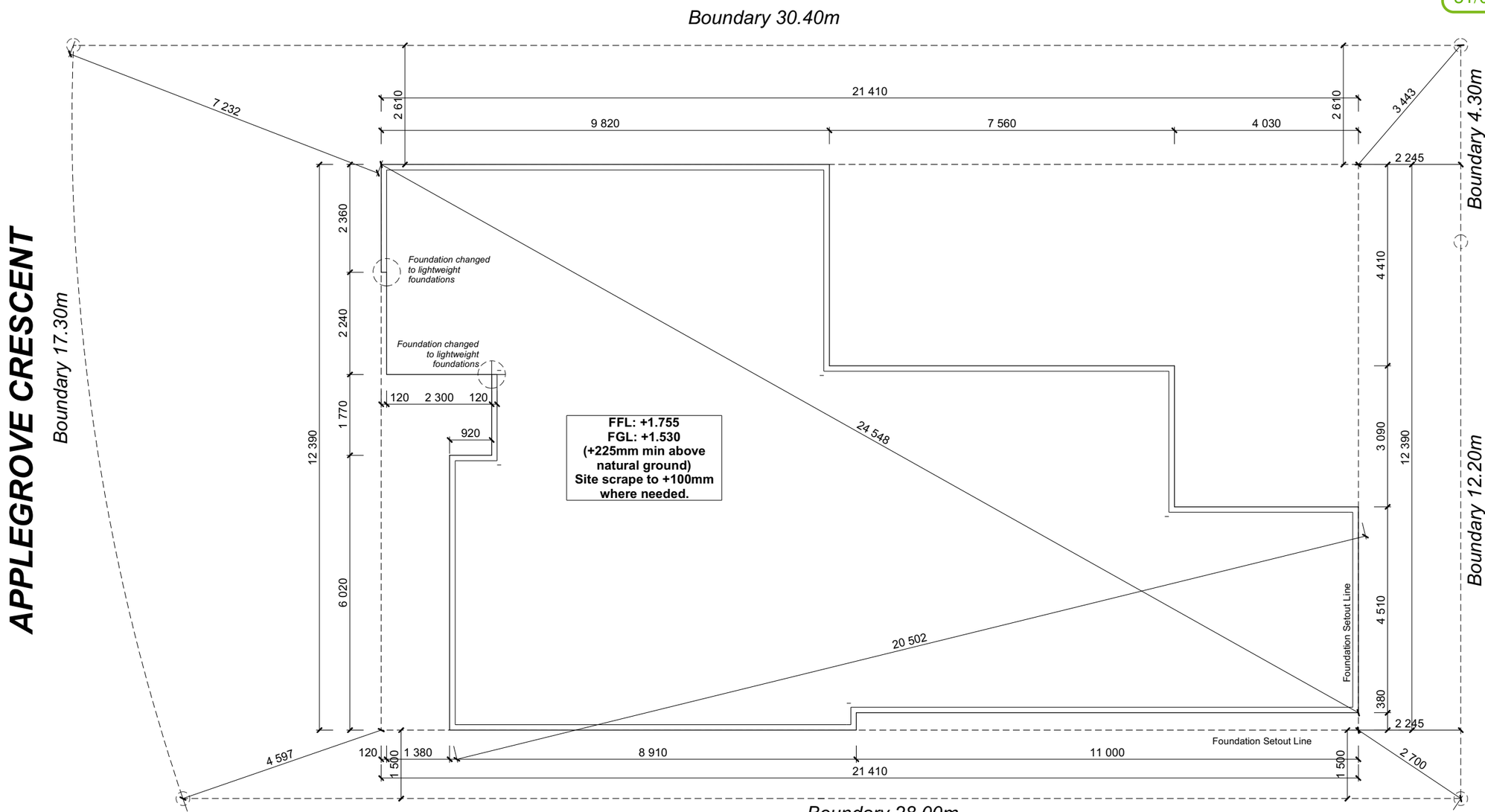
SET OUT PLAN NOTES
All dimensions to foundation face. Allow (20mm clear) 70mm veneer & 50mm cavity. Trim to overhang foundation face by 0-20mm max as per NZBC E2/AS1.
All reinforcing is to be Ductility Class E, in accordance with NZS 4671.
All concrete to comply with NZS3604:2011 Section 4 Durability Clause 4.5.2.
These foundations are design to the findings and recommendations in the site specific Geotech report.



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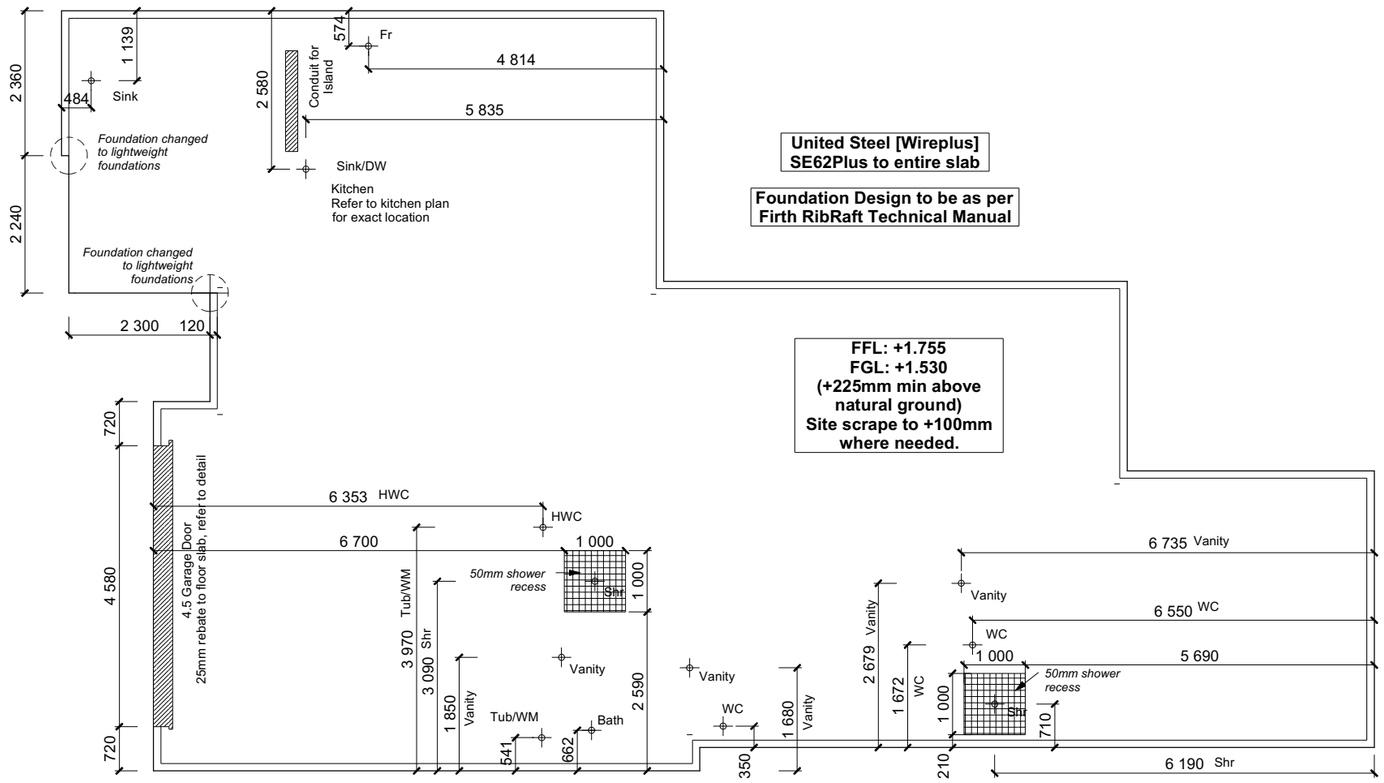
				Sales: **L Caldwell**	Drawn: **J Rana**	QS: **W Xian**	Print Date: **2/12/2021**	Scale: **1:100** **@ A3**		**of 25 sheets**



FOUNDATION PLAN NOTES

All dimensions to foundation face. Allow (20mm clear) 70mm veneer & 50mm cavity, brick to overhang foundation face by 0-20mm max as per NZBC E2/AS1.
W/C location indicated on plan has assumed a 140mm offset from internal frame line, please consult manufacturer's documentation to confirm offset.
Contractor to consult manufacturer's documentation to determine the correct location for all wastes positioned through floor slabs.
Earth bar to be bonded to the reinforcing mesh
Refer to Truss design for exact location of slab thickenings

All reinforcing is to be Ductility Class E, in accordance with NZS 4671.
All concrete to comply with NZS3604:2011 Section 4 Durability Clause 4.5.2.

These foundations are design to the findings and recommendations in the site specific Geotech report.

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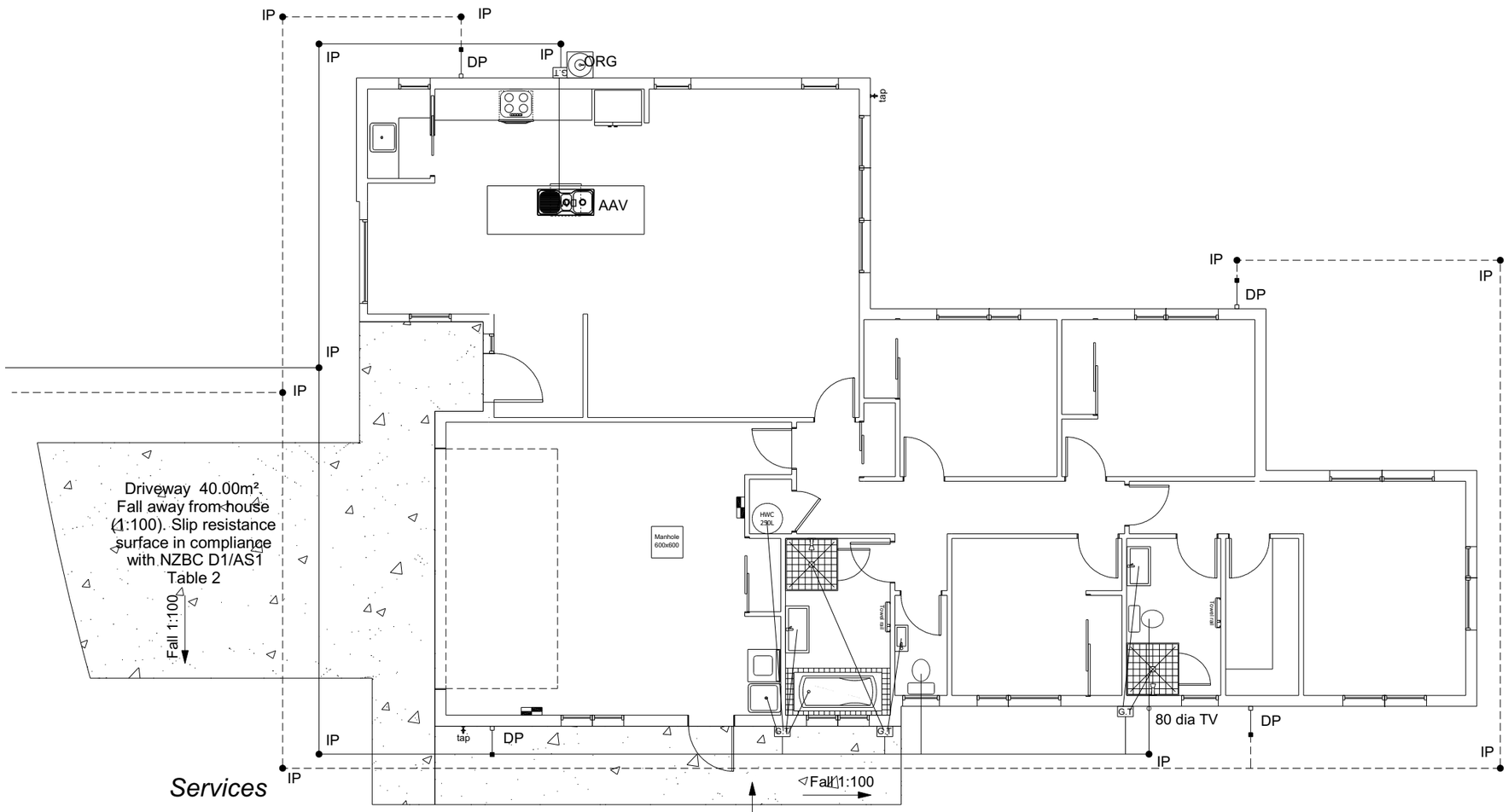
DRAINAGE LEGEND

- - - - - - - -	Stormwater DN100mm uPVC
————	Sewer Drain DN100mm uPVC
DP	Downpipe
GT	Gully Trap
ORG	Overflow Relief Gully
TV	Terminal Vent
AAV	Air Admittance Valve
IP	Inspection Point

Plumbing Schedule	NZBC G13/ AS1
Kitchen	
Sink:	Ø50mm @1:40 (3 discharge units)
Bathrooms	
Vanity:	Ø40mm @ 1:40 (1 discharge units per basin)
Shower:	Ø40mm @1:40 (2 discharge units)
Bath:	Ø40mm @1:40 (4 discharge units)
WC:	Ø100mm @1:40 (4 discharge units)
Laundry Sink:	Ø40mm @1:40 (3 discharge units)
Drainage Schedule	NZBC G13/ AS1
Main Foulwater	
Vented Drain	Ø100mm @1:60
Stormwater Drain	Ø100mm @1:60 (1:120max)
Terminal Vent	Ø80mm
Vent	Ø50mm
Heatpump	Drain over GT
ORG	Overflow Relief Gully

Notes:
All plumbing and drainage to comply with NZBC G13/AS1.
ORG to be positioned so the top of gully dish is no less than 150mm below overflow level of lowest fixture
Sewer & Stormwater to connect to existing connections.
All drains passing through concrete, provide sleeve or wrap in durable and flexible to allow for expansion and contraction. (as per G13/AS2 5.8.1)



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Christchurch

Job Number:	Original Plan:	Sheet Name:
131534	**'Torea 184'**	**DRAINAGE PLAN**

Sales:	Drawn:	QS:	Print Date:	Scale:
L Caldwell	**J Rana**	**W Xian**	**2/12/2021**	**1:100 @ A3**

CONSENT PLANS

No.	Date:	Reason:
1	19.11.2021	BC ISSUE

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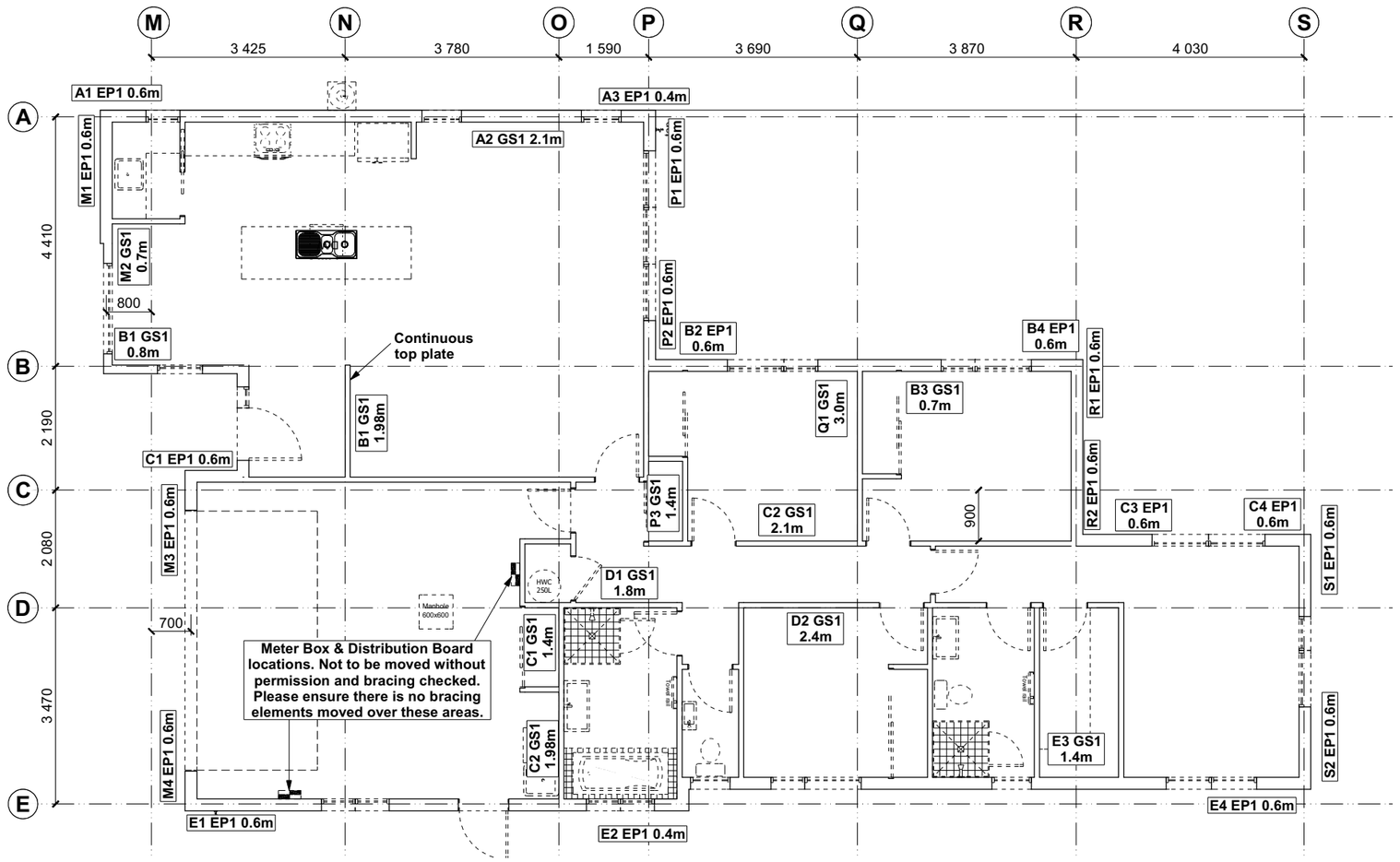


8.7.3.4

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*.

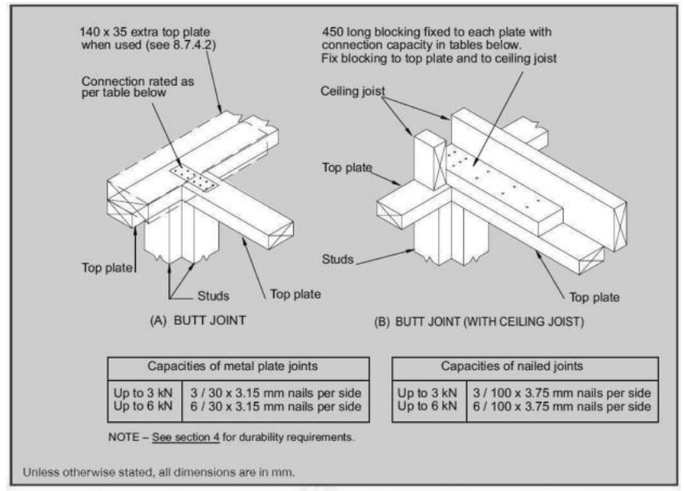
BRACING PLAN NOTES

Wall bracing designed in accordance with NZS3604:2011 & GIB Ezybrace system
Refer to attached calculations.

