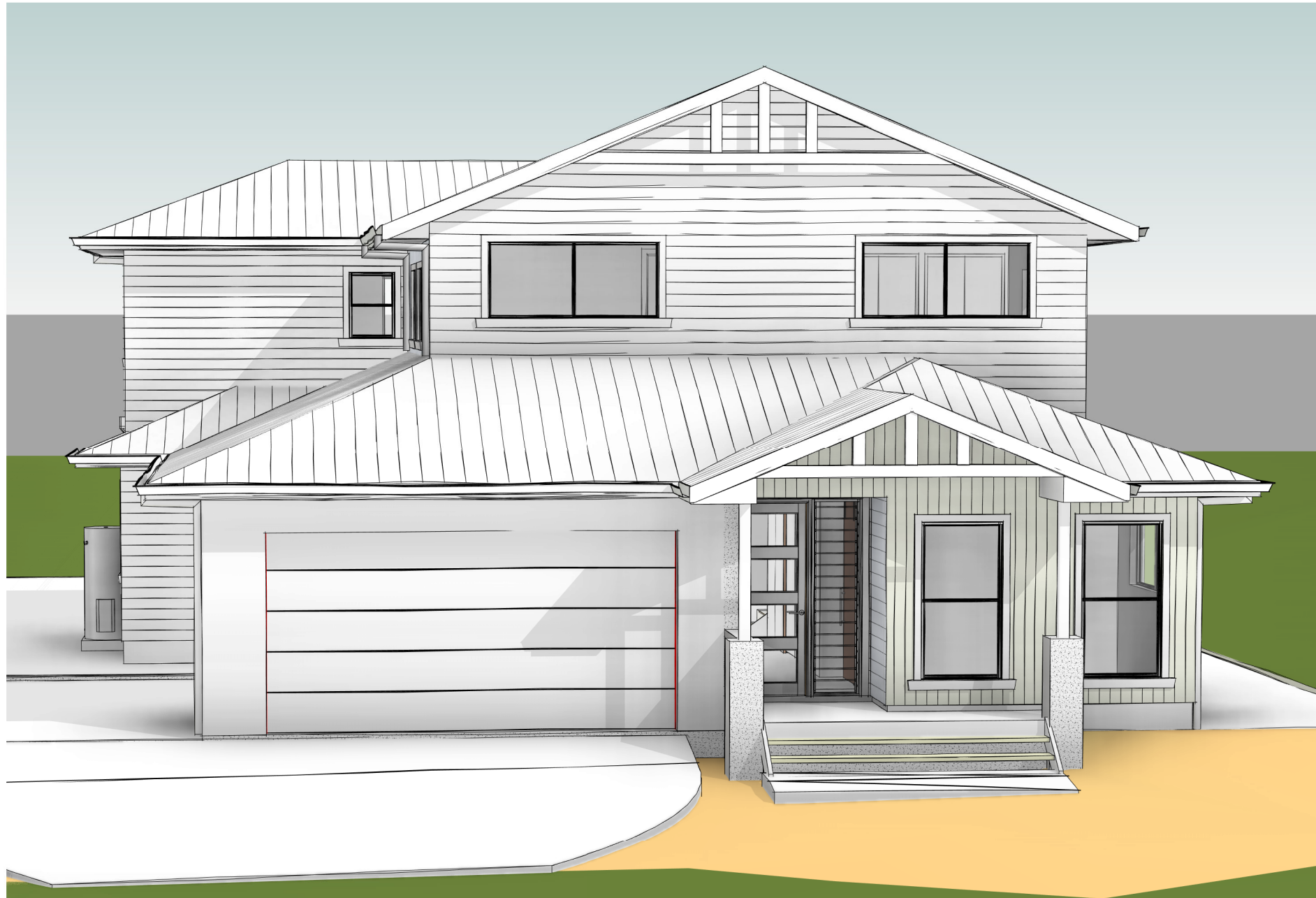


Proposed Residence for Richard & Linda Matthews



@ 8 Currawong St
Mudjimba



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Client
Richard & Linda Matthews

Job Address
*8 LOT 131 CURRAWONG ST
MUDJIMBA

COVER

Status 2 ENGINEER -N3

Date 11/05/20

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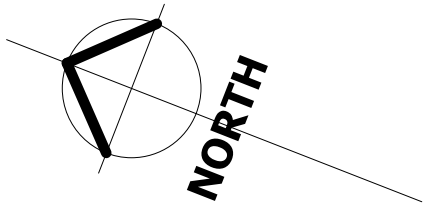
Checked by

J205-00

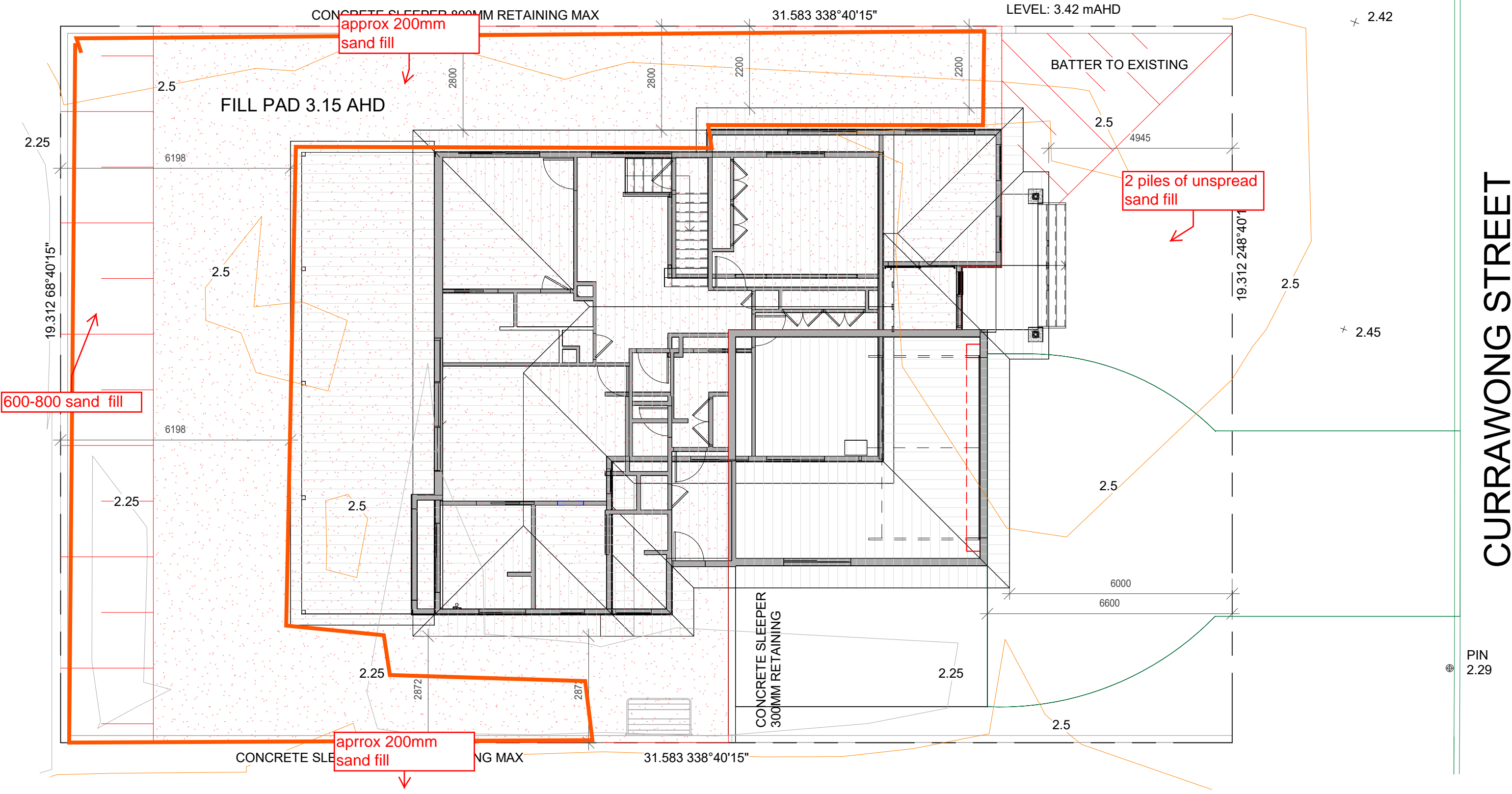
Scale

Site
1:100

PROPERTY DESCRIPTION
LOT 131 RP 92321 8
CURRAWONG ST
MUDJIMBA QLD 4564
610 M2 CALC



SUNSHINE COAST COUNCIL
FLOOD INFORMATION SEARCH
 REFERENCE -19817
 MINIMUM DESIGN FLOOR LEVEL: 3.42 mAHD



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Site
J205-01

Client
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#8 LOT 131 CURRAWONG ST
MUDJIMBA
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11/05/2020 9:17:12 AM



A ELEVATION A
1:100



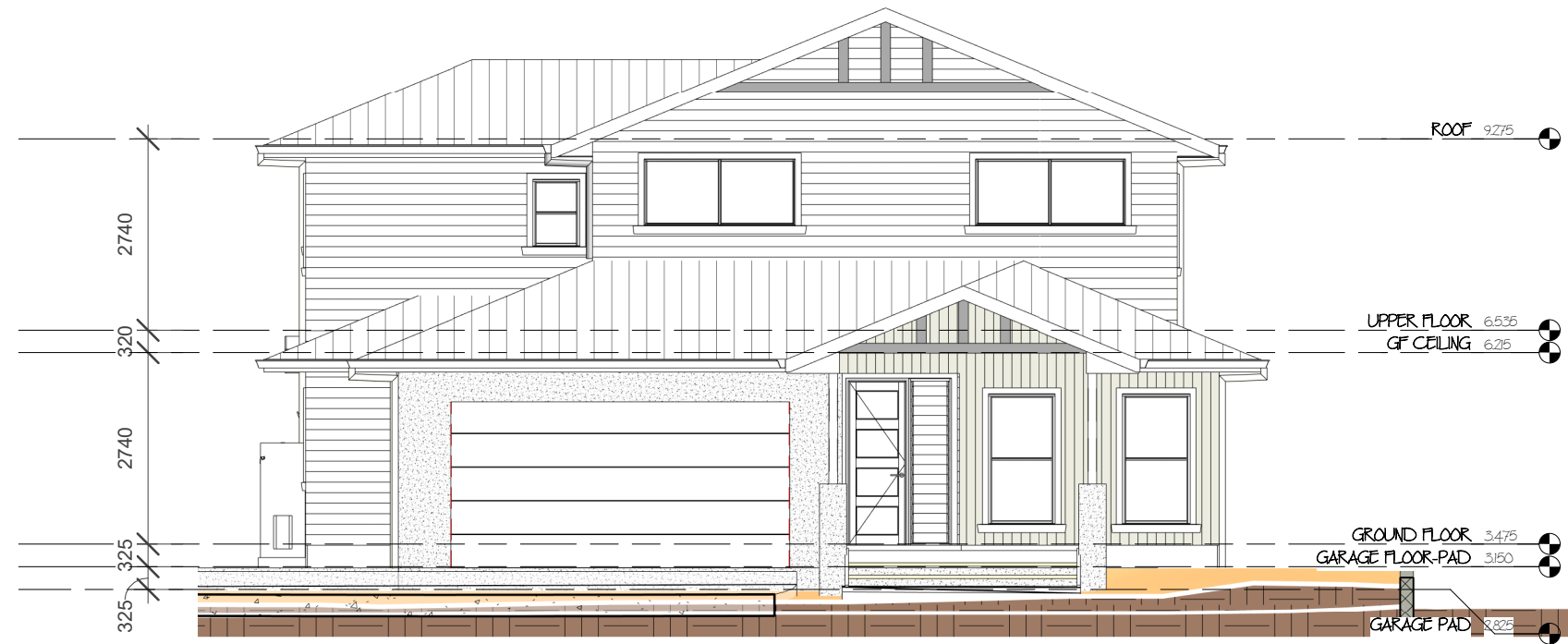
C ELEVATION C
1:100

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			Scale 1:100	Status 2 ENGINEER -N3	Drawn by	Date 11/05/20	

