



Barrett Homes

Welcome to the *whānau*.

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ARTIST IMPRESSION ONLY

NEW DWELLING FOR:
BARRETT HOMES (NORTHLAND) LTD

ADDRESS:
LOT 8, 18 MOORING WAY,
ONE TREE POINT, WHANGAREI



Project No:	MOOR8	Designed:	DP	Wind:	HIGH	Drawing:	COVER SHEET	Date:	17/07/2025
Plan:	RUA7	Drawn:	CS	EQ:	1	Client Name:	BARRETT HOMES (NORTHLAND) LTD	Rev:	REV:
Version:	1.1	Checked:	KB	Exposure:	D	Site Address:	LOT 8, 18 MOORING WAY,	Sheet:	
				Council:	WDC		ONE TREE POINT, WHANGAREI	Scale:	

General Notes:
Any encroachments shown are to be confirmed by a registered surveyor prior to commencement of foundations. No liability shall be held by designer with this confirmation.

NZBC D1/AS1 Access
Minimum slip resistance to steps and landings in accordance with NZBC D1/AS1 Table 2.
Concrete or H5 timber step to all access points, min. 150mm and max. 190mm below finished floor level.

CJ = Control joint
Foundation:
Raft floor to engineers design (see plan notes and details)

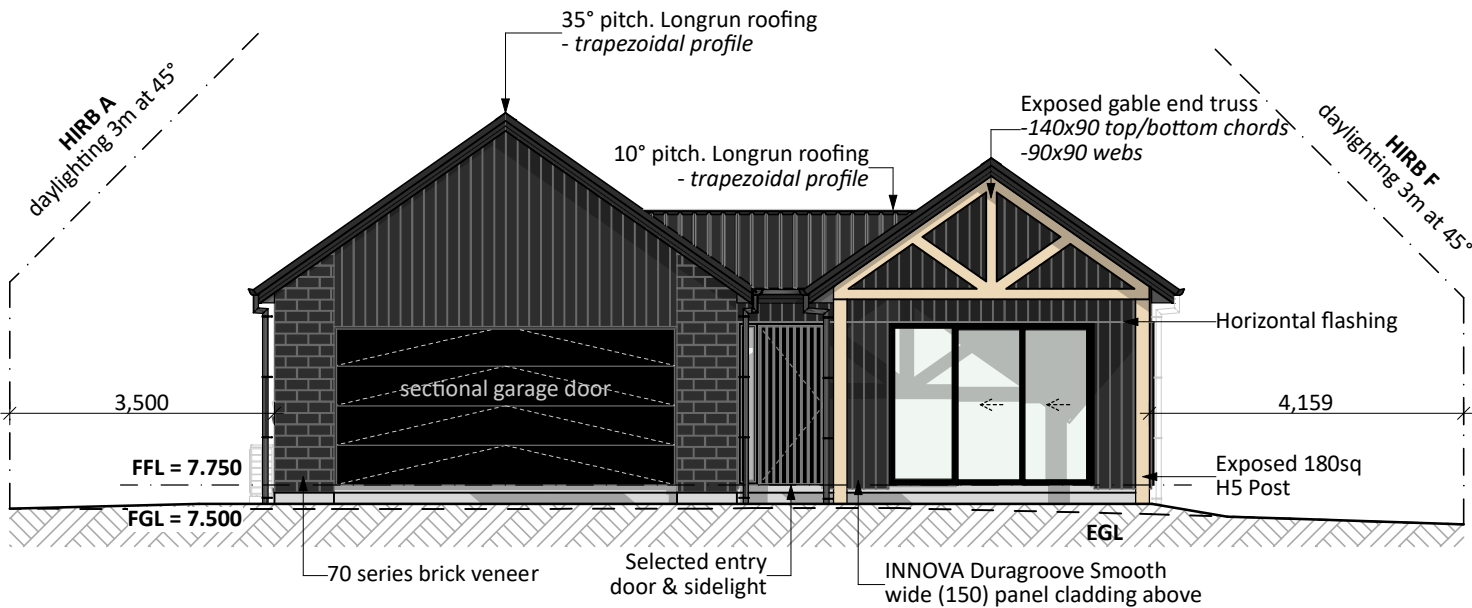
Wall Cladding:
Premier Brick 70 series brick veneer - ensure cavity and weep holes are free from excess mortar
INNOVA Duragroove Smooth wide (150) panel cladding

Roof Cladding:
10° & 35° pitch. Maxam Longrun roofing - Trapezoidal profile

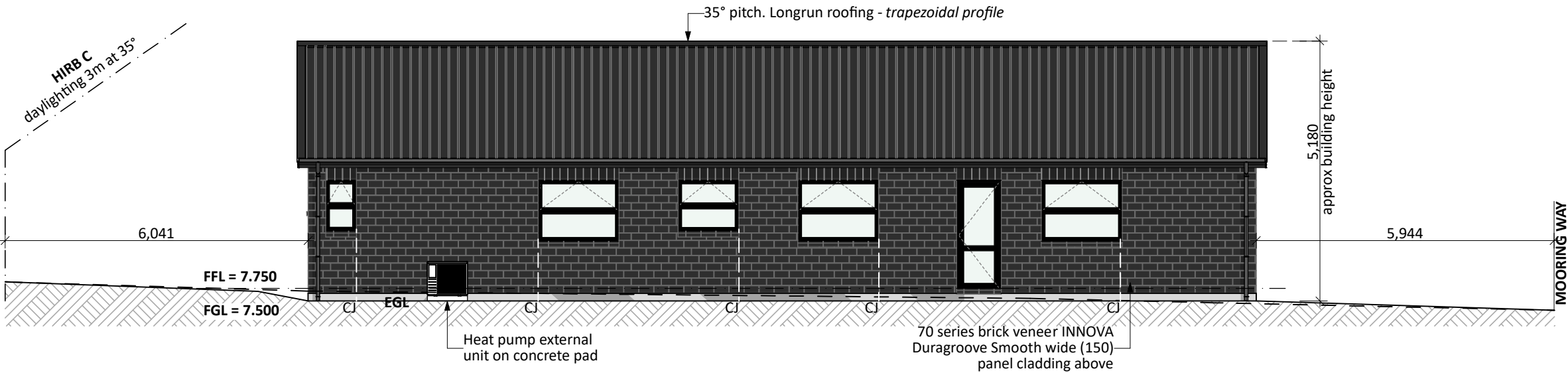
Fascia and Spouting:
COLORCOTE fascia, spouting & 80mm Ø MARLEY PVC downpipes

Joinery & Glazing:
Selected powder coated aluminium joinery with thermally improved Low E double glazing

BUILDING ENVELOPE RISK MATRIX		
ALL ELEVATIONS		
Risk Factor	Risk Severity	Risk Score
Wind zone (per NZS 3604)	High risk	1
Number of storeys	Low risk	0
Roof/wall intersection design	High risk	3
Eaves width	High risk	2
Envelope complexity	High risk	3
Deck design	Low risk	0
Total Risk Score:		9



NORTH ELEVATION



EAST ELEVATION



Project No:	MOOR8	Designed:	DP	Wind:	HIGH	Drawing:	ELEVATIONS	Date:	17/07/2025
Plan:	RU47	Drawn:	CS	EQ:	1	Client Name:	BARRETT HOMES (NORTHLAND) LTD	Rev:	
Version:	1.1	Checked:	KB	Exposure:	D	Site Address:	LOT 8, 18 MOORING WAY,	Sheet:	1
				Council:	WDC		ONE TREE POINT, WHANGAREI	Scale:	1:100

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Concrete or H5 timber step to all access points, min. 150mm and max. 190mm below finished floor level.

CJ = Control joint
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Raft floor to engineers design (see plan notes and details)

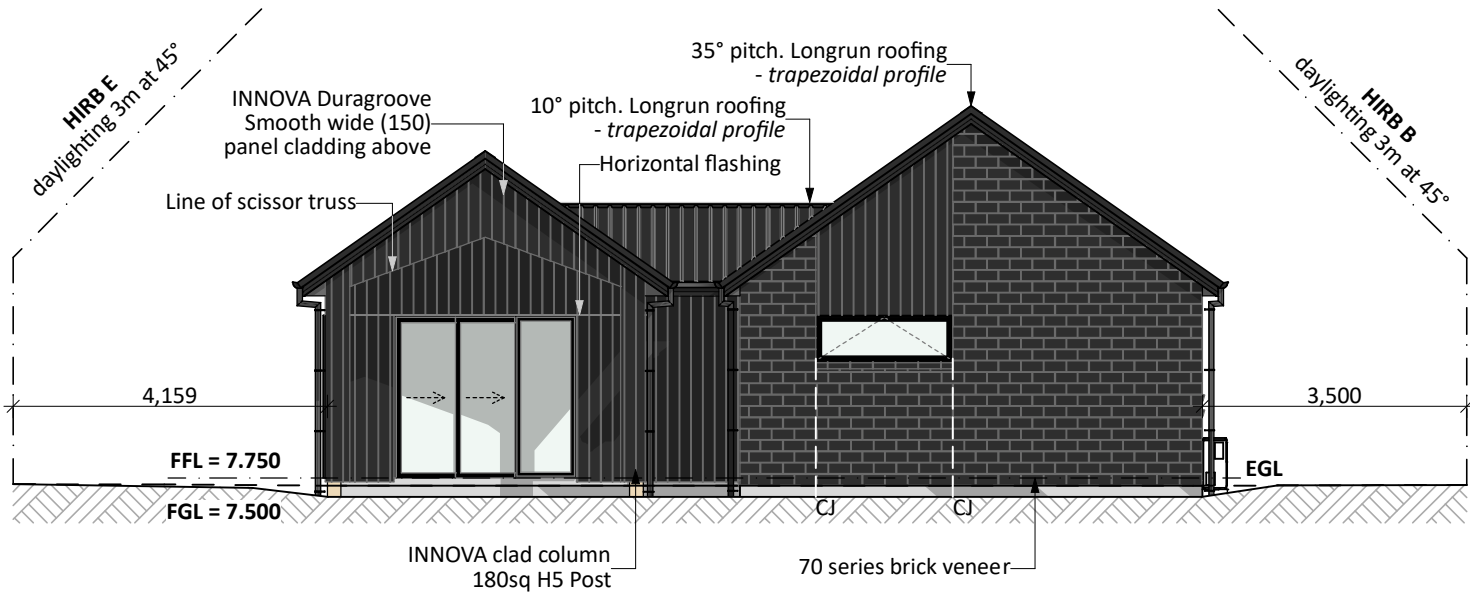
Wall Cladding:
Premier Brick 70 series brick veneer - ensure cavity and weep holes are free from excess mortar
INNOVA Duragroove Smooth wide (150) panel cladding

Roof Cladding:
10° & 35° pitch. Maxam Longrun roofing - *Trapezoidal profile*

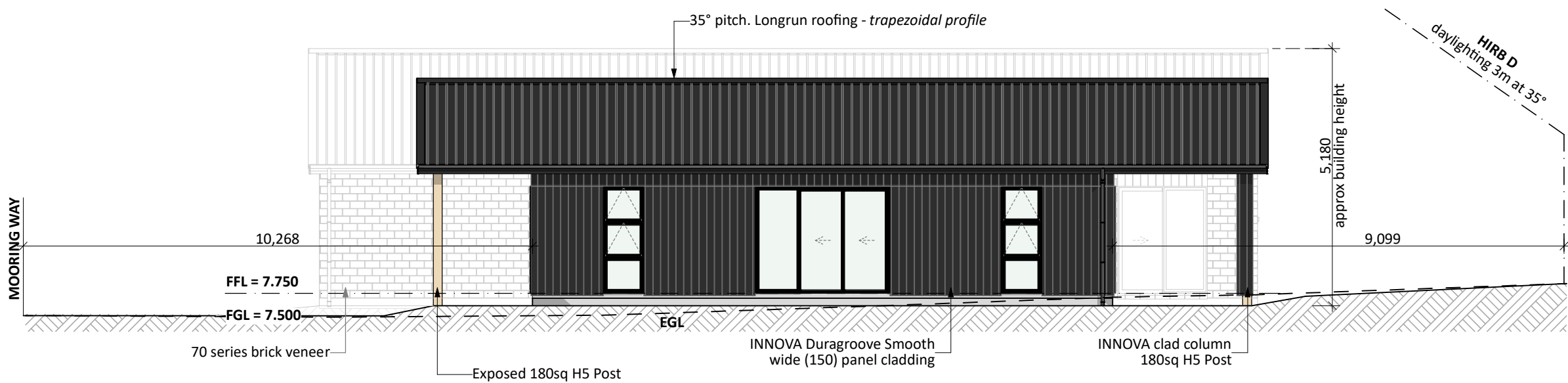
Fascia and Spouting:
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Joinery & Glazing:
Selected powder coated aluminium joinery with thermally improved Low E double glazing

BUILDING ENVELOPE RISK MATRIX		
ALL ELEVATIONS		
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Roof/wall intersection design	High risk	3
Eaves width	High risk	2
Envelope complexity	High risk	3
Deck design	Low risk	0
Total Risk Score:		9



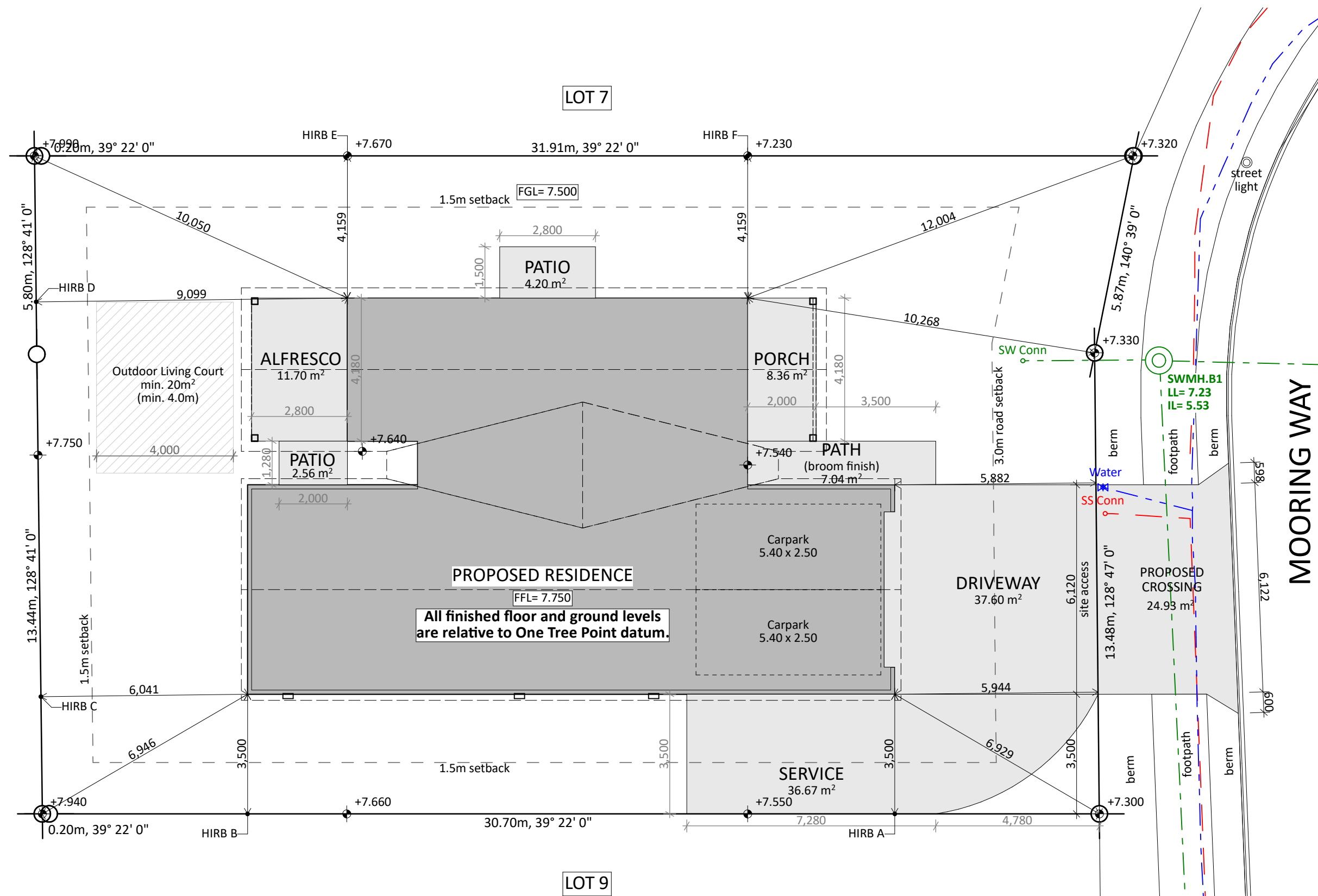
SOUTH ELEVATION



WEST ELEVATION



Project No:	MOOR8	Designed:	DP	Wind:	HIGH	Drawing:	ELEVATIONS	Date:	17/07/2025
Plan:	RUA7	Drawn:	CS	EQ:	1	Client Name:	BARRETT HOMES (NORTHLAND) LTD	Rev:	
Version:	1.1	Checked:	KB	Exposure:	D	Site Address:	LOT 8, 18 MOORING WAY,	Sheet:	2
				Council:	WDC		ONE TREE POINT, WHANGAREI	Scale:	1:100



General notes:
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NZBC D1/AS1 Access
Minimum slip resistance to steps and landings in accordance with NZBC D1/AS1 Table 2.
Concrete or H5 timber step to all access points, min. 150mm and max. 190mm below finished floor level.

Siteworks notes:
Ensure final building platform and finished ground have an even fall away from building.
All rubbish, noxious matter and organic matter shall be removed from the area to be covered by the building.
Any fill to be dry and approved by engineer & compacted down in accordance with NZS.3604.2011.

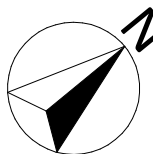
- Contractor to confirm on site all boundary bearings, lengths and peg locations on site prior to commencement of works, to ensure house position is correct.
- Contractor to locate all service connections points on site prior to commencement of works. Check invert levels or pipes and manholes.
- Contractor to confirm plumbing routes and fixture positions on site prior to commencement of works. Any discrepancies found from consented plans, alert design@barrethomes.co.nz prior to continuation of site works.

All dimensions shown are to building foundations (unless stated otherwise)

Construction and Demolition Hazards
Contractor to install galvanised chainlink netting or hoarding barrier, 2m min height to site perimeter to comply with NZBC:F5 Construction and Demolition Hazards, prior to commencing construction.

Toeboards to be installed for prevention of objects falling off storage or access platforms as per NZBC F5 1.4

Sediment Control Notes:
Sediment and runoff control shall be designed and installed by the licensed building practitioner prior to, or, during the siteworks for the project. The sediment controls shall be installed in accordance with the requirements of the District Plan/Council requirements.



Site Info:
LOT: 8
DP: 599307
AREA: 598m²

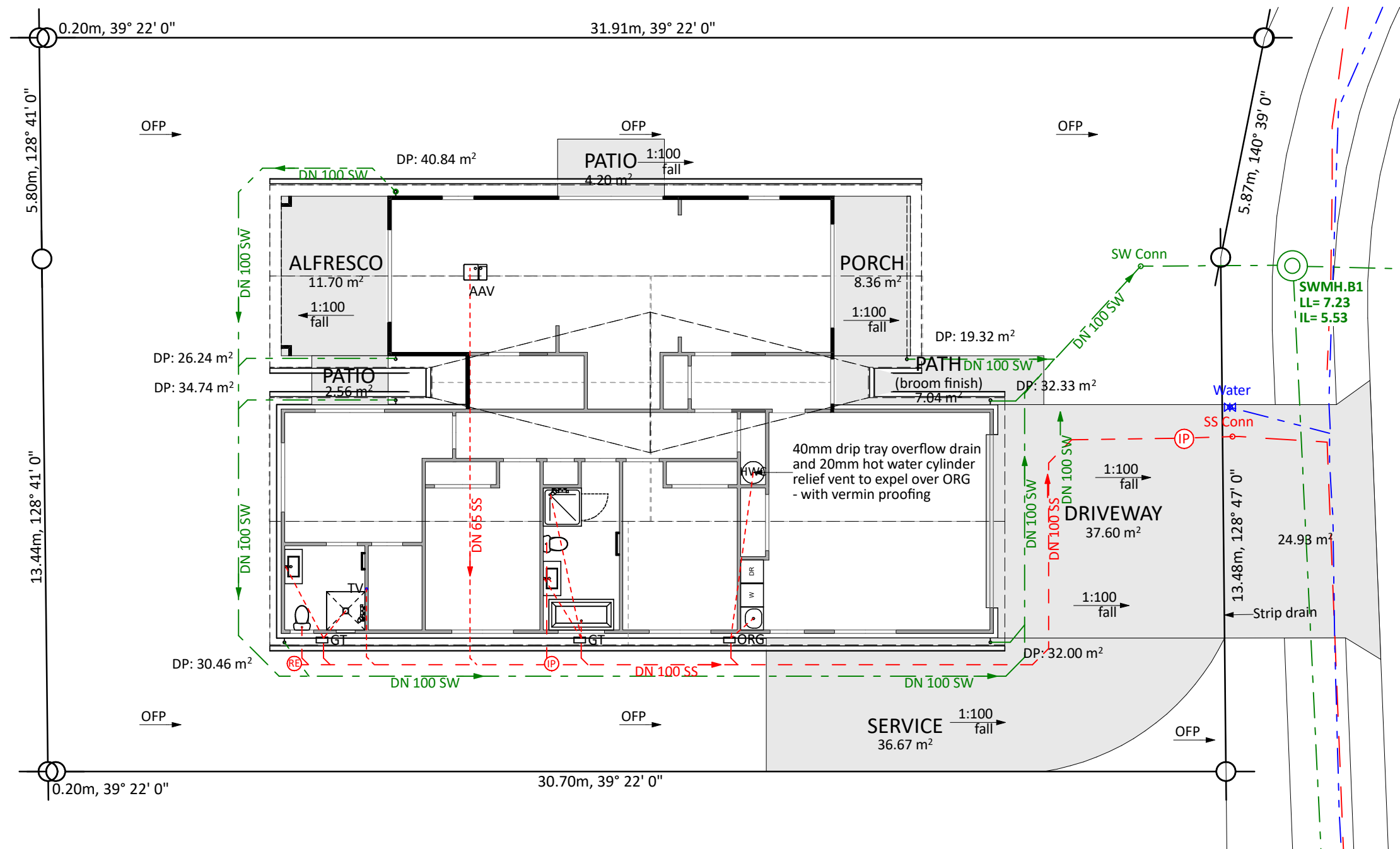
Site Coverage:
175.64 m² (House area) / 598m² (site area) = 29.37%
Living Zone = GRZ
Max coverage = 35%
COMPLIANT
(GRZ-R8 - 40% of net site area)

Impervious areas:
282.24m² (Impervious area) /
598m² (site area) = 47.19%
COMPLIANT
Max Impervious area = 60%
(GRZ-R7 - 60% of net site area)



Barrett Homes

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Version:	1.1	Checked:	KB	Exposure:	D	Site Address:	LOT 8, 18 MOORING WAY,	Sheet:	3
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General notes:

Plumbing to NZBC section G13: Foul Water Contractor to locate all service connections on site prior to earthworks.
All pipe gradients to be confirmed by a qualified tradesman.

Hot water cylinder relief drain to be copper, max 12m in length and placed in a safe visible location which does not present a hazard or damage to other building elements

NZBC:G12/AS1 6.14.1 Maximum Temperatures

The delivered hot water temperature at the outlet of any sanitary fixture used for personal hygiene shall not exceed 50°.

NZBC:G12/AS1 6.14.3 Legionella bacteria

Hot water cylinder control thermostat shall be set at a temperature of not less than 60°C to prevent the growth of Legionella bacteria.

Gully traps - max 4 fixtures

Terminal vents to vent via roof - ensure a compatible flashing is sealed and riveted accordingly

Internal pipework and pipes to be PE-Xa.

Excavation notes:

Trenches should be excavated to allow for the specified depth of bedding, the pipes diameter and the minimum recommended cover, overlay plus backfill, above the pipes.