Bracing Designed to:
Wind: High
Earthquake: 2

BRACING LEGEND

A — Brace Line Label
A1 GS1 1.1m
- Brace Length
- Brace Type
- Brace Number



Capacities of metal plate joints	
Up to 3 kN	3 / 30 x 3.15 mm nails per side
Up to 6 kN	6 / 30 x 3.15 mm nails per side

Capacities of nailed joints	
Up to 3 kN	3 / 100 x 3.75 mm nails per side
Up to 6 kN	6 / 100 x 3.75 mm nails per side

NOTE – See section 4 for durability requirements.

Unless otherwise stated, all dimensions are in mm.

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

Single Level Along Resistance Sheet

Job Name: Ramakrishnannair & Sreekandh

							Wind	EQ
							Demand	
							622	1139
							Achieved	
Line	Element	Length (m)	Angle (degrees)	Stud Ht. (m)	Type	Supplier	Wind (BUs)	EQ (BUs)	1245 200%	1215 107%
a	1	0.60		2.4	EP1 0.6	Ecoply®	57	63		
	2	2.10		2.4	GS1-N	GIB®	145	126		
	3	0.40		2.4	EP1 0.4	Ecoply®	32	38		
									234 OK	227 OK
b	1	0.80		2.4	GS1-N	GIB®	49	47		
	2	0.60		2.4	EP1 0.6	Ecoply®	57	63		
	3	0.60		2.4	EP1 0.6	Ecoply®	57	63		
									163 OK	173 OK
c	1	0.60		2.4	EP1 0.6	Ecoply®	57	63		
	2	2.10		2.4	GS1-N	GIB®	145	126		
	3	0.60		2.4	EP1 0.6	Ecoply®	57	63		
	4	0.60		2.4	EP1 0.6	Ecoply®	57	63		
									316 OK	315 OK
d	1	1.80		2.4	GS1-N	GIB®	124	108		
	2	2.40		2.4	GS1-N	GIB®	166	144		
									290 OK	252 OK
e	1	0.60		2.4	EP1 0.6	Ecoply®	57	63		
	2	0.40		2.4	EP1 0.4	Ecoply®	32	38		
	3	1.40		2.4	GS1-N	GIB®	97	84		
	4	0.60		2.4	EP1 0.6	Ecoply®	57	63		
									243 OK	248 OK

Single Level Across Resistance Sheet

Job Name: Ramakrishnannair & Sreekandh

									Wind	EQ
									Demand	
									1012	1139
									Achieved	
Line	Element	Length (m)	Angle (degrees)	Stud Ht. (m)	Type	Supplier	Wind (BUs)	EQ (BUs)	1228 121%	1194 105%
m	1	0.60		2.4	EP1 0.6	Ecoply®	57	63		
	2	0.70		2.4	GS1-N	GIB®	41	41		
	3	0.60		2.4	EP1 0.6	Ecoply®	57	63		
	4	0.60		2.4	EP1 0.6	Ecoply®	57	63		
									212 OK	230 OK
n	1	1.98		2.4	GS1-N	GIB®	137	119		
									137 OK	119 OK
o	1	1.40		2.4	GS1-N	GIB®	97	84		
	2	1.98		2.4	GS1-N	GIB®	137	119		
									233 OK	203 OK
p	1	0.60		2.4	EP1 0.6	Ecoply®	57	63		
	2	0.60		2.4	EP1 0.6	Ecoply®	57	63		
	3	1.40		2.4	GS1-N	GIB®	97	84		
									211 OK	210 OK
q	1	3.00		2.4	GS1-N	GIB®	207	180		
									207 OK	180 OK
r	1	0.60		2.4	EP1 0.6	Ecoply®	57	63		
	2	0.60		2.4	EP1 0.6	Ecoply®	57	63		
									114 OK	126 OK
s	1	0.60		2.4	EP1 0.6	Ecoply®	57	63		
	2	0.60		2.4	EP1 0.6	Ecoply®	57	63		
									114 OK	126 OK

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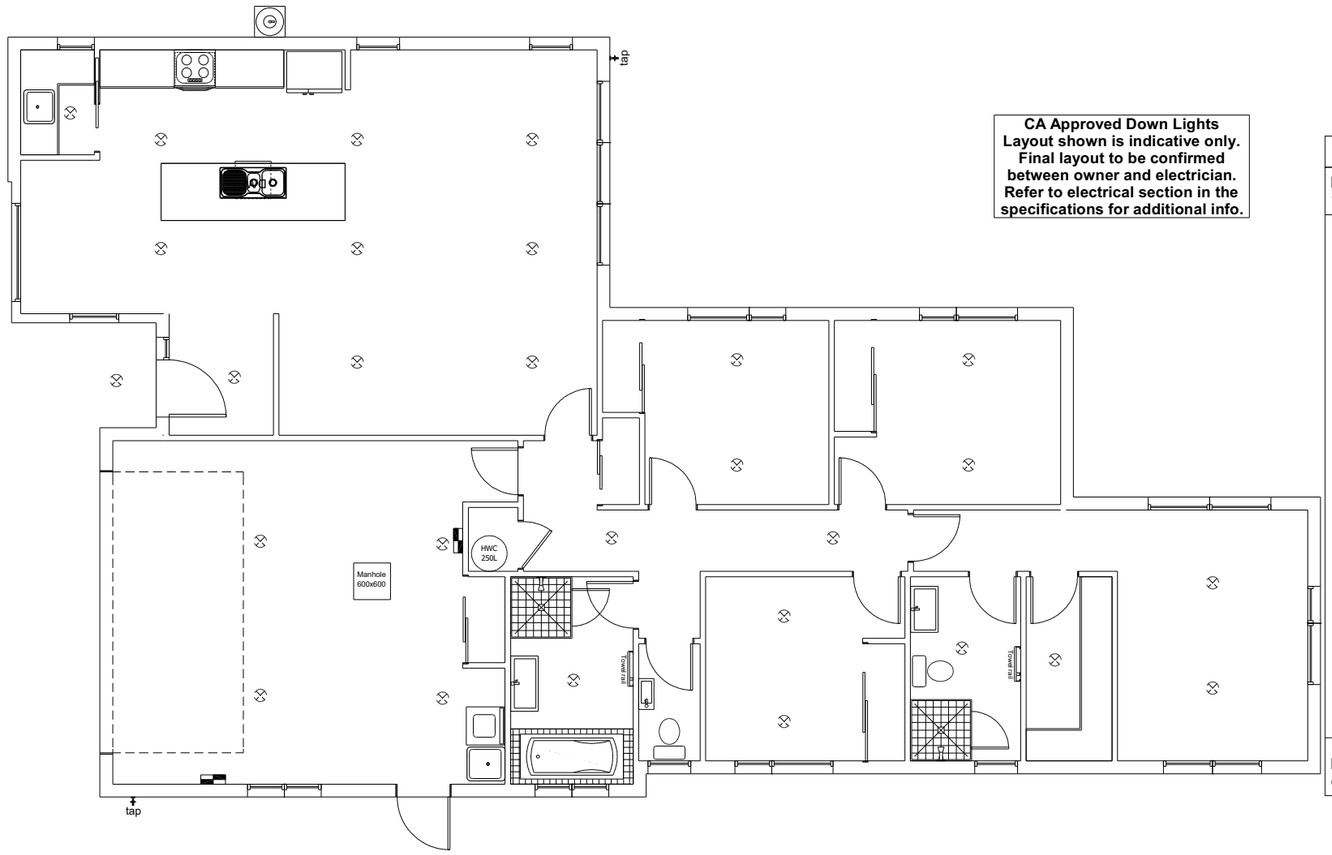
Job Number:	Original Plan:	Sheet Name:	CONSENT PLANS	Sheet No.:
131534	**'Torea 184'**	**BRACING PLAN**	No. / Date: / Reason:	**12**
			1 / 19.11.2021 / BC ISSUE	**of 25 sheets**

Sales:	Drawn:	QS:	Print Date:	Scale:
L Caldwell	**J Rana**	**W Xian**	**2/12/2021**	**1:100 @ A3**



CA Approved Down Lights Layout shown is indicative only. Final layout to be confirmed between owner and electrician. Refer to electrical section in the specifications for additional info.

LEGEND

Refer to Electrical Section in Specification for further details

◯	Ceiling Pan
⊗	CA Approved Down Light
⊜	Exterior Bulkhead Light
◉	Exterior Wall Light
———	Fluorescent Double
	Light Switch
	Two Way Light Switch
	Single Power Socket
	Double Power Socket
	Outside Waterproof Plug
▼	Telephone/Data Outlet
TV	TV Jack
SKY	Sky Connection
▬	Bathroom Heater
■	Bathroom Extractor/Light

Electrical Plan in indicative only and is to be confirmed onsite with electrician and client

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Job Number:	Original Plan:	Sheet Name:
131534	**'Torea 184'**	**LIGHTING PLAN**

Sales:	Drawn:	QS:	Print Date:	Scale:
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CONSENT PLANS

No.	Date:	Reason:
1	19.11.2021	BC ISSUE

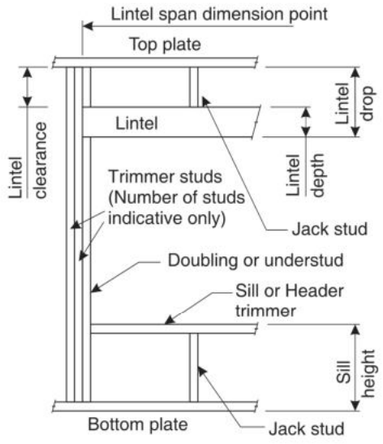
Sheet No.: **13** of 25 sheets

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
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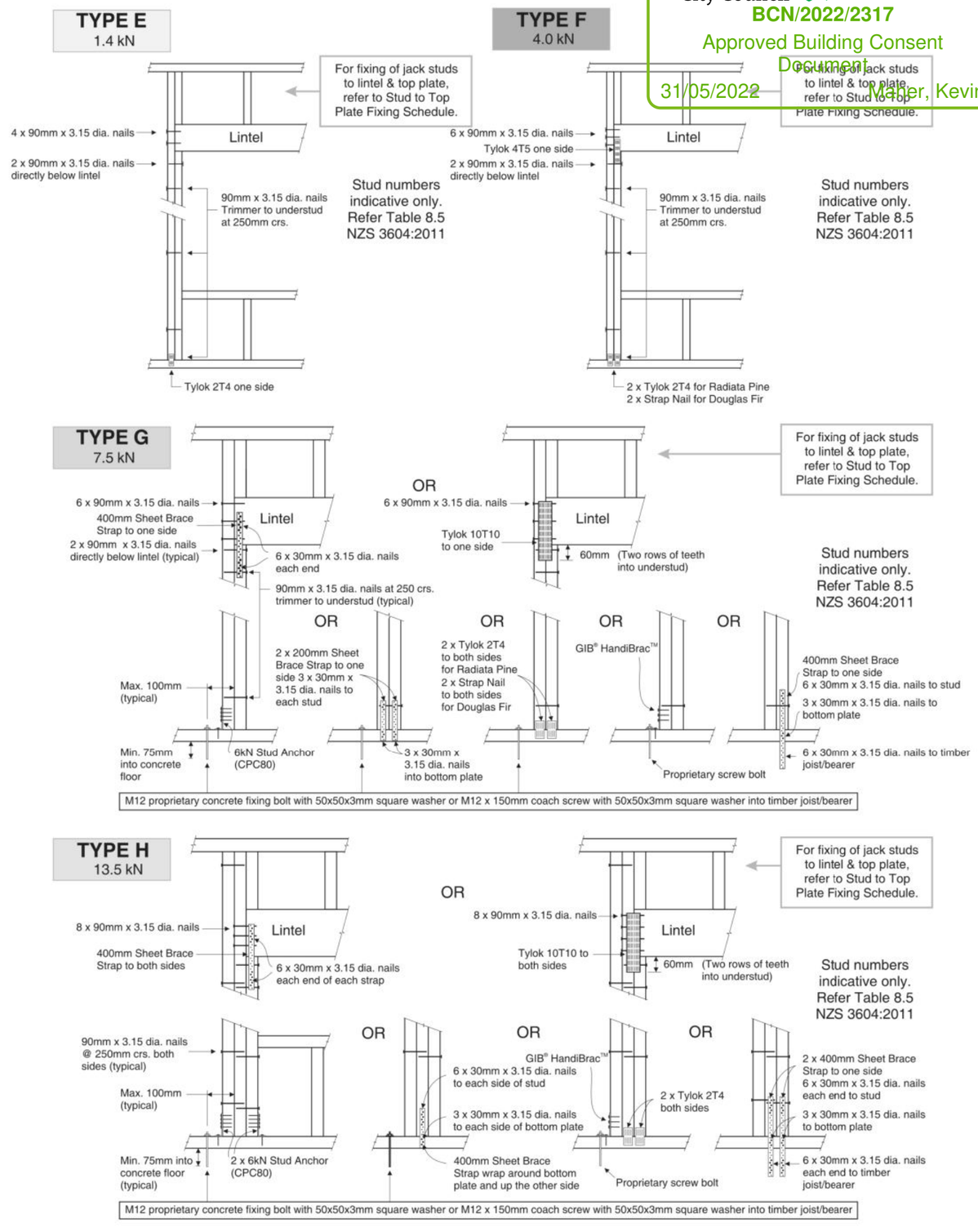
	3.4	F	G	H	H	-	E	F	G	H	-
	4.0	F	G	H	-	-	E	F	G	H	-
	5.0	G	H	-	-	-	E	F	H	-	-
	6.0	G	H	-	-	-	E	F	H	-	-
4.8	2.0	F	F	G	H	H	E	E	F	G	H
	3.0	F	G	H	H	-	E	F	G	H	H
	3.2	F	G	H	H	-	F	F	G	H	-
	4.0	F	G	H	-	-	E	F	H	H	-
	5.0	G	H	-	-	-	E	F	H	-	-
	6.0	G	H	-	-	-	E	F	H	-	-

LINTEL FIXING OPTIONS



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Job Number:	Original Plan:	Sheet Name:	Sheet No.:
131534	'Torea 184'	FRAMING DETAILS	14

Sales:	Drawn:	QS:	Print Date:	Scale:
L Caldwell	J Rana	W Xian	2/12/2021	NTS @ A3

CONSENT PLANS

No.	Date:	Reason:
1	19.11.2021	BC ISSUE

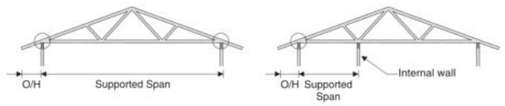
of 25 sheets

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

NOTE:

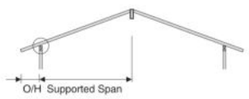
- ★ All fixings are designed to resist vertical loads only. Dead loads include the roof weight and standard ceiling weight of 0.20 kP
- ★ Refer to Table 8.19 NZS 3604:2011 for nailing schedule to resist lateral loads.
- ★ These fixings assume the correct choice of rafter/truss to top plate connections 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

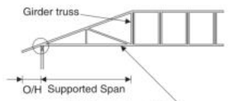


External wall
Standard truss

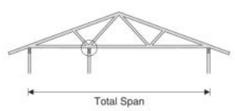
External wall
Internally supported truss



External wall
Rafter roof



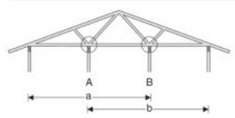
External wall
Jack truss



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.)

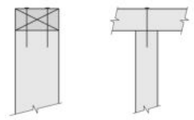
Wind Zones L, M, H, VH, EH, as per NZS 3604:2011

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

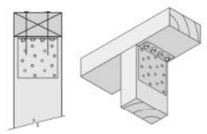
2 x 90mm x 3.15 dia. plain steel wire nails driven vertically into stud.



FIXING TYPE B
4.7 kN

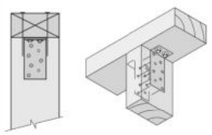
CHOOSE ANY OF THE 3 OPTIONS BELOW

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



Plus
LUMBERLOK
6kN Stud Anchor
(CPC80)

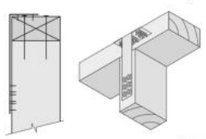
2 x 90mm x 3.15 dia. plain steel wire nails driven vertically into stud.



Plus
2 x LUMBERLOK
CPC40

Recommended for internal wall options to avoid lining issues

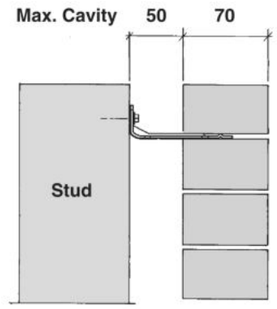
2 x 90mm x 3.15 dia. plain steel wire nails driven vertically into stud.



Plus
LUMBERLOK
Stud Strap
(one face only)

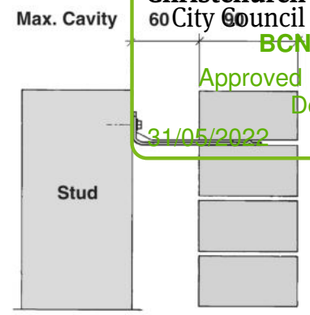
Note:
To calculate the number of B type fixings required, divide the wall length by the stud centres, add 1 to this figure and locate this number of fixings as evenly as possible along the wall length. This figure includes the start and end studs in each wall length.

70 SERIES BRICK



Screw Tie Short
(85mm)

90 SERIES BRICK



Screw Tie Long
(105mm)

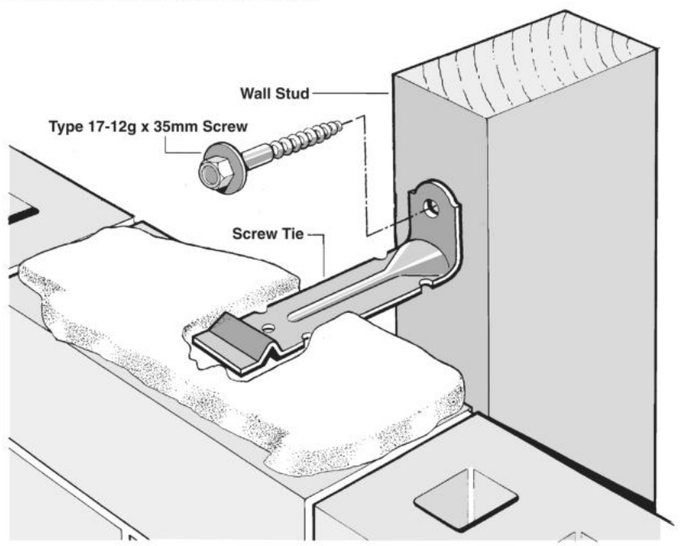
- ★ All brick work must be constructed in accordance with NZS 4210:2001 Masonry Construction:Materials and Workmanship. Screw Ties must be applied accordingly and are not to be hammered into timber framing.
- ★ Water shedding shoulder prevents transfer of the moisture from tie to building.
- ★ Nail hole for Oamaru Stone.
- ★ Angled neck encourages increased tie embedment in mortar.

Material: 1.2mm NZCC-SD Hot Dip Galvanised Steel
Screws: Type 17-12g x 35mm Hex Head Hot Dip Galvanised Screws
Packaging: 250 ties per box including screws

Also available in Stainless Steel Grade 316 for Zone D.