11/05/2020 9:17:18 AM



B ELEVATION B
1:100



D ELEVATION D
1:100

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ELEVATION B-D

J205-05

Client
Richard & Linda Matthews

Scale 1:100

Job Address
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MUDJIMBA

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SUNSHINE COAST COUNCIL FLOOD INFORMATION SEARCH

REFERENCE -19817
MINIMUM DESIGN FLOOR LEVEL: 3.42 mAHD

Client
Richard & Linda Matthews

Job Address
*8 LOT 131 CURRAWONG ST
MUDJIMBA

SET OUT

Status 2 ENGINEER -N3

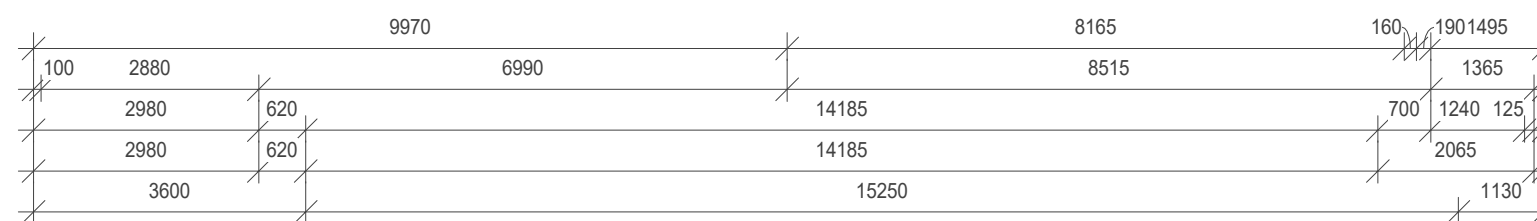
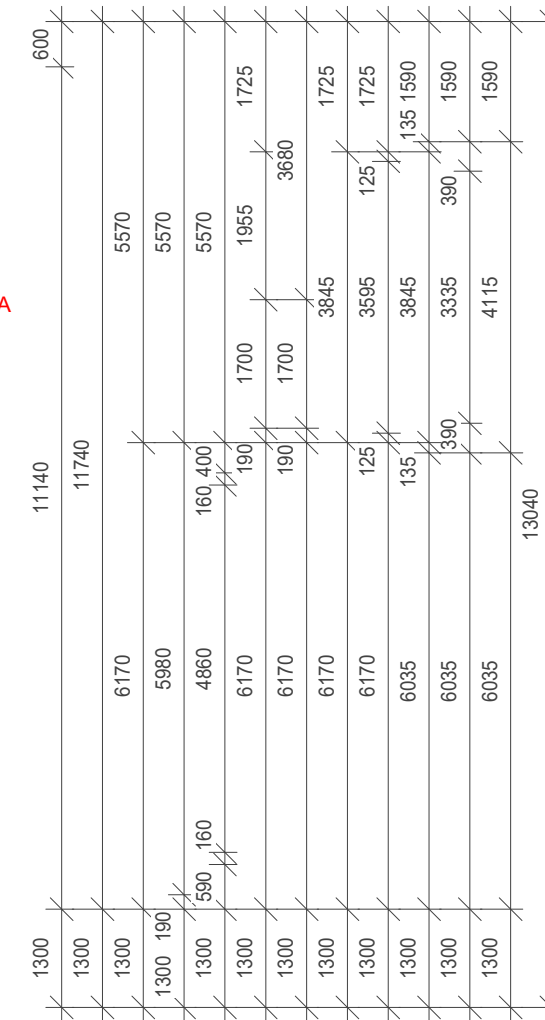
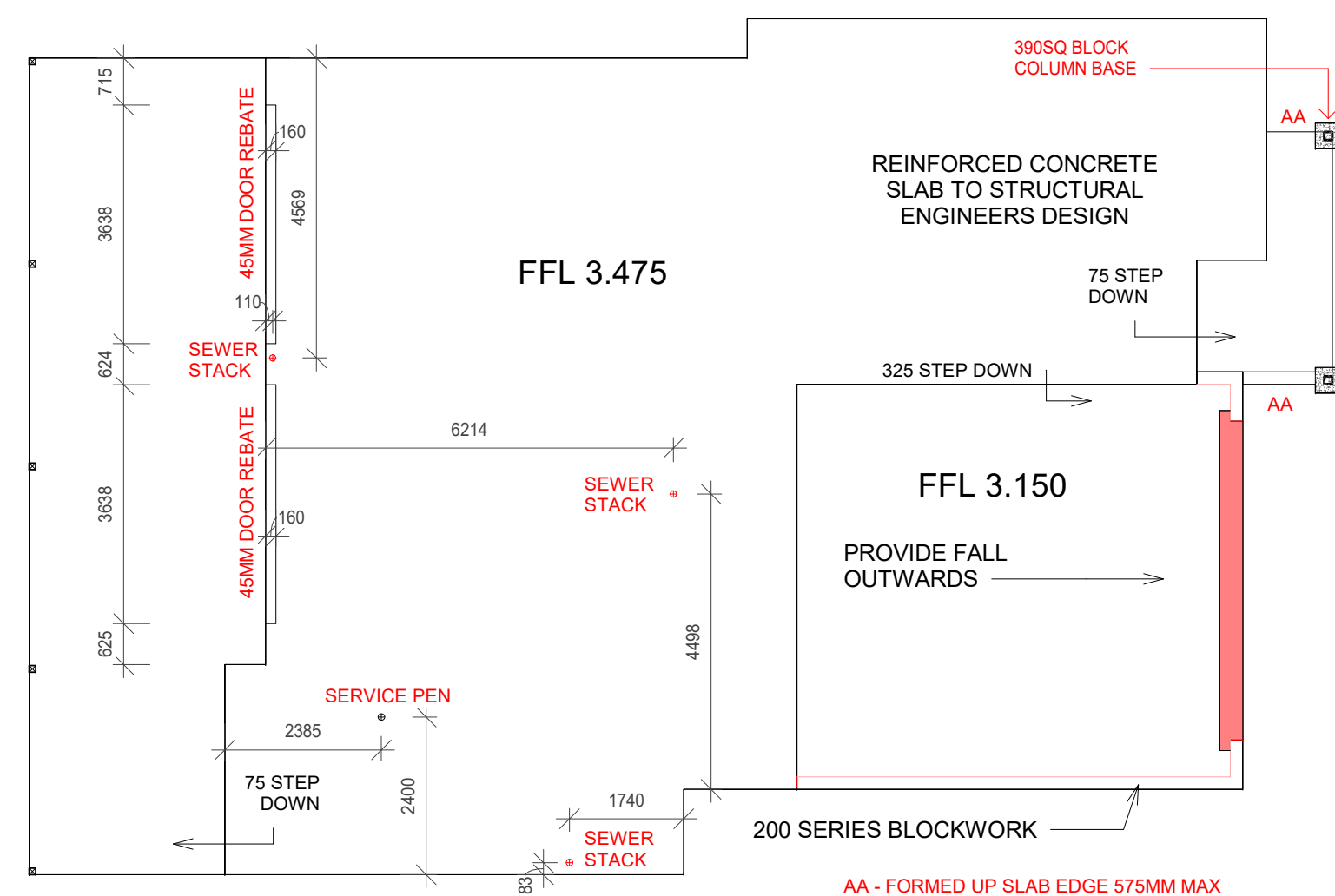
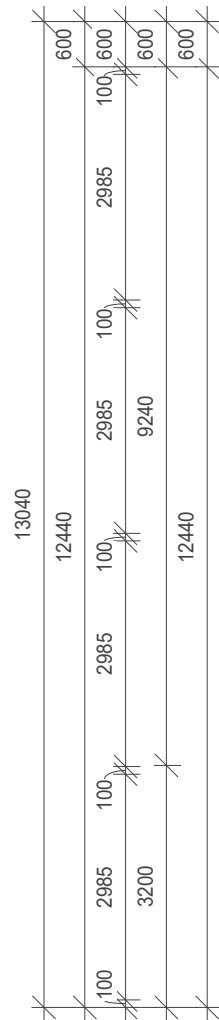
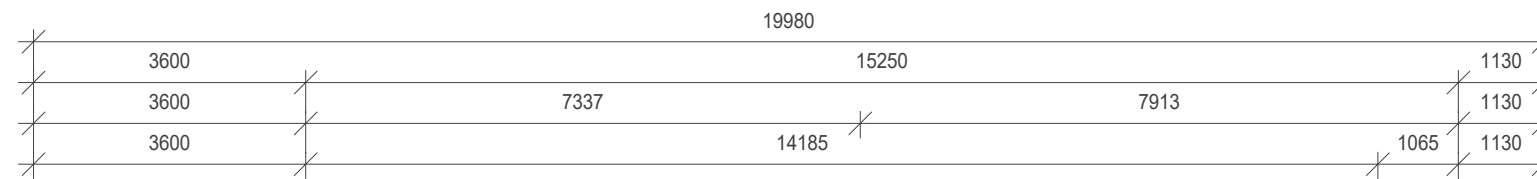
Date 11/05/20

Drawn by

Checked by

J205-06

Scale 1 : 100



SO SET OUT
1 : 100

DETAILS

SEE CONNECTION DETAILS PAGE J206-11

PATIO BEAMS
 B1 200x58 LVL15 C/SPAN
 B2 150x42 LVL15

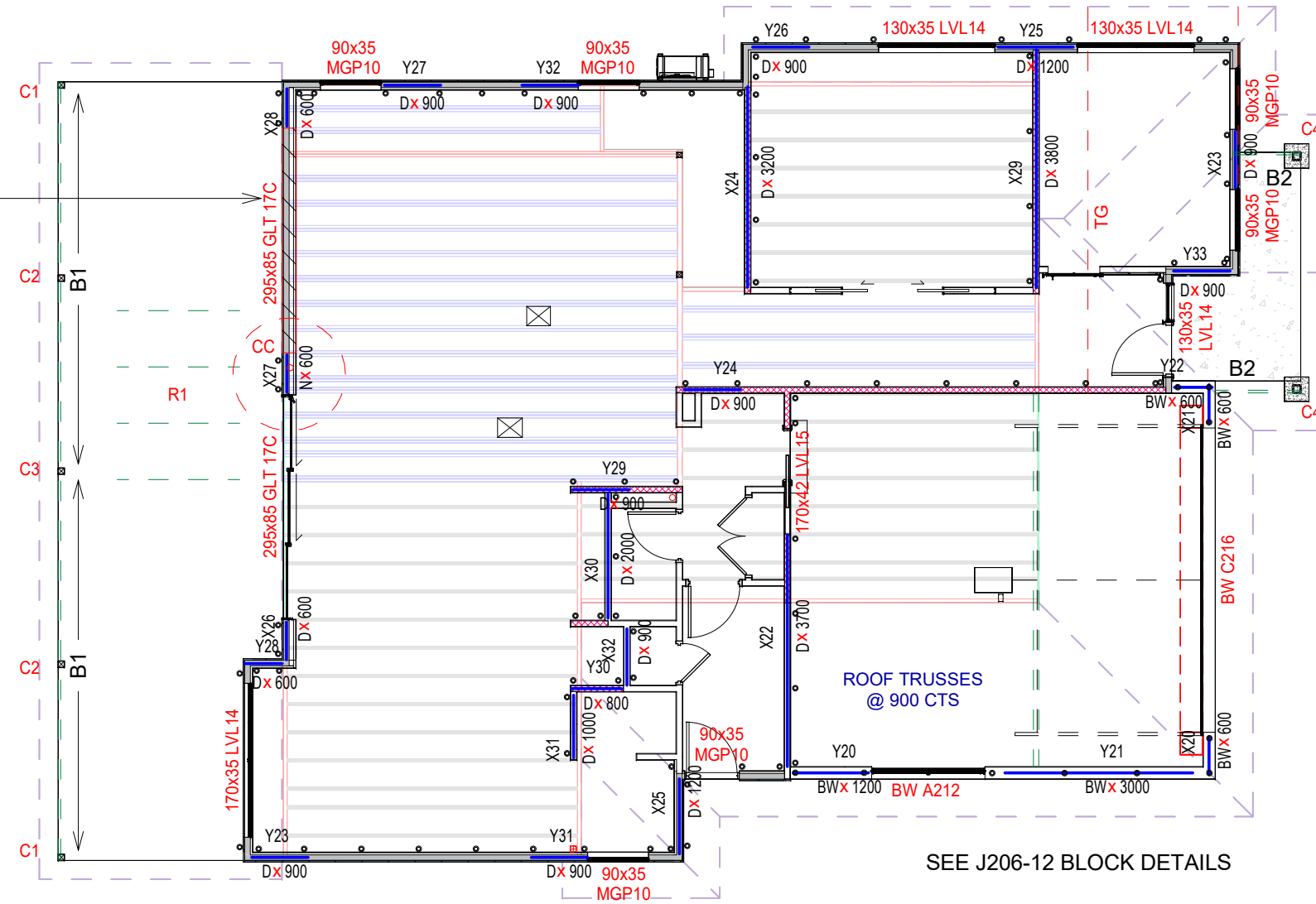
BACK PATIO

POLE PLATE TO WALL 170x35 LVL14
 FIXED WITH 2/100MM LONG NO14 TYPE17 BATTEN SCREWS
 EACH STUD

R1-170x35 LVL14 RAFTERS @ 900 CTS
 1-TRIPPLE GRIP WITH 4/2.8Ø NAILS EACH BEAM
 JOIST HANGERS TO POLE PLATE.

CC - 450 WIDE X 2400 HIGH NETBRACE TO THE CENTRE
 WALL (BETWEEN THE 2 X 295X85 17C LINTELS).
 LINTELS TO BEAR ON TOP OF THE 2400 HIGH NETBRACE
 TO MAKE THE 2740 CEILING HEIGHT WITH 1 TOP PLATE.

INFILL FRAMED
 OPENING
 FUTURE 2436ST



BG BRACING GROUND FLOOR
 1:100

SEE J206-12 BLOCK DETAILS

GROUND FLOOR BRACING (A-C) X

	Mark	Type	Length	Level	Res
AC	X20	BW	600	GROUND FLOOR	5.9
AC	X21	BW	600	GROUND FLOOR	5.9
AC	X22	D	3700	GROUND FLOOR	20.72
AC	X23	D	900	GROUND FLOOR	5.04
AC	X24	D	3200	GROUND FLOOR	17.92
AC	X25	D	1200	GROUND FLOOR	6.72
AC	X26	D	600	GROUND FLOOR	1.68
AC	X27	N	600	GROUND FLOOR	6.66
AC	X28	D	600	GROUND FLOOR	1.68
AC	X29	D	3800	GROUND FLOOR	21.28
AC	X30	D	2000	GROUND FLOOR	11.2
AC	X31	D	1000	GROUND FLOOR	5.6
AC	X32	D	900	GROUND FLOOR	5.04
Grand total: 13					115.34

GROUND FLOOR BRACING (B-D) Y

	Mark	Type	Length	Level	Res
BD	Y20	BW	1200	GROUND FLOOR	15
BD	Y21	BW	3000	GROUND FLOOR	46
BD	Y22	BW	600	GROUND FLOOR	5.9
BD	Y23	D	900	GROUND FLOOR	5.04
BD	Y24	D	900	GROUND FLOOR	5.04
BD	Y25	D	1200	GROUND FLOOR	6.72
BD	Y26	D	900	GROUND FLOOR	5.04
BD	Y27	D	900	GROUND FLOOR	5.04
BD	Y28	D	600	GROUND FLOOR	1.68
BD	Y29	D	900	GROUND FLOOR	5.04
BD	Y30	D	800	GROUND FLOOR	4.48
BD	Y31	D	900	GROUND FLOOR	5.04
BD	Y32	D	900	GROUND FLOOR	5.04
BD	Y33	D	900	GROUND FLOOR	5.04
Grand total: 14					120.1

BRACING METHOD

TYPE A
 TYPE B
 TYPE C
 TYPE D
 TYPE D2

PROVIDE 0.45 kN/M NOMINAL PLASTERBOARD LINING ONE SIDE. NAIL OR SCREW FIXED & STUD ADHESIVE TO INSTALLATION MANUAL DETAILS.
 PROVIDE 0.75 kN/M LINING TWO SIDES.
 PROVIDE 6.40 kN/M F11 PLY CAVITY BRACING M12 ANCHOR RODS @ ENDS & 1200mm MAX CENTERS.(BRACING SYSTEM TYPE N-3)
 TYPE C BRACING AS ABOVE, EXCEPT WITH MGP10 FRAMING JD5(12.5% REDUCTION)
 DOUBLE SIDED TYPE C BRACING , EXCEPT WITH MGP10 FRAMING JD5(12.5% REDUCTION) AND 16MM RODS

CW8
 TYPE E
 SP6
 SP9
 TYPE F

PROVIDES 16.55kN CONCRETE WALL SLAB EDGE 800MM MAX HEIGHT 4-12 RODS VERTICAL
 TYPE C BRACING SHORTER THAN 800mm 50% REDUCTION AS PER AS1684 CLAUSE 8.3.6.5(b)(i)
 PROVIDES 6kN STEEL POST MIN 75x75x4.0 HEIGHT 0-600 LONG FOOTING 350x350x900
 PROVIDES 4.5kN STEEL POST MIN 75x75x4.0 HEIGHT 601-900 LONG FOOTING 350x350x900
 PROVIDE 22.50 kN/M MAX DIAGONAL CROSS BRACING (M16 STEEL ROD) FIXED BETWEEN SUPPORTING POSTS (WITH ONE M16 OR M12 BOLT) AT ANGLE OF NO MORE THAN 30° AND NO MORE THAN 60°.