MIN. COVER:

- Roads and Streets: 750mm
- Driveways and similar areas: 600mm (subject to traffic)
- Footpaths, gardens: 500mm
- Construction traffic: 750mm

Bedding materials are listed as per NZBC: G13/AS1/AS2

Foul water to NZBC:G13/AS3		Legend
Storm water to NZBC:E1/AS1		
Symbol	Item:	
	GT	Gully trap (max 4 fixtures)
	ORG	Overflow relief gully
	IP	Inspection point
	RE	Rodding eye
	AAV	Air admittance valve
	OFP	Overland flow path
	DP	80mm ø downpipe
	TV	Terminal vent (vented pipe with 50mm terminal vent & cap to roof, weatherproofed by plumber with compatible flashing sealed & riveted to roof)
Symbol	Plumbing Key:	
	SS = 100mm Ø uPVC - min 1:60 gradient, including wc	
	SW = 100mm Ø uPVC - min 1:120 gradient	
	<u>Minimum PVC pipe fixture sizes:</u> DN100 wc. min 1:60 gradient, DN40 single head showers, baths, sinks & ldy tubs, min 1:40 gradient. DN50 multiple heads showers, min 1:40 gradient (laundry tubs min 1:30 gradient & basins min 1:20 gradient). DN65 Kitchen. min 1:40 gradient Minimum DN65 to all wastes discharging directly into drain under slab	

Roof Gutter profile calculations:

Roof Gutter Sizing Calc:

RFI:	110.00
CSAG:	6000 (based on 100mm/hr)
Adjusted Calc or CSAG to accommodate RFI of 100 (mm/hr)	
$\frac{6000}{110.00} \times 100 = 5454.545$	
Therefore plan area of roof allowed per (CSAG/RFI)	
$\frac{5454.5}{110.00} = 49.59 \text{ m}^2$	
Number of downpipes required to accommodate RFI & CSAG calc;	
$\frac{\text{Roof area}}{49.59} = 4.35$	
Number of downpipes required: 4.4 (round up if required)	

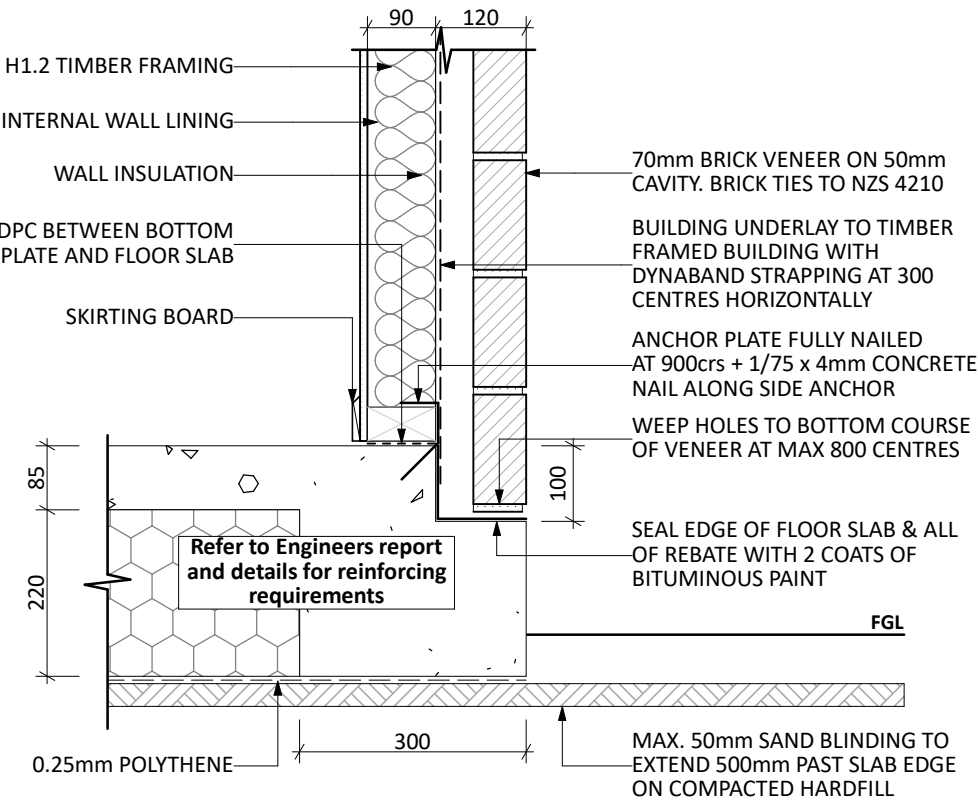
Number of DP provided = 7

Downpipe Calculations: NZBC:E1

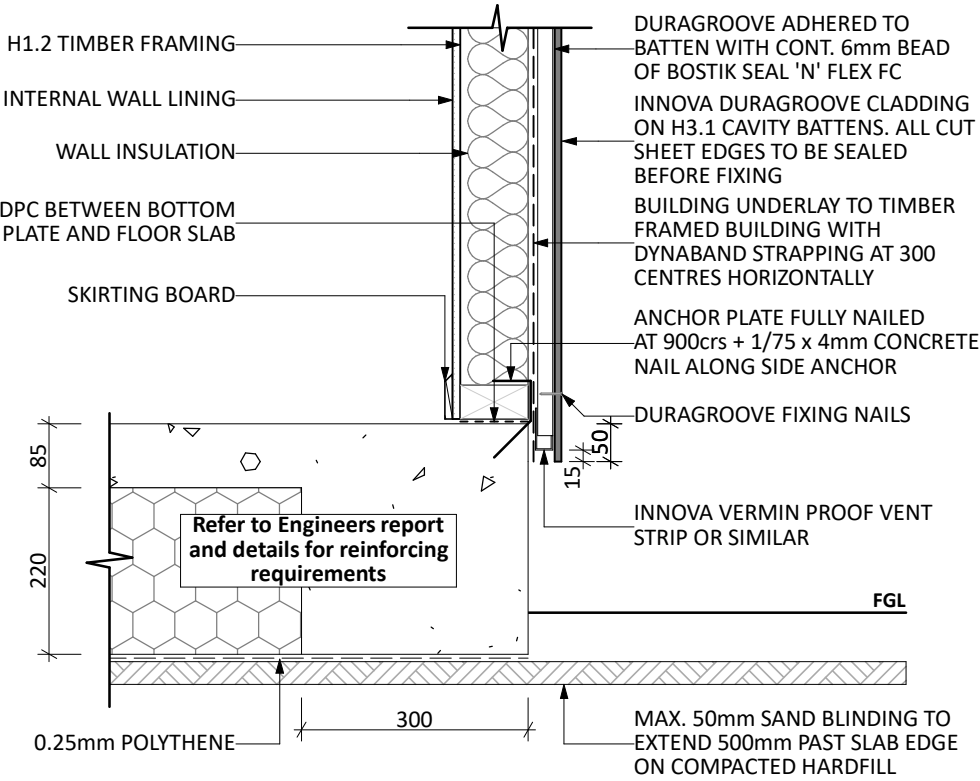
Downpipe Sizing Calc:

RFI:	110.00
DP area:	70 (based on 100mm/hr)
Adjusted Calc to accommodate RFI of 110 (mm/hr)	
$\frac{70}{110.00} \times 100 = 63.64$	
Therefore plan area of roof allowed per Downpipe	
$\frac{\text{Roof Area}}{215.83} / \frac{\text{Area served by DP}}{63.64} = 3.39 \text{ m}^2$	
Number of downpipes required: 3 (round up if required)	

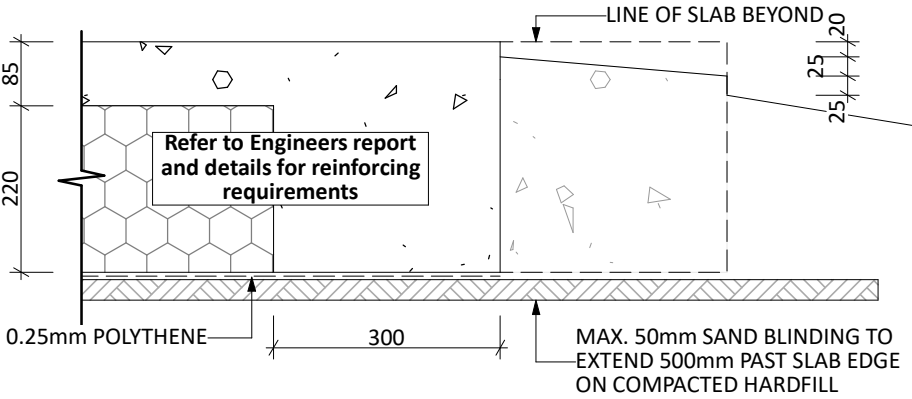
Number of DP provided = 7



TYPICAL EDGE DETAIL - F1.1
SCALE 1:10



TYPICAL EDGE DETAIL - F1.2
SCALE 1:10



GARAGE EDGE DETAIL - F2
SCALE 1:10

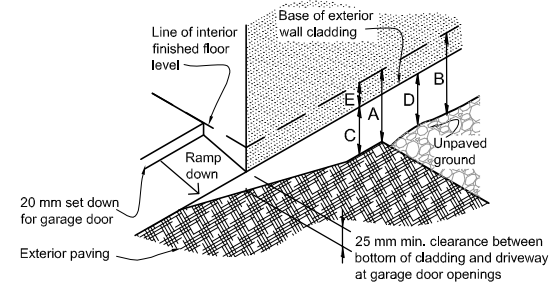
Table 18:	Minimum clearances						
	Paragraphs 9.1.3, 9.1.3.1, 9.1.3.2, 9.1.3.3, 9.1.3.4, 9.1.3.5 and 9.2.7						
	Minimum clearances (mm)		Masonry veneer		Other claddings		
	A	B	A	B	C	D	E
Concrete slab	100	150	150	225	100	175	50

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.

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



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

All joinery sizes specified are to be confirmed with an on-site measure up prior to joinery fabrication. No liability shall be held by the Barrett Homes for incorrect supply of joinery.

Refer to attached pre-cut design and documents for all lintel sizes, truss and top plate fixings. Contractor to refer to truss manufacturers producer statements for any further load bearing footing / slab thickenings that may be required to support roof loads. This layout is preliminary. Read in conjunction with final PS1 and pre-cut design and documents.

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

2.415 stud height throughout, 2460 u/side of truss (unless specified)

Raking ceiling (scissor trusses) to KITCHEN / DINING / LIVING
Raking soffit to Alfresco (scissor trusses)
Raking soffit to Porch (rafters)

Full height joinery to soffit (2155)

Electric hobs with vented r/hood.

Mains pressure 180ℓ HWC with tempering valve and seismic restraint in accordance with NZBC: 2004 section G12. PE-Xa water supply pipes. Hot water supply pipes shall be thermally insulated to comply with H1/AS1 5.0

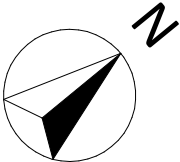
Please confirm plumbing fixture locations before foundation commences

Confirm shower tray size before commencing wall framing

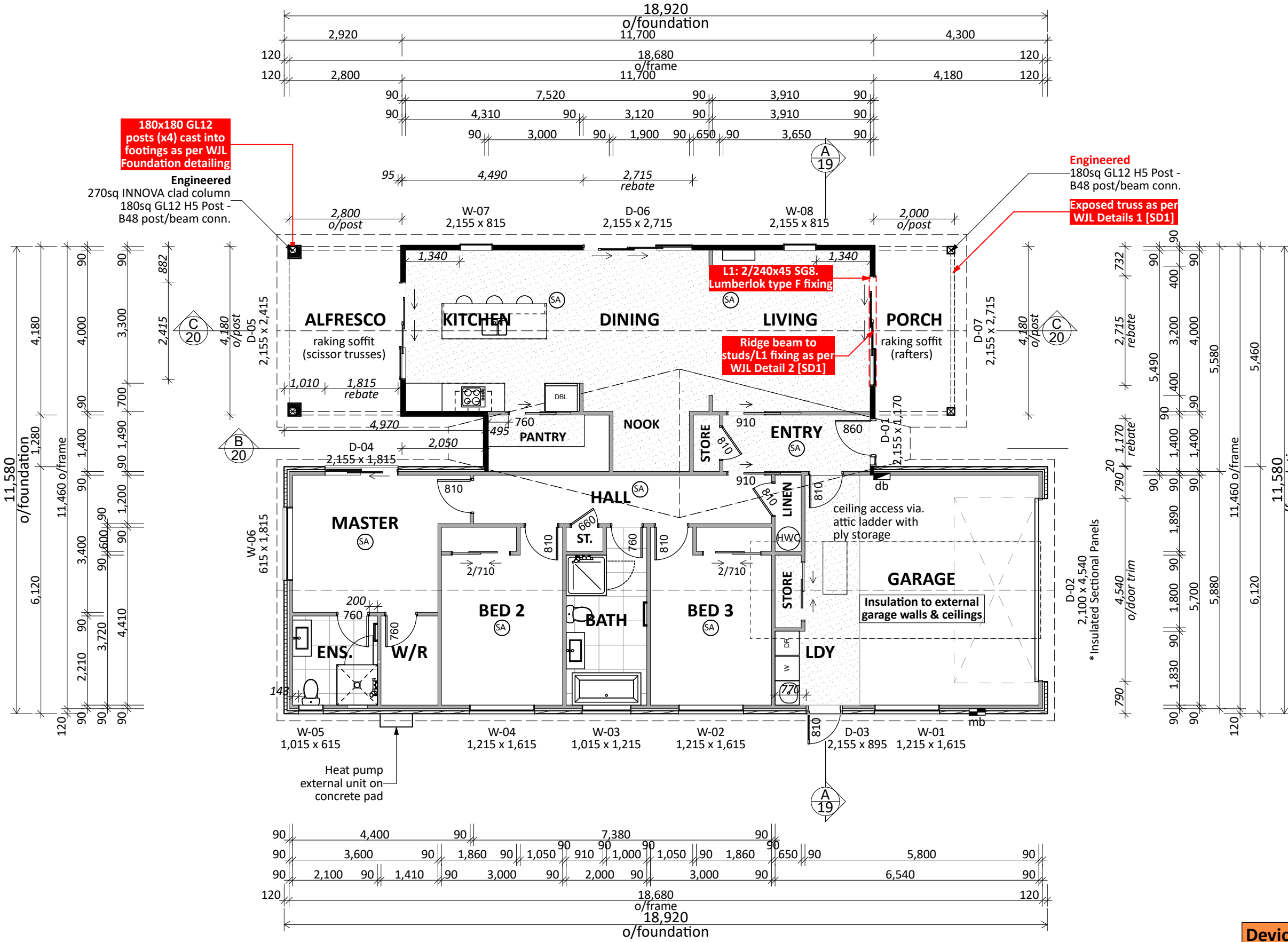
Ensure entry lighting complies with NZBC D1/AS1 & G8/AS1. To provide a minimum illuminance of 20 lux, the total wattage required per m2 of floor area is shown in Table 1.

Down lights to be CA 80, CA 135. IC or IC-F Type (max 1 per 5m²).

SA - Provide interconnected wireless smoke alarm system with alarms located in all bedrooms, living spaces, hallways and landings. Alarms required at maximum 10m intervals along escape routes and no more than 5m from adjacent walls. Must be fitted with hush facility and comply with NZS 4514:2021



Floor Area:	
Area o/frame: 171.39 m²	
Area o/foundation: 175.64 m²	
Device Key:	
	Meter box
	Distribution board
Cladding Key:	
	INNOVA Duragroove
	Brick Veneer

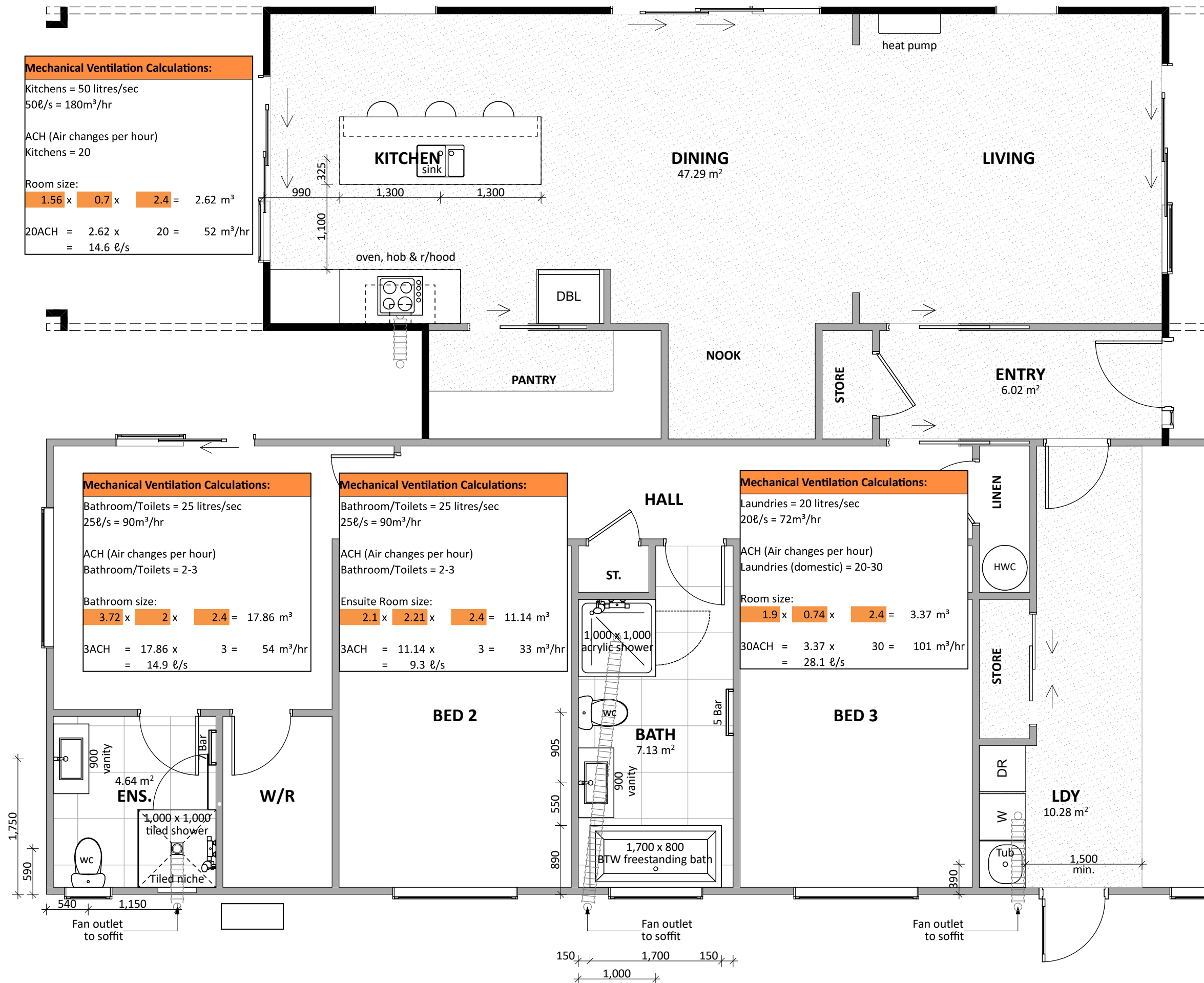


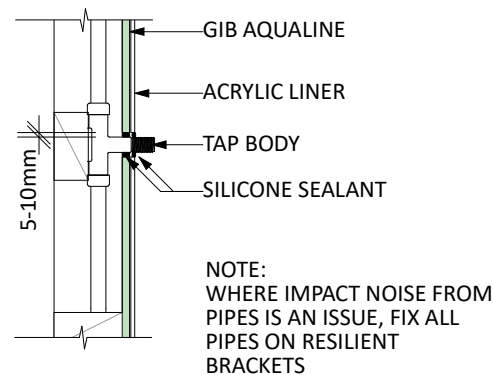
Engineering
Plans are to be read in conjunction with Wilton Joubert structural documentation and details.
Reference: 141358

C:\Users\caris\Desktop\bh\MOOR8\MOOR8 - Consent 2.0.pln
ALL PLANS ARE COPYRIGHT TO BARRETT HOMES Ltd. All rights reserved.
No part of this work covered by copyright may be reproduced or copied without written permission.

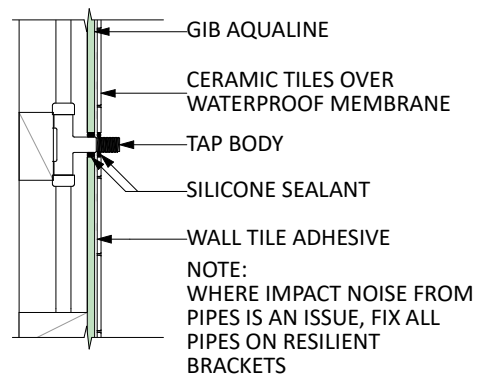


Project No:	MOOR8	Designed:	DP	Wind:	HIGH	Drawing:	FLOOR PLAN	Date:	17/07/2025
Plan:	RU47	Drawn:	CS	EQ:	1	Client Name:	BARRETT HOMES (NORTHLAND) LTD	Rev:	
Version:	1.1	Checked:	KB	Exposure:	D	Site Address:	LOT 8, 18 MOORING WAY,	Sheet:	7
				Council:	WDC		ONE TREE POINT, WHANGAREI	Scale:	1:100

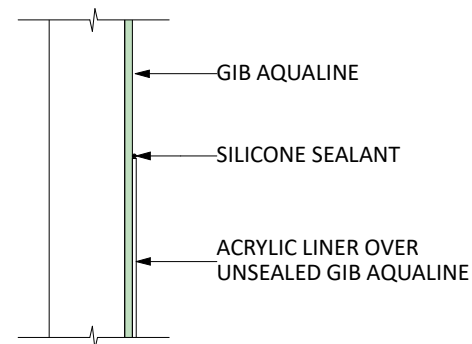




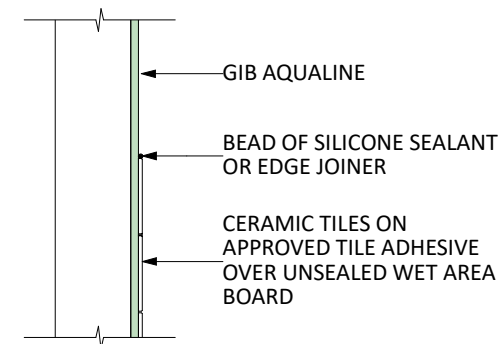
PENETRATION DETAIL



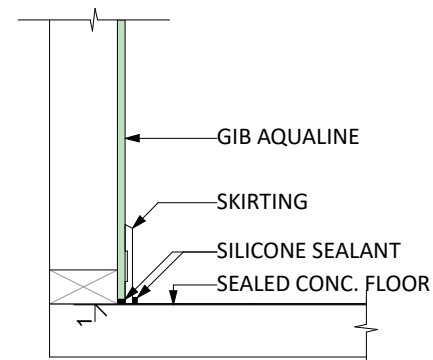
PENETRATION DETAIL



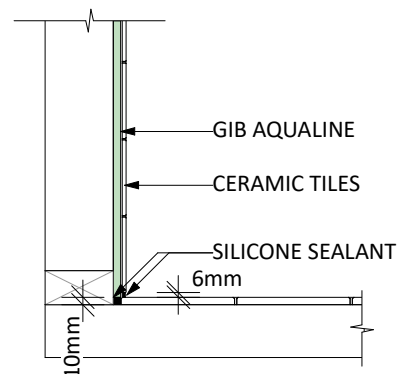
LINER TOP EDGE DETAIL



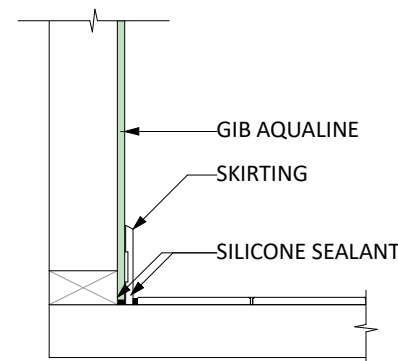
TILE TOP EDGE DETAIL



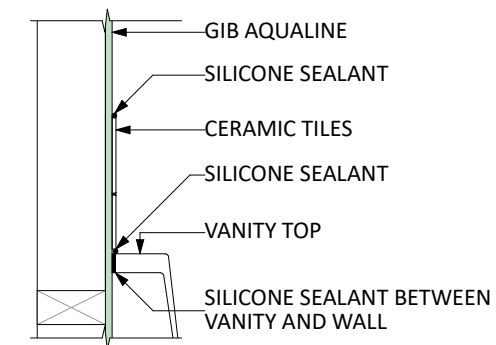
WALL/CONCRETE FLOOR DETAIL



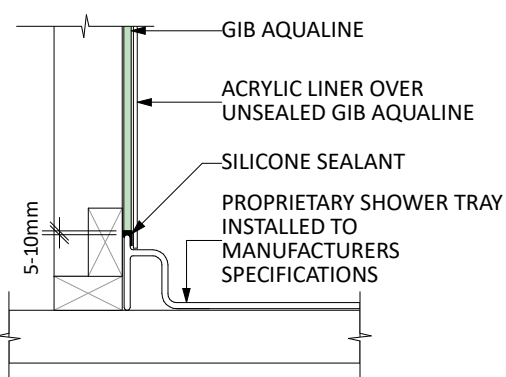
TILED WALL & FLOOR DETAIL



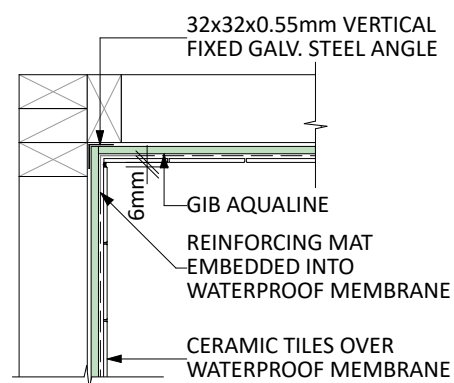
WALL/TILED FLOOR DETAIL



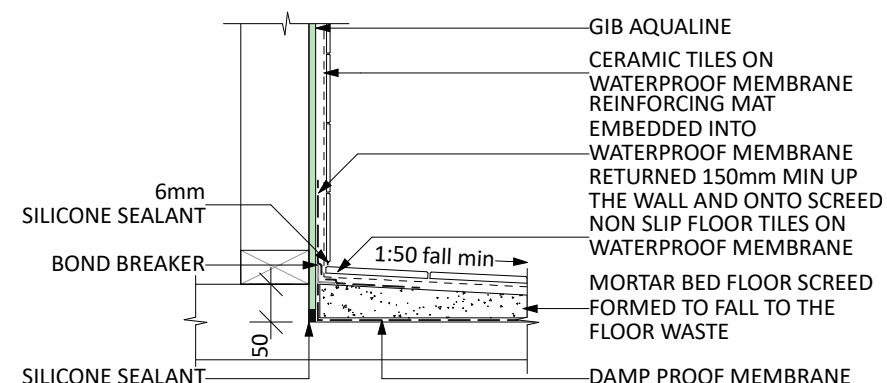
VANITY&TUB/WALL DETAIL



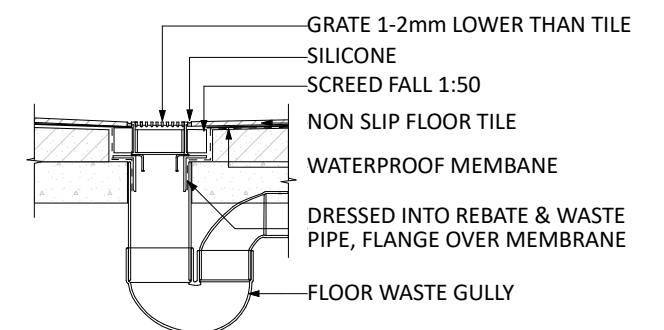
SHOWER WALL/TRAY DETAIL



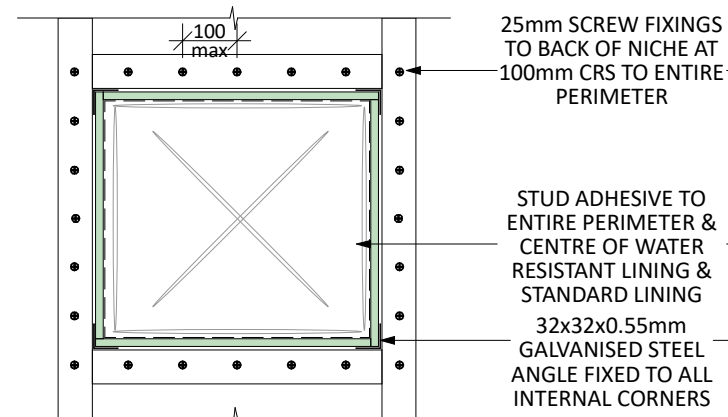
**SHOWER CORNER DETAIL
(PLAN VIEW)**



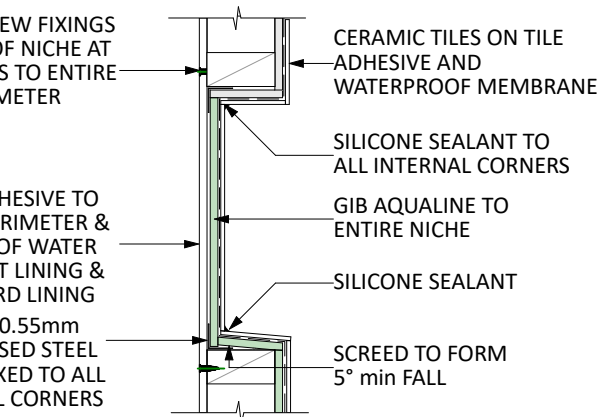
SHOWER WALL/FLOOR DETAIL



TILE SHOWER WASTE DETAIL



**TILED SHOWER NICHE
(ELEVATION)**



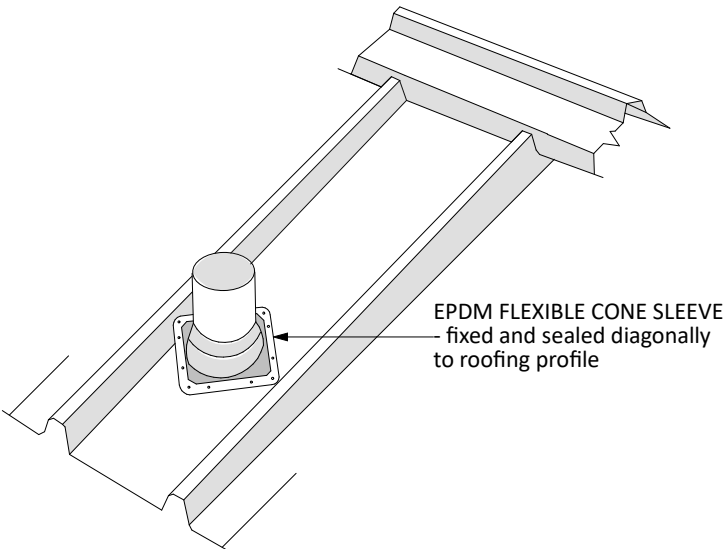
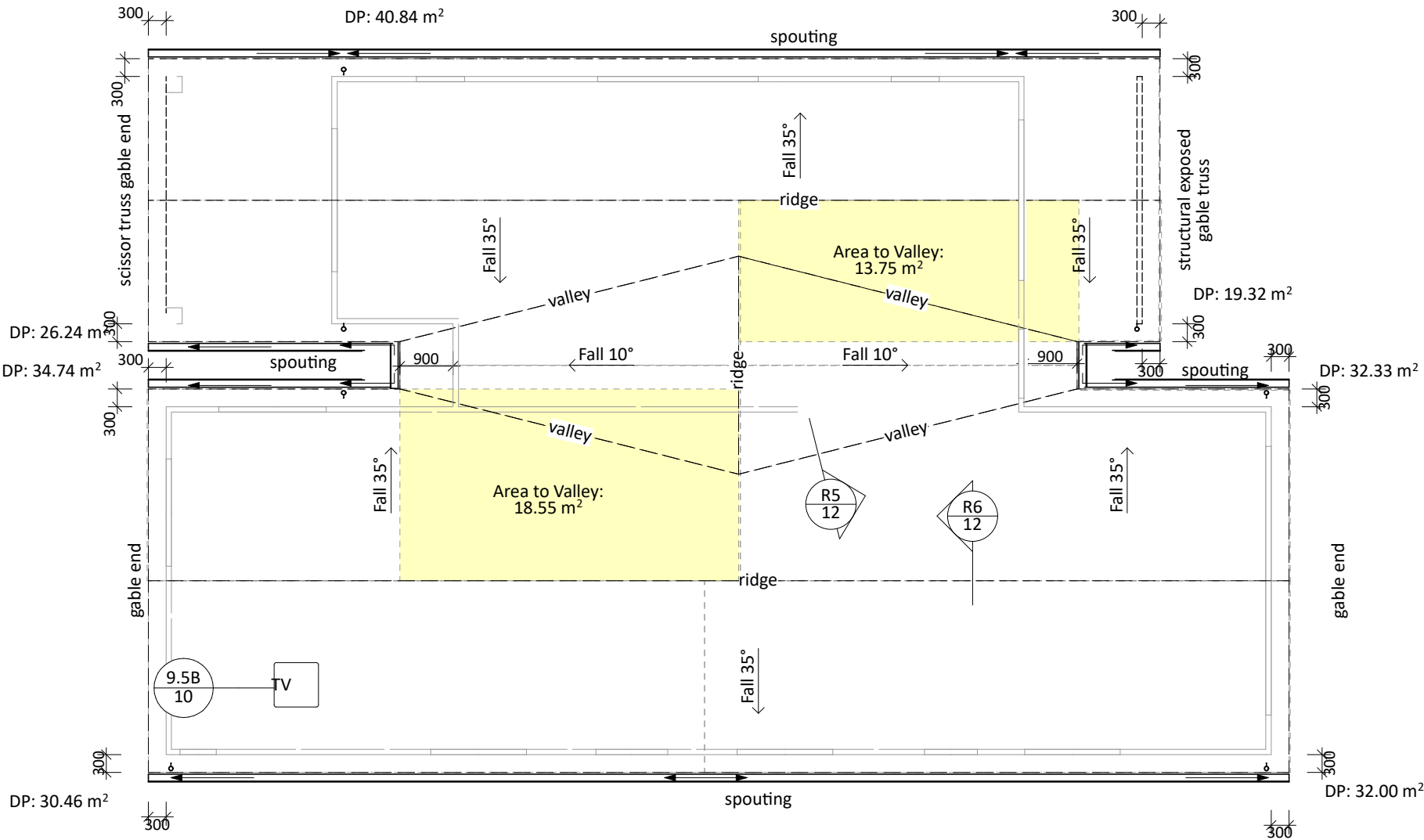
**TILED SHOWER NICHE
(SECTION)**



