

Appendix 2: Test Cell Construction Information

The Empirical Validation of House Energy Rating (HER) Software for Lightweight Housing in Cool Temperate Climates

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B Arch, B Env. Design, Grad. Cert. Management

Submitted in total fulfilment of the requirements of the degree of Doctor of Philosophy

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School of Architecture & Design
Faculty of Science, Engineering & Technology
The University of Tasmania

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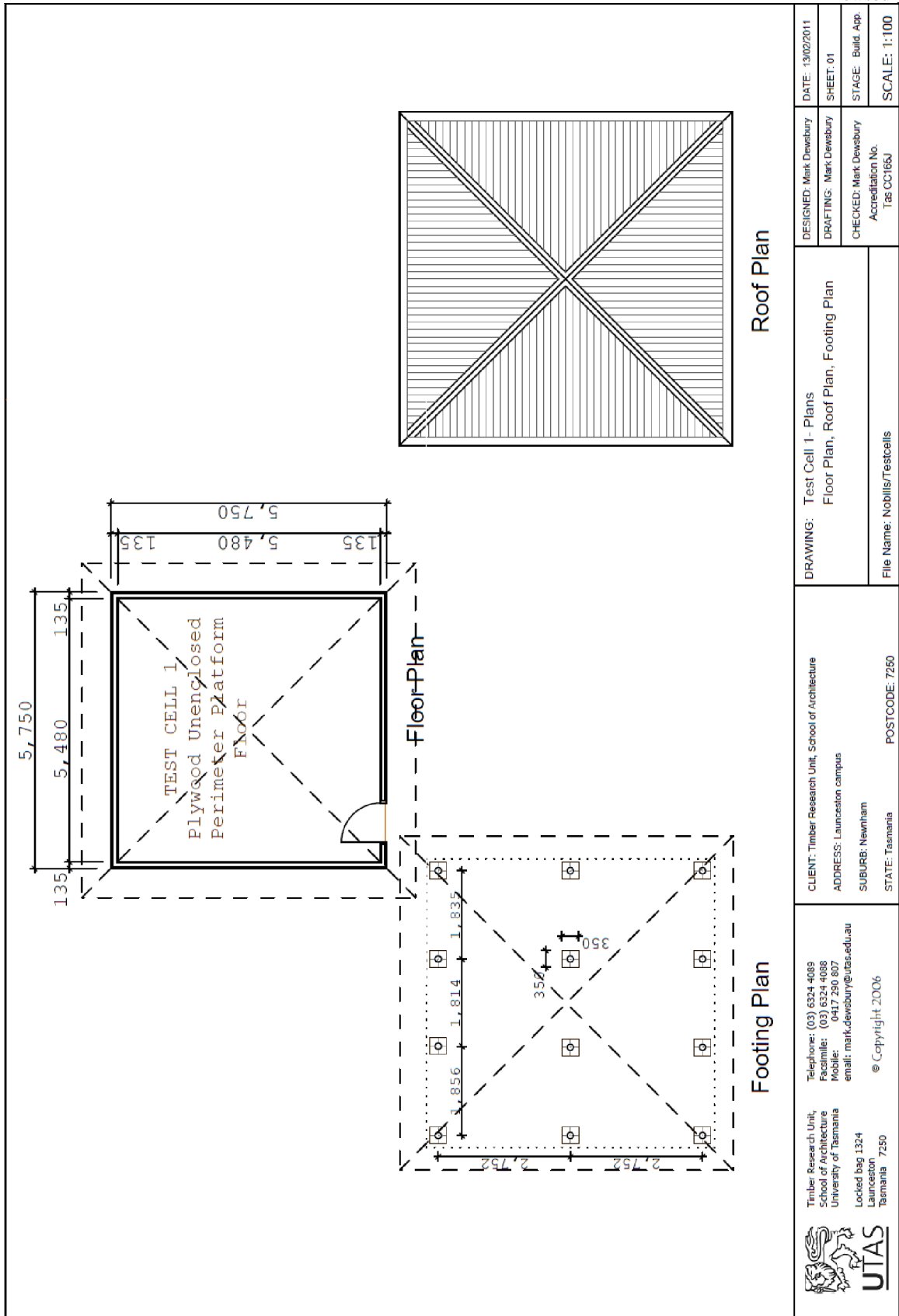
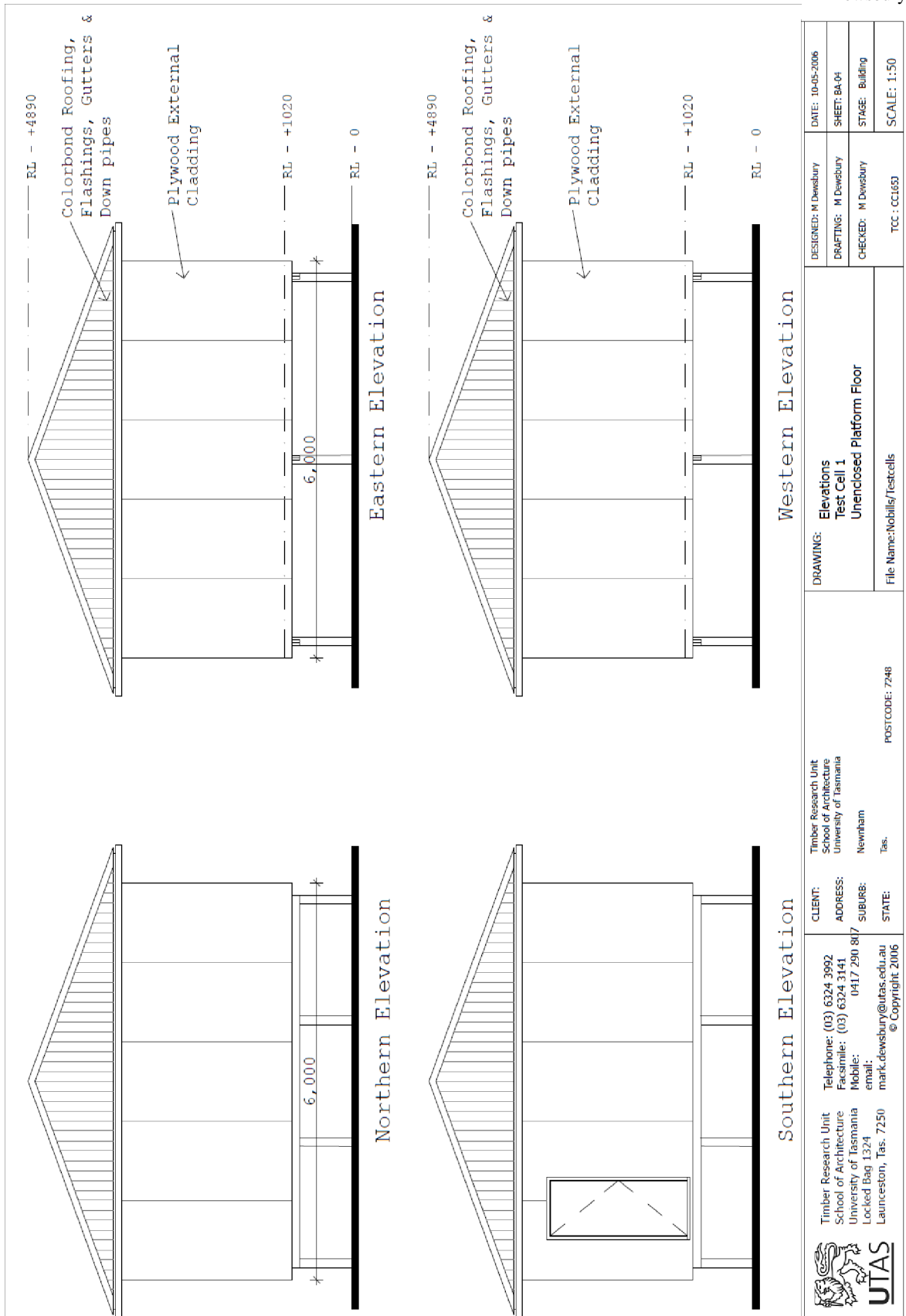


Figure A2.2 - Test Cell 1 Footing Plan, Floor Plan and Roof Plan (not to scale)



 <p>Timber Research Unit School of Architecture University of Tasmania Locked Bag 1324 Launceston, Tas. 7250 mark.dewsbury@utas.edu.au © Copyright 2006</p>	<p>CLIENT: Timber Research Unit School of Architecture University of Tasmania Newnham Tas.</p>	<p>DESIGNED: M Dewsbury DATE: 10-05-2006</p>
	<p>ADDRESS: (03) 6324 3992 Facsimile: (03) 6324 3141 SUBURB: 0417 290 817</p>	<p>DRAFTING: M Dewsbury SHEET: BA-01</p>
	<p>STATE: mark.dewsbury@utas.edu.au POSTCODE: 7248</p>	<p>CHECKED: M Dewsbury STAGE: Building</p>
<p>DRAWING: Elevations Test Cell 1 Unenclosed Platform Floor</p>		<p>TCC : CCL653 SCALE: 1:50</p>
<p>File Name: Nobills/Testcells</p>		

Figure A2.3 - Test Cell 1 Elevations (not to scale)

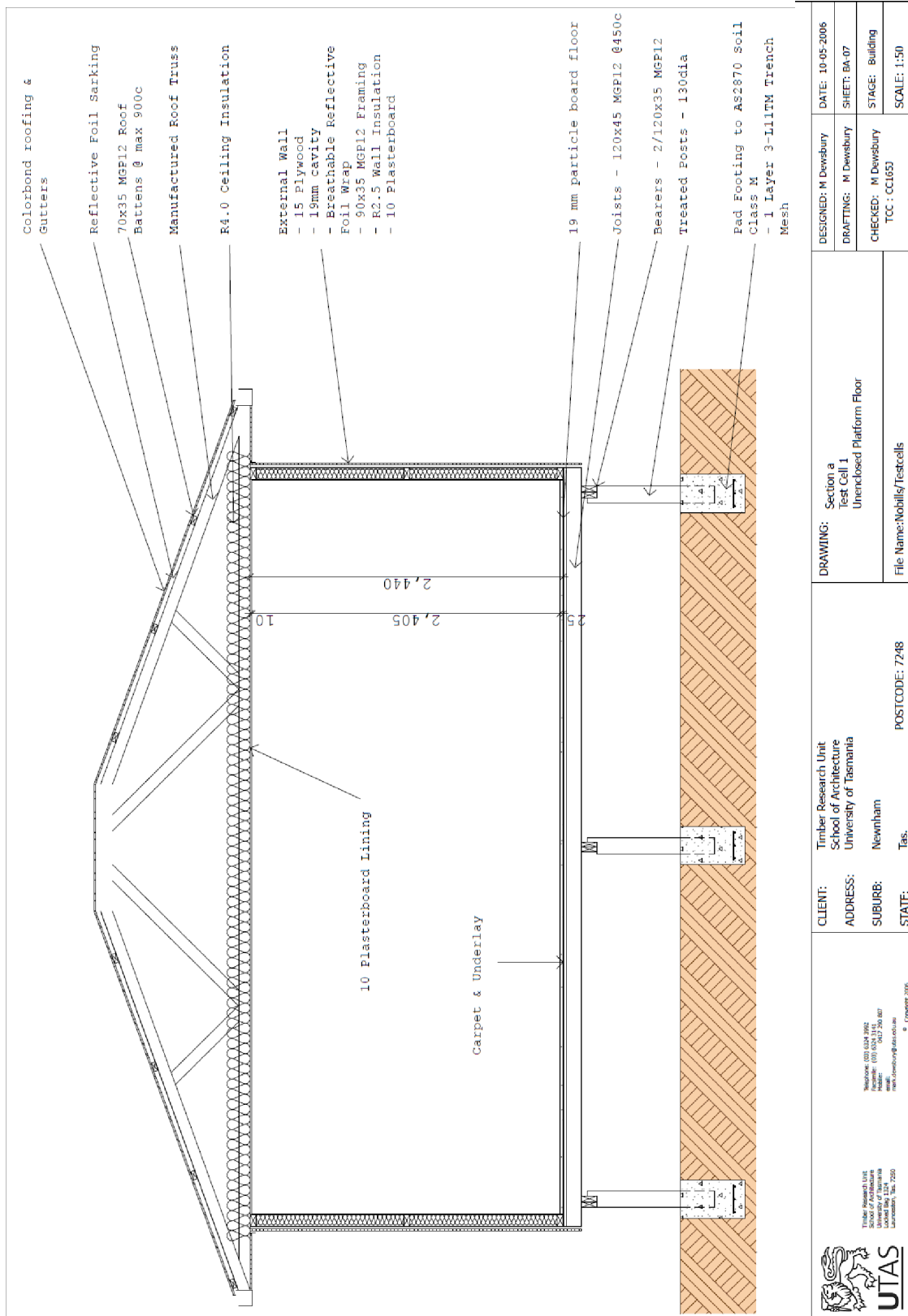


Figure A2.4 - Test Cell 1 Section (not to scale)

Test Cell Framing Data

All test cell framing drawings provided by courtesy of Spantruss Launceston.

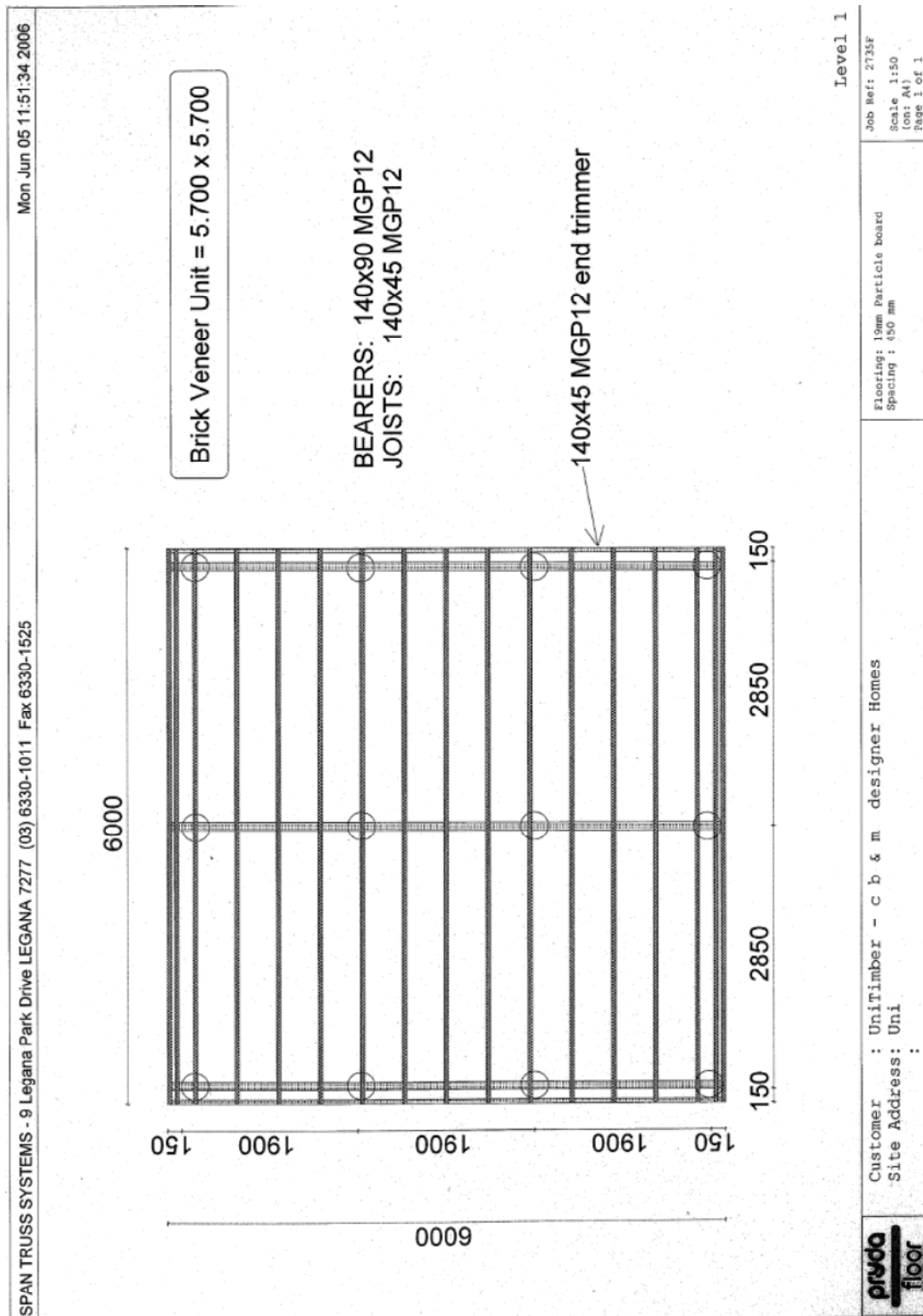
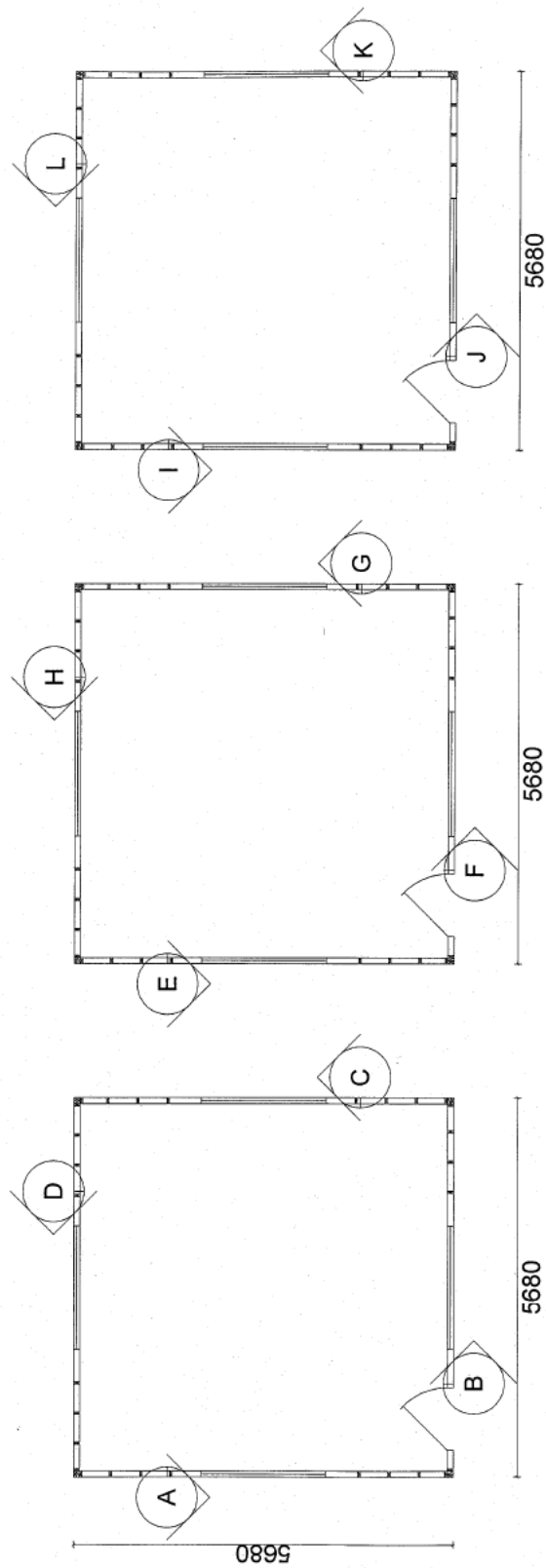


Figure A2.5 - Test Cell 1 – Post, Bearer and Joist Data (not to scale)



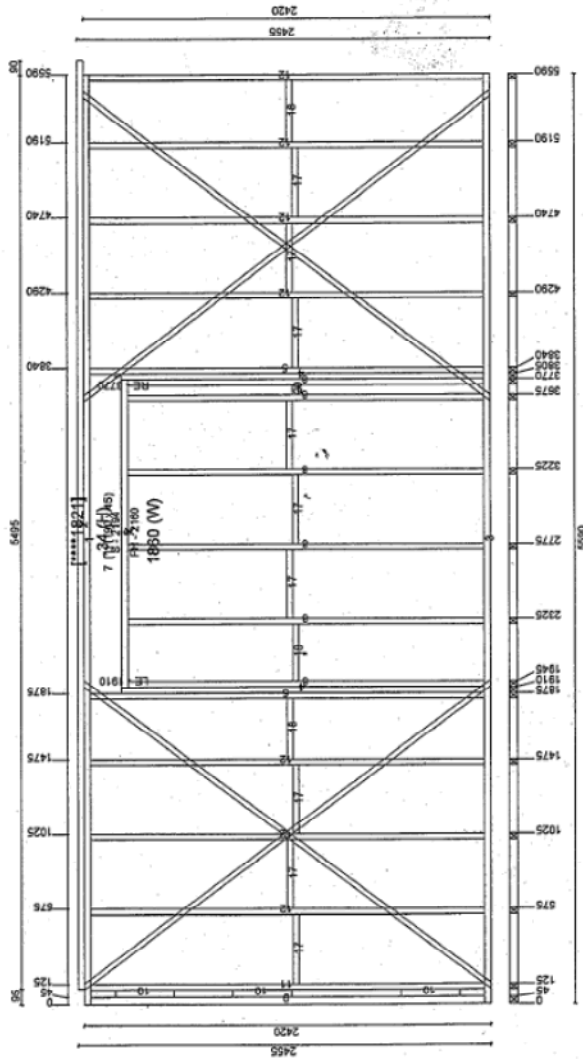
It is the builders responsibility to ensure walls are erected, connected and braced as per Australian Standard AS 1684.2-1999 and that the bracing complies with the project engineers bracing design.

