PROPOSED RESIDENCE FOR ADOLPH & HUGGINS

30 Koreke Loop, Lake Hawea, Wanaka 9382



Artist Impression

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Building Code Compliance Overview

B Stability
B1 Structure

Areas of building outside scope of Engineered design satisfied by:
B1/AS1 General - 4.1 Timber - Reference to NZS 3604:2011 & Formance Design Guide V2
[complies]

B2 Durability
Satisfied by B2/AS1
Reference to NZS 3602:2003 & NZS 3604:2011
[complies]

C Fire Safety
C/AS1
[complies]
C1 Outbreak of Fire
C2 Means of Escape
C3 Spread of Fire
C4 Structural stability during fire
Not applicable to this development
[complies]

D Access
D1 Access Routes
Satisfied by D1/AS1
[complies]

D2 Mechanical Installations for access
Not applicable to this development

E Moisture
E1 Surface Water
Building floor level - complies
Drainage Design - complies

Downpipes and roof gutters
Satisfied by E1/AS1
[complies]

E2 External Moisture
Satisfied by reference to E2/AS1 generally.
Reference to manufacturers details for Window joinery
and cladding installation.
[complies]

E3 Internal Moisture
Satisfied by E3/AS1
Ventilation as per G4/AS1
[complies]

F Safety of users
F1 Hazardous agents on site
Not applicable to this development

F2 Hazardous Building Materials
Satisfied by F2/AS1. Glazing
[complies]

F3 Hazardous substances & process
Not applicable to this development

F4 Safety from falling
Satisfied by F4/AS1
Refer to details for handrail design details
[complies]

F5 Construction & demolition hazards
Satisfied by F5/AS1 **[complies]**

F6 Lighting for emergency
Not applicable to this development

F7 Warning Systems
Type 1 inter-connected fire alarm system, smoke detectors to all bedrooms, living rooms, hallways. Option of heat detector to kitchen.
[complies]

F8 Signs
Not applicable to this development

F9 Restricting Access to Pools
Not applicable to this development

G Services and Facilities
G1 Personal Hygiene
Satisfied by G1/AS1 **[complies]**

G2 Laundering
Satisfied by G2/AS1 **[complies]**

G3 Food Preparation & Prevention of Contamination
Satisfied by G3/AS1
-Food processing not applicable to this development
-Otherwise satisfied by 2.2 interior linings in other areas
[complies]

G4 Ventilation
Satisfied by G4/AS1 **[complies]**
Mechanical Ventilation
Bathrooms 25 l/s
Kitchen/Laundry 50 l/s

G5 Interior Environment
Satisfied by G5/AS1
[complies]

G6 Airborne & impact sound
Not applicable to this development

G7 Natural Light
Satisfied by G7/AS1 **[complies]**
Window size and positioning.
Awareness of the outside environment

G8 Artificial Light
Satisfied by G8/AS1 **[complies]**
Lighting wattage requirement as per table 1
Lighting to staircases 2-way control
Any recessed lighting to comply with separation requirements to insulation

G9 Electricity
Satisfied by G9/AS1 **[complies]**

G10 Piped Services
Satisfied by G10/AS1 **[complies]**

G11 Gas as an Energy Source
Satisfied by G11/AS1**[complies]**

G12 Water Supplies
Satisfied byG12/AS1**[complies]**

G13 Foul Water
Satisfied by AS/NZS 3500 **[complies]**

G14 Industrial Liquid Waste
Not applicable to this development

G15 Solid Waste
Not applicable to this development

H1 Energy Efficiency
Satisfied by H1/AS1 Calculation Method**[complies]**
Refer to H1 Compliance Reports within supporting documents

DWELLING

External Walls:	Formance 115mm SIP R2.8 min.
Internal Thermal Wall:	Pink Batts 90mm R1.8 min.
Roof:	Formance 215mm SIP R5.7 min.
Floor:	Formance 225mm SIP R5.7 min.
Slab:	Firth RibRaft with HotEdge Extra R0.84 min.
Joinery:	Double Glazed uPVC R0.4 min.
Garage Internal Door:	Solid core R0.5 min.

WIND ZONE - HIGH
(Wind Zone determined from NZS3604:2011)
EXPOSURE ZONE- Zone B
(Exposure zone determined by NZS:3604:2011)

ZONES	FIXING FASTENING	ENVIRONMENT		MATERIAL
ALL ZONES	Nail plates	CLOSED AND ROOF SPACES		Continuously coated galvanized steel[2]
	Wire dogs & bolts			Hot-dipped galvanized steel[2]
	All other structural fixings	CLOSED		Mild steel (uncoated, non-galvanized)[3]
ZONE D	All structural fixings	SHELTERED[4] AND EXPOSED		Type 304 stainless steel[5]
ZONES B AND C	Treated timber pile connections more than 600 mm from the ground and all subfloor connections	Subfloors vented 7000 mm² or less	SHELTERED[4]	Hot-dipped galvanized steel[2]
		Subfloors vented more than 7000 mm²	EXPOSED	Type 304 stainless steel[5]
	Treated timber pile connections within 600 mm of the ground	SHELTERED[4] AND EXPOSED		Type 304 stainless steel[5]
	All other structural fixings, except fabricated brackets[6]	SHELTERED[4]		Hot-dipped galvanized steel[2]
		EXPOSED		Type 304 stainless steel[5]

(1) Items described in this table are steel fasteners required to last not less than 50 years, used for joining timber, such as nail plates, bolts, brackets, wire dogs and similar, but not including nails or screws (which are described in table 4.3).
(2) All galvanizing weights to steel shall be as given in table 4.2.
(3) Steel fixings in timber treated with copper-based timber preservatives shall be as per 4.4.4.
(4) "Sheltered" shall be that above a 45° line drawn from the lower edge of a projecting weathertight structure such as a floor, roof or deck. "Exposed" shall be below that 45° line. See figure 4.3(a) and (b).
(5) Type 304 stainless steel is sufficient to comply with NZBC requirements, but may have surface rust. Type 316 may be used where appearance is a consideration but exceeds the requirements of the NZBC.
(6) "Fabricated brackets" shall be made from 5 mm (minimum thickness) mild steel and shall be hot-dipped galvanized.

Standards New Zealand

TIMBER TREATMENT SCHEDULE

All timber to be treated as per NZS 3602:2003
Schedule below refers to Radiata Pine only
All structural timber SG8 minimum unless specified otherwise
-Refer to plans

WALLS

Interior walls generally	H 1.2
Exterior walls generally	H 1.2
Walls to wet areas	H 1.2
Bottom plates	H 1.2
Cavity battens	H 3.1

FLOOR

Particle Board Flooring	None
Plywood Flooring to wet areas	H 3.2
Floor generally and associated ceiling framing	H 1.2
Floor boundary joists	H 1.2
Floor structure to wet areas	H 1.2

ROOF

Roof purlins	H 1.2
Roof Rafters	H 1.2
Roof Trusses	H 1.2

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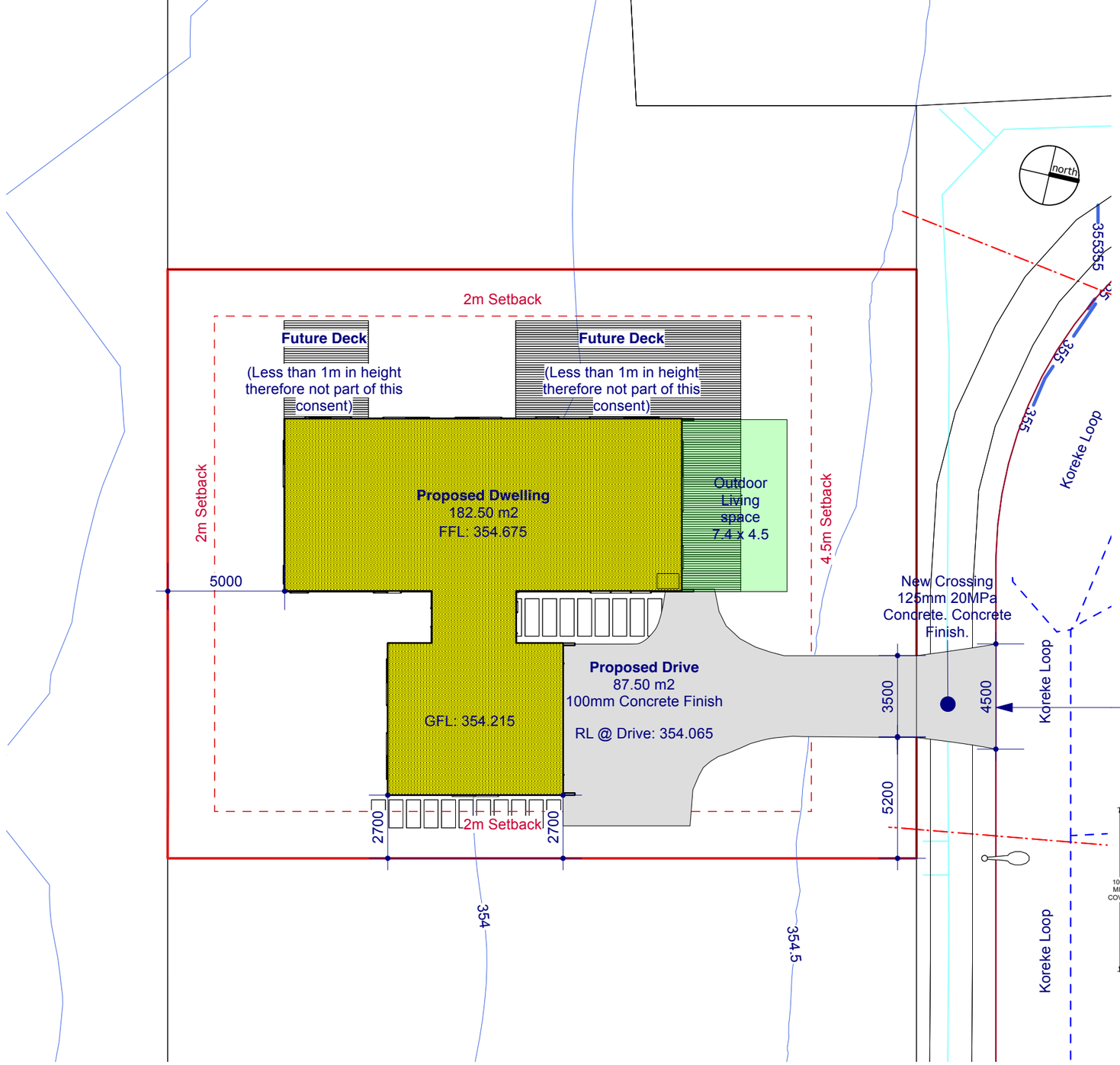
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Proposed Residence
30 Koreke Loop, Lake Hawea

TITLE Code Compliance
JOB No. 26-158
DATE 10/11/2026
SCALE As Noted @A3

DWG # REVISION
BC001



Proposed Site Plan
Scale: 1:200

30 Koreke Loop Rd, Wanaka

SITE NOTES

Lot 13; DP 624962

Zone:	Suburban Residential
Site Area:	805.00 m2
Wind Zone:	High (44m/s) *Determined NZS3604:2011*
Earthquake Zone:	3
Durability Zone:	B
Snow Zone:	N5
Allowable Building Cover:	40% (322.00 m2)
Min. Landscaped Area:	30% (241.50 m2)
Yards:	4.5m front; 2m side/rear

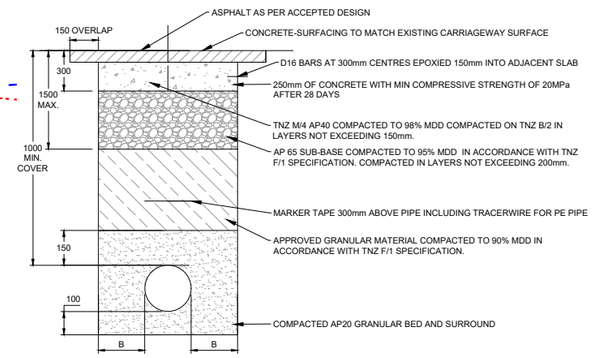
PLANNING NOTES

Outdoor Living space:	36m2 contained in one area with min. dimension of 4.5m

COVERAGES

Proposed Dwelling:	182.50 m2 (22.7%)
Proposed Building Cover:	**182.50 m2 (22.7%)**
Proposed Drive:	87.50 m2 (10.9%)
Proposed Paving:	20.00 m2 (2.5%)
Proposed Impervious Cover:	**290.00 m2 (36.0%)**
Proposed Landscaped Area:	**535.00 m2 (66.5%)**

New Vehicle crossing to be 1m wider at kerb than the width at the boundary in compliance with QLDC Transport 29.5.14. Crossing Construction Detail below.



Concrete Carriageway Cross Section
NTS

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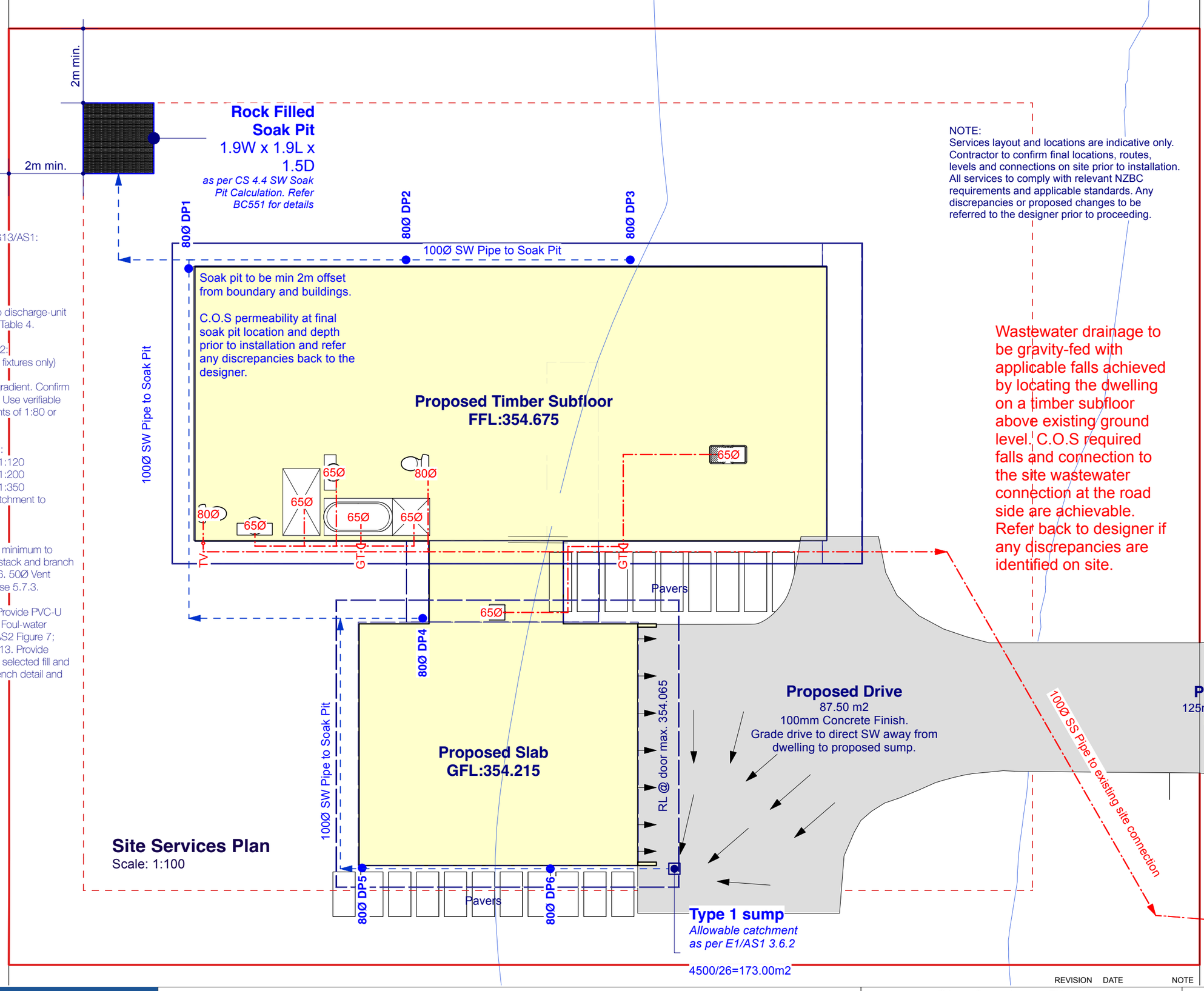
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DWG # REVISION

BC101



Minimum Gradients
Graded Discharge Pipes — G13/AS1:
DN40 — 1:40
DN50 — 1:40
DN65 — 1:40
DN80 — 1:40
DN100 — 1:60
Sizes and gradients subject to discharge-unit capacity checks to G13/AS1 Table 4.

Foul-Water Drains — G13/AS2:
DN80 — 1:40 (wastewater fixtures only)
DN100 — 1:100
Lay at maximum practicable gradient. Confirm capacity to G13/AS2 Table 2. Use verifiable levelling equipment for gradients of 1:80 or flatter.

Stormwater Drains — E1/AS1:
100 mm internal diameter — 1:120
150 mm internal diameter — 1:200
225 mm internal diameter — 1:350
Size drains for contributing catchment to E1/AS1.

Venting:
Main drain open vent: 80 mm minimum to G13/AS2 clause 4.2.1. 50Ø stack and branch vents as per G13/AS1 Table 6. 50Ø Vent terminations to G13/AS1 clause 5.7.3.

Materials, Bedding & Backfill:Provide PVC-U pipes and compatible fittings. Foul-water bedding and backfill to G13/AS2 Figure 7; stormwater to E1/AS1 Figure 13. Provide compacted granular bedding, selected fill and ordinary fill as applicable to trench detail and loading conditions.

NOTE:
Services layout and locations are indicative only. Contractor to confirm final locations, routes, levels and connections on site prior to installation. All services to comply with relevant NZBC requirements and applicable standards. Any discrepancies or proposed changes to be referred to the designer prior to proceeding.

Wastewater drainage to be gravity-fed with applicable falls achieved by locating the dwelling on a timber subfloor above existing ground level. C.O.S required falls and connection to the site wastewater connection at the road side are achievable. Refer back to designer if any discrepancies are identified on site.

Site Services Plan
Scale: 1:100

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Proposed Residence
30 Koreke Loop, Lake Hawea

TITLE Site Services Plan
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DWG # **BC102** REVISION

EARTHWORKS

Dwelling Scrape:	125.5m2	18.8m3
Drive Scrape:	87.5m2	13.1m3
Slab Fill:	70.0m2	10.5m3
Total:	**283.0m2**	**42.4m3**

Silt control Fence

Future Deck Scrape (not proposed as part of this consent)

Future Deck Scrape (not proposed as part of this consent)

353.663m

354.33m

Proposed Timber Subfloor
FFL:354.675

354.37m

353.769m

354.422m

353.816m

Proposed Slab
GFL:354.215

353.834m

Drive Scrape
RL: 354.065 max. @ Door

353.848m

354.449m

354.373m

Silt control Fence

north

355

Site Management Plan
Scale: 1:100

REVISION	DATE	NOTE

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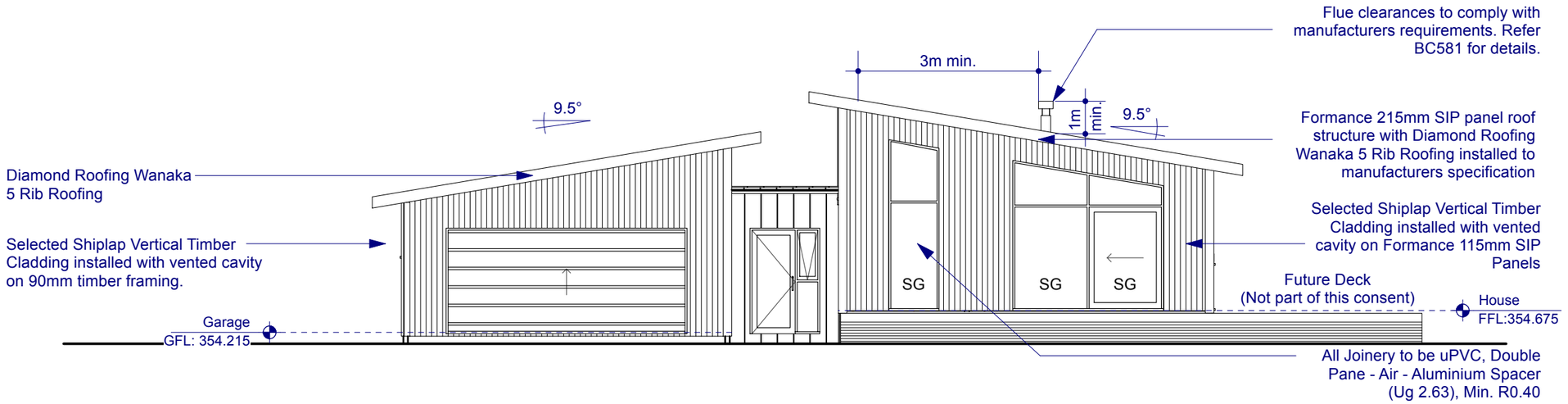
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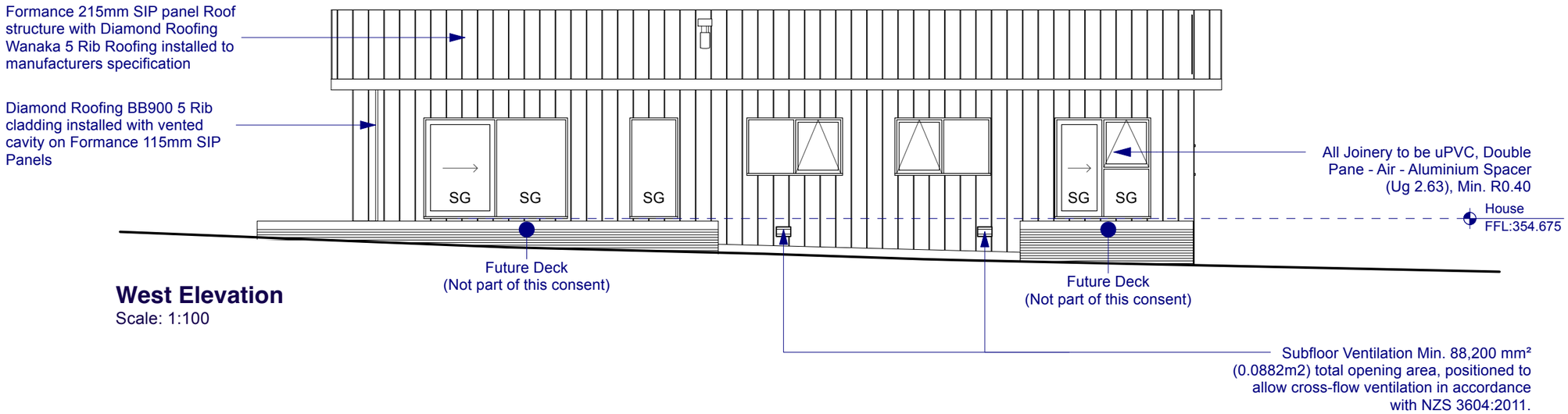
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DWG # **BC103** REVISION