Project No:	MOOR8	Designed:	DP	Wind:	HIGH	Drawing:	WET AREA DETAILS	Date:	17/07/2025
Plan:	RU47	Drawn:	CS	EQ:	1	Client Name:	BARRETT HOMES (NORTHLAND) LTD	Rev:	
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General notes:
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Gutter fall



**Trapezoidal Roof Penetration
Direct-fixed Boot**
(roofing code of practice 9.5B
ver: 24.12/Dec 24)
(Min. 10° pitch)



Project No:	MOOR8	Designed:	DP	Wind:	HIGH	Drawing:	ROOF PLAN	Date:	17/07/2025
Plan:	RUA7	Drawn:	CS	EQ:	1	Client Name:	BARRETT HOMES (NORTHLAND) LTD	Rev:	
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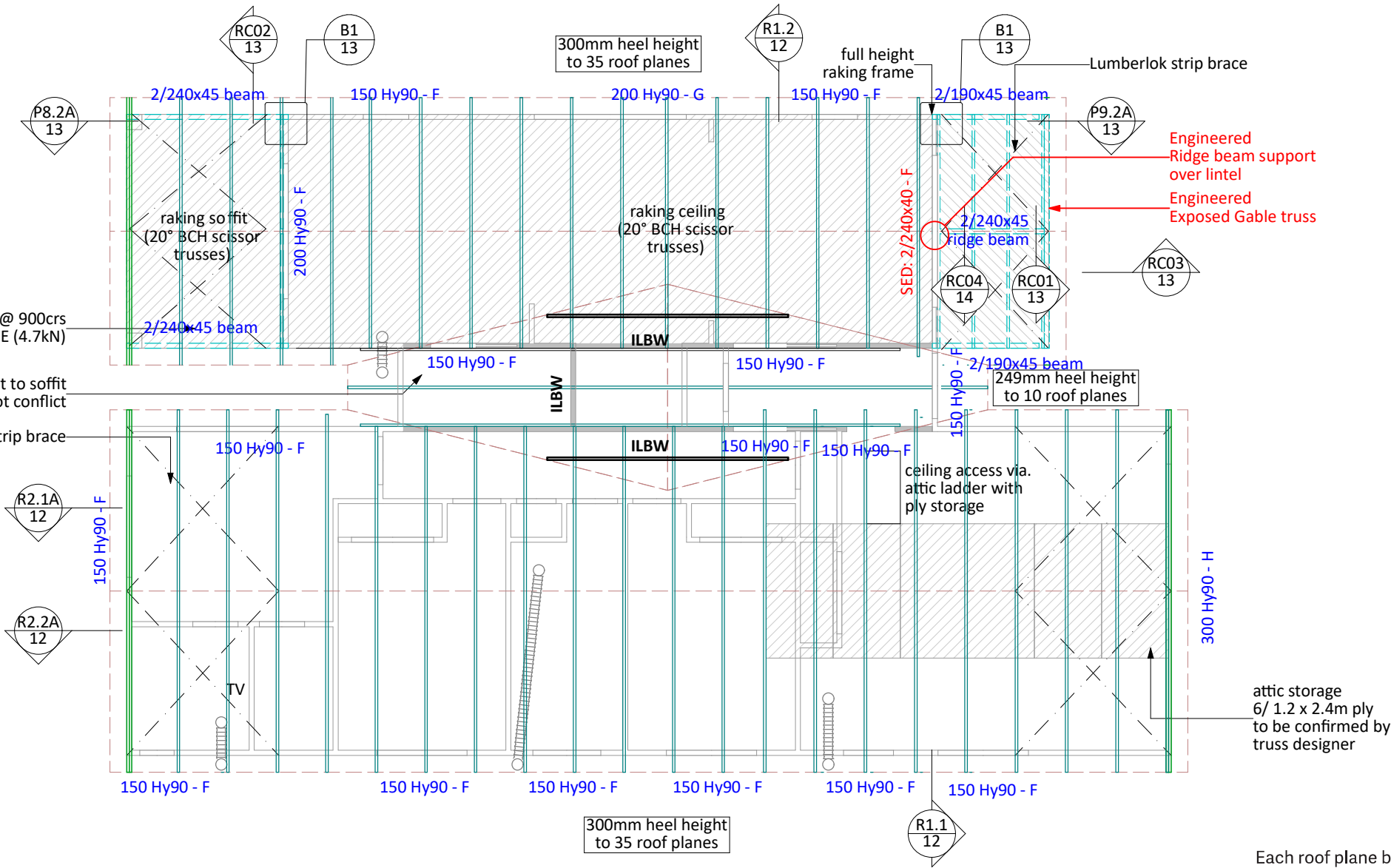
Stud To Top Plate Fixing Key:
Stud to top plate fixings use Mitek Studlok type SL fixing
- Refer to Bowmac manual

Gable end:
Stud to top plate fixings use Mitek Studlok type SL fixing
- Refer to Bowmac manual

Extra Top Plate To Top Plate
Power Driven - 3/90x3.15 nails at 500mm centres
Hand Driven - 2/100x3.75 nails at 500mm centres
Lintel & fixing key:
240x90-G = Lintel-Lintel fixing (refer to lumberlok manual)

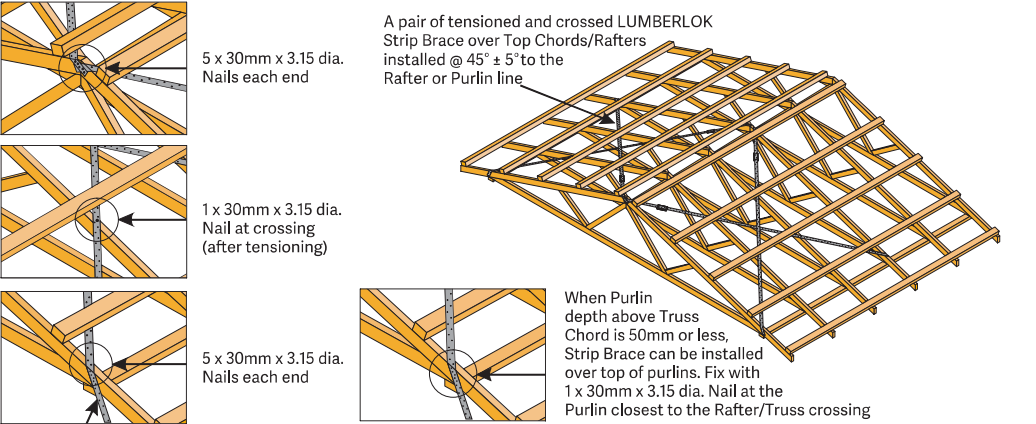
Lintel To Trimming Stud Fixing Key:
Lintel to Trimming Stud fixing use NZS:3604:2011 Table 8.19 (where fixings havent been specified).
Power Driven - 3/90x3.15 (end nails)
Hand Driven - 2/100x3.75 (end nails)

Lintels specified as per truss design in accordance with CHH Hy90 specifications.	
Roof Bracing: Light Roof = One per 50m² roof area Roof Area = 215.83 / 50 = 5 braces required (round up) = 4 valleys + 8 braces provided	
	ILBW Internal load bearing wall



i) ROOF PLANE BRACE

- Each roof plane brace can be:
- A hip or valley rafter running continuously from ridge to the top plate in accordance with Clauses 10.2.1.3.2 or 10.2.1.3.3 NZS 3604:2011.
- OR
- A pair of tensioned and crossed LUMBERLOK Strip Brace running continuously from ridge to wall frame installed as detailed below.

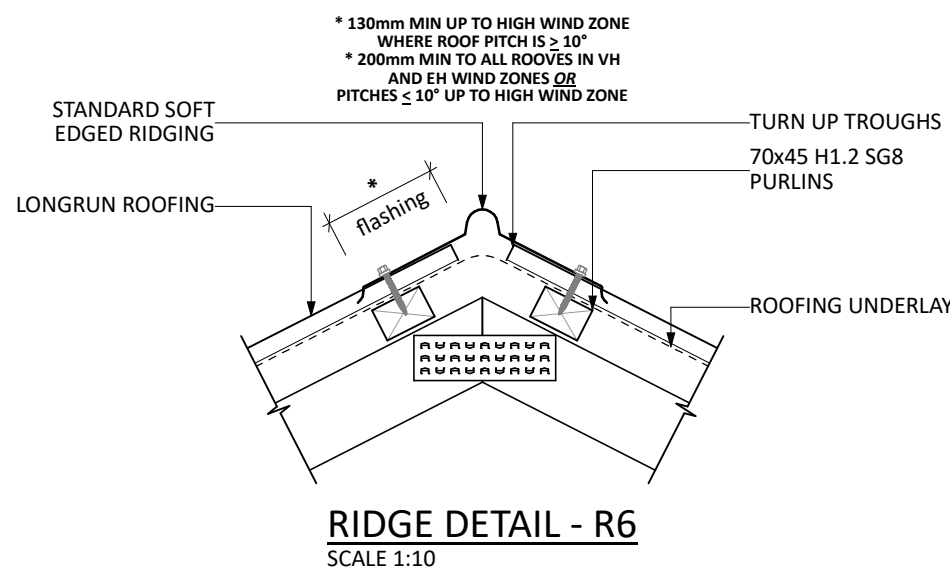
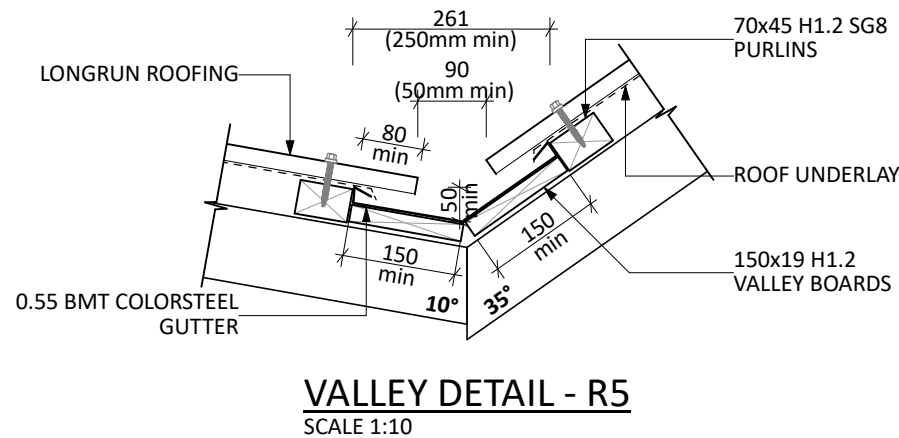
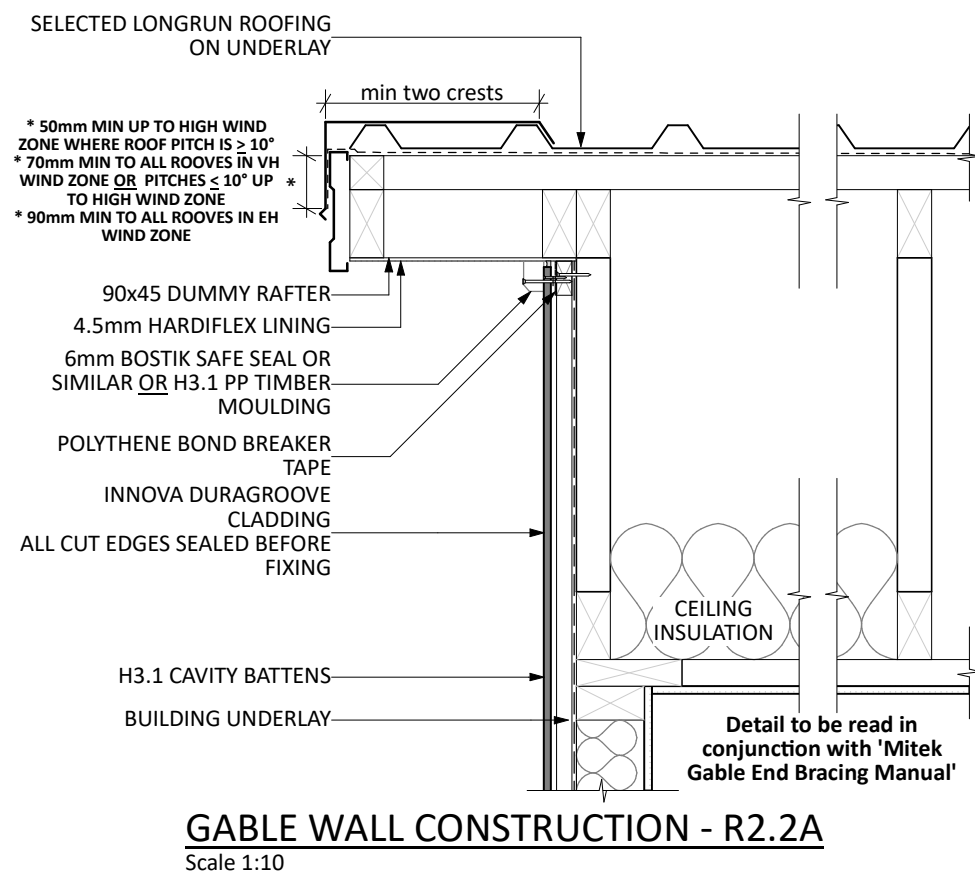
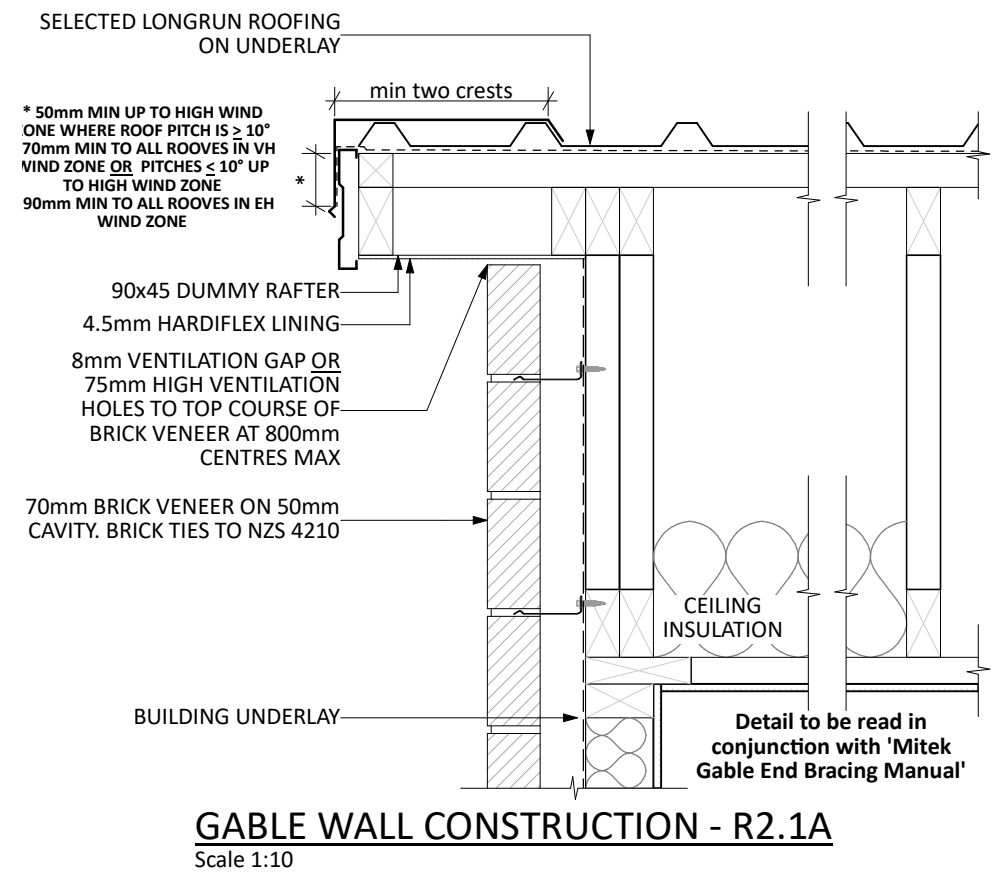
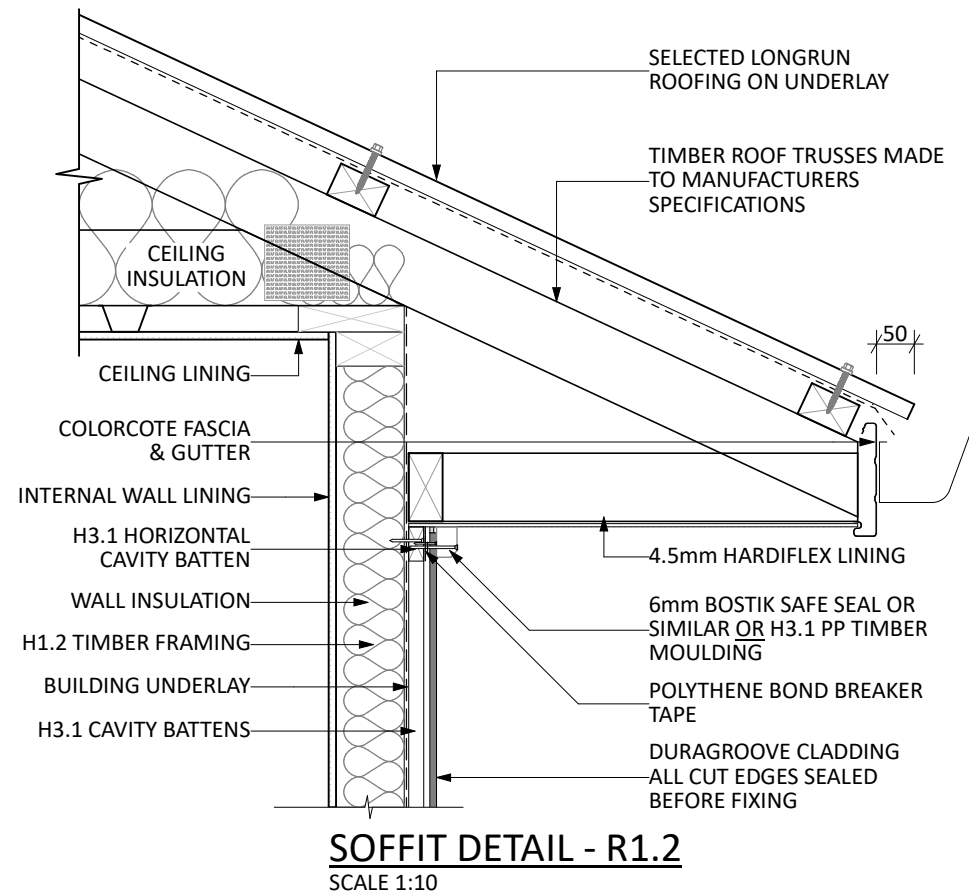
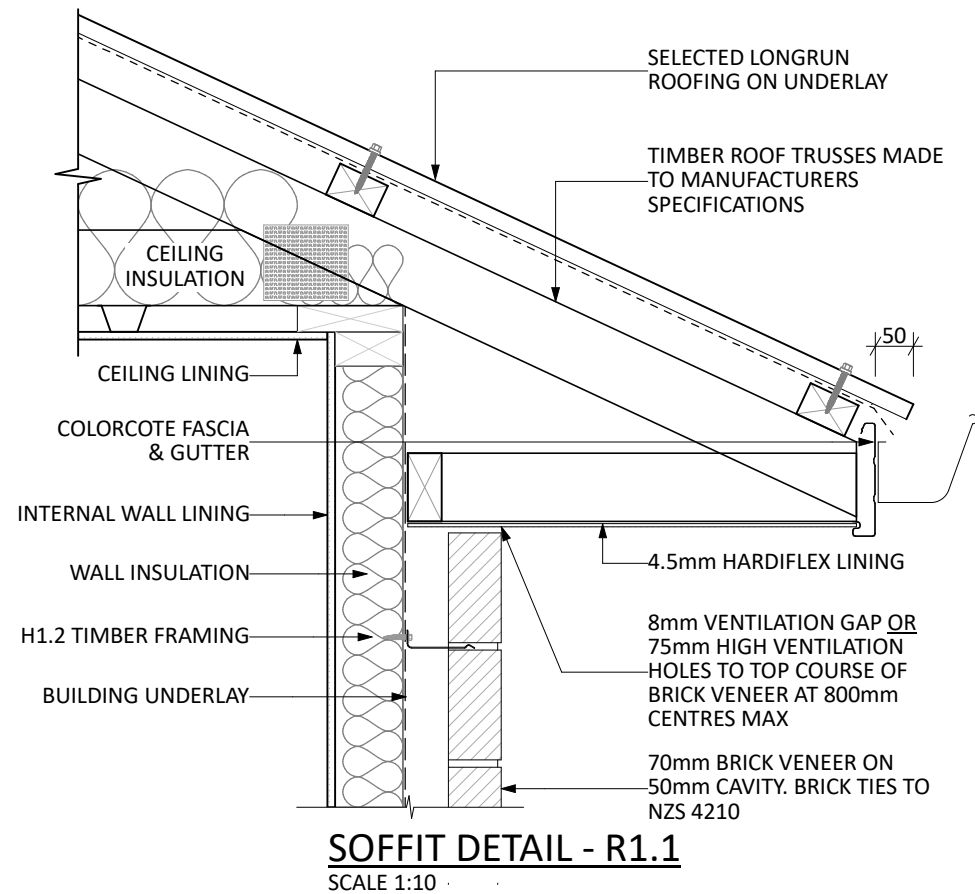


Engineering
Plans are to be read in conjunction with Wilton Joubert structural documentation and details.
Reference: 141358

C:\Users\caris\Desktop\bh\MOOR8\MOOR8 - Consent 2.0.pln
ALL PLANS ARE COPYRIGHT TO BARRETT HOMES Ltd. All rights reserved.
No part of this work covered by copyright may be reproduced or copied without written permission.



Project No: MOOR8	Designed: DP	Wind: HIGH	Drawing: ROOF FRAMING PLAN	Date: 17/07/2025
Plan: RU7	Drawn: CS	EQ: 1	Client Name: BARRETT HOMES (NORTHLAND) LTD	Rev:
Version: 1.1	Checked: KB	Exposure: D	Site Address: LOT 8, 18 MOORING WAY,	Sheet: 11
	design@barrethomes.co.nz	Council: WDC	ONE TREE POINT, WHANGAREI	Scale: 1:100



Rainfall Intensity (10 Min Duration, **10 Year** Return Period) mm/hr

Rainfall Intensity (10 Min Duration, **50 Year** Return Period) mm/hr

Short-Term Intensity Multiplication Factor

Minimum 3.1 for current selections

Main Roof Pitch °

Minimum 0° for valleys (metal roofs min 3°)

Secondary Roof Pitch °

Minimum 0° for valleys (metal roofs min 3°)

Enter Valley Dimensions

Freeboard=20

B=142°

Width=150

D=25

Valley Width (One Side) mm

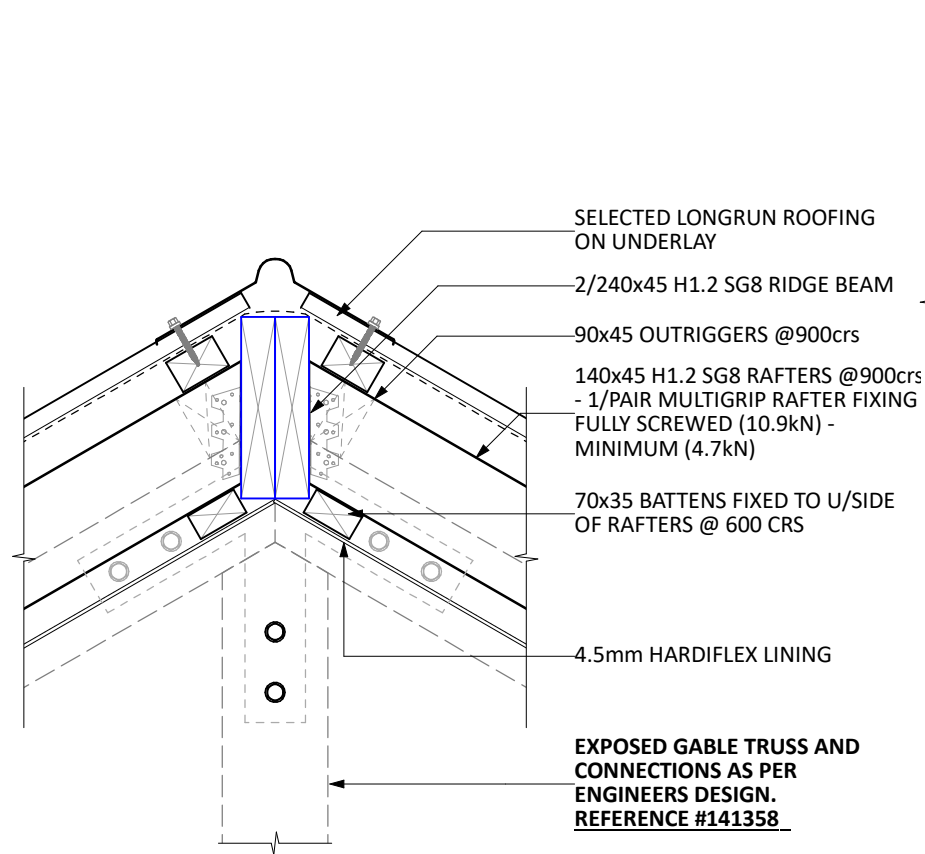
Valley Upstand mm

Freeboard mm

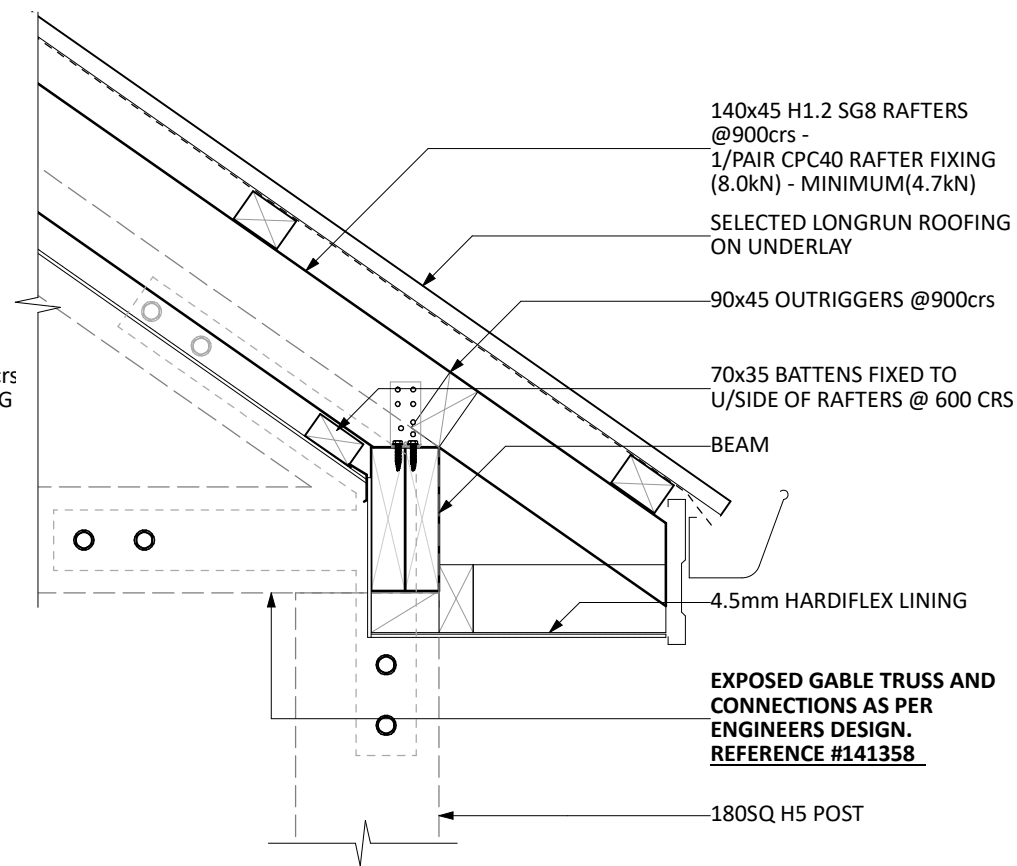
Minimum 20 for current selections

Illustration is for explanatory purposes only.