SCREW TIES
FOR BRICK VENEER FIXING

- ★ Medium duty (EM) classification
- ★ Tested by BRANZ in accordance with AS/NZS 2699.1:2000
- ★ BRANZ test report No. ST0725 November 2007
- ★ Suitable for both 'dry bedding' and encapsulated mortar
- ★ Hot Dip Galvanised ties for Zones B & C, and Stainless Steel Grade 316 ties for Zone D meet NZS 3604:2011 Sect. 4 Durability
- ★ Available in 85mm and 105mm sizes



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131534	**'Torea 184'**	**FRAMING DETAILS**

Sales:	Drawn:	QS:	Print Date:	Scale:
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CONSENT PLANS

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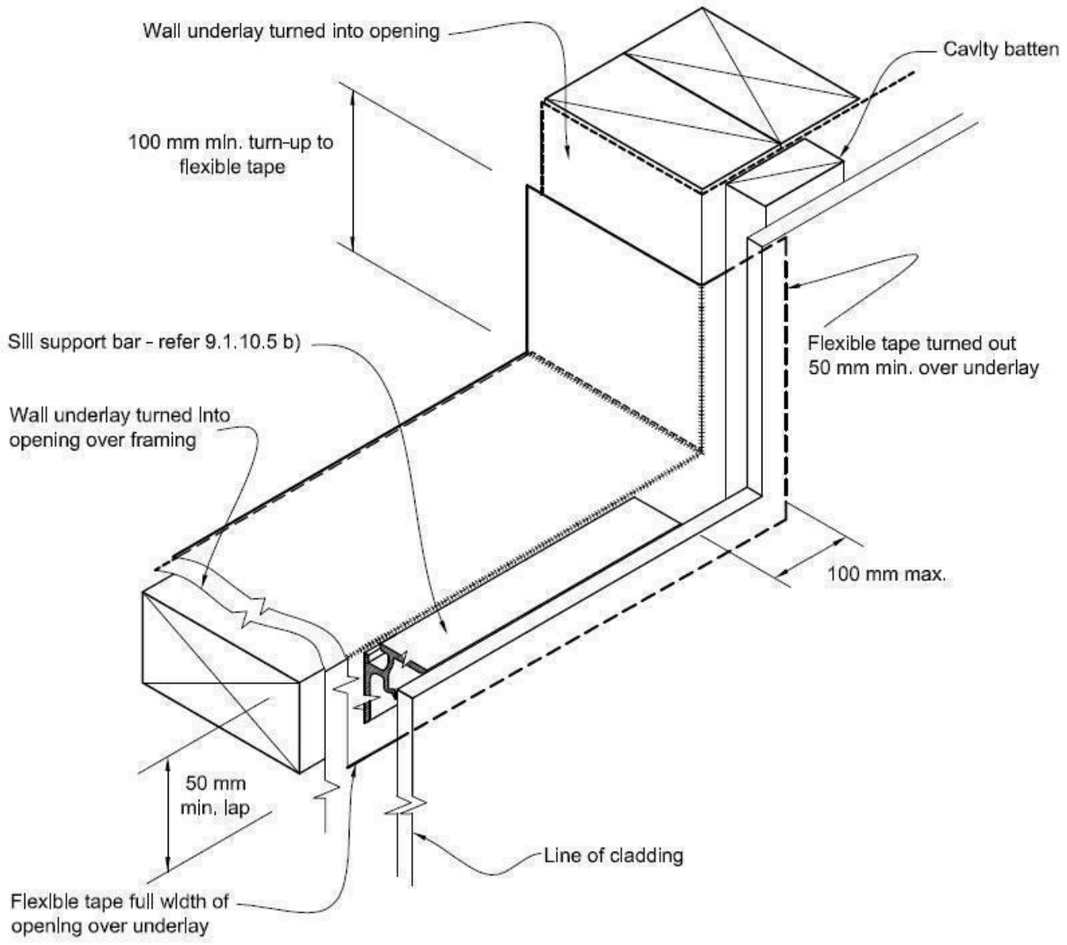
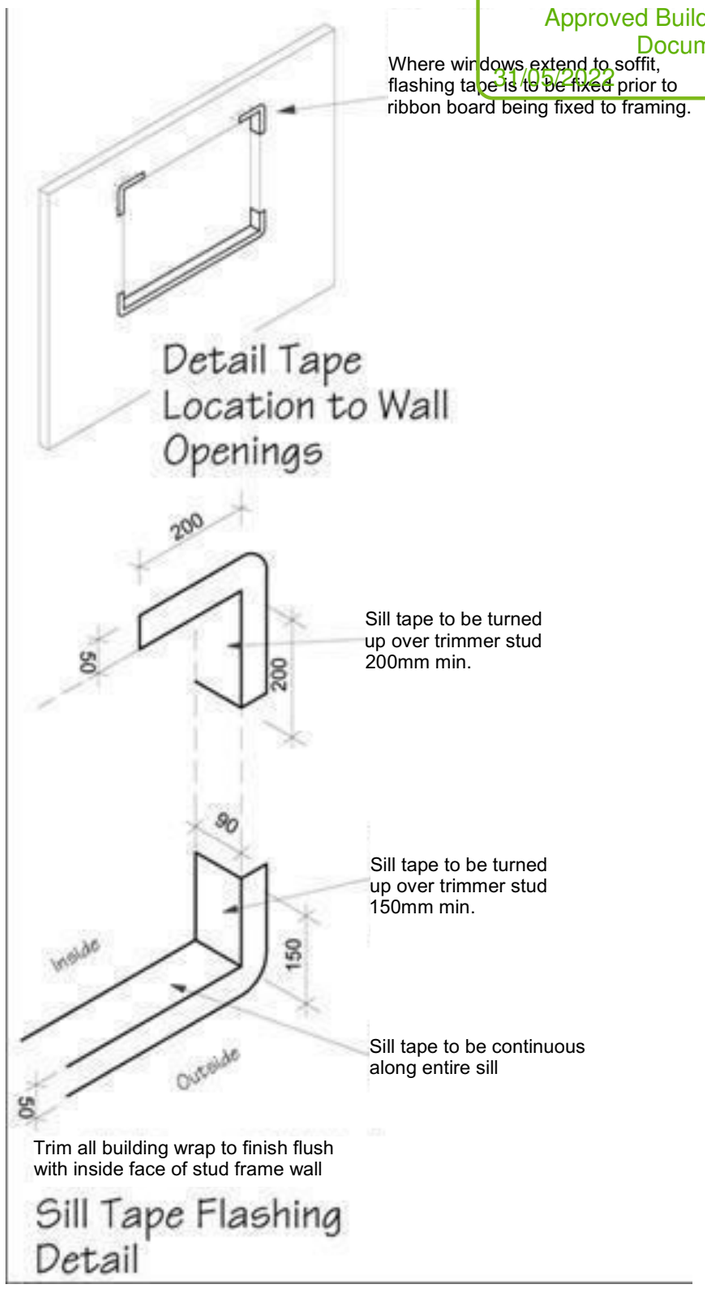
Figure 72B: **General window and door opening with drainage cavity**
Paragraphs 9.1.5, 9.1.9.3, 9.1.10.2, Figures 73C, 76, 85, 86, 91, 99, 116 and 128

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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Sales: **L Caldwell**	Drawn: **J Rana**	QS: **W Xian**	Print Date: **2/12/2021**	Scale: **As Shown @ A3**

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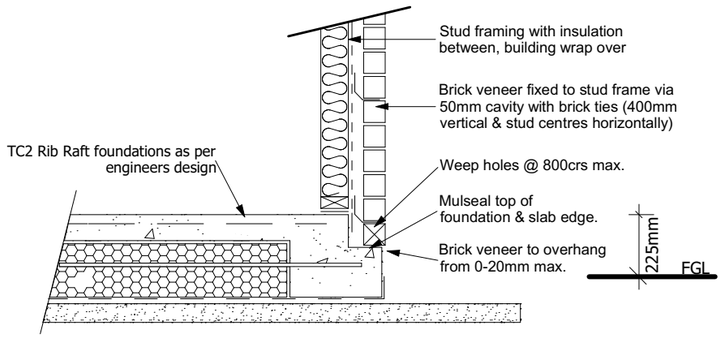
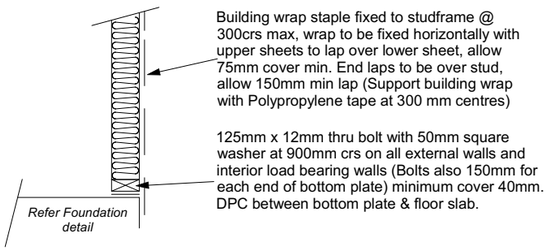


Brick Veneer Foundation
Scale 1:20



Stud framing to slab
Scale 1:20

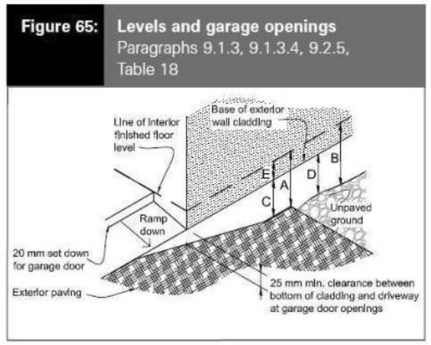
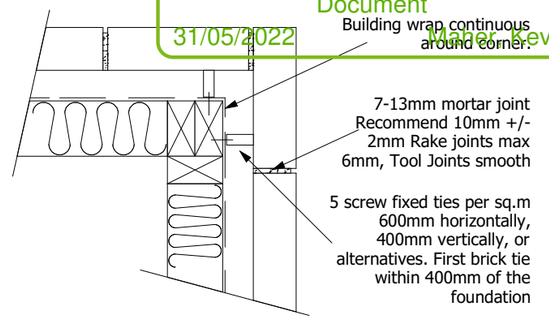


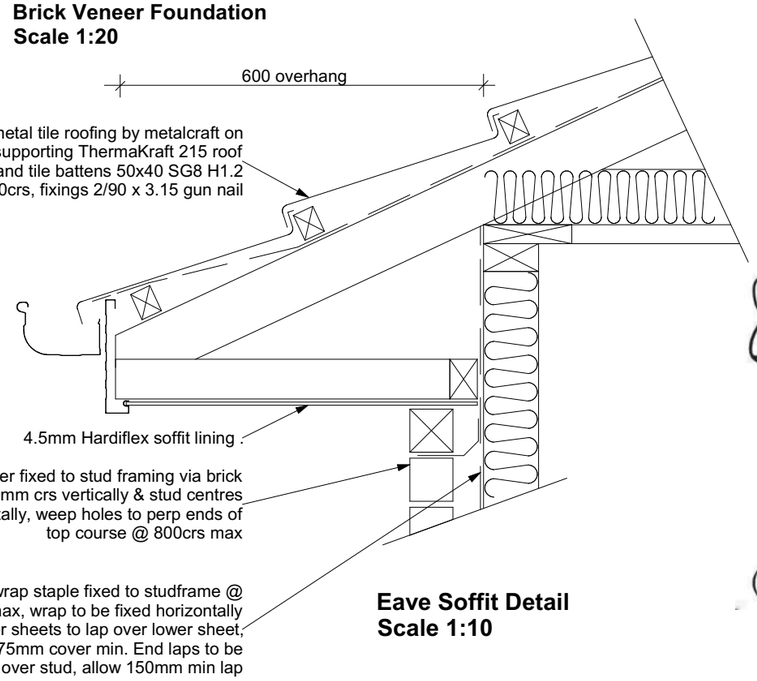
Table 18: Minimum clearances
Paragraphs 9.1.3, 9.1.3.1, 9.1.3.2, 9.1.3.3, 9.1.3.4, 9.1.3.5 and 9.2.7

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	502)

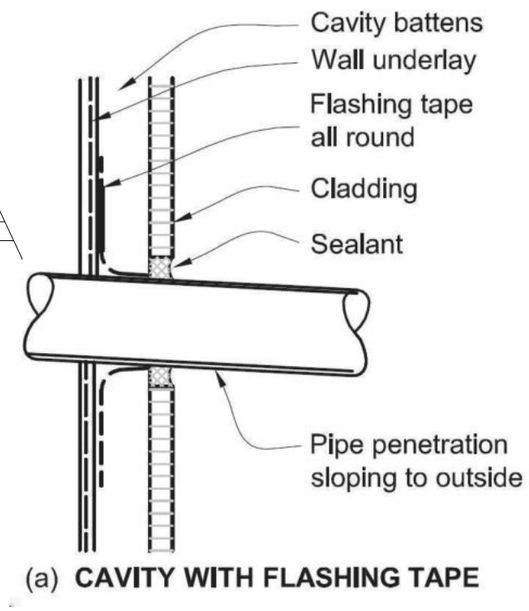
NOTE: 1) Refer to NZS 3604 for requirements.
2) Cladding to extend minimum 50 mm below bearer or lowest part of timber floor framing.



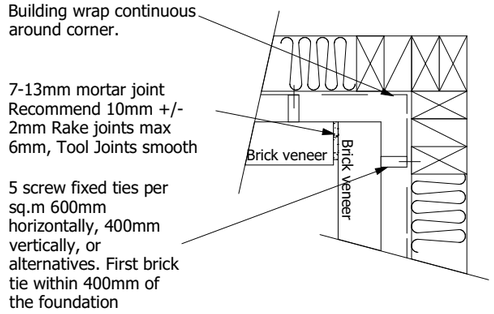
Brick Veneer External Corner Detail
scale 1:5



Eave Soffit Detail
Scale 1:10



(a) **CAVITY WITH FLASHING TAPE**



Brick Veneer Internal Corner Detail
scale 1:5

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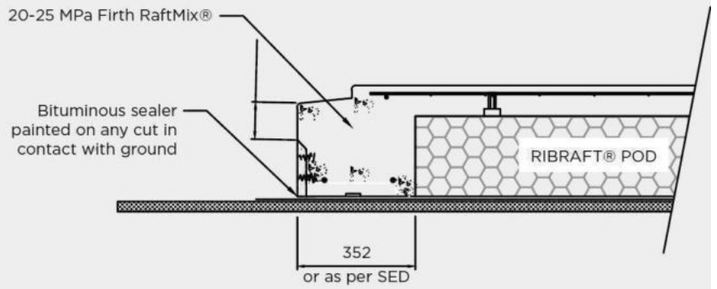
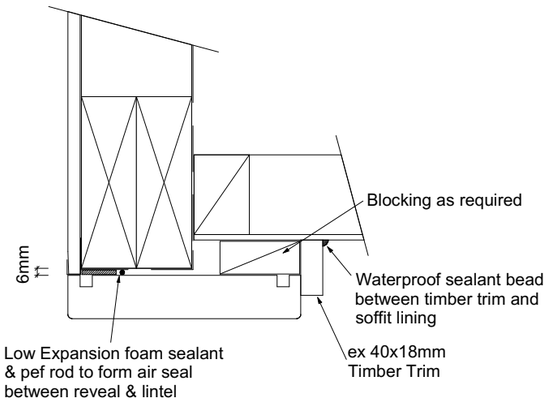
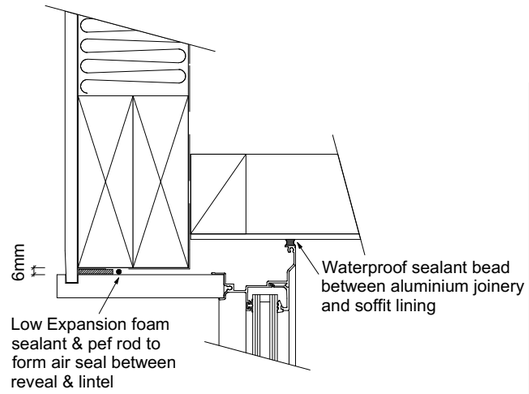
GARAGE DOOR STOP
CONSTRUCTION DETAIL





Garage Door Head to Soffit
Scale 1:5



Window Head to Soffit Detail
Scale 1:5

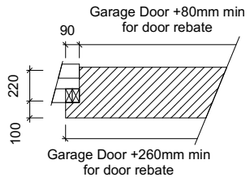
9.1.10.8 Attachments for windows and doors

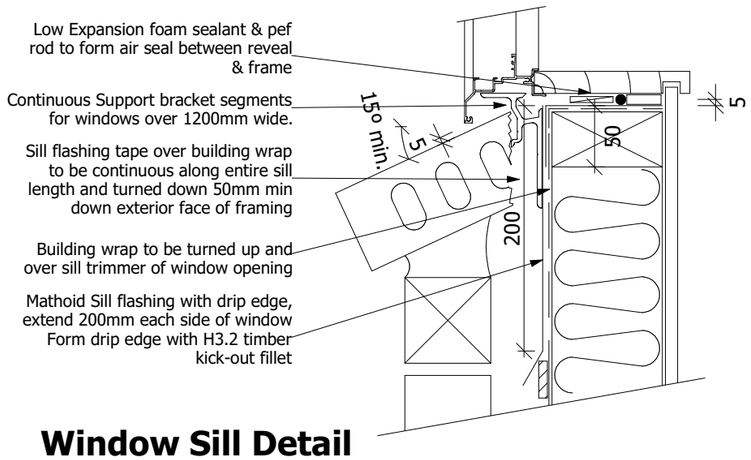
Install windows and doors using pairs of minimum 75 x 3.15 galvanised jolt head nails or 8 gauge x 65 mm stainless steel screws, through reveals into surrounding *framing* at:

a) Maximum 450 mm centres along sills, jambs and heads, and

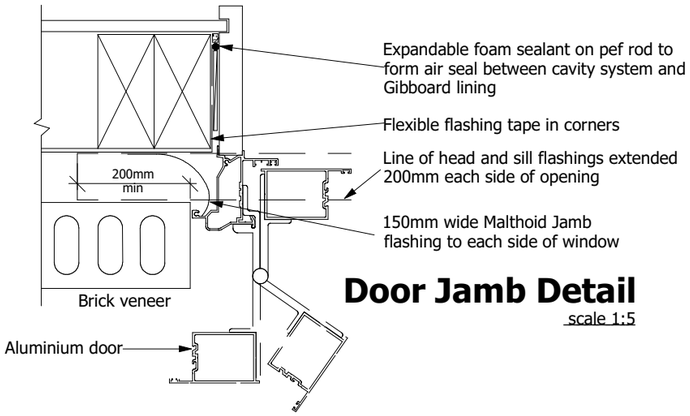
b) Maximum 150 mm from reveal ends.

Install packers between reveals and *framing* at all fixing points, except between head reveals and lintels.