North Elevation
Scale: 1:100



West Elevation
Scale: 1:100

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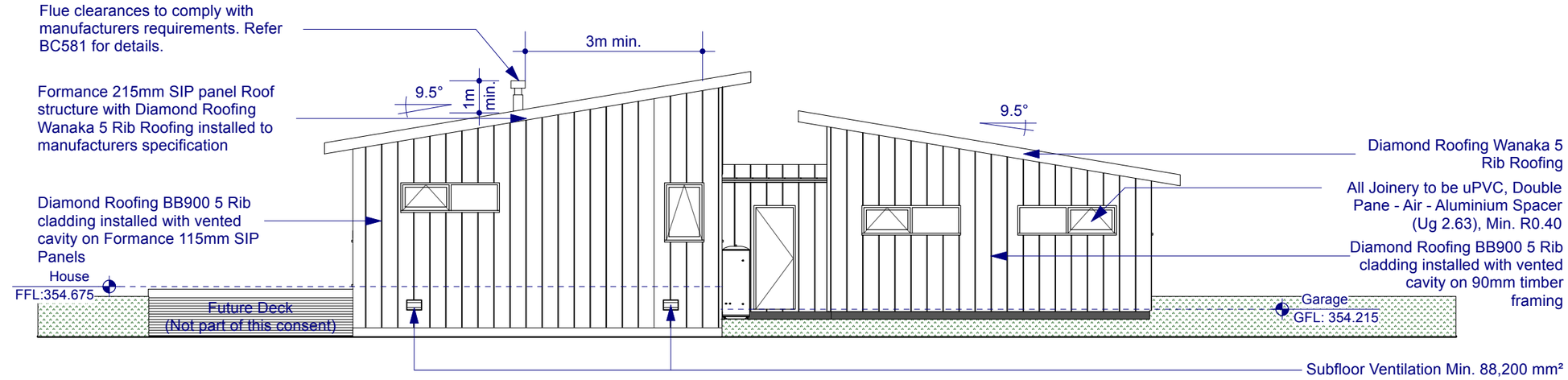
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TITLE Elevations

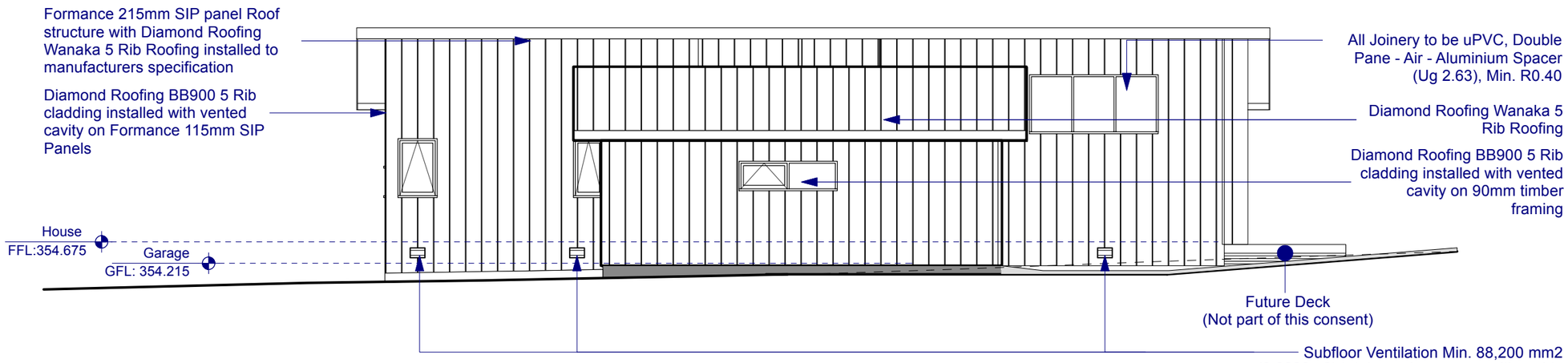
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DWG # REVISION

BC201



South Elevation
Scale: 1:100



East Elevation
Scale: 1:100

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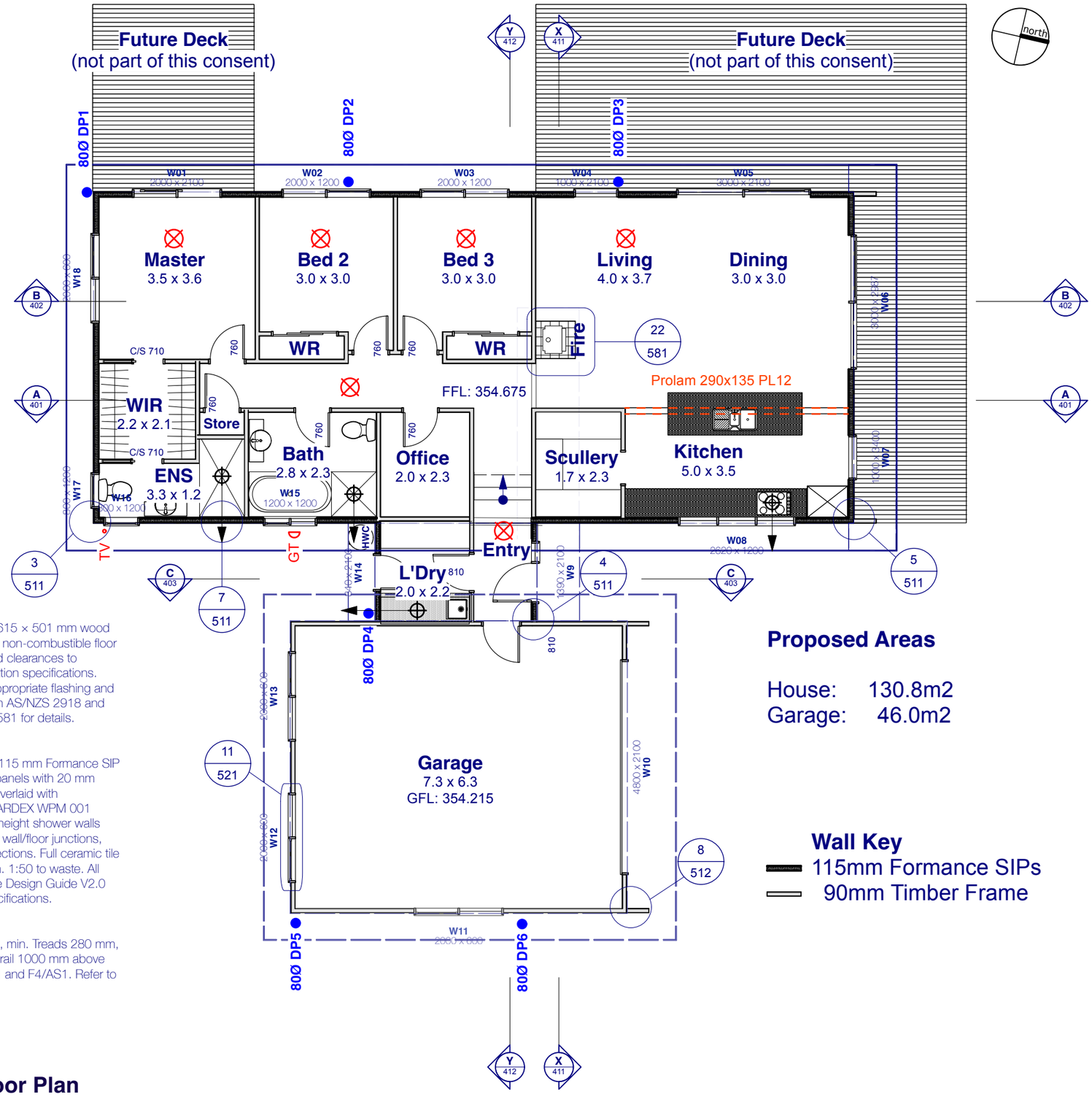
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30 Koreke Loop, Lake Hawea

TITLE Elevations

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DATE 10/11/2026
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DWG # REVISION

BC202



Fireplace:
Metro Wee Rad Freestanding Wood Fire: 615 × 501 mm wood burner with Pioneer double flue shield and non-combustible floor protector. Minimum hearth dimensions and clearances to combustible surfaces as per Metro installation specifications. Flue system to extend through roof with appropriate flashing and weatherproofing. Installation to comply with AS/NZS 2918 and manufacturer's requirements. Refer to BC581 for details.

Wet Areas:
13 mm GIB Aqualine wall lining fixed over 115 mm Formance SIP wall panels. 225 mm Formance SIP floor panels with 20 mm structural flooring top skin, prepared and overlaid with ARDEX-approved tile underlay/substrate. ARDEX WPM 001 Superflex waterproofing membrane to full-height shower walls and entire bathroom floor, including coved wall/floor junctions, sealed penetrations and floor waste connections. Full ceramic tile finish throughout. Shower floor graded min. 1:50 to waste. All works to comply with NZBC E3, Formance Design Guide V2.0 Sections 2.7–2.8 and manufacturers' specifications.

Stairs & Grabrail:
460mm rise total. 3x Risers 190 mm max., min. Treads 280 mm, max. pitch 37°, nosing 25 mm max. Handrail 1000 mm above pitchline. All to comply with NZBC D1/AS1 and F4/AS1. Refer to BC591 for stair details.

Floor Plan
Scale: 1:100

Proposed Areas

House: 130.8m2
Garage: 46.0m2

Wall Key
115mm Formance SIPs
90mm Timber Frame

NOTES:
All work to comply with NZ Building Code Acceptable Solutions, NZS3604:2011 and Local Authority Bylaws.

Timber Treatment Schedule:
ALL TIMBER SG8 unless specified otherwise

Internal Walls	H1.2
External Walls	H1.2
Walls to Wet Areas	H1.2
Bottom Plate	H1.2

H1 Compliance
Reference to H1/AS1 Calculation Method

External Walls:	*Formance 115mm SIP R2.8 min.*
Internal Thermal Wall:	*Pink Batts 90mm R1.8 min.*
Roof:	*Formance 215mm SIP R5.7 min.*
Floor:	*Formance 225mm SIP R5.7 min.*
Slab:	*Firth RibRaft with HotEdge Extra R0.84 min.*
Joinery:	*Double Glazed uPVC R0.4 min.*
Garage Internal Door:	*Solid core R0.5 min.*

New Wall Framing: *All timber wall framing to comply with NZS 3604:2011, Section 8.*
12mm Pine Ply CD Grade, 5mm negative detail to Living room and Hall.

10 mm GIB plasterboard wall lining to remaining interior faces of habitable spaces.

Bottom Plate Fixings: *NZS 3604:2011 Table 8.19:*
External walls and internal bracing walls: 2 / 100 × 3.75 mm nails @ 600 mm crs
Internal non-bracing walls: 1 / 100 × 3.75 mm nail @ 600 mm crs

External / Loadbearing Walls: *SG8 timber framing in accordance with NZS 3604:2011 Table 8.2:*
- Stud height up to 3.0 m: minimum 90 × 45 mm SG8 studs @ 600 mm crs
- Stud height over 3.0 m and up to 3.3 m: minimum 2/90 × 45 mm SG8 studs @ 600 mm crs
- Nogs @ 800 mm max. crs

Internal Non-Loadbearing Walls: *SG8 timber framing in accordance with NZS 3604:2011 Table 8.4:*
- Stud height up to 3.0 m: minimum 90 × 45 mm SG8 studs @ 600 mm crs
- Stud height over 3.0 m and up to 3.3 m: minimum 2/90 × 45 mm SG8 studs @ 600 mm crs
- Nogs @ 800 mm max. crs

Formance SIP Panel Floors: 225mm Formance floor panels installed strictly to manufacturers requirements. Refer Section 2 Formance Design Guide V2.0

Formance SIP Panel Walls: 115mm Formance wall panels installed strictly to manufacturers requirements.Refer Section 3 Formance Design Guide V2.0

Formance SIP Panel Roofs: 215mm Formance roof panels installed strictly to manufacturers requirements.Refer Section 7 Formance Design Guide V2.0

For all Formance installation requirements refer to Formance specification documents and shop drawings.

Ventilation:
Mechanical extract provided to Kitchen, Bathrooms, and Laundry. Vent extract to outside via wall/roof duct. Minimum extract rates: kitchen 50L/s, bathroom 25L/s, laundry 20L/s.

Hot Water Supply:
Selected 275L Outdoor Electric Integrated Hot Water Heat Pump Cylinder located adjacent to external Laundry access. Refer to BC541 for details.

Warning Systems:
Wireless Inter-connected fire alarm system, smoke detectors to all bedrooms, living rooms, hallways.
Option of heat detector to kitchen to NZS4514:2011

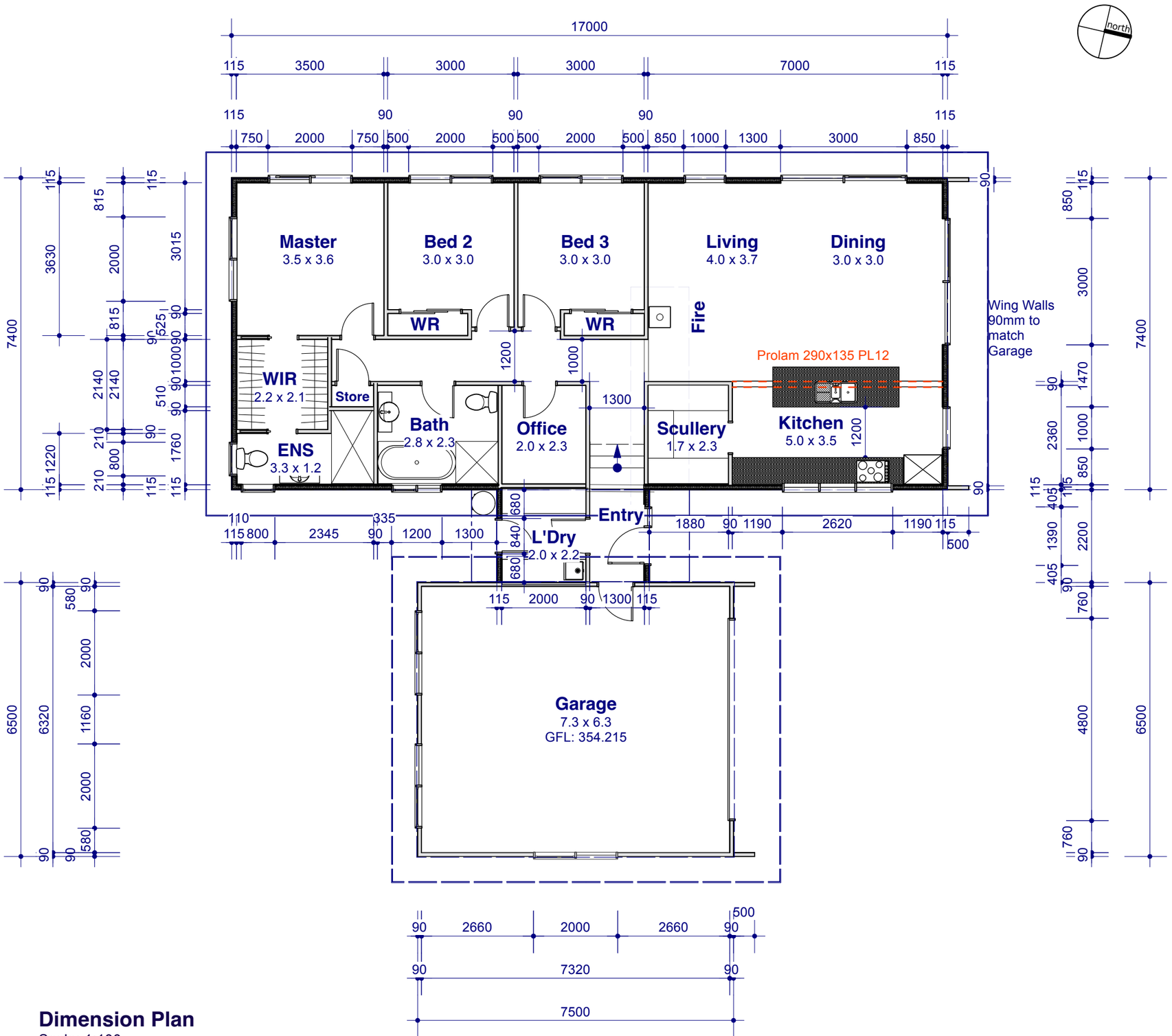
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DWG # BC301 REVISION



Dimension Plan
Scale: 1:100

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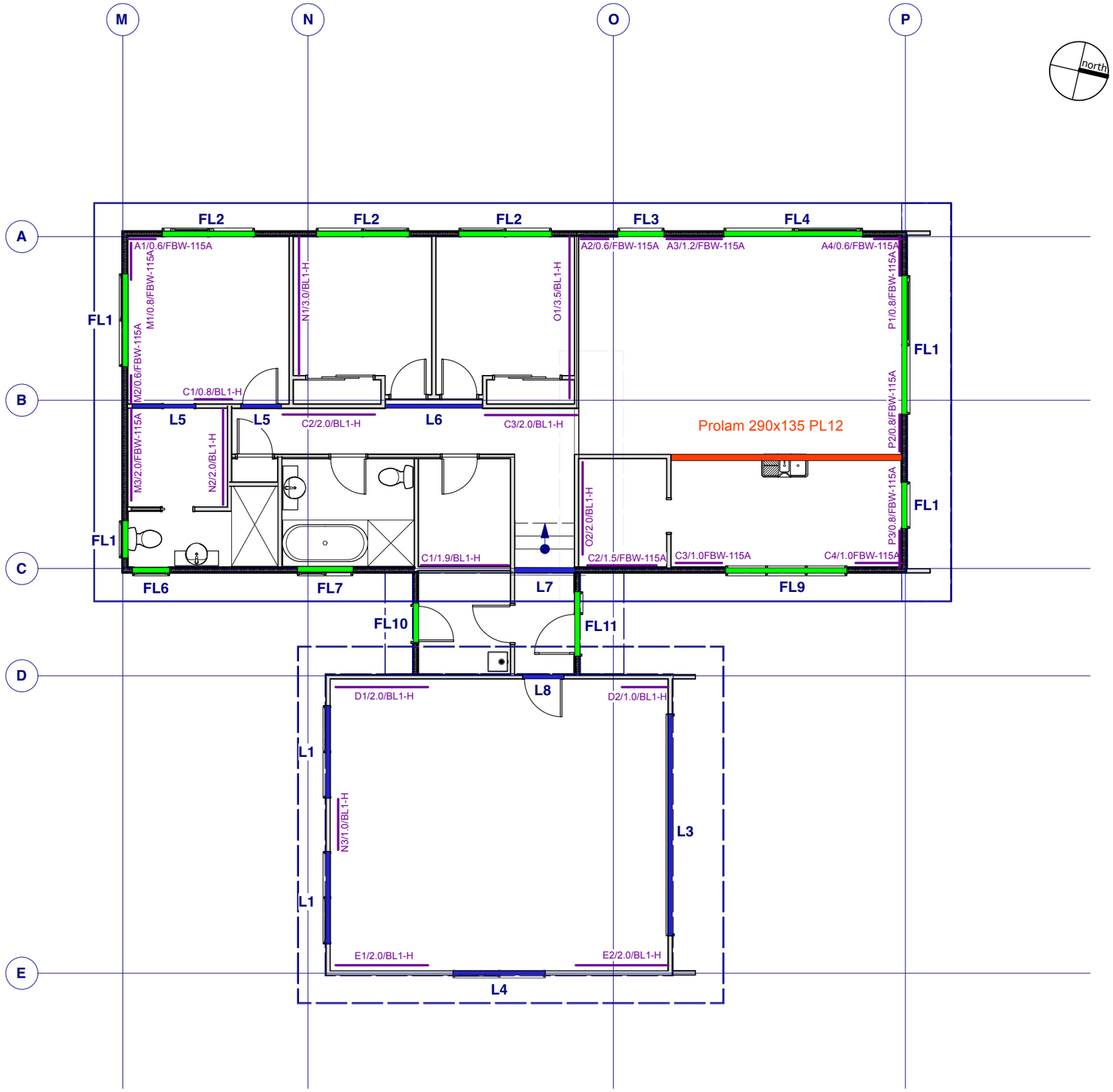
BC302

Formance Lintels

FL1: No Structural Lintel Required (2/140x45 Trimmer)
FL2: FL8-200 (Max span 2.3m)
FL3: FL8-200 (Max span 2.1m)
FL4: FL8-500(Max span 2.1m)
FL6: FL8-200(Max span 2.3m)
FL7: FL8-200(Max span 2.3m)
FL9: FL8-300(Max span 3.0m)
FL10: FL8-200(Max span 2.3m)
FL11: FL8-200(Max span 2.3m)

Standard Lintels

L1: 2/240x45 (Trimmer)
L2: 2/140x45
L3: 2/240x45 (Trimmer)
L4: 2/240x45
L5: 2/140x45
L6: 2/190x45
L7: 2/190x45
L8: 2/90x45



Structural Plan

Scale: 1:100

Gib EzyBrace Calculations

Single Level Along Resistance Sheet

Timber Floor Limit of 120 BUs/m Applied

	Wind	EQ
Demand	750	1915
Resistance	2134 284%	1934 101%

Line	Element	Length (m)	Angle (degrees)	Stud Ht. (m)	Type	Supplier	Wind (BUs)	EQ (BUs)		
a	1	0.6	0	2.4	FBW-115A 0.6	Formance	66	66		
	2	0.6	0	2.4	FBW-115A 0.6	Formance	66	66		
	3	1.2	0	2.4	FBW-115A 1.2	Formance	144	144		
	4	0.6	0	2.4	FBW-115A 0.6	Formance	66	66		
	External Length = 17								342 OK	342 OK
b	1	0.8	0	2.4	BL1-H	GIB®	87	82		
	2	2	0	2.4	BL1-H	GIB®	240	208		
	3	2	0	2.4	BL1-H	GIB®	240	208		
	External Length = 17								567 OK	498 OK
c	1	1.9	0	3.9	BL1-H	GIB®	140	122		
	2	1.5	0	3.9	FBW-115A 1.2	Formance	111	111		
	3	1	0	3.9	FBW-115A 0.6	Formance	68	68		
	4	1	0	3.9	FBW-115A 0.6	Formance	68	68		
	External Length = 17								386 OK	368 OK
d	1	2	0	2.4	BL1-H	GIB®	240	208		
	2	1	0	2.4	BL1-H	GIB®	118	103		
	External Length = 7.5								358 OK	311 OK
e	1	2	0	2.4	BL1-H	GIB®	240	208		
	2	2	0	2.4	BL1-H	GIB®	240	208		
	External Length = 7.5								480 OK	416 OK