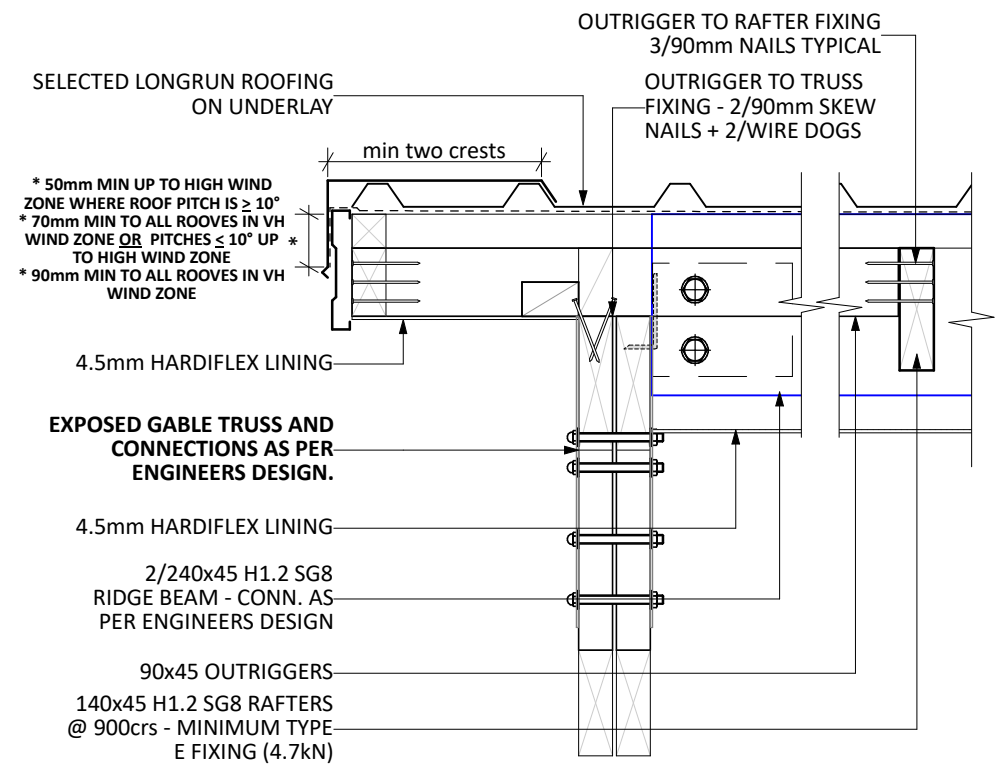
Max Capacity Roof Area	29.52m²
-------------------------------	---------------------------



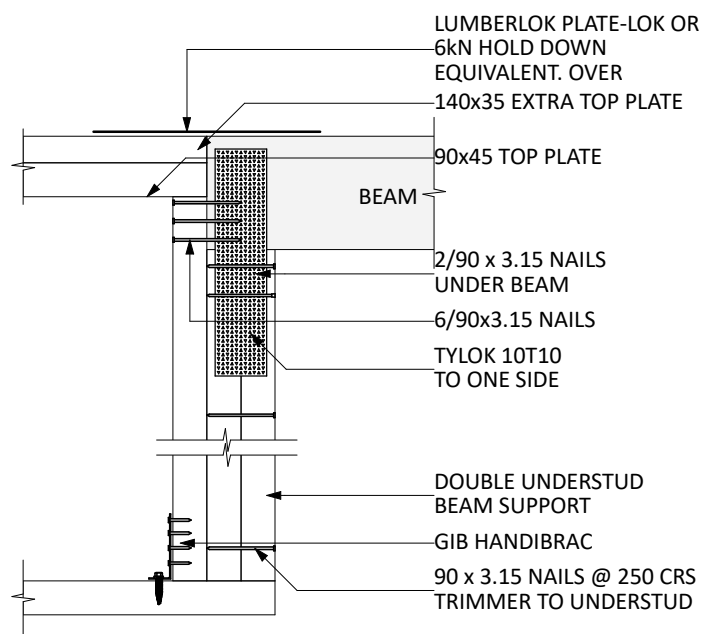
RAFTER TO RIDGE BEAM CONNECTION - RC01
SCALE 1:10



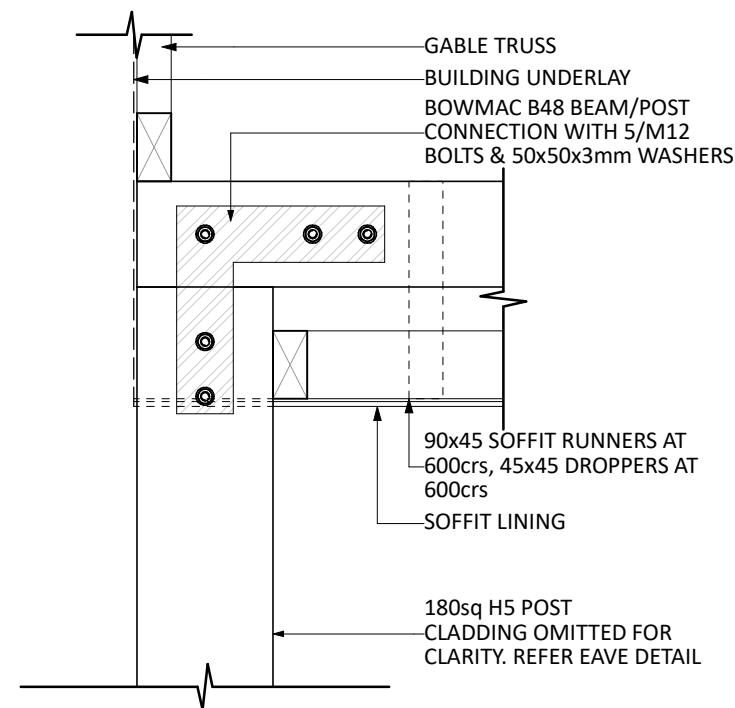
RAFTER TO BEAM CONNECTION - RC02
SCALE 1:10



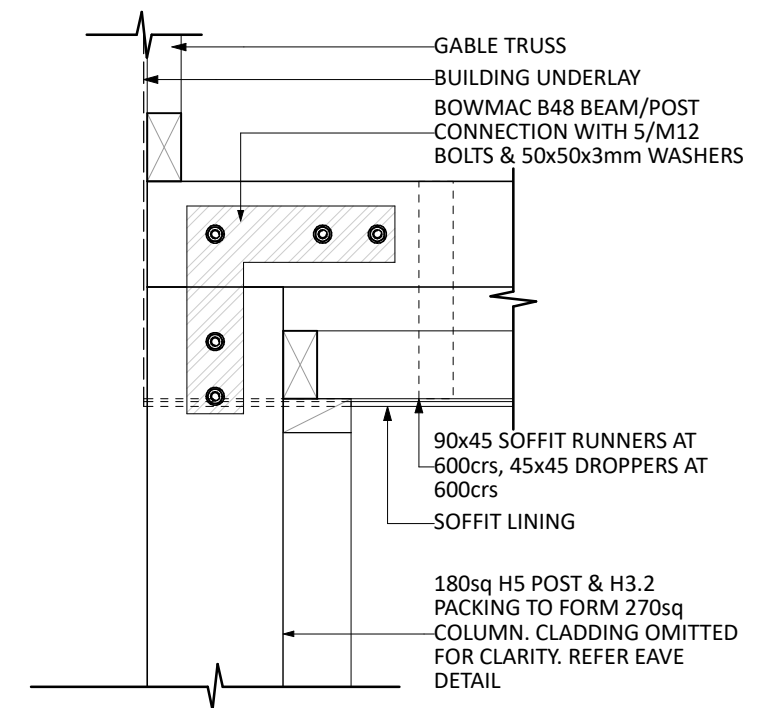
RIDGE BEAM TO TRUSS CONNECTION - RC03
Scale 1:10



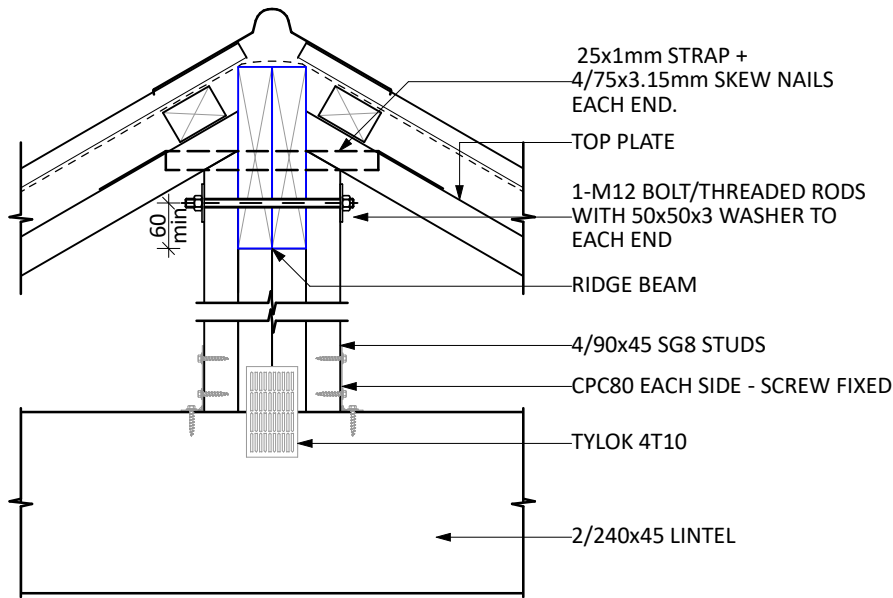
BEAM TO WALL - CORNER FIXING - B1
SCALE 1:10 (TYPE G - 7.5kN UPLIFT)



POST / BEAM CONSTRUCTION - P8.2A
SCALE 1:10



POST / BEAM CONSTRUCTION - P9.2A
SCALE 1:10



RIDGE BEAM TO WALL/LINTEL DETAIL - RC04
SCALE 1:10



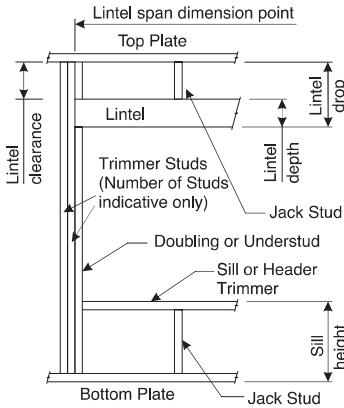
Project No:	MOOR8	Designed:	DP	Wind:	HIGH	Drawing:	ROOF DETAILS	Date:	17/07/2025
Plan:	RUA7	Drawn:	CS	EQ:	1	Client Name:	BARRETT HOMES (NORTHLAND) LTD	Rev:	
Version:	1.1	Checked:	KB	Exposure:	D	Site Address:	LOT 8, 18 MOORING WAY,	Sheet:	14
				Council:	WDC		ONE TREE POINT, WHANGAREI	Scale:	1:10

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 0.20kPa
- 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



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

NOTES:

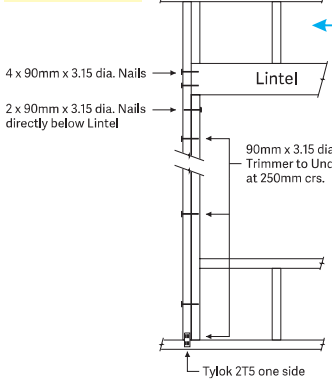
1. Roof Tributary Area = approx. 1/2 x (Total roof area on girder and rafter trusses supported by lintel)
2. Assumed girder truss is at mid-span or middle third span of lintel
3. Use similar fixings for both ends of lintel
4. All other cases require specific engineering design

Lintel Span (m)	Loaded Dimension (m) (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
		L	M	H	VH, EH	L	M	H	VH, EH
1.0	2.0	E	E	F	F	E	E	F	F
	3.0	E	E	F	F	E	E	F	F
	4.0	E	F	F	G	E	F	F	G
	5.0	E	F	F	G	E	F	F	G
	6.0	E	F	F	G	E	F	F	G
1.2	2.0	E	E	F	F	E	E	F	F
	3.0	E	E	F	F	E	E	F	F
	4.0	E	F	F	G	E	F	F	G
	5.0	E	F	F	G	E	F	F	G
	6.0	F	F	G	G	E	F	F	G
1.5	2.0	E	E	F	F	E	E	F	F
	3.0	E	F	F	G	E	F	F	G
	4.0	E	F	F	G	E	F	F	G
	5.0	F	F	G	G	E	F	F	G
	6.0	F	F	G	G	E	F	F	G
2.0	2.0	E	F	F	G	E	F	F	G
	3.0	E	F	F	G	E	F	F	G
	4.0	F	F	G	H	E	F	F	G
	5.0	F	F	G	H	E	F	F	G
	6.0	F	F	G	H	E	F	F	G
2.4	2.0	E	F	F	G	E	F	F	G
	3.0	F	F	G	H	E	F	F	G
	4.0	F	F	G	H	E	F	F	G
	5.0	F	F	G	H	E	F	F	G
	6.0	F	F	G	H	E	F	F	G
3.0	2.0	E	F	F	G	E	F	F	G
	3.0	F	F	G	H	E	F	F	G
	4.0	F	F	G	H	E	F	F	G
	5.0	F	F	G	H	E	F	F	G
	6.0	F	F	G	H	E	F	F	G
3.6	2.0	F	F	G	H	E	F	F	G
	3.0	F	F	G	H	E	F	F	G
	4.0	F	F	G	H	E	F	F	G
	5.0	F	F	G	H	E	F	F	G
	6.0	F	F	G	H	E	F	F	G
4.2	2.0	F	F	G	H	E	F	F	G
	3.0	F	F	G	H	E	F	F	G
	4.0	F	F	G	H	E	F	F	G
	5.0	F	F	G	H	E	F	F	G
	6.0	F	F	G	H	E	F	F	G
4.5	2.0	F	F	G	H	E	F	F	G
	3.0	F	F	G	H	E	F	F	G
	4.0	F	F	G	H	E	F	F	G
	5.0	F	F	G	H	E	F	F	G
	6.0	F	F	G	H	E	F	F	G
4.8	2.0	F	F	G	H	E	F	F	G
	3.0	F	F	G	H	E	F	F	G
	4.0	F	F	G	H	E	F	F	G
	5.0	F	F	G	H	E	F	F	G
	6.0	F	F	G	H	E	F	F	G
5.1	2.0	F	F	G	H	E	F	F	G
	3.0	F	F	G	H	E	F	F	G
	4.0	F	F	G	H	E	F	F	G
	5.0	F	F	G	H	E	F	F	G
	6.0	F	F	G	H	E	F	F	G
5.4	2.0	F	F	G	H	E	F	F	G
	3.0	F	F	G	H	E	F	F	G
	4.0	F	F	G	H	E	F	F	G
	5.0	F	F	G	H	E	F	F	G
	6.0	F	F	G	H	E	F	F	G

LINTEL FIXING OPTIONS

(Characteristic Uplift)

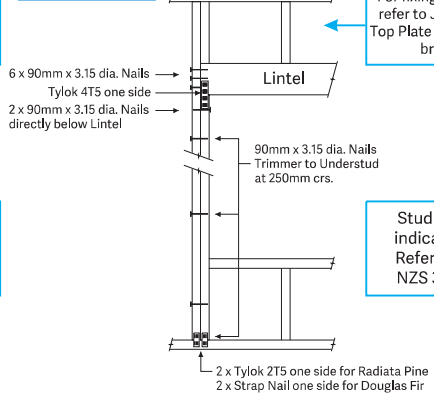
TYPE E
1.4kN



For fixing of jack studs refer to Jack Studs to Top Plate & Lintel Fixing brochure

Stud numbers indicative only. Refer Table 8.5 NZS 3604:2011

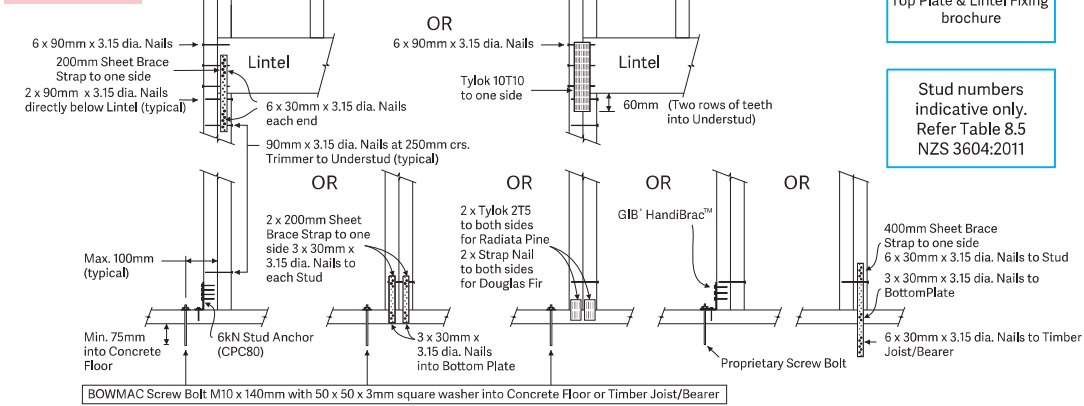
TYPE F
4.0kN



For fixing of jack studs refer to Jack Studs to Top Plate & Lintel Fixing brochure

Stud numbers indicative only. Refer Table 8.5 NZS 3604:2011

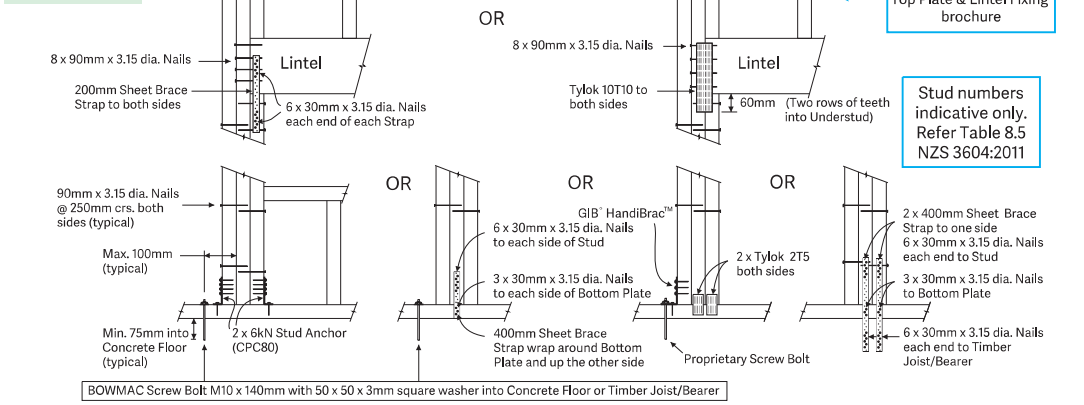
TYPE G
7.5kN



For fixing of jack studs refer to Jack Studs to Top Plate & Lintel Fixing brochure

Stud numbers indicative only. Refer Table 8.5 NZS 3604:2011

TYPE H
13.5kN



For fixing of jack studs refer to Jack Studs to Top Plate & Lintel Fixing brochure

Stud numbers indicative only. Refer Table 8.5 NZS 3604:2011



Project No:	MOOR8	Designed:	DP	Wind:	HIGH	Drawing:	FIXING CHARTS	Date:	17/07/2025
Plan:	RU47	Drawn:	CS	EQ:	1	Client Name:	BARRETT HOMES (NORTHLAND) LTD	Rev:	
Version:	1.1	Checked:	KB	Exposure:	D	Site Address:	LOT 8, 18 MOORING WAY,	Sheet:	14
				Council:	WDC		ONE TREE POINT, WHANGAREI	Scale:	

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} OR T12140GH ^{*1}	55 mm
			Masonry Block	600 mm	T12140GH ^{*1}	
	Proprietary Bracing Systems (15 kN)	17.5 MPa	Concrete	900 mm	AS12150GH + RPBA	
			Masonry Block	600 mm		
Internal Wall	NZS3604:2011	17.5 MPa	N/A	900 mm	12120BPAG ^{*1} OR T12140GH ^{*1}	N/A
				600 mm	8x75 Drive Pin & Washer	N/A
	Proprietary Bracing Systems (15 kN)	17.5 MPa	N/A	900 mm	12120BPAG ^{*1} + RPBA OR T12140GH ^{*1} + RPBA	N/A



Ramset Bracing Anchor (RPBA)

Advantages

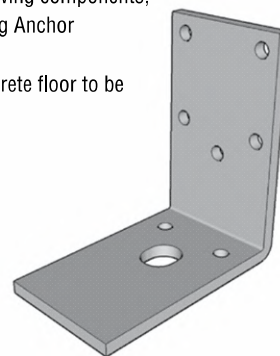
- Ease and speed of installation
- No checking of timber frame to ensure flush fitting of board
- The RPBA is a one piece anchor for either side of stud
- Slotted hole on bottom of bracket provides some flexibility in bolt & bracket position
- Installed prior to fixing of gypsum wallboard
- Easy inspection

The Ramset Bracing Anchor is sold as a set of 2.

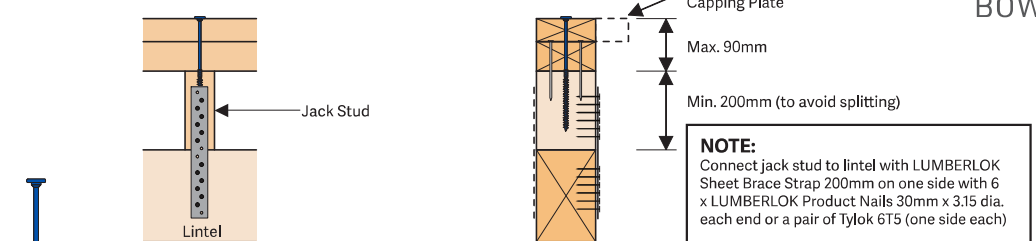
Each set includes the following components:

- 2 Each Ramset Bracing Anchor
- 14 Each Tek screws

Fixings into timber or concrete floor to be purchased separately

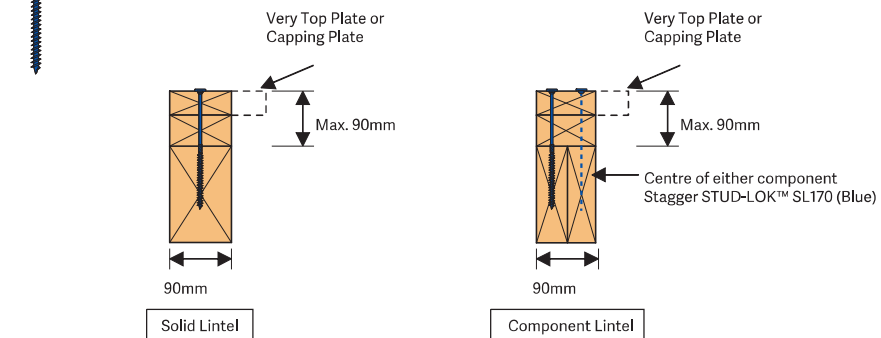


FIXING THROUGH VERY TOP PLATE OR CAPPING PLATE TO LINTEL WITH JACK STUD ARRANGEMENT

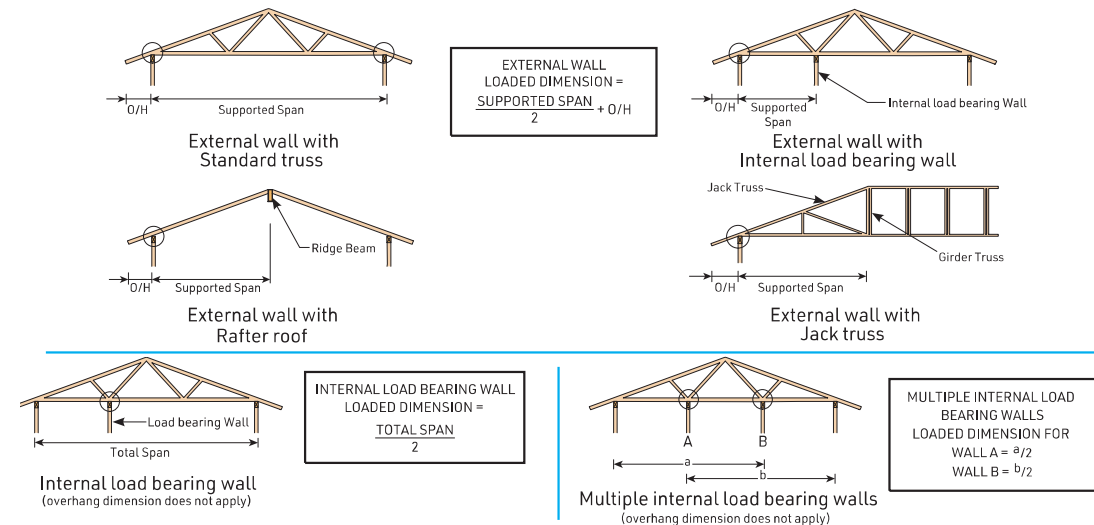


NOTE:
Connect jack stud to lintel with LUMBERLOK Sheet Brace Strap 200mm on one side with 6 x LUMBERLOK Product Nails 30mm x 3.15 dia. each end or a pair of Tylok 6T5 (one side each)

FIXING THROUGH VERY TOP PLATE OR CAPPING PLATE TO LINTELS DIRECTLY UNDER TOP PLATE



LOADED DIMENSION DEFINITION



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	2N	2N	SL	SL	SL	2N	2N	SL	SL	SL
4.0	3.0	2.0	2N	2N	SL	SL	SL	2N	2N	SL	SL	SL
5.0	3.8	2.5	2N	SL	SL	SL	SL	2N	2N	SL	SL	SL
6.0	4.5	3.0	2N	SL	SL	SL	SL	2N	2N	SL	SL	SL
7.0	5.3	3.5	2N	SL	SL	SL	SL	2N	2N	SL	SL	SL
8.0	6.0	4.0	2N	SL	SL	SL	SL	2N	2N	SL	SL	SL
9.0	6.8	4.5	SL	SL	SL	SL	SL	2N	2N	SL	SL	SL
10.0	7.5	5.0	SL	SL	SL	SL	SL	2N	2N	SL	SL	SL
11.0	8.3	5.5	SL	SL	SL	SL	SL	2N	2N	SL	SL	SL
12.0	9.0	6.0	SL	SL	SL	SL	SL	2N	2N	SL	SL	SL

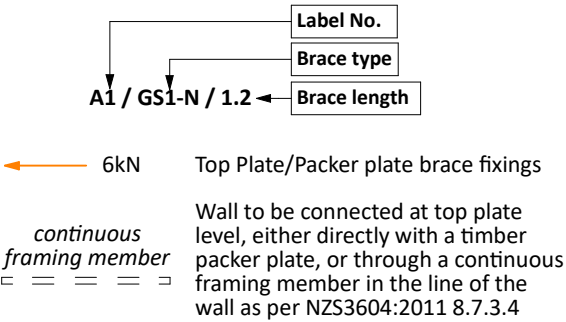
2N = 2/90mm x 3.15 dia. Nails

SL = Single STUD-LOK SL170 (blue)
plus 2/90mm x 3.15 dia. Nails
or 100mm x 3.75 dia. Framing Nails

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

Bracing Notes:
All GIB® Braces fixed in accordance with the latest Winstones GIB bracing manual

(as per NZS 3604:2011 section 5.4.6)
Bracing lines in any storey shall be at not more than 6 m centres in each direction, provided that there need be no bracing lines within the area covered by a diaphragm complying with 5.6.1 supported by walls complying with 5.6.2. Where bracing lines are spaced between 5 and 6 m and there is a low density (less than 600 kg/m3) ceiling lining then an additional 140 x 35 mm top plate of the same grade as the wall frame shall be fitted (see figure 8.18). The distance between bracing lines may be 7.5 m where dragon ties provide lateral support to the external wall (see figure 8.1).