Figure A2.6 - Test Cell 1 – Wall-framing Data, walls A, B, C & D (not to scale)

Panel Production Sheets

Panel: "A" (L1)
Date: 6-06-2006 Page: 1

Job: "STL052"
Description: C.B&M Uni Invermay
Nog Heights: 1175



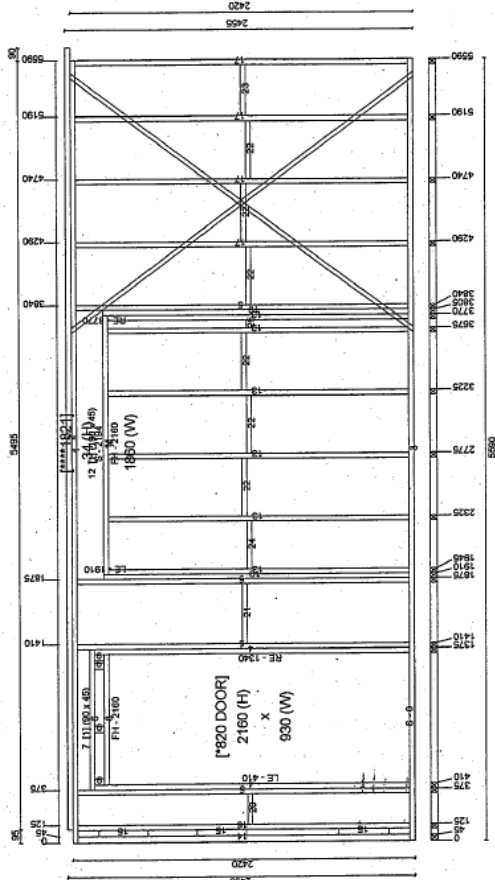
ID	Member Type	Timber	Qty	BEdg/TEdg	Pitch (Deg)	Left Adj (Btm)	Right Adj (Top)	Left Mitre	Right Mitre
1	Top Plate	90 x 35 MGP12	1	5590					
2	Very Top Plate	90 x 35 MGP10	1	5585					
3	Bottom Plate	90 x 35 MGP12	1	5590					
4	Component Trimmer	90 x 35 MGP10	2	2180					
5	Component Stud	90 x 35 MGP10	2	2350					
6	Component Sill	90 x 35 MGP10	1	1860					
7	Component Header	190 x 45 MGP12	1	1930					
8	Sill Cripple	90 x 35 MGP10	6	2124					
9	Subcomponent Stud	90 x 45 MGP10	1	2350					
10	Subcomponent Block	90 x 45 MGP10	3	350					
11	Subcomponent Stud	90 x 35 MGP10	1	2350					
12	Wall Stud	90 x 35 MGP10	7	2350					
*	Bracing Outline	1.2 x 30.2 PL X BRACE	1	3030	-53.0	-37.0	37.0		
*	Bracing Outline	1.2 x 30.2 PL X BRACE	1	3030	-127.0	-37.0	-37.0		
*	Bracing Outline	1.2 x 30.2 PL X BRACE	1	3030	-127.0	-37.0	37.0		
*	Bracing Outline	1.2 x 30.2 PL X BRACE	1	3030	-53.0	37.0	-37.0		
17	Blocking	90 x 35 P10	8	415					
18	Blocking	90 x 35 P10	2	365					
19	Blocking	90 x 35 P10	1	345					
20	Blocking	90 x 35 P10	1	60					

Figure A2.7 - Test Cell 1 – Wall-framing Data: Wall A (not to scale)

Panel Production Sheets

Panel: "B" (L1)
Date: 6.06.2006 Page: 2

Job: "STL052"
Description: C.B&M Uni Invermay
Nog Heights: 1175



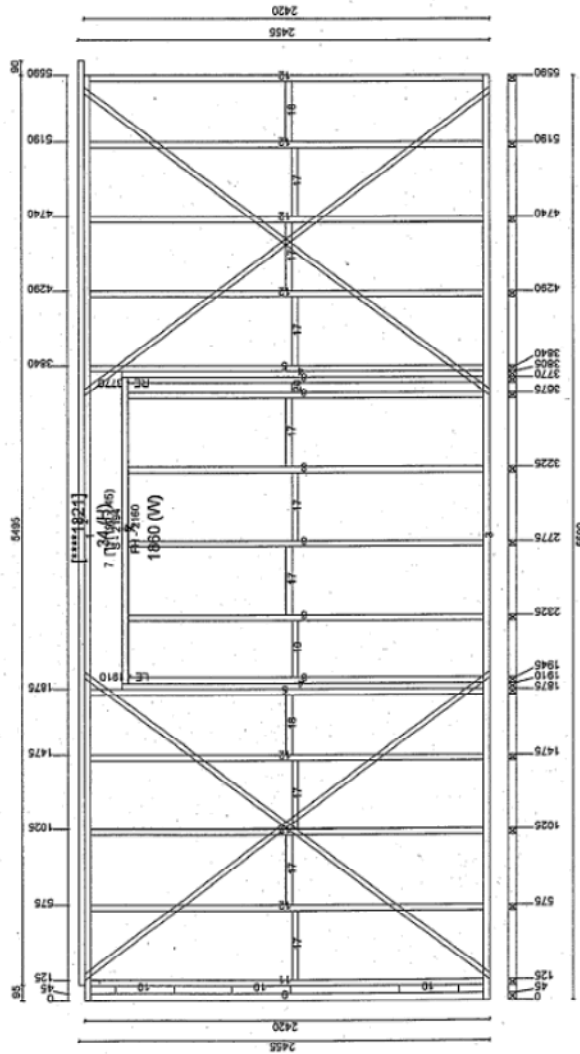
ID	Member Type	Timber	Qty	BEdg/TEdg	Pitch (Deg)	Left Agl (Blm)	Right Agl (Top)	Left Mitre	Right Mitre
1	Top Plate	90 x 35 MGP12	1	5590					
2	Very Top Plate	90 x 35 MGP10	1	5585					
3	Bottom Plate	90 x 35 MGP12	1	5590					
4	Component Trimmer	90 x 35 MGP10	2	2225					
5	Component Stud	90 x 35 MGP10	4	2350					
6	Component Header Sill	90 x 35 MGP10	1	1000					
7	Component Header	90 x 45 P12	1	1000					
8	Component Shim	90 x 35 MGP10	1	930					
9	Header Chipple	90 x 45 MGP12	4	65					
10	Component Trimmer	90 x 35 MGP10	2	2160					
11	Component Sill	90 x 35 MGP10	1	1860					
12	Component Header	190 x 45 MGP12	1	1930					
13	Sill Chipple	90 x 35 MGP10	6	2124					
14	Subcomponent Stud	90 x 45 MGP10	1	2350					
15	Subcomponent Block	90 x 45 MGP10	3	350					
16	Subcomponent Stud	90 x 35 MGP10	1	2350					
17	Wall Stud	90 x 35 MGP10	4	2350					
18	Bracing Outline	1.2 x 30.2 PL X BRACE	1	3030	-127.0	-37.0	37.0		
19	Bracing Outline	1.2 x 30.2 PL X BRACE	1	3030	-53.0	37.0	-37.0		
20	Blocking	90 x 35 P10	1	215					
21	Blocking	90 x 35 P10	1	430					
22	Blocking	90 x 35 P10	6	415					
23	Blocking	90 x 35 P10	1	365					
24	Blocking	90 x 35 P10	1	345					
25	Blocking	90 x 35 P10	1	60					

Figure A2.8 - Test Cell 1 – Wall-framing Data: Wall B (not to scale)

Panel Production Sheets

Panel: "C" (L1)
Date: 6-06-2006 Page: 3

Job: "STL052"
Description: C.B&M Uni Invermay
Nog Heights: 1175



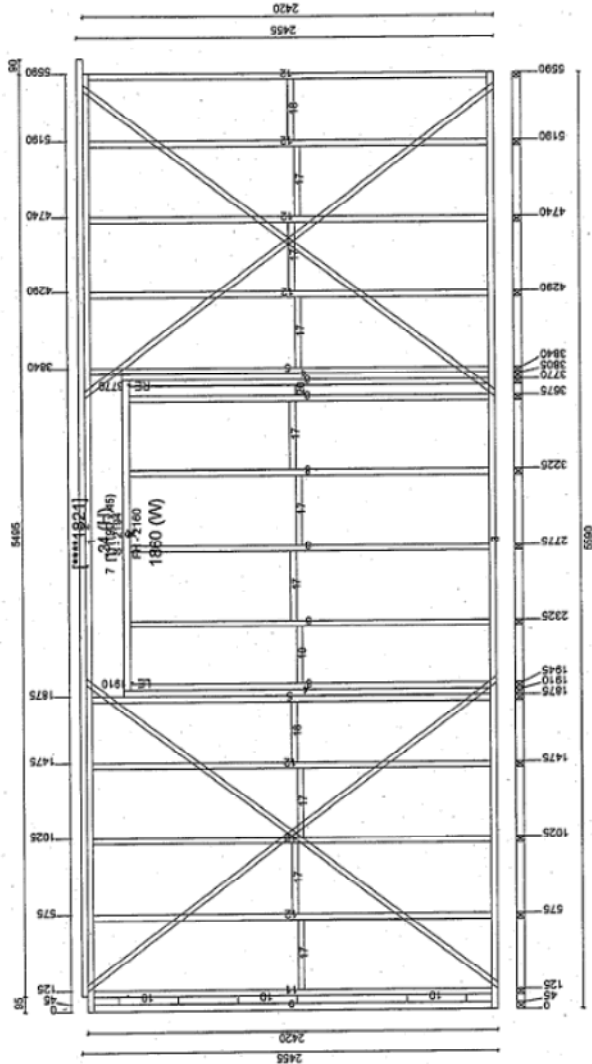
ID	Member Type	Timber	Qty	BEqPTEdg	Pitch (Deg)	Left Ang (Blm)	Right Ang (Top)	Left Mitre	Right Mitre
1	Top Plate	90 x 35 MGP12	1	5590					
2	Very Top Plate	90 x 35 MGP10	1	5585					
3	Bottom Plate	90 x 35 MGP12	1	5590					
4	Component Trimmer	90 x 35 MGP10	2	2160					
5	Component Stud	90 x 35 MGP10	2	2350					
6	Component Sill	90 x 35 MGP10	1	1860					
7	Component Header	190 x 45 MGP12	1	1930					
8	Sill Cripple	90 x 35 MGP10	6	2124					
9	Subcomponent Stud	90 x 45 MGP10	1	2350					
10	Subcomponent Block	90 x 45 MGP10	3	350					
11	Subcomponent Stud	90 x 35 MGP10	1	2350					
12	Wall Stud	90 x 35 MGP10	7	2350					
*	Bracing Outline	1.2 x 30.2 PL X BRACE	1	3030	-63.0	-37.0	37.0		
*	Bracing Outline	1.2 x 30.2 PL X BRACE	1	3030	-127.0	37.0	-37.0		
*	Bracing Outline	1.2 x 30.2 PL X BRACE	1	3030	-127.0	-37.0	37.0		
*	Bracing Outline	1.2 x 30.2 PL X BRACE	1	3030	-53.0	37.0	-37.0		
17	Blocking	90 x 35 P10	9	415					
18	Blocking	90 x 35 P10	2	365					
19	Blocking	90 x 35 P10	1	345					
20	Blocking	90 x 35 P10	1	60					

Figure A2.9 - Test Cell 1 – Wall-framing Data: Wall C (not to scale)

Panel Production Sheets

Panel: "D" (L1)
Date: 6-06-2006 Page: 4

"STL052"
Description: C.B&M Unit Invermay
Nog Heights: 1175



ID	Member Type	Timber	Qty	BEdg/TEdg	Pitch (Deg)	Left Ang (Btm)	Right Ang (Top)	Left Mitre	Right Mitre
1	Top Plate	60 x 35 MGP12	1	5590					
2	Very Top Plate	90 x 35 MGP10	1	5585					
3	Bottom Plate	90 x 35 MGP12	1	590					
4	Component Trimmer	90 x 35 MGP10	2	2180					
5	Component Stud	90 x 35 MGP10	2	2350					
6	Component Sill	90 x 35 MGP10	1	1860					
7	Component Header	190 x 45 MGP12	1	1930					
8	Sill Cripple	90 x 35 MGP10	6	2124					
9	Subcomponent Stud	90 x 45 MGP10	1	2350					
10	Subcomponent Block	90 x 45 MGP10	3	350					
11	Subcomponent Stud	90 x 35 MGP10	1	2350					
12	Wall Stud	90 x 35 MGP10	7	2350					
*	Bracing Outline	1.2 x 30.2 PL X BRACE	1	3030	-53.0	-37.0	37.0		
*	Bracing Outline	1.2 x 30.2 PL X BRACE	1	3030	-127.0	-37.0	-37.0		
*	Bracing Outline	1.2 x 30.2 PL X BRACE	1	3030	-127.0	-37.0	37.0		
*	Bracing Outline	1.2 x 30.2 PL X BRACE	1	3030	-53.0	37.0	-37.0		
17	Blocking	90 x 35 P10	9	415					
18	Blocking	90 x 35 P10	2	365					
19	Blocking	90 x 35 P10	1	345					
20	Blocking	90 x 35 P10	1	60					

Figure A2.10 - Test Cell 1 – Wall-framing Data: Wall D (not to scale)

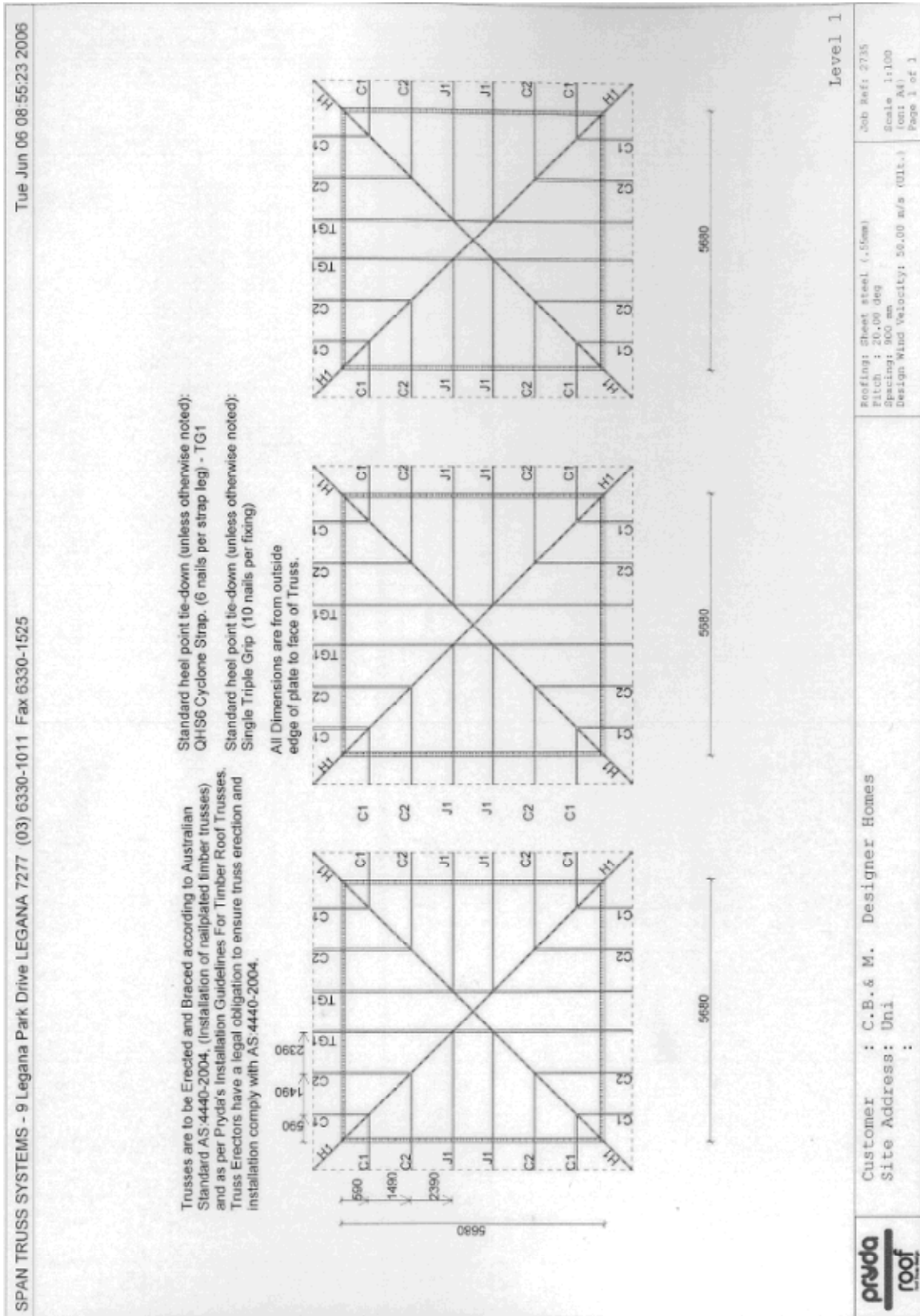
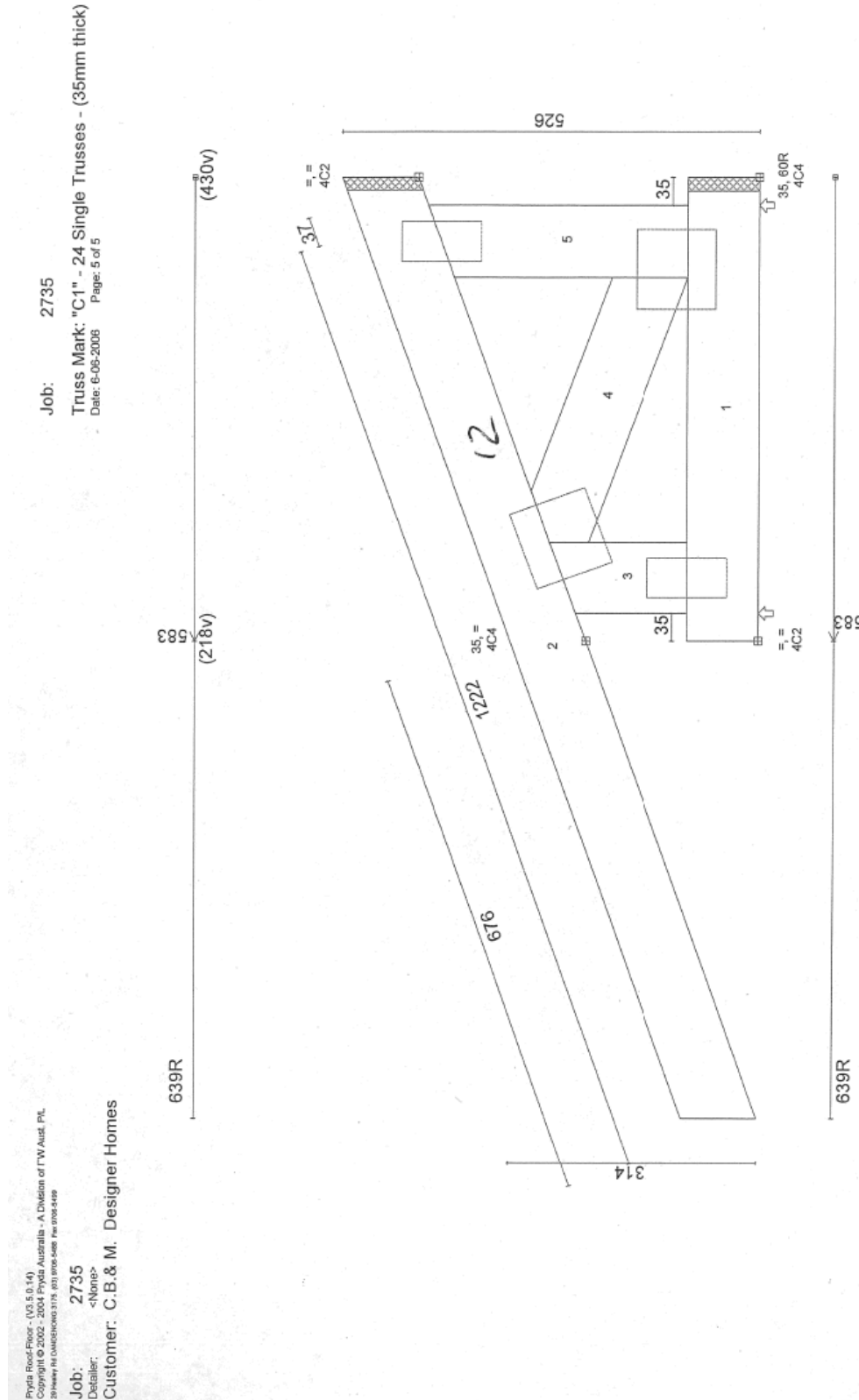