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BRACING (A-C) X
 REQUIRED =110.20kN
 PROVIDED =110.36kN

BRACING (B-D) Y
 REQUIRED =89.40kN
 PROVIDED =120.10kN



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BRACING GROUND
 FLOOR
 J205-07

Status 2 ENGINEER -N3

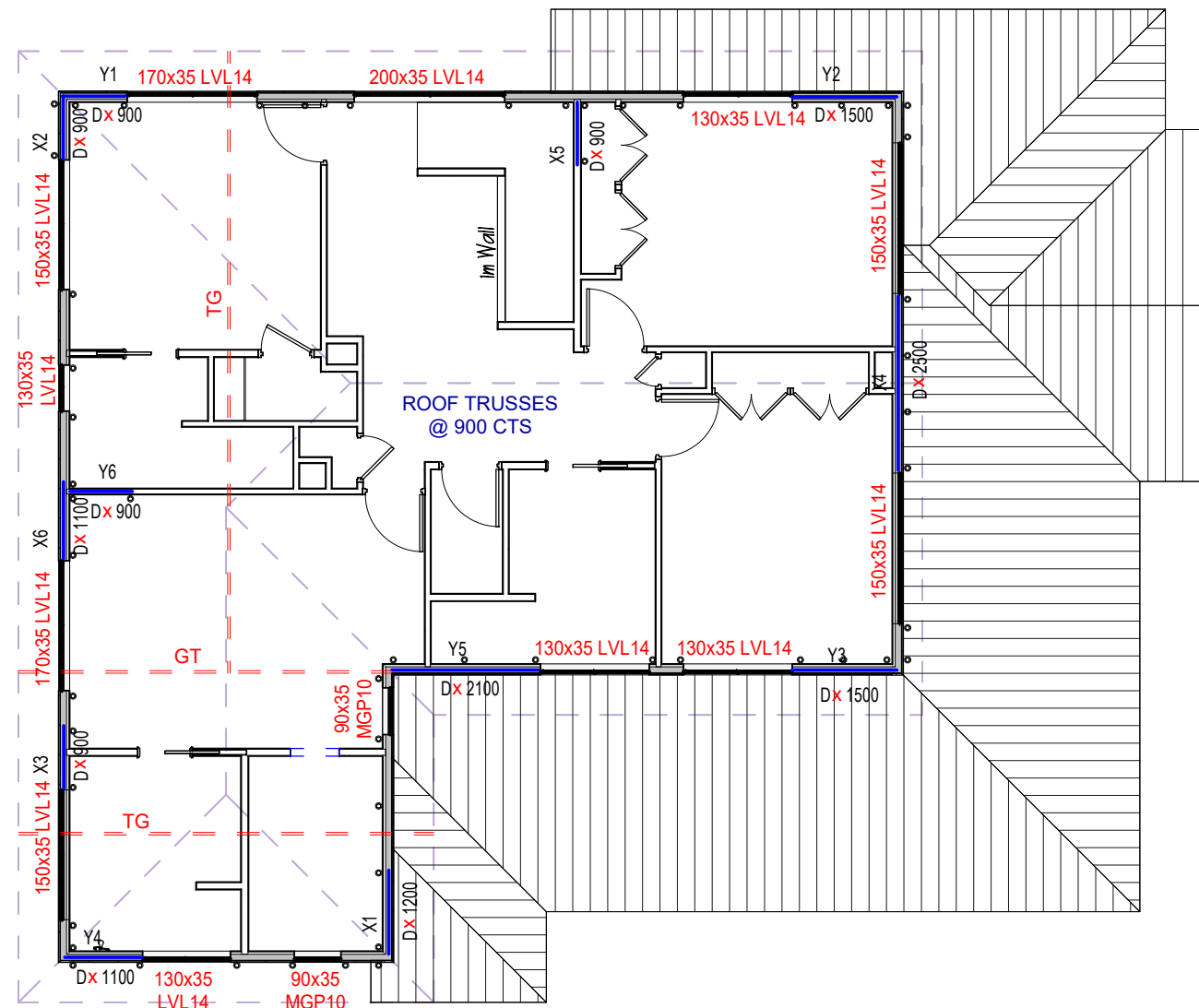
Client
 Richard & Linda Matthews

Scale 1:100

Job Address
 #8 LOT 131
 CURRAWONG ST
 MUDJIMBA

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 Drawn by
 Date 11/05/20

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Upper Floor BRACING (A-C) X					
	Mark	Type	Length	Level	Resistance
AC	X1	D	1200	UPPER FLOOR	6.72
AC	X2	D	900	UPPER FLOOR	5.04
AC	X3	D	900	UPPER FLOOR	5.04
AC	X4	D	2500	UPPER FLOOR	14
AC	X5	D	900	UPPER FLOOR	5.04
AC	X6	D	1100	UPPER FLOOR	6.16
Grand total: 6					42

Upper Floor BRACING (B-D) Y					
	Mark	Type	Length	Level	Resistance
BD	Y1	D	900	UPPER FLOOR	5.04
BD	Y2	D	1500	UPPER FLOOR	8.4
BD	Y3	D	1500	UPPER FLOOR	8.4
BD	Y4	D	1100	UPPER FLOOR	6.16
BD	Y5	D	2100	UPPER FLOOR	11.76
BD	Y6	D	900	UPPER FLOOR	5.04
Grand total: 6					44.8

BU BRACING UPPER FLOOR
1:100

BRACING METHOD
 TYPE A PROVIDE 0.45 kN/m NOMINAL PLASTERBOARD LINING ONE SIDE. NAIL OR SCREW FIXED & STUD ADHESIVE TO INSTALLATION MANUAL DETAILS.
 TYPE B PROVIDE 0.75 kN/m LINING TWO SIDES.
 TYPE C PROVIDE 6.40 kN/m F11 PLY CAVITY BRACING M12 ANCHOR RODS @ ENDS & 1200mm MAX CENTERS. (BRACING SYSTEM TYPE N-3)
 TYPE D TYPE C BRACING AS ABOVE, EXCEPT WITH MGP10 FRAMING JD5(12.5% REDUCTION)
 TYPE D2 DOUBLE SIDED TYPE C BRACING, EXCEPT WITH MGP10 FRAMING JD5(12.5% REDUCTION) AND 16MM RODS

CW8
TYPE E
SP6
SP9
TYPE F

PROVIDES 16.55kN CONCRETE WALL SLAB EDGE 800MM MAX HEIGHT 4-12 RODS VERTICAL
 TYPE C BRACING SHORTER THAN 800mm 50% REDUCTION AS PER AS1684 CLAUSE 8.3.6.5(b)(i)
 PROVIDES 6kN STEEL POST MIN 75x75x4.0 HEIGHT 0-600 LONG FOOTING 350x350x900
 PROVIDES 4.5kN STEEL POST MIN 75x75x4.0 HEIGHT 601-900 LONG FOOTING 350x350x900
 PROVIDE 22.50 kN/m MAX DIAGONAL CROSS BRACING (M16 STEEL ROD) FIXED BETWEEN SUPPORTING POSTS (WITH ONE M16 OR M12 BOLT) AT ANGLE OF NO MORE THAN 30° AND NO MORE THAN 60°.

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BRACING (A-C) X
REQUIRED =42.0kN
PROVIDED =42.0kN

BRACING (B-D) Y
REQUIRED =44.8kN
PROVIDED =44.8kN



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BRACING UPPER
FLOOR
J205-09

Status 2 ENGINEER -N3

Client
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Scale 1:100

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#8 LOT 131
CURRAWONG ST
MUDJIMBA

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Date

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COLORBOND CUSTOM ORB
SHEET ROOFING TO MAN. SPEC

COLORBOND FASCIA AND
GUTTER

42X35 F5 PINE BATTEN
@ 600 cts VENTED & FC
SHEETING FIXED TO
BATTENS

17mm
RIMBOARD

External James Hardie
Cladding

CONCRETE SLAB AS PER
ENGINEERS DESIGN

UPPER FLOOR TIMBER SCHEDULE

EXTERNAL RODS @ 1200 CTS

<u>EXTERNAL</u>	
TOP PLATE	45X90 MGP10
RIBBON PLATE	45X90 MGP10
BOTTOM PLATE	45X90 MGP10
STUDS	35X90 MGP10@450CTS
KNOGS	35X90 MGP10

INTERNAL LBW

TOP PLATE	45X70 MGP12
RIBBON PLATE	45X70 MGP12
BOTTOM PLATE	45X70 MGP12
STUDS	35X70 MGP12@450CTS
KNOGS	35X70 MGP10

INTERNAL NLBW

TOP PLATE	35X70 MGP10
BOTTOM PLATE	35X70 MGP10
STUDS	35X70 MGP10@450CTS
KNOGS	35X70 MGP10

MAIN FLOOR TIMBER SCHEDULE

EXTERNAL

TOP PLATE	45X90 MGP10
RIBBON PLATE	45X90 MGP10
BOTTOM PLATE	35X90 MGP10
STUDS	35X90 MGP10@450CTS
KNOGS	35X90 MGP10

INTERNAL LBW

TOP PLATE	45X70 MGP12
RIBBON PLATE	45X70 MGP12
BOTTOM PLATE	35X70 MGP12
STUDS	35X70 MGP12@450CTS
KNOGS	35X70 MGP10

INTERNAL NLBW

TOP PLATE	35X70 MGP10
BOTTOM PLATE	35X70 MGP10
STUDS	35X70 MGP10@450CTS
KNOGS	35X70 MGP10

Termite Protection
Kordon Perimeter and penetration
Provide 2 Notices
Min Space 25mm to Pipe work, 75mm Visual Edge

Studs at Sides Of Openings

Opening Width	Jamb Studs each side
900mm	2
1200mm	2
1500mm	2
1800mm	3
2100mm	3
2400mm	3
2700mm	3
3000mm	4
6200mm	4/90x45 MGP10

Note: Openings may be 70mm wider than the nominal width given above.

Jamb Studs

Number	Details
2	1 Full Length + 1 Under Lintel
3	2 Full Length + 1 Under Lintel
4	2 Full Length + 2 Under Lintel
5	3 Full Length + 2 Under Lintel

Window Sill Trimmers

Opening Width	Trimmer Size
Up to 1800mm	90x35 MGP10
2400mm	2/90x35 MGP10

Note: Openings may be 70mm wider than the nominal width given above.

TIE-DOWN SCHEDULE N3

TRUSS TO TOP PLATE
1/30X0.8 GI LOOPED STRAP 4/2.8mm DIA. NAILS EACH END OR TO MANUFACTURER DESIGN SPECIFICATION

TOP PLATE / BOTTOM PLATE
1/M12 ROD @ 1200 CRS MAX, AT CORNERS, EACH SIDE OF OPENINGS AND BRACING PANELS AS REQ.

VERANDAH POSTS TO FOOTING
2/12 BOLTS THROUGH 50x8mm M.S. STIRRUP 150 MIN. INTO FOOTING, S12 ROD OVER STIRRUP



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NOTES
TIMBER TRUSSES AT 900c/c TO MANUF. SPEC.

CEILING LINING SCREW FIXED TO TRUSSES VIA METAL CEILING BATTENS 2/50mm ZINC NAILS

M12 TIE DOWN ROD AT 1200 C/C
TOP PLATE TO BE STRAPPED TO LINTELS AT 1200 CTRS MAX

Client

Richard & Linda Matthews

Job Address

*8 LOT 131 CURRAWONG ST
MUDJIMBA

Details MAIN

Status 2 ENGINEER -N3

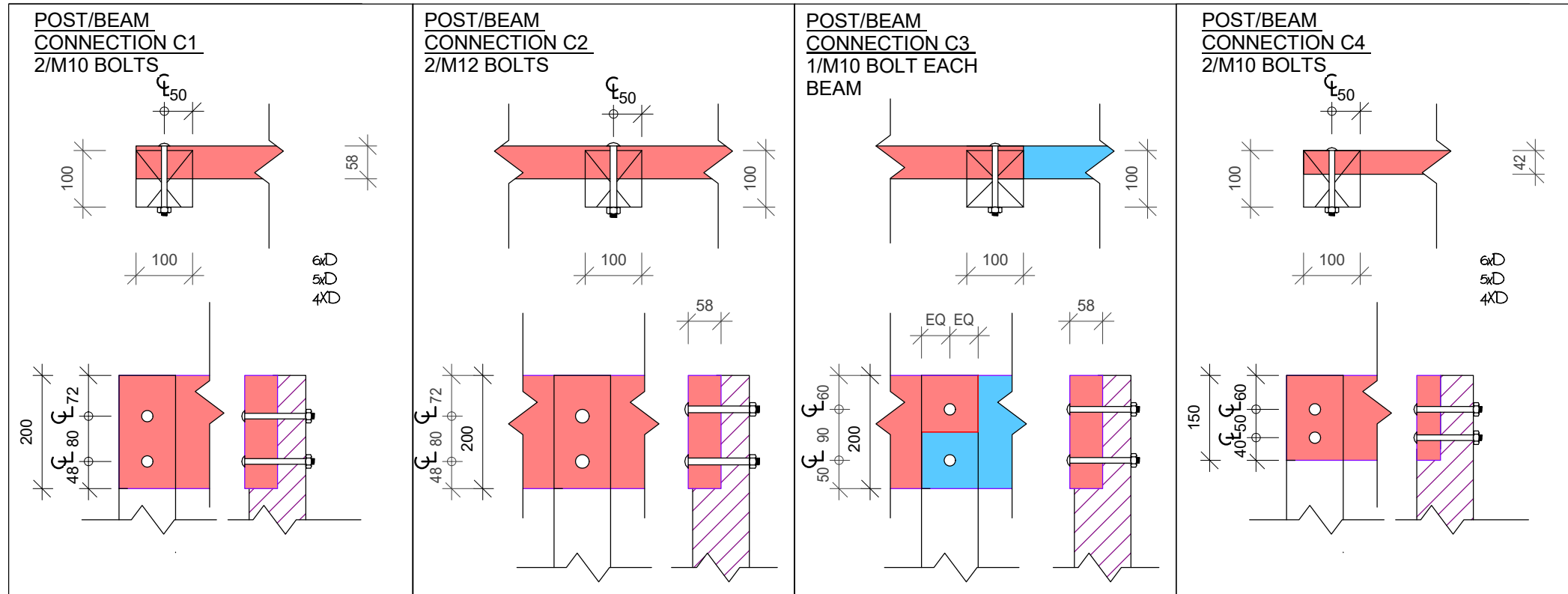
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Scale 1 : 15