Openings in GIB 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.

Openings in Ply Bracing Elements
(as per CHH Ecoply Manual)
• Switch and power outlets – 90 x 90mm (max) outlet penetrations are to be positioned not less than 90mm from the perimeter of the bracing element
• Penetration holes - 150mmØ (max) hole penetrations are to be positioned not less than 150mm from the perimeter of the bracing element

Ply Braces:
(not as cladding)
All plywood specified is grade DD 7mm construction ply manufactured to AS/NZS 2269:2004, fixed with 50x2.8 flat head nails at 150mm crs around the perimeter of the bracing element and at 300mm crs to intermediate framing

Bracing Element Table		
Brace Type	Primary Brace	Secondary Brace/s
GS1-N	10mm GIB Standard plasterboard on one side, minimum length 0.4m	N/A
GS2-N	10mm GIB Standard plasterboard on each side, minimum length 0.4m	N/A
EP1	7mm CHH Ecoply® one side, minimum length 0.4m	Hold-down conn. each end
BLP-H	10mm GIB Braceline on one side, min 7mm Ecoply on other side, min length 0.4m	Hold-down conn. each end

NOTE TO PRENAIL:
EXTERNAL PLY BRACES TO BE
CHECKED INTO CLAD FRAMES ONLY

Symbol	Legend
	Meterbox
	Distribution board

Project No:	MOOR8	Designed:	DP	Wind:	HIGH	Drawing:	BRACING PLAN	Date:	17/07/2025
Plan:	RUA7	Drawn:	CS	EQ:	1	Client Name:	BARRETT HOMES (NORTHLAND) LTD	Rev:	
Version:	1.1	Checked:	KB	Exposure:	D	Site Address:	LOT 8, 18 MOORING WAY,	Sheet:	16
				Council:	WDC		ONE TREE POINT, WHANGAREI	Scale:	1:100



Demand Calculation Sheet

Job Details

Name:	MOOR8
Street and Number:	18 MOORING WAY, ONE TREE POINT
Lot and DP Number:	LOT 8
City/Town/District:	WHANGAREI
Designer:	CS
Company:	BARRETT HOMES (NORTHLAND) LTD
Date:	Tuesday, 1 July 2025

Building Specification

Number of Storeys	1
Floor Loading	2 kPa
Foundation Type	Slab
	Single
Cladding Weight	Heavy
Roof Weight	Light
Room in Roof Space	0 to 12.5%
Roof Pitch (degrees)	35
Roof Height above Eaves (m)	2.5
Building Height to Apex (m)	5.18
Ground to Lower Floor (m)	0.25
Average Stud Height (m)	2.4
Building Length (m)	18.
Building Width (m)	11.4
Building Plan Area (m²)	175.64

Building Location

Wind Zone = High	Earthquake Zone 1
	Soil Type D & E (Deep to Very Soft)
	Annual Prob. of Exceedance:1 in 500 (Default)

Bracing Units required for Wind

	Along	Across
Single Level	693	1056

Bracing Units required for Earthquake

	Along & Across
Single Level	937

Single Level Along Resistance Sheet

Job Name: MOOR8

									Wind	EQ
									Demand	
									693	937
									Achieved	
A	1	1.20	0	2.4	EP1 1.2	CHH	144	162	1457	1575
	2	1.20	0	2.4	EP1 1.2	CHH	144	162	210%	168%
	3	1.20	0	2.4	EP1 1.2	CHH	144	162		
	External Length = 12								432 OK	486 OK
B	1	1.20	0	2.4	EP1 1.2	CHH	144	162		
	2	1.20	0		GS1-N	GIB®	83	72		
	External Length = 2								227 OK	234 OK
C	1	0.60	0	2.4	EP1 0.6	CHH	57	63		
	2	2.40	0	2.4	GS1-N	GIB®	166	144		
	3	1.20	0	2.4	EP1 1.2	CHH	144	162		
	External Length = 9								367 OK	369 OK
D	1	1.20	0	2.4	EP1 1.2	CHH	144	162		
	2	1.20	0	2.4	EP1 1.2	CHH	144	162		
	3	1.20	0	2.4	EP1 1.2	CHH	144	162		
	External Length = 18								432 OK	486 OK

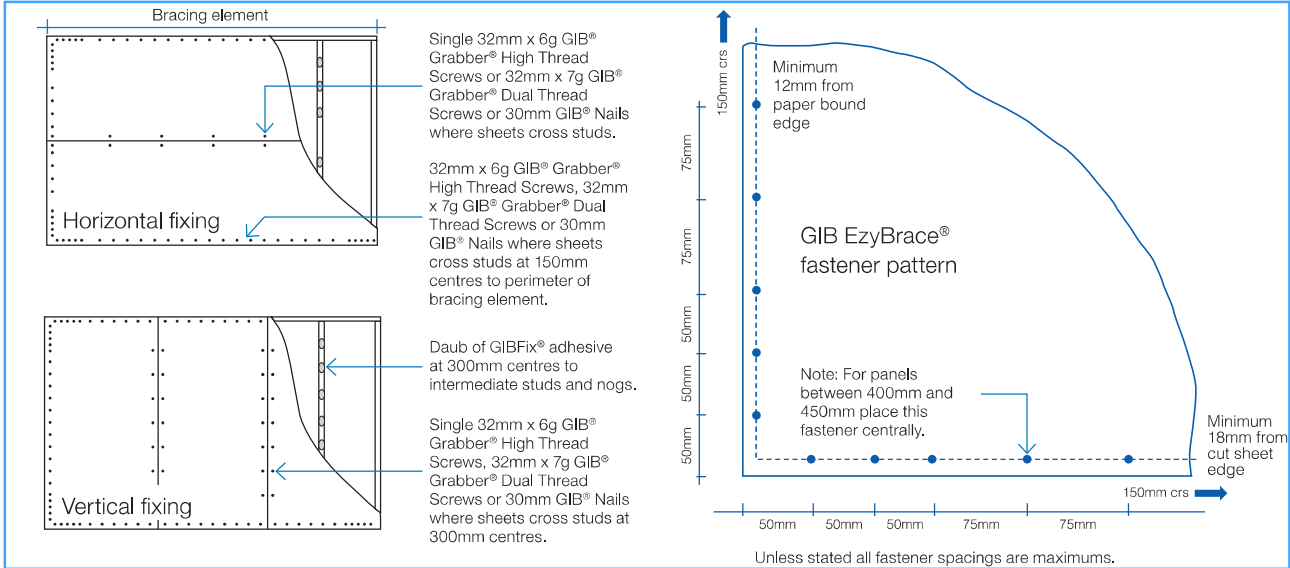
Single Level Across Resistance Sheet

Job Name: MOOR8

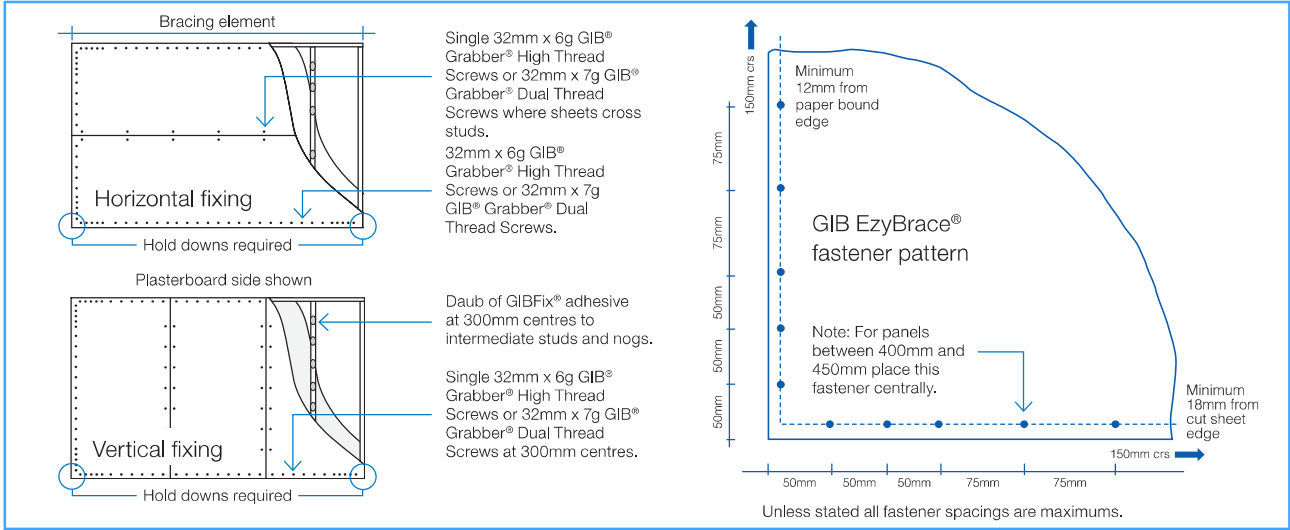
									Wind	EQ
									Demand	
									1056	937
									Achieved	
M	1	0.60	0	2.4	EP1 0.6	CHH	57	63	1642	1620
	2	1.20	0	2.4	EP1 1.2	CHH	144	162	155%	173%
	External Length = 5.8								201 OK	225 OK
N	1	0.70	0	2.5	BLP-H	GIB®	94	99		
	2	0.70	0	2.5	BLP-H	GIB®	94	99		
	3	1.40	0	2.5	EP1 1.2	CHH	161	181		
	4	0.60	0	2.5	GS1-N	GIB®	33	34		
	5	1.80	0	2.5	GS1-N	GIB®	119	104		
O	External Length = 5.5								502 OK	516 OK
	1	1.49	0	2.5	GS1-N	GIB®	33	34		
	2	1.80	0	2.4	GS1-N	GIB®	124	108		
	3	1.80	0	2.4	GS1-N	GIB®	124	108		
P									281 OK	250 OK
	1	0.40	0	2.5	GS2-N	GIB®	28	26		
	2	0.40	0	2.5	GS2-N	GIB®	28	26		
	3	3.72	0	2.5	GS1-N	GIB®	119	104		
Q									299 OK	263 OK
	1	0.50	0	0.2	BLP-H	GIB®	64	69		
	2	0.50	0	0.2	BLP-H	GIB®	64	69		
	3	1.80	0	2.5	GS1-N	GIB®	119	104		
R	External Length = 5.8								247 OK	243 OK
	1	0.45	0	0.2	BLP-H	GIB®	56	62		
	2	0.45	0	0.2	BLP-H	GIB®	56	62		
	External Length = 5.8								112 OK	123 OK



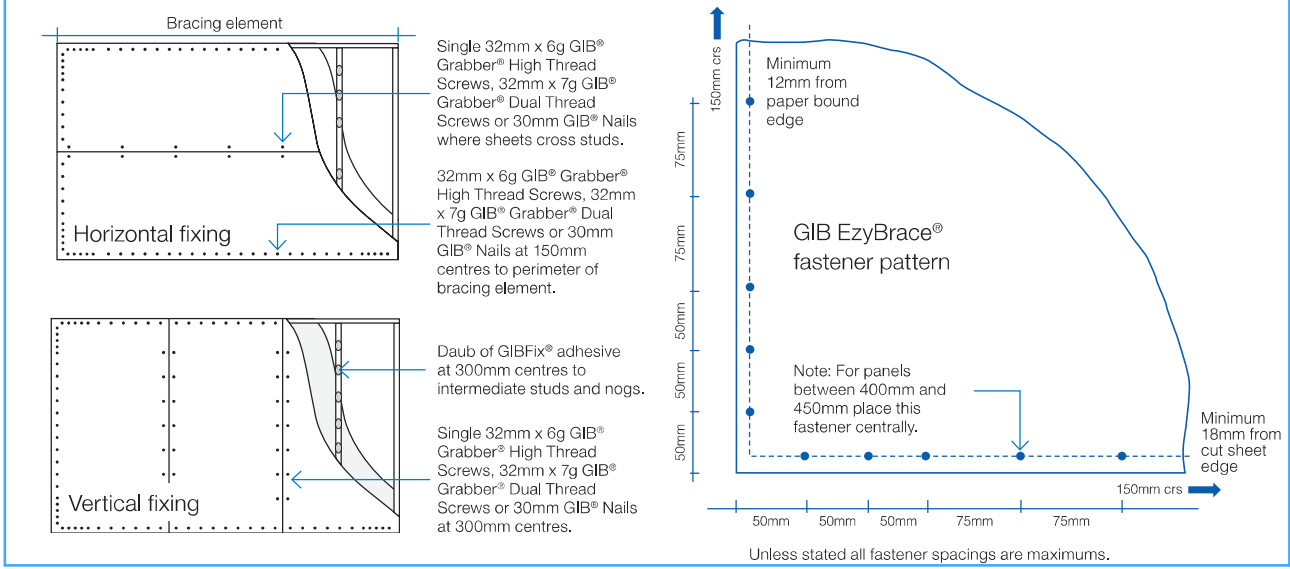
Project No: MOOR8	Designed: DP	Wind: HIGH	Drawing: BRACING CALCULATIONS	Date: 17/07/2025
Plan: RU47	Drawn: CS	EQ: 1	Client Name: BARRETT HOMES (NORTHLAND) LTD	Rev:
Version: 1.1	Checked: KB	Exposure: D	Site Address: LOT 8, 18 MOORING WAY,	Sheet: 17
	design@barrethomes.co.nz	Council: WDC	ONE TREE POINT, WHANGAREI	Scale:



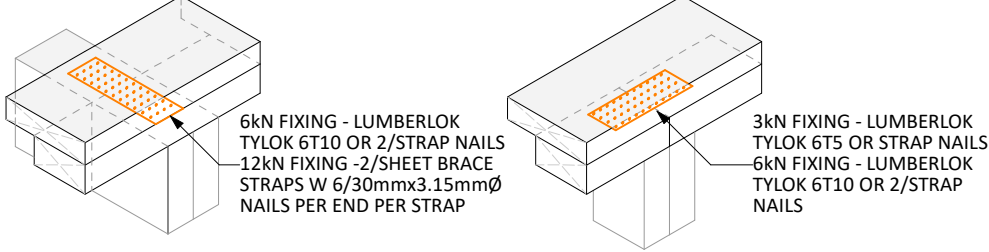
GIB GS1-N



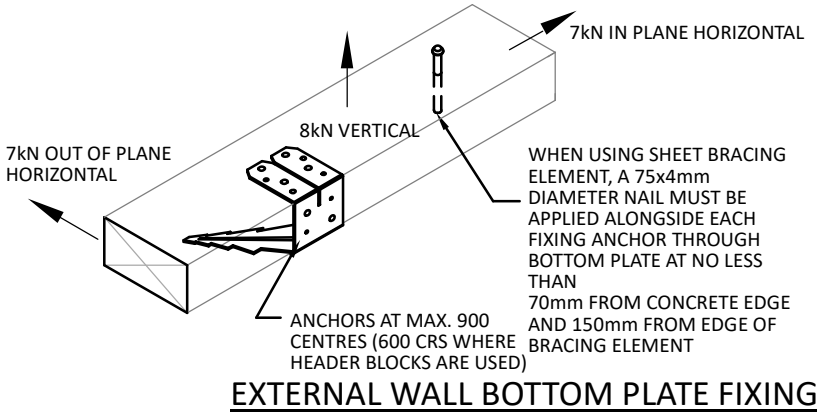
GIB BLP-H

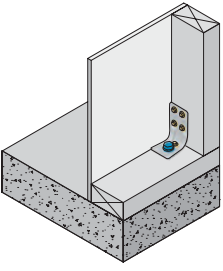
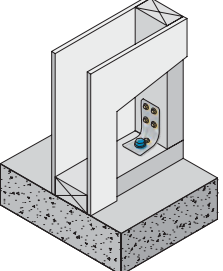


GIB GS2-N

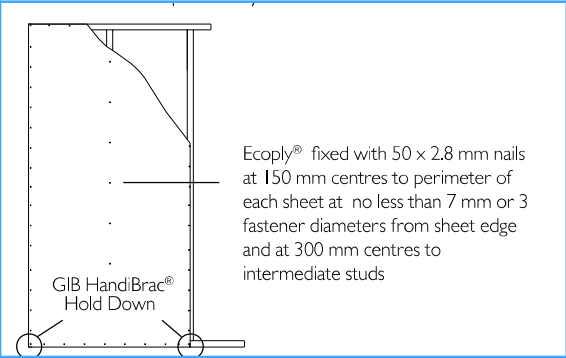


TOP PLATE BRACE FIXINGS



Concrete floor	
External walls	Internal walls
	
GEB009	GEB010
Position GIB HandiBrac® as close as practicable to the internal edge of the bottom plate.	Position GIB HandiBrac® at the stud/plate junction and at mid-width of plate.
Hold-down fastener requirements	
A mechanical fastening with a minimum characteristic uplift capacity of 15kN or use supplied BT10/140 screwbolt in GIB HandiBrac® pack.	

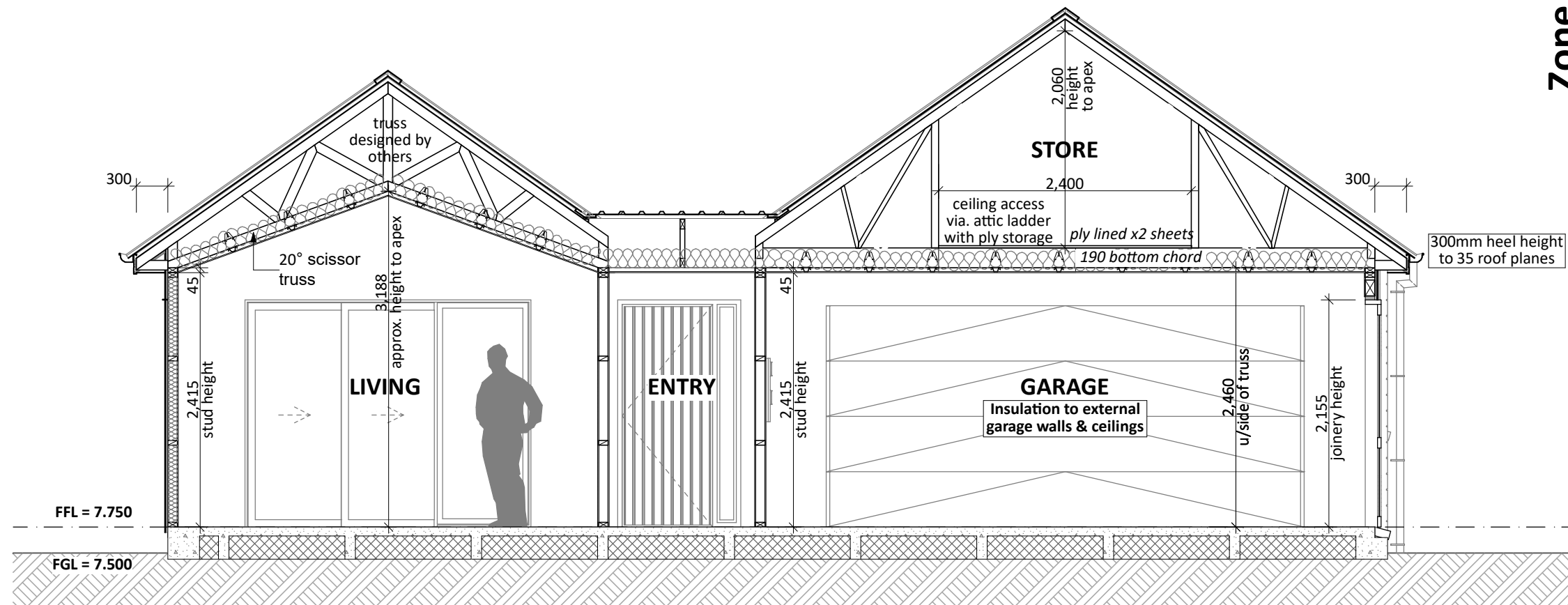
GIB HANDIBRAC - CONCRETE



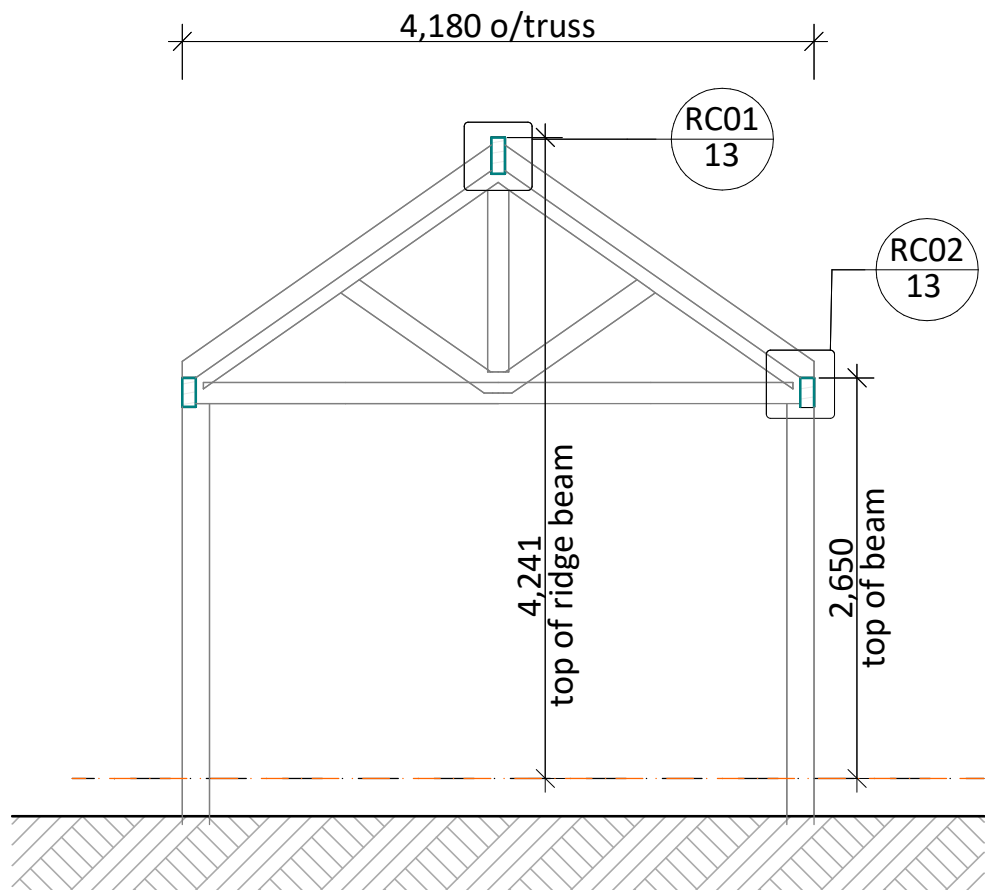
CHH EP1



Project No: MOOR8	Designed: DP	Wind: HIGH	Drawing: BRACING FIXING DETAILS	Date: 17/07/2025
Plan: RU47	Drawn: CS	EQ: 1	Client Name: BARRETT HOMES (NORTHLAND) LTD	Rev:
Version: 1.1	Checked: KB	Exposure: D	Site Address: LOT 8, 18 MOORING WAY,	Sheet: 18
		Council: WDC	ONE TREE POINT, WHANGAREI	Scale: 1:100



CROSS SECTION A
SCALE 1:50



EXPOSED GABLE TRUSS
SCALE 1:50

Zone D

Note: Exposure Zone D (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 galvanised steel
Wire dogs & bolts - In 'closed' & 'roof space' environments - hot-dip galvanised steel
All other structural fixings - In 'closed' environments - mild steel (uncoated, non-galvanised)

All structural fixings - In 'sheltered' & 'exposed' environments - type 304 stainless steel

Nails & screws used for framing & cladding:
Structural cladding acting as bracing (50 year durability) - type 304 stainless steel (1) or silicon bronze or protected galv. steel
Non-structural cladding (15 year durability) - galvanised steel (2)
Framing in 'closed' areas including roof spaces - mild steel (3)
Framing in 'sheltered' areas - galvanised steel (3)
Framing in 'exposed' areas - type 304 stainless steel (1)

*1. Stainless steel nails shall be minimum type 304 stainless steel and have annular grooves

*3. Steel fixings and fastenings in contact 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 galvanised steel (all other locations)

Minimum concrete strength after 28 days shall be:
(a) 10 MPa for unreinforced concrete in mass foundations
(b) 25 MPa for reinforced concrete in 'exposed' to weather or ground
(d) 25 MPa for reinforced concrete Ribraft floor (Engineers design to supercede)

Fixing Materials (Zone D):
(as per Acceptable Solution E2/AS1) - for definations refer to E2/AS1
Hidden:
Aluminium, or Bronze, or type 304 stainless steel
Nails - galvanised steel (2)
Screws - galvanised steel (2), Painted or unpainted to AS 3566: Part 2
Exposed:
Aluminium, or Bronze, or type 304 stainless steel
Screws - galvanised steel (2), Painted or unpainted to AS 3566: Part 2
Sheltered:
Aluminium, or Bronze, or type 304 stainless steel

Note:
* Hidden steel coated elements in ventilated cavities in Zones D & E (exposure to salt air) must be considered as 'Sheltered'

* 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

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;

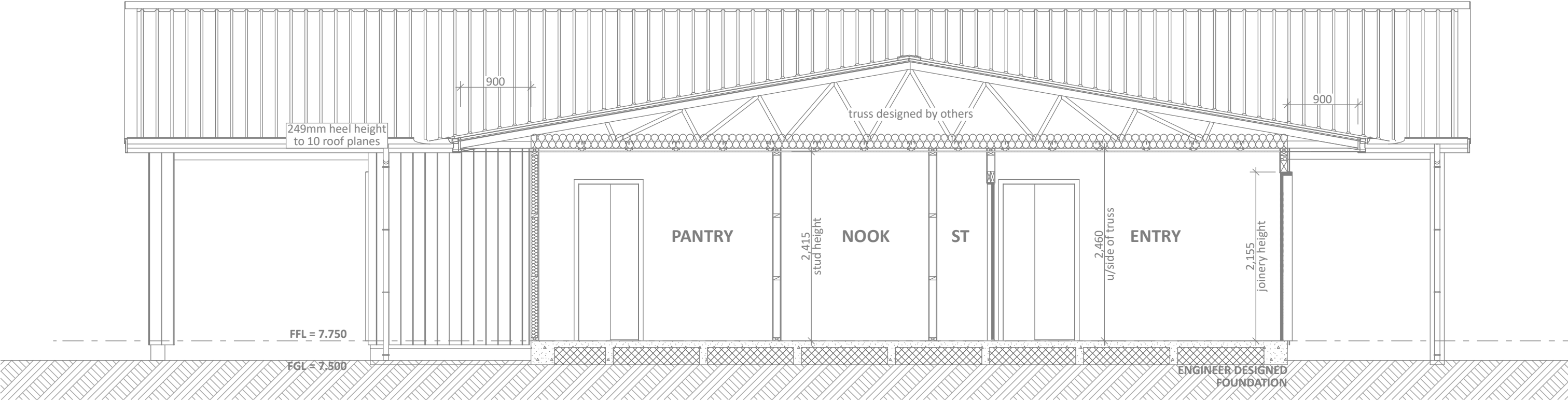
(b) Contamination from agricultural chemicals or fertilisers; and

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

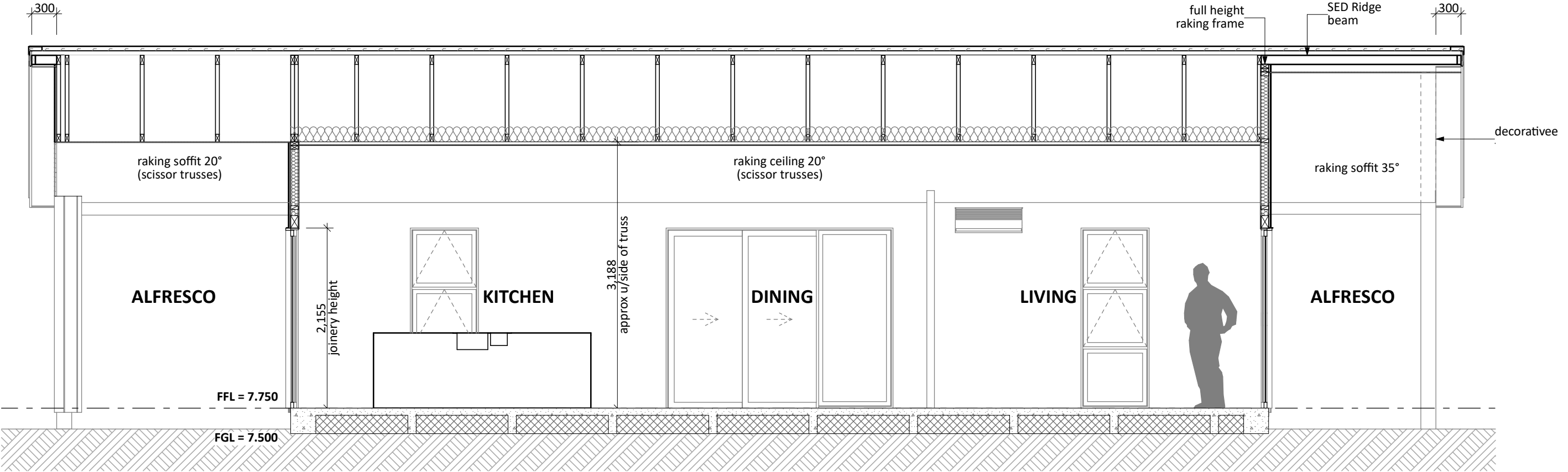
Microclimatic conditions (a) to (c) require specific engineer design.