Figure A2.11 - Test Cell 1 – Roof-framing Data (not to scale)



ID	Type	Timber	Qty	Stock Length	Actual Length	Length To	Angle 1	Angle 2	Angle 3	Angle 4	Tilt Angle	LF Mitre Angle	LB Mitre Angle	RF Mitre Angle	RB Mitre Angle
1	BC	90MGP10	24	600	583	Bot	-	-	-	-	-	-	-	45.00	45.00
2	TC	90MGP12	24	1500	1258	Bot	-	20.00	-	20.00	-	-	-	45.00	45.00
3	W	90MGP10	24	300	173	Bot	-	-	20.00	-	-	-	-	-	-
4	W	90MGP10	24	600	355	Bot	-	20.50	49.50	20.50	-	-	-	-	-
5	W	90MGP10	24	600	327	Bot	-	-	20.00	-	-	-	-	-	-

Figure A2.12 - Test Cell 1 – Roof-framing Data: Truss C1 (not to scale)

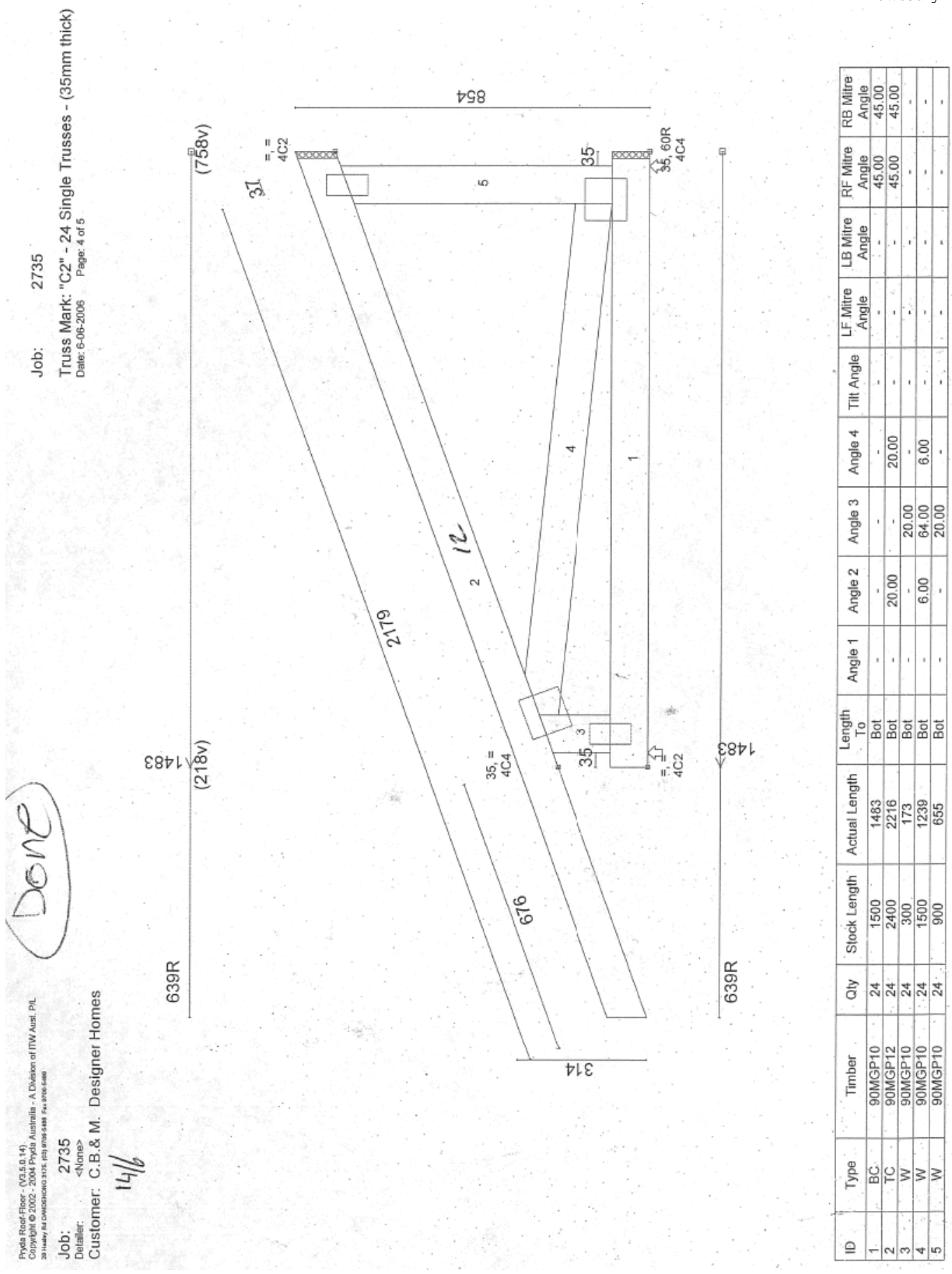
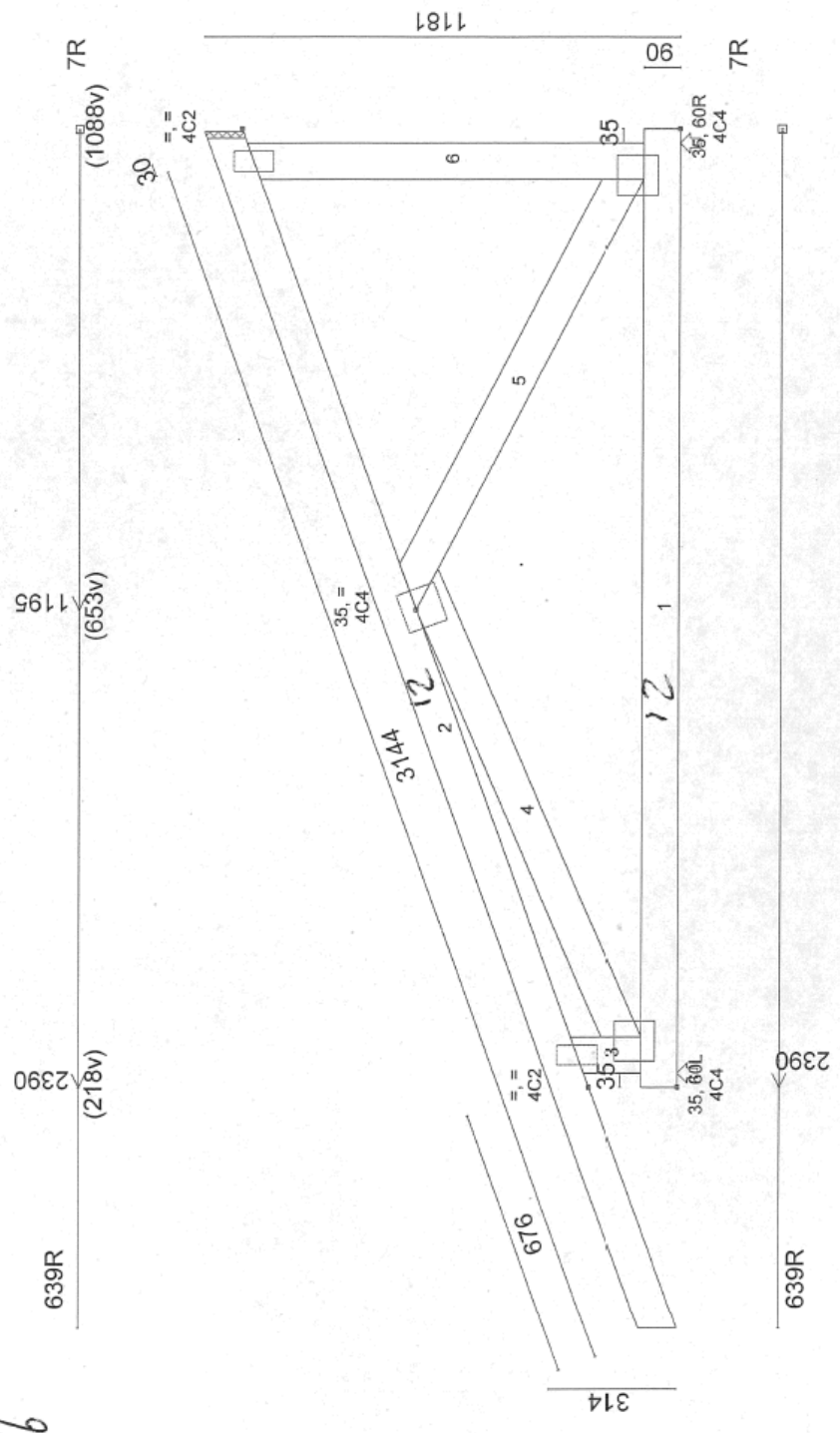


Figure A2.13 - Test Cell 1 – Roof-framing Data: Truss C2 (not to scale)

Job: 2735
 Truss Mark: "J1" - 12 Single Trusses - (35mm thick)
 Date: 6-06-2008 Page: 3 of 5

Phyllis Roof/Floor - (V3.5.0.14)
 Copyright © 2002 - 2004 Phyllis Australia - A Division of ITW Aust. P/L
 39 Healey Rd DONMILLS NSW 1510 (02) 8905-5446 Fax 8709-5446
 Job: 2735
 Detailer: <None>
 Customer: C.B. & M. Designer Homes



ID	Type	Timber	Qty	Stock Length	Actual Length	Length To Bot	Angle 1	Angle 2	Angle 3	Angle 4	Tilt Angle	LF Mitre Angle	RB Mitre Angle
1	BC	90MGP12	12	2400	2390	Bot	-	-	-	-	-	-	-
2	TC	90MGP12	12	3300	3174	Bot	-	20.00	-	20.00	-	-	45.00
3	W	90MGP1C	12	300	173	Bot	-	20.00	-	-	-	-	-
4	W	90MGP1C	12	1500	1277	Bot	-	23.50	39.00	-	-	-	-
5	W	90MGP1C	12	1500	1209	Bot	-	27.50	42.50	-	-	-	-
6	W	90MGP1C	12	1200	985	Bot	-	-	20.00	-	-	-	-

Figure A2.14 - Test Cell 1 – Roof-framing Data: Truss J1 (not to scale)

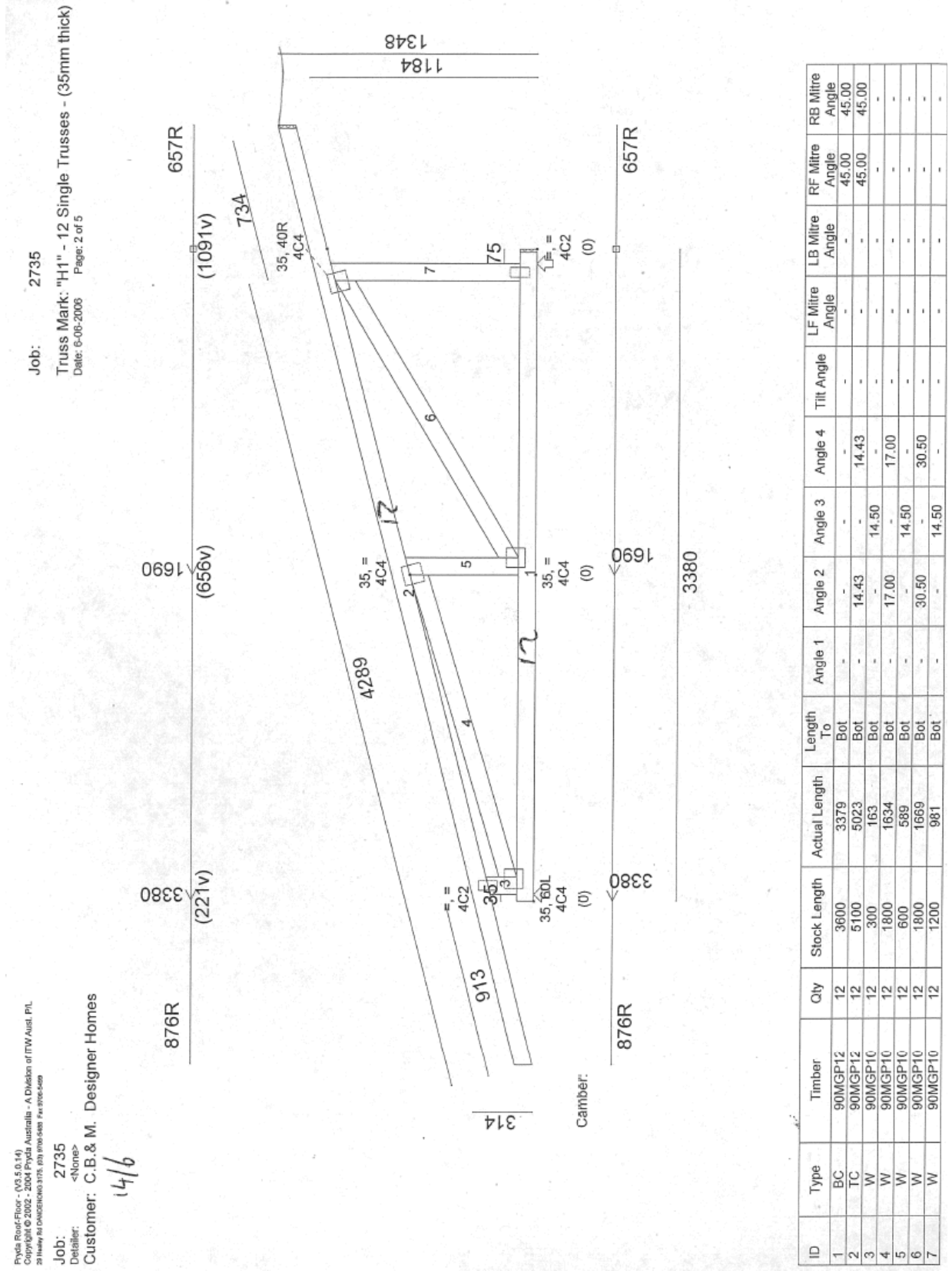
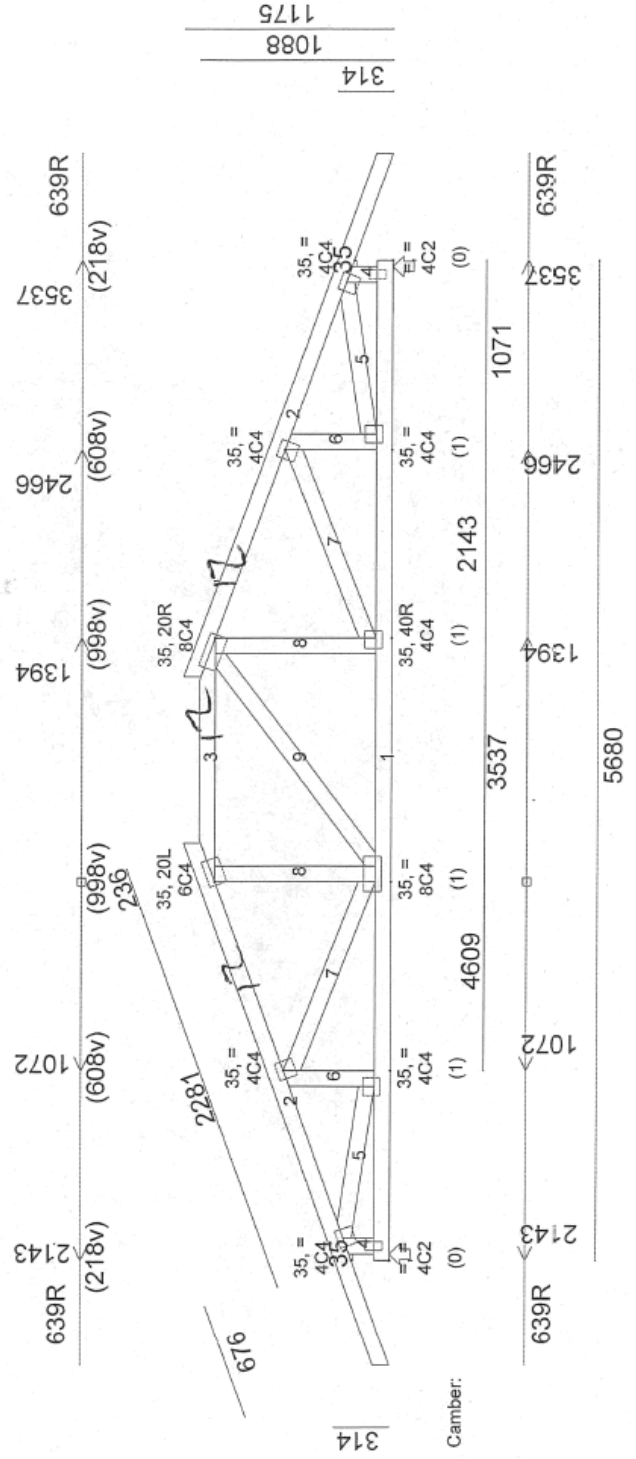


Figure A2.15 - Test Cell 1 – Roof-framing Data: Truss H1 (not to scale)

Job: 2735
 Truss Mark: "TG1" - 6 Single Trusses - (35mm thick)
 Date: 6-06-2006 Page: 1 of 5

Pyda Roof-Floor - (V3.5.0.14)
 Copyright © 2002 - 2004 Pyda Australia - A Division of ITW Austral. P/L
 23 Healy Rd DUNDROGO 3175 (03) 9706 5488 Fax 9706 5489
 Job: 2735
 Detailer: <Name>
 Customer: C.B. & M. Designer: Homes



ID	Type	Timber	Qty	Stock Length	Actual Length	Length To	Angle 1	Angle 2	Angle 3	Angle 4	LF Mitre Angle	LB Mitre Angle	RF Mitre Angle	RB Mitre Angle
1	BC	90MGP10	6	5700	5680	Bot	-	-	-	-	-	-	-	-
2	TC	90MGP12	12	3300	3155	Bot	-	20.00	-	20.00	-	-	-	-
3	TC	90MGP12	6	1500	1394	Bot	-	70.00	70.00	-	-	-	-	-
4	W	90MGP10	12	300	173	Bot	-	-	20.00	-	-	-	-	-
5	W	90MGP10	12	900	865	Bot	-	8.50	61.50	8.50	-	-	-	-
6	W	90MGP10	12	600	517	Bot	-	-	20.00	-	-	-	-	-
7	W	90MGP10	12	1200	1151	Bot	-	21.50	-	21.50	-	-	-	-
8	W	90MGP10	12	1200	907	Bot	-	-	-	-	-	-	-	-
9	W	90MGP10	6	1800	1516	Clm	53.00	37.00	53.00	37.00	-	-	-	-

Figure A2.16 - Test Cell 1 – Roof-framing Data: Truss TG1 (not to scale)

Enclosed-perimeter Platform-floored Test Cell (test cell 2)

Test Cell Fabric Matrix

The fabric of Test Cell 1 is detailed below:

Table 2- Test Cell 2 Fabric Matrix

Item	Specification
Footings	Treated poles set in a concrete pier Concrete strip footings for brick veneer wall
Sub-floor	110 Extruded clay brick veneer
Floor	19mm Particle board deck on timber bearer and joists
Walls	10mm Plasterboard, 90mm softwood stud framing, R2.5 rockwool wall batt insulation, reflective foil wrap, 50mm cavity, 110 clay brick
Ceiling	10mm Plasterboard, R4.0 Glass wool ceiling batt
Roof	Softwood truss, battens, reflective foil sarking, Colorbond sheet metal roofing