Single Level Across Resistance Sheet

Timber Floor Limit of 120 BUs/m Applied

	Wind	EQ
Demand	690	1915
Resistance	2190 317%	2007 105%

Line	Element	Length (m)	Angle (degrees)	Stud Ht. (m)	Type	Supplier	Wind (BUs)	EQ (BUs)		
m	1	0.8	0	2.4	FBW-115A 0.6	Formance	88	88		
	2	2	0	2.4	FBW-115A 0.6	Formance	220	220		
	3	2	0	2.4	FBW-115A 1.2	Formance	240	240		
	External Length = 7.4								548 OK	548 OK
n	1	3	0	2.4	BL1-H	GIB®	360	312		
	2	2	0	2.4	BL1-H	GIB®	240	208		
	3	1	0	2.4	BL1-H	GIB®	118	103		
	External Length = 16								718 OK	623 OK
o	1	3.5	0	2.4	BL1-H	GIB®	420	364		
	2	2	0	2.4	BL1-H	GIB®	240	208		
	External Length = 16								660 OK	572 OK
p	1	0.8	0	2.4	FBW-115A 0.6	Formance	88	88		
	2	0.8	0	2.4	FBW-115A 0.6	Formance	88	88		
	3	0.8	0	2.4	FBW-115A 0.6	Formance	88	88		
	External Length = 7.4								264 OK	264 OK

Formance Design Guide Lintel Spans

Refer to Formance Design Guide V2.0 Section 4 Pg 168

Table 4.5 | Formance Lintel Spans when Supporting Roof Only for all Wind Zones (m)

Snow Load : 1 kPa					Roof Weight : Light		
Wind Zone	Loaded Dimension	LVL13 top and bottom flange			SG8 top and bottom flange		
		FL13-200 Max span	FL13-300 Max span	FL13-500 Max span	FL8-200 Max span	FL8-300 Max span	FL8-500 Max span
Medium and less	1m	2.9	3.8	5.2	2.5	3.4	4.7
	2m	2.5	3.5	4.7	2.2	3.0	4.2
	3m	2.3	3.2	4.4	2.0	2.8	4.0
	4m	2.1	3.0	4.0	1.8	2.6	3.7
	6m	1.9	2.7	3.8	1.6	2.3	3.4
High	1m	2.9	3.7	5.0	2.6	3.3	4.5
	2m	2.5	3.3	4.5	2.2	3.0	4.0
	3m	2.3	3.1	4.2	2.0	2.8	3.8
	4m	2.1	2.9	4.0	1.8	2.6	3.6
	6m	1.9	2.7	3.7	1.6	2.3	3.3
Very high	1m	2.8	3.6	4.9	2.5	3.2	4.4
	2m	2.5	3.2	4.4	2.2	2.9	4.0
	3m	2.3	3.0	4.0	2.0	2.7	3.7
	4m	2.1	2.9	3.9	1.8	2.6	3.5
	6m	1.6	2.6	3.6	1.6	2.3	3.2
Extra High	1m	2.7	3.5	4.8	2.4	3.2	4.3
	2m	2.5	3.2	4.3	2.1	2.9	3.9
	3m	2.3	2.9	4.0	1.9	2.6	3.6
	4m	2.0	2.8	3.8	1.8	2.5	3.4
	6m	1.4	2.4	3.5	1.4	2.3	3.1

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Proposed Residence

30 Koreke Loop, Lake Hawea

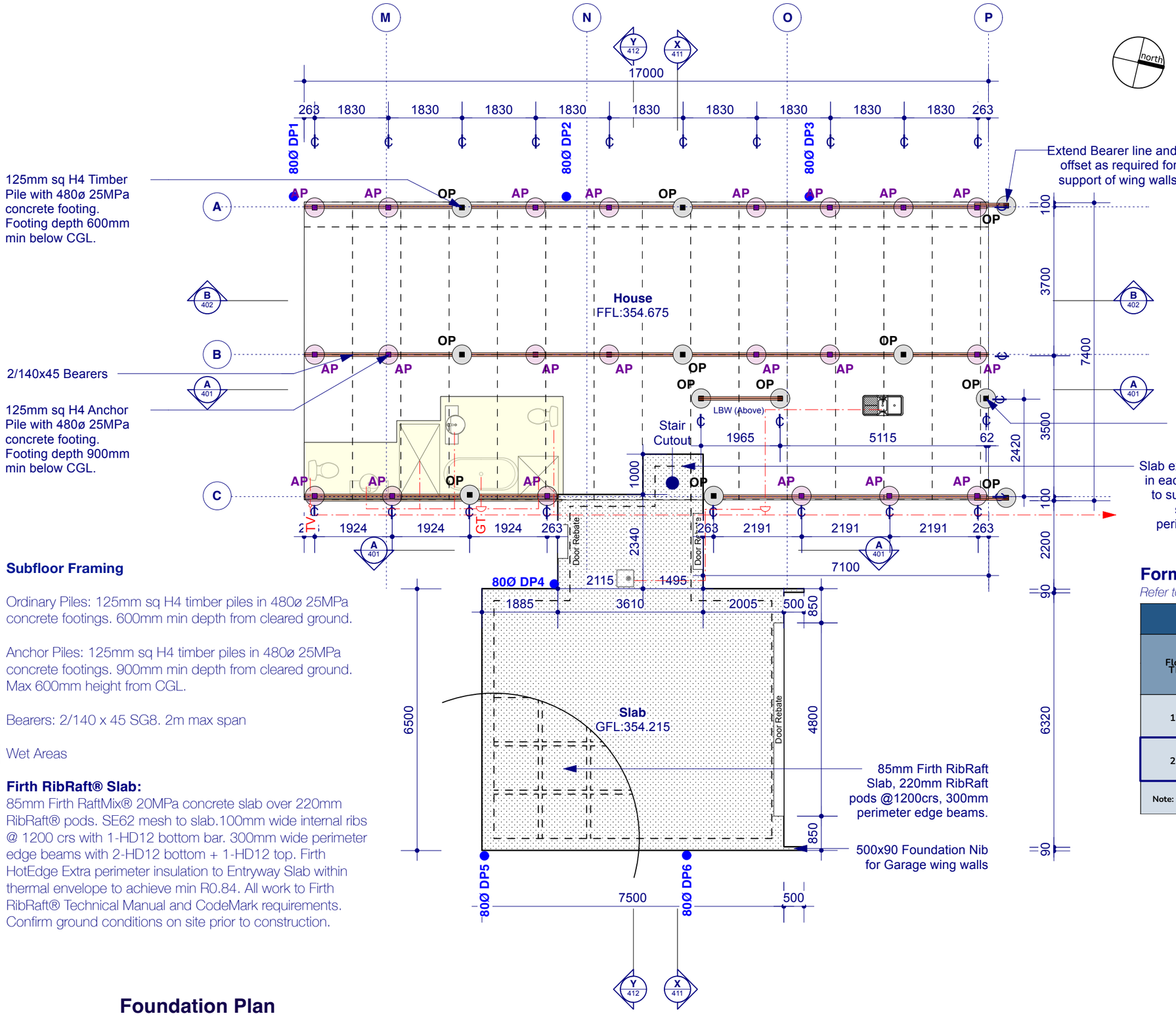
REVISION DATE NOTE

TITLE Structural Plan

JOB No. 26-158
DATE 10/11/2026
SCALE 1:100 @A3

DWG # REVISION

BC303



125mm sq H4 Timber Pile with 480ø 25MPa concrete footing. Footing depth 600mm min below CGL.

2/140x45 Bearers

125mm sq H4 Anchor Pile with 480ø 25MPa concrete footing. Footing depth 900mm min below CGL.

Extend Bearer line and offset as required for support of wing walls

Ordinary Pile required under point load

Slab extended 90mm under subfloor in each direction for foundation wall to support in between bearers and stair void. Firth HotEdge Extra perimeter insulation to Entry/Stair Slab to achieve min R0.84.

85mm Firth RibRaft Slab, 220mm RibRaft pods @1200crs, 300mm perimeter edge beams.

500x90 Foundation Nib for Garage wing walls

Subfloor Framing

OP Ordinary Piles: 125mm sq H4 timber piles in 480ø 25MPa concrete footings. 600mm min depth from cleared ground.

AP Anchor Piles: 125mm sq H4 timber piles in 480ø 25MPa concrete footings. 900mm min depth from cleared ground. Max 600mm height from CGL.

Bearers: 2/140 x 45 SG8. 2m max span

Wet Areas

Firth RibRaft® Slab:
85mm Firth RaftMix® 20MPa concrete slab over 220mm RibRaft® pods. SE62 mesh to slab.100mm wide internal ribs @ 1200 crs with 1-HD12 bottom bar. 300mm wide perimeter edge beams with 2-HD12 bottom + 1-HD12 top. Firth HotEdge Extra perimeter insulation to Entryway Slab within thermal envelope to achieve min R0.84. All work to Firth RibRaft® Technical Manual and CodeMark requirements. Confirm ground conditions on site prior to construction.

Foundation Plan
Scale: 1:100

Gib EzyBrace Calculations

Subfloor Level Along Resistance Sheet

	Wind	EQ
	Demand	
	1132	2464
	Resistance	

Line	Element	Length (m)	Angle (degrees)		Type	Supplier	Wind (BUs)	EQ (BUs)	3360 OK	2520 OK
A	1	8			Anchor Pile	NZS3604	1280	960		
	External Length = 17								1280 OK	960 OK
B	1	7			Anchor Pile	NZS3604	1120	840		
	External Length = 17								1120 OK	840 OK
C	1	6			Anchor Pile	NZS3604	960	720		
	External Length = 17								960 OK	720 OK

Subfloor Level Across Resistance Sheet

	Wind	EQ
	Demand	
	1099	2464
	Resistance	

Line	Element	Length (m)	Angle (degrees)		Type	Supplier	Wind (BUs)	EQ (BUs)	3360 OK	2520 OK
M	1	6			Anchor Pile	NZS3604	960	720		
	External Length = 7.4								960 OK	720 OK
N	1	5			Anchor Pile	NZS3604	800	600		
	External Length = 7.4								800 OK	600 OK
O	1	5			Anchor Pile	NZS3604	800	600		
	External Length = 7.4								800 OK	600 OK
P	1	5			Anchor Pile	NZS3604	800	600		
	External Length = 7.4								800 OK	600 OK

Formance Design Guide Floor Panel Spans
Refer to Formance Design Guide V2.0 Section 2.2 Pg 38

Table 2.2 | Formance Floor Panel Spans with Live Loads up to 1.5 kPa

Floor Panel Thickness	Spline Size	Maximum span with spline grade (m)			
		SG8	SG10	LVL11	LVL13
175mm	2/140x45	3.0	3.0	3.1	3.3
225mm	2/190x45	3.7	3.8	4.2	4.2*

Note: * 4.2(limited by panel lengths with offset join).

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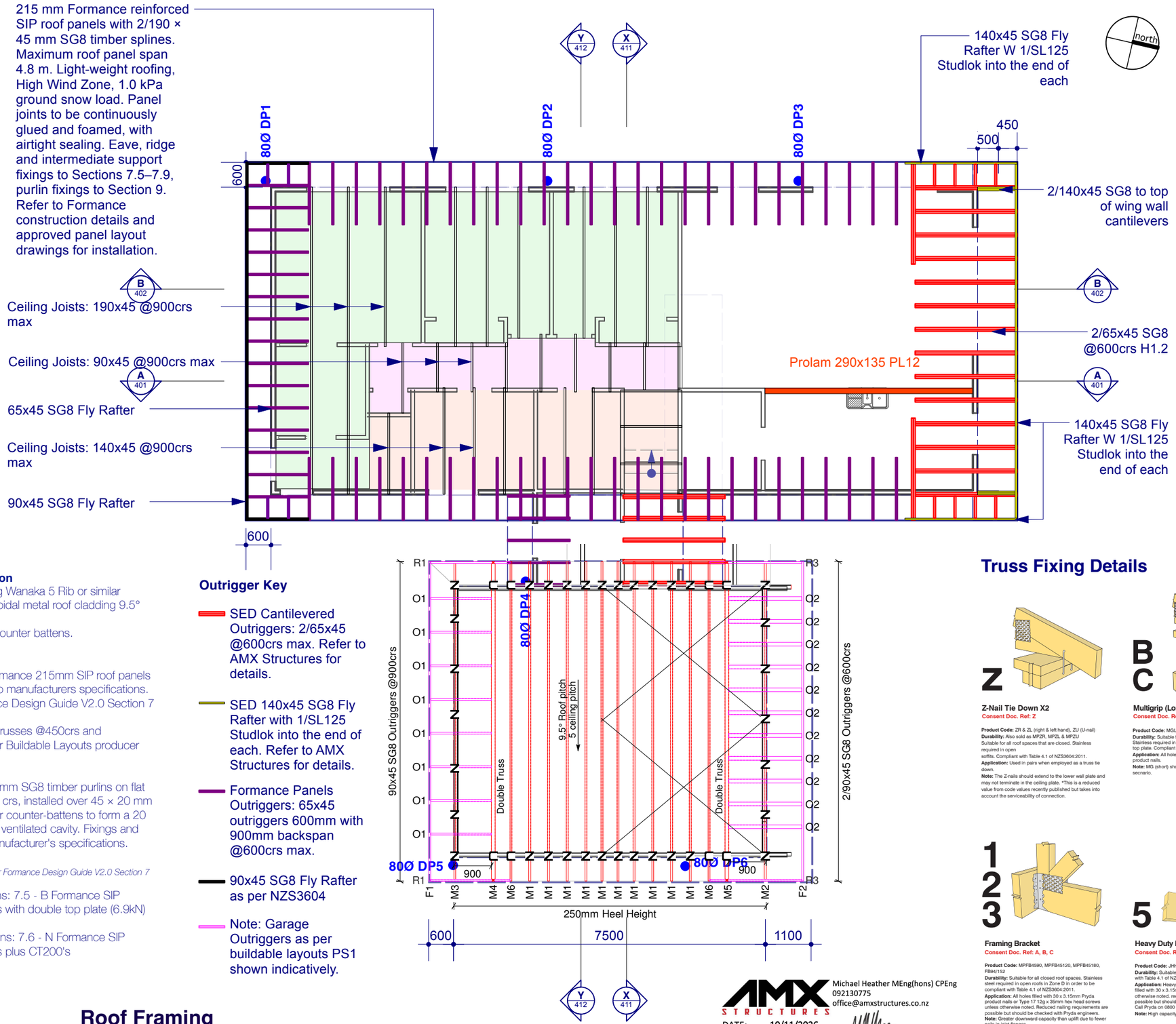
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TITLE Foundation Plan
JOB No. 26-158
DATE 10/11/2026
SCALE 1:100 @A3

DWG # BC311 REVISION

215 mm Formance reinforced SIP roof panels with 2/190 × 45 mm SG8 timber splines. Maximum roof panel span 4.8 m. Light-weight roofing, High Wind Zone, 1.0 kPa ground snow load. Panel joints to be continuously glued and foamed, with airtight sealing. Eave, ridge and intermediate support fixings to Sections 7.5–7.9, purlin fixings to Section 9. Refer to Formance construction details and approved panel layout drawings for installation.



Formance Design Guide Roof Panel Spans

Refer to Formance Design Guide V2.0 Section 7 Pg 244

SECTION 7 - FORMANCE STRUCTURAL INSULATED PANEL ROOFS — FORMANCE DESIGN GUIDE V2.0

Table 7.8 | Formance Reinforced Roof / Light roof / 1 K Pa Ground Snow

Roof Panel Thickness	Wind Zone	Roof Pitch	Max Span (m) with Spline Grade and Thickness				
			SG8	SG10	LVL11	LVL13	LVL13
			2 x 45mm	2 x 45mm	2 x 45mm	2 x 45mm	2 x 63mm
115mm Panel (90mm deep splines)	Medium and Less	0 - 10°	3.5	3.6	3.5	3.6	3.7
		11 - 30°	3.5	3.6	3.6	3.6	3.7
		31 - 45°	3.4	3.5	3.5	3.5	3.6
	High	0 - 10°	3.5	3.5	3.5	3.6	3.7
		11 - 30°	3.4	3.4	3.4	3.5	3.6
		31 - 45°	3.3	3.3	3.3	3.4	3.5
	Very High	0 - 10°	3.4	3.4	3.4	3.5	3.6
		11 - 30°	3.2	3.3	3.3	3.3	3.4
		31 - 45°	3.1	3.2	3.2	3.2	3.3
	Extra High	0 - 10°	3.3	3.3	3.3	3.4	3.5
		11 - 30°	3.1	3.2	3.2	3.2	3.3
		31 - 45°	3.0	3.1	3.1	3.1	3.2
165mm Panel (140mm deep splines)	Medium and Less	0 - 10°	4.7	4.8	4.8	4.9	5.1
		11 - 30°	4.7	4.8	4.8	4.9	5.1
		31 - 45°	4.6	4.7	4.7	4.8	5.0
	High	0 - 10°	4.7	4.8	4.8	4.9	5.1
		11 - 30°	4.5	4.6	4.6	4.7	4.9
		31 - 45°	4.4	4.5	4.5	4.6	4.8
	Very High	0 - 10°	4.5	4.6	4.6	4.7	4.9
		11 - 30°	4.3	4.4	4.4	4.5	4.7
		31 - 45°	4.2	4.3	4.3	4.4	4.6
	Extra High	0 - 10°	4.3	4.4	4.5	4.6	4.8
		11 - 30°	4.2	4.3	4.3	4.4	4.6
		31 - 45°	4.1	4.1	4.2	4.2	4.4
215mm with 190mm deep splines	Medium and Less	0 - 10°	5.8	5.9	5.9	6.1	6.4
		11 - 30°	5.8	5.9	5.9	6.1	6.4
		31 - 45°	5.7	5.8	5.8	6.0	6.3
	High	0 - 10°	5.8	5.9	5.9	6.1	6.4
		11 - 30°	5.6	5.7	5.7	5.9	6.2
		31 - 45°	5.4	5.5	5.6	5.7	6.0
	Very High	0 - 10°	5.6	5.8	5.8	5.9	6.2
		11 - 30°	5.4	5.5	5.5	5.7	6.0
		31 - 45°	5.2	5.3	5.3	5.5	5.8
	Extra High	0 - 10°	5.3	5.4	5.5	5.7	6.0
		11 - 30°	5.2	5.3	5.4	5.5	5.8
		31 - 45°	5.0	5.2	5.2	5.3	5.6

Roof Description
Diamond Roofing Wanaka 5 Rib or similar approved trapezoidal metal roof cladding 9.5° min fall to gutter
on Purlins with Counter battens.

Structure
Main House: Formance 215mm SIP roof panels installed strictly to manufacturers specifications. Refer to Formance Design Guide V2.0 Section 7

Garage: Raking trusses @450crs and Outriggers as per Buildable Layouts producer statement.

Purlins: 90 × 45 mm SG8 timber purlins on flat @ 900 mm max. crs, installed over 45 × 20 mm H3 treated timber counter-battens to form a 20 mm drained and ventilated cavity. Fixings and installation to manufacturer's specifications.

SIP Fixing *As per Formance Design Guide V2.0 Section 7*

Eave Connections: 7.5 - B Formance SIP Screws @300crs with double top plate (6.9kN)

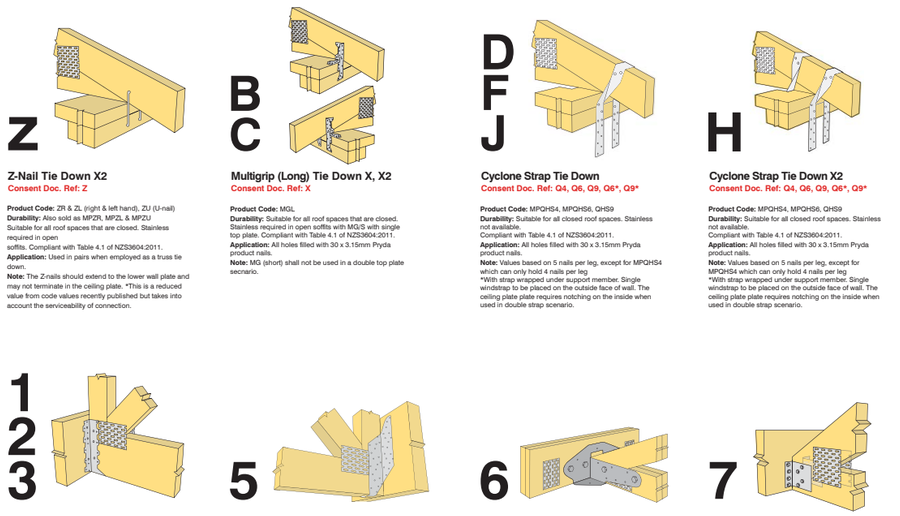
Ridge Connections: 7.6 - N Formance SIP Screws @300crs plus CT200's

Outrigger Key

- SED Cantilevered Outriggers: 2/65x45 @600crs max. Refer to AMX Structures for details.
- SED 140x45 SG8 Fly Rafter with 1/SL125 Studlok into the end of each. Refer to AMX Structures for details.
- Formance Panels Outriggers: 65x45 outriggers 600mm with 900mm backspan @600crs max.
- 90x45 SG8 Fly Rafter as per NZS3604
- Note: Garage Outriggers as per buildable layouts PS1 shown indicatively.