BT Beam/ Timber Post
1:10

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Beam/ Timber Post

J205-11

Client
Richard & Linda Matthews

Scale 1:10

Job Address
#8 LOT 131 CURRAWONG ST
MUDJIMBA

Status 2 ENGINEER -N3

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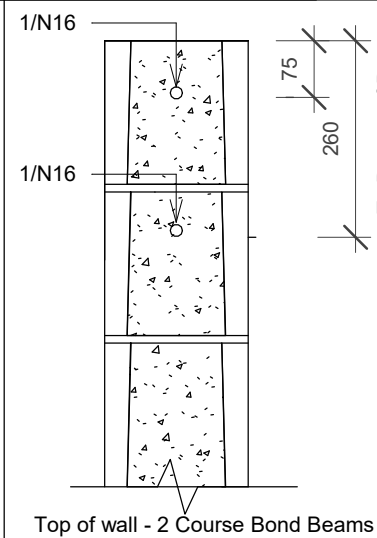
Drawn by

Date

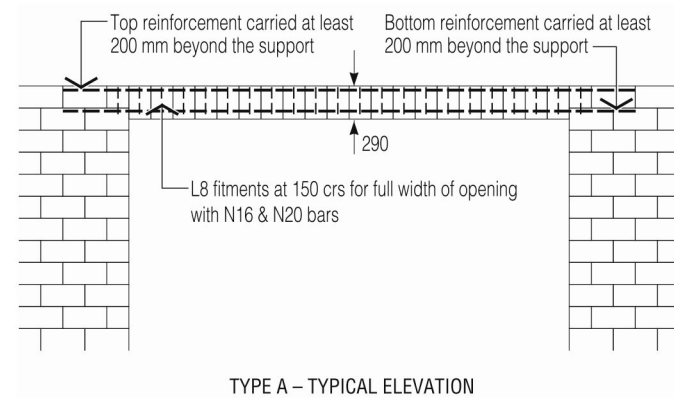
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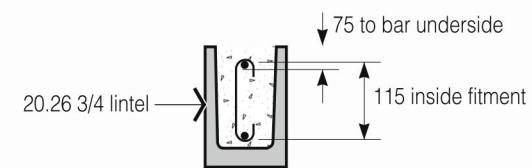
Vertical Steel
1N12 bar to each corner, beside each opening, then in between at max 1200mm centers UNO.



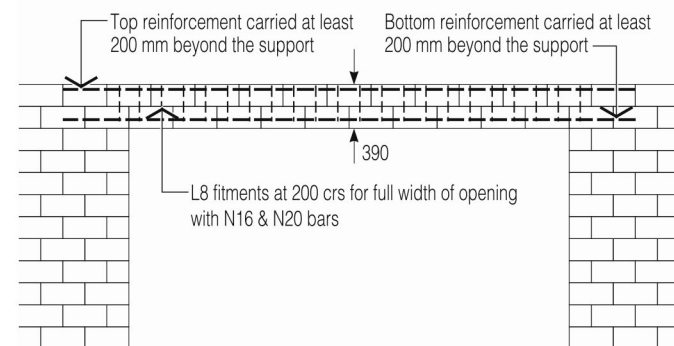
BLOCKWORK LINTEL TYPES		
CODE	DEPTH	REINFORCEMENT
A12	300	1N12 Top and Bottom
A16	300	1N16 Top and Bottom
A212	300	2N12 Top and Bottom
A216	300	2N16 Top and Bottom
C12	400	1N12 Top and Bottom
C16	400	1N16 Top and Bottom
C212	400	2N12 Top and Bottom
C216	400	2N16 Top and Bottom



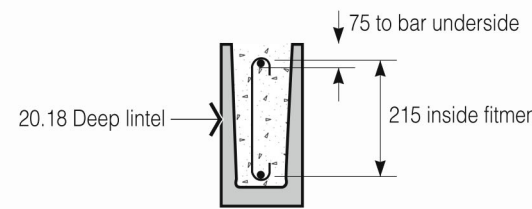
TYPE A – TYPICAL ELEVATION



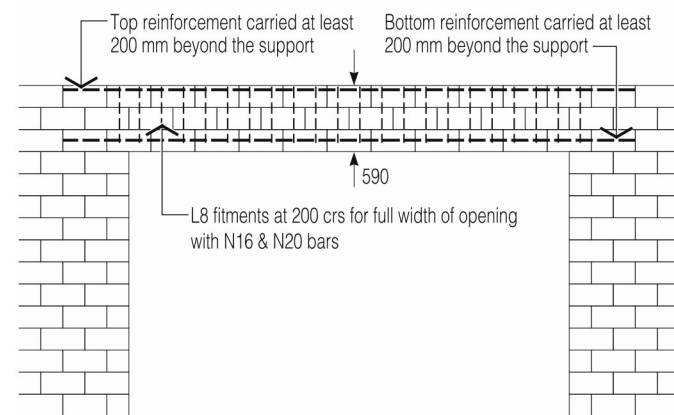
TYPE A – SECTION



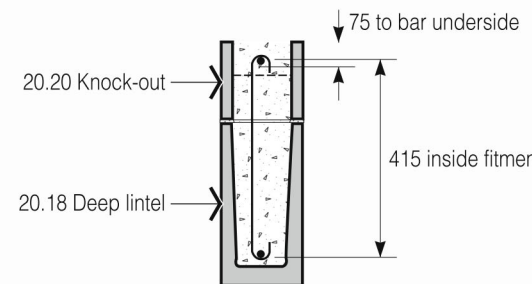
TYPE B – TYPICAL ELEVATION



TYPE B – SECTION



TYPE C – TYPICAL ELEVATION



TYPE C – SECTION

Figure 1.6 Typical Lintels
Refer to CMAA Data Sheet 3 - Concrete Masonry Lintels for the design and construction details of lintels.

BW Block Details
1:10

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BLOCK DETAILS
J205-12

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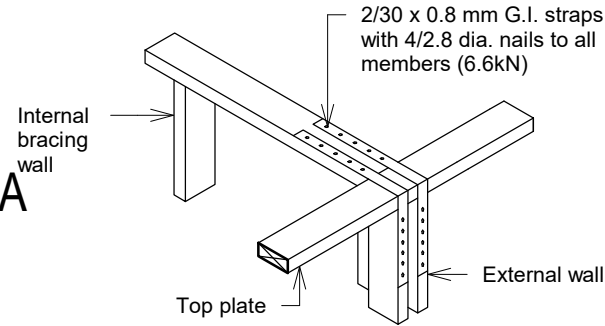
Job Address
#8 LOT 131 CURRAWONG ST
MUDJIMBA
Status 2 ENGINEER -N3

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Drawn by
Date 11/05/20

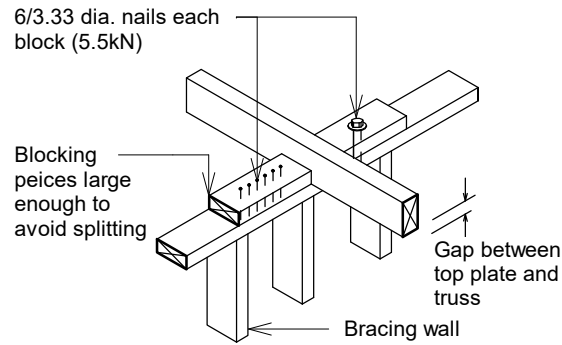
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FIXING TOP OF BRACING WALLS

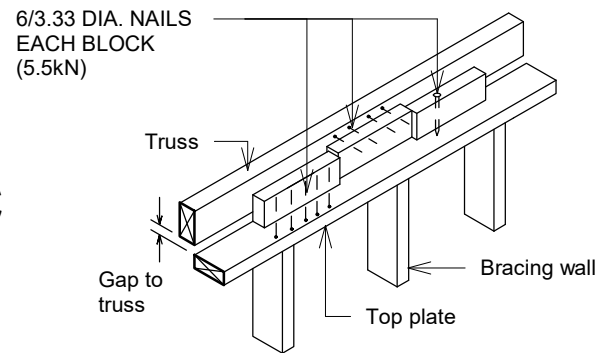
TYPE A



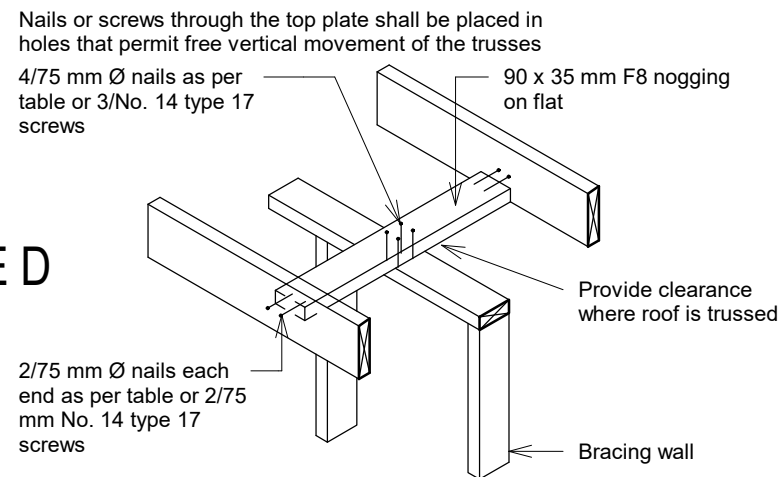
TYPE B



TYPE C



TYPE D

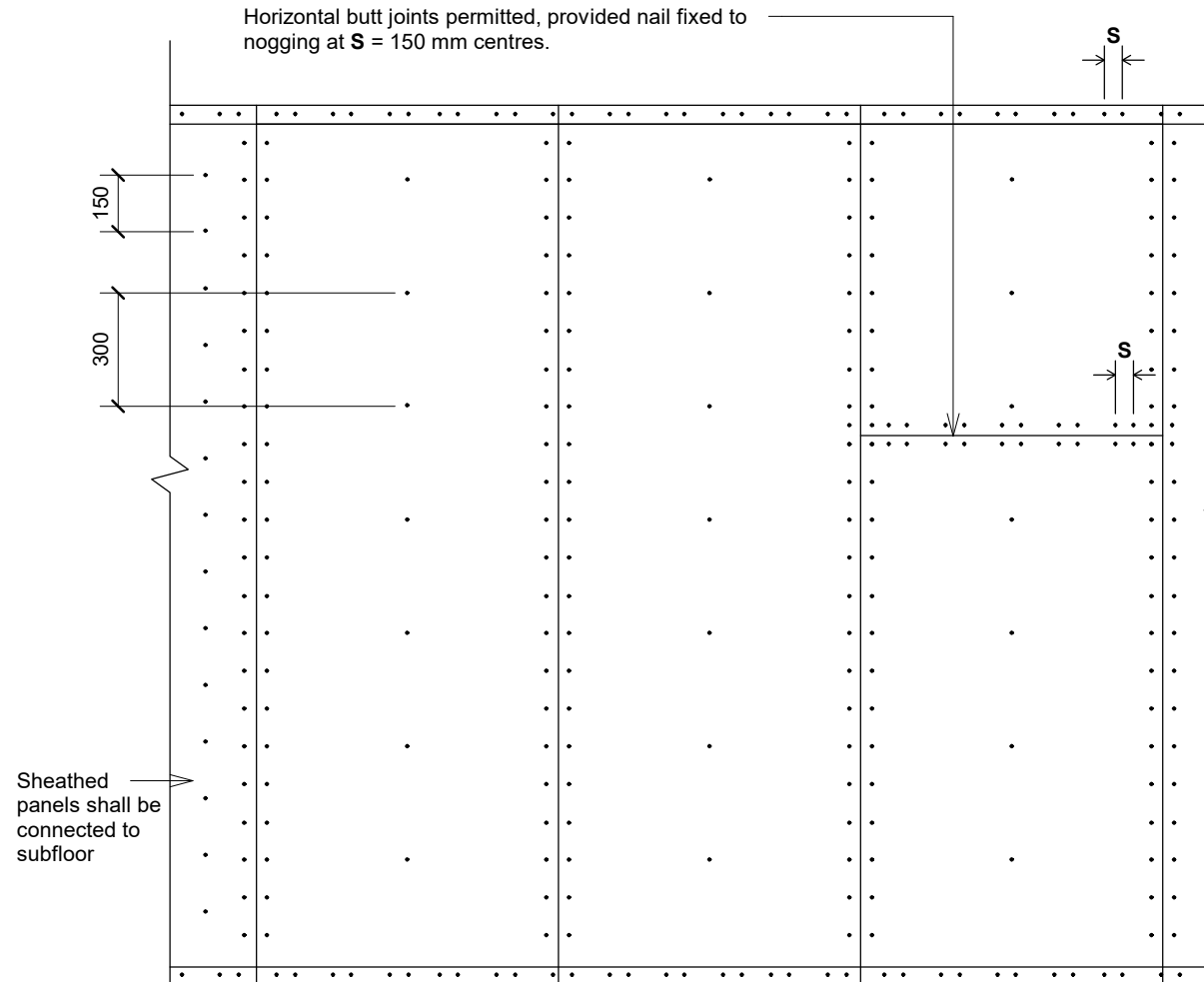


REFER TO AS1684.2-1999 FOR OTHER METHODS

Plywood shall be nailed to frame using 30 x 2.8 Ø galvanized flathead nails or equivalent. Sheathing shall be nailed to top and bottom plates and any horizontal joints at 50 mm centres.

AS 1684.2-TABLE 8.18-(h)

Horizontal butt joints permitted, provided nail fixed to nogging at S = 150 mm centres.



Method A only: M12 rod top to bottom plate each end of sheathed section.