Test Cell Plans

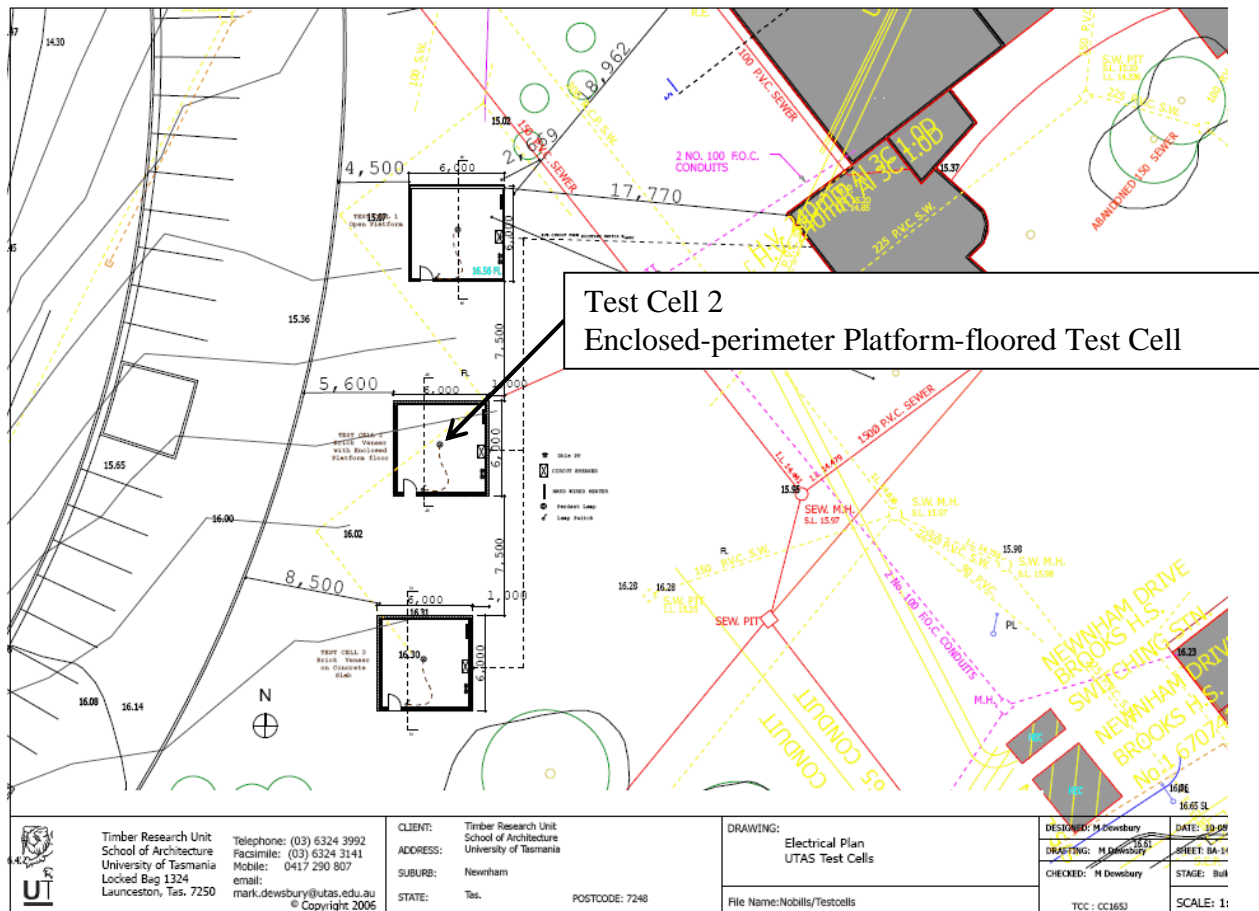


Figure A2.17- Test Cell Site Plan (not to scale)

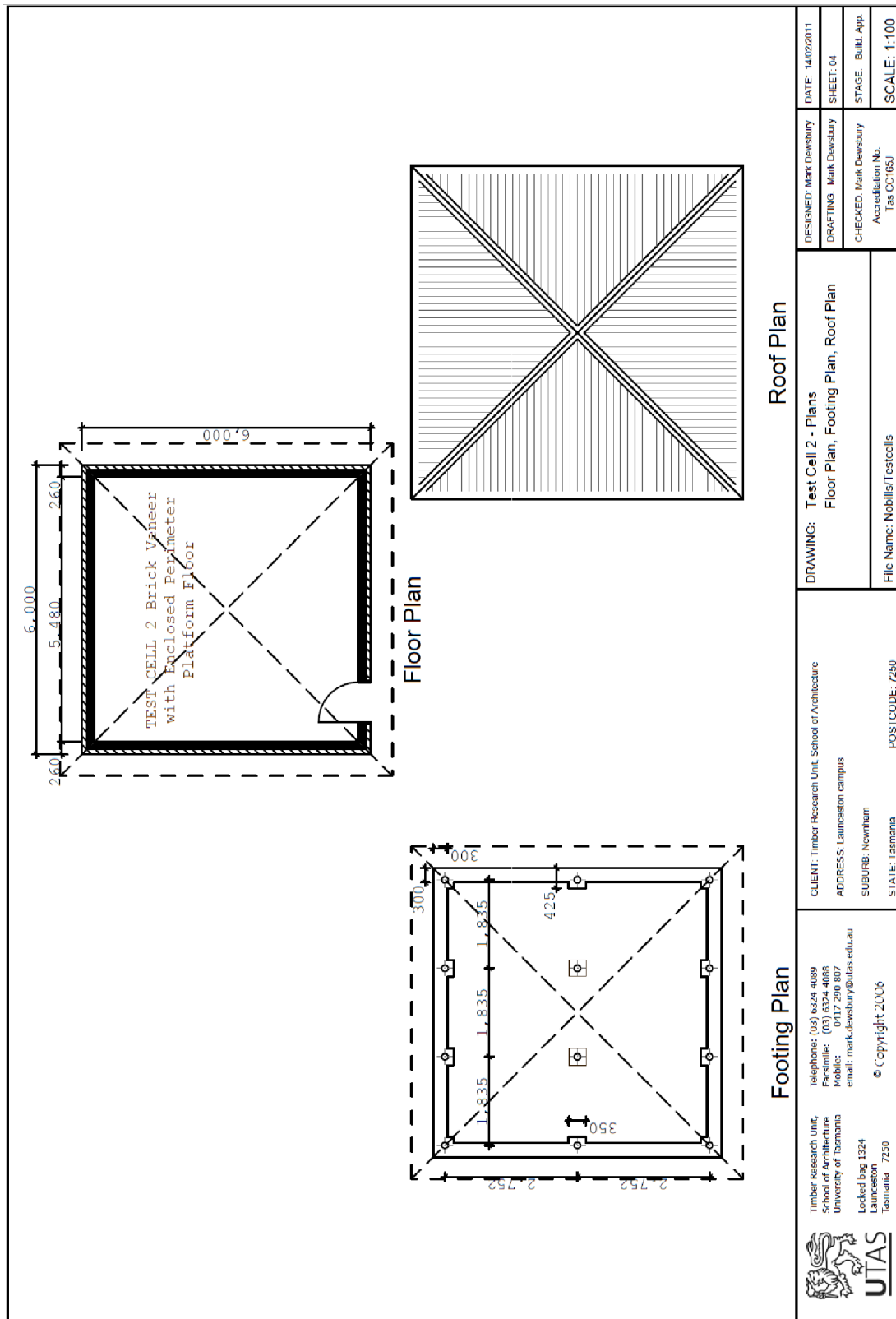


Figure A2.18 - Test Cell 2 Footing Plan, Floor Plan and Roof Plan (not to scale)

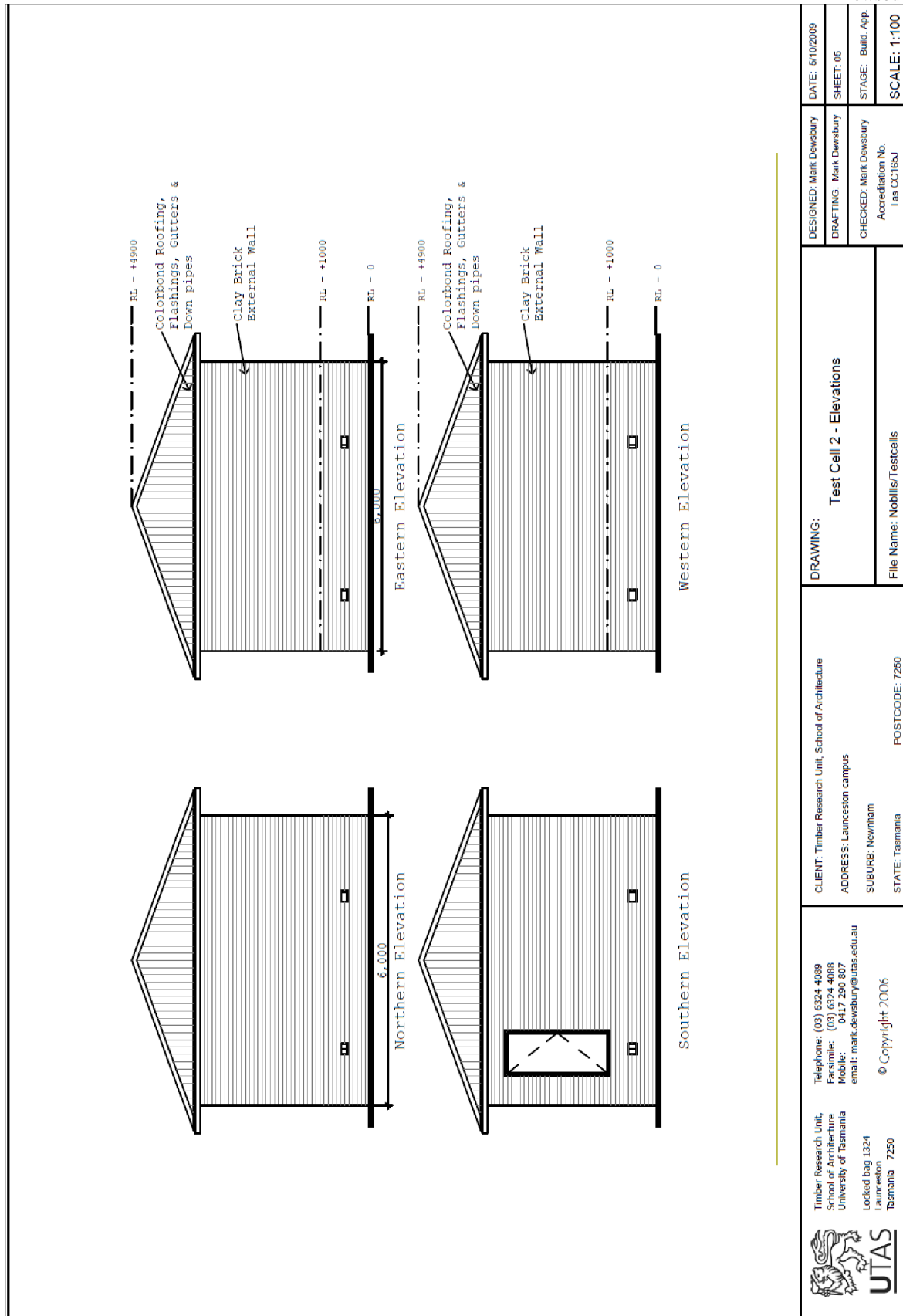


Figure A2.19 - Test Cell 2 Elevations (not to scale)

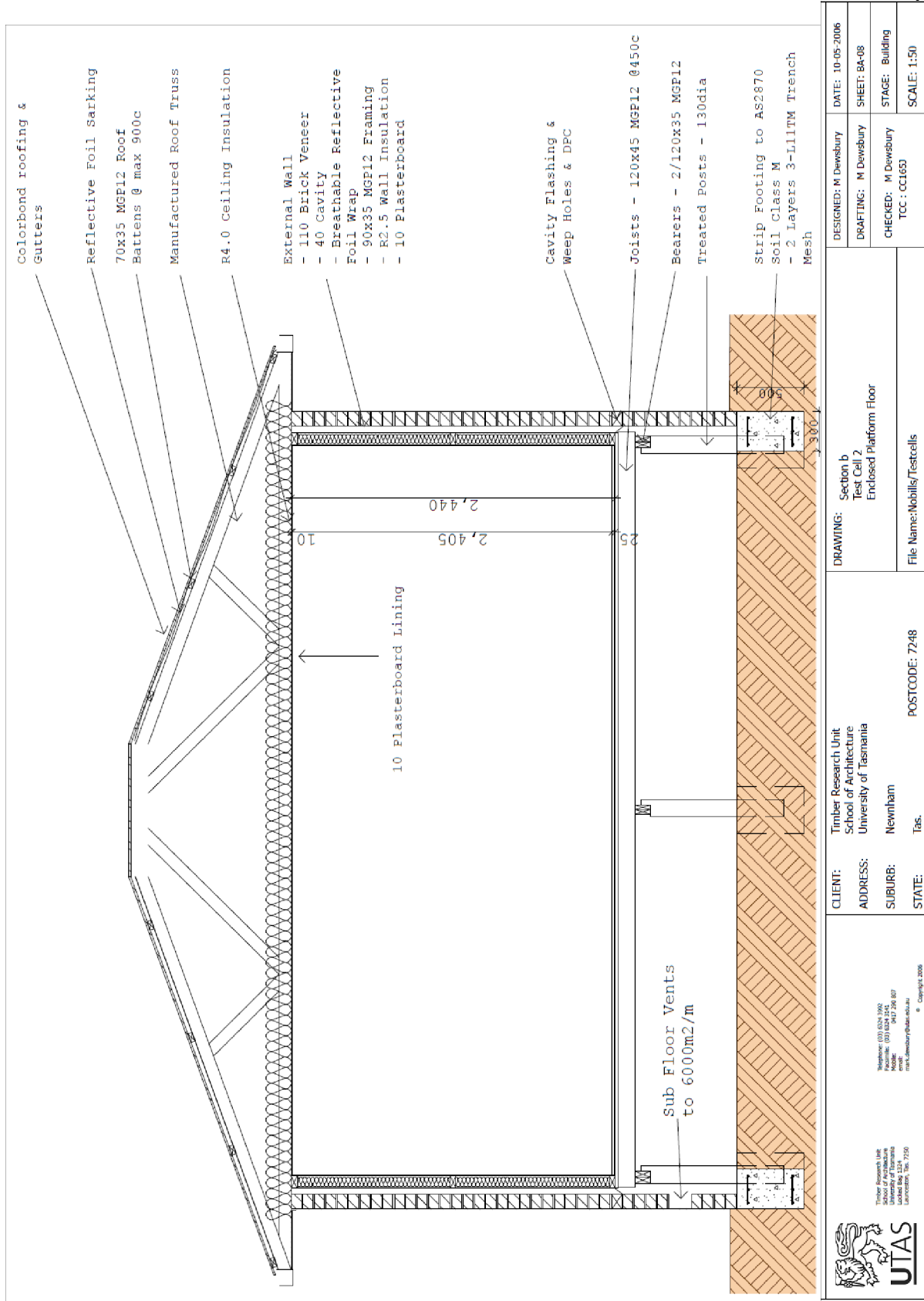


Figure A2.20 - Test Cell 2 Section (not to scale)

Test Cell Framing Data

All test cell framing drawings provided by courtesy of Spantruss Launceston.

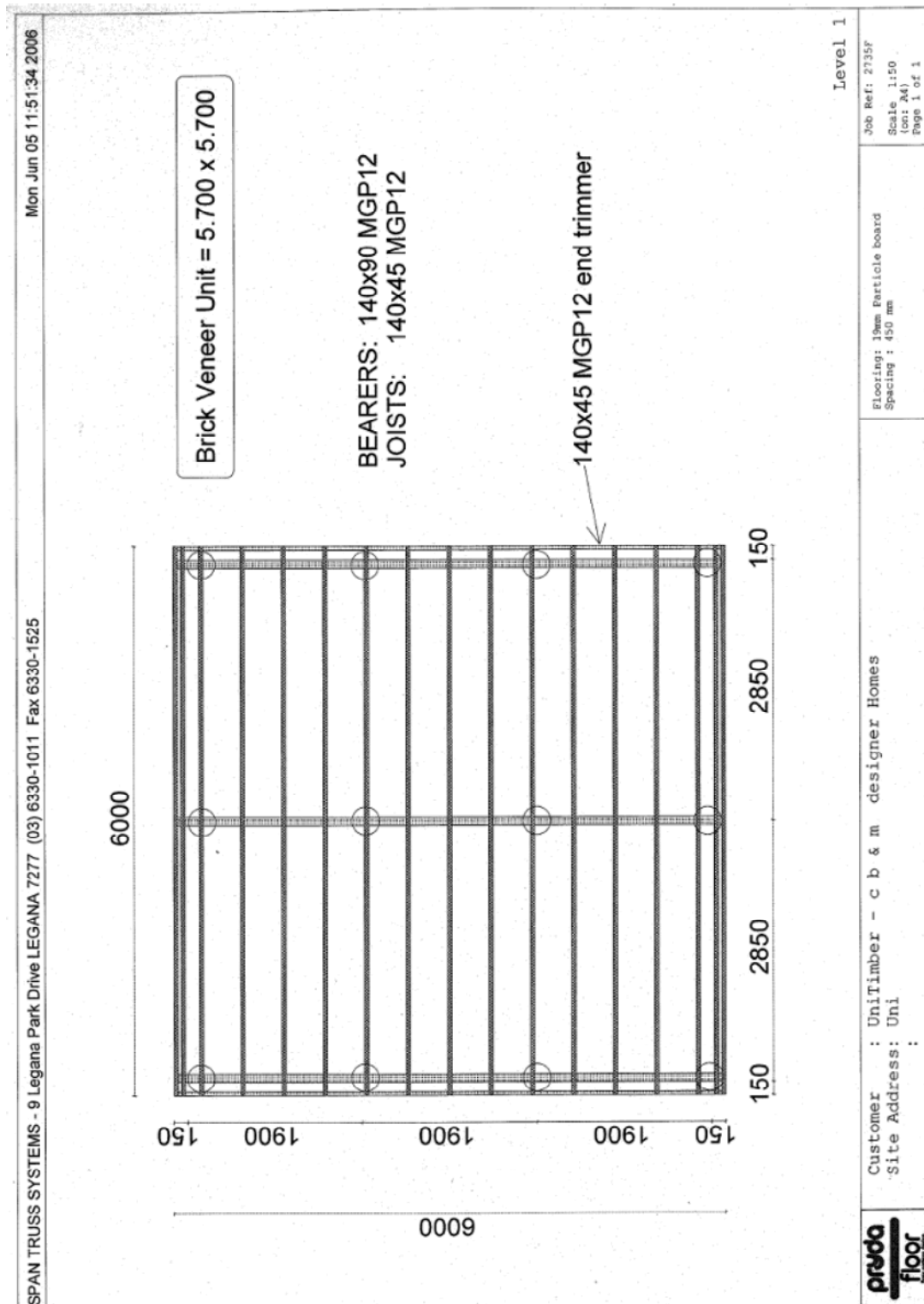
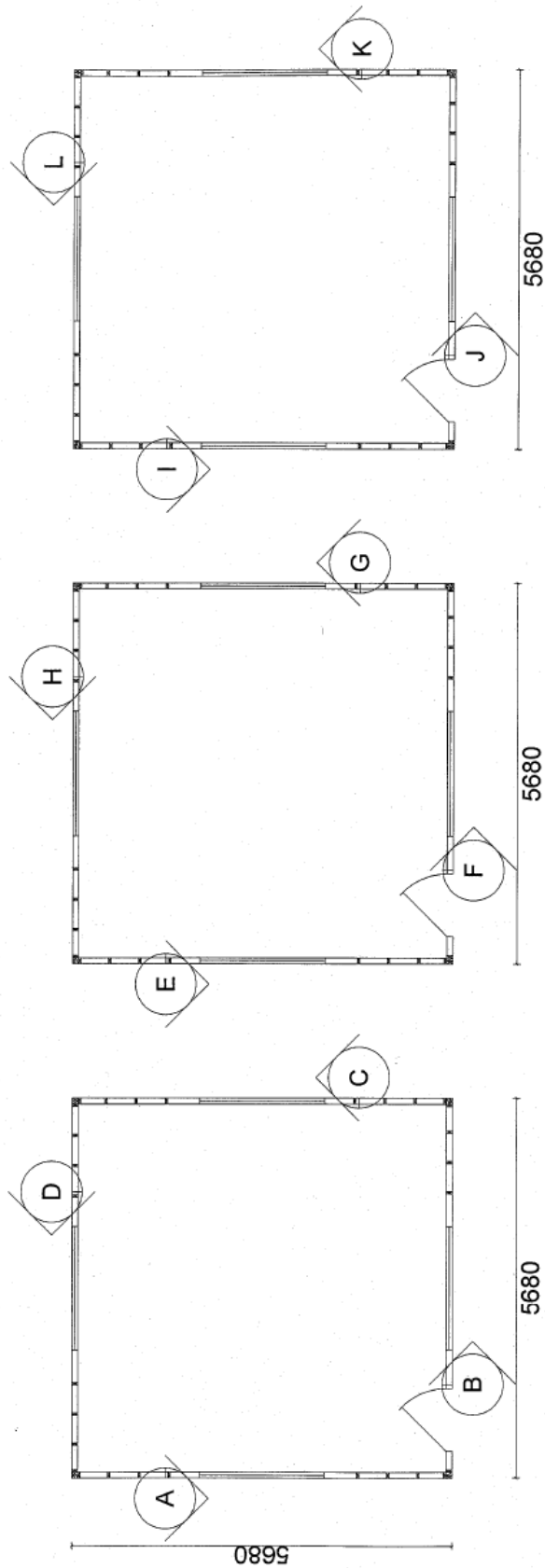