Roof Framing
Scale: 1:100

Truss Fixing Details



AMX STRUCTURES
Michael Heather MEng(hons) CPEng
092130775
office@amxstructures.co.nz
DATE: 10/11/2026
CPENG: **1025672**
SIGNED:

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BUILDABLE LAYOUTS

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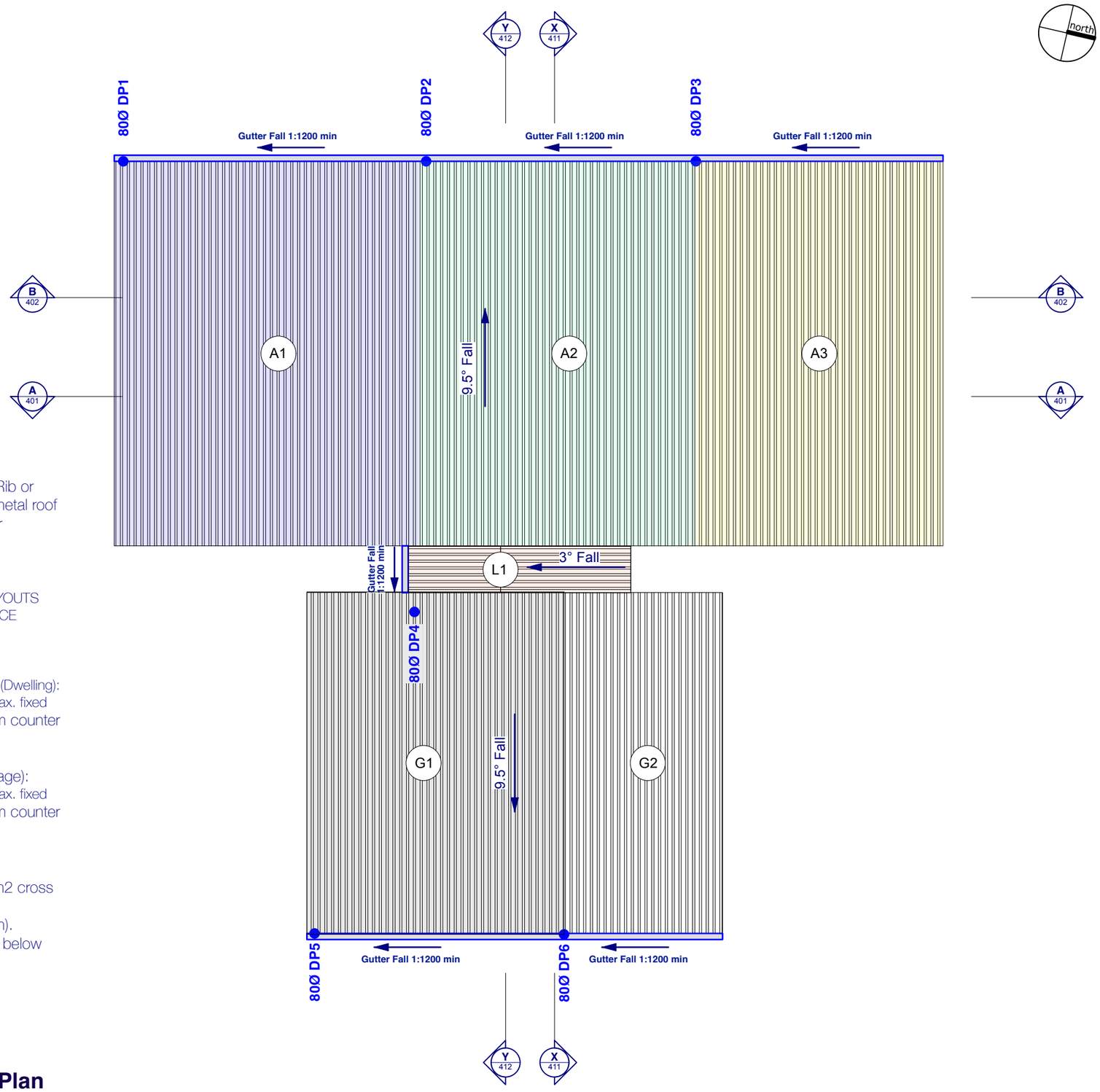
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TITLE Roof Framing Plan

JOB No. 26-158
DATE 10/11/2026
SCALE 1:100 @A3

DWG # REVISION

BC321



Roof Description:
Diamond Roofing Wanaka 5 Rib or similar approved trapezoidal metal roof cladding 9.5° min fall to gutter on Purlins.

Structure:
Refer to BC321, BUILDABLE LAYOUTS producer statement, & FORMANCE Construction drawings.

Roofing Fixing:
Formance Insulated Roof Panels (Dwelling): 90x45 Purlins on flat @900crs max. fixed type U ontop of H3.1 45x20mm counter battens

Timber Monopitch Truss (Garage): 90x45 Purlins on flat @900crs max. fixed type U ontop of H3.1 45x20mm counter battens

New Guttering:
MARLEY CLASSIC: 7,300mm2 cross sectional area.
Min fall: 1:2000 (0.5mm in 1m).
Spouting capcity as per table below (100mm/hr for Lake Hawea)

Floor Plan
Scale: 1:100

DP CATCHMENT AREAS:

DP1 (80ø)
Roof Area A1= 58.0m2

DP2 (80ø)
Roof Area A2=53.9m2

DP3 (80ø)
Roof Area A3 = 47.6m2

DP4(80ø)
Roof Area L1 = 5.2m2

DP5(80ø)
Roof Area G1 = 44.0m2

DP6(80ø)
Roof Area A2 = 26.9m2

80ø DP allowed to take up to 58 m2 of area
as per spouting capacity.

Spouting Capacity:

Rainfall Intensity* (mm/hr)	40	50	60	70	80	90	100	110	120	130	140	150
Maximum Catchment Area per downpipe(m²)	146	117	97	83	73	65	58	53	49	45	42	39

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JOB No. 26-158
DATE 10/11/2026
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DWG # BC322 REVISION

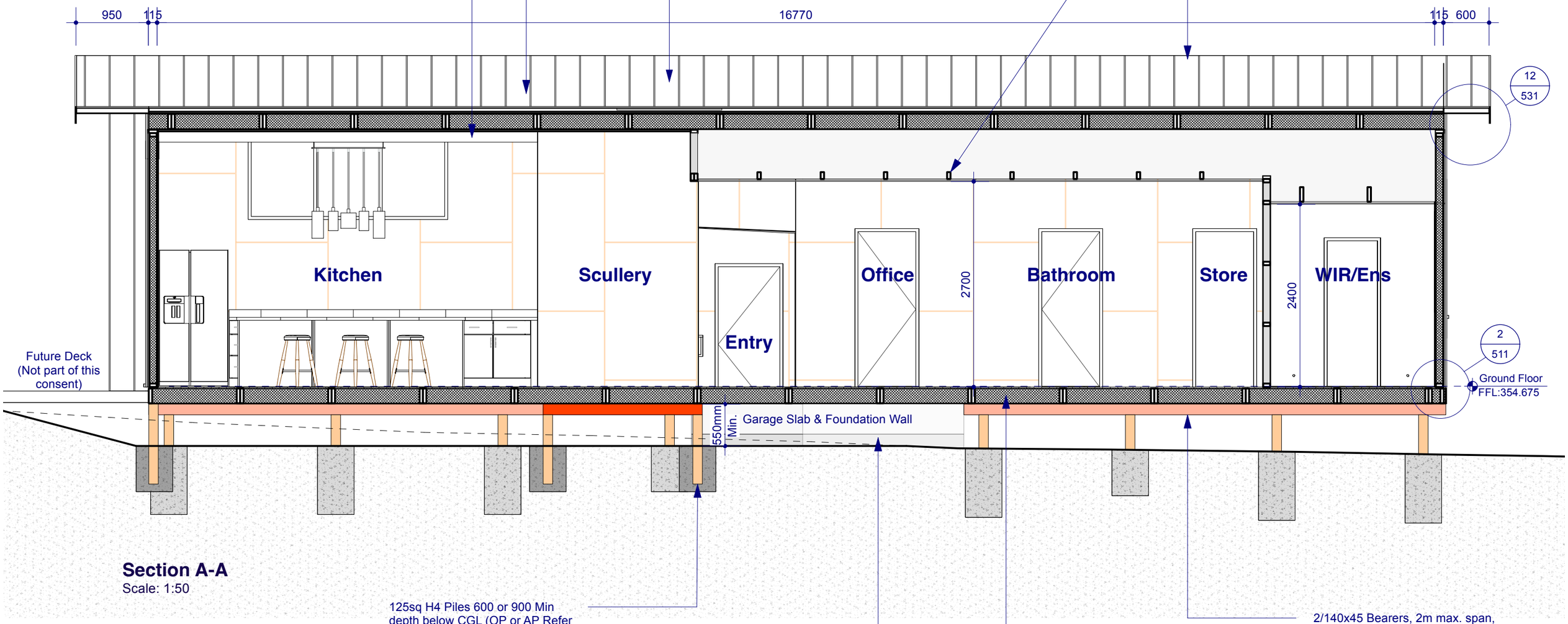
Provide back tray flashing as required for flue penetration, install strictly to mannufacturers specification, Refer to BC531 Roof Details.

Raking ceiling within Living/Kitchen area, install cavity as required for services, refer to Formance design guide and manufacturers specification for details.

290x135 Prolam Beam spanning from scullery to external wall. Provide Bearer and Ordinary Piles for point loads and LBW. Refer to BC311 Foundation Plan & BC301. Provide additional support within Formance wall panels as required by manufactures specification.

Ceiling joists to Hall, Bedrooms, Bathrooms, and office. 2.7m head height in hall, 2.4m head height to rooms of hall. Refer to BC321 Roof Framing Plan for joist sizing & layout.

Formance 215mm SIP Panel roof with Diamond Roofing Wanaka 5 Rib on purlins atop counter battens with 9.5° fall to gutter. Install strictly to manufacturers specifiactions.



Section A-A
Scale: 1:50

125sq H4 Piles 600 or 900 Min depth below CGL (OP or AP Refer BC311) 480Ø 25MPa concrete footing.

Foundation wall to support in between bearers and stair void, Insulated with min. R1.8 Pink Batts.

2/140x45 Bearers, 2m max. span, supported by AP & OP as per BC311 Foundation Plan

Formance 225mm SIP floor panels, Installed strictly to manufacturers specification.

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TITLE Section A-A

JOB No. 26-158
DATE 10/11/2026
SCALE 1:50 @A3

DWG # REVISION

BC401

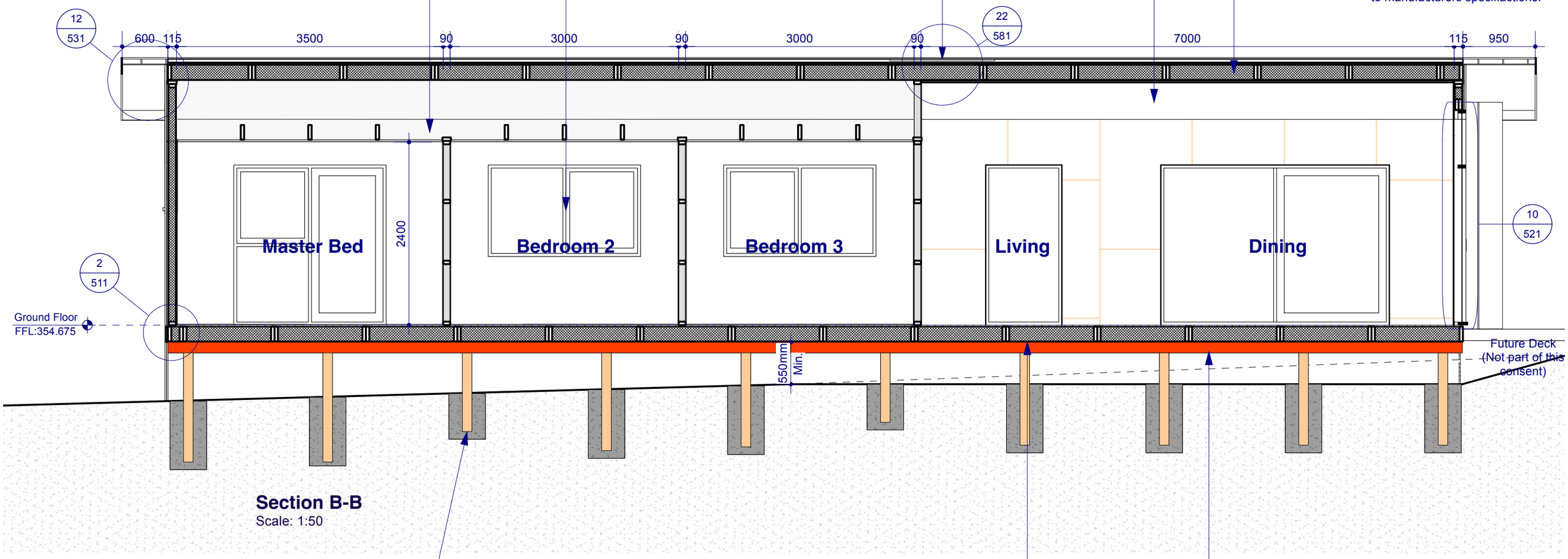
All Joinery to be uPVC, Double Pane - Air - Aluminium Spacer (Ug 2.63), Min. R0.40

Ceiling joists to Hall, Bedrooms, Bathrooms, and office. 2.7m head height in hall, 2.4m head height to rooms of hall. Refer to BC321 Roof Framing Plan for joist sizing & layout.

Provide back tray flashing as required for flue penetration, install strictly to mannufacturers specification, Refer to BC531 Roof Details.

Raking ceiling within Living/Kitchen area, install cavity as required for services, refer to Formance design guide and manufacturers specification for details.

Formance 215mm SIP Panel roof with Diamond Roofing Wanaka 5 Rib on purlins atop counter battens with 9.5° fall to gutter. Install strictly to manufacturers specifiactions.



Section B-B
Scale: 1:50

125sq H4 Piles 600 or 900 Min depth below CGL (OP or AP Refer BC311) 480Ø 25MPa concrete footing.

2/140x45 Bearers, 2m max. span, supported by AP & OP as per BC311 Foundation Plan

Formance 225mm SIP floor panels, Installed strictly to manufacturers specification.

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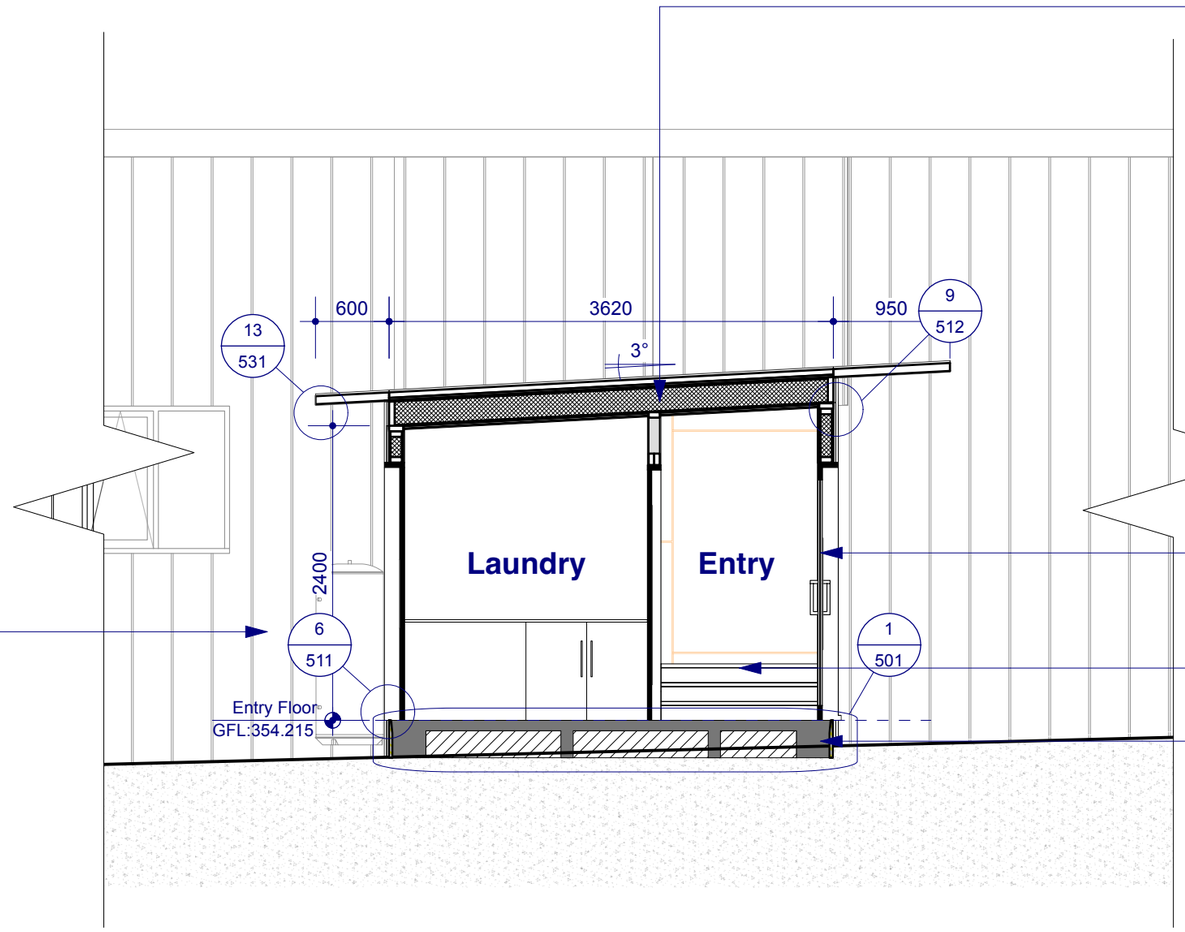
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TITLE Sections B-B

JOB No. 26-158
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SCALE 1:50 @A3

DWG # REVISION

BC402



Formance 215mm SIP Panel roof with Diamond Roofing Wanaka 5 Rib on purlins atop counter battens with 3° fall to gutter. Install strictly to manufacturers specifiactions. Raking ceiling within entry area, install cavity as required for services, refer to Formance design guide and manufacturers specification for details.

All Joinery to be uPVC, Double Pane - Air - Aluminium Spacer (Ug 2.63), Min. R0.40

External HWC to supply house. Refer to BC541 for details.

Provide stairs for access to main dwelling. 280mm min tread, 180mm max rise, Refer BC591 for details.

85mm Firth RibRaft Slab, 220mm RibRaft pods @1200crs, 300mm perimeter edge beams. Provide Firth HotEdge Extra perimeter insulation to entry slab to achieve min R0.84.

Section C-C
Scale: 1:50

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TITLE Sections C-C

JOB No. 26-158
DATE 10/11/2026
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DWG # REVISION

BC403

290x135 Prolam Beam spanning from scullery to external wall. Provide Bearer and Ordinary Piles for point loads and LBW. Refer to BC311 Foundation Plan & BC301. Provide additional support within Formance wall panels as required by manufactures specification.

Formance 215mm SIP Panel roof with Diamond Roofing Wanaka 5 Rib on purlins atop counter battens with 9.5° fall to gutter. Install strictly to manufacturers specifiactions. Raking ceiling within entry area, install cavity as required for services, refer to Formance design guide and manufacturers specification for details.

600 115 7170 115 600

2/511

9.5°

13/531

Raking ceiling within Living/Kitchen area, install cavity as required for services, refer to Formance design guide and manufacturers specification for details.

Formance 115mm SIP wall panels, Installed strictly to manufacturers specification.

2700

3850

Kitchen

Dining

Formance 225mm SIP floor panels, Installed strictly to manufacturers specification.

All Joinery to be uPVC, Double Pane - Air - Aluminium Spacer (Ug 2.63), Min. R0.40

2/511

2/140x45 Bearers, 2m max. span, supported by AP & OP as per BC311 Foundation Plan

Ground Floor
FFL:354.675

Future Deck
(Not part of this consent)

550mm Min.

125sq H4 Piles 600 or 900 Min depth below CGL (OP or AP Refer BC311) 480Ø 25MPa concrete footing.

Section X-X
Scale: 1:50

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TITLE Sections X-X

JOB No. 26-158
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DWG # REVISION

BC411

Standard Timber Framing

Formance SIP Panels

Timber Monopitch Trusses, 90x45 Purlins on flat @900crs max. fixed type U ontop of H3.1 45x20mm counter battens. Diamond Roofing Wanaka 5 Rib roofing installed to manufacturers requirements.

6500

600 90 6320 90 600

600 115 3430 90 525 90 3010 115 600

9.5°

5°

600 OH

2200

15 / 531

14 / 531

13 / 531

Formance SIP Panel roof with Diamond Roofing Wanaka 5 Rib on purlins atop counter battens with 9.5° fall to gutter. Install strictly to manufacturers specifiactions.

11 / 521

2500

Garage

Entry

2700

Hall

WR

2400

Bed 3

Ceiling joists to Hall, Bedrooms, Bathrooms, and office. 2.7m head height in hall, 2.4m head height to rooms of hall. Refer to BC321 Roof Framing Plan for joist sizing & layout.

2 / 5111

2700

225

550 Min.

Ground Floor
FFL:354.675

Garage
GFL:354.215

6 / 511

85mm Firth RibRaft Slab, 220mm RibRaft pods @1200crs, 300mm perimeter edge beams. HotEdge Extra Perimeter insulation required at Entry/L'dry area to Meet H1. Slab Min R value to be R0.84 within entry area.

All Joinery to be uPVC, Double Pane - Air - Aluminium Spacer (Ug 2.63), Min. R0.40

Wall into garage to be end of thermal evelope. This door to be min. R0.50 Solid core with min 90mm R1.8 Pink Batts insulation.

125sq H4 Piles 600 or 900 Min depth below CGL (OP or AP Refer BC311) 480Ø 25MPa concrete footing.

Formance 225mm SIP floor panels, Installed strictly to manufacturers specification.

Slab extended 90mm under subfllor for Foundation wall to support in between bearers and stair void, Insulated with min. 90mm R1.8 Pink Batts.

Stairs 460mm rise total. 3x Risers 190 mm max., min. Treads 280 mm, max. pitch 37°, nosing 25 mm max. Handrail 1000 mm above pitchline. All to comply with NZBC D1/AS1 and F4/AS1. Refer to BC591 for stair details.

Section Y-Y

Scale: 1:50

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TITLE Section Y-Y

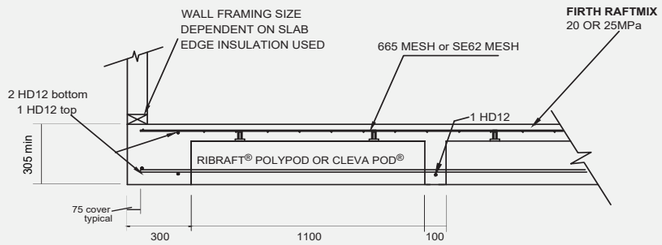
JOB No. 26-158

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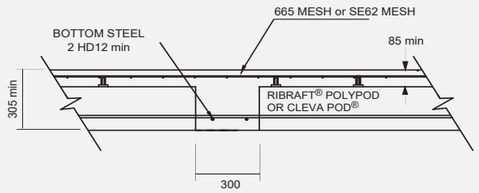
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DWG # REVISION

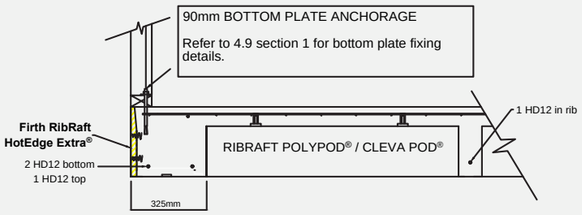
BC412



A PERIMETER BEAM & RIB CONSTRUCTION DETAIL

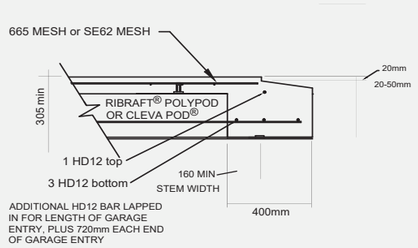


B SECTION UNDER INTERNAL LOAD-BEARING WALLS



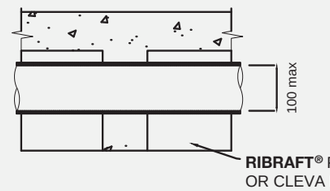
B 220mm FIRTH RIBRAFT® POLYPOD
90mm WALL FRAME HOTEDGE EXTRA®
FIRTH RAFTMIX 20 OR 25MPa

Figure 4A.