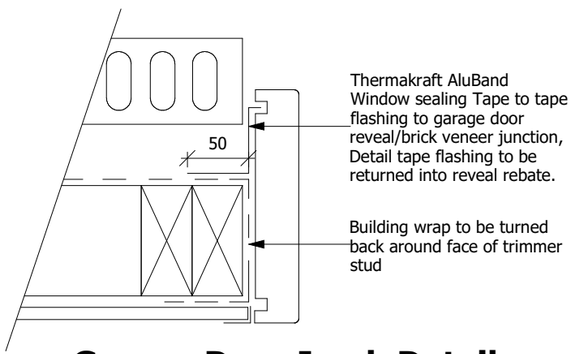




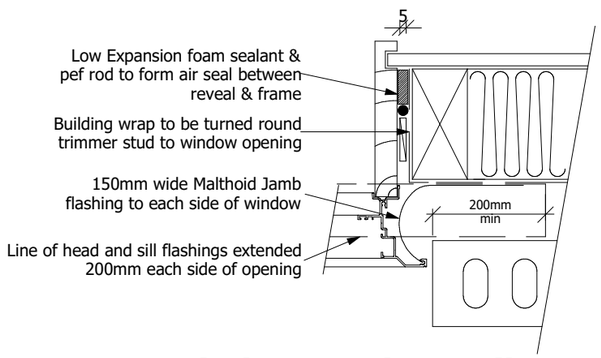
Window Sill Detail
scale 1:5



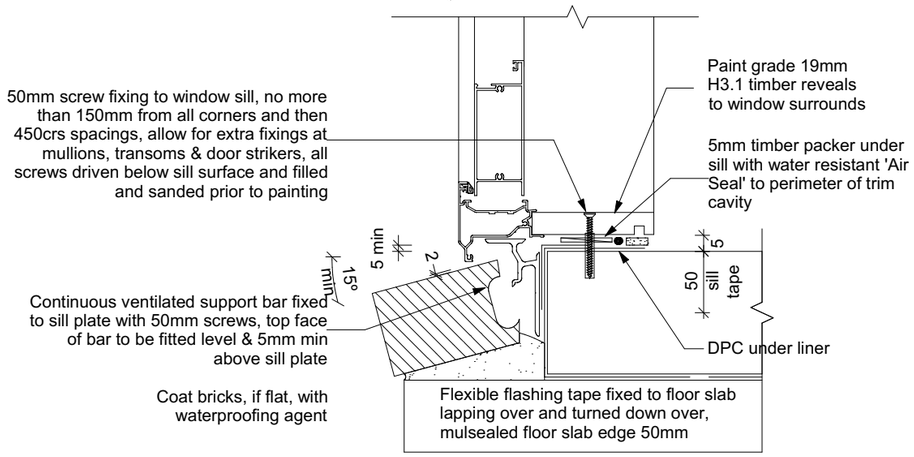
Door Jamb Detail
scale 1:5



Garage Door Jamb Detail
scale 1:5



Window Jamb Detail
scale 1:5



Door Sill to Slab Detail
Scale 1:20

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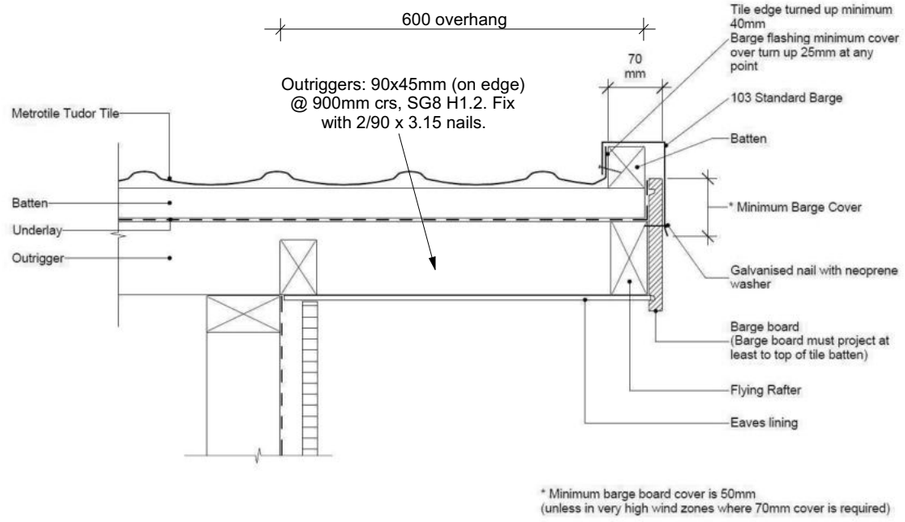
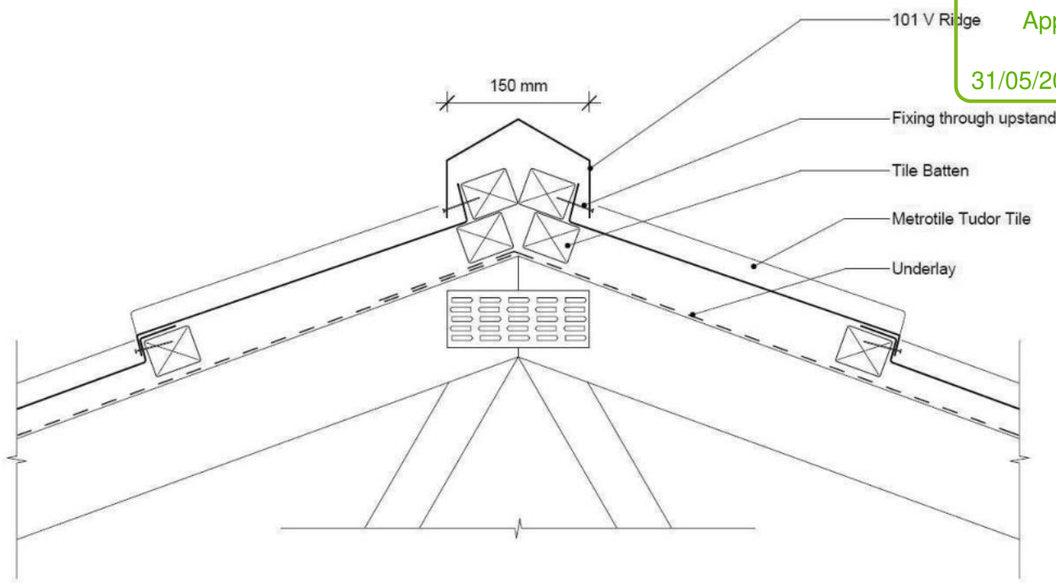
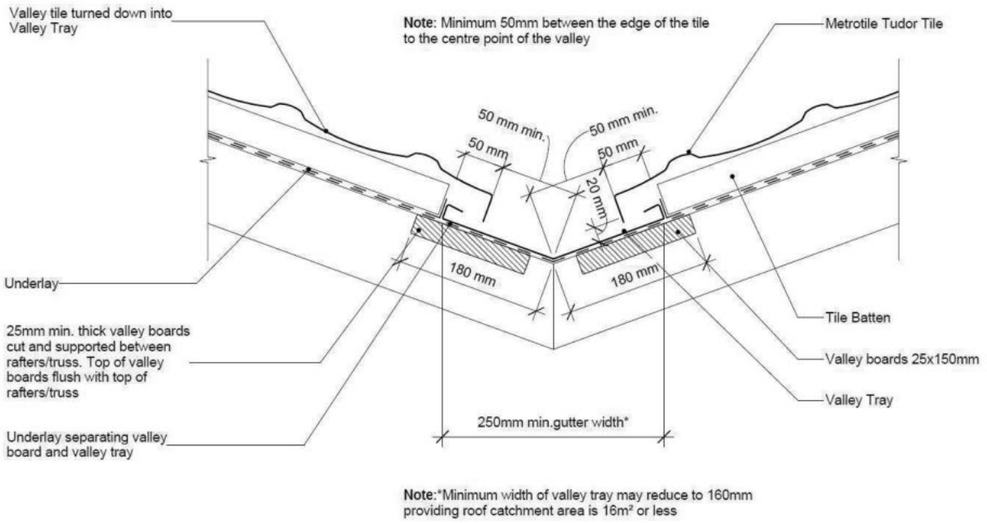


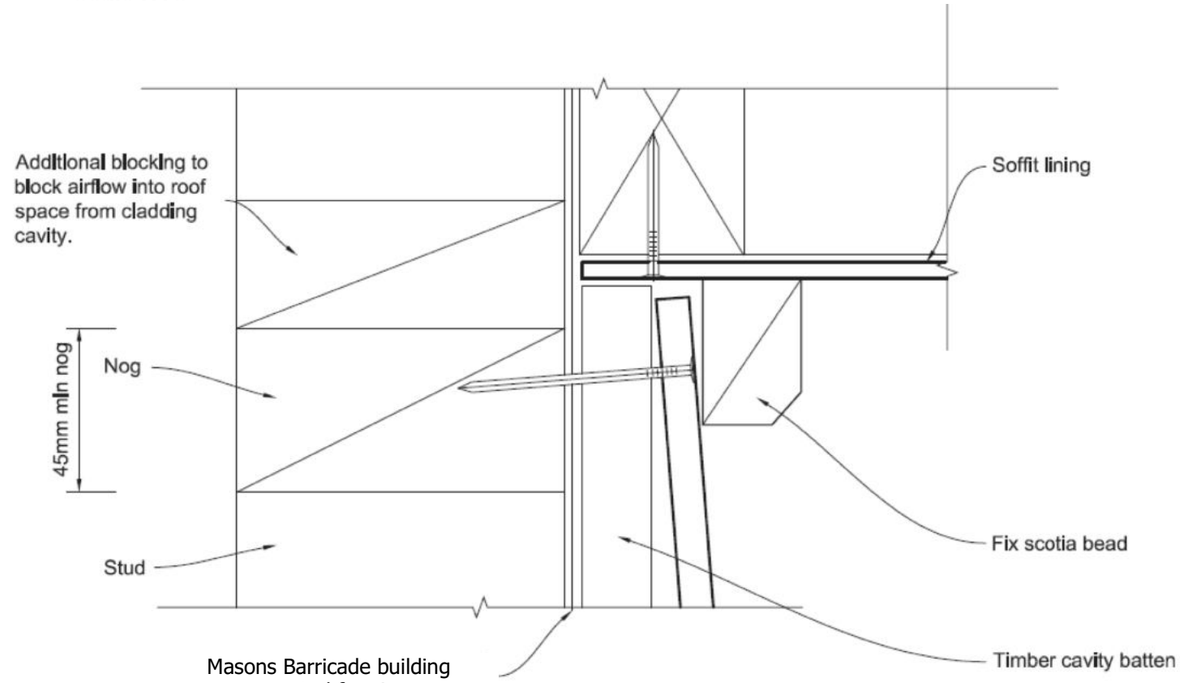
Metal Tile Gable Detail
Scale NTS



Metal Tile Angle Ridge Detail
Scale NTS



Metal Tile Valley Detail
Scale NTS



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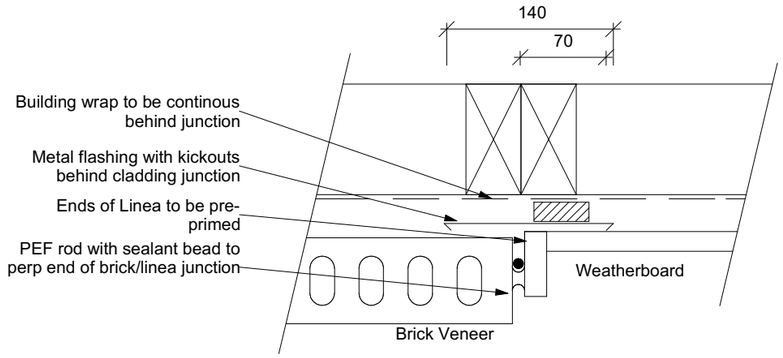
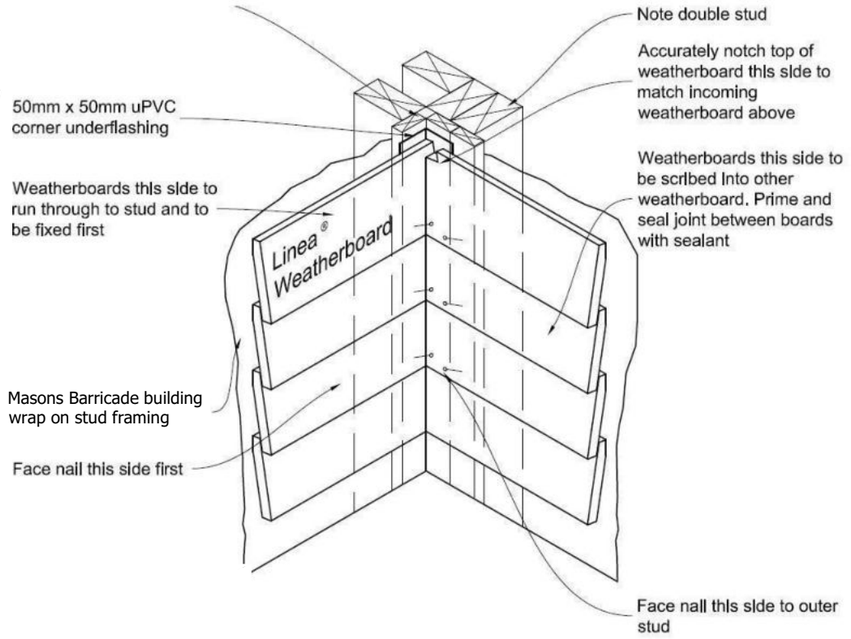
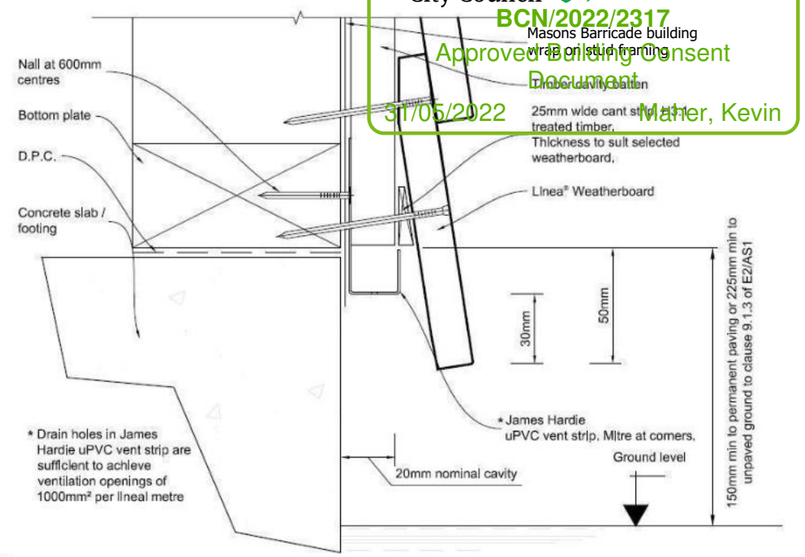
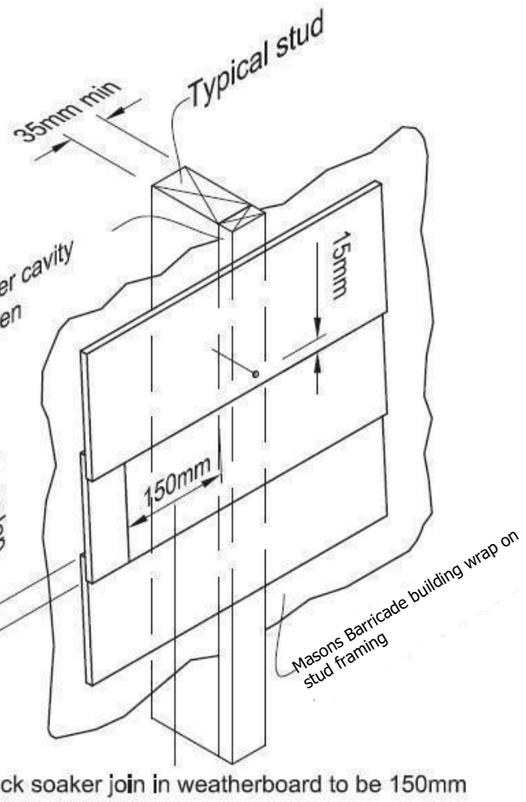


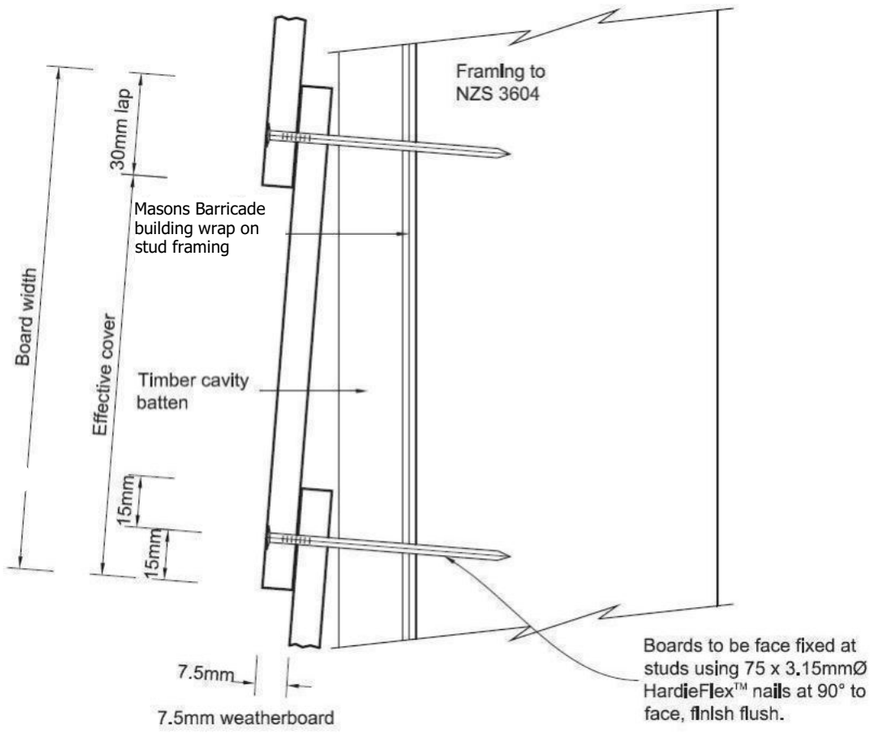
Weatherboard /Brick "vert junction"
Scale 1:5



Weatherboard Internal Corner
Scale NTS



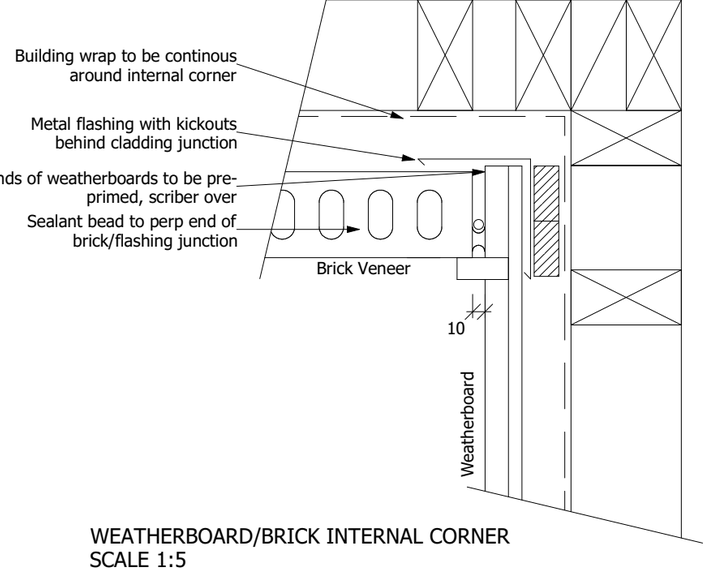




7.5mm weatherboard

Concealed back soaker join in weatherboard to be 150mm minimum from side of stud.
Joints must be staggered by 600mm minimum