Figure A2.21 - Test Cell 2 – Post, Bearer and Joist Data (not to scale)



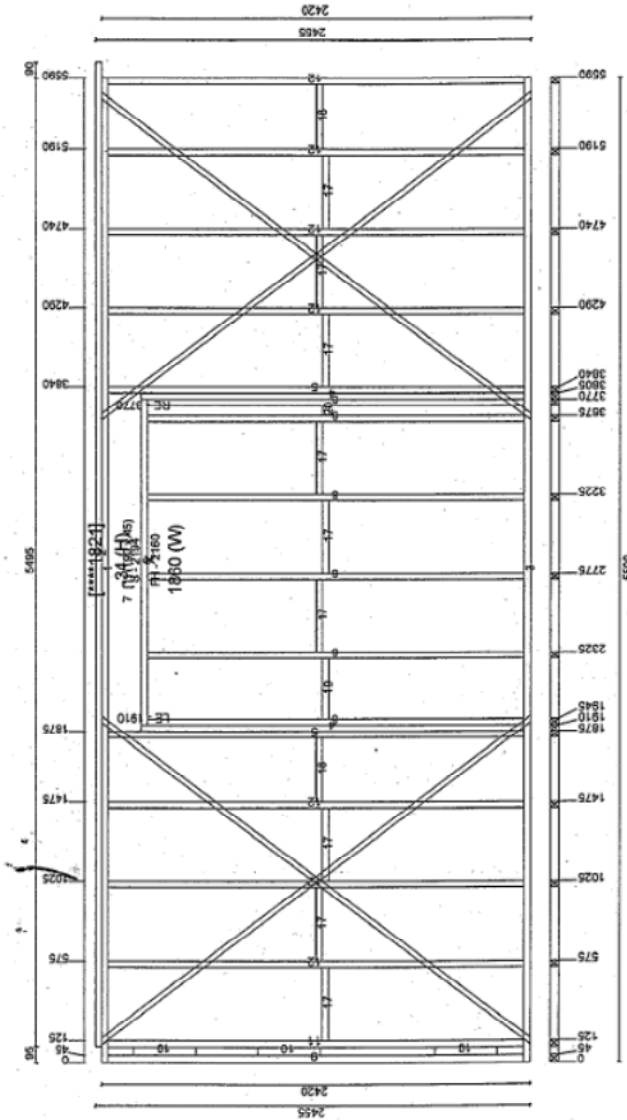
It is the builders responsibility to ensure walls are erected, connected and braced as per Australian Standard AS 1684.2-1999 and that the bracing Complies with the project engineers bracing design.

Figure A2.22 - Test Cell 2 – Wall-framing Data, walls E, F, G & H (not to scale)

Panel Production Sheets

Panel: "E" (L1)
Date: 6-06-2006 Page: 5

Job: "STL052"
Description: C.B&M Uni Invermay
Nog Heights: 1175



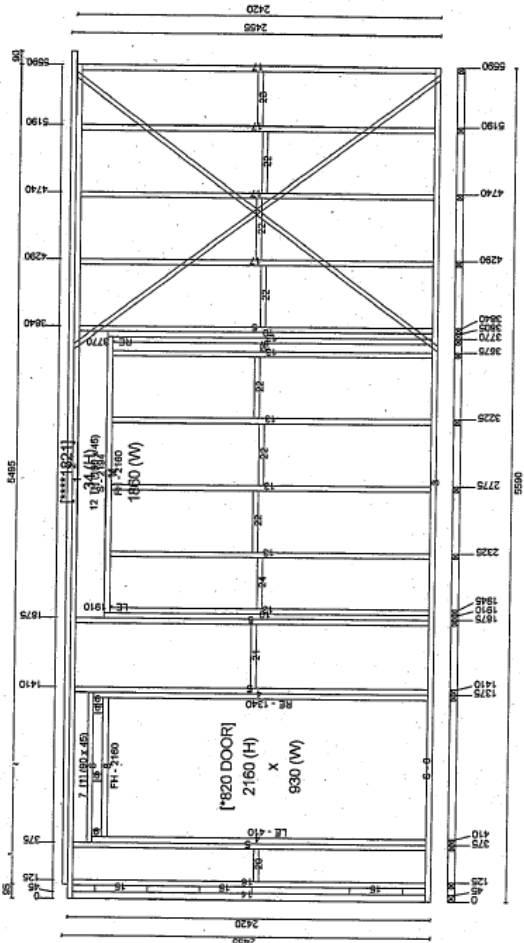
ID	Member Type	Timber	Qty	BEdg/TEdg	Pitch (Deg)	Left Agl (Btm)	Right Agl (Top)	Left Mitre	Right Mitre
1	Top Plate	90 x 35 MGP12	1	5590					
2	Very Top Plate	90 x 35 MGP10	1	5585					
3	Bottom Plate	90 x 35 MGP12	1	5590					
4	Component Trimmer	90 x 35 MGP10	2	2160					
5	Component Stud	90 x 35 MGP10	2	2350					
6	Component Sill	90 x 35 MGP10	1	1860					
7	Component Header	190 x 45 MGP12	1	1930					
8	Sill Cripple	90 x 35 MGP10	6	2124					
9	Subcomponent Stud	90 x 45 MGP10	3	350					
10	Subcomponent Block	90 x 45 MGP10	1	2350					
11	Subcomponent Stud	90 x 35 MGP10	3	350					
12	Wall Stud	90 x 35 MGP10	7	2350					
*	Bracing Outline	1.2 x 30.2 PL X BRACE	1	3030	-53.0	-37.0	37.0		
*	Bracing Outline	1.2 x 30.2 PL X BRACE	1	3030	-127.0	37.0	-37.0		
*	Bracing Outline	1.2 x 30.2 PL X BRACE	1	3030	-127.0	-37.0	37.0		
*	Bracing Outline	1.2 x 30.2 PL X BRACE	1	3030	-53.0	37.0	-37.0		
17	Blocking	90 x 35 P10	9	415					
18	Blocking	90 x 35 P10	2	365					
19	Blocking	90 x 35 P10	1	345					
20	Blocking	90 x 35 P10	1	60					

Figure A2.23 - Test Cell 2 – Wall-framing Data: Wall E (not to scale)

Panel Production Sheets

Panel: "F" (L1)
Date: 6-06-2006 Page: 6

Job: "STL052"
Description: C.B&M Unit Invermay
Nog Heights: 1175



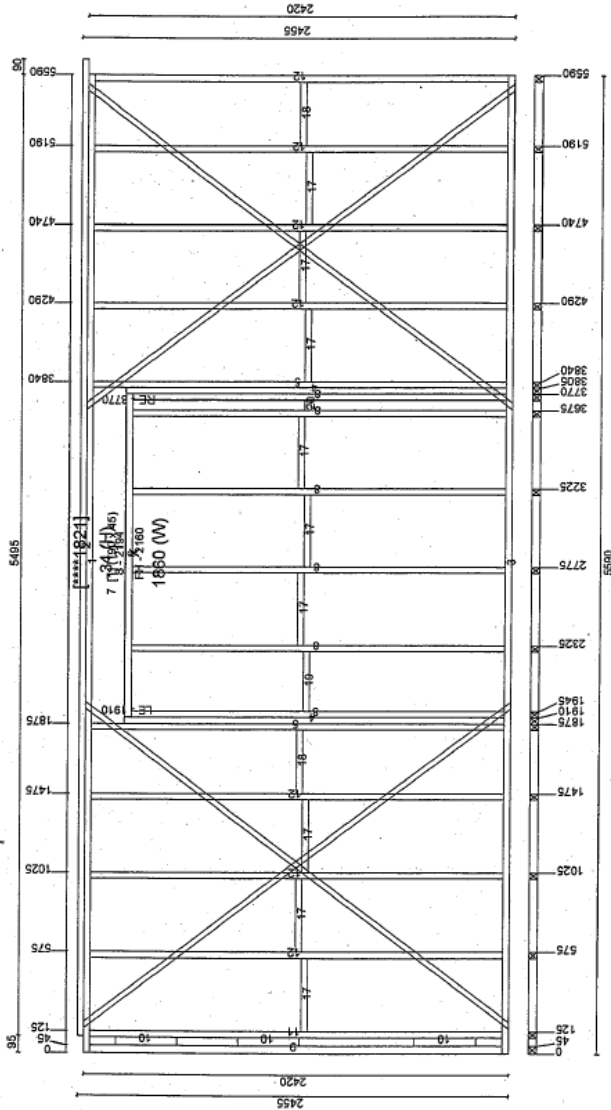
ID	Member Type	Timber	Qty	BEdg/TEdg	Pitch (Deg)	Left Agl (Btm)	Right Agl (Top)	Left Mitre	Right Mitre
1	Top Plate	90 x 35 MGP12	1	5590					
2	Very Top Plate	90 x 35 MGP10	1	5585					
3	Bottom Plate	90 x 35 MGP12	1	5590					
4	Component Trimmer	90 x 35 MGP10	2	2225					
5	Component Stud	90 x 35 MGP10	4	2350					
6	Component Header	90 x 35 MGP10	1	1000					
7	Component Header Sill	90 x 45 P12	1	1000					
8	Component Shim	90 x 35 MGP10	1	930					
9	Header Cripple	90 x 45 MGP12	4	65					
10	Component Trimmer	90 x 35 MGP10	2	2160					
11	Component Sill	90 x 35 MGP10	1	1860					
12	Component Header	190 x 45 MGP12	1	1930					
13	Sill Cripple	90 x 35 MGP10	6	2124					
14	Subcomponent Stud	90 x 45 MGP10	1	2350					
15	Subcomponent Block	90 x 45 MGP10	3	350					
16	Subcomponent Stud	90 x 35 MGP10	1	2350					
17	Wall Stud	90 x 35 MGP10	4	2350					
*	Bracing Outline	1.2 x 30.2 PL X BRACE	1	3030	-127.0	-37.0	37.0		
*	Bracing Outline	1.2 x 30.2 PL X BRACE	1	3030	-53.0	37.0	-37.0		
20	Blocking	90 x 35 P10	1	215					
21	Blocking	90 x 35 P10	1	430					
22	Blocking	90 x 35 P10	6	415					
23	Blocking	90 x 35 P10	1	365					
24	Blocking	90 x 35 P10	1	345					
25	Blocking	90 x 35 P10	1	60					

Figure A2.24 - Test Cell 2 – Wall-framing Data: Wall F (not to scale)

Panel Production Sheets

Panel: "G" (L1)
Date: 6-06-2008 Page: 7

Job: "STL052"
Description: C.B&M Uni Invermay
Nog Heights: 1175



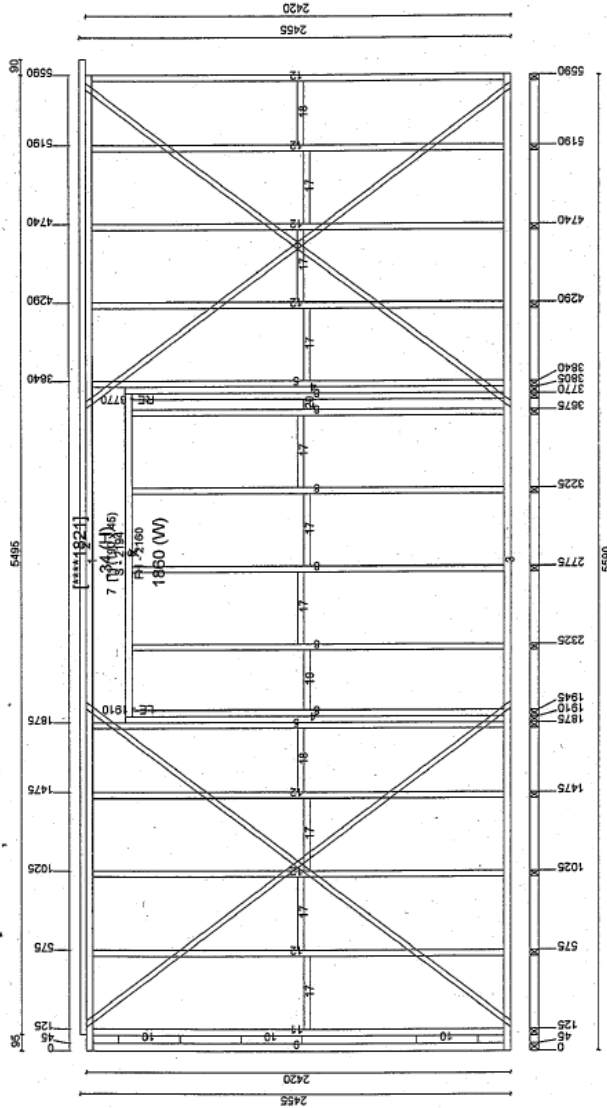
ID	Member Type	Timber	Qty	BEdg/TEdg	Pitch (Deg)	Left Agl (Btm)	Right Agl (Top)	Left Mitre	Right Mitre
1	Top Plate	90 x 35 MGP12	1	5590					
2	Very Top Plate	90 x 35 MGP10	1	5585					
3	Bottom Plate	90 x 35 MGP12	1	5590					
4	Component Trimmer	90 x 35 MGP10	2	2160					
5	Component Stud	90 x 35 MGP10	2	2350					
6	Component Sill	90 x 35 MGP10	1	1860					
7	Component Header	190 x 45 MGP12	1	1930					
8	Sill Cripple	90 x 35 MGP10	6	2124					
9	Subcomponent Stud	90 x 45 MGP10	1	2350					
10	Subcomponent Block	90 x 45 MGP10	3	350					
11	Subcomponent Stud	90 x 35 MGP10	1	2350					
12	Wall Stud	90 x 35 MGP10	7	2350					
*	Bracing Outline	1.2 x 30.2 PL X BRACE	1	3030	-53.0	-37.0	37.0		
*	Bracing Outline	1.2 x 30.2 PL X BRACE	1	3030	-127.0	-37.0	-37.0		
*	Bracing Outline	1.2 x 30.2 PL X BRACE	1	3030	-127.0	-37.0	-37.0		
*	Bracing Outline	1.2 x 30.2 PL X BRACE	1	3030	-53.0	37.0	-37.0		
17	Blocking	90 x 35 P10	9	415					
18	Blocking	90 x 35 P10	2	365					
19	Blocking	90 x 35 P10	1	345					
20	Blocking	90 x 35 P10	1	60					

Figure A2.25 - Test Cell 2 – Wall-framing Data: Wall G (not to scale)

Panel Production Sheets

Panel: "H" (L1)
Date: 6-06-2006 Page: 8

Job: "STL052"
Description: C.B&M Uni Invermay
Nog Heights: 1175



ID	Member Type	Timber	Qty	BEdg/TEdg	Pitch (Deg)	Left Agl (Btm)	Right Agl (Top)	Left Mitre	Right Mitre
1	Top Plate	90 x 35 MGP12	1	5590					
2	Very Top Plate	90 x 35 MGP10	1	5585					
3	Bottom Plate	90 x 35 MGP12	1	5590					
4	Component Trimmer	90 x 35 MGP10	2	2160					
5	Component Stud	90 x 35 MGP10	2	2350					
6	Component Sill	90 x 35 MGP10	1	1860					
7	Component Header	190 x 45 MGP12	1	1930					
8	Sill Cripple	90 x 35 MGP10	6	2124					
9	Subcomponent Stud	90 x 45 MGP10	1	2360					
10	Subcomponent Block	90 x 45 MGP10	3	350					
11	Subcomponent Stud	90 x 35 MGP10	1	2350					
12	Wall Stud	90 x 35 MGP10	7	2350					
*	Bracing Outline	1.2 x 30.2 PL X BRACE	1	3030	-53.0	-37.0	37.0		
*	Bracing Outline	1.2 x 30.2 PL X BRACE	1	3030	-127.0	37.0	-37.0		
*	Bracing Outline	1.2 x 30.2 PL X BRACE	1	3030	-127.0	-37.0	37.0		
*	Bracing Outline	1.2 x 30.2 PL X BRACE	1	3030	-53.0	37.0	-37.0		
17	Blocking	90 x 35 P10	9	415					
18	Blocking	90 x 35 P10	2	365					
19	Blocking	90 x 35 P10	1	345					
20	Blocking	90 x 35 P10	1	60					

Figure A2.26 - Test Cell 2 – Wall-framing Data: Wall H (not to scale)

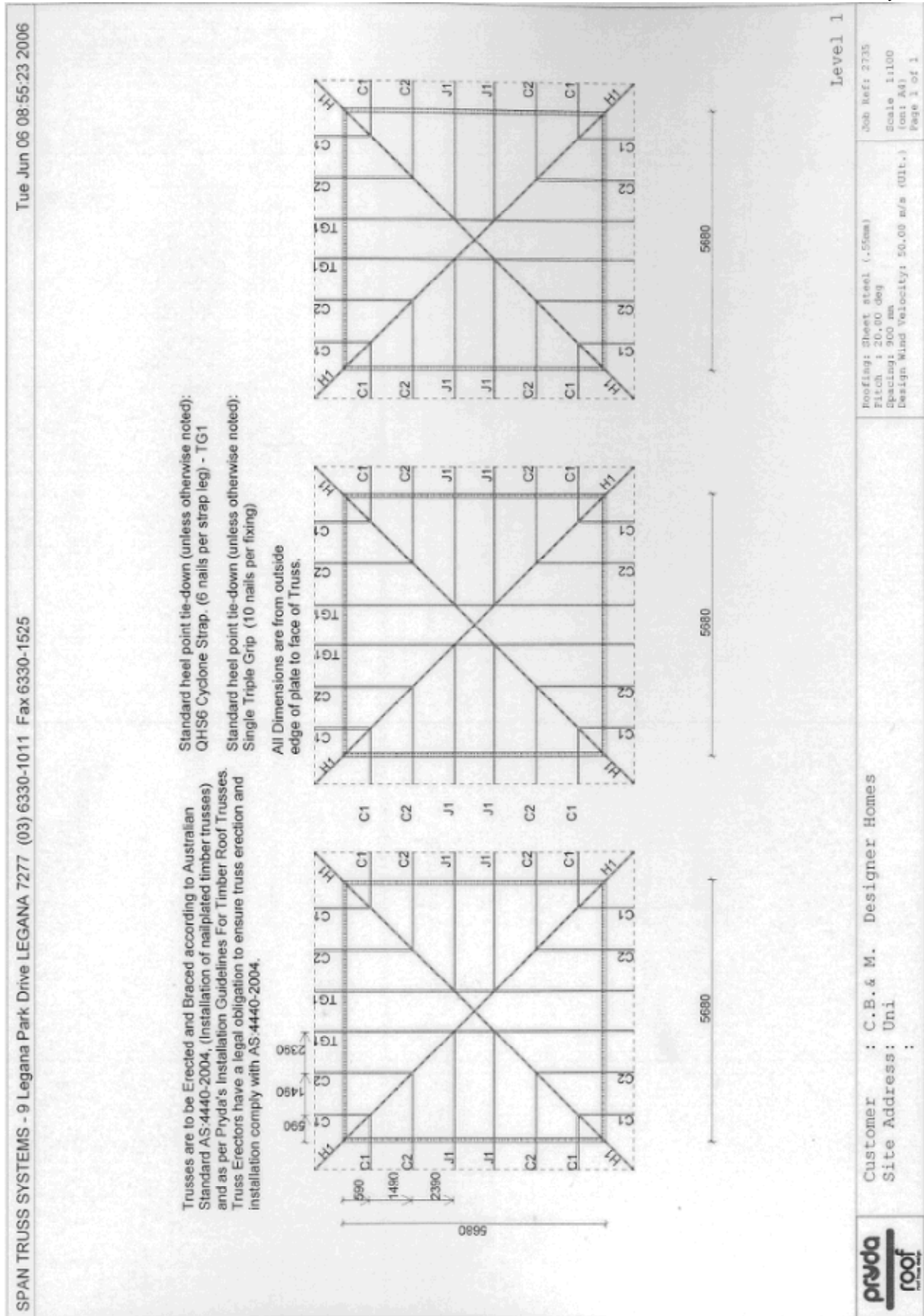
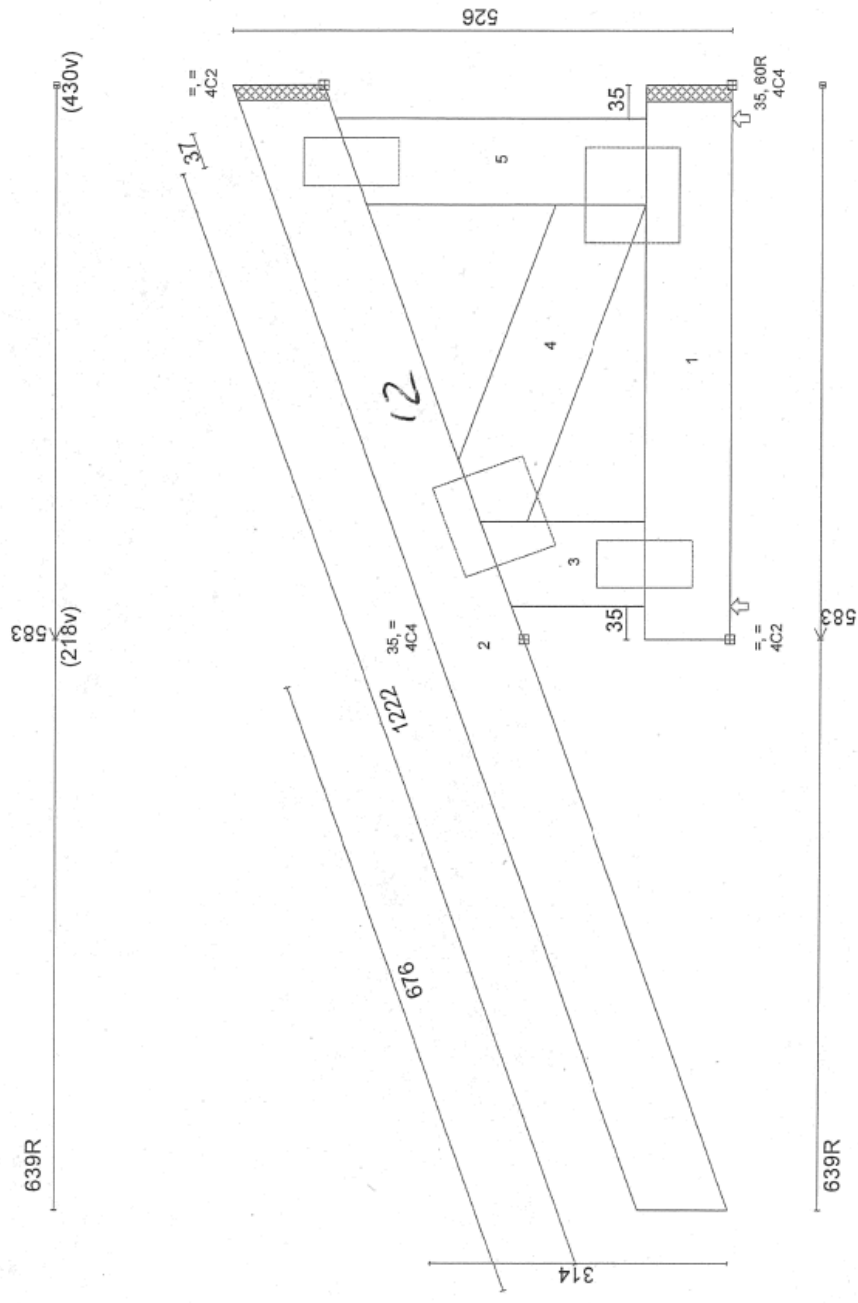