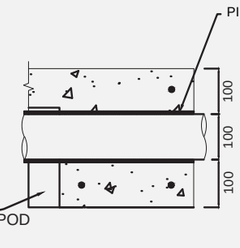


D GARAGE DOOR CONSTRUCTION DETAIL

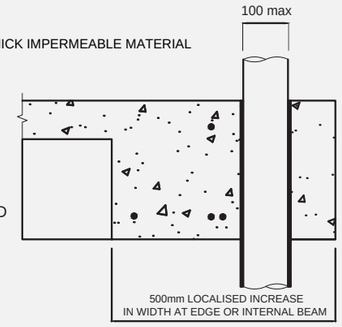
Figure 4B

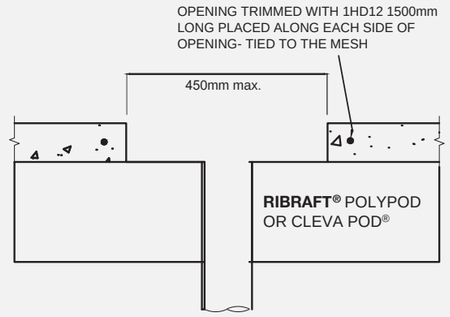


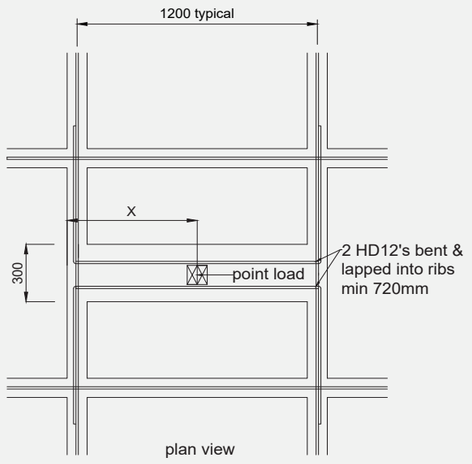
HORIZONTAL PENETRATION
THROUGH RIB

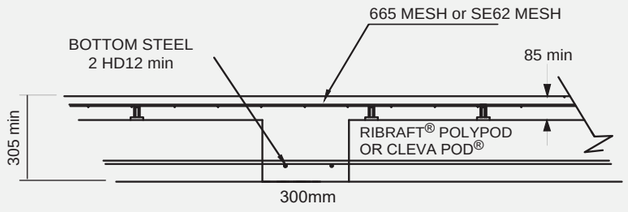


HORIZONTAL PENETRATION
THROUGH EDGE BEAM

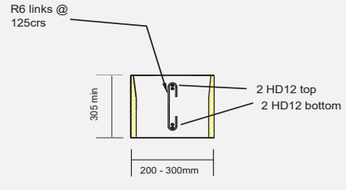








SECTION UNDER INTERNAL LOAD-BEARING WALLS



TIMBER FRAMING WINGWALL SECTION

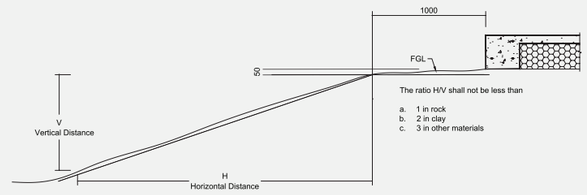


Figure 15. Temporary Excavation Limited

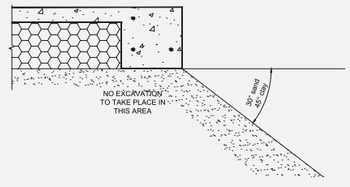
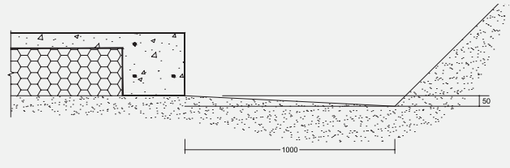


Figure 16. Site Grading



1 - **RIB RAFT SLAB DETAILS**
NTS

REVISION DATE NOTE

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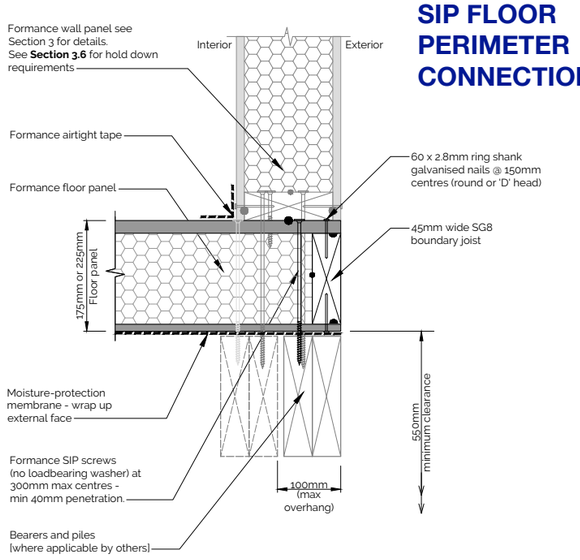
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Proposed Residence
30 Koreke Loop, Lake Hawea

TITLE Foundation Details

JOB No. 26-158
DATE 10/11/2026
SCALE As Noted @A3

DWG # **BC500** REVISION

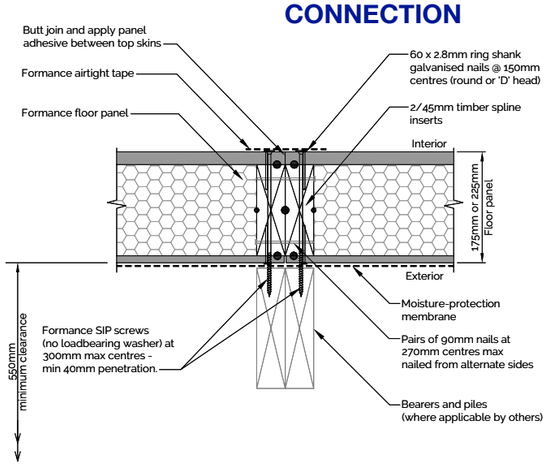
SIP FLOOR PERIMETER CONNECTION



LEGEND
- EXPANDING FOAM
- ADHESIVE

Note:
- Floor panel joints will be determined by Formance at shop drawing stage
- Subfloor spaces must be adequately ventilated.

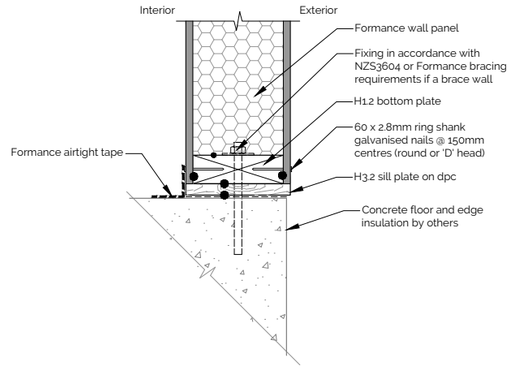
SIP FLOOR BEARER CONNECTION



LEGEND
- EXPANDING FOAM
- ADHESIVE

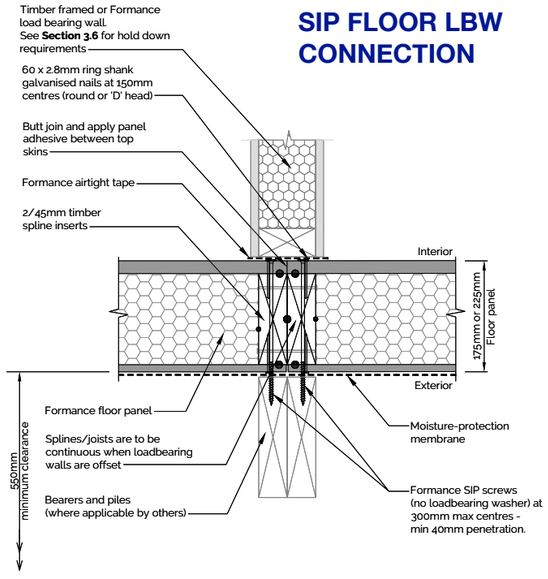
Note:
- Floor panel joints will be determined by Formance at shop drawing stage
- Subfloor spaces must be adequately ventilated.

SIP WALL SLAB CONNECTION



LEGEND
- EXPANDING FOAM
- ADHESIVE

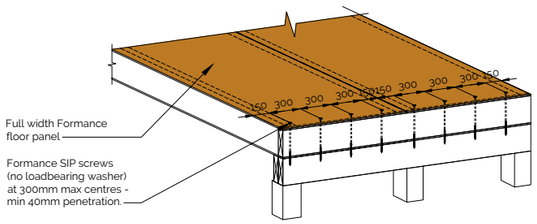
SIP FLOOR LBW CONNECTION

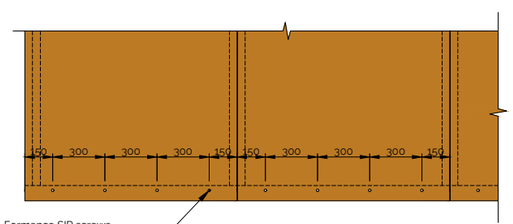


LEGEND
- EXPANDING FOAM
- ADHESIVE

Note:
- Floor panel joints will be determined by Formance at shop drawing stage
- Subfloor spaces must be adequately ventilated.

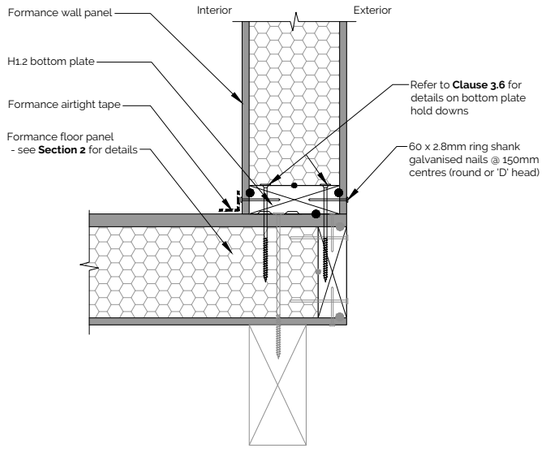
SIP SCREW SETOUT





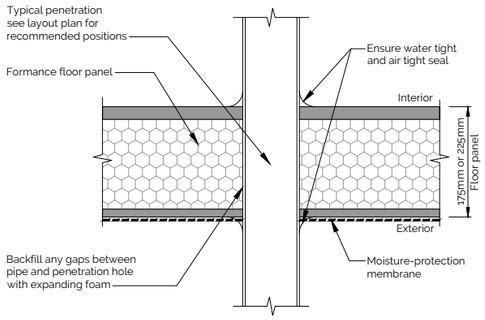
TOP VIEW

BOTTOM PLATE CONNECTION



LEGEND
- EXPANDING FOAM
- ADHESIVE

SIP FLOOR PENETRATION



LEGEND
- EXPANDING FOAM
- ADHESIVE

Note:
- Floor panel joints will be determined by Formance at shop drawing stage
- Subfloor spaces must be adequately ventilated.

SIP PANEL FLOOR DETAILS

NTS

REFER TO SECTION 2 OF FORMANCE DESIGN GUIDE V2 FOR FULL DETAILS

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REVISION	DATE	NOTE

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TITLE SIP Floor Details

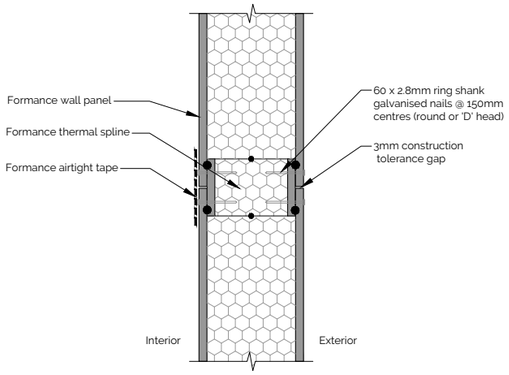
JOB No. 26-158

DATE 10/11/2026

SCALE As Noted @A3

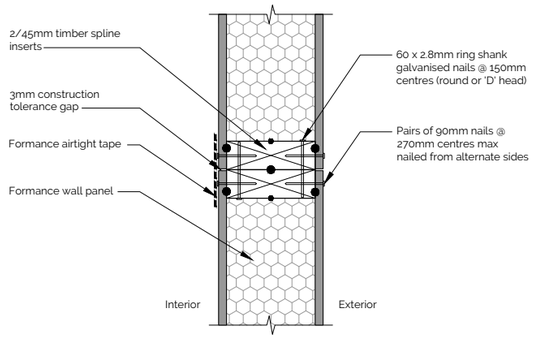
DWG # BC501

REVISION



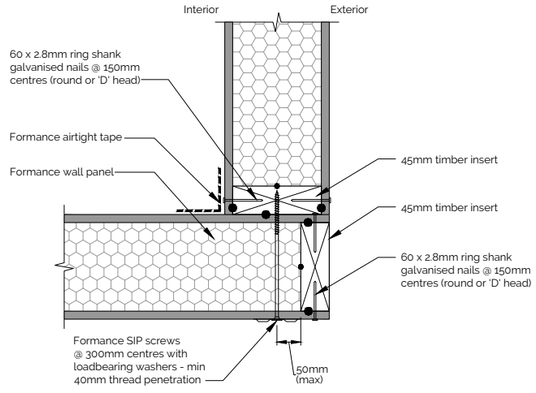
LEGEND
- EXPANDING FOAM
- ADHESIVE

THERMAL SPLINE CONNECTION



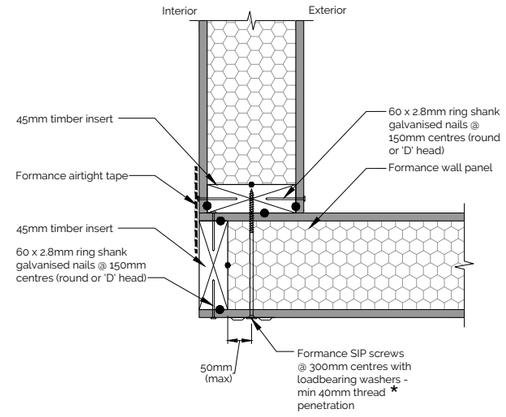
LEGEND
- EXPANDING FOAM
- ADHESIVE

TIMBER SPLINE CONNECTION



LEGEND
- EXPANDING FOAM
- ADHESIVE

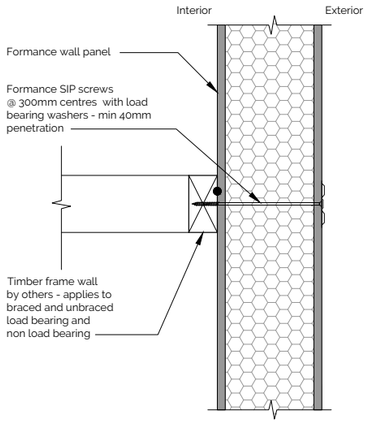
EXTERNAL CORNER CONNECTION



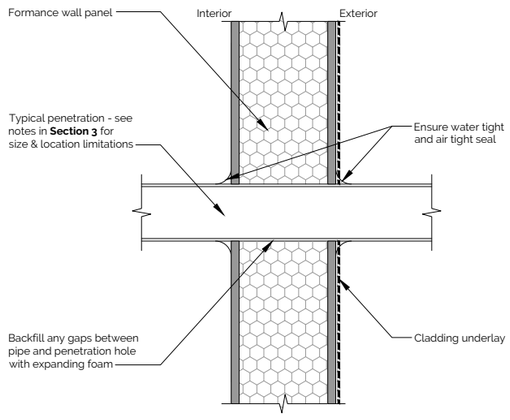
LEGEND
- EXPANDING FOAM
- ADHESIVE

Note:
* Washer can be omitted on internal corner junctions if the surface is required to be flush - ensure screw is not over tightened

INTERNAL CORNER CONNECTION



TIMBER FRAME TO SIP WALL CONNECTION



WALL PENETRATION

LEGEND
- EXPANDING FOAM
- ADHESIVE

SIP PANEL WALL DETAILS

NTS

REFER TO SECTION 3 OF FORMANCE DESIGN GUIDE V2 FOR FULL DETAILS

REVISION DATE NOTE

iDESIGN

FORMANCE

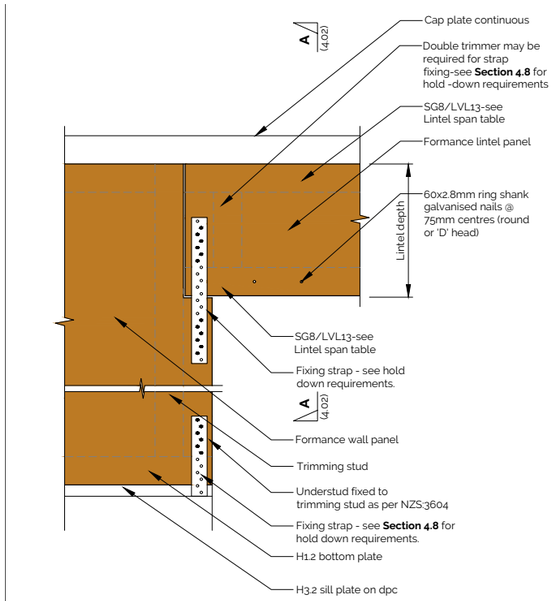
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TITLE SIP Wall Details

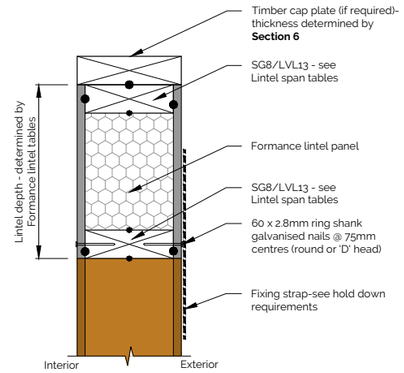
JOB No. 26-158
DATE 10/11/2026
SCALE As Noted @A3

DWG # BC502 REVISION



LEGEND
- EXPANDING FOAM
- ADHESIVE

FORMANCE LINTEL FRONT



SECTION A - A
(4.01)

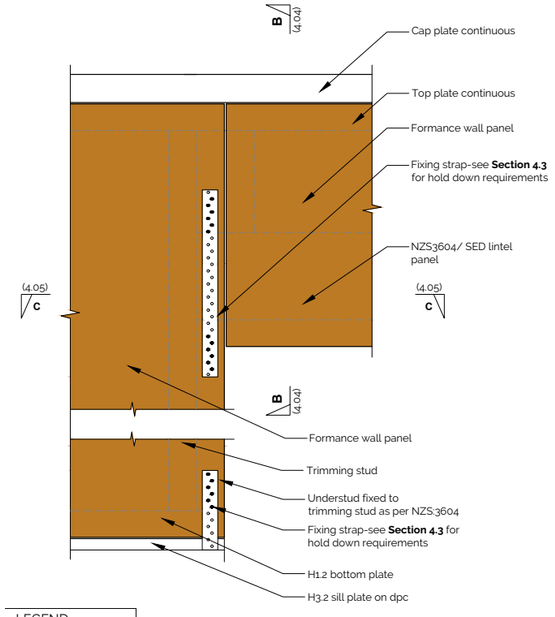
LEGEND
- EXPANDING FOAM
- ADHESIVE

FORMANCE LINTEL SECTION

SIP PANEL LINTEL DETAILS

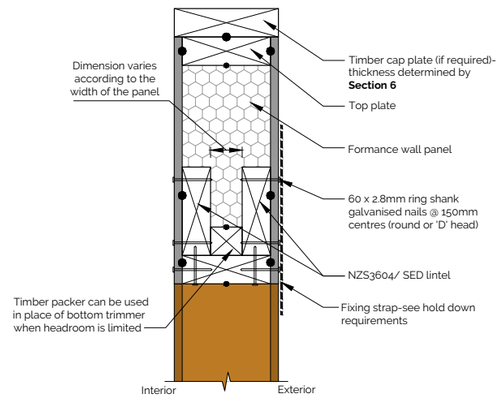
NTS

REFER TO SECTION 4 OF FORMANCE DESIGN GUIDE V2 FOR FULL DETAILS



LEGEND
- EXPANDING FOAM
- ADHESIVE

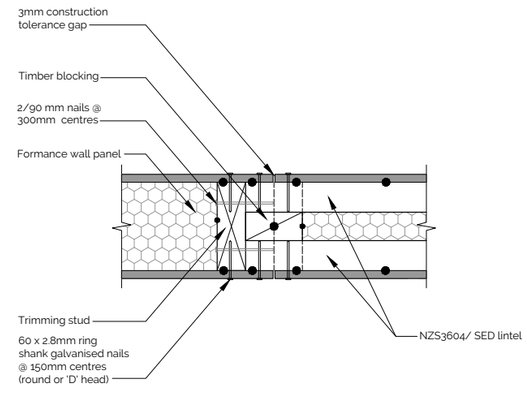
SIP TYPICAL LINTEL FRONT



SECTION B - B
(4.03)

LEGEND
- EXPANDING FOAM
- ADHESIVE

SIP TYPICAL LINTEL SECTION



SECTION C - C
(4.03)

LEGEND
- EXPANDING FOAM
- ADHESIVE

SIP TYPICAL LINTEL PLAN

REVISION DATE NOTE

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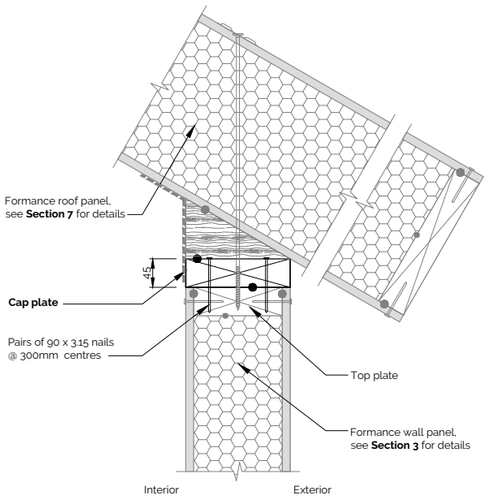
FORMANCE

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TITLE SIP Lintel Details

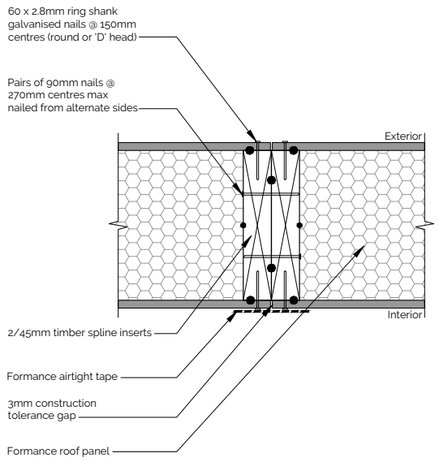
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DATE 10/11/2026
SCALE As Noted @A3