Jointing off Stud



WEATHERBOARD/BRICK INTERNAL CORNER
SCALE 1:5

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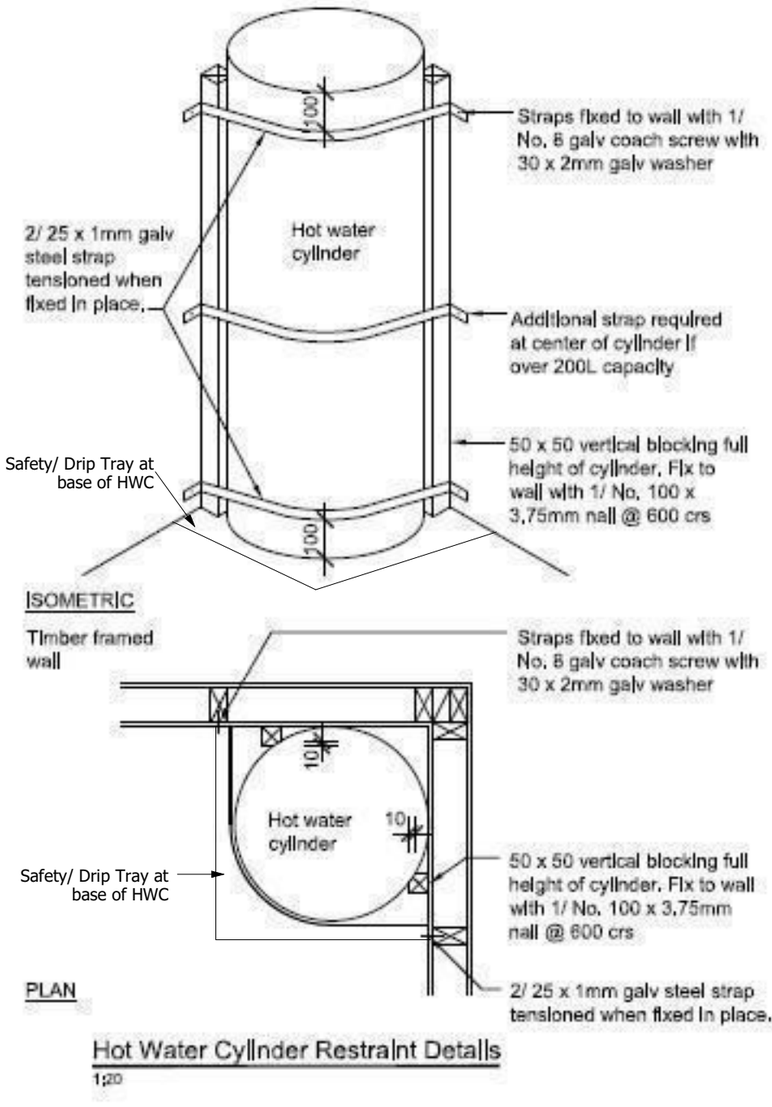
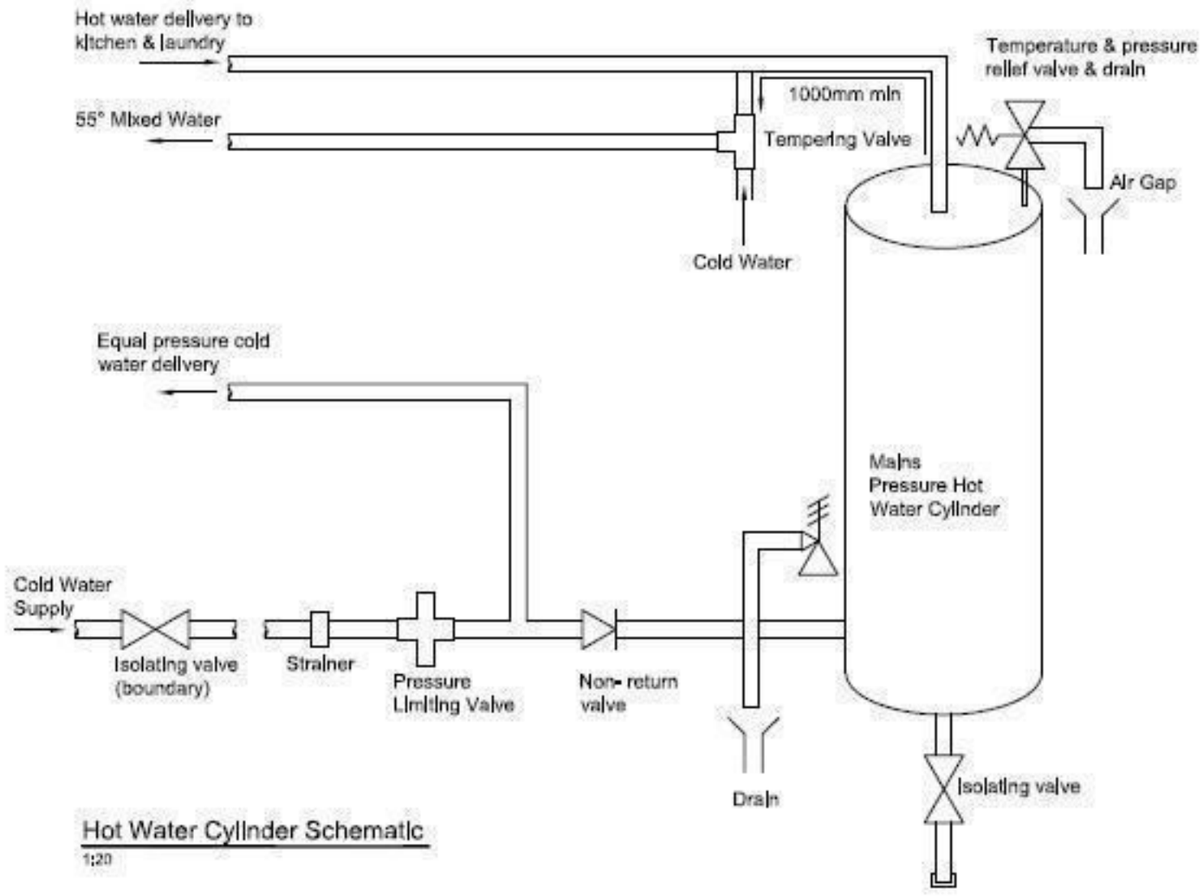
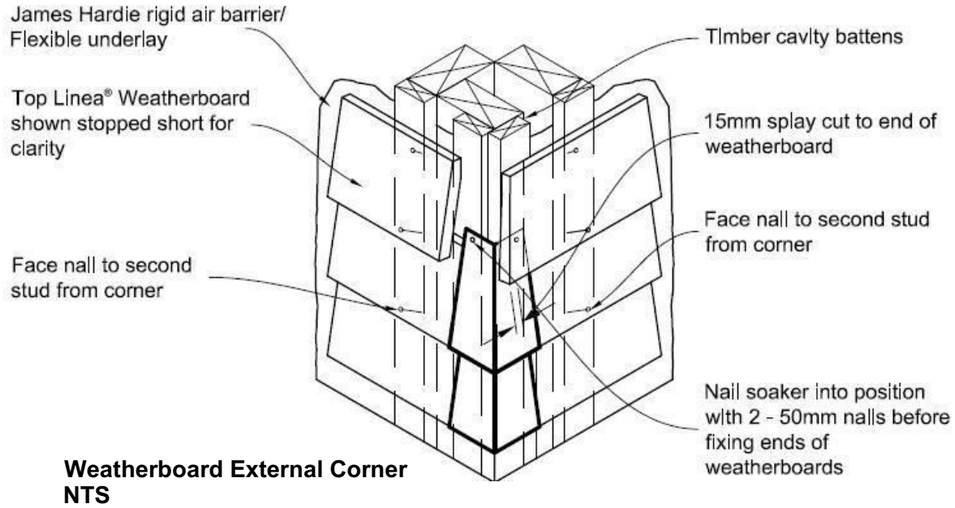


Hot Water Cylinder Restraint Details
1:20



Hot Water Cylinder Schematic
1:20



Weatherboard External Corner
NTS

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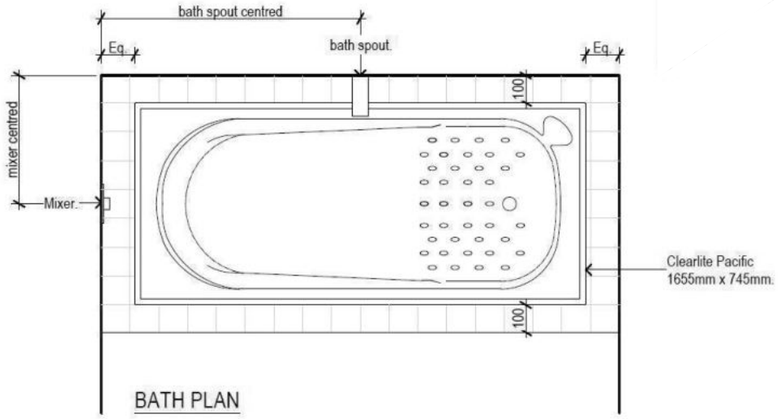
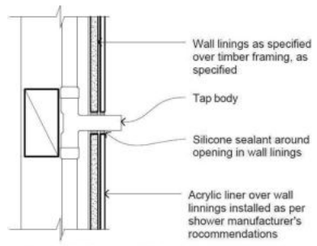
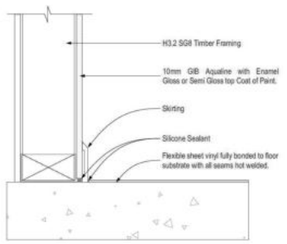


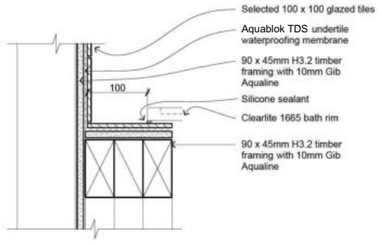
BATH PLAN



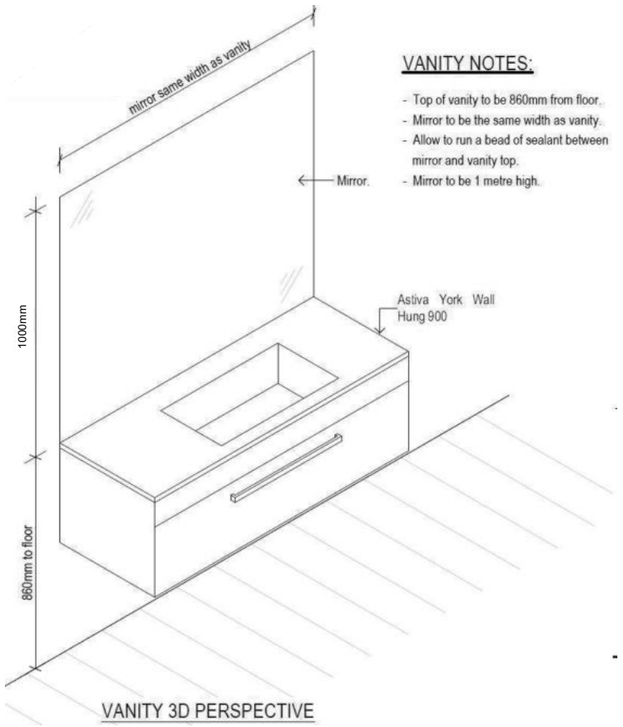
PENETRATION DETAIL



GENERAL FLOOR/WALL DETAIL



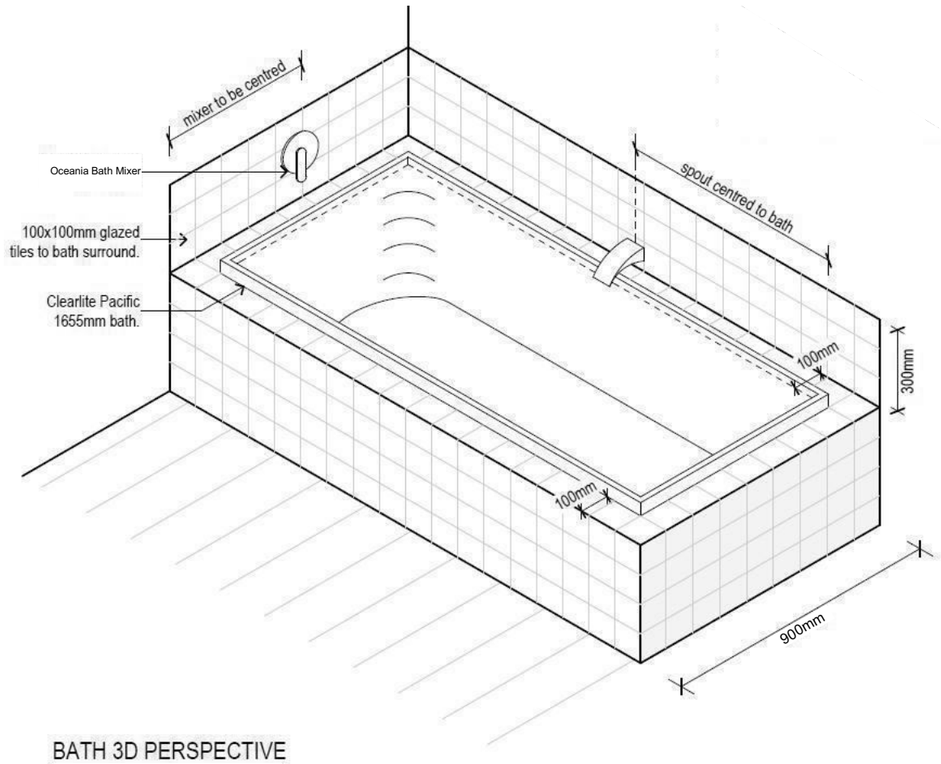
BATH/WALL JUNCTION



VANITY NOTES:

- Top of vanity to be 860mm from floor.
- Mirror to be the same width as vanity.
- Allow to run a bead of sealant between mirror and vanity top.
- Mirror to be 1 metre high.

VANITY 3D PERSPECTIVE

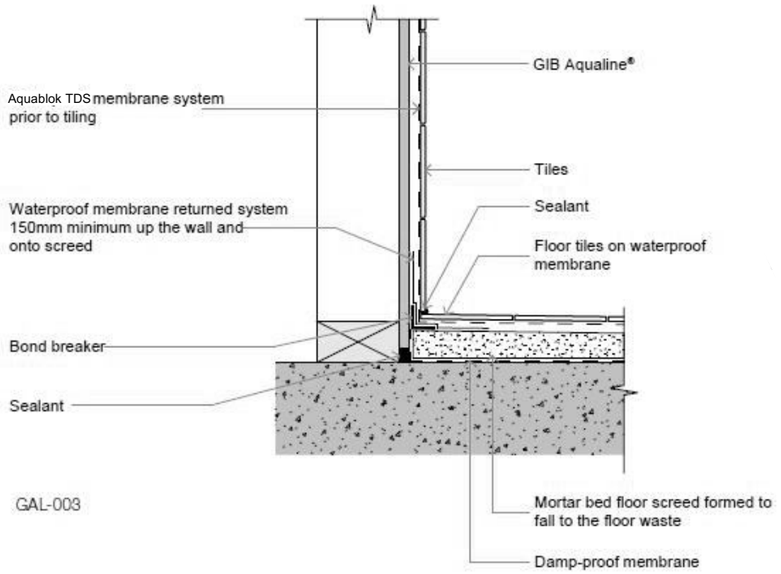


BATH 3D PERSPECTIVE

All dimensions are to be check and confirmed prior to any construction
Plans are to be read in conjunction with Specifications and all supporting documentation

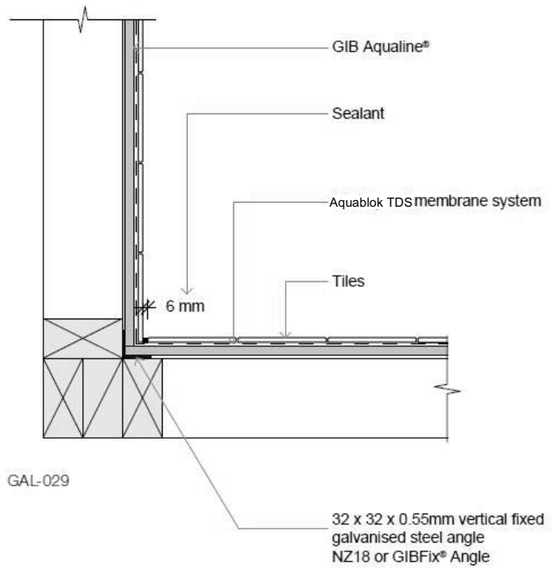
Signature Homes YOUR HOME. YOUR WAY.	**TKR Homes Ltd.** 31 Watts Road, Sockburn PO BOX 11 351 Christchurch 8443 P: +64 3 342 7788	These drawings are limited to and by the extent of the detail covered in the drawings to meet the current New Zealand Building Code (NZBC). Where detail it required for construction and to demonstrate compliance with the current NZBC, a specific request should be made for the required detail to be supplied. No liability will be accepted for any detail or construction not covered in these drawings and/or carried out by persons other than the designer producing these documents.	Ramakrishnannair & Sreekandh Lot 99 Belfast Subdivision, Christchurch	Job Number: **131534** Sales: **L Caldwell** / Drawn: **J Rana** / QS: **W Xian**	Original Plan: **'Torea 184'**	Sheet Name: **BATHROOM DETAILS** Print Date: **2/12/2021** / Scale: **NTS @ A3**	**CONSENT PLANS** No. 1 — Date: 19.11.2021 — Reason: BC ISSUE	Sheet No.: **22** **of 25 sheets**

A: MORTAR UNDER CERAMIC FLOOR LINING JUNCTION



GAL-003

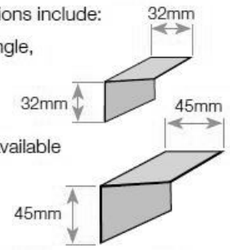
B: TILED INTERNAL CORNER



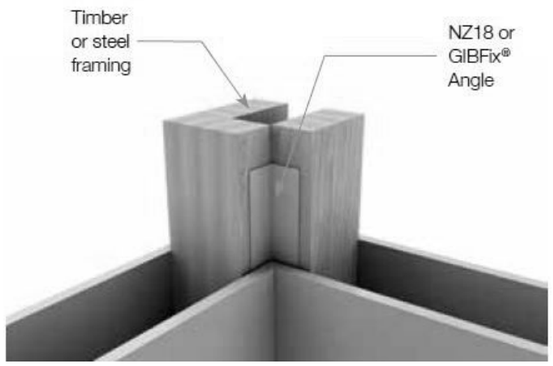
GAL-029

METAL ANGLES FOR TILED INTERNAL CORNERS

- Prior to lining in tiled areas (shower cubicles and shower over bath only) the internal corners shall be reinforced with a minimum 32 x 32 x 0.55mm galvanised metal angle.
- Suitable GIB® metal angle options include:
  - GIB® Rondo® NZ18 metal angle, available length: 3.0m
  - GIBFix® Angle metal angle, available lengths: 2.4m and 2.7m

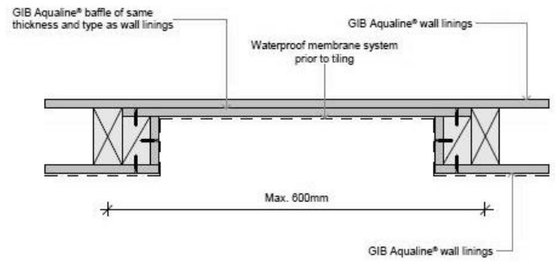


- Each side of the angle is secured to the framing with at 600mm centres
- Minimum height of the metal angle is 1800mm

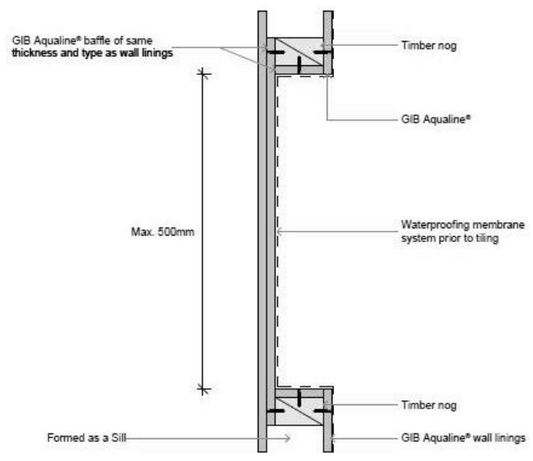


GAL-029B

TIMBER FRAME TILE RECESS



Larger recesses can be accommodated depending on specific framing layout provided 500mm is not exceeded in at least one direction.