Figure A2.27 - Test Cell 2 – Roof-framing Data (not to scale)

Pyda Roof-Floor - (V3.5.0.14)
 Copyright © 2002 - 2004 Pyda Australia - A Division of GW Aust. P/L
 29 Healy Rd DUNDASHOME 3178 031 9705 5488 Fax 0705 5489

Job: 2735
 Detailer: <None>
 Customer: C.B.& M. Designer Homes

Job: 2735
 Truss Mark: "C1" - 24 Single Trusses - (35mm thick)
 Date: 6-06-2006 Page: 5 of 5



ID	Type	Timber	Qty	Stock Length	Actual Length	Length To	Angle 1	Angle 2	Angle 3	Angle 4	Tilt Angle	LF Mitre Angle	LB Mitre Angle	RF Mitre Angle	RB Mitre Angle
1	BC	90MGP10	24	600	583	Bot	-	-	-	-	-	-	-	45.00	45.00
2	TC	90MGP12	24	1500	1258	Bot	-	20.00	-	20.00	-	-	-	45.00	45.00
3	W	90MGP10	24	300	173	Bot	-	20.00	-	20.00	-	-	-	-	-
4	W	90MGP10	24	600	355	Bot	-	20.50	49.50	20.50	-	-	-	-	-
5	W	90MGP10	24	600	327	Bot	-	-	20.00	-	-	-	-	-	-

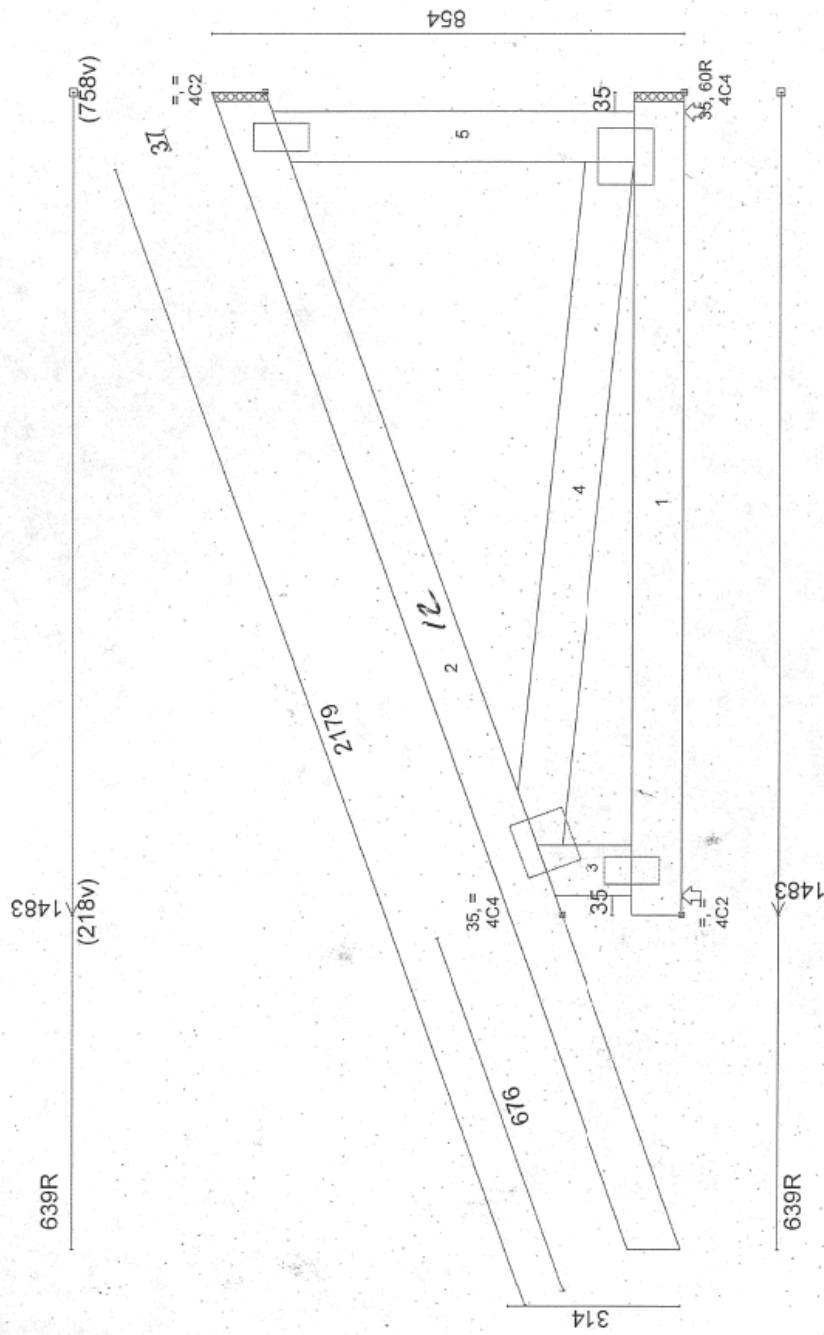
Figure A2.28 - Test Cell 2 – Roof-framing Data: Truss C1 (not to scale)

Job: 2735
 Truss Mark: "C2" - 24 Single Trusses - (35mm thick)
 Date: 6-06-2006 Page: 4 of 5

Pyda Roof-Floor - (V3.5.0.14)
 Copyright © 2002 - 2004 Pyda Australia - A Division of ITW Austral. P/L
 20 Henry Rd Deakin Victoria 3083 Australia Fax: 03 9316 3366
 Job: 2735
 Designer: <None>
 Customer: C.B. & M. Designer Homes

DONE

14/1



ID	Type	Timber	Qty	Stock Length	Actual Length	Length To	Angle 1	Angle 2	Angle 3	Angle 4	Tilt Angle	LF Mitre Angle	LB Mitre Angle	RF Mitre Angle	RB Mitre Angle
1	BC	90MGP10	24	1500	1483	Bot	-	-	-	-	-	45.00	-	45.00	45.00
2	TC	90MGP12	24	2400	2216	Bot	-	20.00	-	20.00	-	-	-	45.00	45.00
3	W	90MGP10	24	300	173	Bot	-	-	20.00	-	-	-	-	-	-
4	W	90MGP10	24	1500	1239	Bot	-	6.00	64.00	6.00	-	-	-	-	-
5	W	90MGP10	24	900	655	Bot	-	-	20.00	-	-	-	-	-	-

Figure A2.29 - Test Cell 2 – Roof-framing Data: Truss C2 (not to scale)

✓ Dml

Job: 2735

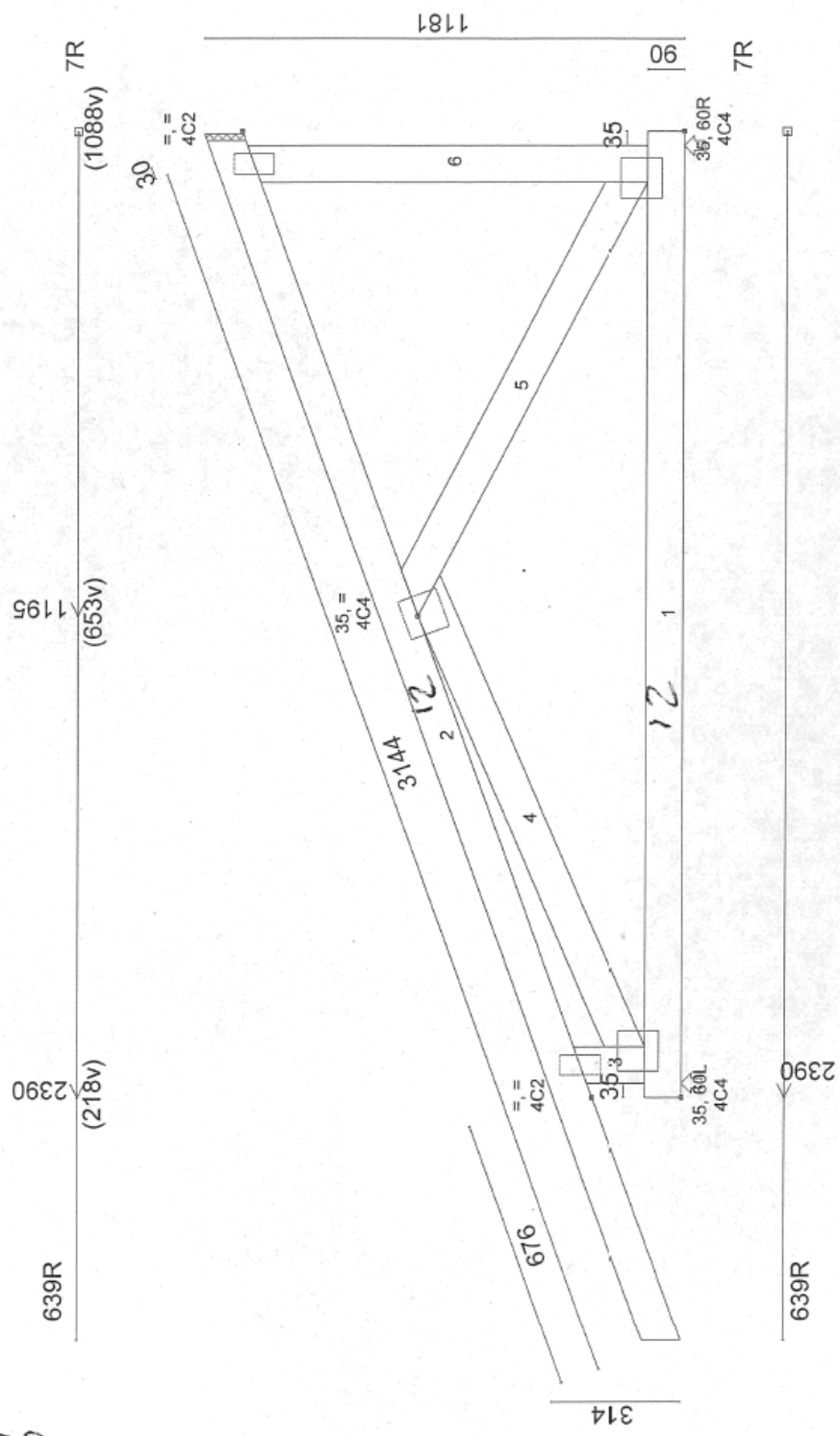
Truss Mark: "J1" - 12 Single Trusses - (35mm thick)
Date: 6-06-2008 Page: 3 of 5

Pydra Roof-Floor - (03.5.0.14)
Copyright © 2002 - 2004 Pydra Australia - A Division of ITW Aust. P/L
29 Heavy Rd DUNDEE NSW 3176, 083 9708-4466 Fax 9708-5499

Job: 2735
Detailer: <None>

Customer: C.B. & M. Designer Homes

14/6



ID	Type	Timber	Qty	Stock Length	Actual Length	Length To	Angle 1	Angle 2	Angle 3	Angle 4	Tilt Angle	LF Mitre Angle	LB Mitre Angle	RF Mitre Angle	RB Mitre Angle
1	BC	90MGP12	12	2400	2390	Bot	-	-	-	-	-	-	-	-	-
2	TC	90MGP12	12	3300	3174	Bot	-	20.00	-	20.00	-	-	-	45.00	45.00
3	W	90MGP1C	12	300	173	Bot	-	20.00	20.00	-	-	-	-	-	-
4	W	90MGP1C	12	1500	1277	Bot	-	23.50	39.00	-	-	-	-	-	-
5	W	90MGP1C	12	1500	1209	Bot	-	27.50	42.50	-	-	-	-	-	-
6	W	90MGP1C	12	1200	985	Bot	-	-	20.00	-	-	-	-	-	-

Figure A2.30 - Test Cell 2 – Roof-framing Data: Truss J1 (not to scale)

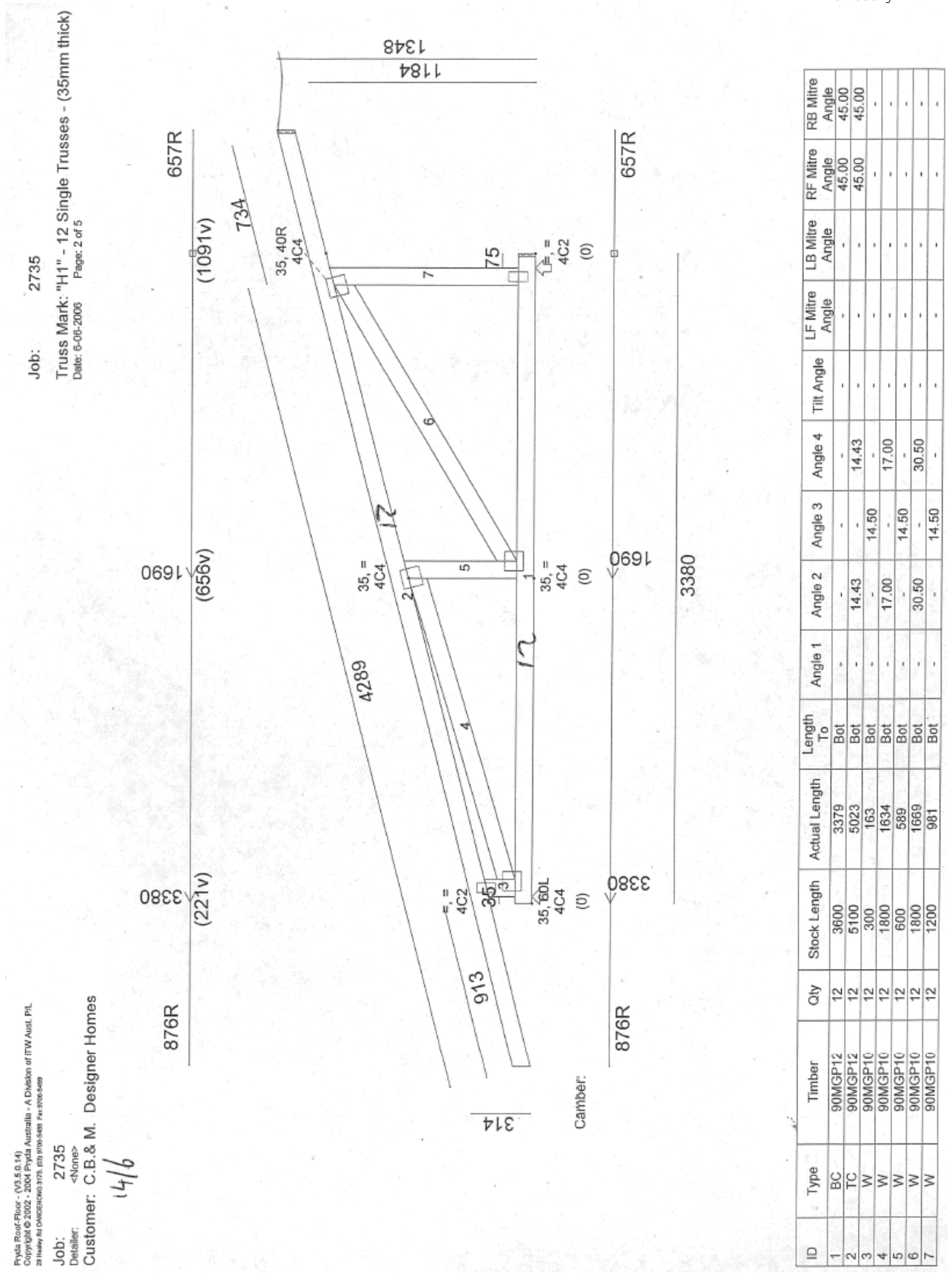
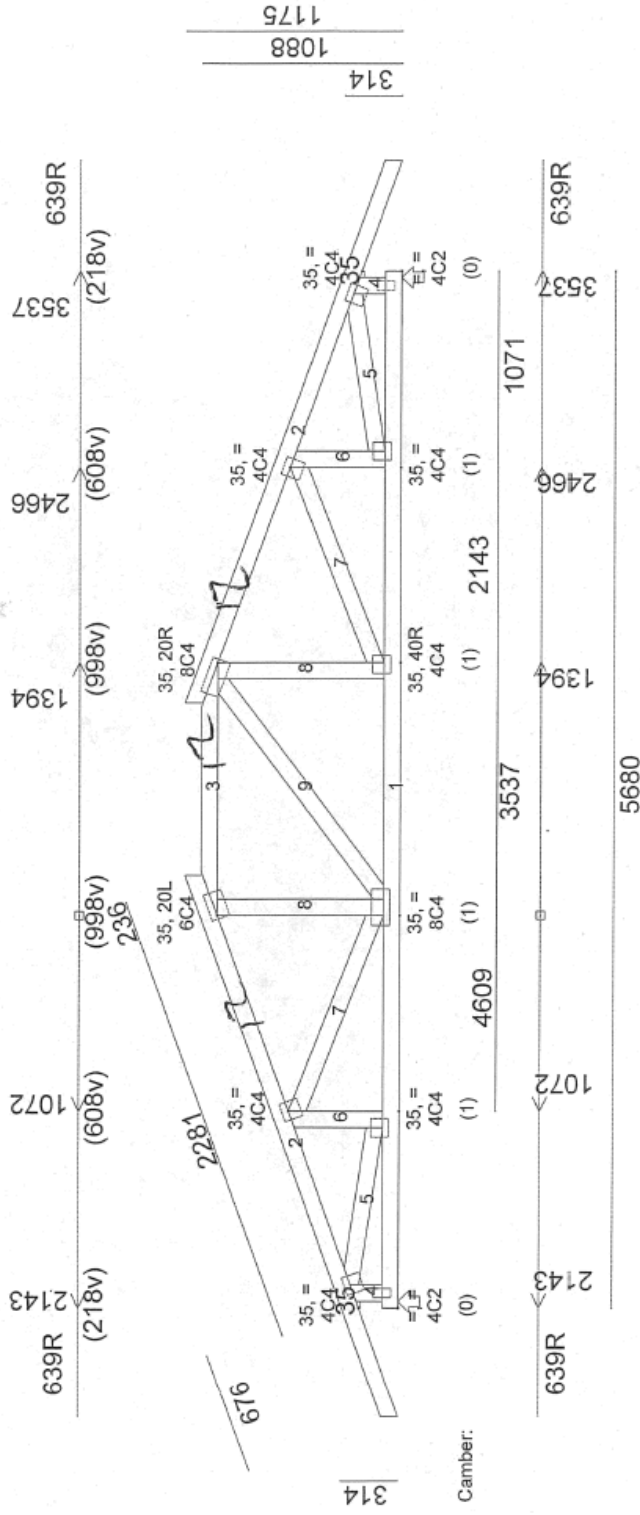