Plywood Brace (6.4 kN/m) Method A

Stress grade	Stud spacing (mm)	
	450	600
F8	7	9
F11	6	7
F14	4	6
F27	4	4.5

Fastener spacing, S (mm)	
Top and Bottom Plate:	50
Vertical Edges	150
Intermediate studs	300

Fixing of Bottom plate to floor frame or Slab	
Method A: M12 rods as shown plus a 13 kN capacity connection at max. 1200 mm centres	



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Client
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Job Address
*8 LOT 131 CURRAWONG ST
MUDJIMBA

Framing Details

Status 2 ENGINEER -N3

Date 11/05/20

Drawn by

Checked by

J205-13

Scale 1 : 20

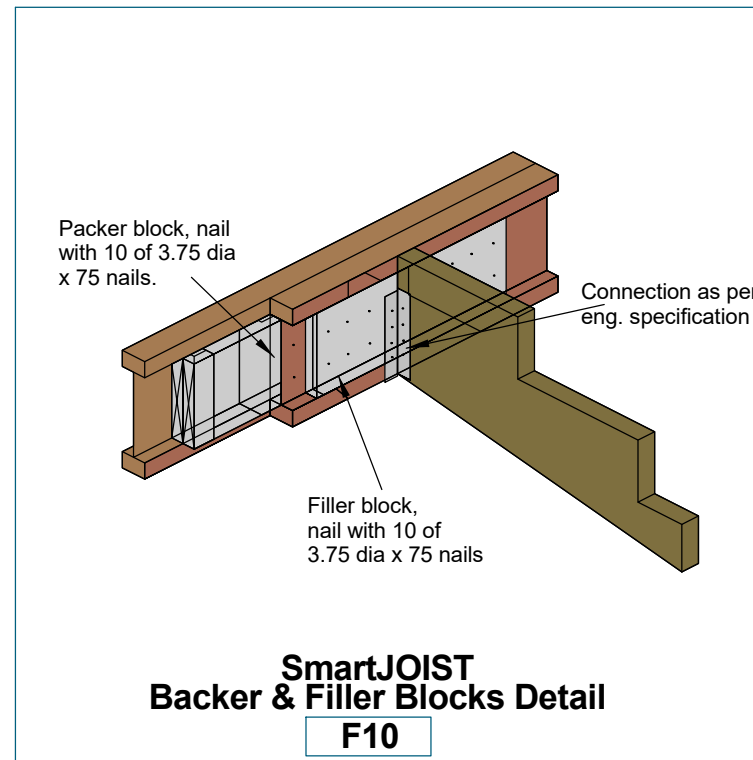
SmartJoists - General notes

- Except where otherwise noted, 30 mm minimum bearing is required at joist ends and 42 mm minimum bearing is required at intermediate supports.
- Nail joists at each bearing with 2 of 3.15 Φ x 65 nails, using one each side placed 30 mm from the end to avoid splitting.
- SmartJoist blocking or Rimboard - face nail to bearing plate with 3.15 Φ x 65 nails at 150 mm centres. Nail rim joist to the end of the top and bottom flange of each SmartJoist with 1 3.15 Φ x 65 nail, use 1 3.75 Φ x 75 nail top and bottom with joists with 58 or 90 mm wide flanges.
- SmartRim - toe nail to bearing plate with 3.15 Φ x 65 nails at 150 centres or 4.5 Φ x 75 nails at 300 centres. Nail rim to the end of the top and bottom flanges of each SmartJoist with 1 3.15 Φ x 65 nails.
- Sheathing nailing to top flange (Joists must be fully braced before sheathing is nailed)
 - Space 2.8 Φ x 65 and 3.15 Φ x 65 nails no closer than 50 mm per row.
 - Space 3.75 x 75 nails no closer than 75 mm.
 - Maximum nail spacing: 300 mm
- Backer blocks at hanger details:
 - 40 mm flanges - 15 mm ply
 - 44 & 51 mm flange - 19 mm ply
 - 58 mm flange - 2 pieces of 12 mm ply
 - 70 mm flange - 2 pieces of 15 mm ply
 - 90 mm flange - 2 pieces of 19 mm ply
- See double SmartJoist detail F15 for filler blocks. Nail Joists together with two rows of 3.75 Φ x 75 nails on each side of double joist at 300 mm centres (Cinch if possible). A total of 4 nails per 300 mm is required. If nails can be clinched, only 2 nails per 300 mm is required.
- All joists require lateral support at end bearings using blocking or rim material.
- The top flanges must be kept straight within 10 mm of the true alignment.
- See web stiffener detail F13 for web stiffener attachment at supports. Web stiffener requirements for concentrated loads in excess of 4.5 kN, applied at the top flange of the joist, requires additional consideration.
- When required, install web stiffeners to joist (see detail F13) prior to placing joist in the hanger, then nail hanger to joist.
- All roof details are valid to a maximum angle of 35° (as per AS1684 - 1999)
- All nails are steel nails complying with AS 2334 - 1980 Steel nails - Metric series. Nail gun nails of similar length and diameter may be substituted for the above provided that they are manufactured with properties equivalent to the nails in the above code.
- Install all hangers to the manufacturers installation in-instructions, taking particular attention to the use of the correct nails. Never use clouts or brads.
- Prescriptive code requirements for mid span blocking of solid timber joists are not applicable to SmartJoists.

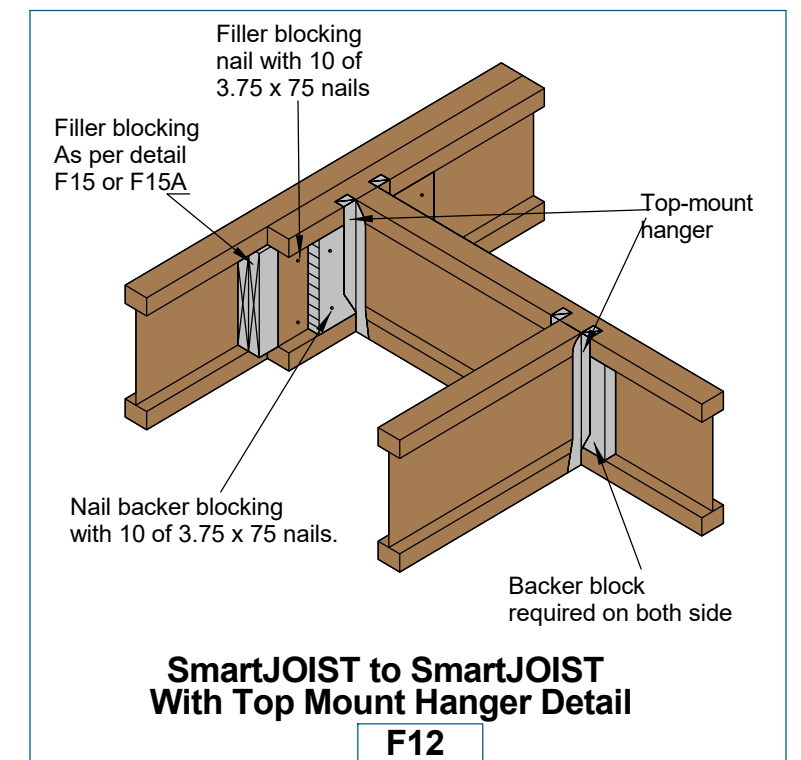
Extract SmartJoist Installation Guide

Smart Joist Code	Recommended filler block	Web stiffener material	
		Stiffener	Nails
SJ20044	120x35	15x60mm ply	4-3.1x65
SJ24040	140x35	15x60mm ply	4-3.1x65
SJ24051	140x45	19x60mm ply	4-3.1x65
SJ24070	150x58 LVL	2/15x60mm ply	4-3.1x65
SJ24090	2/140x45	2/19x60mm ply	4-3.1x65
SJ30040	190x35	15x60mm ply	4-3.1x65
SJ30051	190x45	19x60mm ply	4-3.1x65
SJ30070	150x58 LVL	2/15x60mm ply	4-3.1x65
SJ30090	2/190x45	2/19x60mm ply	5-3.1x65
SJ36058	250x50	2/12x60mm ply	5-3.1x65
SJ36090	2/240x45	2/19x60mm ply	5-3.1x65
SJ40090	2/240x45	2/ ply	5-3.1x65

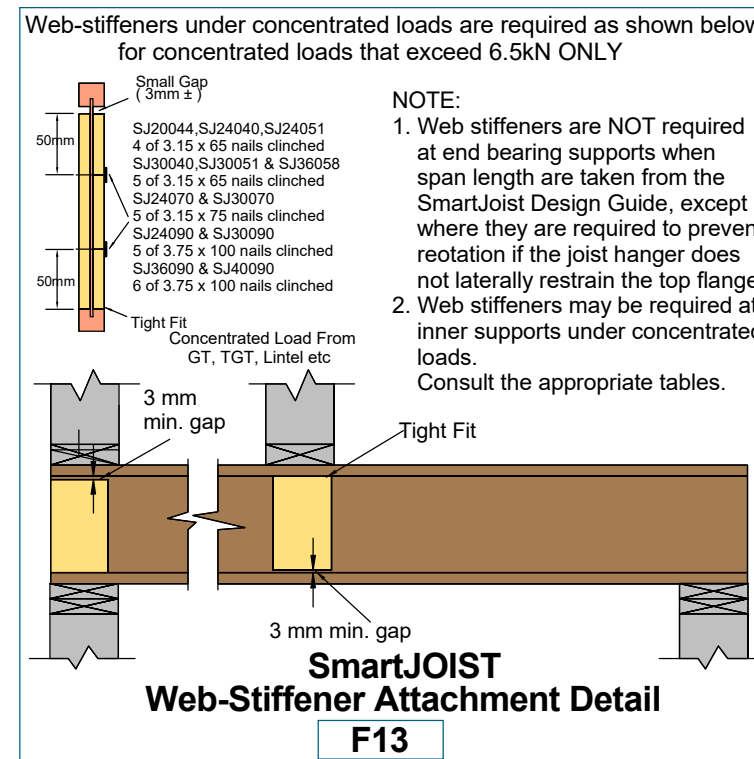
Extract SmartJoist Installation Guide Nov 2016



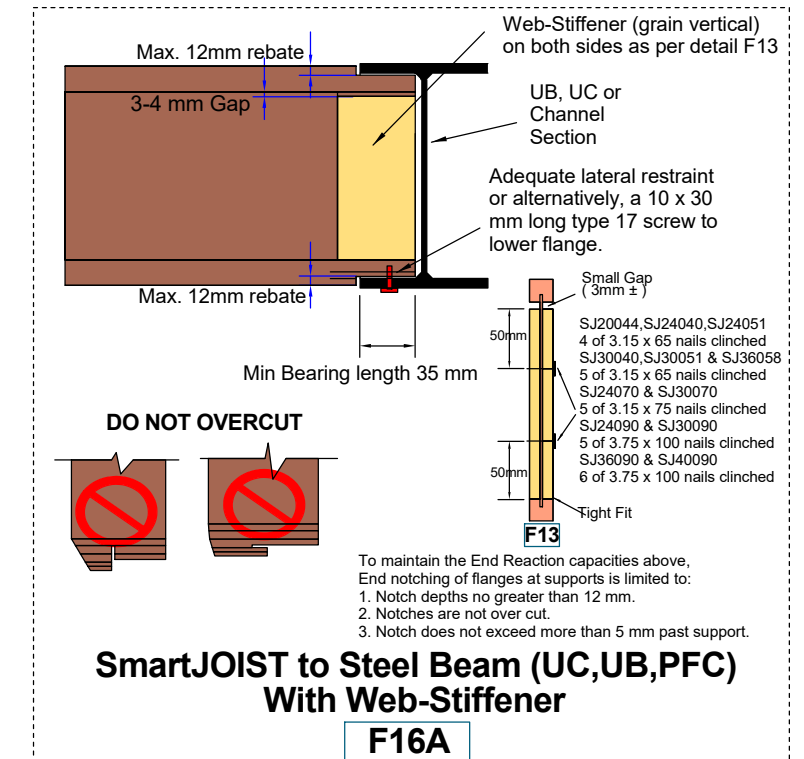
f10 F10
1:2



f12 F12
1:2



f13 F13
1:2



f16A F16A
1:2

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pH 1300362084
BSA # 1077794
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Joist Details

J205-14

Client
Richard & Linda Matthews

Scale 1:2

Job Address
*8 LOT 131 CURRAWONG ST
MUDJIMBA

Status 2 ENGINEER -N3

Checked by

Drawn by

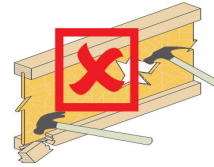
Date

11/05/20

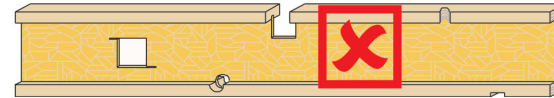
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SmartJoist hole and duct charts

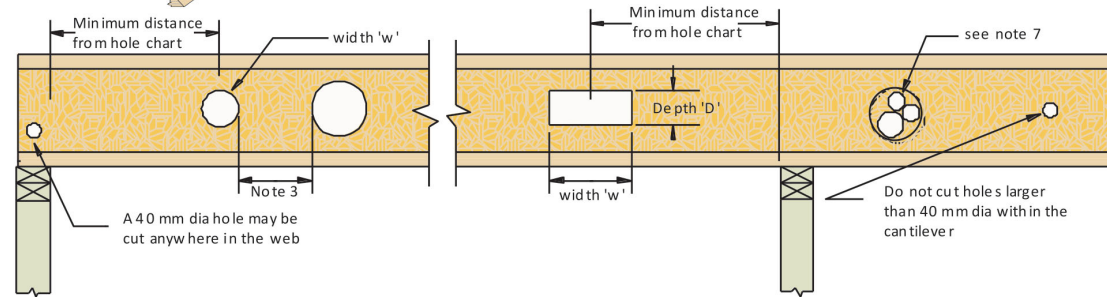
Don't make holes with hammer other than pre-punched knockouts



Don't hammer on flanges and damage joint



**Do not cut or notch flanges
Do not over cut holes in web**



Note: The most accurate method to design the allowable web penetration size and distance from support for SmartJoists is to use the Smart-Frame software. The table below will give conservative results in some instances. Also, advice on hole size and location may be obtained by contacting the Tech Support Customer Helpline on 1300 668 690 or at techsupport@tilling.com.au.