DWG # **BC503** REVISION



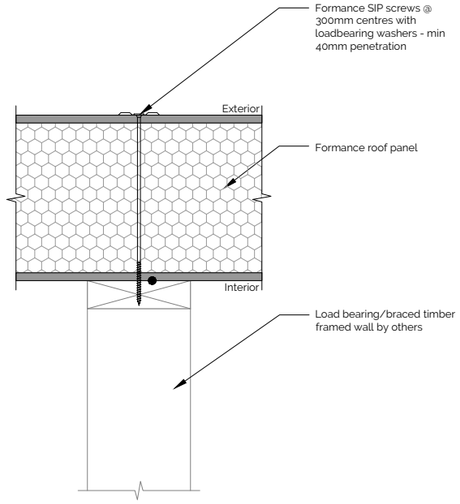
CAP PLATE

LEGEND
- EXPANDING FOAM
- ADHESIVE



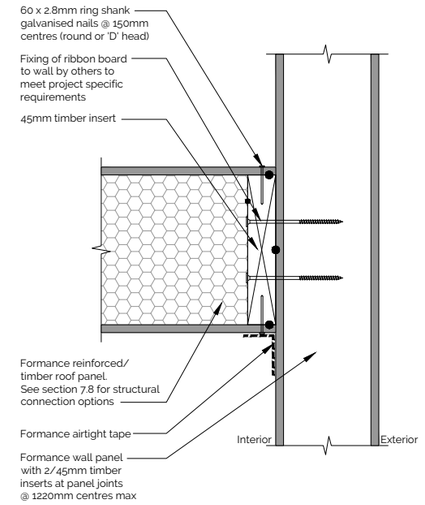
TIMBER SPLINE

LEGEND
- EXPANDING FOAM
- ADHESIVE



INTERNAL WALL CONNECTION

LEGEND
- EXPANDING FOAM
- ADHESIVE



SIP ROOF TO SIP WALL CONNECTION

SIP PANEL ROOF DETAILS

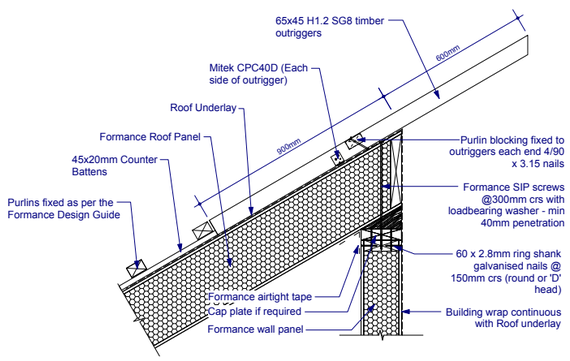
NTS

REFER TO SECTION 7 OF FORMANCE DESIGN GUIDE V2 FOR FULL DETAILS

Note: To be read in conjunction with BC531 Roofing details & section 7 Formance Design Guide V2

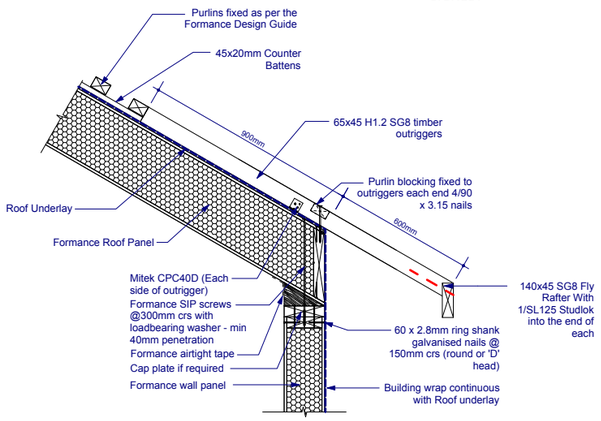
AMX STRUCTURES
Michael Heather MEng(hons) CPEng
092130775
office@amxstructures.co.nz

DATE: 10/11/2026
CPENG: **1025672**
SIGNED:



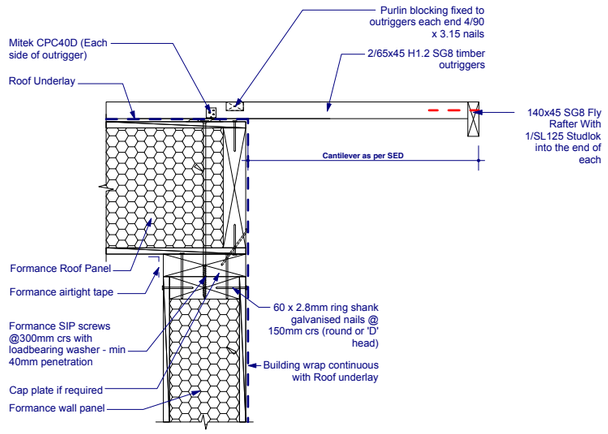
SIP SOFFIT - RIDGE CONNECTION

To be read in conjunction with Formance Detail 7.25



SIP SOFFIT - EAVE CONNECTION

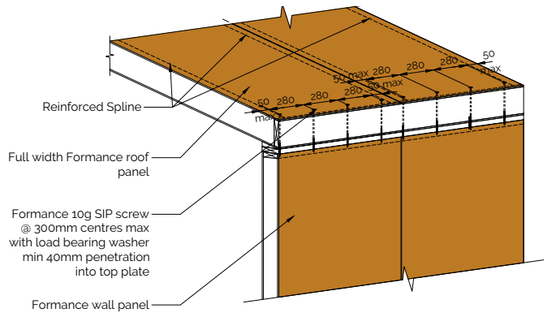
To be read in conjunction with Formance Detail 7.28

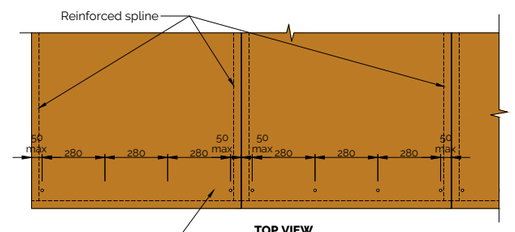


SIP SOFFIT - BARGE CONNECTION

To be read in conjunction with Formance Detail 7.22

SCREW SETOUT





Note:
*300mm max (280mm suits a full panel layout)

REVISION	DATE	NOTE

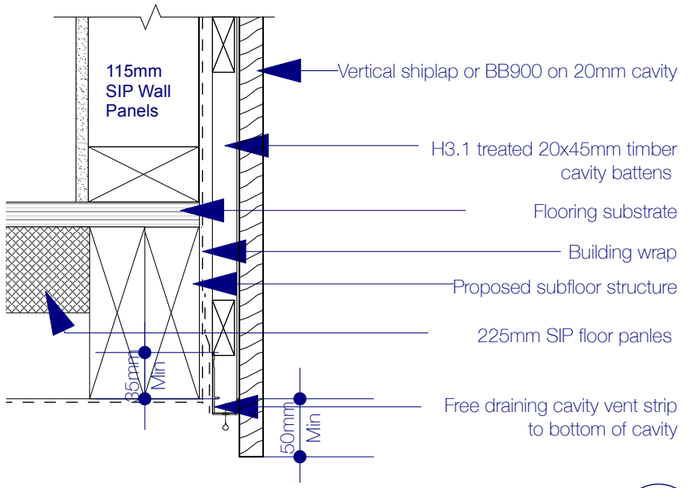
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TITLE SIP Roof Details

JOB No. 26-158
DATE 10/11/2026
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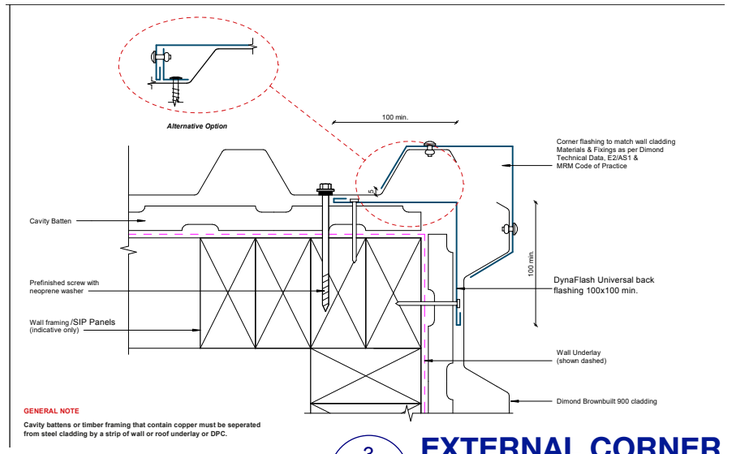
DWG # **BC504** REVISION



OVERHANG/VERTICAL CLADDING BASE DETAIL-TIMBER SUBFLOOR

2 / -

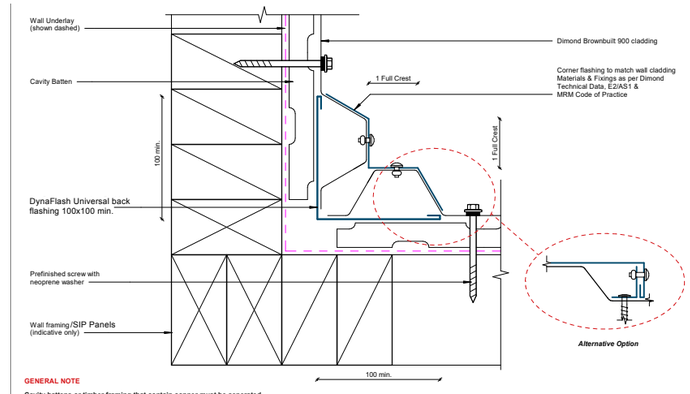
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EXTERNAL CORNER DETAIL

3 / -

NTS



INTERNAL CORNER DETAIL

4 / -

NTS

INTERNAL CORNER SHIPLAP TIMBER CLADDING JUNCTION

5 / -

1:5

GROUND CLEARANCE NOTE

	Application
25mm	Clearance at Garage door
35mm	Sheltered areas or cladding abutting a deck
75mm	Unlined buildings
100mm	Lined buildings and dwellings. Stone chip ground surface
150mm	Kept lawn ground surface
175mm	Pasture ground surface

BASE DETAIL

6 / -

NTS

TYPICAL FLASHING DETAIL

NTS



OVERHANG/VERTICAL CLADDING BASE DETAIL-SLAB SUBFLOOR

6a / -

1:5

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REVISION DATE NOTE

Adolph & Huggins

Proposed Residence

30 Koreke Loop, Lake Hawea

TITLE Cladding Details

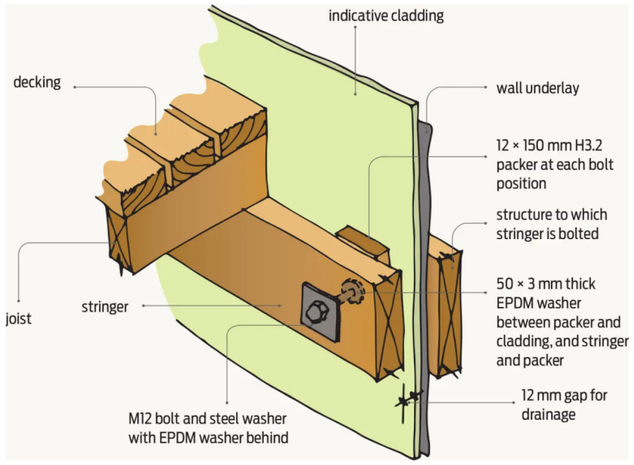
JOB No. 26-158

DATE 10/11/2026

SCALE As Noted @A3

DWG # REVISION

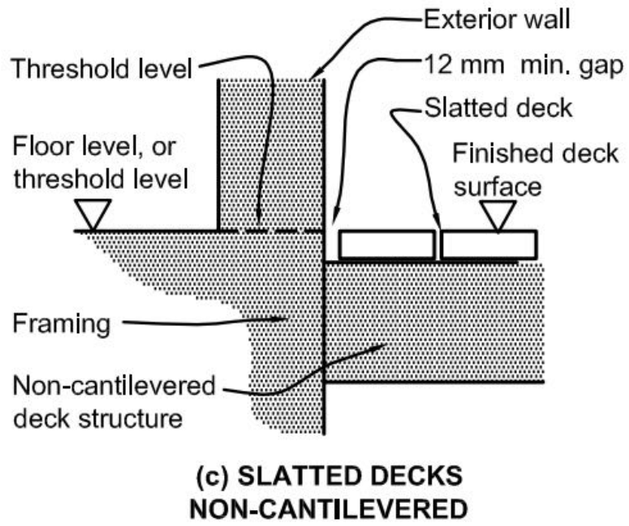
BC511



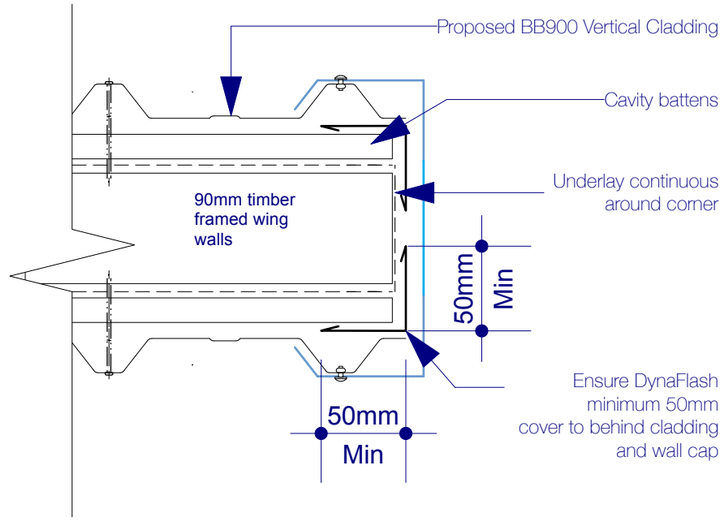
6b / -

DECK EXTERNAL WALL JUNCTION DETAILS

NTS



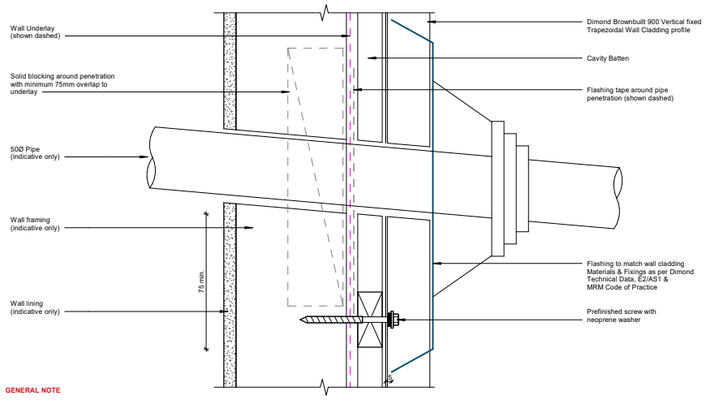
(c) SLATTED DECKS NON-CANTILEVERED



8 / -

WING WALL END DETAIL

1:5

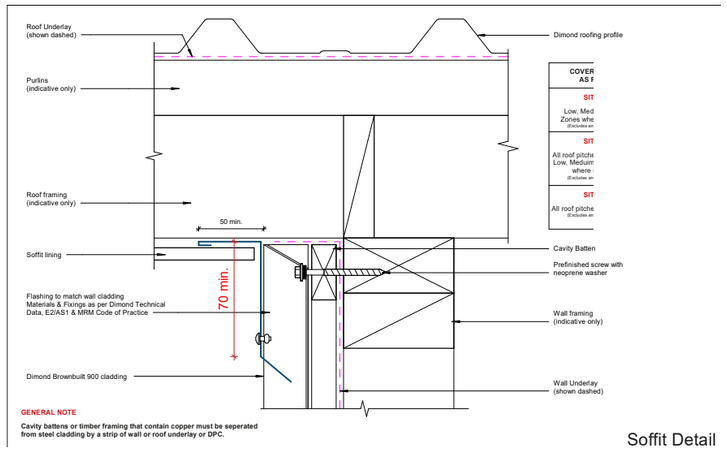


Pipe Penetration Detail

7 / -

PIPE PENETRATION DETAIL

NTS



Soffit Detail

9 / -

CLADDING SOFFIT JUNCTION DETAIL

NTS

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TITLE Cladding Details

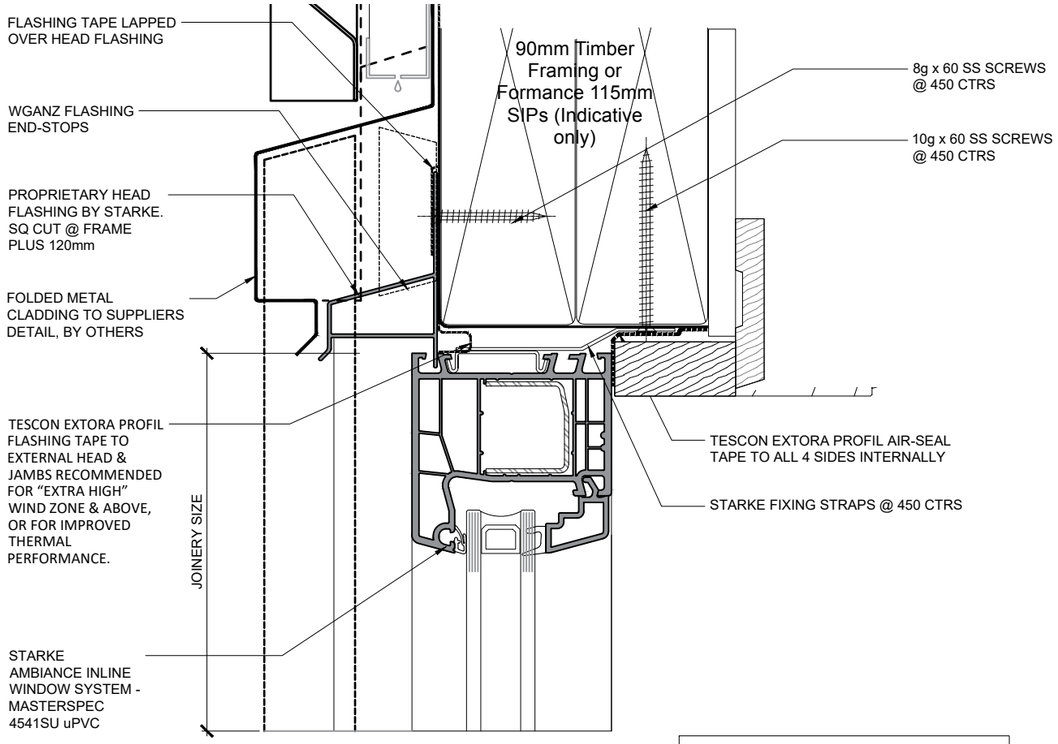
JOB No. 26-158

DATE 10/11/2026

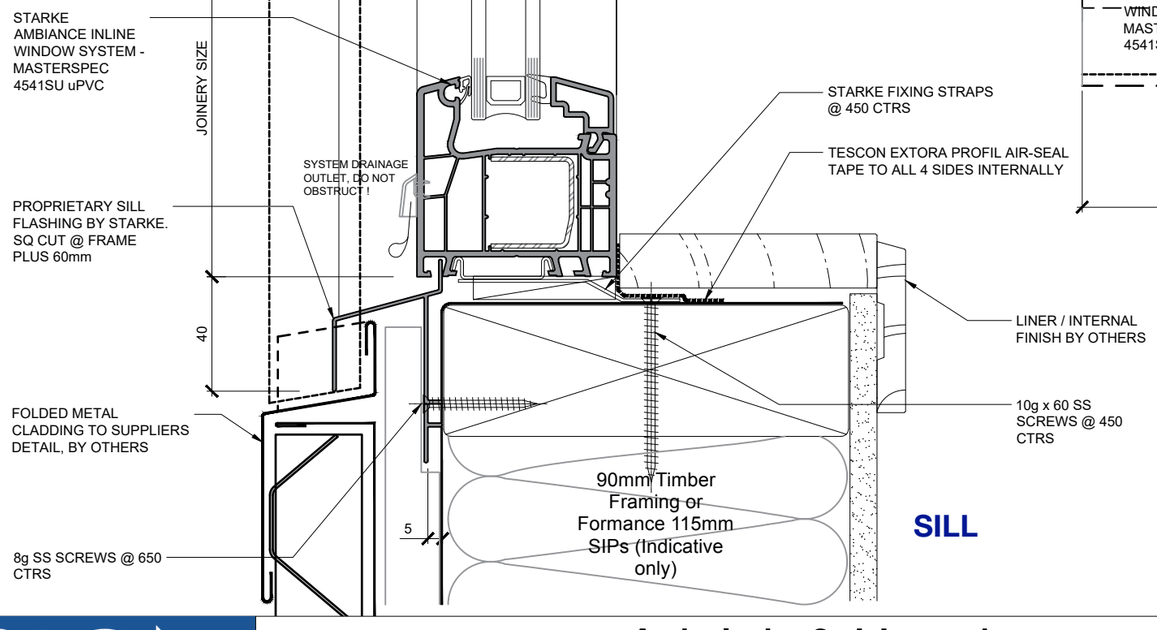
SCALE As Noted @A3

DWG # REVISION

BC512



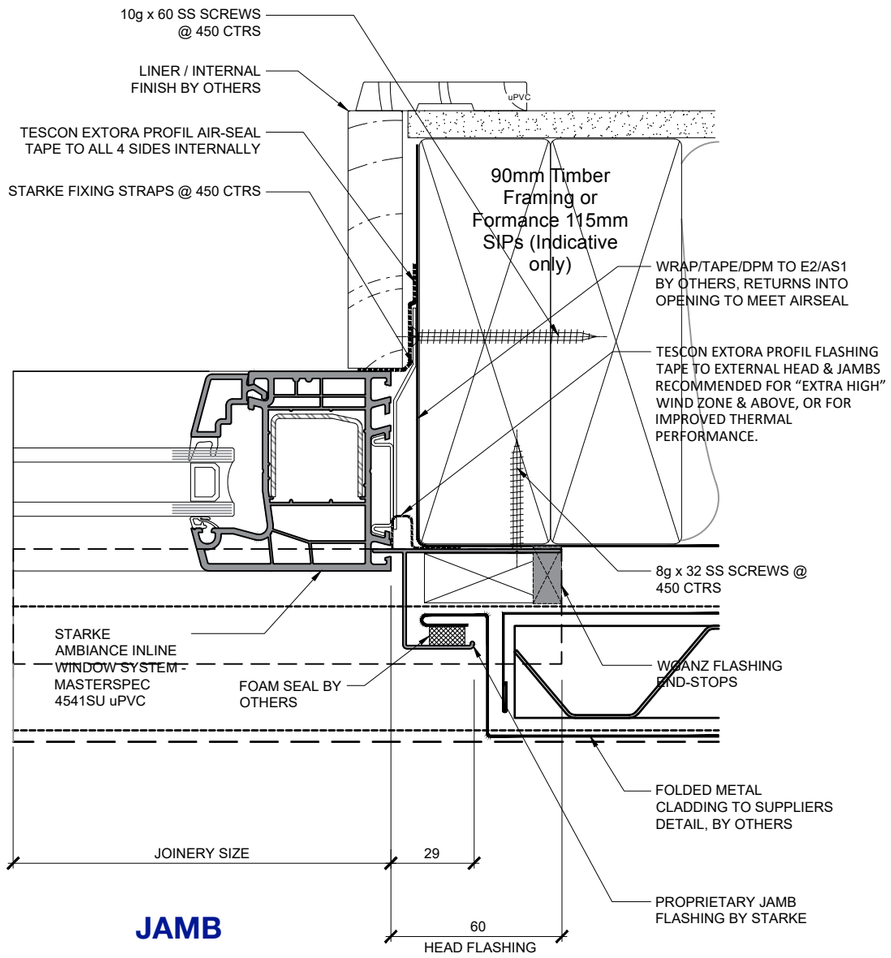
HEAD



SILL

CLADDING DETAILS ARE INDICATIVE ONLY & WILL VARY WITH CLADDING TYPE & SUPPLIER.