Figure A2.31 - Test Cell 2 – Roof-framing Data: Truss H1 (not to scale)

Job: 2735
 Truss Mark: "TG1" - 6 Single Trusses - (35mm thick)
 Date: 6-06-2008 Page: 1 of 5

Pyda RoofFloor - (V3.5.0.14)
 Copyright © 2002 - 2004 Pyda Australia - A Division of ITW Austral. P/L
 20 Hawley Rd. CAMBERIDGE 3175. 03 9795 5400 Fax 03 9795 5400
 Job: 2735
 Detailer: <None>
 Customer: C.B. & M. Designer Homes



ID	Type	Timber	Qty	Stock Length	Actual Length	Length To	Angle 1	Angle 2	Angle 3	Angle 4	Tilt Angle	LF Mitre Angle	LB Mitre Angle	RF Mitre Angle	RB Mitre Angle
1	BC	90MGP10	6	5700	5680	Bot	-	-	-	-	-	-	-	-	-
2	TC	90MGP12	12	3300	3155	Bot	-	20.00	-	20.00	-	-	-	-	-
3	TC	90MGP12	6	1500	1394	Bot	-	70.00	70.00	-	-	-	-	-	-
4	W	90MGP10	12	300	173	Bot	-	-	20.00	-	-	-	-	-	-
5	W	90MGP10	12	900	865	Bot	-	8.50	20.00	8.50	-	-	-	-	-
6	W	90MGP10	12	600	517	Bot	-	-	20.00	-	-	-	-	-	-
7	W	90MGP10	12	1200	1151	Bot	-	21.50	-	21.50	-	-	-	-	-
8	W	90MGP10	12	1200	907	Bot	-	-	-	-	-	-	-	-	-
9	W	90MGP10	6	1800	1516	Ch	53.00	37.00	53.00	37.00	-	-	-	-	-

Figure A2.32 - Test Cell 2 – Roof-framing Data: Truss TG1 (not to scale)

Concrete Slab-on-Ground Floored Test Cell (test cell 3)

Test Cell Fabric Matrix

Table 3- Test Cell 3 Fabric Matrix

Item	Specification
Floor	100mm Concrete slab on ground
Walls	10mm Plasterboard, 90mm softwood stud framing, R2.5 rockwool wall batt insulation, reflective foil wrap, 50mm cavity, 110 clay brick
Ceiling	10mm Plasterboard, R4.0 glass-wool ceiling batt
Roof	Softwood truss, battens, reflective foil sarking, Colorbond sheet metal roofing

Test Cell Plans

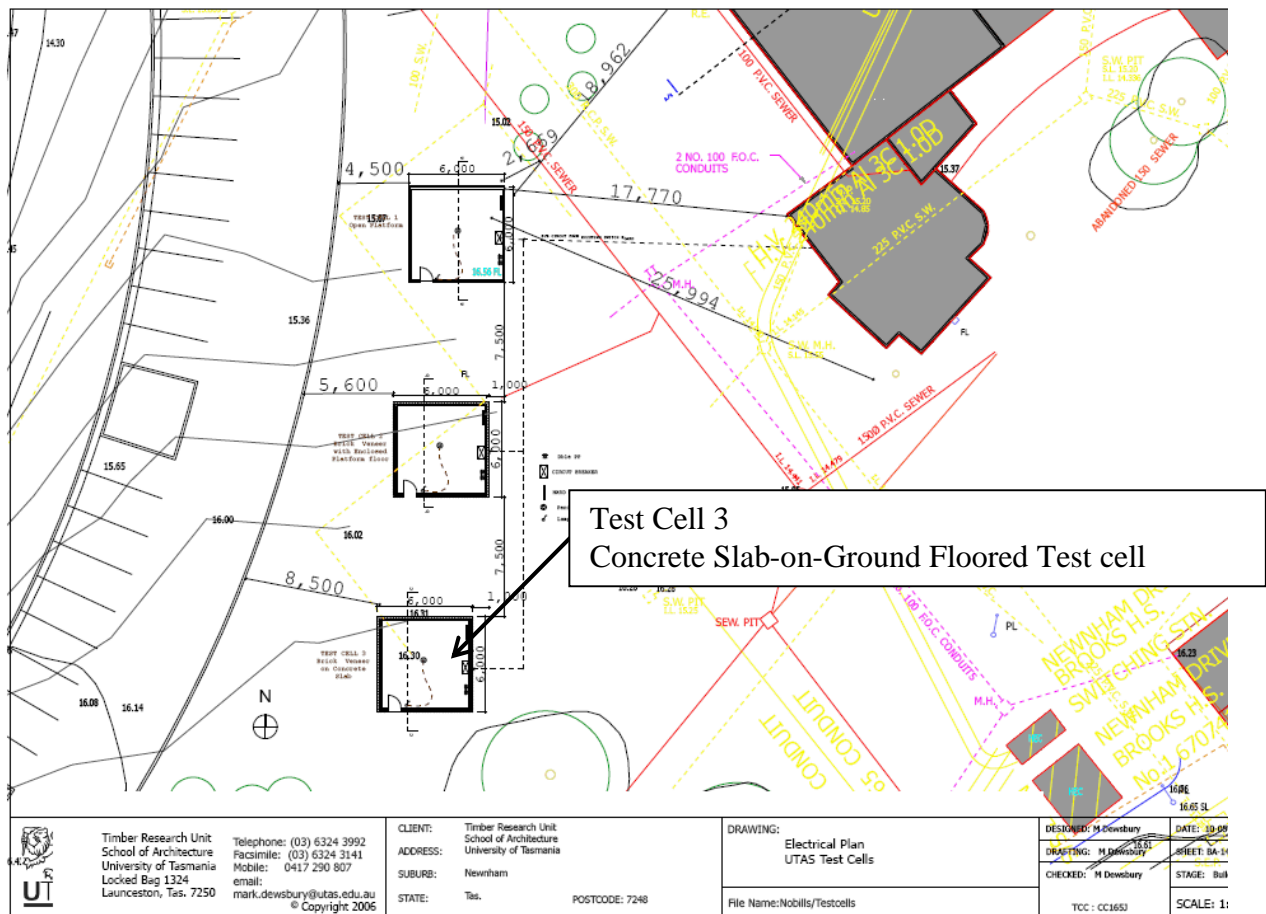


Figure A2.33 - Test Cell Site Plan (not to scale)

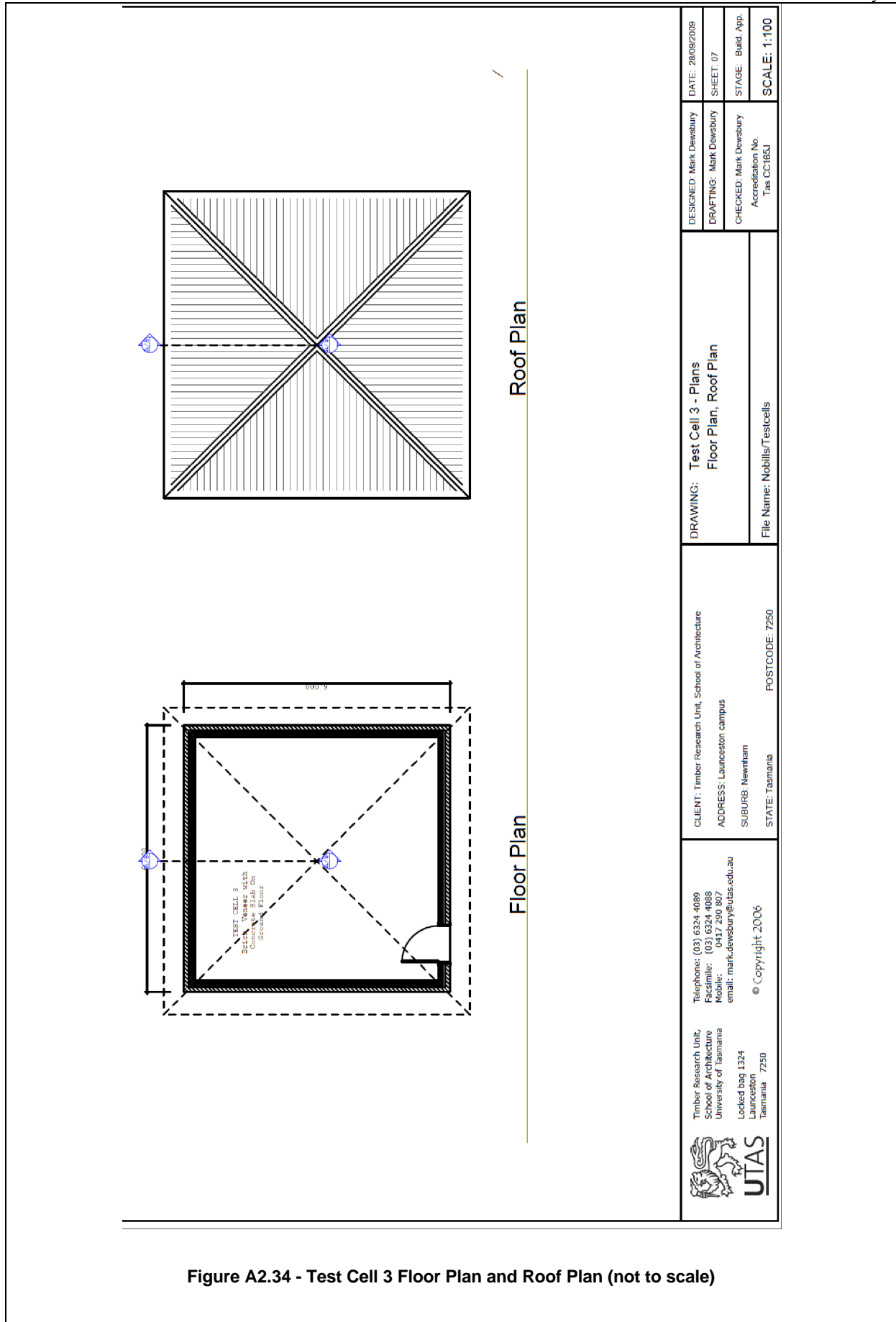


Figure A2.34 - Test Cell 3 Floor Plan and Roof Plan (not to scale)

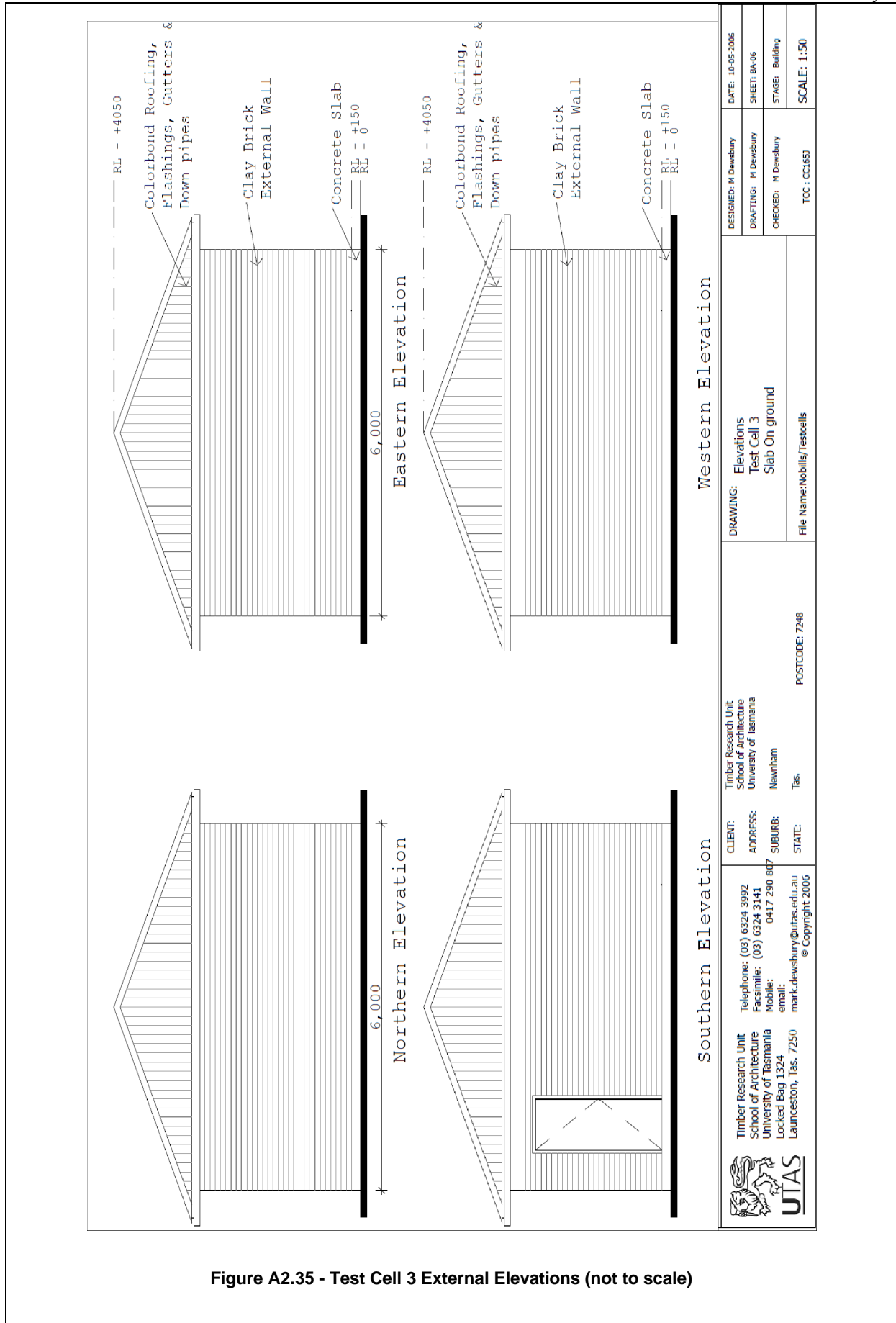


Figure A2.35 - Test Cell 3 External Elevations (not to scale)

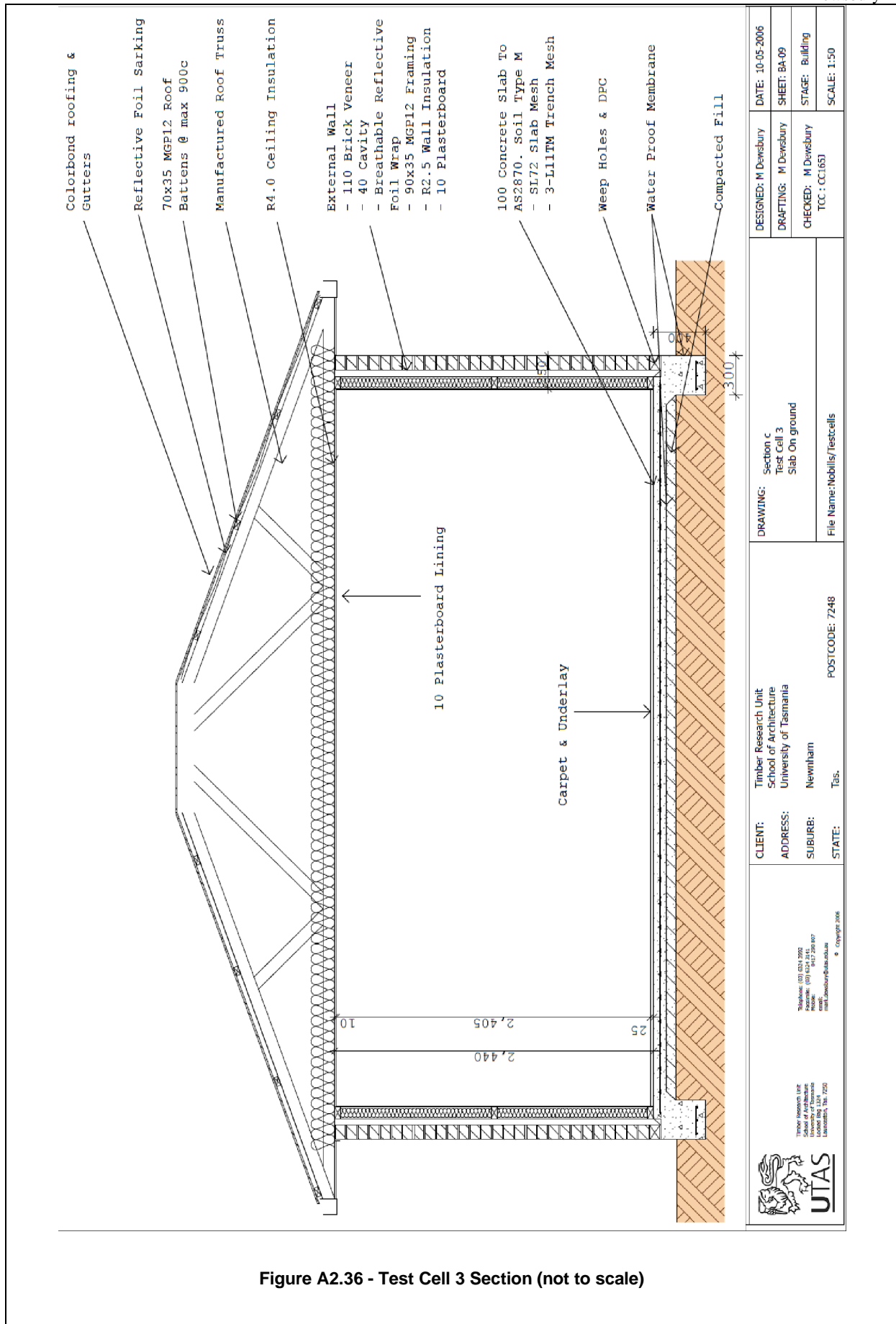
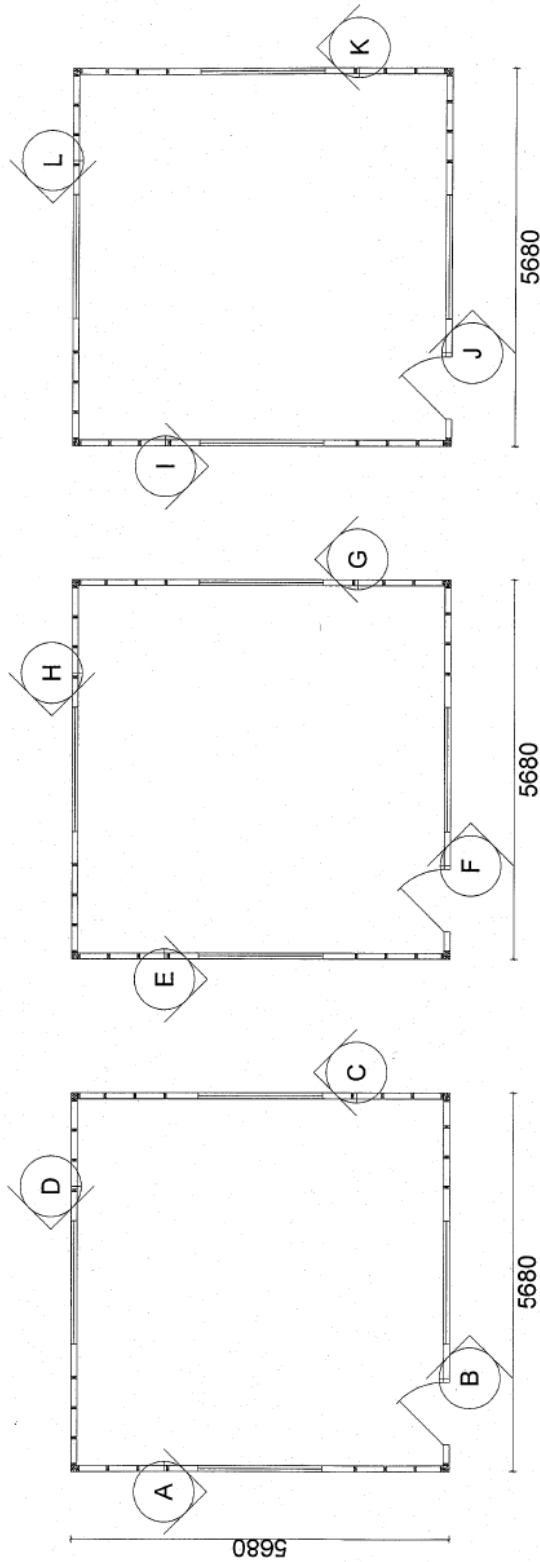


Figure A2.36 - Test Cell 3 Section (not to scale)

Test Cell Framing Data

All test cell framing drawings provided by courtesy of Spantruss Launceston.