Project No:	MOOR8	Designed:	DP	Wind:	HIGH	Drawing:	CROSS SECTIONS	Date:	17/07/2025
Plan:	RUA7	Drawn:	CS	EQ:	1	Client Name:	BARRETT HOMES (NORTHLAND) LTD	Rev:	
Version:	1.1	Checked:	KB	Exposure:	D	Site Address:	LOT 8, 18 MOORING WAY,	Sheet:	19
				Council:	WDC		ONE TREE POINT, WHANGAREI	Scale:	1:50, 1:75



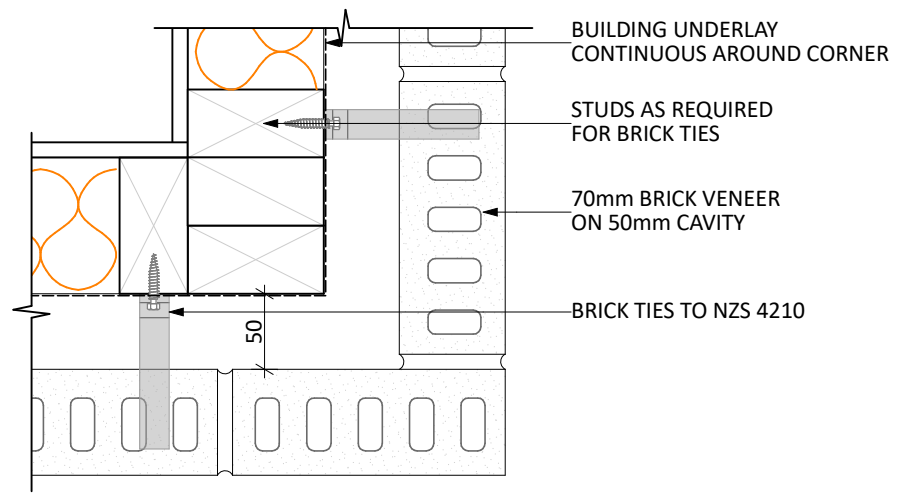
CROSS SECTION B
SCALE 1:50



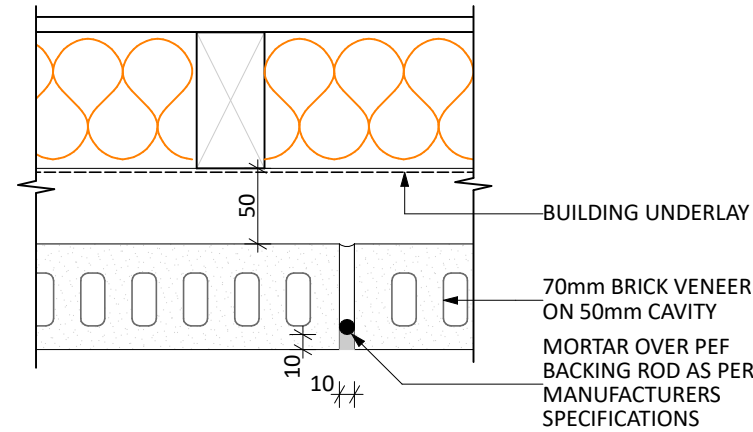
CROSS SECTION C
SCALE 1:50



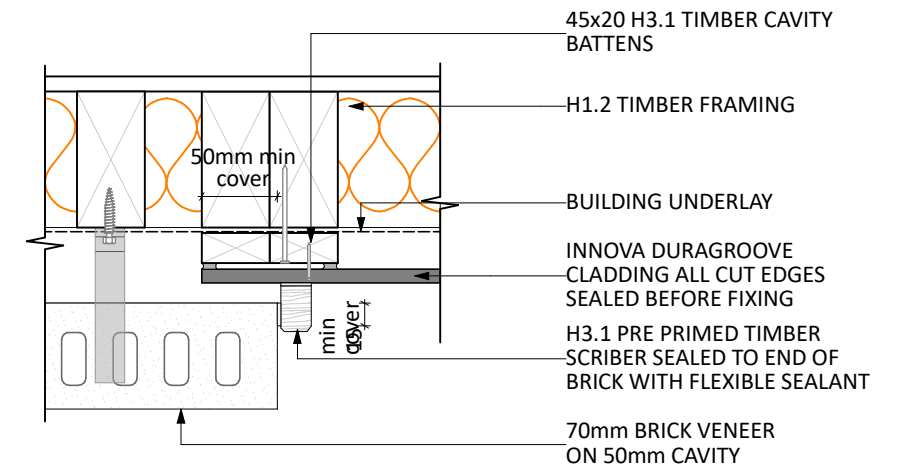
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Plan:	RU7	Drawn:	CS	EQ:	1	Client Name:	BARRETT HOMES (NORTHLAND) LTD	Rev:	
Version:	1.1	Checked:	KB	Exposure:	D	Site Address:	LOT 8, 18 MOORING WAY,	Sheet:	20
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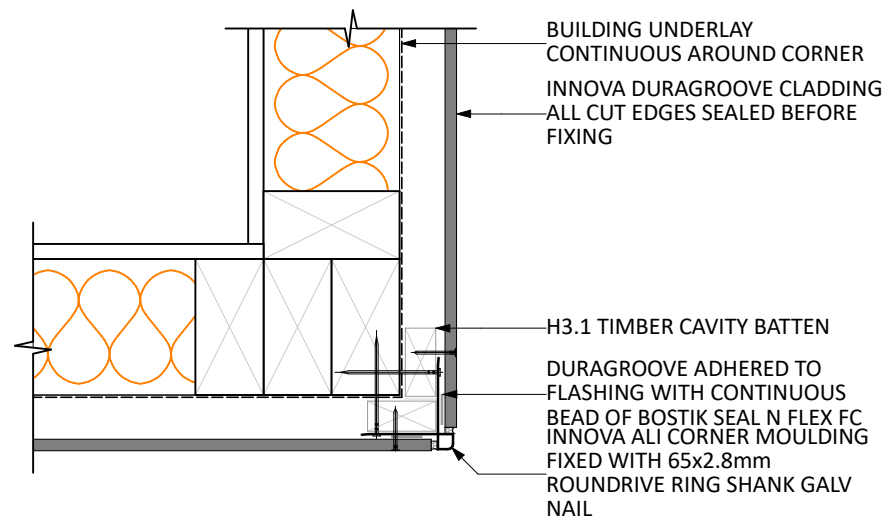
BRICK VENEER EXTERNAL CORNER



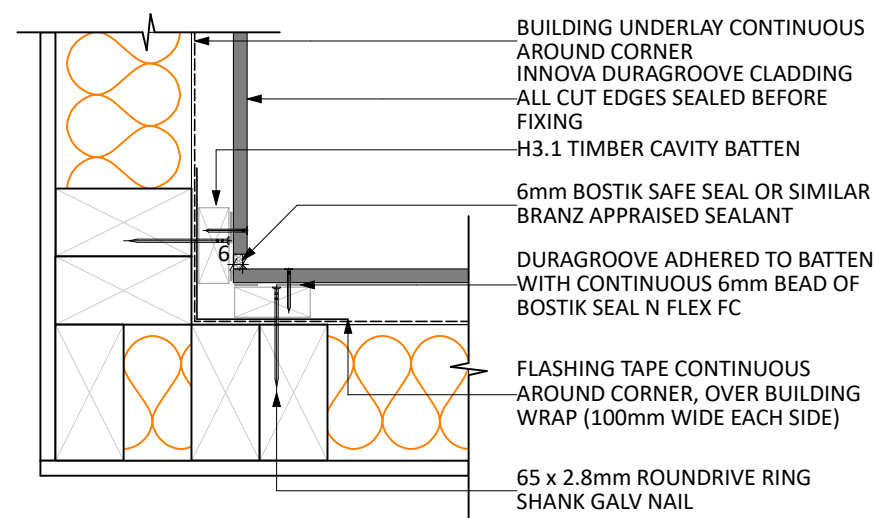
BRICK CONTROL JOINT



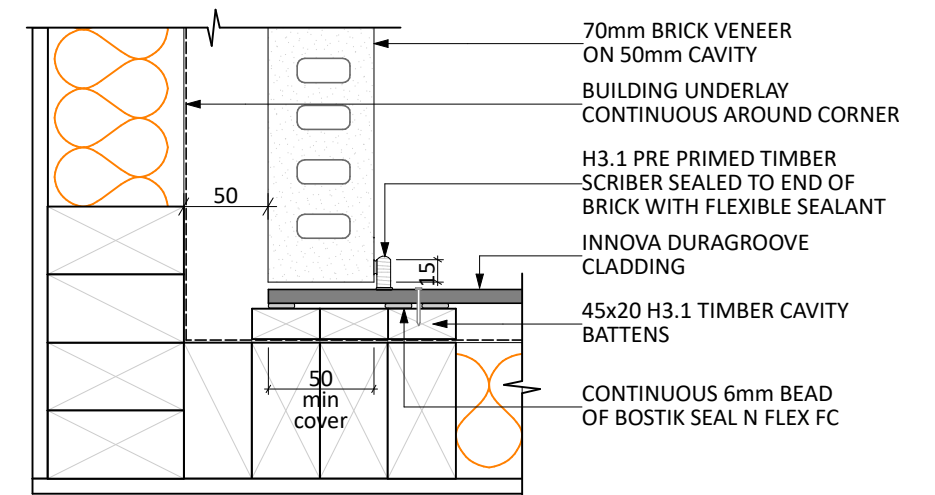
VERTICAL JUNCTION
BRICK & DURAGROOVE



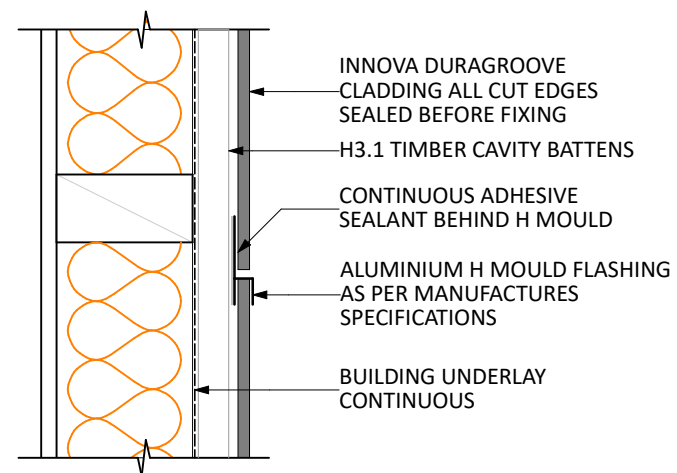
DURAGROOVE EXTERNAL CORNER



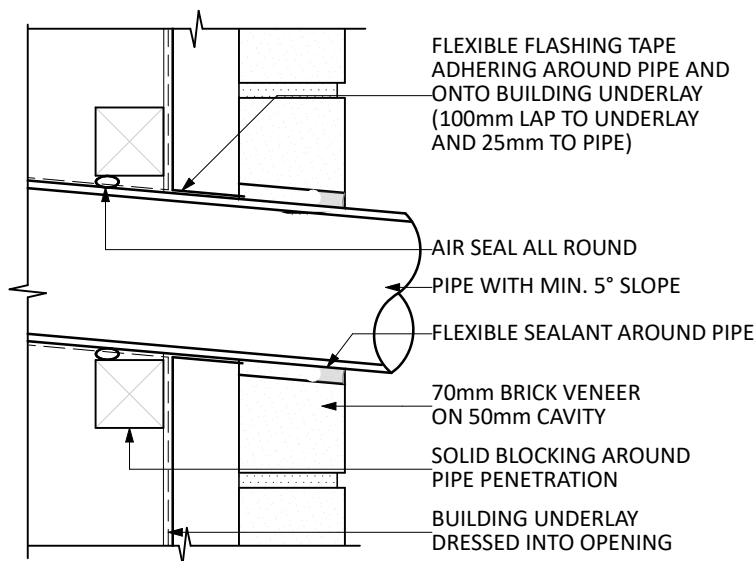
DURAGROOVE INTERNAL CORNER



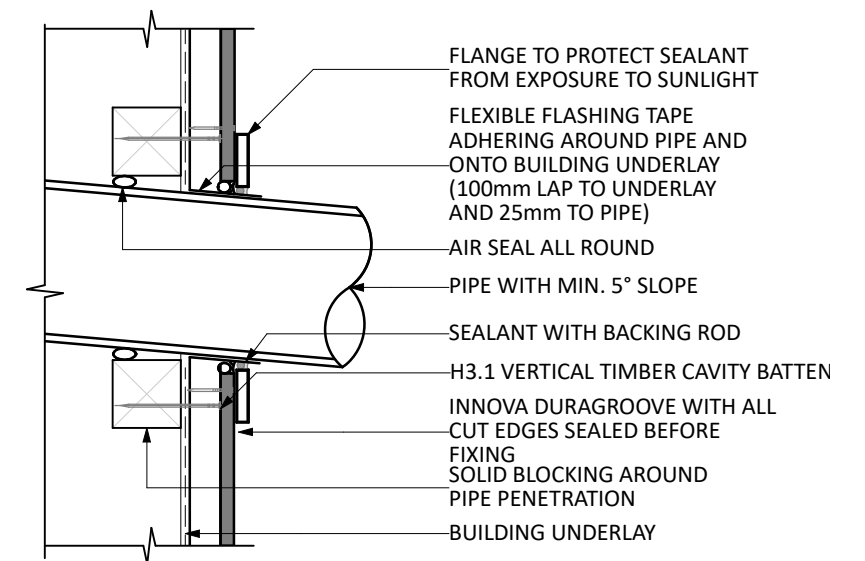
INTERNAL CORNER JUNCTION
BRICK & DURAGROOVE



HORIZONTAL JUNCTION



PIPE PENETRATION



PIPE PENETRATION



H1/AS1 5th Edition Calculation Method Spreadsheet - Results

Version: 12 September 2024

Client	Barrett Homes (Northland) Ltd
Project name	MOOR8
Address	Lot 8, 18 Mooring Way, One Tree Point, Whangarei
Designer	CS
Date	21/02/25

Territorial Authority	Whangarei District	Climate Zone	1
When submitted	After 2 November 2023	Application	Housing

Proposed Building		
Element	Area (m²)	Proposed Building Heat Loss (W/K)
Slab Floors	171.4	112.8
Other Floors	0.0	0.0
Roof	171.4	50.9
Skylights	0.0	0.0
Walls	159.3	69.1
Glazing (walls & doors) (17.2% of total wall area)	35.6	96.2
Doors (opaque)	11.6	11.2
	549.3	Total 340.1

Reference Building		
Element	Area (m²)	Reference Building Heat Loss (W/K)
Slab Floors	171.4	1.5 114.3
Other Floors	0.0	2.5 0.0
Total Roof (includes skylight area)	171.4	6.6 26.0
Walls (70% of total wall area)	144.5	2.0 72.3
Glazing allowance (30% of total wall area)	61.9	0.46 134.7
	549.3	Total 347.2

Comparison of proposed building against the reference building

PASS

Element type	Description	Embed heating?	Area (m²)	Construction R-value (m².K/W)	Heat Loss (W/K)	Errors
1 Slab Floors	Slab	No	171.4	1.52	112.8	
2 Roof	Profiled Metal Roof	No	171.4	3.37	50.9	
3 Walls	Brick Veneer	No	98.0	2.31	42.4	
4 Walls	Duragroovey	No	61.3	2.30	26.6	
5 Glazing (walls & doors)	D-01 - Sidelight		0.5	0.37	1.3	
6 Glazing (walls & doors)	D-07		5.9	0.37	15.8	
7 Glazing (walls & doors)	D-06		5.9	0.37	15.8	
8 Glazing (walls & doors)	D-05		5.2	0.37	14.1	
9 Glazing (walls & doors)	D-04		3.9	0.37	10.6	
10 Glazing (walls & doors)	D-03		1.9	0.37	5.2	
11 Glazing (walls & doors)	W-08		1.8	0.37	4.8	
12 Glazing (walls & doors)	W-07		1.8	0.37	4.8	
13 Glazing (walls & doors)	W-06		1.1	0.37	3.0	
14 Glazing (walls & doors)	W-05		0.6	0.37	1.7	
15 Glazing (walls & doors)	W-04		2.0	0.37	5.3	
16 Glazing (walls & doors)	W-03		1.2	0.37	3.3	
17 Glazing (walls & doors)	W-02		2.0	0.37	5.3	
18 Glazing (walls & doors)	W-01		2.0	0.37	5.3	
19 Doors (opaque)	D-01 - Insulated		2.0	0.50	4.1	
20 Doors (opaque)	D-02 - Insulated		9.5	1.34	7.1	

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ENTRY DOOR

GARAGE DOOR

LATITUDE WIDE STILE

HEIGHT	4	WIDTH					
		710	760	810	860	910	960
1950		0.262	0.270	0.278	0.286	0.292	0.299
2000		0.262	0.271	0.279	0.286	0.293	0.300
2050		0.263	0.272	0.280	0.287	0.294	0.301
2100		0.263	0.272	0.280	0.288	0.295	0.302
2150		0.264	0.273	0.281	0.289	0.296	0.303
2200		0.264	0.273	0.282	0.289	0.297	0.304
2250		0.265	0.274	0.282	0.290	0.297	0.304

Dominator Insulated Garage Door R-Value 1.34 W/m²K

Background

The R-value is used in the building industry to specify the thermal rating of particular building products. This is defined as a **material resistance to the flow of heat**. It is expressed as the thickness of the material divided by the thermal conductivity (k).

R-values usually given in SI units, typically Kelvin square-meter per Watt (K.m²/W). In the United States R-values are given in units of h-ft².° F/Btu. The two R-value ratings can be easy confused because the designated units are not usually transcribed after the R-value in marketing information. According to the American Society of Heating, Refrigerating and Air-Conditioning Engineers, the conversion between imperial units and SI units of R-value is: 1 h-ft².° F/Btu = 0.176110 K-m²/W.

The R-value can be determined by two different methods; manual calculation of the panels or testing the complete door system. Both methods can result in an entirely different value, therefore careful consideration needs to be made in interpreting the values correctly.

R-Value Calculation

The R-value of an individual panel can be achieved by manual calculation. DASMA (Door & Access Systems Manufacturing Association International) provide guidelines in determining the calculated R-value.

A Dominator Insulated panel has an exterior surface, interior surface, and an insulating core material. Also present is the insulating effect of air on a vertical surface, referred to as "air film". Each of these elements has a unique R-value (depending on the material) that are added together to create the overall R-Value of the panel. This is shown in figure 1.

For this exercise, we have used the manual calculation method as stated in DASMA Technical Data Sheet #163

Figure 1: Section of Dominator Insulated door

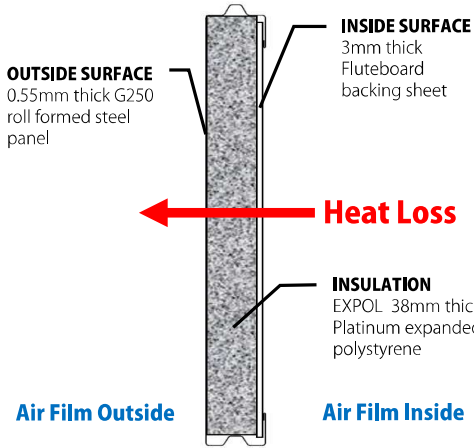


Table 1: R-value table

Property	Material Description	Thermal Conductivity -k (W/mK)	R-Value (K.m²/W)
Air Film Outside	Moving Air – 15MPH, Non-reflective	-	0.0299
Outside Surface	0.55mm thick, G300 roll-formed steel panel	50.2	0.00001
Insulation	EXPOL 38mm thick, Platinum, M-Grade, expanded polystyrene	0.032	1.19
Inside Surface	3mm thick, Fluteboard backing sheet	0.22	0.0027
Air Film Inside	Still Air, vertical surface, Non-reflective	-	0.1197



Barrett Homes

Project No: MOOR8	Designed: DP	Wind: HIGH	Drawing: H1 CALCULATIONS	Date: 17/07/2025
Plan: RU47	Drawn: CS	EQ: 1	Client Name: BARRETT HOMES (NORTHLAND) LTD	Rev:
Version: 1.1	Checked: KB	Exposure: D	Site Address: LOT 8, 18 MOORING WAY,	Sheet: 22
	design@barrethomes.co.nz	Council: WDC	ONE TREE POINT, WHANGAREI	Scale:

ROOF

Profiled Metal Roof

3.37m²C/W

Type: Roof: Timber framed truss Roof, direct fixed or battened flat Ceiling

Timber framed truss Roof, direct fixed or battened flat Ceiling

view detail

external surface 0.03	
Roofing : generic - Metal corrugate Iron with building paper R-value: 0.01	
Insulation :	
Timber Frame & Cavity : 90mm rafters or joists @ 900mm, battens covered with insulation	
Roof Frame Area: 5.0% Roof space (still air) 0.11	Cavity Area: 95.0% Roof space (still air) 0.11
Framing : R-value: 0.75	Pink(c)Batts(c) R3.6 Ceiling 3.6 notched to cover bottom chord
Roof Lining : generic - gypsum Plasterboard 13mm R-value: 0.06	
internal surface 0.09	

WALL

Brick Clad Wall

2.31m²C/W

Type: Wall: Timber Frame with vented Cavity

Timber Frame with vented Cavity

view detail

external surface 0.03	
Cladding : generic - Brick 70mm R-value: 0.06	
Air Barrier : generic - Building paper R-value: 0.01	
Timber Frame & Cavity : 90mm, studs @ 600mm, dwangs @ 800mm	
Wall Frame Area: 14.4% 15-90mm vented cavity (all R-values on ext. side of cavity will be halved), R: 0.08	Cavity Area: 85.6% 15-90mm vented cavity (all R-values on ext. side of cavity will be halved), R: 0.08
Framing : R-value: 0.75	Pink(c)Batts(c) Ultra R2.8 90mm Wall 2.8
	still Airgap: none R-value: 0.00
Wall Lining : generic - gypsum Plasterboard 10mm R-value: 0.04	
internal surface 0.09	

Duragroove Clad Wall

2.30m²C/W

Type: Wall: Timber Frame with vented Cavity

Timber Frame with vented Cavity

view detail

external surface 0.03	
Cladding : generic - Fibre cement board 9mm R-value: 0.04	
Air Barrier : generic - Building paper R-value: 0.01	
Timber Frame & Cavity : 90mm, studs @ 600mm, dwangs @ 800mm	
Wall Frame Area: 14.4% 15-90mm vented cavity (all R-values on ext. side of cavity will be halved), R: 0.08	Cavity Area: 85.6% 15-90mm vented cavity (all R-values on ext. side of cavity will be halved), R: 0.08
Framing : R-value: 0.75	Pink(c)Batts(c) Ultra R2.8 90mm Wall 2.8
	still Airgap: none R-value: 0.00
Wall Lining : generic - gypsum Plasterboard 10mm R-value: 0.04	
internal surface 0.09	

FLOOR

Raft Floor Slab System

1.52m²C/W

Type: Floor: Raft Slab Floor - H1/AS1 Edition 5 and H1/AS2 Edition 1

Raft Slab Floor - H1/AS1 Edition 5 and H1/AS2 Edition 1

Table F Slab Insulation (H1 Edition 5) - H1 Acceptable Solutions and Verification Methods

Slab floor area [m²]: 172.2

Area Perimeter Ratio: 2.68

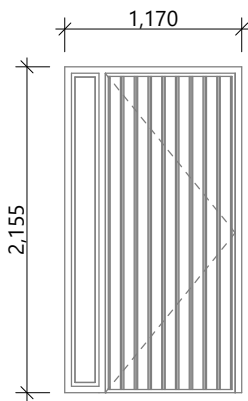
Adding underfloor insulation?