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PO BOX 11 351
Christchurch 8443

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Ramakrishnannair & Sreekandh
Lot 99 Belfast Subdivision,
Christchurch

Job Number:	Original Plan:	Sheet Name:	CONSENT PLANS	Sheet No.:
131534	**'Torea 184'**	**BATHROOM DETAILS**		**23**

Sales:	Drawn:	QS:	Print Date:	Scale:
L Caldwell	**J Rana**	**W Xian**	**2/12/2021**	**NTS @ A3**

No.	Date:	Reason:
1	19.11.2021	BC ISSUE

of 25 sheets

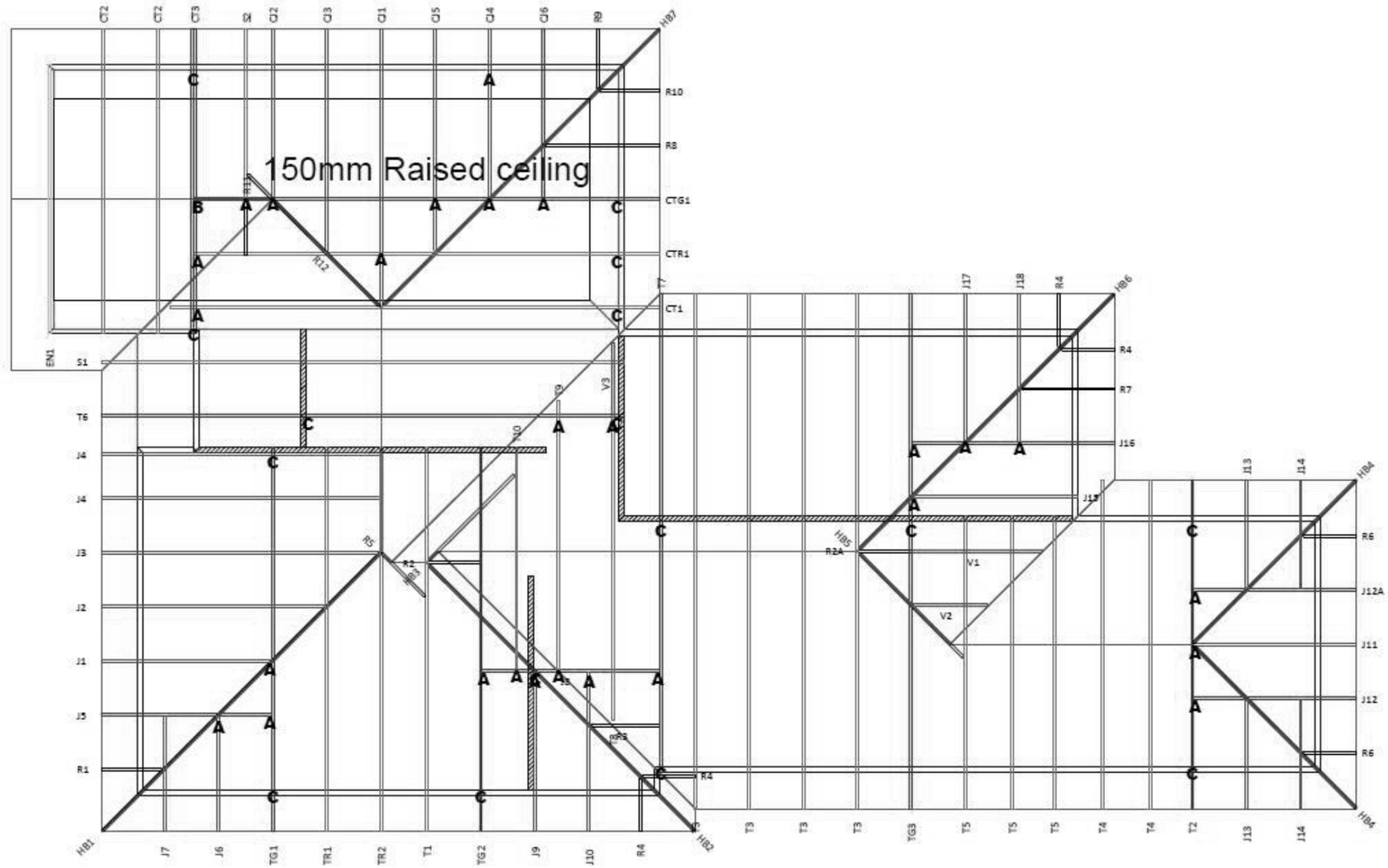
BUILDABLE CONSENT LAYOUT

FTMA NEW ZEALAND

For valley/saddle truss fixing unless stated otherwise use a pair of wire dogs at 900mm centres for up to and including a very high wind zone. Or a pair of CT200's at 900mm centres for extra high wind zone. This fixing is to meet the minimum requirements as per NZS3604.

CARTERS

Your Building Partner



CARTERS
Carters National Support Office
0800 Carters

JOB No **351233C1**

Client: TKR Homes Limited | T/A Signature
Job: Ramakrishnannair-Sreekandh
Site: Lot 99
Belfast Subdivision
Christchurch

Pitch: 25.0deg
Roof Type: Metal Tiles
Overhang: 600mm
Wind Area: High
Roof Snow: 0.441kPa
Ceiling Restraint Centres:600mm

Trusses and rafters at 900mm max centres unless stated otherwise. This layout is to be read in conjunction with the Architectural plans.

DRAWN Celica Maffey | 18 Aug,2021

FIXINGS

A = 47x90 Joist Hanger
B = 47x120 Joist Hanger
C = CT200 (pair)
D = 47x190 Joist Hanger
E = 95x165 Joist Hanger
F = SH-140 Split Hanger
G = SH-180 Split Hanger
H = SH-220 Split Hanger
J = 2x6kN Strap (12kN Total)
K = 6kN Strap
L = Multigrip (single)
M = Multigrips (pair)
N = Nailon Plate (240x110x1)
P = 16kN Pack
Q = 9kN Pack
S = CPC 40 Single Cleat
T = CPC 40 Short (pair)
U = CPC 80 Single Cleat
V = 16kN Uplift
W= 24kN Uplift
X = 25kN Uplift
Y = 35kN Uplift
Z = 45kN Uplift

Unless otherwise indicated, all specified truss fixings are to use L/Lok product nail fasteners (as per the MiTek On-site Guide) when the choice of using screws or nails is optional.

All truss to frame fixings require 2 additional 2/90x3.15dia skew nails.

All truss fixings not indicated as above must have 2 wire dogs for cross joints and 2/90x3.15dia nails for butt joins.

Fixings shown are for fixing trusses to the top plate. Any other point load uplift fixings down through the framing stud to top plate, stud to bottom plate, bottom plate to floor remain the responsibility of the architect / draughtsman.

Truss Layout

PLEASE NOTE: All gable trusses are designed to suit cladding manufacturer's framing requirements. If a gable truss requires a windbeam brace, the type of MiTek brace will be noted as such on the layout.

All dimensions are to be check and confirmed prior to any construction
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Lot 99 Belfast Subdivision,
Christchurch

Job Number:	Original Plan:	Sheet Name:
131534	**'Torea 184'**	**TRUSS DESIGN**

Sales:	Drawn:	QS:	Print Date:	Scale:
L Caldwell	**J Rana**	**W Xian**	**2/12/2021**	**NTS @ A3**

CONSENT PLANS

No.	Date:	Reason:
1	19.11.2021	BC ISSUE

Sheet No.: **24** of 25 sheets

BUILDABLE CONSENT LAYOUT

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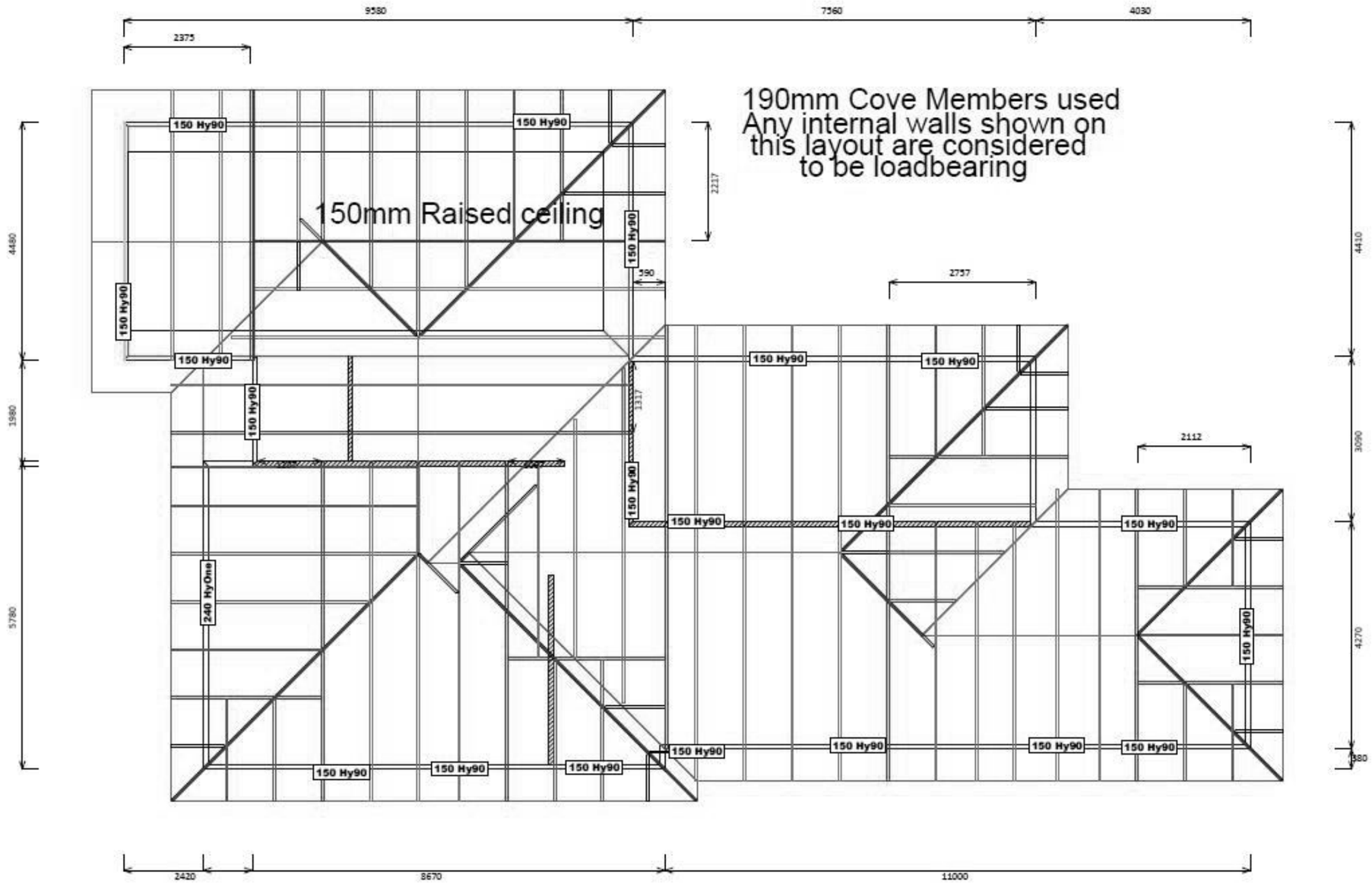
Your Building Consultant



CARTERS
Carters National Support Office
0800 Carters

JOB No **351233C1**

Client: TKR Homes Limited | T/A Signature H
Job: Ramakrishnannair-Sreekandh
Site: Lot 99
Belfast Subdivision
Christchurch

Pitch: 25.0deg
Roof Type: Metal Tiles
Overhang: 600mm
Wind Area: High
Roof Snow: 0.441kPa

Trusses and rafters at 900 mm max centres unless stated otherwise. This layout is to be read in conjunction with the Architectural plans.

DRAWN Celica Maffey | 18 Aug,2021

Dn kN | Up kN — Ultimate Limit State Loads

Notification of point loaded lintels or point loads on internal walls where the downward load is higher than 8kN (85mm raft type slab) or 10kN (100mm standard slab), or the upward load is greater than 10kN.

Any roof loads as stated on this layout over 16kN up or down are outside the scope of NZS3604, and the architect / draughtsperson is responsible for the design to transfer the loads to the ground.

If no loads are shown, no thickening is required.

The lintels have been sized using one of the following:

hy90, hyONE and hySPAN lintels have been sized using the designIT for houses - New Zealand series 6 software.

GANGLAM and FLITCH BEAMS have been sized using the MiTek Beam Program V1.10 June 2011.

Unless otherwise stated the timber grade for all lintels is SG8. Lintels not shown are to be selected as per NZS3604: 2011.

FTMA NEW ZEALAND

All internal walls shown hatched on this layout are considered to be loadbearing
Lintel fixing specification remains the responsibility of the architect / draughtsperson

All dimensions are to be check and confirmed prior to any construction
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Christchurch

Job Number:	Original Plan:	Sheet Name:
131534	**'Torea 184'**	**TRUSS DESIGN**

Sales:	Drawn:	QS:	Print Date:	Scale:
L Caldwell	**J Rana**	**W Xian**	**2/12/2021**	**NTS @ A3**

CONSENT PLANS

No.	Date:	Reason:
1	19.11.2021	BC ISSUE

Sheet No.: **25** of 25 sheets

Ramakrishnannair & Sreekandh

Lot 99 Belfast Subdivision

Belfast, Christchurch

ENGCO Consulting Engineers

RIBRAFT DRAWINGS

File Number 21008.177

Sheet No.	Rev	Date Issued	Sheet Title
S1	-	18.10.2021	General Notes
S2	-	18.10.2021	RibRaft Layout Foundation Plan
S3	-	18.10.2021	Typical Ribraft Sections
S4	-	18.10.2021	Typical Ribraft Sections
S5	-	18.10.2021	Typical Ribraft Sections
S6	-	18.10.2021	Typical Services Penetration Details

Issue Register

Date	Description
18.10.2021	For Consent

GENERAL

1. These drawings are not to be used for construction until the plan (sheet S2) is signed by the main contractor

2. Do not scale. refer any discrepancies to the architect/engineer.

3. These drawings are to be read in conjunction with the Architects & Engineers drawings.

4. The builder shall be responsible for any damage to works during construction.

5. The sand blinding layer shall be 20mm min. & 50mm max. to aid levelling & to prevent rocking of pods.

6. Vapour barrier to be 0.25mm (250 micron) polythene complying with NZS 4229. / NZS 3604

7. Finished ground level adjacent to slab to be protected from wind, water erosion and undermining.

FOUNDATIONS

1. For assumed allowable bearing capacity refer to calculations/installer guide. Unless otherwise noted in documentation

2. If there is any doubt about the integrity of the material on which the slab is to be founded - Supervising Engineer must be notified immediately.

GEOTECHNICAL REFERENCE:

Refer: ENGEO
Ref. No: 19120.000.001_47
Dated: 1 October 2021

CONCRETE

1. All workmanship & materials to conform to NZS 3109, NZS 4210 & local authority regulations.

2. Minimum covers to reinforcement:

- Exposed to earth - 75mm.
- Protected by vapour barrier - 50mm.
- Not exposed to weather except for a brief period during construction - 25mm.

3. No holes or chases other than those specified are to be made in the slab without the approval of the Engineer.

4. All concrete shall have 20mm nominal maximum aggregate size & 120mm slump & shall comply with NZS 3109.

5. All concrete to be mechanically vibrated & carefully worked around the reinforcement & into the corners of the formwork.

6. Ribraft make-up to be

100 mm Floor Slab - 220 mm pods
(20MPa TC2 Dramix 4D 80/60 Fibre mix Concrete)
G500 E SE62 Ductile mesh on 65 mm chairs.

The design Fibre mix shall be supplied so that the residual flexural tensile stresses $f_{R,1}$ & $f_{R4,K}$ shall be 1.5 MPa & 1.0 MPa respectively.

INSPECTIONS

Inform ENGCO consulting 48 hours in advance of any inspections required for code compliance certification.
Contact ENGCO - Ph. 03 366 7955 & quote ENGCO Ref. No.

INSPECTIONS REQUIRED

1. Confirm 200 KPa bearing at excavation.
2. Contractor to supply (4) N.D> Tests at mid-height and finished compacted surface - if depth of fill is greater than 400mm.
3. Pre-pour of slab.

REINFORCEMENT

1. All reinforcing shall be new Zealand sourced and conform to AS/NZS 4671 :2001 in grade 300 or grade 500E.

2. All bends to be made cold without fracture.

3. All reinforcing shall be deformed type unless otherwise stated.

4. Grade 500E deformed bars shall be designated 'H', Grade 300 deformed bars shall be designated 'D' and Grade 300 round bars shall be designated 'R'

5. Minimum bar splice 720mm. (or unless otherwide noted)

6. All reinforcement to be fixed & tied where necessary in its specified position.

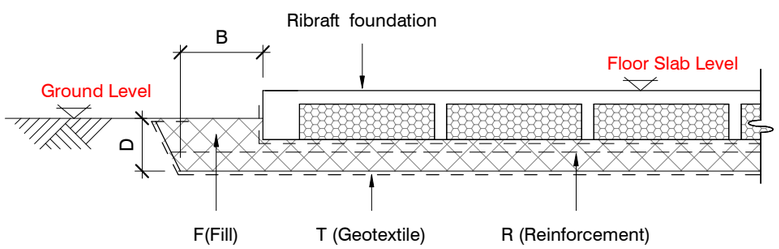
7. Welding of steel is not permitted

8. Spacers:

- Edge at 1200mm ctrs (one on edge & two on corners, typically).
- Internal one on each side of pod (typically).