Assumed loading (DL = 62 kg/m², FLL = 2 kPa, FPL = 1.8 kN)

Joist code	Joist span* (mm)	Joist spacing (mm)	Circular/square holes							Rectangular holes						
			Hole diameter/square hole width (mm)							Depth x width (mm)						
			75	100	125	150	175	200	225	250	125x150	150x300	175x350	200x400		
Minimum distance from any support to the centre of the hole (mm)																
SJ20044	600-999	300 to 600	300	300	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns		
	1000-1499		300	300	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns		
	1500-1999		300	300	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns		
	2000-2499		300	600	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns		
	2500-2999		300	800	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns		
	3000-3300		300	900	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns		
SJ24040	600-999	300 to 600	300	300	300	ns	ns	ns	ns	ns	ns	ns	ns	ns		
	1000-1499		300	300	300	ns	ns	ns	ns	ns	ns	ns	ns	ns		
	1500-1999		300	300	300	Span/2	ns	ns	ns	ns	750	Span/2	ns	ns		
	2000-2499		300	300	300	Span/2	ns	ns	ns	ns	1000	Span/2	ns	ns		
	2500-2999		300	300	500	Span/2	ns	ns	ns	ns	Span/2	Span/2	ns	ns		
	3000-3500		300	300	800	Span/2	ns	ns	ns	ns	Span/2	Span/2	ns	ns		
SJ24051	600-999	300 to 600	300	300	300	ns	ns	ns	ns	ns	ns	ns	ns	ns		
	1000-1499		300	300	300	ns	ns	ns	ns	ns	ns	ns	ns	ns		
	1500-1999		300	300	300	Span/2	ns	ns	ns	ns	750	Span/2	ns	ns		
	2000-2499		300	300	300	Span/2	ns	ns	ns	ns	1000	Span/2	ns	ns		
	2500-2999		300	300	500	Span/2	ns	ns	ns	ns	Span/2	Span/2	ns	ns		
	3000-3499		300	300	800	Span/2	ns	ns	ns	ns	Span/2	Span/2	ns	ns		
3500-3800	300	300	1000	Span/2	ns	ns	ns	ns	Span/2	Span/2	ns	ns				
SJ24070	600-999	300 to 600	300	300	300	ns	ns	ns	ns	ns	ns	ns	ns	ns		
	1000-1499		300	300	300	ns	ns	ns	ns	ns	300	ns	ns	ns		
	1500-1999		300	300	300	Span/2	ns	ns	ns	ns	600	Span/2	ns	ns		
	2000-2499		300	300	300	Span/2	ns	ns	ns	ns	900	Span/2	ns	ns		
	2500-2999		300	300	500	Span/2	ns	ns	ns	ns	1250	Span/2	ns	ns		
	3000-3499		300	300	800	Span/2	ns	ns	ns	ns	1500	Span/2	ns	ns		
3500-3999	300	300	1000	Span/2	ns	ns	ns	ns	Span/2	Span/2	ns	ns				
4000-4100	300	450	1100	Span/2	ns	ns	ns	ns	Span/2	Span/2	ns	ns				

SmartJoist Design Guide 31

SmartJoist hole charts (Cont'd)

Assumed load (DL = 62 kg/m², FLL = 2 kPa, FPL = 1.8 kN)

Joist code	Joist span* (mm)	Joist spacing (mm)	Circular/square holes								Rectangular holes					
			Hole diameter/square hole width (mm)								Depth x width (mm)					
			75	100	125	150	175	200	225	250	125x150	150x300	175x350	200x400		
Minimum distance from any support to the centre of the hole (mm)																
SJ24090	600-999	300 to 600	300	300	300	ns	ns	ns	ns	ns	ns	ns	ns	ns		
	1000-1499		300	300	300	ns	ns	ns	ns	ns	300	ns	ns	ns		
	1500-1999		300	300	300	700	ns	ns	ns	ns	500	750	ns	ns		
	2000-2499		300	300	300	1000	ns	ns	ns	ns	800	1000	ns	ns		
	2500-2999		300	300	400	1150	ns	ns	ns	ns	1100	Span/2	ns	ns		
	3000-3499		300	300	700	1400	ns	ns	ns	ns	1400	Span/2	ns	ns		
3500-3999	300	300	800	1550	ns	ns	ns	ns	1700	Span/2	ns	ns				
4000-4100	300	300	900	1600	ns	ns	ns	ns	1800	Span/2	ns	ns				
SJ25570	600-999	300 to 600	300	300	300	300	ns	ns	ns	ns	300	300	ns	ns		
	1000-1499		300	300	300	300	ns	ns	ns	ns	300	500	ns	ns		
	1500-1999		300	300	300	span/2	ns	ns	ns	ns	400	800	ns	ns		
	2000-2499		300	300	600	span/2	ns	ns	ns	ns	700	1000	ns	ns		
	2500-2999		300	300	900	span/2	ns	ns	ns	ns	1000	1300	ns	ns		
	3000-3499		300	700	1300	span/2	ns	ns	ns	ns	1300	1600	ns	ns		
3500-3999	300	1100	1600	span/2	ns	ns	ns	ns	1700	1900	ns	ns				
4000-4300	300	1400	1800	span/2	ns	ns	ns	ns	1900	span/2	ns	ns				
SJ30040	600-999	300 to 600	300	300	300	300	300	300	ns	ns	300	300	ns	ns		
	1000-1499		300	300	300	300	300	300	ns	ns	300	500	Span/2	ns		
	1500-1999		300	300	300	300	300	300	500	ns	ns	300	Span/2	Span/2	Span/2	
	2000-2499		300	300	300	300	300	300	700	ns	ns	500	Span/2	Span/2	Span/2	
	2500-2999		300	300	300	300	300	400	1000	ns	ns	900	Span/2	Span/2	Span/2	
	3000-3499		300	300	300	300	600	1200	ns	ns	1300	Span/2	Span/2	Span/2	Span/2	
3500-3999	300	300	300	300	900	1450	ns	ns	1750	Span/2	Span/2	Span/2	Span/2			
4000-4100	300	300	300	400	1000	1500	ns	ns	Span/2	Span/2	Span/2	ns	ns			
SJ30051	600-999	300 to 600	300	300	300	300	300	300	ns	ns	300	300	ns	ns		
	1000-1499		300	300	300	300	300	300	ns	ns	300	500	Span/2	ns		
	1500-1999		300	300	300	300	300	300	500	ns	ns	300	750	Span/2	Span/2	
	2000-2499		300	300	300	300	300	300	700	ns	ns	400	Span/2	Span/2	Span/2	
	2500-2999		300	300	300	300	300	400	1000	ns	ns	800	Span/2	Span/2	Span/2	
	3000-3499		300	300	300	300	600	1200	ns	ns	1200	Span/2	Span/2	Span/2	Span/2	
3500-3999	300	300	300	300	900	1450	ns	ns	1600	Span/2	Span/2	Span/2	Span/2			
4000-4300	300	300	300	400	1000	1600	ns	ns	1800	Span/2	Span/2	ns	ns			
SJ30070	600-999	300 to 600	300	300	300	300	300	300	ns	ns	300	300	ns	ns		
	1000-1499		300	300	300	300	300	300	ns	ns	300	500	Span/2	ns		
	1500-1999		300	300	300	300	300	300	500	ns	ns	300	750	Span/2	Span/2	
	2000-2499		300	300	300	300	300	300	700	ns	ns	400	1000	Span/2	Span/2	
	2500-2999		300	300	300	300	400	950	ns	ns	700	1250	Span/2	Span/2		
	3000-3499		300	300	300	300	600	1200	ns	ns	1000	Span/2	Span/2	Span/2	Span/2	
3500-3999	300	300	300	300	900	1450	ns	ns	1400	Span/2	Span/2	Span/2	Span/2			
4000-4499	300	300	300	500	1100	1700	ns	ns	1800	Span/2	Span/2	Span/2	Span/2			
4500-4600	300	300	300	700	1200	1800	ns	ns	1900	Span/2	Span/2	Span/2	Span/2			
SJ30090	600-999	300 to 600	300	300	300	300	300	300	ns	ns	300	300	ns	ns		
	1000-1499		300	300	300	300	300	300	ns	ns	300	400	Span/2	ns		
	1500-1999		300	300	300	300	300	300	300	ns	ns	300	750	Span/2	Span/2	
	2000-2499		300	300	300	300	300	600	ns	ns	300	950	Span/2	Span/2		
	2500-2999		300	300	300	300	300	800	ns	ns	500	1200	Span/2	Span/2		
	3000-3499		300	300	300	300	400	1100	ns	ns	800	1500	Span/2	Span/2		
3500-3999	300	300	300	300	700	1300	ns	ns	1200	1750	Span/2	Span/2				
4000-4499	300	300	300	300	950	1600	ns	ns	1600	Span/2	Span/2	Span/2	Span/2			
4500-4900	300	300	300	500	1100	1800	ns	ns	1800	Span/2	Span/2	Span/2	Span/2			

SmartJoist Design Guide 32

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pH 1300362084
BSA # 1077794
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SMARTJOIST HOLES

- 1
J205-15

Client
Richard & Linda Matthews

Scale

Job Address
*8 LOT 131 CURRAWONG ST
MUDJIMBA

Status 2 ENGINEER -N3

Checked by

Drawn by

Date

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SmartJoist hole charts (Cont'd)

Assumed load (DL = 62 kg/m², FLL = 2 kPa, FPL = 1.8 kN)

Joist code	Joist span (mm)	Joist* spacing (mm)	Circular/square holes								Rectangular holes			
			Hole diameter/square hole width (mm)								Depth x width (mm)			
			75	100	125	150	175	200	225	250	125x150	150x300	175x350	200x400
Minimum distance from any support to the centre of the hole (mm)														
SP30095	600-999	300 to 600	300	300	300	300	300	300	ns	ns	300	300	300	300
	1000-1499		300	300	300	300	300	300	ns	ns	300	300	400	400
	1500-1999		300	300	300	300	300	400	ns	ns	300	500	700	700
	2000-2499		300	300	300	400	600	700	ns	ns	300	800	900	1000
	2500-2999		300	300	300	700	900	1000	ns	ns	300	1000	1200	span/2
	3000-3499		300	300	400	1000	1200	1300	ns	ns	600	1300	1500	span/2
	3500-3999		300	300	700	1300	1500	1600	ns	ns	1000	1600	1700	span/2
	4000-4499		300	300	1100	1600	1800	1900	ns	ns	1300	1900	2000	span/2
4500-4999	300	300	1500	2000	2200	2200	ns	ns	1700	2200	2300	span/2		
5000-5499	300	300	1900	2300	2500	span/2	ns	ns	2100	span/2	span/2	span/2		
SJ36058	1000-1499	300 to 600	300	300	300	300	300	300	300	300	300	300	400	ns
	1500-1999		300	300	300	300	300	300	300	400	300	300	700	span/2
	2000-2499		300	300	300	300	300	300	300	700	300	550	900	span/2
	2500-2999		300	300	300	300	300	300	400	900	300	850	1200	span/2
	3000-3499		300	300	300	300	300	300	650	1200	300	1200	1500	span/2
	3500-3999		300	300	300	300	300	400	900	1400	300	1500	1750	span/2
	4000-4499		300	300	300	300	300	600	1100	1700	300	1800	span/2	span/2
	4500-5000		300	300	300	300	300	800	1400	1900	300	2200	span/2	span/2
SJ36090	600-999	300 to 600	300	300	300	300	300	300	300	300	300	300	ns	ns
	1000-1499		300	300	300	300	300	300	300	300	300	300	300	ns
	1500-1999		300	300	300	300	300	300	300	300	300	300	450	700
	2000-2499		300	300	300	300	300	300	300	400	300	300	750	1000
	2500-2999		300	300	300	300	300	300	300	650	300	450	1000	1250
	3000-3499		300	300	300	300	300	300	300	900	300	800	1300	1500
	3500-3999		300	300	300	300	300	300	500	1150	300	1100	1600	span/2
	4000-4499		300	300	300	300	300	300	750	1400	300	1450	1900	span/2
4500-4999	300	300	300	300	300	400	1000	1650	300	1800	2200	span/2		
5000-5400	300	300	300	300	300	600	1200	1800	300	2100	2500	span/2		
SJ40090	600-999	300 to 600	300	300	300	300	300	300	300	300	300	300	ns	ns
	1000-1499		300	300	300	300	300	300	300	300	300	300	300	ns
	1500-1999		300	300	300	300	300	300	300	300	300	300	300	400
	2000-2499		300	300	300	300	300	300	300	300	300	300	300	600
	2500-2999		300	300	300	300	300	300	300	300	300	300	300	900
	3000-3499		300	300	300	300	300	300	300	300	300	300	600	1200
	3500-3999		300	300	300	300	300	300	300	400	300	300	1000	1500
	4000-4499		300	300	300	300	300	300	300	600	300	300	1300	1800
4500-4999	300	300	300	300	300	300	300	800	300	500	1700	2100		
5000-5499	300	300	300	300	300	300	400	900	300	1000	2000	2500		
5500-5700	300	300	300	300	300	300	500	1100	300	1200	2200	2750		

Notes:

- The hole chart is generated for single span joists with a maximum floor dead load of 62 kg/m² with no wall or roof loads. It therefore does not apply for joists supporting either parallel or perpendicular load bearing walls. These scenarios can be analysed by using the appropriate model within the SmartFrame software. Help can be obtained for continuous spans by contacting the Tech Support Helpline on 1300 668 690 or at techsupport@tilling.com.au
- Hole locations are suitable for joist spacings up to 600 mm centres. Holes may be permitted closer to supports for some member when spacings of 450 or 300 mm are used
- The clear distance between holes must equal or exceed twice the diameter of the largest hole, or twice the longest side of a rectangular hole and no more than 3 holes in excess of 75 mm are allowed in any span
- Do not cut or damage flanges under any circumstances
- Except as noted in 1 and 2 above, a 40 mm hole at a minimum of 450 mm centres is allowed to be drilled anywhere in the web EXCEPT in cantilevered spans
- If possible, holes in web should be positioned mid height, minimum edge clearance from any flange is 6 mm. A group of round holes at approximately the same location shall be permitted if they meet the requirements for a single round hole circumscribed around them.