Perimeter:

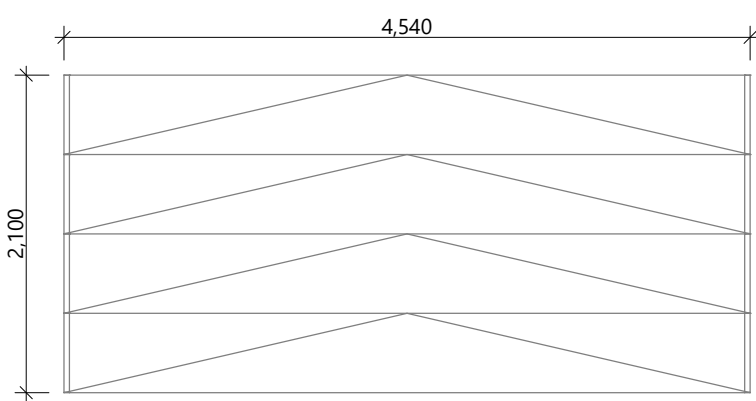
	Length*	Masonry Veneer Wall	External Wall Thickness*	Edge Insulation
-	39.47 m	☒	90 mm	☐
-	24.91 m	☐	90 mm	☐



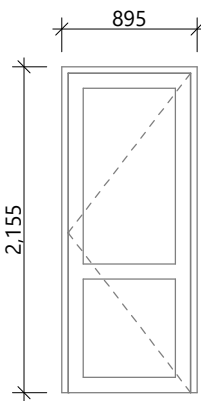
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Plan: RUA7	Drawn: CS	EQ: 1	Client Name: BARRETT HOMES (NORTHLAND) LTD	Rev:
Version: 1.1	Checked: KB	Exposure: D	Site Address: LOT 8, 18 MOORING WAY,	Sheet: 23
	design@barrethomes.co.nz	Council: WDC	ONE TREE POINT, WHANGAREI	Scale:



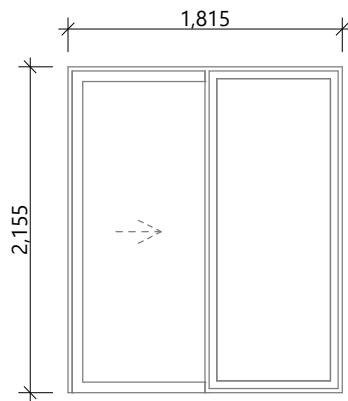
D-01
*Rebated Joinery
*860 Door Leaf



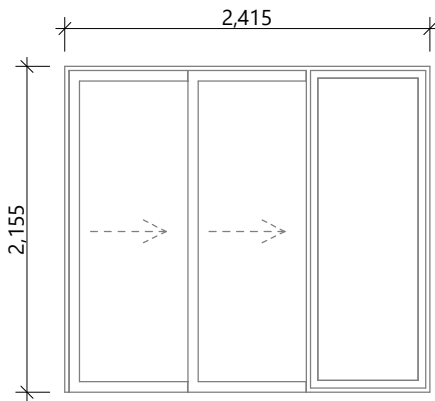
D-02
*Insulated Sectional Panels



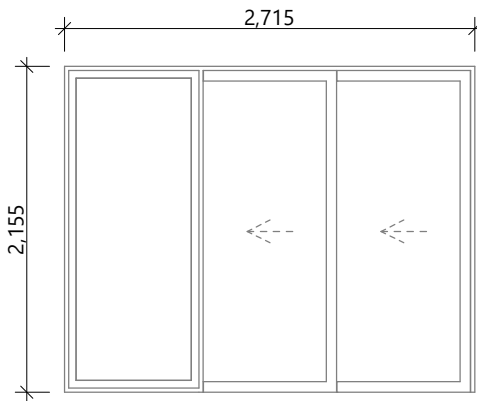
D-03
*810 Door Leaf



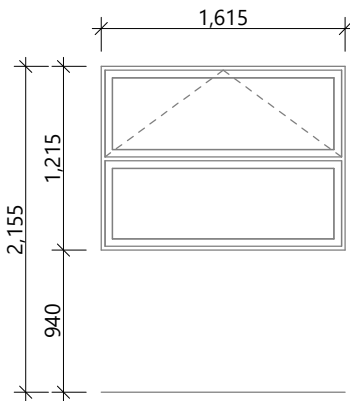
D-04
*Rebated Joinery



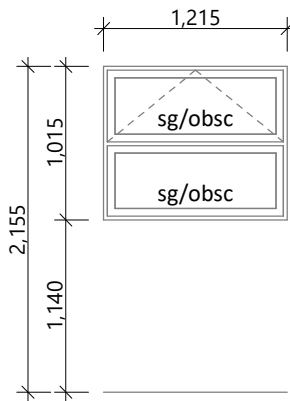
D-05
*Rebated Joinery



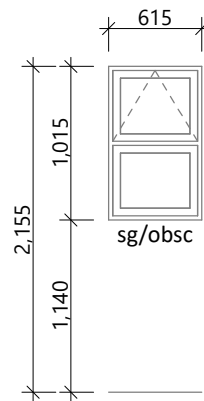
D-06, D-07
*Rebated Joinery



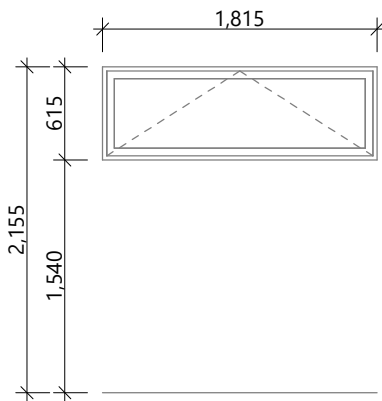
W-01, W-02, W-04



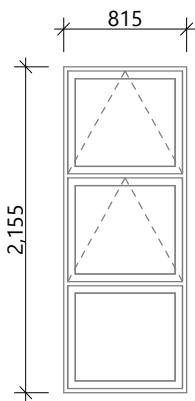
W-03



W-05



W-06



W-07, W-08

General notes:

Aluminium joinery head heights to be 2.155m (excludes rebated joinery units). Refer to floor plan for door & window sizes. Joinery schedule & sizes to be confirmed on site PRIOR to manufacture

Thermally improved double glazing to all window and door joinery including garage joinery.

Glazing in accordance with NZS 4223 & 2016 amendments.
All glazing clear float unless noted anywhere, (refer to joinery schedule)
- Low level glazing = Any glazing within 800mm from FFL, depending on size and proportions, safety glass or 5mm annealed will be required.
- Doors with glazing area > 0.75m² = safety glass
- Doors with glazing area < 0.75m² = 5mm annealed
- Side panels within 800mm of a door = safety glass, side panels not within 800mm of door considered a window.

sg = Safety glass as required by standards, joinery manufacturer to take precedence
ss = Safety stays (in accordance with NZBC:F4 clause 2.0)
obsc = Obscure glass

REBATED JOINERY

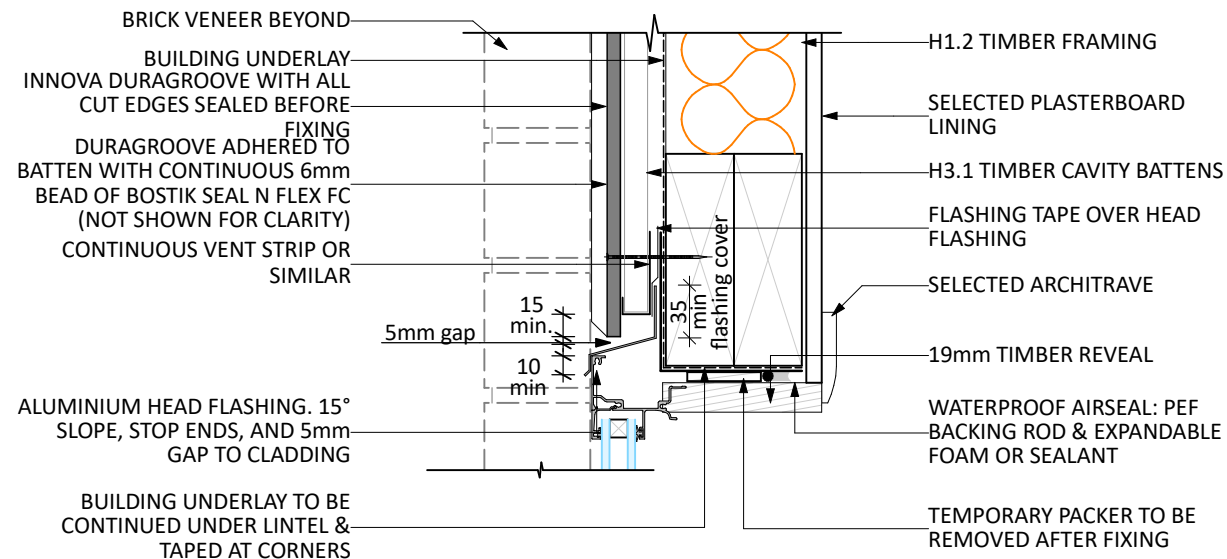
Rebated joinery sizes are to be confirmed with joinery manufacturer.

GLAZING

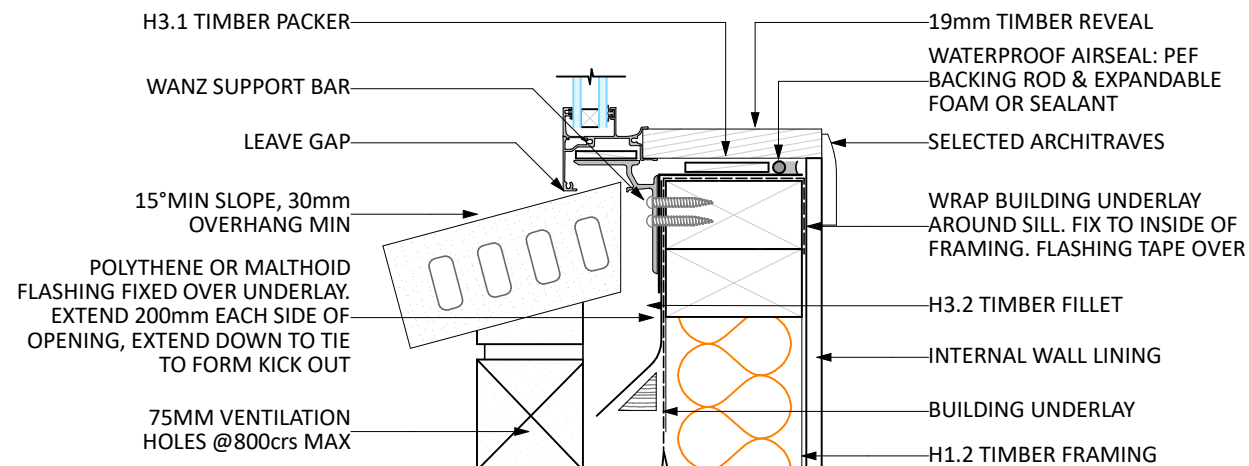
Type of glazing	U _g ⁽¹⁾	Spacer type ⁽²⁾	Example IGU ^{(3), (4)} (informative)	R _{window} (m ² ·K/W) for different frames			
				Aluminium frame	Thermally broken aluminium frame	uPVC frame	Timber frame
Double pane	2.63	Aluminium	Glass: Clear/Clear Gas: Air	R0.26	R0.32	R0.40	R0.44
	1.90	Aluminium	Glass: Low E _x /Clear Gas: Argon	R0.30	R0.39	R0.50	R0.56
	1.60	Thermally improved	Glass: Low E _z /Clear Gas: Argon	R0.33	R0.42	R0.56	R0.63
	1.30	Thermally improved	Glass: Low E _y /Clear Gas: Argon	R0.35	R0.46	R0.63	R0.71
	1.10	Thermally improved	Glass: Low E _x /Clear Gas: Argon	R0.37	R0.50	R0.69	R0.77
	0.90	Thermally improved	Glass: Low E _x /Clear Gas: Krypton	R0.40	R0.54	R0.76	R0.85



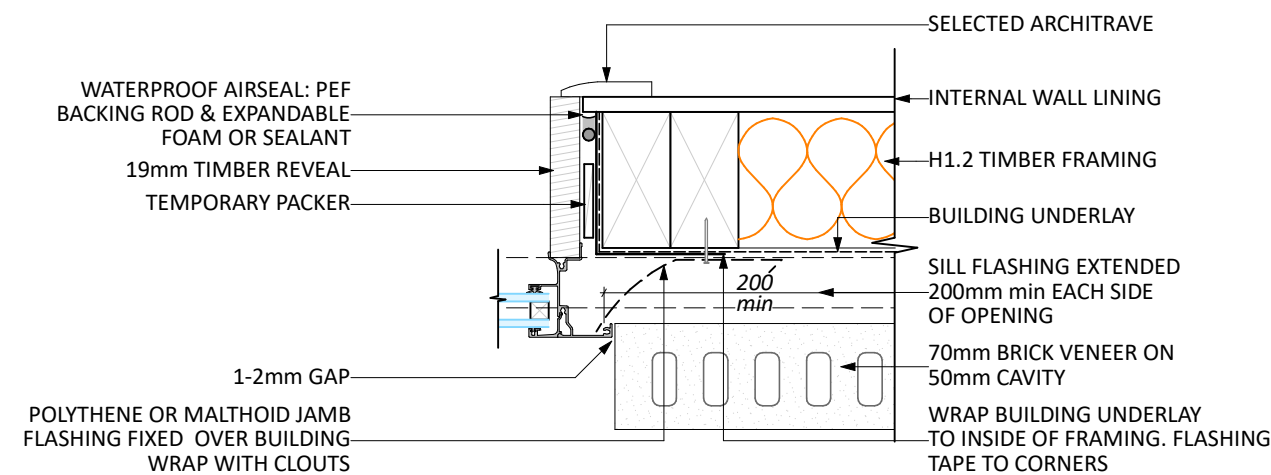
Project No:	MOOR8	Designed:	DP	Wind:	HIGH	Drawing:	JOINERY SCHEDULE	Date:	17/07/2025
Plan:	RUA7	Drawn:	CS	EQ:	1	Client Name:	BARRETT HOMES (NORTHLAND) LTD	Rev:	
Version:	1.1	Checked:	KB	Exposure:	D	Site Address:	LOT 8, 18 MOORING WAY,	Sheet:	24
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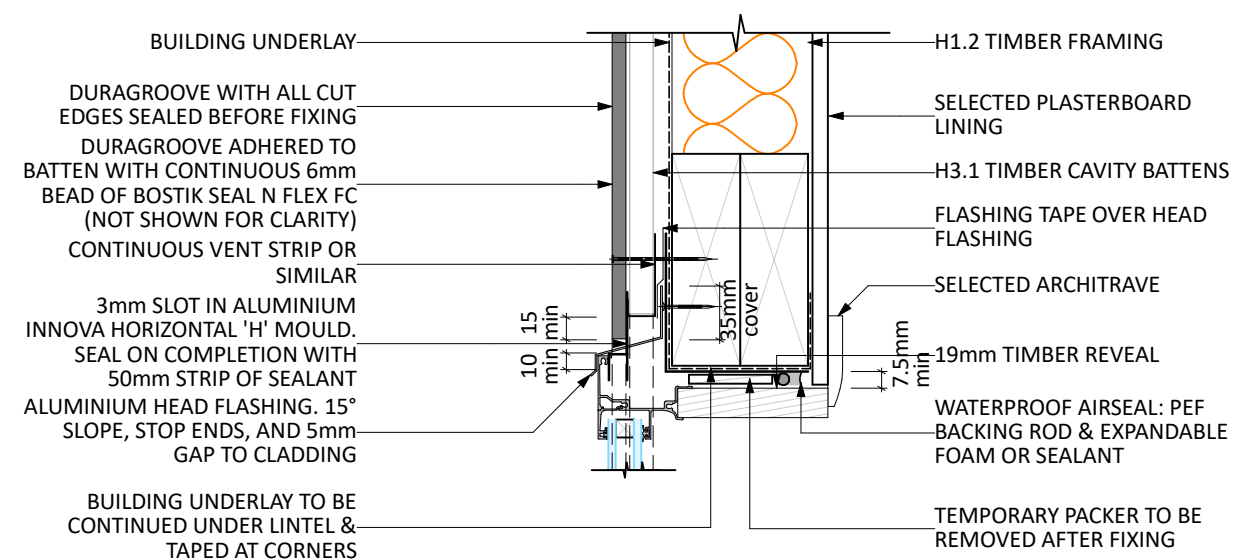
DURAGROOVE WINDOW HEAD
(BRICK BEYOND)



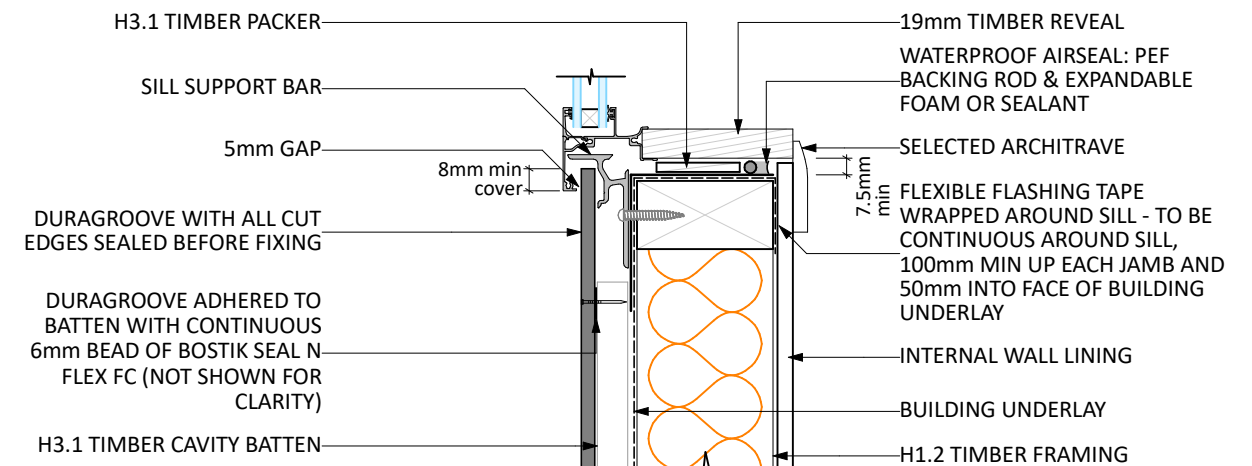
BRICK WINDOW SILL



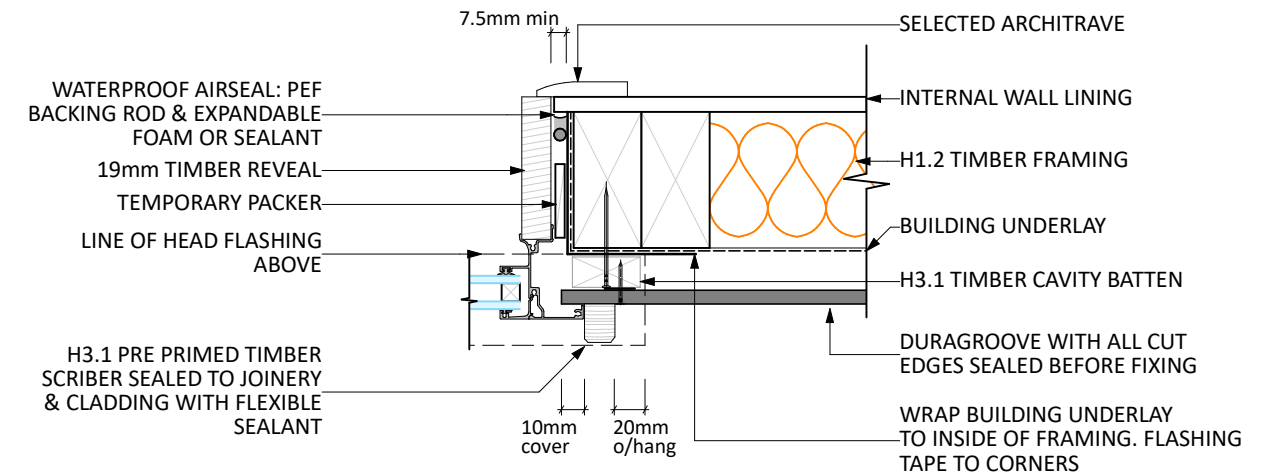
BRICK WINDOW JAMB
(Joinery to soffit)



DURAGROOVE WINDOW HEAD



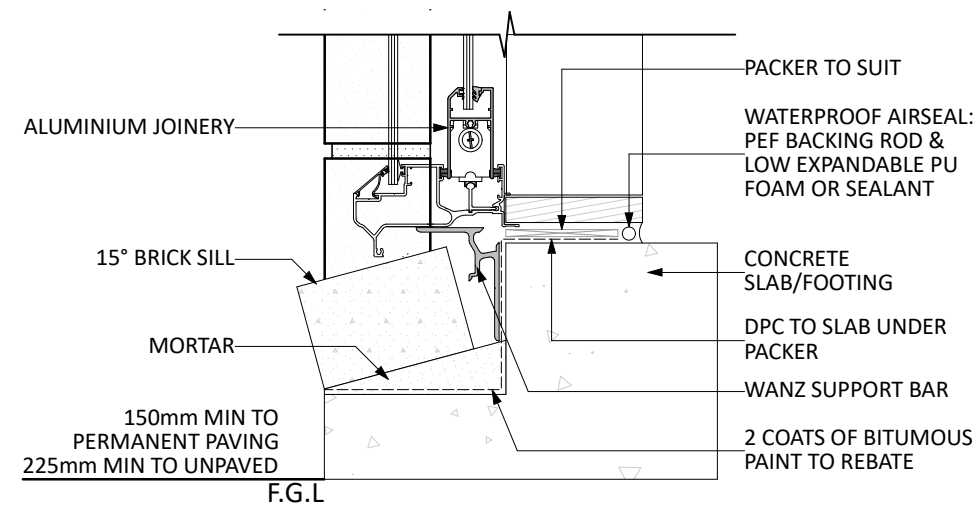
DURAGROOVE WINDOW SILL



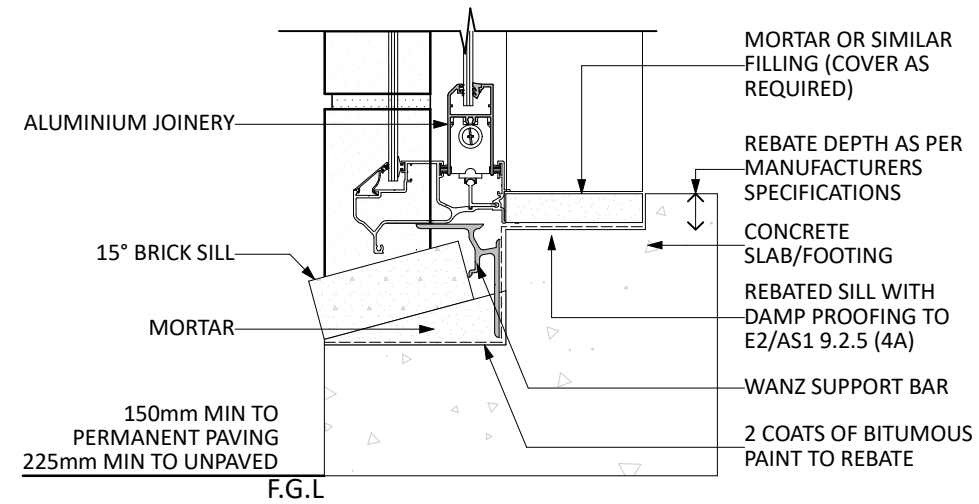
DURAGROOVE WINDOW JAMB



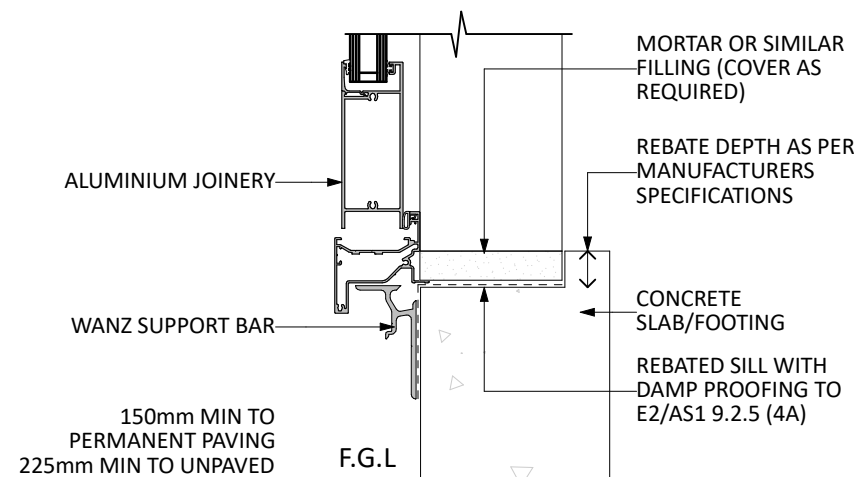
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Plan:	RUA7	Drawn:	CS	EQ:	1	Client Name:	BARRETT HOMES (NORTHLAND) LTD	Rev:	
Version:	1.1	Checked:	KB	Exposure:	D	Site Address:	LOT 8, 18 MOORING WAY,	Sheet:	25
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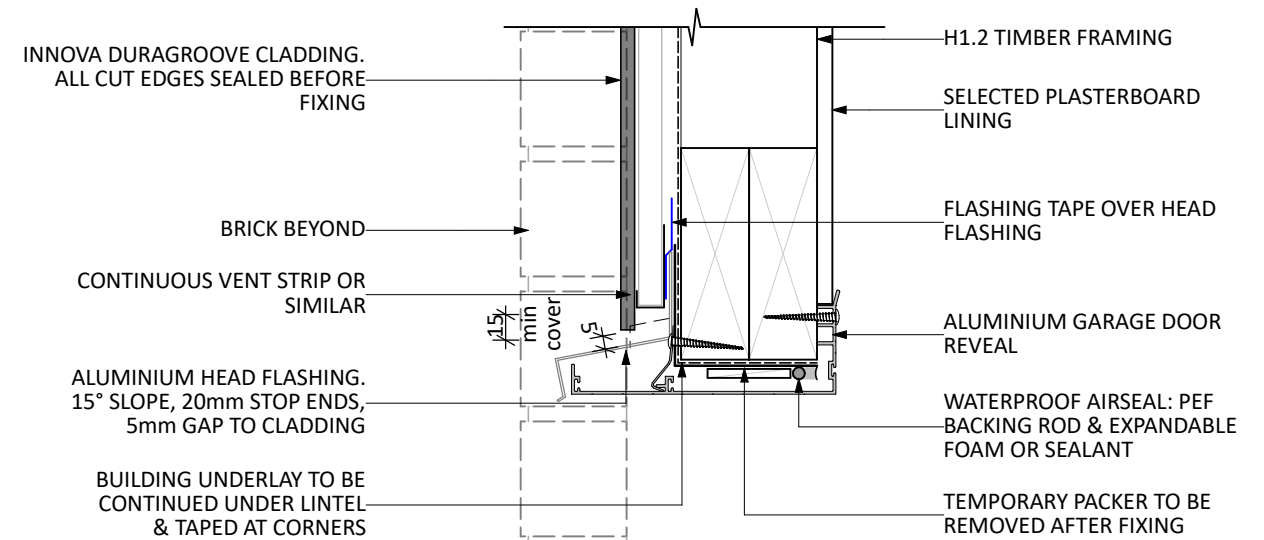
NON REBATED DOOR SILL DETAIL