NO PEF ROD, FOAM OR WET SEALANT REQUIRED.
AIR-TIGHTNESS IS PROVIDED BY AIR-SEAL TAPE



JAMB

11 / - **JOINERY DETAILS**
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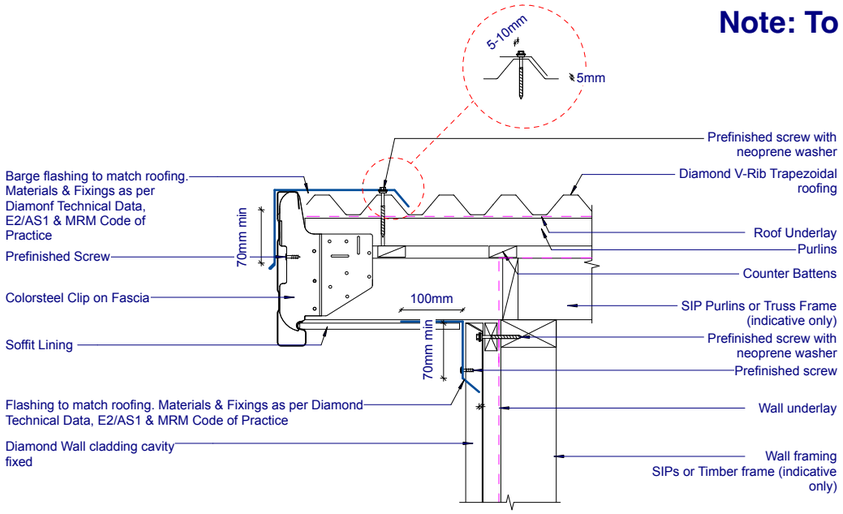
Adolph & Huggins
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TITLE Joinery Details

JOB No. 26-158
DATE 10/11/2026
SCALE As Noted @A3

DWG # **BC521** REVISION

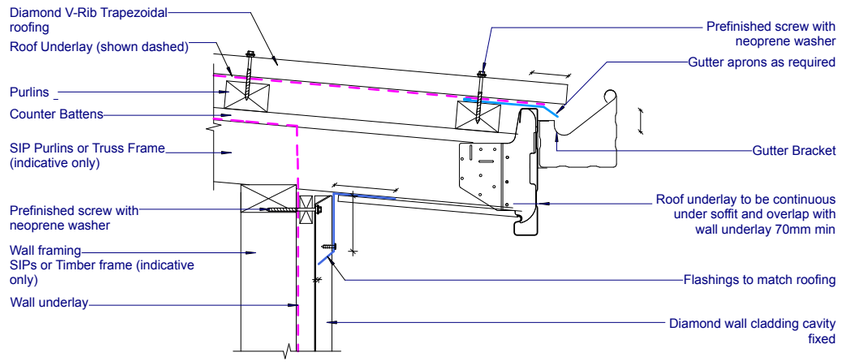
Note: To be read in conjunction with BC504 SIP Roof details & section 7 Formance Design Guide V2



12 / -

BARGE SOFFIT DETAIL

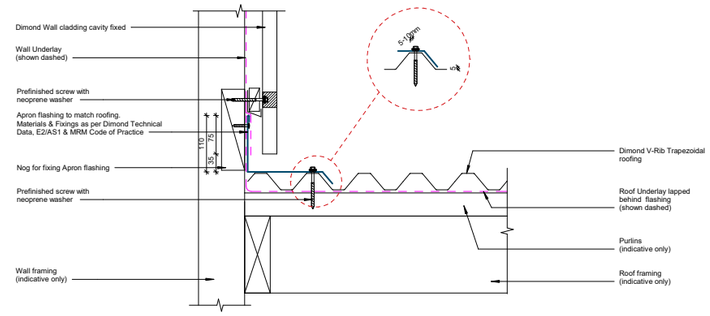
NTS



13 / -

EAVE DETAIL

NTS



GENERAL NOTE

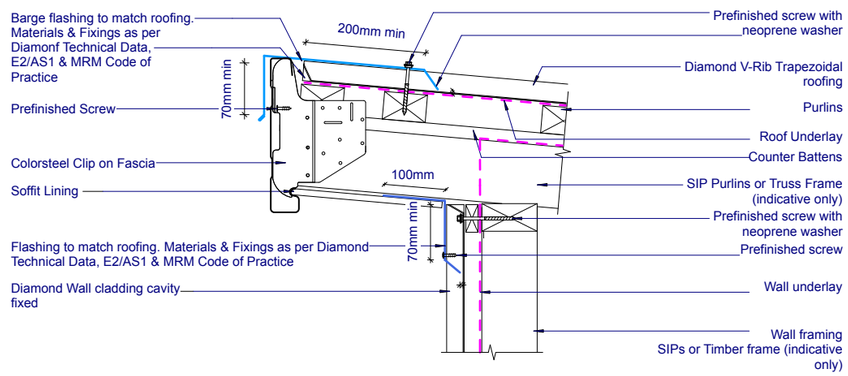
Cavity battens or timber framing that contain copper must be seperated from steel cladding by a strip of wall or roof underlay or DPC.

Apron Parallel Detail

14 / -

APRON PARALLEL DETAIL

NTS

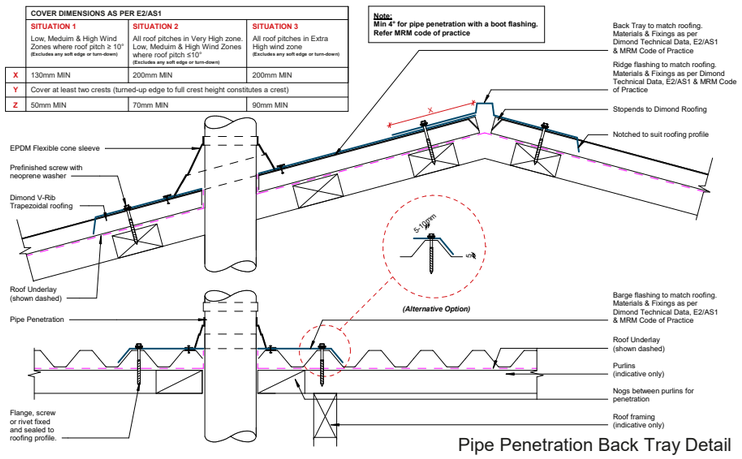


15 / -

RAKING BARGE DETAIL

NTS

COVER DIMENSIONS AS PER E2/AS1			
	SITUATION 1 Low, Medium & High Wind Zones where roof pitch ≥ 10° (Excludes any soft edge or turn-down)	SITUATION 2 All roof pitches in Very High zone. Low, Medium & High Wind Zones where roof pitch ≤10° (Excludes any soft edge or turn-down)	SITUATION 3 All roof pitches in Extra High wind zone (Excludes any soft edge or turn-down)
X	130mm MIN	200mm MIN	200mm MIN
Y	Cover at least two crests (turned-up edge to full crest height constitutes a crest)		
Z	50mm MIN	70mm MIN	90mm MIN

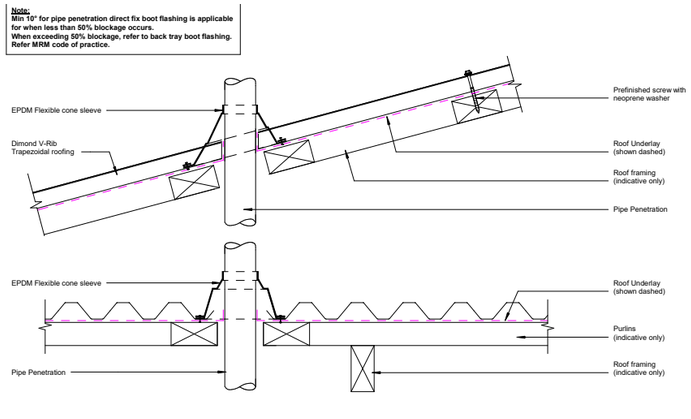


Pipe Penetration Back Tray Detail

16 / -

PIPE PENETRATION DETAIL

NTS



Pipe Penetration Direct Fix Detail

17 / -

PIPE PENETRATION DIRECT FIX DETAIL

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TITLE Roofing Details

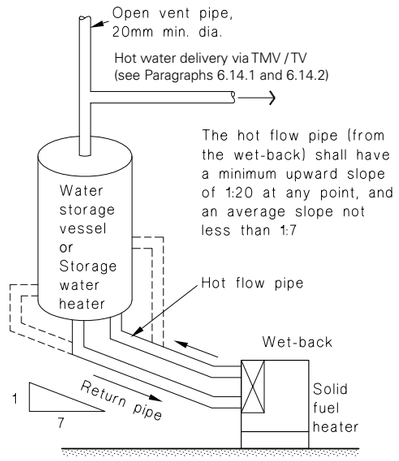
JOB No. 26-158

DATE 10/11/2026

SCALE As Noted @A3

DWG # **BC531** REVISION

Figure 15: Wet-back Installation – Open Vented System
Paragraph 6.13.1 b)



6.14 Safe water temperatures

6.14.1 Maximum temperatures

The delivered hot water temperature at the outlet of any *sanitary fixture* used for personal hygiene shall not exceed:

a) 45°C for *early childhood education and care centres*, schools, old people's homes, institutions for people with psychiatric or physical disabilities, hospitals, and

b) 50°C for all other buildings.

COMMENT:

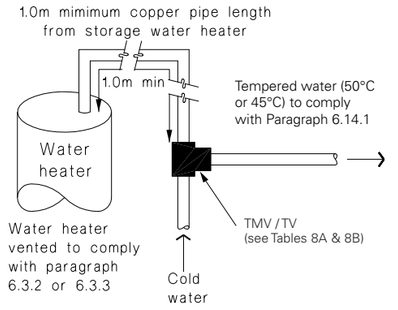
1. At greatest risk from scalding are children, the elderly, and people with physical or intellectual disabilities, particularly those in institutional care.
2. *Sanitary fixtures* used for personal hygiene includes showers, baths, hand basins and bidets.
3. For licensing purposes for *early childhood education and care centres*, the Ministry of Education requires the temperature of water delivered from taps that are accessible to children does not exceed 40°C.

6.14.2 Delivery temperature control devices

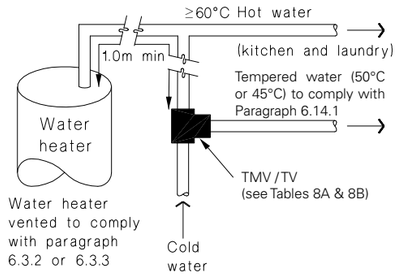
Devices for limiting the hot water temperature delivered to *sanitary fixtures* used for personal hygiene shall comply with Table 8A and Table 8B.

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

Amend 13 Nov 2023
Amend 5 Feb 2004



(a) Where all hot water is tempered



(b) With untempered hot water to laundry and kitchen fixtures and appliances

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

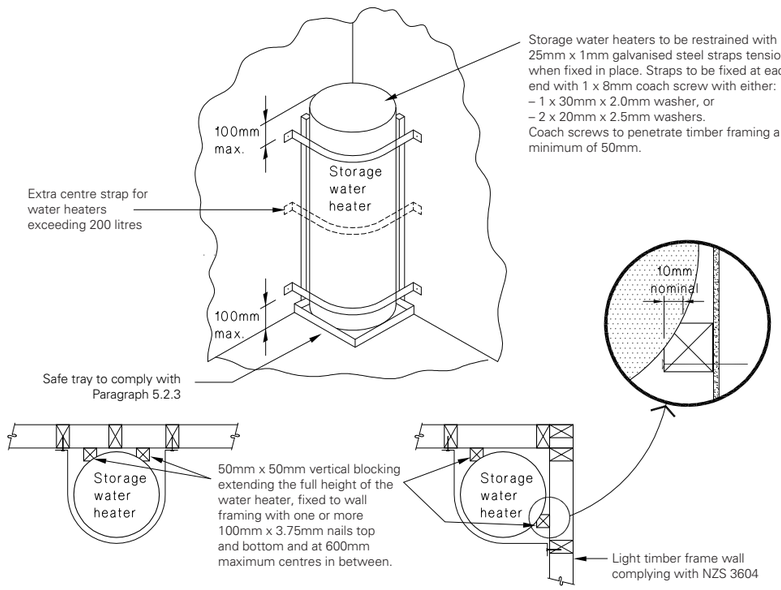
6.14.3 Legionella bacteria

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.

Amend 13 Nov 2023
Third Edition Dec 2007
Amend 5 Feb 2004

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

Amend 5 Feb 2004
Amend 14 Nov 2024



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.
5. A maximum total of four straps are required when complying with both Note 1 and Note 4.

Amend 13 Nov 2023

Amend 5 Feb 2004

6.11.4 Structural Support

NZBC B1.3.2 requires *building elements* (including *storage water heaters*) to be adequately supported including support against earthquake forces. The method illustrated in Figure 14 is acceptable for *water heaters* up to 360 litre capacity. Where fittings and pipework are attached to the *water heater* through the supporting platform or floor a 50 mm minimum clearance shall be provided between the fitting and the support structure.

Amend 13 Nov 2023

6.12 Hot water pipe sizes

6.12.1 The *diameter* of hot water supply pipes from *storage water heaters* and to *sanitary fixtures* shall be no less than those required by Table 4.

6.13 Wet-back water heaters

6.13.1 Wet-back water heating systems shall be:

a) Designed and installed in accordance with NZS 4603 Part 4, and

b) Connected only to open vented *storage water heaters*, or open vented storage water vessels (see Figure 15), and

c) Installed using copper pipework between the wet-back and the *water tank*, and

d) The wet-back shall be made of copper.

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TITLE HWC Details
JOB No. 26-158
DATE 10/11/2026
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DWG # BC541
REVISION

CS 4.4 Stormwater Soak Pit Calculation

QUEENSTOWN LAKES DISTRICT COUNCIL

NZBC E1/VM1

How to use: Complete all yellow highlighted values

1. Enter the soakage rate of the ground over a 5 minute duration period

83.35	*enter the average water level drop in mm over 5 minute time period*	
1000.2	soakage rate in mm/hr	***SR***

2. Assess the storm water catchment area

345	*enter the surface catchment area in m2*	
17.1	*enter the local rainfall intensity for QLDC* NIWA High Intensity Rainfall System V4	
0.9	*enter run off coefficient (Table 1 E1/VM1)* NZBC E1	
5.31	run-off discharged from catchment to soak pit in 1 hour (m3)	***RC***

3. Determine base area of the soak hole

3.6	*enter base area in M2 required*	***Asp***

4. Calculate soakage allowance into the bottom of the hole

3.60	soakage allowance for the base of soak hole in m3	***Vsoak***

5. Volume of chamber type soak pit required

1.71	volume of soak hole required for chamber type soak pit (m3)	***Vstor***

6. Volume required for rock filled soak hole

4.50	volume of rock filled soak hole (m3)

E1/VM1 Section 9.0.2 FIELD TEST PROCEDURE

Field testing of soakage shall be carriedout as follows:

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

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

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

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

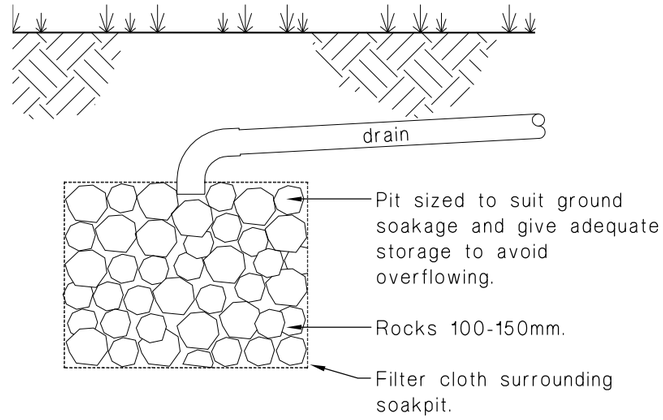
E1/VM1 Section 9.0.4 SOAK PIT CALCULATION

The volume of storage required in the soak pit, Vstor (m3), shall be calculated by:
Vstor = Rc – Vsoak
where
Rc = run-off discharged from catchment to soak pit in 1 hour (m3).
Vsoak = volume disposed of by soakage in 1 hour (m3).
and
Rc = 10CIA
where
C = run-off coefficient (see Table 1).
I = rainfall intensity (mm/hr) based on 1 hour duration of an event having a 10% probability of occurring annually.
A = area (hectares) of the catchment discharging to the soak pit.
and
Vsoak = AspSr/1000
where
Asp = area of the base of the soak pit (m2).
Sr = soakage rate (mm/hr)

E1/VM1 TABLE 1

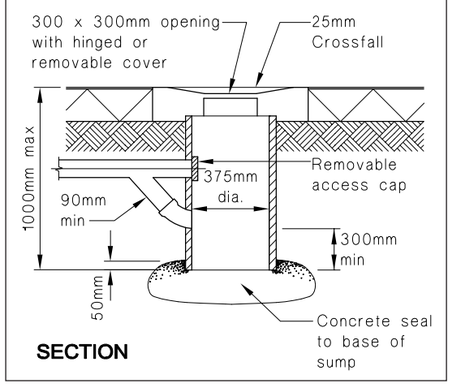
Description of surface	C
Natural surface types	
Bare impermeable clay with no interception channels or run-off control	0.70
Bare uncultivated soil of medium soakage	0.60
Heavy clay soil types:	
– pasture and grass cover	0.40
– bush and scrub cover	0.35
– cultivated	0.30
Medium soakage soil types:	
– pasture and scrub cover	0.30
– bush and scrub cover	0.25
– cultivated	0.20
High soakage gravel, sandy and volcanic soil types:	
– pasture and scrub cover	0.20
– bush and scrub cover	0.15
– cultivated	0.10
Parks, playgrounds and reserves:	
– mainly grassed	0.30
– predominantly bush	0.25
Gardens, lawns, etc.	0.25
Developed surface types	
Fully roofed and/or sealed developments	0.90
Steel and non-absorbent roof surfaces	0.90
Asphalt and concrete paved surfaces	0.85
Near flat and slightly absorbent roof surfaces	0.80
Stone, brick and precast concrete paving panels	
– with sealed joints	0.80
– with open joints	0.60
Unsealed roads	0.50
Railway and unsealed yards and similar surfaces	0.35
Land use types	
Industrial, commercial, shopping areas and town house developments	0.65
Residential areas in which the impervious area is less than 36% of gross area	0.45
Residential areas in which impervious area is 36% to 50% of gross area	0.55

Note:
Where the impervious area exceeds 50% of gross area, use method of Paragraph 2.1.2.



(a) Rock soak pit

Figure 8: Type-one Surface Water Sump
Paragraph 3.6.2



19
-

STORMWATER DETAILS
NTS

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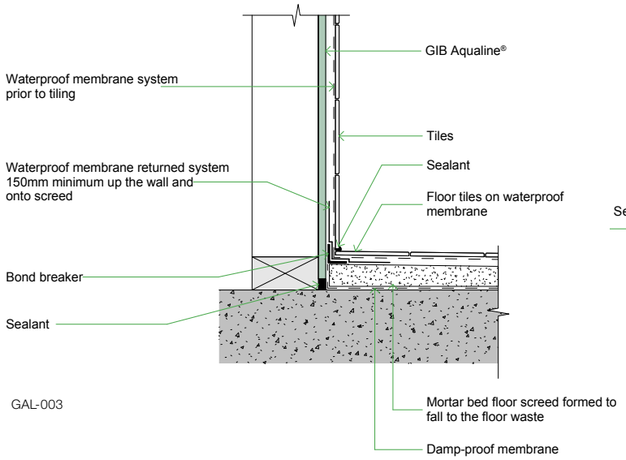
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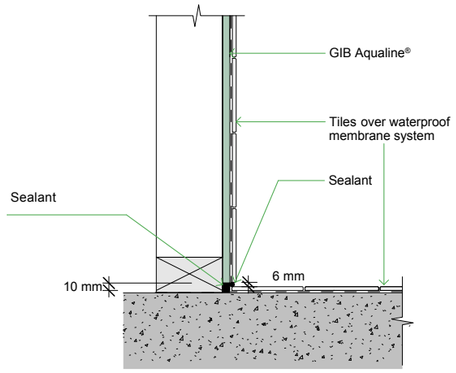
DWG # **BC551** REVISION

A: MORTAR UNDER CERAMIC FLOOR LINING JUNCTION



GAL-003

C: CERAMIC FLOOR LINING JUNCTION



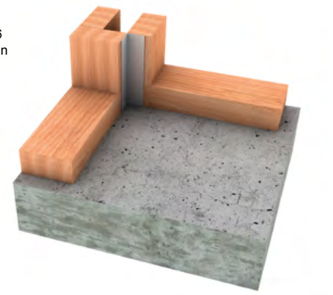
GAL-002A

PREFORMED SHOWER BASE JUNCTIONS

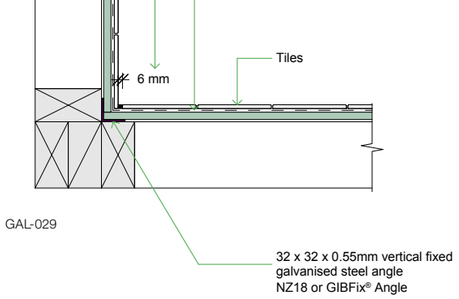
Refer to the shower base manufacturer for proprietary shower tray installation detailing including wet wall lining junction detailing.

D: TILED INTERNAL CORNER METAL ANGLE POSITION

Refer to page 16 of this publication for specification and installation guidance.