9. All mesh shall comply with AS/NZS 4671 & shall conform with elongation requirements exceeding 10%.

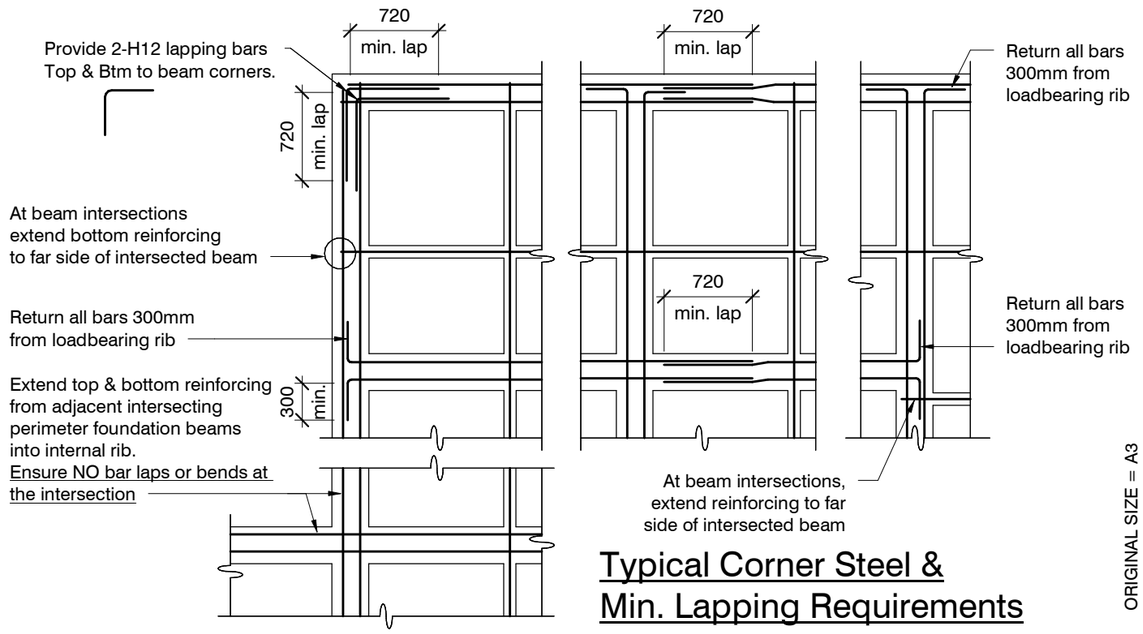
10. All Mesh shall lap a minimum of 250mm (end extensions not included in lap length)



BUILDING PLATFORM

BUILDING PLATFORM TABLE:	
B	500mm
D	300mm - Remove organic topsoil
T	N/A
R	N/A
F	AP 40/AP65 fill. - 95% Dry Density. Compact in 200mm layers (max.)

Refer Architectural drawings for Finished Floor Level



Typical Corner Steel & Min. Lapping Requirements

N.T.S.

ORIGINAL SIZE = A3

revisions			
	-	18.10.2021	For Consent

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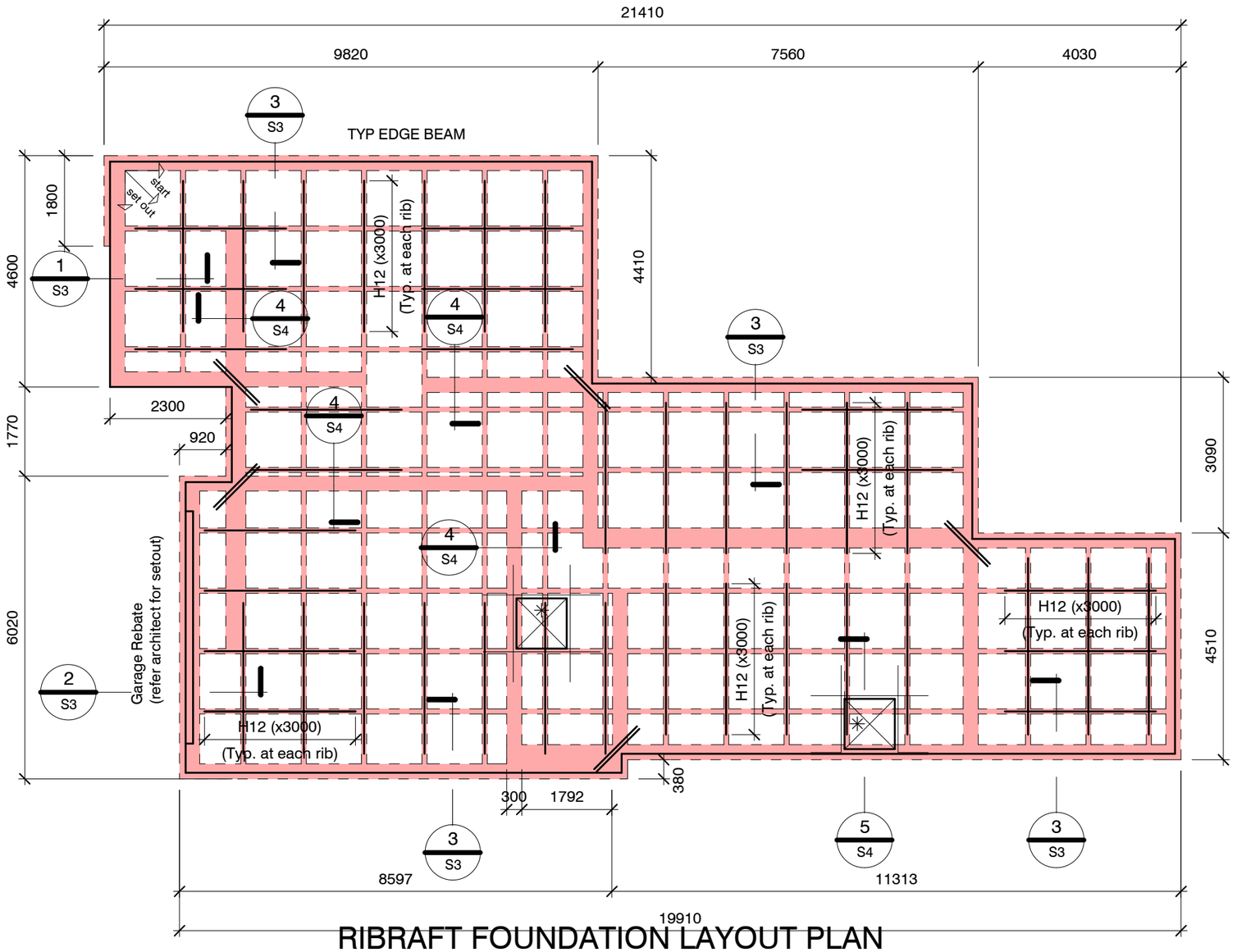
Lot 99 Belfast Subdivision
Belfast, Christchurch

General Notes

design	M. McKenzie
drawn	R. Houghton
appvd	M. Cusiel
date	Oct 2021

file 21008.177
dwg S1
rev. -



RIBRAFT FOUNDATION LAYOUT PLAN

1 : 100

Confirm all dimension with Architects drawings

GENERAL NOTES:

Locations shown of internal floor beam thickenings are indicative only. It shall be the responsibility of the Contractor to ensure that they are located centrally under the load bearing walls to which they pertain.

Under no circumstance should pipework for services be run longitudinally in 100mm ribs. Similarly they should not be run along perimeter foundations nor internal floor beam thickenings

Vertical or horizontal penetrations through the foundation edge beam or floor beam thickenings must be made through the middle third of the member. Vertical penetrations should not be made through 100 mm ribs.

Refer to Architects drawings for floor slab, set downs, steps, rebates, holding down bolts, cast-in componentry and the like.

KEY:

(2) H12 (x1200) at 200 crs.

1100 x 1100 pod (typ.)

100 mm Floor Slab - 220 mm pods
(20MPa TC2 Dramix 4D 80/60 Fibre mix Concrete)
G500 E SE62 Ductile mesh on 65 mm chairs.

The design Fibre mix shall be supplied so that the residual flexural tensile stresses $f_{R,1}$ & $f_{R4,K}$ shall be 1.5 MPa & 1.0 MPa respectively.

All Mesh shall lap a minimum of 250mm (end of extensions not included.

✳ 50mm shower rebate, maintain min. slab thickness Trim perimeter with H12. extending 750mm past (typ.) (or 300mm return) Refer to Architects drawings for setout dimensions

ORIGINAL SIZE = A3

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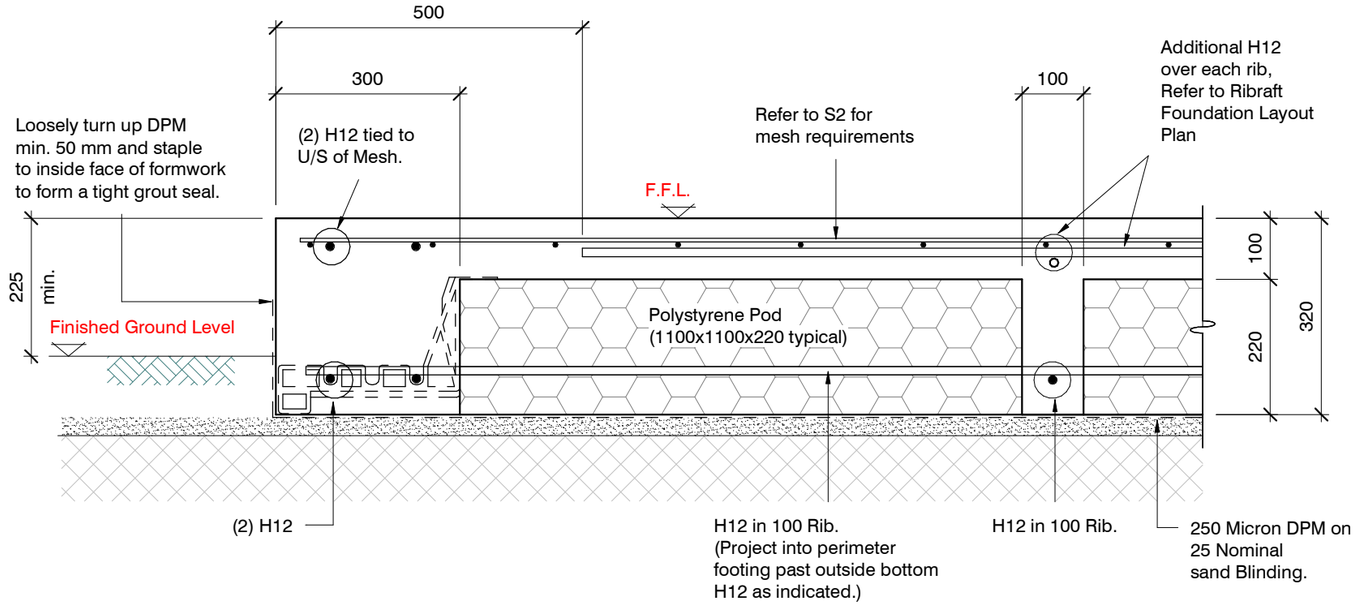
Belfast, Christchurch

RibRaft Layout
Foundation Plan

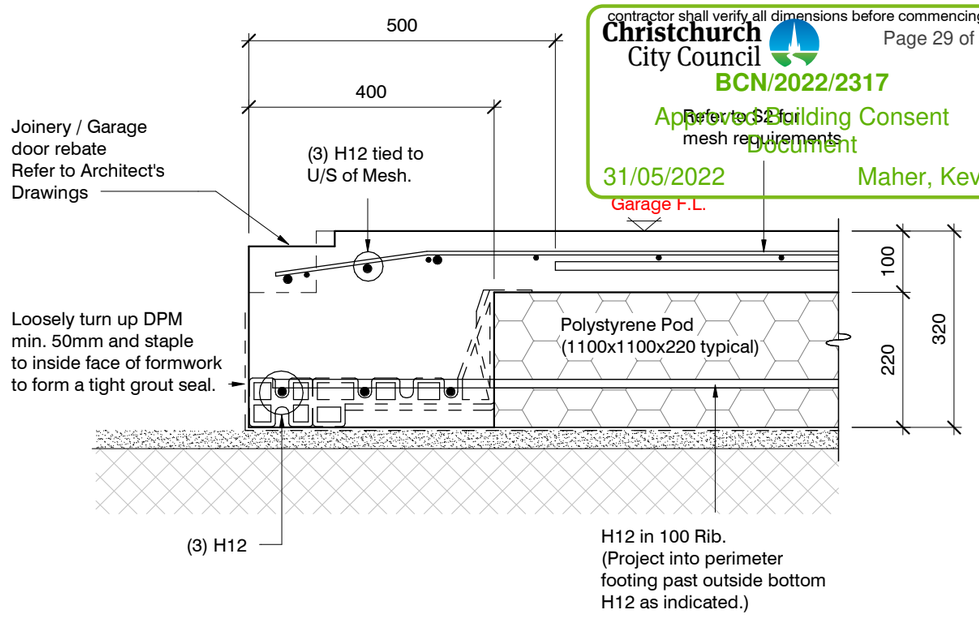
design	M. McKenzie
drawn	R. Houghton
appvd	M. Cusiel
date	Oct 2021

file 21008.177
dwg S2
rev. -



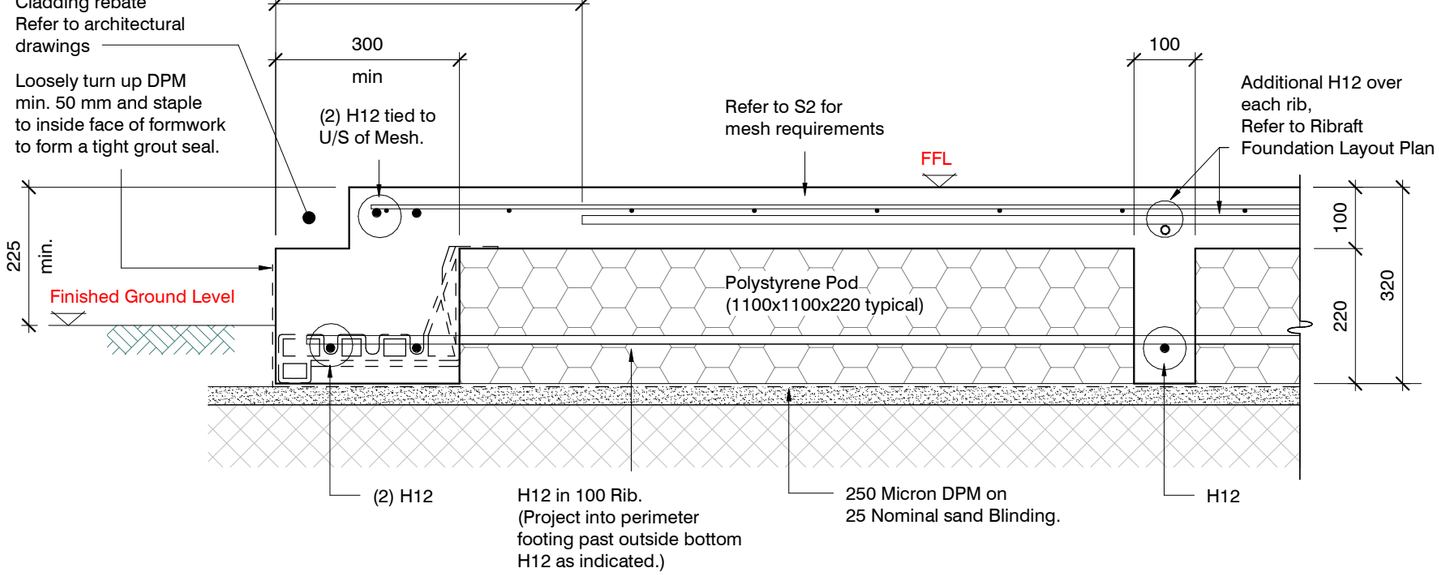
SECTION 1/S2 TYPICAL 300 WIDE EDGE BEAM

1 : 10



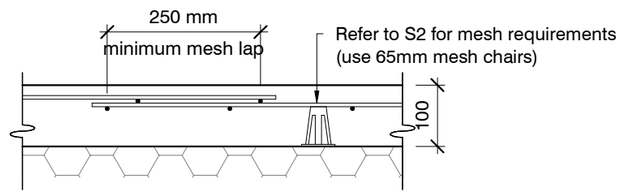
SECTION 2/S2 GARAGE DOOR REBATE

1 : 10



SECTION 3/S2 TYPICAL 300 WIDE EDGE BEAM

1 : 10



TYPICAL MESH LAP & CHAIR REQUIREMENTS

1:10

ORIGINAL SIZE = A3

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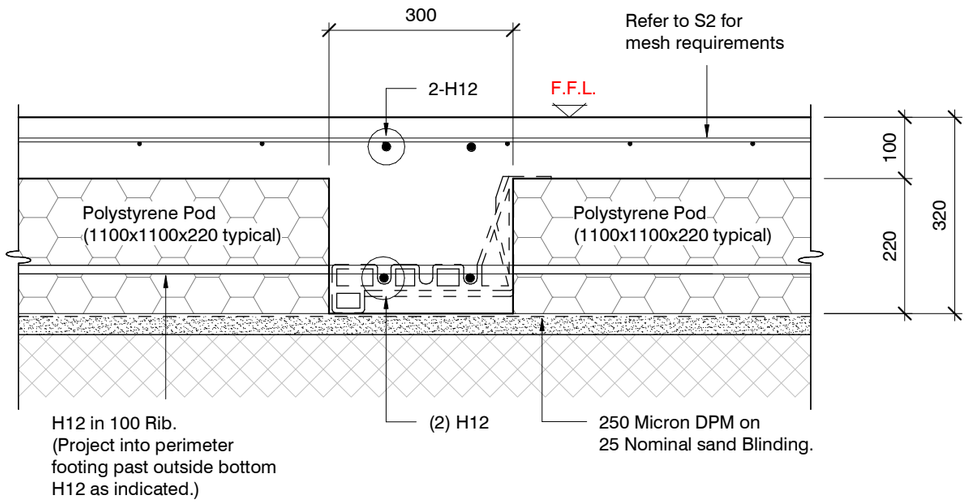
Typical Ribraft Sections