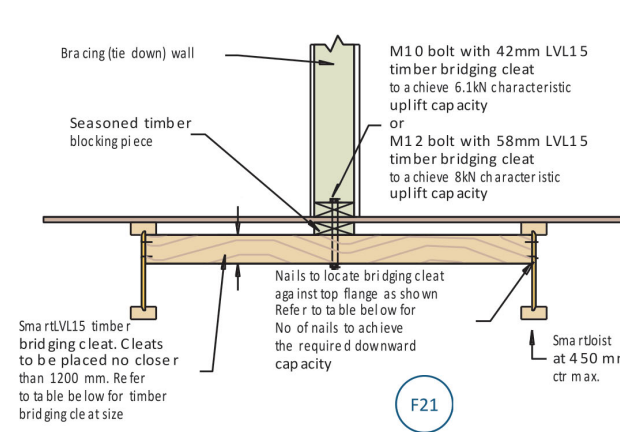
SmartJoist Design Guide 33

Tie down and bracing wall support details (cont'd)

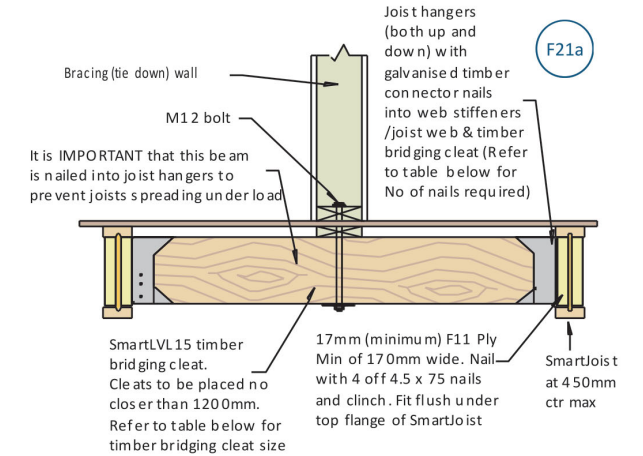
The tie-down and bracing of any structure is of critical importance to its robustness. While some general guidance on this topic is given in AS 1684 sections 8 and 9 including some specific examples, very little information is provided to designers where the bracing or tie down forces act within a floor diaphragm, or how to transfer the design loads specified in table 8.18 to supporting members.

Below are some examples that may be helpful to designers utilising SmartJoist floor joists but these examples must in no way be a substitute for expert engineering advice from an experienced structural engineer. Any member, especially tall slender sections typical of floor joists experience significant reduction in strength at the location of a vertical hole. Typically a vertical hole is deemed to have an effect of 1.5 times the diameter of the hole.

Bracing walls between parallel joists



Downward force capacities		
Timber bridging size (DxB mm)	No of nails through SmartJoist web to bridging	Characteristic capacity (kN) 1.2G + W _{en}
90x42/58 SmartLVL 15	2	4.0
130x42/58 SmartLVL 15	3	4.9
170x42/58 SmartLVL 15	4	5.8

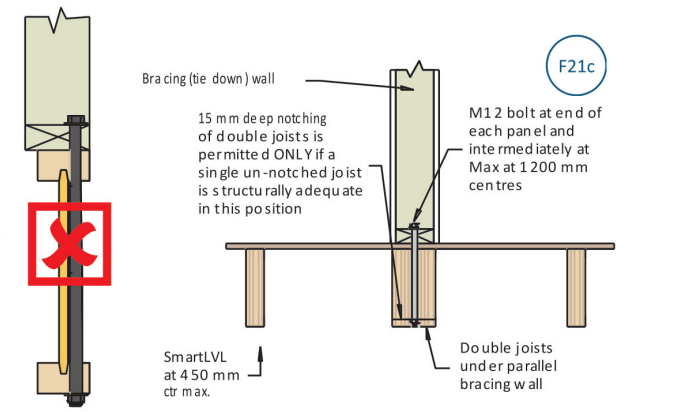
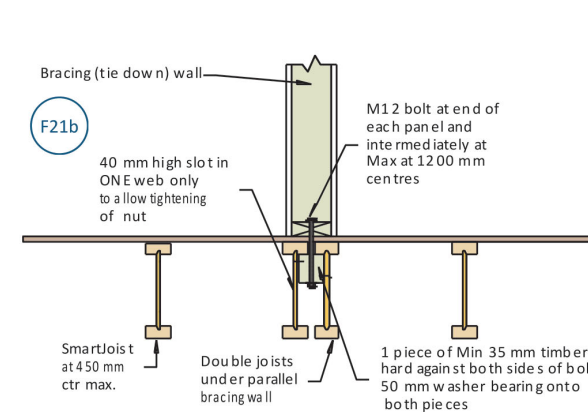


Timber bridging size (DxB mm)	Hanger code	No of hanger nails into joist	No of hanger nails into bridging	Characteristic uplift and downward capacity (kN)
90x58 SmartLVL 15	FB5890	8	4	9.6
130x58 SmartLVL 15	FB58120	12	6	13.6
170x58 SmartLVL15	FB58170	20	10	20.0

Bracing walls vertically above parallel joists

Do not drill through either flange of SmartJoists unless they are fully supported on wall plate or similar

Do not drill through single members unless the whole member is re-analysed with a reduced cross section at the hole location



SmartJoist Design Guide 25

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BSA # 1077794
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SMARTJOIST HOLES

-2
J205-16

Client
Richard & Linda Matthews

Scale

Job Address
#8 LOT 131 CURRAWONG ST
MUDJIMBA

Status 2 ENGINEER -N3

Checked by

Drawn by

Date

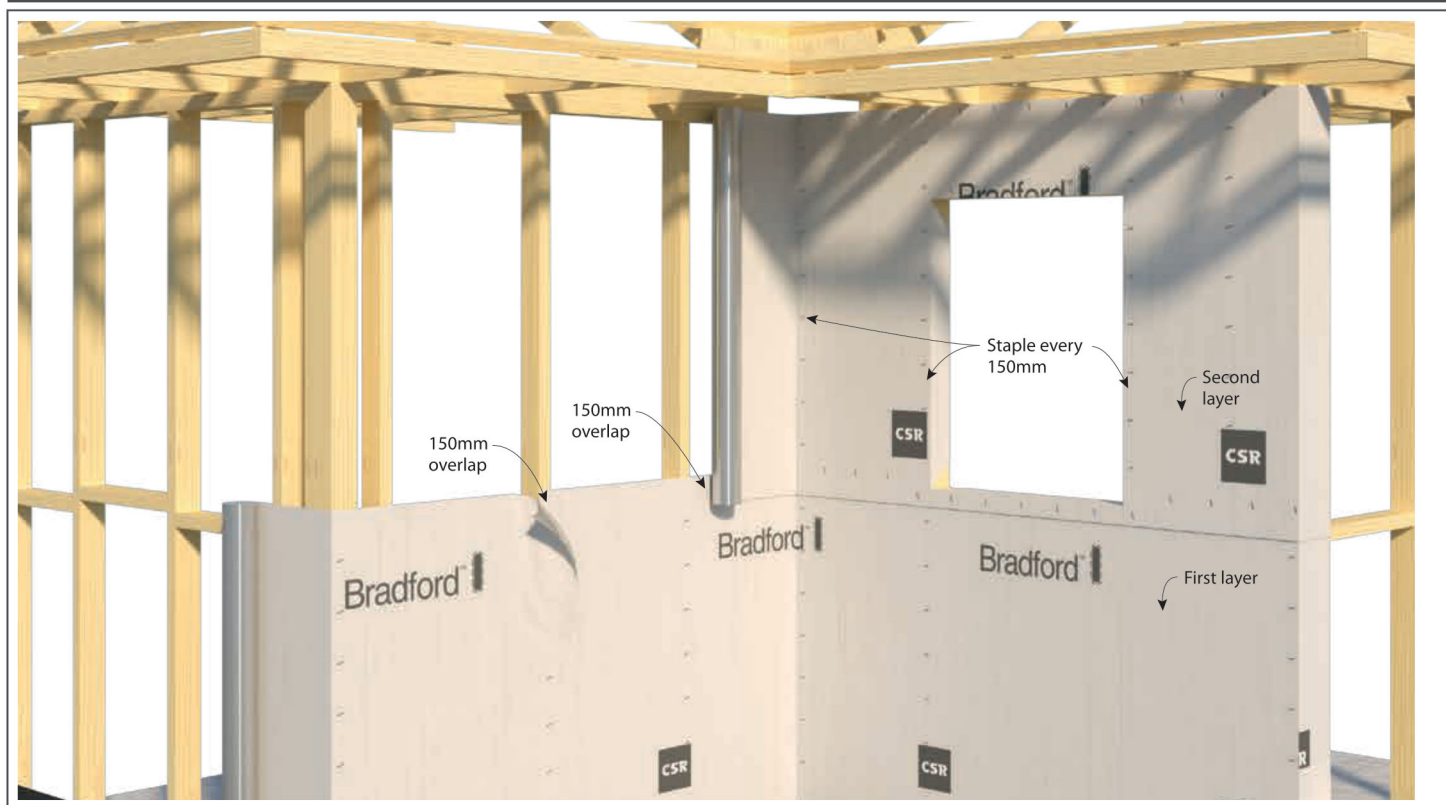
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WALL WRAP INSTALLATION GUIDANCE

CLASS 1 RESIDENTIAL TIMBER AND METAL FRAMES

WALL WRAP INSTALLATION GUIDANCE



WALL WRAP INSTALLATION GUIDANCE

Wall wrap should be installed in accordance with AS/NZS 4200.2:2017 Pliable Building Membranes and Underlays - Installation. Recommended instructions for a compliant installation:

- The printed, non-reflective or antiglare surface of this product must be installed facing outward.
- The product should be applied to a stud and rolled around the wall frame horizontally.
- When wrapping around corners, 150mm should extend around that corner.
- When applying a new roll horizontally it should overlap the previous roll by 150mm.
- **Timber frame:** Affix using galvanised staples/metal fixings every 150mm, where possible all overlaps and end joints should line up with a wall stud.
- **Metal Frame:** Affix using adhesive if cladding is directly fixed to the stud work, or; mechanical fixings with a broad headed washer at 300mm centres for cavity walls.
- When applying the top layer of wrap, it should overlap the bottom layer of wrap by 150mm.
- To create an air or vapour barrier, all overlaps should be sealed and taped.
- * All damaged, punctured or torn material should be repaired or replaced to maintain the original properties of the product.
- * When this product is being used as an air barrier, to achieve air tightness, it is recommended that the building have mechanical ventilation.
- * For additional installation guidance, refer to AS/NZS 4200.2:2017.

WINDOW INSTALLATION GUIDANCE

Windows: Install in accordance AS/NZS4200.2 Pliable building membranes and underlays Part 2: Installation or window manufacturers recommended guidance.

If windows are already installed, flash in accordance with window manufacturers recommended instructions.

Weather Exposure: Wall wrap is a secondary sarking material and is not designed to withstand prolonged direct exposure to the elements - accordingly, the exterior cladding should be installed without delay. Product exposed to harsh weather conditions for more than 6 weeks for walls should be inspected for damage prior to installation of the exterior cladding and damaged product should be repaired or replaced to comply with the product warranty.

CSR Bradford Locked Bag 1345 North Ryde BC NSW 1670
bradfordinsulation.com.au

For further technical advice
call **1300 850 305** or
visit bradfordinsulation.com.au

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designer homes

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pH 1300362084
BSA # 1077794
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Client