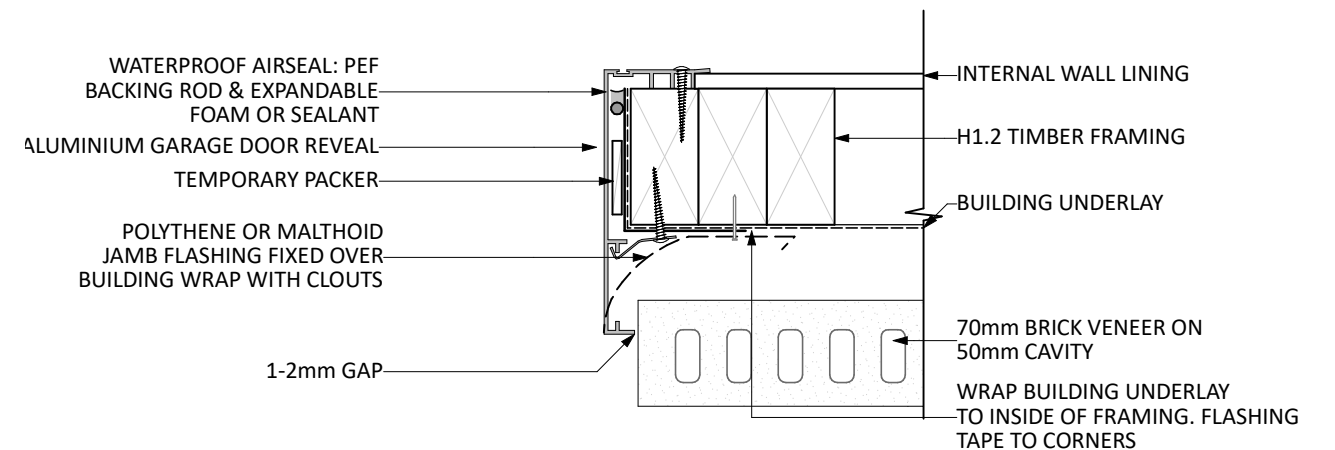
REBATED DOOR SILL DETAIL



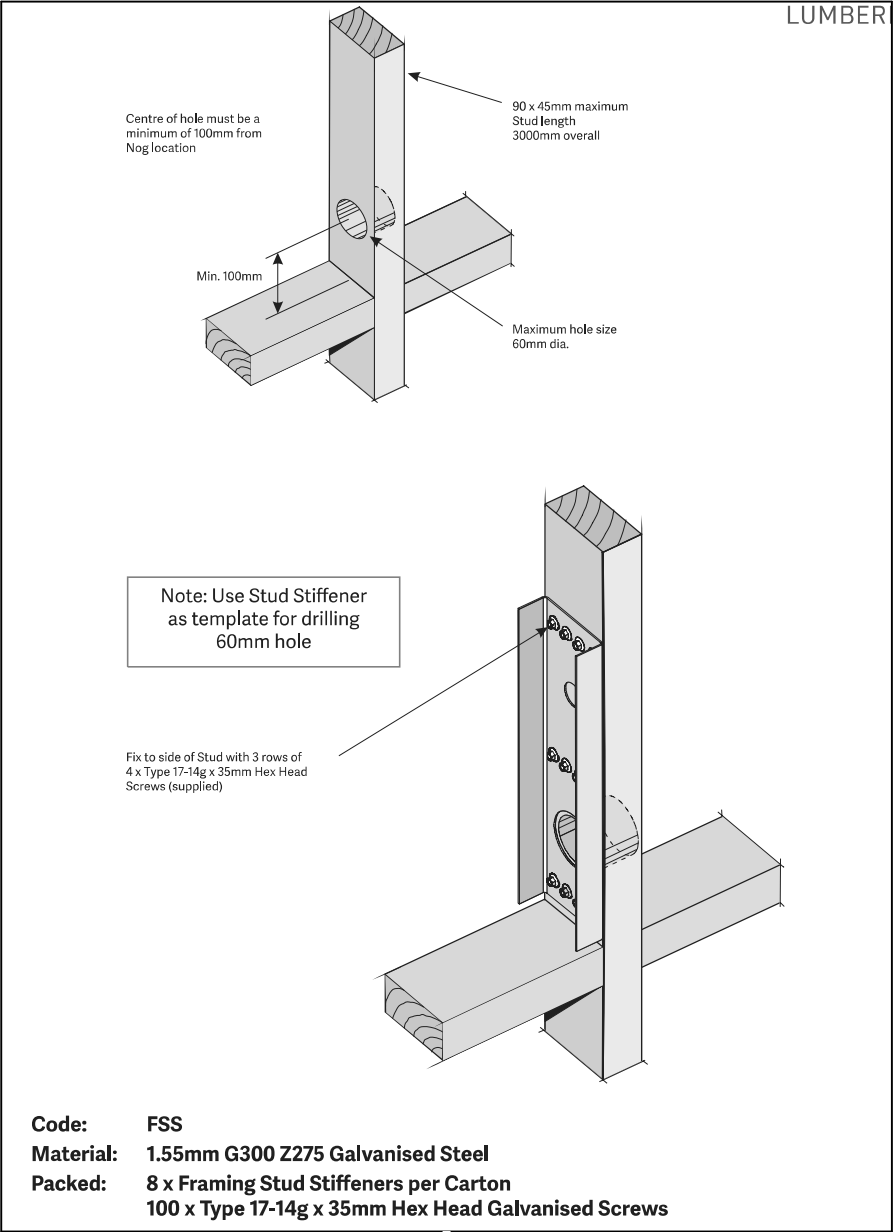
REBATED DOOR SILL DETAIL



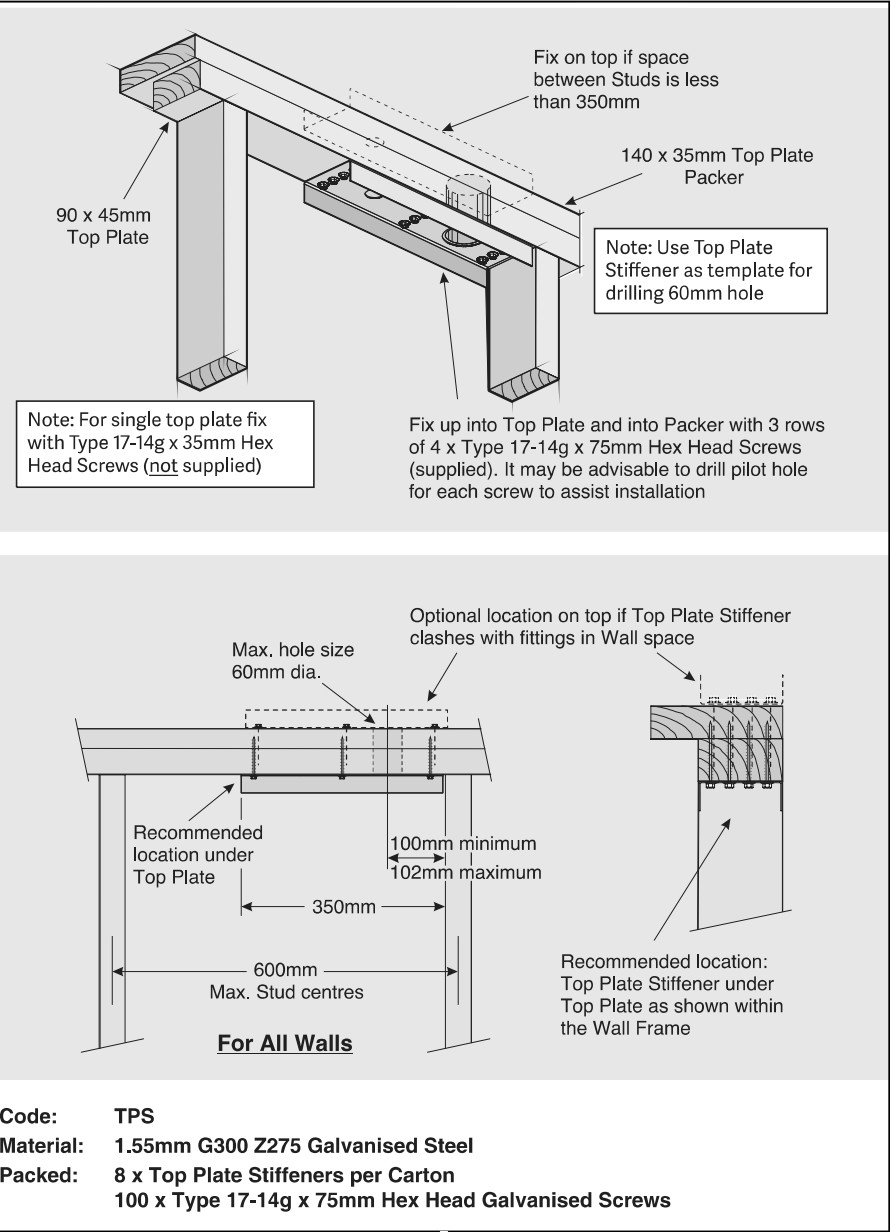
GARAGE DOOR HEAD



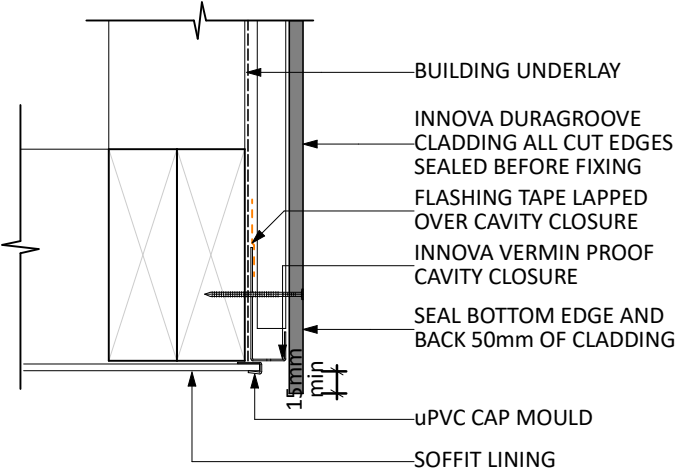
GARAGE DOOR JAMB



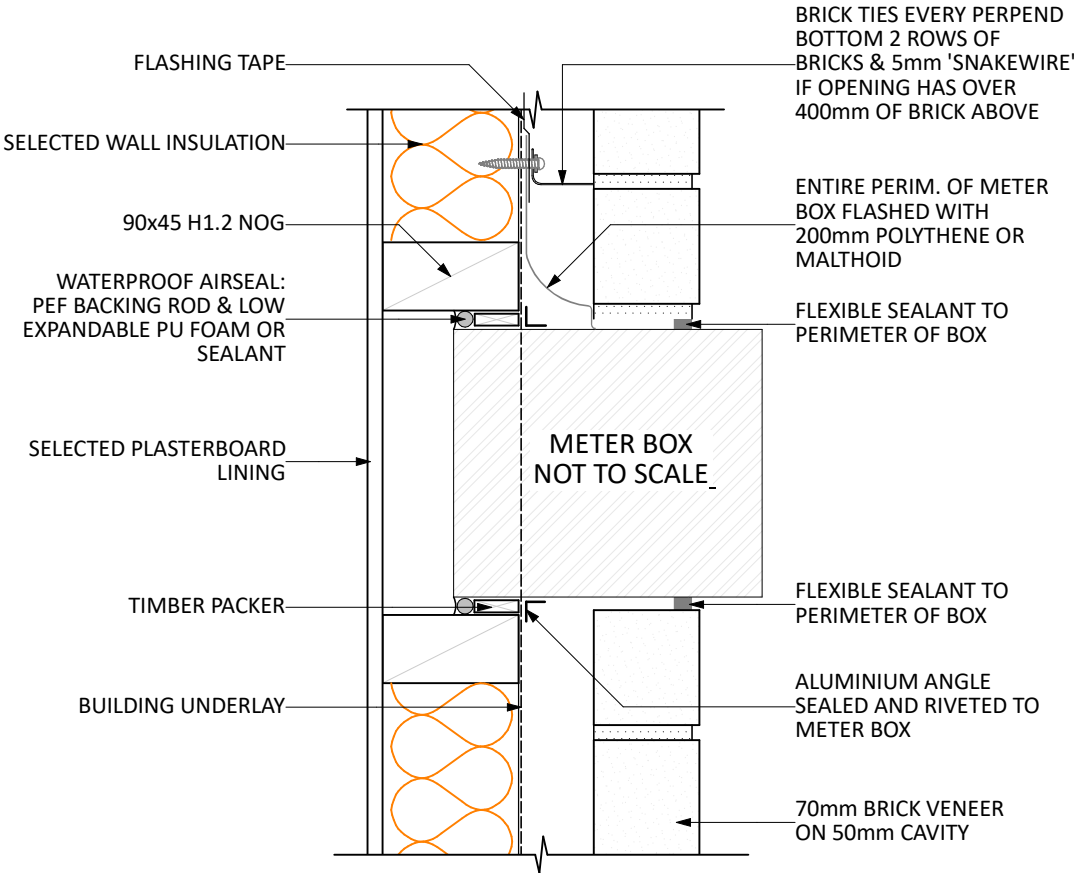
MITEK STUD STIFFENER



MITEK TOP PLATE STIFFENER



INNOVA DURAGROOVE DRIP EDGE



METER BOX DETAIL

Scale 1:5



Project No:	MOOR8	Designed:	DP	Wind:	HIGH	Drawing:	MISCELLANEOUS DETAILS	Date:	17/07/2025
Plan:	RUA7	Drawn:	CS	EQ:	1	Client Name:	BARRETT HOMES (NORTHLAND) LTD	Rev:	
Version:	1.1	Checked:	KB	Exposure:	D	Site Address:	LOT 8, 18 MOORING WAY,	Sheet:	27
				Council:	WDC		ONE TREE POINT, WHANGAREI	Scale:	1:5

Amend 5
Feb 2004

Amend 14
Nov 2024

Amend 13

Amend 5
Feb 2004

Amend 7
Sep 2010

Amend 7
Sep 2010

Amend 10 & 13

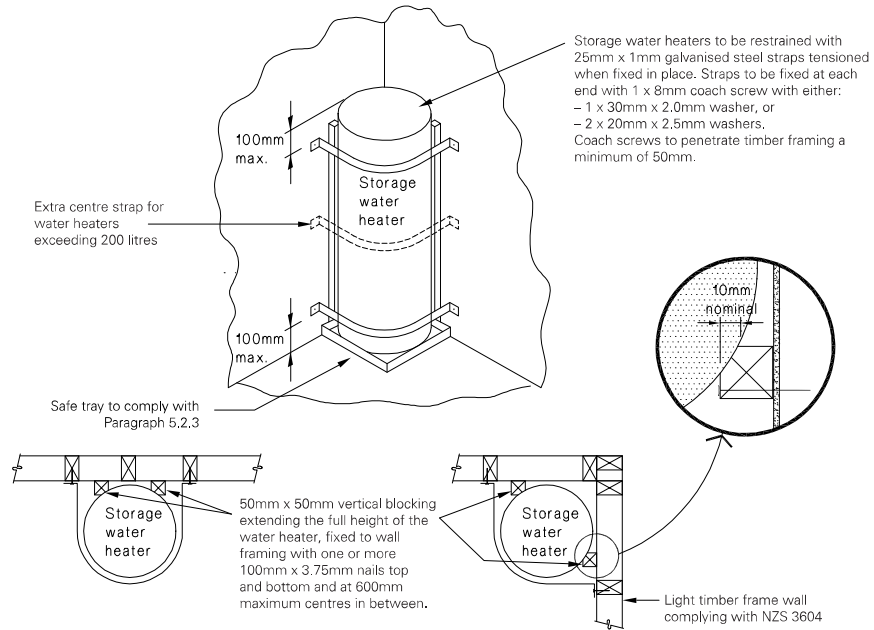
Amend 13
Nov 2023

Amend 7
Sep 2010

Amend 7
Sep 2010

Amend 13
Nov 2023

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



- Notes:
1. An additional centre strap is required where a *storage water heater* is located more than 12 m above finished ground level.
 2. Additional timber framing may be required in retrofit situations to ensure adequate strap fixing is available.
 3. Straps shall not be installed where they clash with water heater inlets, outlets or controls.
 4. Where the 100 mm maximum strap distance from the top or bottom of the *storage water heater* cannot be achieved, straps may be placed within the top and bottom 25% with one additional strap placed centrally for water heaters < 200 litres, and two additional evenly spaced straps for water heaters 200 - 360 litres.

Table 5: Water Heaters
Paragraph 6.1.1

Water heater type	Standard/Regulation
Electric low pressure copper <i>storage water heater</i>	NZS 4602
Electric <i>storage water heater</i>	NZS 4606: Parts 1, 2 and 3
Electric instantaneous <i>water heater</i>	AS/NZS 60335.2.35
Gas <i>storage water heater</i>	Gas (Safety and Measurement) Regulations
Gas instantaneous <i>water heater</i>	Gas (Safety and Measurement) Regulations
Solar <i>storage water heater</i>	NZS 4613 (see G12/AS2) AS/NZS 2712 (see G12/AS2)

Table 1: Materials for Hot and Cold Water
Paragraphs 2.2.1 and 6.8.2

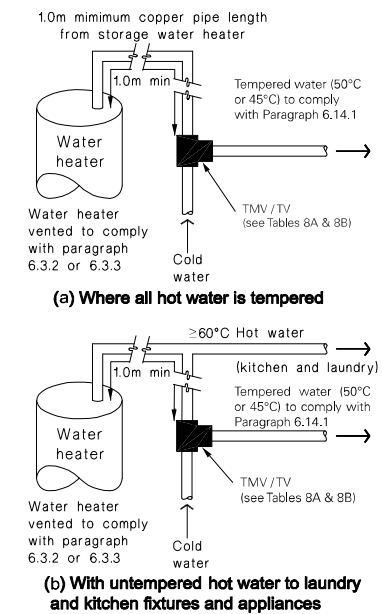
Material	Relevant Standard
Hot and Cold	
Copper	NZS 3501 AS 1432 for pipes (type A, B or C) AS 3688 for fittings
Polybutylene	AS/NZS 2642: Parts 1, 2 and 3
Cross-linked polyethylene (See Note)	AS/NZS 2492 for pipes AS/NZS 2537: Parts 1, 2, 3 and 4 for fittings
Stainless steel	AS 5200: Part 053 for pipes AS 3688 for fittings
Cold Only	
PVC-U	AS/NZS 1477 for pipes and fittings AS/NZS 3879 for PVC-U solvent cements and priming fluids
Polyethylene	AS/NZS 4130 for pipes AS/NZS 4129 for fittings

Note: Cross-linked polyethylene pipes used for hot water shall have a nominal pressure rating of PN16 or PN20.

6.14.3 Legionella bacteria

Irrespective of whether a delivery temperature control 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.

Figure 16: Tempering Valve or Thermostatic mixing Valve Installation
Tables 8A and 8B



- Notes:
1. For optimum system efficiency the temperature control device, for other than a mains pressure system, may be located as low as practicable to achieve the manufacturer's recommended head, at the temperature control device.
 2. 1.0 m minimum copper pipe length from storage water heater to temperature control device.
 3. Untempered hot water must not be provided to fixtures or appliances from a storage water heater that is connected to an uncontrolled heat source, such as a wet-back or solar water heater.

Amend 13
Nov 2023

Amend 13
Nov 2023

Amend 13
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Third Edition
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Amend 5
Feb 2004

Amend 13
Nov 2023
Amend 5
Feb 2004

Amend 13
Nov 2023

Amend 13
Nov 2023

Figure 8(b): Mains Pressure Storage Water Heater System (unvented) - Expansion Control Valve
Paragraphs 6.1.2 and 6.2.1 c)

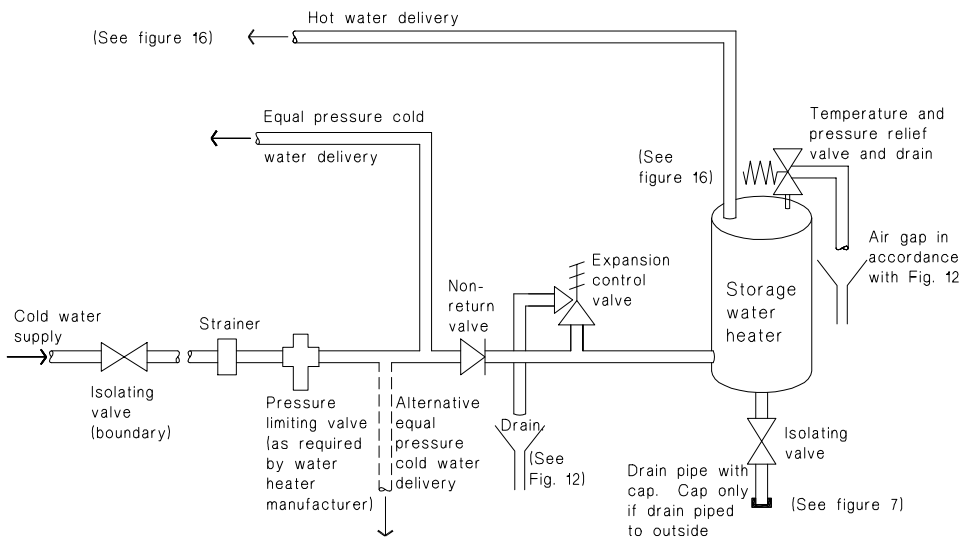


Table 4: Tempering Valve or Thermostatic Mixing Valve and Nominal Pipe Diameters
Paragraphs 5.4.1 and 6.12.1

	Low pressure (i.e. header tank supply or low pressure)	Low pressure unvented (valve vented) and open vented	Mains pressure
Pressure of water at Tempering Valve or Thermostatic Mixing Valve (kPa)	20 – 30	30 – 120	over 300
Metres head (m)	2 – 3	>3 – 12	over 30
Minimum Tempering Valve or Thermostatic Mixing Valve size	25 mm	20 mm	15 mm
Pipes to Tempering Valve or Thermostatic Mixing Valve	25 mm (see Note 3)	20 mm	20 mm (15 mm optional)
			(see Note 1)
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 or thermostatic mixing valve
 4. 15 mm if dedicated line to shower.
 5. 10 mm if dedicated line to shower.
 6. Pipe sizes in this table have been calculated to deliver water simultaneously to the kitchen sink and one other *fixture*.

Amend 13
Nov 2023

Amend 13
Nov 2023



Project No:	MOOR8	Designed:	DP	Wind:	HIGH	Drawing:	HWC DETAILS	Date:	17/07/2025
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Version:	1.1	Checked:	KB	Exposure:	D	Site Address:	LOT 8, 18 MOORING WAY,	Sheet:	28
				Council:	WDC		ONE TREE POINT, WHANGAREI	Scale:	

1. Foundation & Slab:

Raft foundation to Engineer's design - in case of discrepancies Engineer structural documentation and details shall take precedence. Reference: 141358.

Note: 25MPa conc. to all - as per Engineer design

300wide x 305deep conc. edge beam, 2/HD12 bars as bottom steel & 1/HD12 top steel tied to reinforcing mesh, 90mm wide malthoid under base plates to external walls.
1/anchor plate cast into slab 900crs to slab perimeter for hold-down connection plus 1/75x4mm concrete nail alongside anchor plate.

1/D12 bar to bend & lap min. 500mm between change in foundation construction

85mm thick conc. minimum of 2.27kg/m² of Grade 500E (Class E) 665 reinforcing mesh, min. 225mm lap, fully compliant with AS/NZS 4671 on 40mm chairs. Polystyrene pods arranged in waffle pattern placed on 0.25 polythene, on levelled ground

Reinforced slab shrinkage control joints - 25mm deep saw cuts to form bays with maximum ratio of 2:1. Bays in exposed or vinyl areas 6m max

300x305 deep slab thickening, 2/HD12 bars with min. 75mm cover to ground - read in accordance with truss design

2. External Framing:

Ground Floor.
Studs up to 2.4m: (as per NZS3604 Table 8.2 (a))
2 x 90x45 H1.2 top plate, 90x45 studs @ 600crs max, dwangs @ 800crs max.

Studs up to 2.7m: (as per NZS3604 Table 8.2 (a))
2 x 90x45 H1.2 top plate, 90x45 studs @ 400crs max, dwangs @ 800crs max.

Tekton building wrap taken up to top plate. Refer to Branz appraisal.

10mm wall linings to inside face of walls - level 4 paint finish

9.1.8.5 Wall framing behind cavities
Where stud spacings are greater than 450mm, and flexible wall underlays only are used, an intermediate means of restraining the flexible wall underlay and insulation from bulging into the drained cavity shall be installed.
- Polypropylene tape or galvanized wire at 300mm centres fixed horizontally and drawn taut

3. Cladding(s):

DURAGROOVE
INNOVA Duragroove on H3.1 20x45 timber cavity battens;
installed flashed and finished to the latest INNOVA specifications and NZBC: E2/AS1 External Moisture (see attached technical specification for more fixing details and information). Merchant to include all flashings & fixings as required by cladding system.

BRICK VENEER
70 series brick veneer in strict accordance with manufacturers specifications & NZBC: E2/AS1 External Moisture. Weep holes at max 800 mm centres to top and base course of bricks and as required at joinery. Ensure weep holes are free of excess mortar. Control joints as per NZBC E2/AS1. Manufacturers specification to take precedence.

Masonry brick veneer wall ties are to be 316, 316L or 304 Stainless Steel for Zone D and E in accordance with NZBC E2/AS1 Table 18C.

4. Internal Walls

90x45 H1.2 frame + 90x45 H1.2 top plate packer, studs @ 600crs max, dwangs @ 800 crs max.
10mm wall linings throughout unless noted otherwise. Fixed to comply with the latest Winstones GIB Manual.

Bottom plate fixings to Concrete floor:
Non Loadbearing: Ramset HD875 drive pin (or equivalent) @ 600crs.
Load bearing: 1/M12 bolt @ 900crs

5. External Joinery:

Aluminium joinery installed to comply with NZBC: E2/AS1. H3.1 jambs - 20mm PP with selected architraves. Approved window sealing tape to all openings (see detail). Flashing tape over flashing fixings. Do not fix cladding through flashings. Glazing to comply with NZS:4223 & 2016 amendments.

6. Ceilings:

Metal battens fixed to trusses as per manufacturers specifications at 600mm centres. Ensure battens are straight prior to lining. 13mm GIB linings with min 25mm x 6g GIB Grabber fine thread self tapping screws at 600mm centres. Refer to GIB specifications. Glue daubs to be minimum of 200mm from centre screw. Do not screw where you glue. Min 25mm x 6g GIB Grabber screws at 200mm centres around the perimeter. Refer specific GIB System literature for more information.

7. Insulation:

R3.6C insulation to all ceilings, including garage.
R2.8W insulation to all exterior wall cavities including garage, however including walls between house & garage. Friction fitted.

Brick Tie Type (as per NZBC E2/AS1 table 18a)		
Seismic Zone	Masonry Veneer	
	less than 180kg/m² 180-200kg/m²	
1	EL	EM
2	EM	EH(b)
3	EH(b)	EH(b)
Seismic Zone 4 & Veneer more than 220kg/m² - Specific Engineered Designed, (brick ties and spacings to be determined by engineers design)		
Notes:		
(a.) Max. spacing of 600mm horizontally and 400mm vertically		
(b.) EM may be used if horizontal spacings do not exceed 400mm and the vertical spacings do not exceed 300mm		

8. Roof notes:

(SG8)
Pre-fabricated GANGNAIL 10 & 35 pitch H1.2 trusses @ 900crs - Thermakraft 215 self supporting underlay laid vertically with min 150mm lap.

70x45 SG8 H1.2 purlins, spanning 900mm. Purlin spacings - End Span - 600mm, Intermediate Span - 900crs.
Type T - 1/10g self-drilling screw, 80mm long purlin/truss connection (2.4KN fixing)

Colorsteel valley trays fixed to ex 25mm H1.2 valley boards (see detail)

Lumberlok strip bracing & tensioners tightened firmly across roof planes.

0.40mm BMT 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 =
T1 fixing pattern = Fix every crest
Note: every sheet of roof cladding to span at least 3 supports

8.4.8 Fixings: Trapezoidal
Fixings shall be as shown in Tables 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.

9. Soffit notes:

(see details)
4.5mm Hardiflex soffit lining fixed to 90x45 soffit bearers & 90x45 stringer at wall.
300 eaves to gables (90x45 dummy rafters + 90x45 fly rafter), 300 & 900 soffits to remainder (refer roof plan).

COLORCOTE fascia, spouting & 80mm Ø downpipes

10. Exposed gable truss notes:

Exposed gablet truss as per truss design.(see details)
Fixings to be stainless steel powdercoated.
Connections as per ENG SED ref.141358



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Version:	1.1	Checked:	KB	Exposure:	D	Site Address:	LOT 8, 18 MOORING WAY,	Sheet:	29
			design@barrethomes.co.nz	Council:	WDC		ONE TREE POINT, WHANGAREI	Scale:	