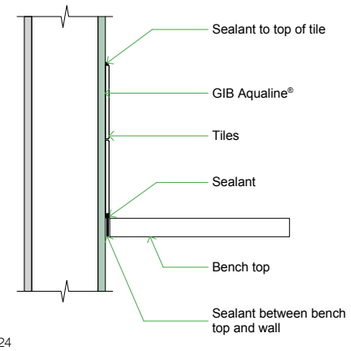


B: TILED INTERNAL CORNER



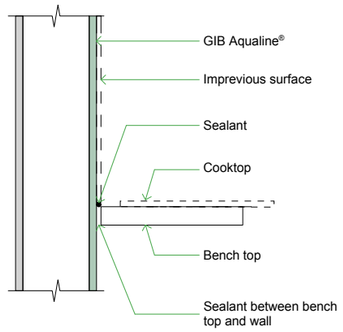
GAL-029

A: BENCH TOP LINING JUNCTION



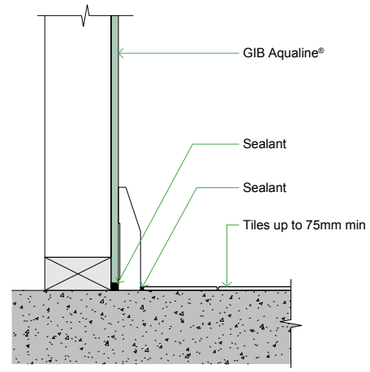
GAL-024

B: COOKTOP LINING JUNCTION



GAL-023B

CERAMIC FLOOR SKIRTING LINING JUNCTION

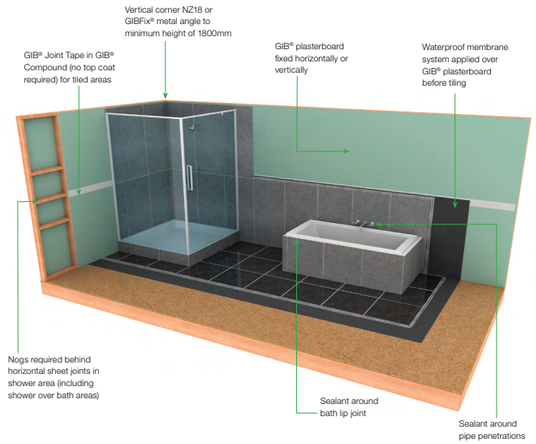


GAL-001A

Wet Area Finishes

Bathrooms: Full-height wall tiling over 13 mm GIB Aqualine lining, with floor tiles installed over approved substrate and waterproofing system. Curbed shower with fully tiled walls, floor and hob. Ceiling lined with 13 mm GIB Aqualine, finished with selected 1/4 rice cake paint texture.

Kitchen: 13 mm GIB Aqualine wall lining to wet areas, with selected tiled splashback. Remaining kitchen wall areas lined with 12 mm CD-grade pine plywood.





E: SHOWER MIXER PENETRATION IN WET WALL LININGS

Refer to the shower mixer manufacturer for shower mixer installation detailing including the use of proprietary products to prevent water or moisture ingress behind the wet wall lining.



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WET AREA DETAILS

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DWG # REVISION

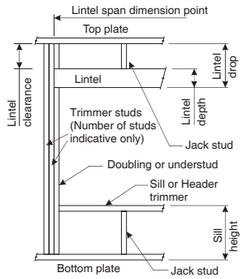
BC561

NOTE: To be read in conjuction with Formance Design Guide V2.0 for SIP fixing specifications

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



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
8.6m²	G	G	H	G	G	H
11.6m²	G	H	H	G	G	H
12.1m²	G	H	H	G	H	H
15.3m²	H	H	-	G	H	H
19.1m²	H	-	-	G	H	-
20.9m²	H	-	-	H	H	-
21.8m²	H	-	-	H	-	-
34.3m²	-	-	-	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

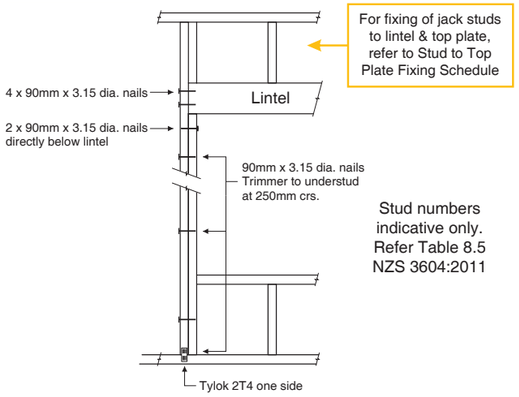
FIXING SELECTION CHART

(Suitable for walls supporting roof members at 600, 900 or 1200mm crs.)
Wind Zones L, M, H, VH, EH, as per NZS 3604:2011

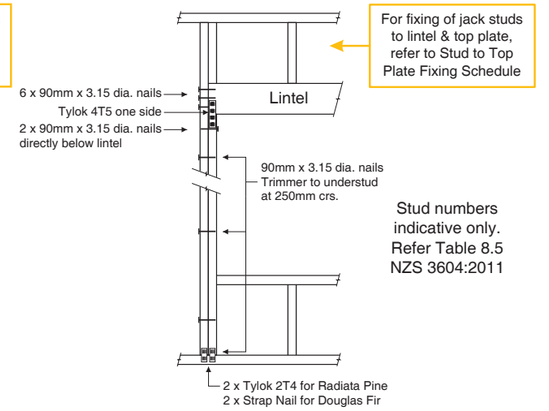
Loaded Dimension (m) Stud Centres			Light Roof Wind Zone					Heavy Roof Wind Zone				
300mm	400mm	600mm	L	M	H	VH	EH	L	M	H	VH	EH
3.0	2.3	1.5	A	A	B	B	B	A	A	B	B	B
4.0	3.0	2.0	A	A	B	B	B	A	A	B	B	B
5.0	3.8	2.5	A	B	B	B	B	A	A	B	B	B
6.0	4.5	3.0	A	B	B	B	B	A	A	B	B	B
7.0	5.3	3.5	A	B	B	B	B	A	A	B	B	B
8.0	6.0	4.0	A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

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
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
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	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
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	6.0	G	H	-	-	-	E	F	H	-	-
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5.4	2.0	F	F	G	H	H	E	F	G	G	H
	2.8	F	G	H	H	-	E	F	G	H	H
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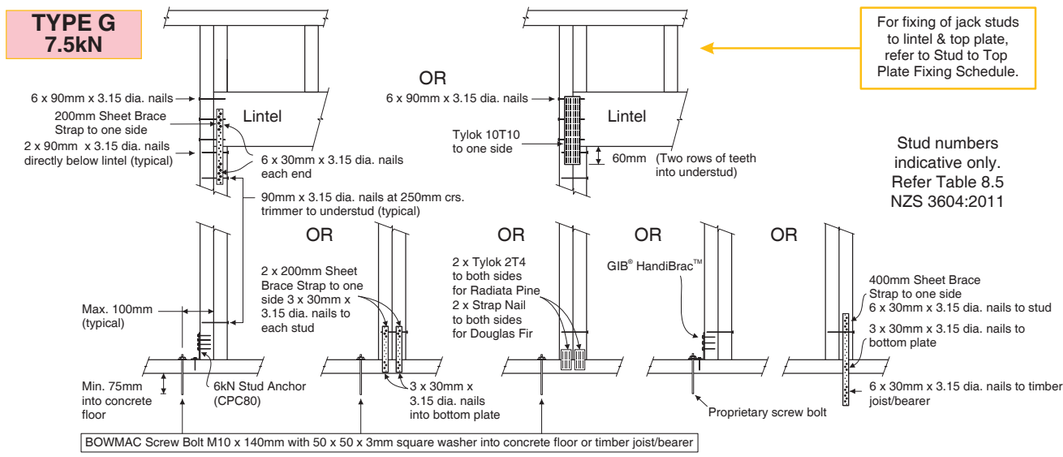
TYPE E 1.4kN

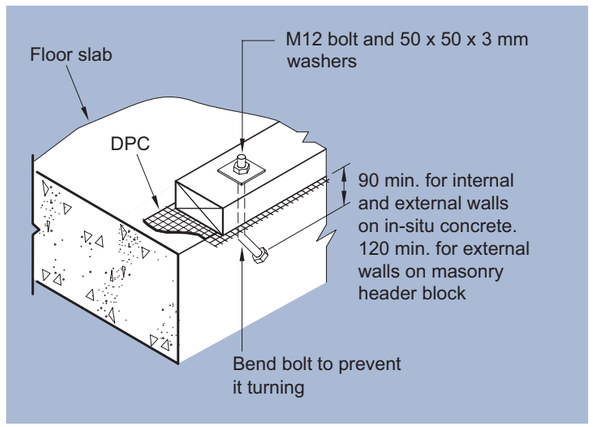


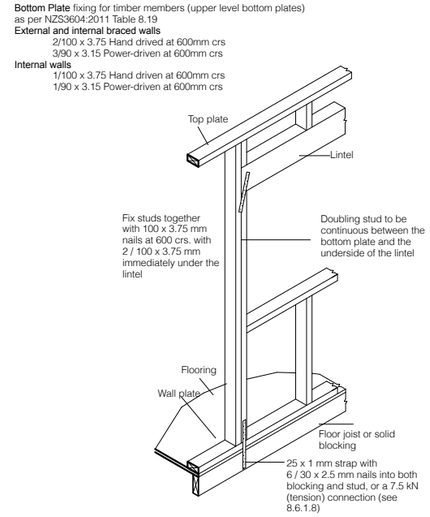
TYPE F 4.0kN



TYPE G 7.5kN







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FIXING DETAILS

NTS

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Proposed Residence
30 Koreke Loop, Lake Hawea

TITLE Fixing Details

JOB No. 26-158
DATE 10/11/2026
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DWG # REVISION

BC571

CLEARANCES AND SPECIFICATIONS

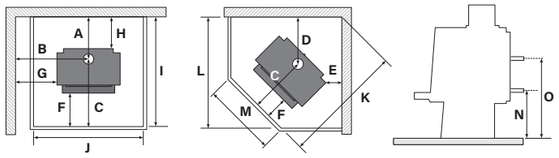
Minimum clearances

All Metro freestanding fires comply with AS/NZS 2918. Minimum installation clearances detailed below are in millimetres (mm) with a Pioneer double flue shield fitted to the appliance/flue pipe. Measurements are taken from the following reference points as illustrated:

- The nearest combustible wall or surface (A, B, D, E, G, H)
- The Metro's flue centre (A, B, C, D)
- The Metro's cabinet/heatshield outermost point (E, F, G, H)
- The edge of the ash floor protectors non-combustible surface (C, F, I, J, K, L, M)

AS/NZS 2918 allows for a reduction in minimum clearances as detailed in Section 3, Tables 3.1 and 3.2 of the Standard.

The Ultra Tiny Rad and Ultra Wee Rad have undergone additional testing with corner wing shields fitted for reduced installation clearances. The footnotes below the table apply to these selected models.



	MINIMUM INSTALLATION CLEARANCES (mm)													DIMENSIONS		
Clean air models	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**K**	**L**	**M**	**WIDTH**	**DEPTH**	**HEIGHT**
Ultra Tiny Rad	280	578	611	430[1]	160[1]	233	320	110	891	725	1220[1]	977[1]	325	515	547	688
Ultra Wee Rad	270	638	581	477[2]	170[2]	235	330	100	851	825	1255[2]	1040[2]	425	615	515	707
Ultra Xtreme Rad	277	635	632	450	100	227	280	100	909	907	1267	1075	507	710	582	722

The Ultra Tiny Rad installed with a Pioneer double flue shield and the Pioneer corner wing shields fitted allows for reduced clearances as follows:

[1] Ultra Tiny Rad corner clearance (E) can be reduced to 125mm. This in turn also reduces clearances (D) to 396mm, (K) to 1171mm and (L) to 943mm. When fitting the Corner Wing Shields the Ultra Tiny Rad must be installed to a corner clearance (E) of not less than 125mm.

The Ultra Wee Rad installed with a Pioneer double flue shield and the Pioneer corner wing shields fitted allows for reduced clearances as follows:

[2] Ultra Wee Rad corner clearance (E) can be reduced to 136mm. This in turn also reduces clearances (D) to 442mm, (K) to 1207mm and (L) to 1005mm. When fitting the Corner Wing Shields the Ultra Wee Rad must be installed to a corner clearance (E) of not less than 136mm measured to the end of the cooktop upstand.

Specifications were correct at the time of printing, but may alter and those detailed within should be used only as a guide. If in doubt, please consult your Metro specialist or metrofires.co.nz.

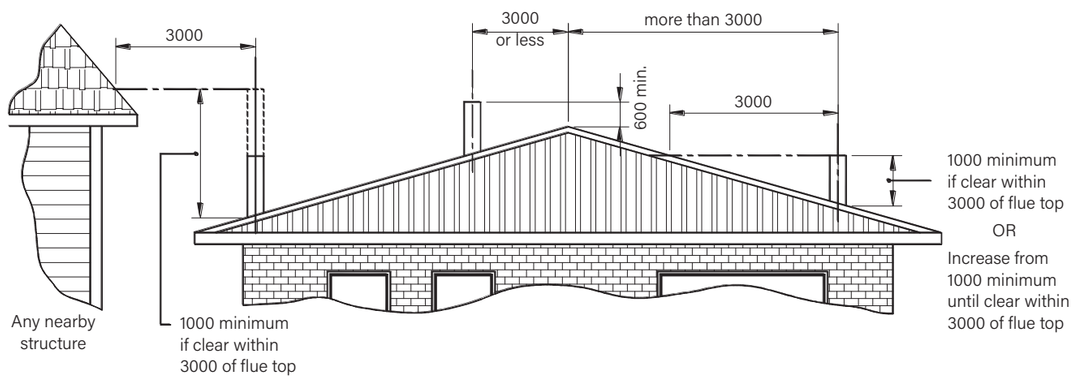
MINIMUM HEIGHTS FOR ALL METRO FLUE SYSTEMS

(In compliance with AS/NZS 2918)

This Standard flue system complies with AS/NZS 2918 and its 4.6 metre height requirement (4.6 metre minimum from the top of the floor protector to the top of the flue pipe). However as external structures and the proximity of other buildings will differ for every installation, some situations will require additional flue height to comply with the standard.

Please refer to Diagram C below. (All measurements in mm).

Note: AS/NZS 2918 Section 4, details flue system installation requirements in full.



STANDARD FLUE SYSTEM COMPONENTS

⚠ WARNING! Important Information

- **This flue kit has been manufactured in accordance with AS/NZS 2918 and tested to Appendix F. To ensure safety, this flue kit must be installed as detailed in these instructions and the appropriate requirements of the relevant building codes.**
- **The appliance to which it is connected to must be installed in accordance with the wood fire manufacturer's specifications and AS/NZS 2918.**
- **These installation instructions are for tested appliances only.**

⚠ CAUTION! Important Information

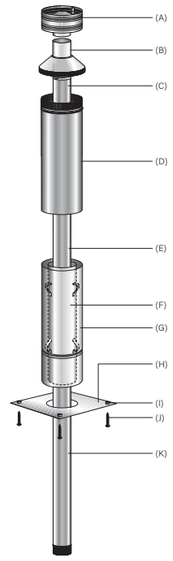
- **Mixing flue system components from different sources or modifying the dimensional specification of components may result in hazardous conditions. Where such action is considered, the manufacturer should be consulted in the first instance.**
- **It is the responsibility of the installer to ensure that the installation of this flue kit complies with AS/NZS 2918, the appliance and flue system manufacturers specifications and that the relevant building codes are adhered to.**
- **Bends and extensions to the length of a flue system are permitted in accordance with AS/NZS 2918.**

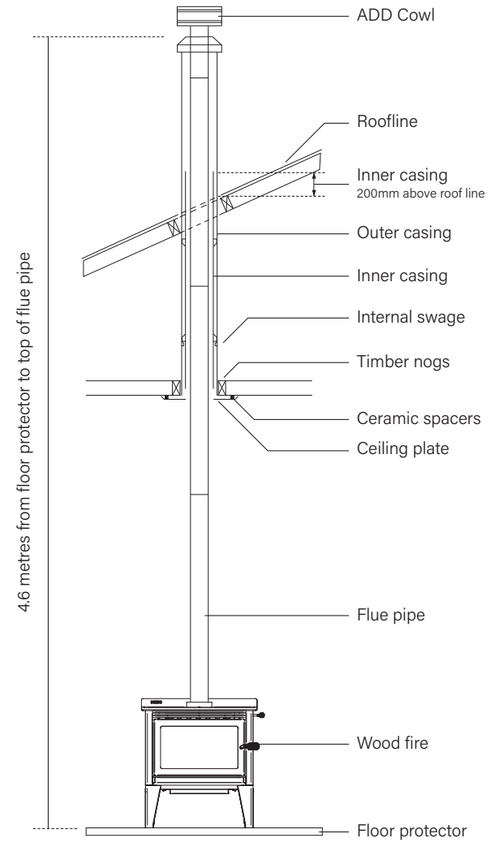
Standard freestanding flue kit components

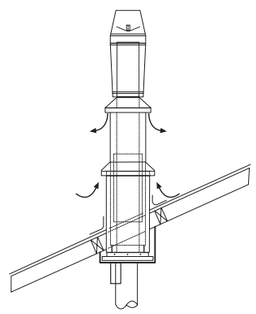
(A)	1 x Anti down-draught cowl (ADD)
(B)	1 x Combination bracket casing cover
(C)	1 x 405x150mm diameter stainless steel flue pipe
(D)	1 x 1200x250mm diameter galvanised outer casing slip extension
(E)	1 x 1200x150mm diameter stainless steel flue pipe
(F)	1 x 1190x200mm diameter galvanised inner casing
(G)	1 x 1200x250mm diameter galvanised outer casing
(H)	1 x ceiling plate (345x345mm)
(I)	4 x ceramic spacers
(J)	4 x self tapping screws
(K)	2 x 1200x150mm diameter stainless steel flue pipe (metallic black)

Metro Standard Flue Systems are manufactured by SFP Ltd
(Sheetmetal Fabricated Products) PO Box 58286, Botany 2163 Auckland

It is the responsibility of the installer to ensure that the requirements of New Zealand Code Clause E2 (External Moisture) are complied with.







Sloping ceiling

Requires the ECO flue kit and ECO option kit for air to be drawn into the flue system from outside the home.

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FIREPLACE DETAILS

NTS

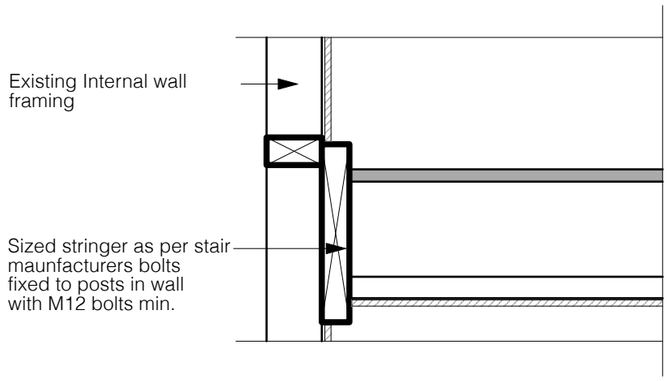
REVISION DATE NOTE

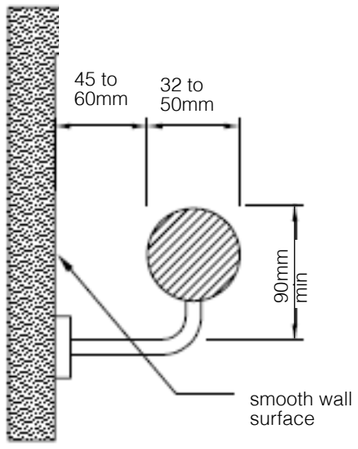
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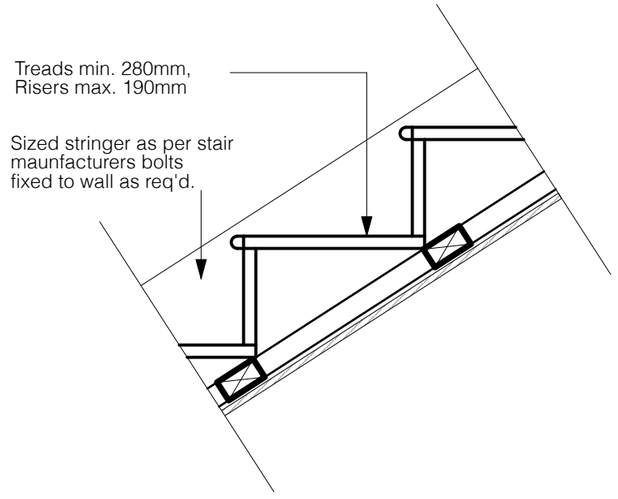
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Proposed Residence
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TITLE Fireplace Details
JOB No. 26-158
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BC581







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STAIR DETAILS
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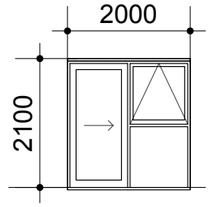
Adolph & Huggins
Proposed Residence
30 Koreke Loop, Lake Hawea

TITLE Stair Details

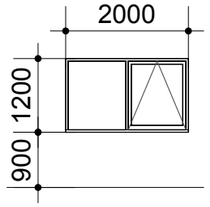
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DWG # BC591 REVISION

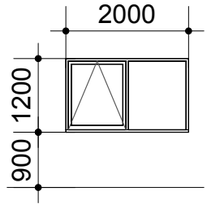
Dwelling Window Schedule



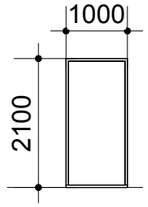
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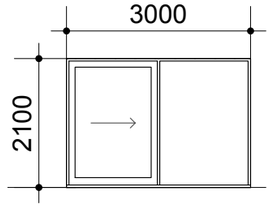
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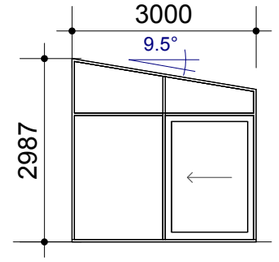
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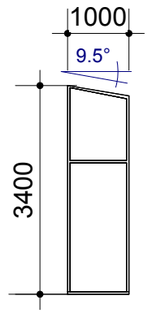
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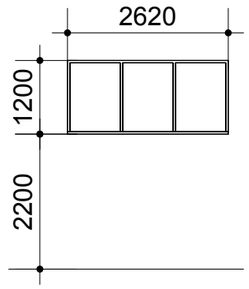
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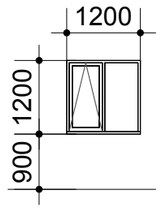
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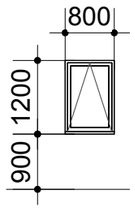
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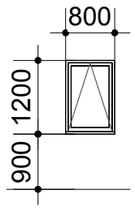
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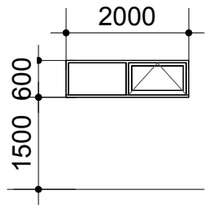
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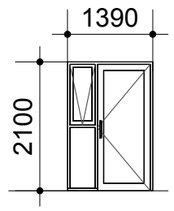
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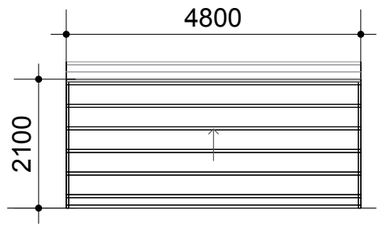
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All Joinery to be minimum uPVC Double Pane:Clear - Air - Aluminium Spacer (Ug 2.63) R0.40

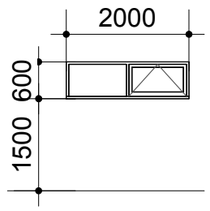
Garage Window Schedule



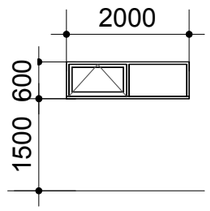
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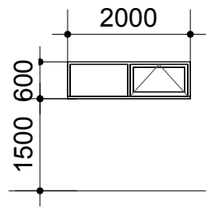
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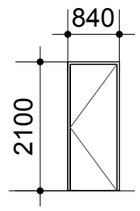
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IDs: W13



IDs: W14

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DWG # REVISION

BC601