design	M. McKenzie
drawn	R. Houghton
appvd	M. Cusiel
date	Oct 2021

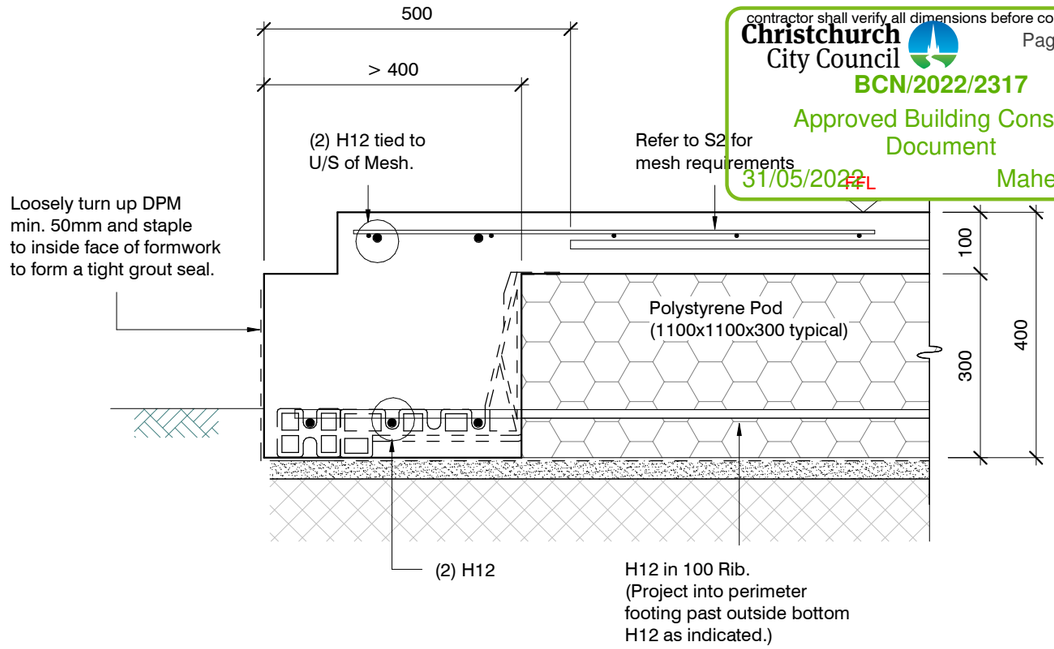
file 21008.177

dwg S3

rev. -

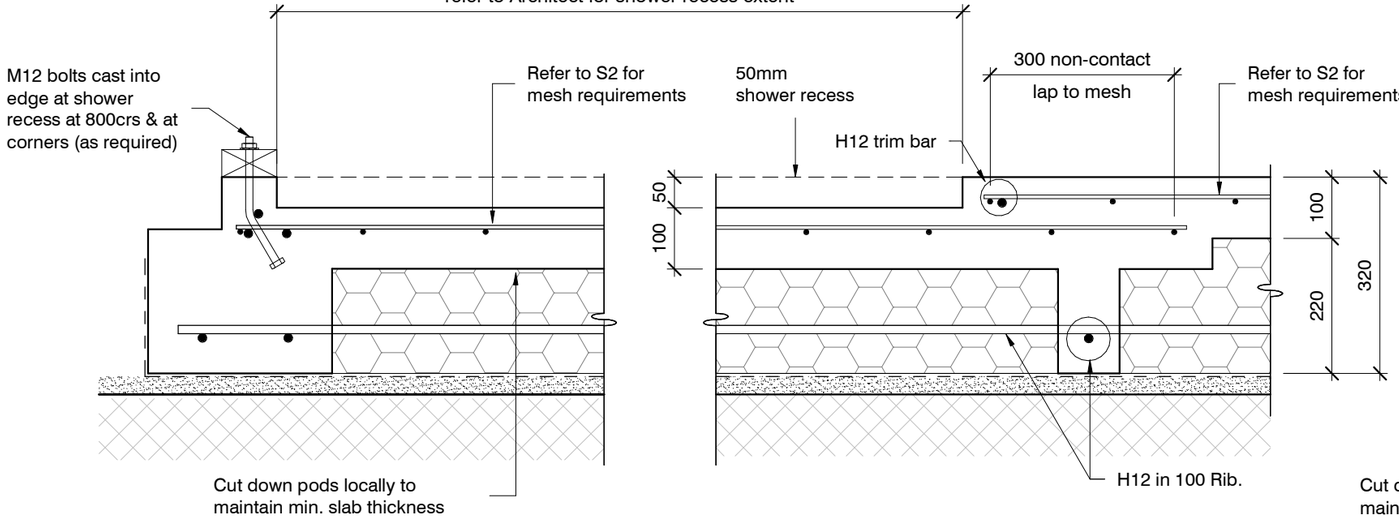


SECTION 4 / S2 — TYPICAL 300 WIDE INTERNAL BEAM
1 : 10

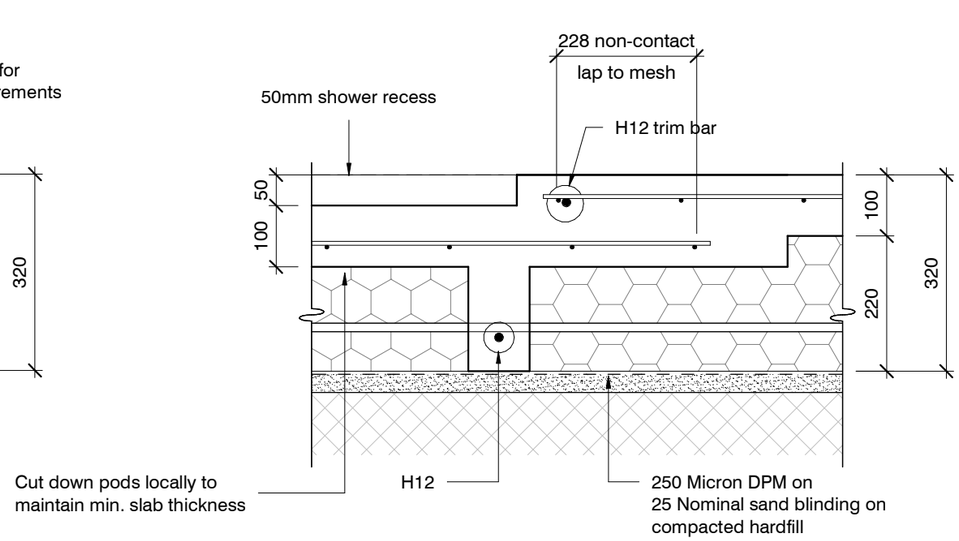


SECTION 6 — TYPICAL 300 WIDE EDGE BEAM
1 : 10

refer to Architect for shower recess extent



SECTION 5 / S2 — SHOWER RECESS
1 : 10



SECTION 7 — TYPICAL SHOWER RECESS
1 : 10

ORIGINAL SIZE = A3

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	-	18.10.2021	For Consent

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Lot 99 Belfast Subdivision

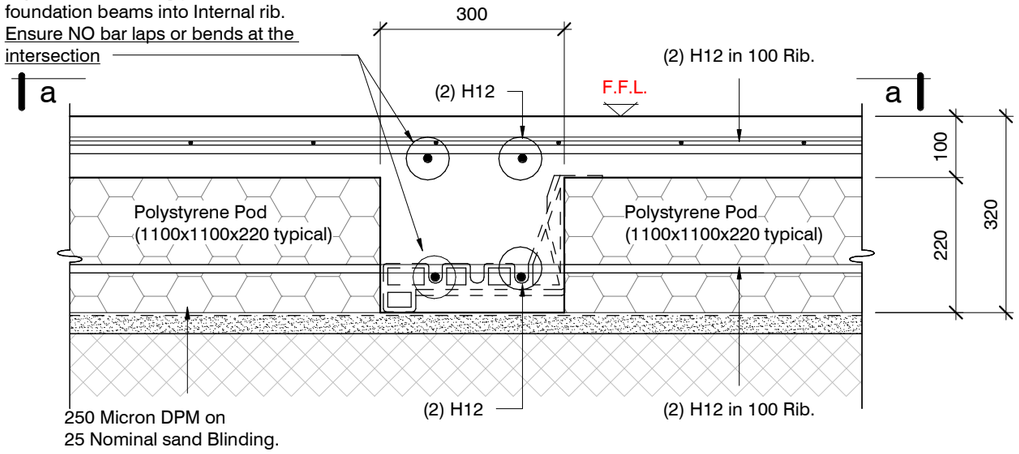
Belfast, Christchurch

Typical Ribraft Sections

design	M. McKenzie
drawn	R. Houghton
appvd	M. Cusiel
date	Oct 2021

file 21008.177
dwg S4
rev. -

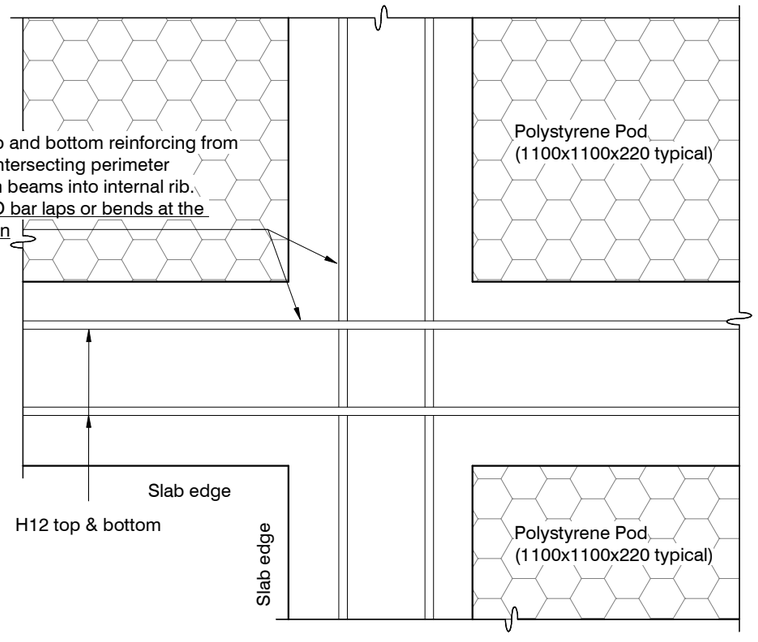
NOTE:
Extend top and bottom reinforcing from adjacent intersecting perimeter foundation beams into Internal rib.
Ensure NO bar laps or bends at the intersection



SECTION 8 TYPICAL 300 WIDE INTERNAL BEAM

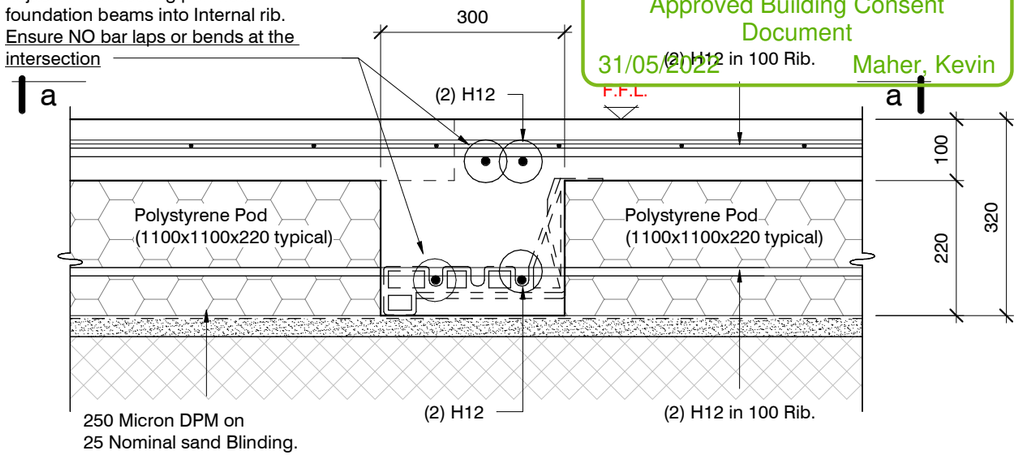
1 : 10

NOTE:
Extend top and bottom reinforcing from adjacent intersecting perimeter foundation beams into internal rib.
Ensure NO bar laps or bends at the intersection



a-a

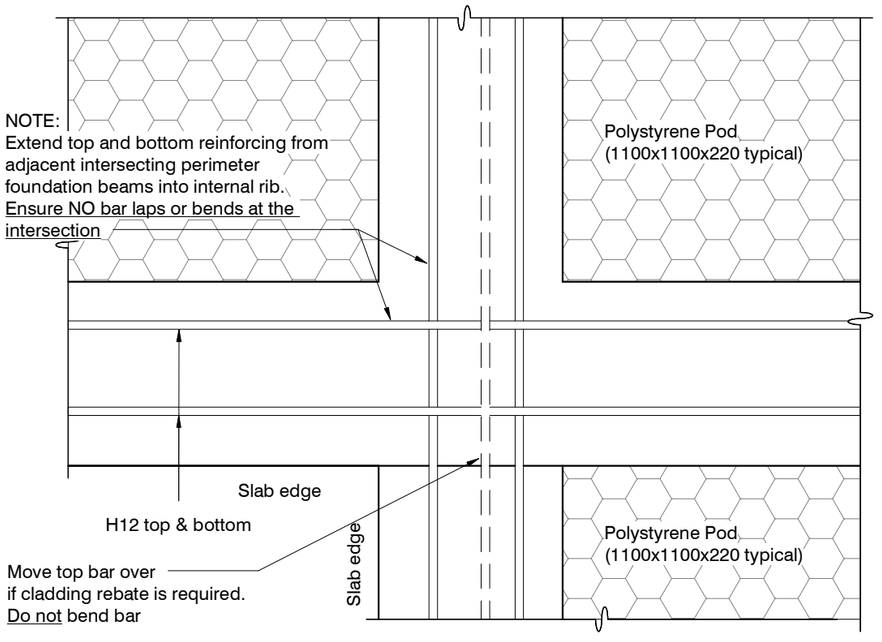
NOTE:
Extend top and bottom reinforcing from adjacent intersecting perimeter foundation beams into Internal rib.
Ensure NO bar laps or bends at the intersection



SECTION 9 TYPICAL 300 WIDE INTERNAL BEAM

1 : 10

NOTE:
Extend top and bottom reinforcing from adjacent intersecting perimeter foundation beams into internal rib.
Ensure NO bar laps or bends at the intersection



a-a

ORIGINAL SIZE = A3

revisions

-	18.10.2021	For Consent

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Lot 99 Belfast Subdivision

Belfast, Christchurch

Typical Ribraft Sections

design	M. McKenzie
drawn	R. Houghton
appvd	M. Cusiel
date	Oct 2021

file 21008.177
dwg S5
rev. -

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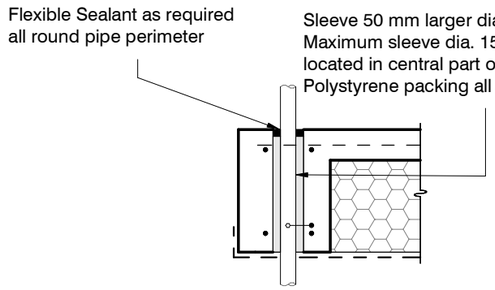
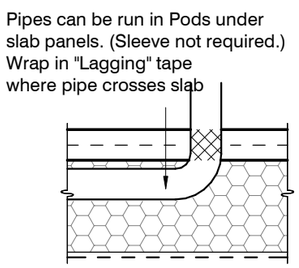
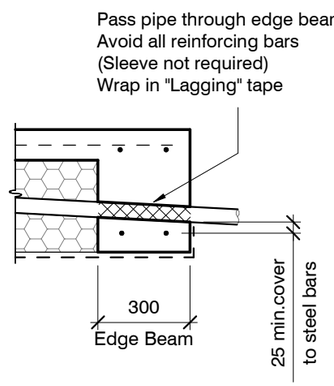


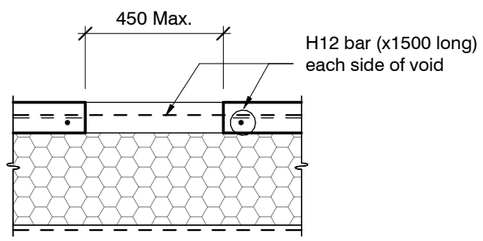


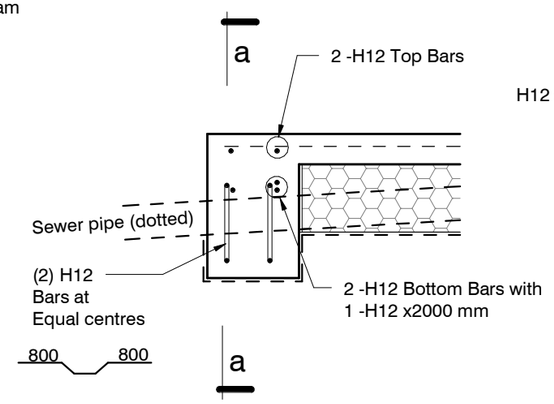


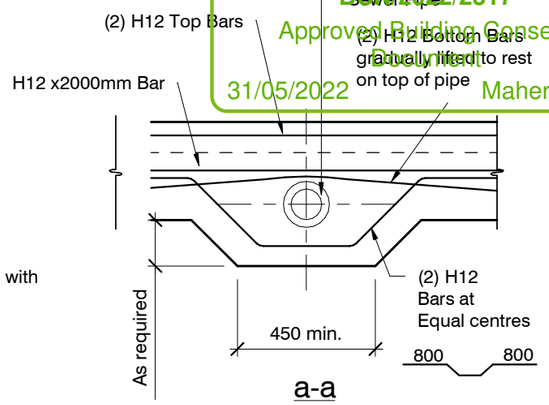
SLAB SERVICES PENETRATION DETAIL

PIPE NOTE:
No separation required where
pipes are fully contained within slab.
Sleeve all drains that pass through the
base of the slab.

PENETRATIONS NOTE:
Where penetrations through
Floor Slab exceed 450 mm Square,
Crack Control Bars will be required.

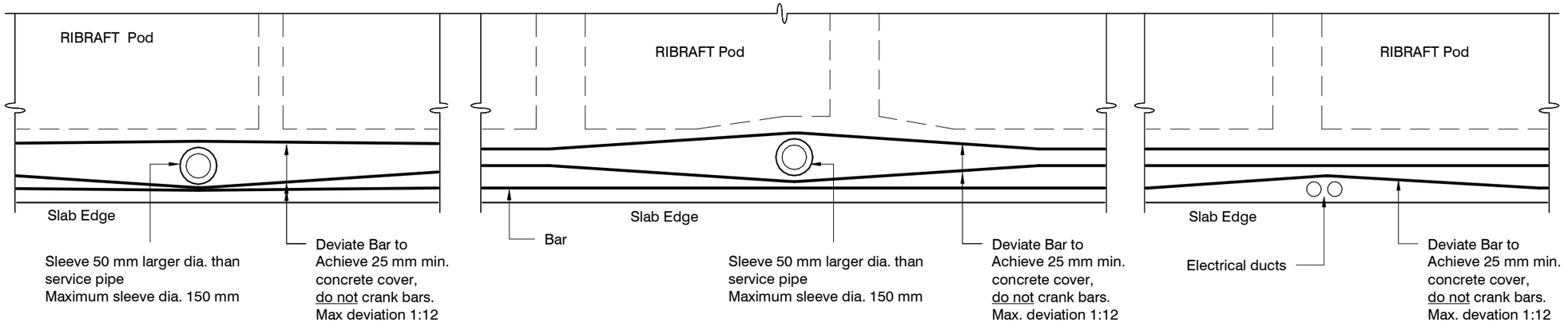






TYPICAL SECTION
LOCALISED DEEPENING OF FOUNDATION BEAM
TO ACCOMMODATE TOILET WASTE PIPE

LARGE SLAB PENETRATION DETAIL



Do not cut longitudinal reinforcement bars.

FOUNDATION SERVICES PENETRATION DETAILING.

Services shall not run along ribs or edge beams.

ORIGINAL SIZE = A3

revisions			
	-	18.10.2021	For Consent

ENGCO Consulting Engineers

Signature HOMES Est. 1983 YOUR HOME. YOUR WAY.

Lot 99 Belfast Subdivision
Belfast, Christchurch

Typical Services
Penetration Details

design	M. McKenzie
drawn	R. Houghton
appvd	M. Cusiel
date	Oct 2021

file	21008.177
dwg	S6
rev.	-