Richard & Linda Matthews

Job Address

*8 LOT 131 CURRAWONG ST
MUDJIMBA

Wall Wrap

Status 2 ENGINEER -N3

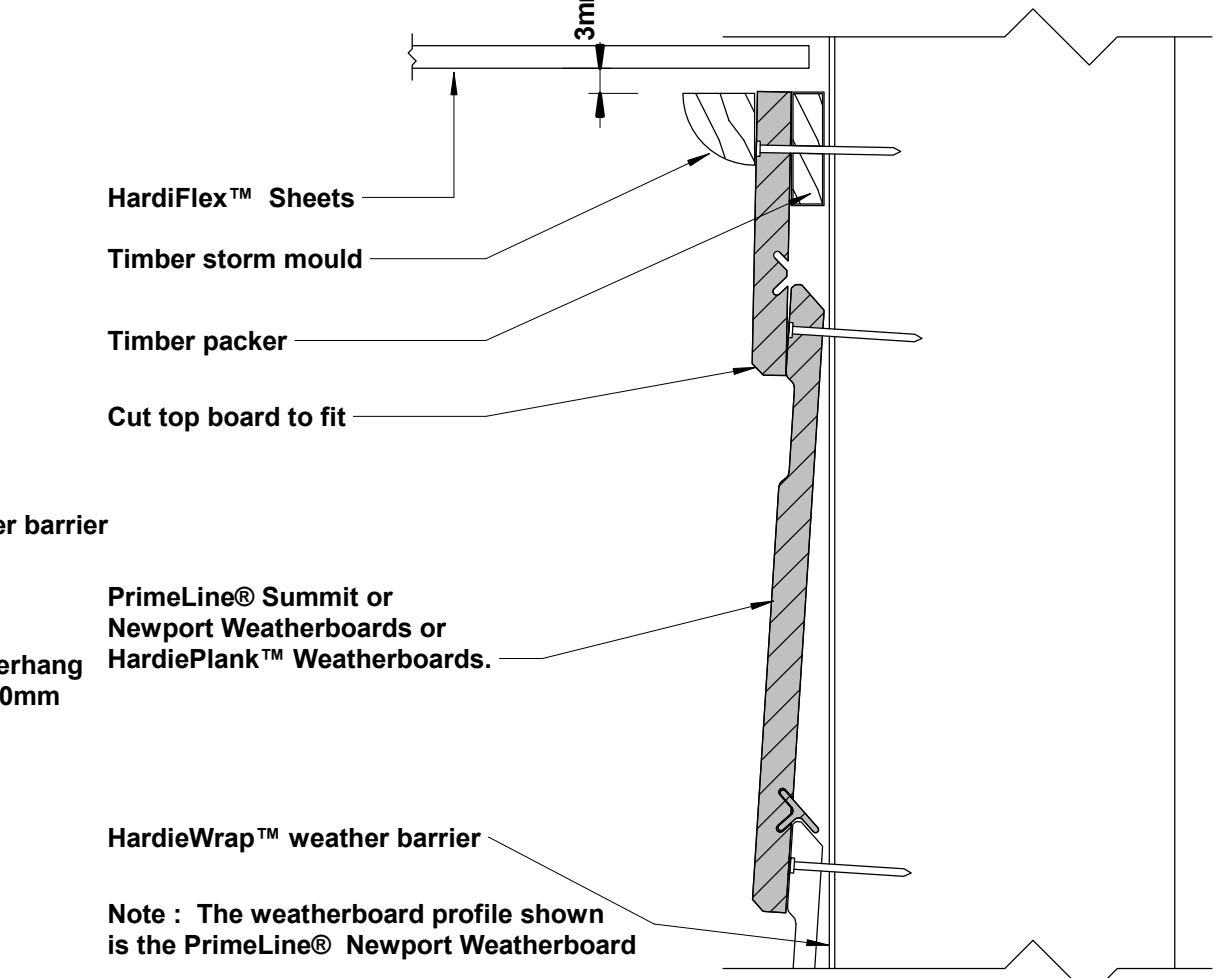
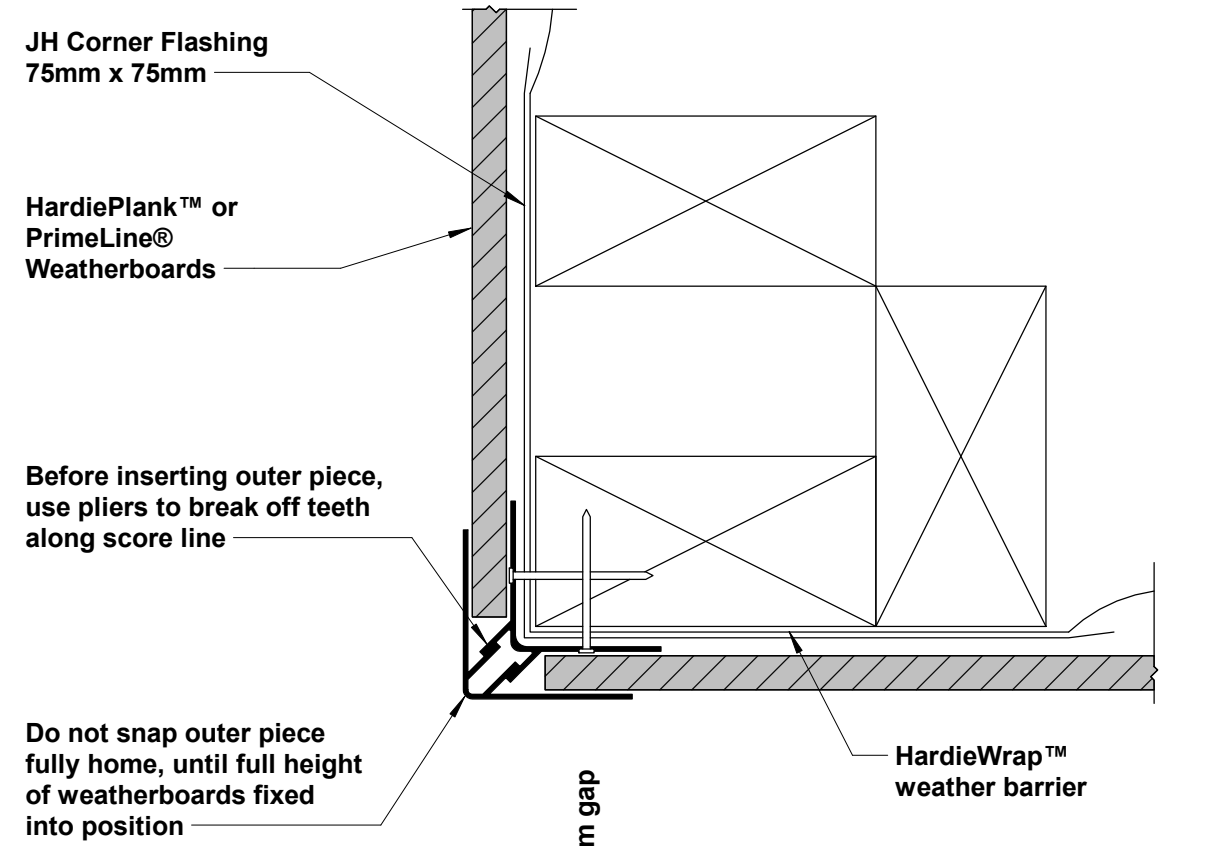
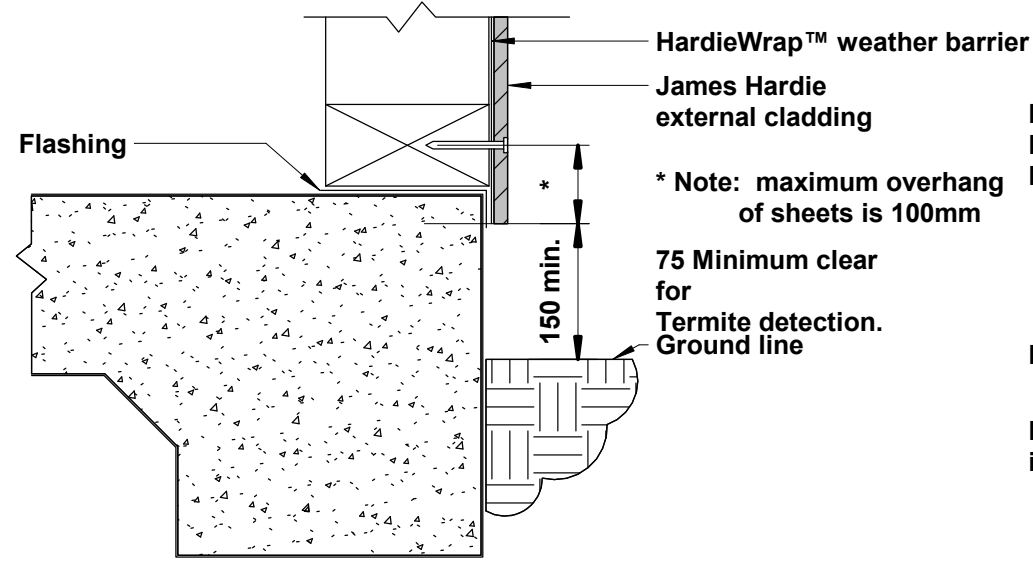
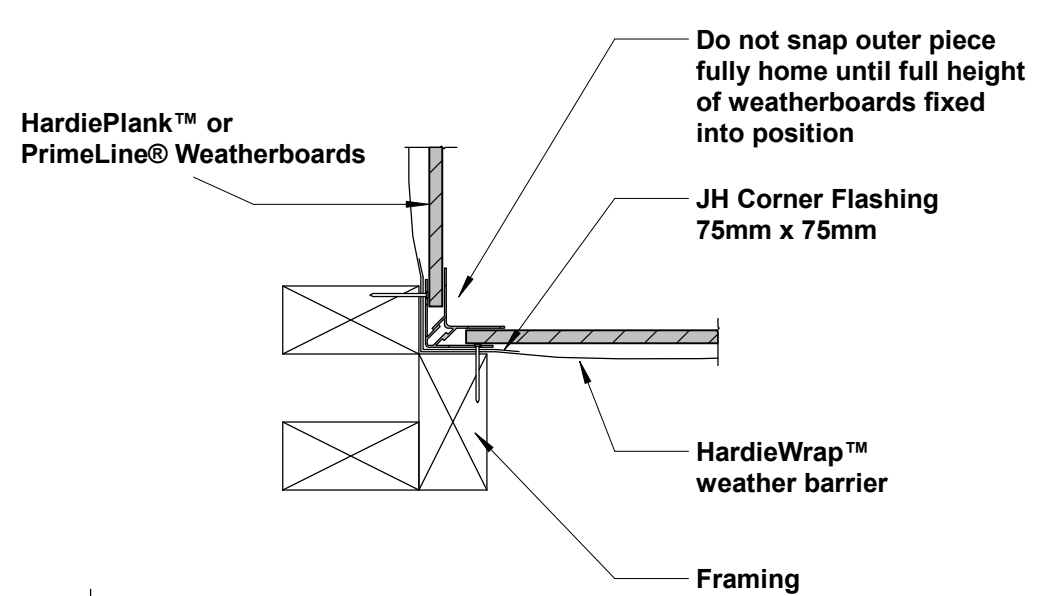
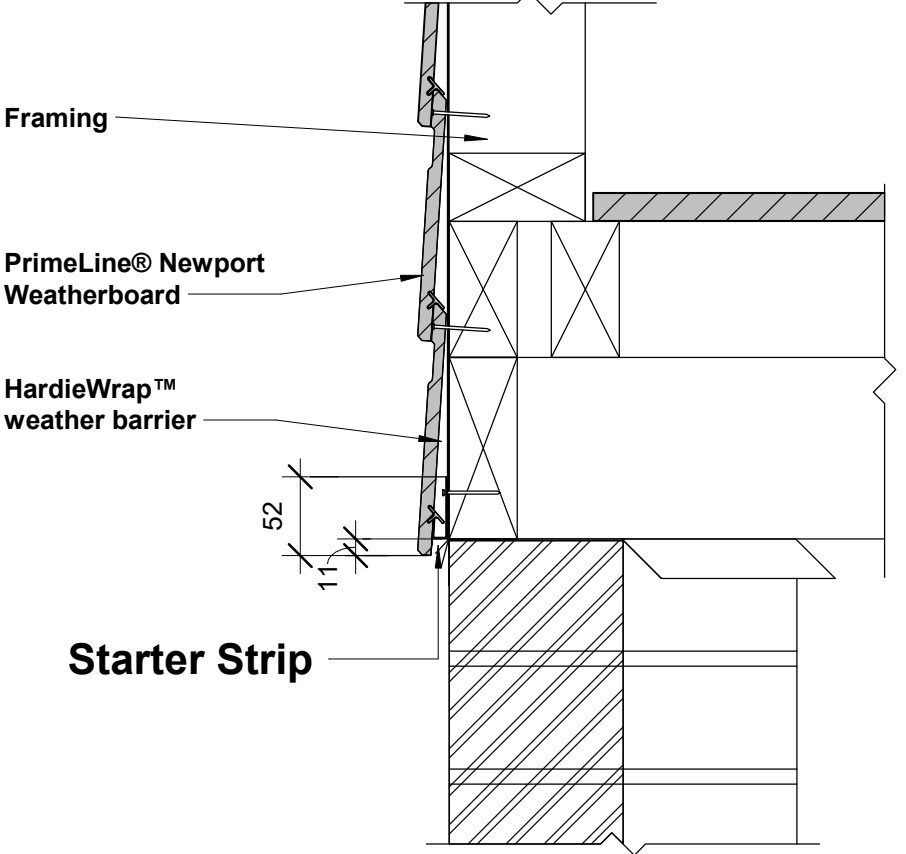
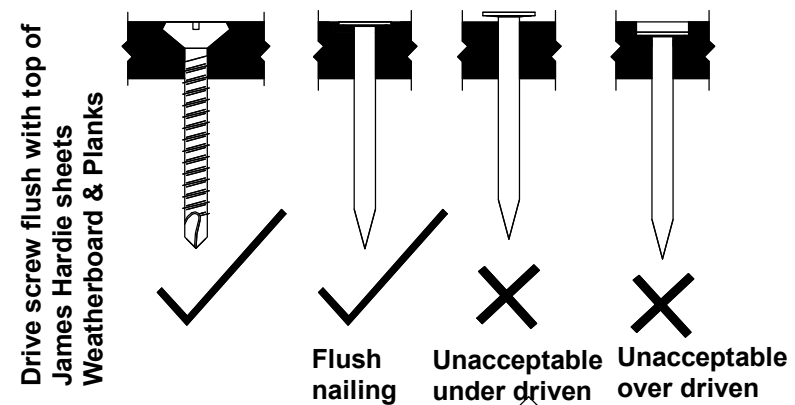
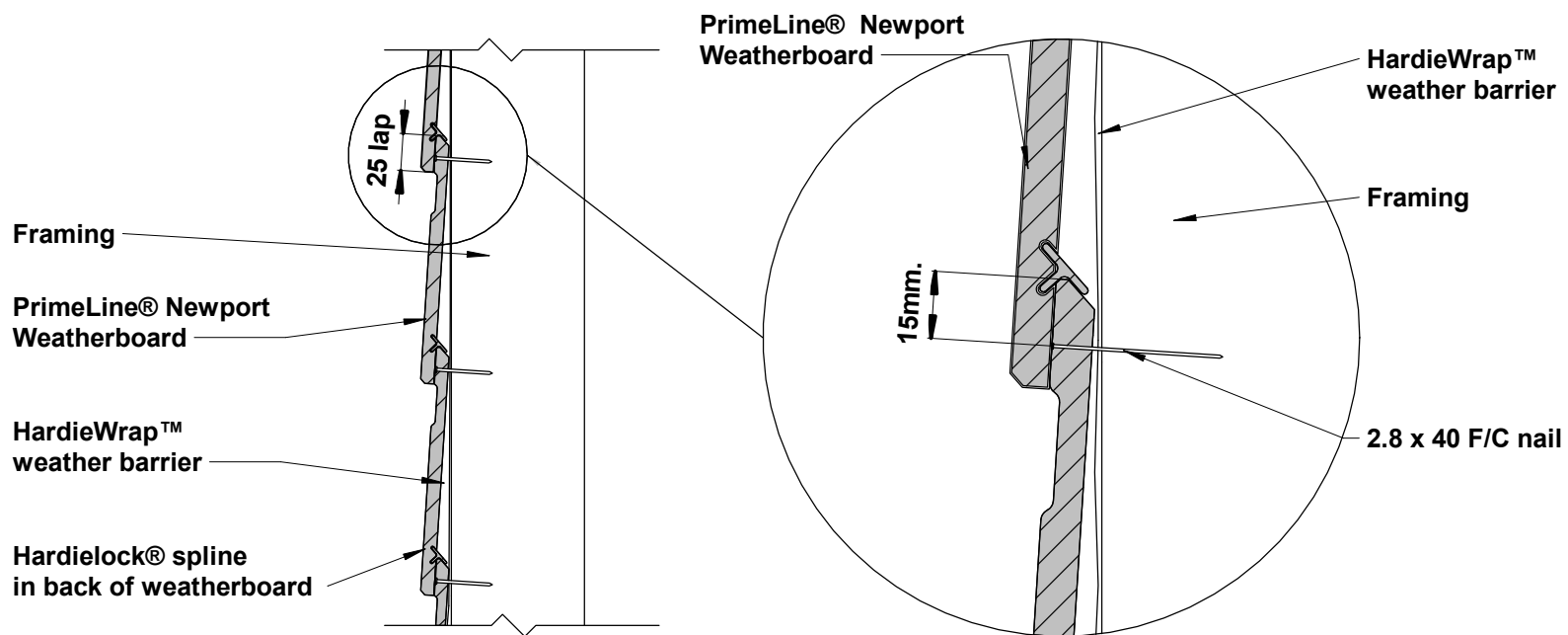
Date 11/05/20

Drawn by

Checked by

J205-17

Scale 1 : 10



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Cladding Details

J205-18

Client Richard & Linda Matthews	Job Address #8 LOT 131 CURRAWONG ST MUDJIMBA	Checked by
Scale As indicated	Status 2 ENGINEER -N3	Drawn by
		Date 11/05/20

11/05/2020 9:17:57 AM