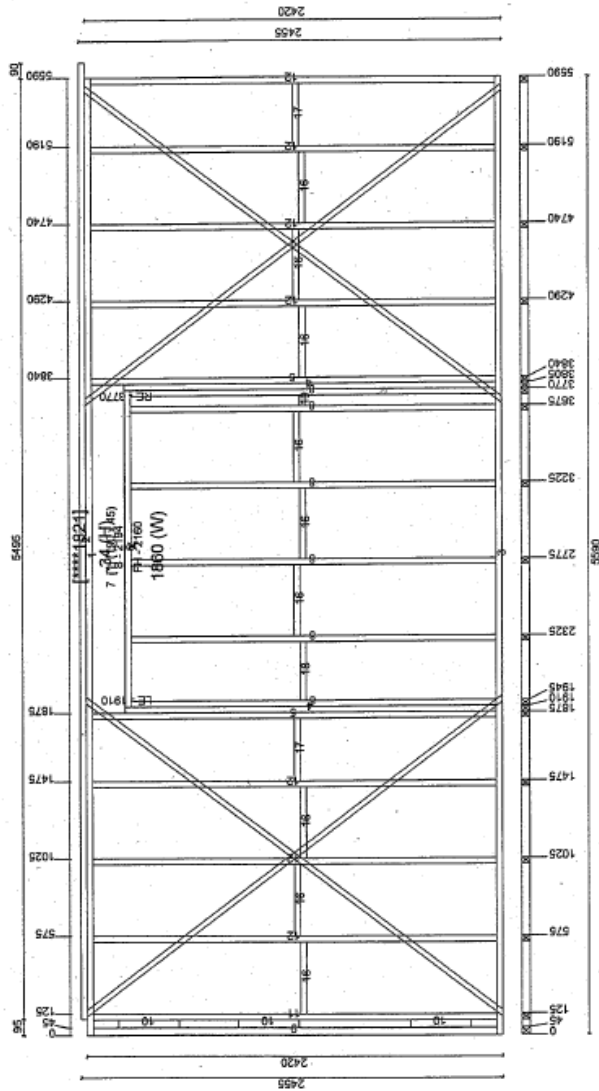
It is the builders responsibility to ensure walls are erected, connected and braced as per Australian Standard AS 1684.2-1999 and that the bracing Complies with the project engineers bracing design.

Figure A2.37 - Test Cell 3 – Wall-framing Data, walls I, J, K & L (not to scale)

Panel Production Sheets

Panel: "I" (L1)
Date: 6-06-2006 Page: 9

Job: "STL052"
Description: C.B&M Uni Invermay
Nog Heights: 1175



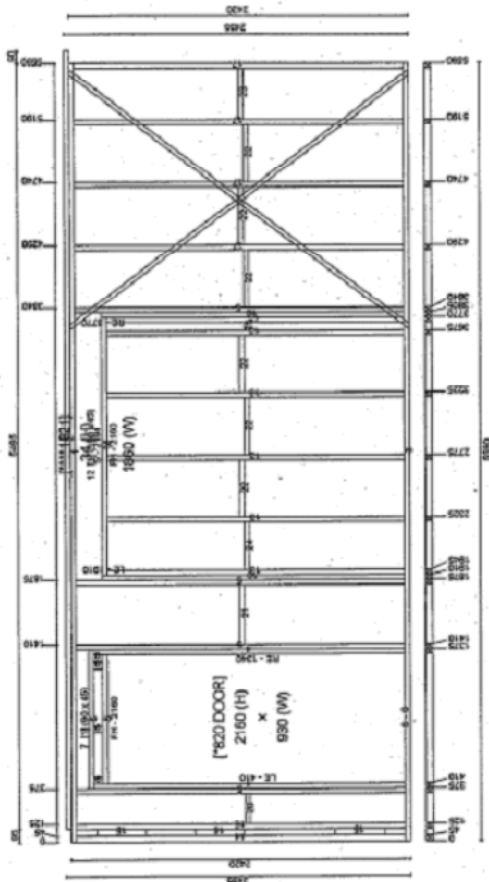
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1	Top Plate	90 x 35 MGP12	1	5590					
2	Very Top Plate	90 x 35 MGP10	1	5585					
3	Bottom Plate	90 x 35 MGP12	1	5990					
4	Component Trimmer	90 x 35 MGP10	2	2160					
5	Component Stud	90 x 35 MGP10	2	2350					
6	Component Sill	90 x 35 MGP10	1	1860					
7	Component Header	190 x 45 MGP12	1	1830					
8	Sill Cripple	90 x 35 MGP10	6	2124					
9	Subcomponent Stud	90 x 45 MGP10	1	2450					
10	Subcomponent Block	90 x 45 MGP10	3	350					
11	Subcomponent Stud	90 x 35 MGP10	1	2350					
12	Wall Stud	90 x 35 MGP10	7	2350					
*	Bracing Outline	1.2 x 30.2 PL X BRACE	1	3030	-53.0	-37.0	37.0		
*	Bracing Outline	1.2 x 30.2 PL X BRACE	2	3030	-127.0	37.0	-37.0		
*	Bracing Outline	1.2 x 30.2 PL X BRACE	1	3030	-127.0	-37.0	37.0		
16	Blocking	90 x 35 P10	9	415					
17	Blocking	90 x 35 P10	2	365					
18	Blocking	90 x 35 P10	1	345					
19	Blocking	90 x 35 P10	1	60					

Figure A2.38 - Test Cell 3 – Wall-framing Data: Wall I (not to scale)

Panel Production Sheets

Job: "STL052"
 Description: C.B&M Unit Invermay
 Nog Heights: 1:175

Panel: "J" (L1)
 Date: 6-06-2006 Page: 10



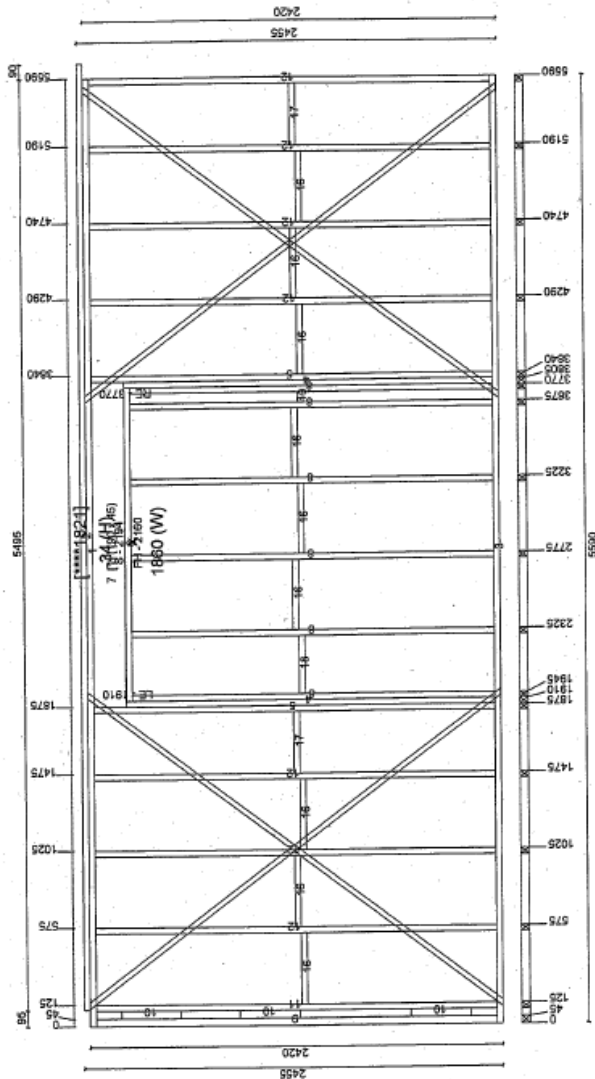
ID	Member Type	Timber	Qty	BEdg/TEdg	Pitch (Deg)	Left Agl (Btm)	Left Agl (Top)	Left Mitre	Right Mitre
1	Top Plate	80 x 35 MGP12	1	5590					
2	Very Top Plate	80 x 35 MGP10	1	5585					
3	Bottom Plate	80 x 35 MGP12	1	5590					
4	Component Trimmer	80 x 35 MGP10	2	2225					
5	Component Stud	80 x 35 MGP10	4	2350					
6	Component Header Sill	80 x 35 MGP10	1	1000					
7	Component Header	80 x 35 MGP10	1	1000					
8	Component Shim	80 x 35 MGP10	1	930					
9	Header Cripple	80 x 45 MGP12	4	65					
10	Component Trimmer	80 x 35 MGP10	2	2160					
11	Component Sill	80 x 35 MGP10	1	1860					
12	Component Header	190 x 45 MGP12	1	1990					
13	Sill Cripple	80 x 35 MGP10	6	2124					
14	Subcomponent Stud	80 x 45 MGP10	1	2350					
15	Subcomponent Block	80 x 45 MGP10	3	350					
16	Subcomponent Sill	80 x 35 MGP10	1	2350					
17	Wall Stud	80 x 35 MGP10	4	2350					
*	Bracing Outline	12 x 30.2 PL X BRACE	1	3030	-127.0	-57.0	37.0		
*	Bracing Outline	12 x 30.2 PL X BRACE	1	3030	-53.0	37.0	-37.0		
20	Blocking	90 x 35 P10	1	215					
21	Blocking	90 x 35 P10	1	430					
22	Blocking	90 x 35 P10	6	415					
23	Blocking	90 x 35 P10	1	365					
24	Blocking	90 x 35 P10	1	345					
25	Blocking	80 x 35 P10	1	60					

Figure A2.39 - Test Cell 3 – Wall-framing Data: Wall I (not to scale)

Panel Production Sheets

Panel: "K" (L1)
Date: 6-06-2006 Page: 11

Job: "STL052"
Description: C.B&M Uni Invermay
Nog Heights: 1175



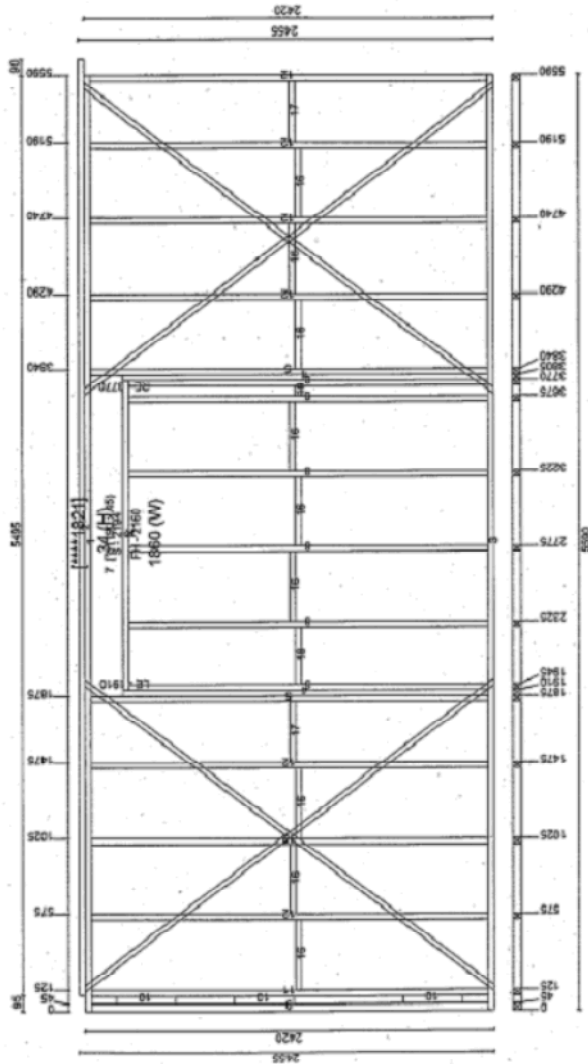
ID	Member Type	Timber	Qty	BEdg/TEdg	Pitch (Deg)	Left Agl (Btm)	Right Agl (Top)	Left Milre	Right Milre
1	Top Plate	90 x 35 MGP12	1	5590					
2	Very Top Plate	90 x 35 MGP10	1	5595					
3	Bottom Plate	90 x 35 MGP12	1	5590					
4	Component Trimmer	90 x 35 MGP10	2	2160					
5	Component Stud	90 x 35 MGP10	2	2350					
6	Component Sill	90 x 35 MGP10	1	1860					
7	Component Header	190 x 45 MGP12	1	1930					
8	Sill Cripple	90 x 35 MGP10	6	2124					
9	Subcomponent Stud	90 x 45 MGP10	1	2350					
10	Subcomponent Block	90 x 45 MGP10	3	350					
11	Subcomponent Stud	90 x 35 MGP10	7	2350					
12	Wall Stud	90 x 35 MGP10	1	3030	-53.0	-37.0	37.0		
13	Bracing Outline	1.2 x 30.2 PL X BRACE	1	3030	-127.0	-37.0	-37.0		
14	Bracing Outline	1.2 x 30.2 PL X BRACE	2	3030	-127.0	-37.0	-37.0		
15	Bracing Outline	1.2 x 30.2 PL X BRACE	1	3030	-127.0	-37.0	-37.0		
16	Blocking	90 x 35 P10	9	415					
17	Blocking	90 x 35 P10	2	365					
18	Blocking	90 x 35 P10	1	345					
19	Blocking	90 x 35 P10	1	60					

Figure A2.40 - Test Cell 3 – Wall-framing Data: Wall K (not to scale)

Panel Production Sheets

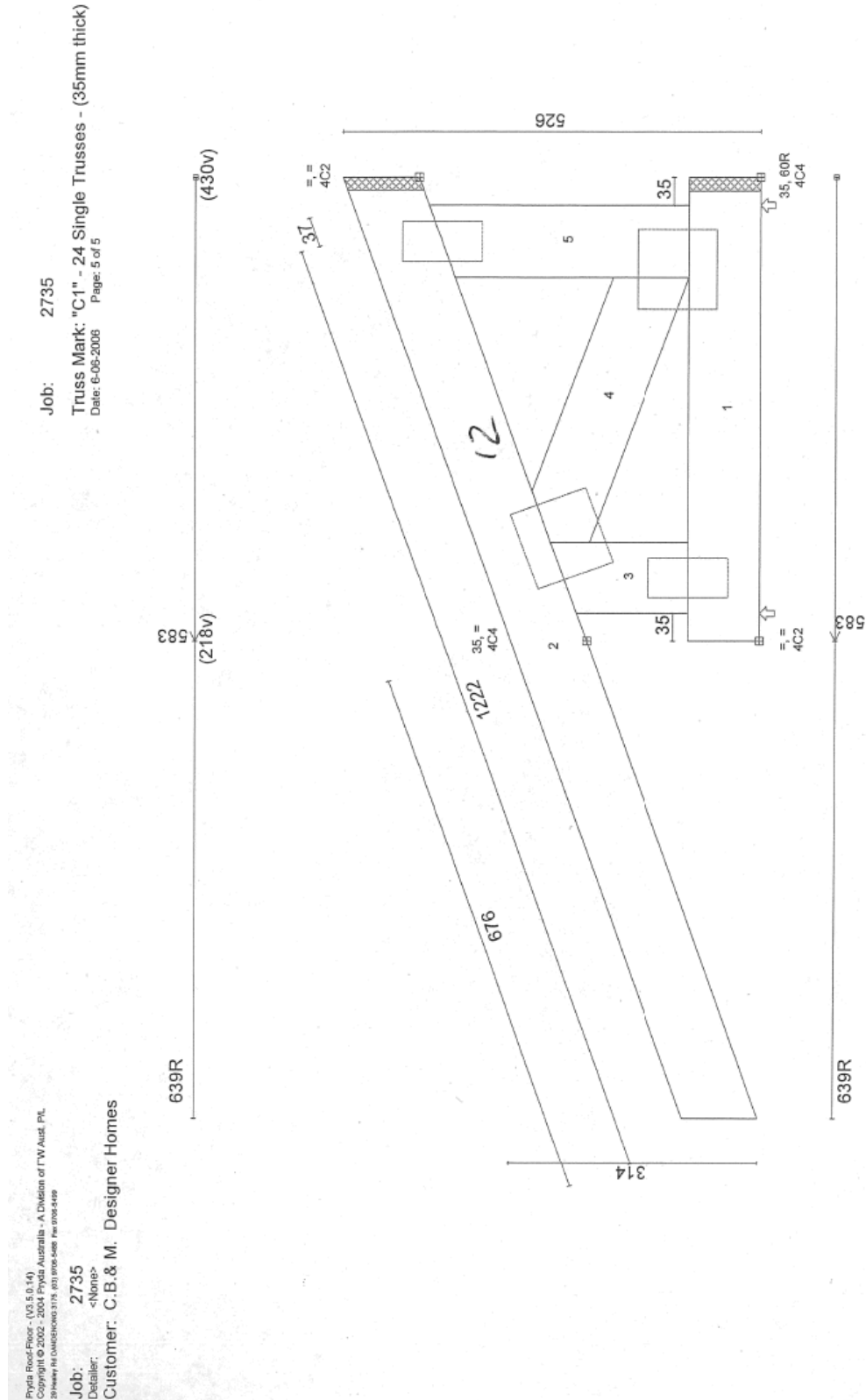
Panel: "L" (L1)
Date: 6-06-2008 Page: 12

Job: "STL052"
Description: C.B&M Unit Invermay
Nog Heights: 1175



ID	Member Type	Timber	Qty	BE/sg/TEdg	Pitch (Deg)	Left Ang (Btm)	Right Ang (Top)	Left Mitre	Right Mitre
1	Top Plate	90 x 35 MGP12	1	5580					
2	Very Top Plate	90 x 35 MGP10	1	5585					
3	Bottom Plate	90 x 35 MGP12	1	5590					
4	Component Trimmer	90 x 35 MGP10	2	2160					
5	Component Stud	90 x 35 MGP10	2	2350					
6	Component Sill	90 x 35 MGP10	1	1860					
7	Component Header	100 x 45 MGP12	1	1930					
8	Sill Cripple	90 x 35 MGP10	6	2134					
9	Subcomponent Stud	90 x 45 MGP10	1	2350					
10	Subcomponent Block	90 x 45 MGP10	3	360					
11	Subcomponent Stud	90 x 35 MGP10	1	2350					
12	Wall Stud	90 x 35 MGP10	7	2350					
*	Bracing Outline	1.2 x 30.2 PL X BRACE	1	3030	-53.0	-37.0	37.0		
*	Bracing Outline	1.2 x 30.2 PL X BRACE	2	3030	-127.0	37.0	-37.0		
*	Bracing Outline	1.2 x 30.2 PL X BRACE	1	3030	-127.0	-37.0	37.0		
16	Blocking	90 x 35 P10	9	415					
17	Blocking	90 x 35 P10	2	365					
18	Blocking	90 x 35 P10	1	345					
19	Blocking	90 x 35 P10	1	60					

Figure A2.41 - Test Cell 3 – Wall-framing Data: Wall L (not to scale)



ID	Type	Timber	Qty	Stock Length	Actual Length	Length To	Angle 1	Angle 2	Angle 3	Angle 4	Tilt Angle	LF Mitre Angle	LB Mitre Angle	RF Mitre Angle	RB Mitre Angle
1	BC	90MGP10	24	600	583	Bot	-	-	-	-	-	-	-	45.00	45.00
2	TC	90MGP12	24	1500	1258	Bot	-	20.00	-	20.00	-	-	-	45.00	45.00
3	W	90MGP10	24	300	173	Bot	-	20.00	-	-	-	-	-	-	-
4	W	90MGP10	24	600	355	Bot	-	20.50	49.50	20.50	-	-	-	-	-
5	W	90MGP10	24	600	327	Bot	-	-	20.00	-	-	-	-	-	-

Figure A2.43 - Test Cell 3 – Roof-framing Data: Truss C1 (not to scale)

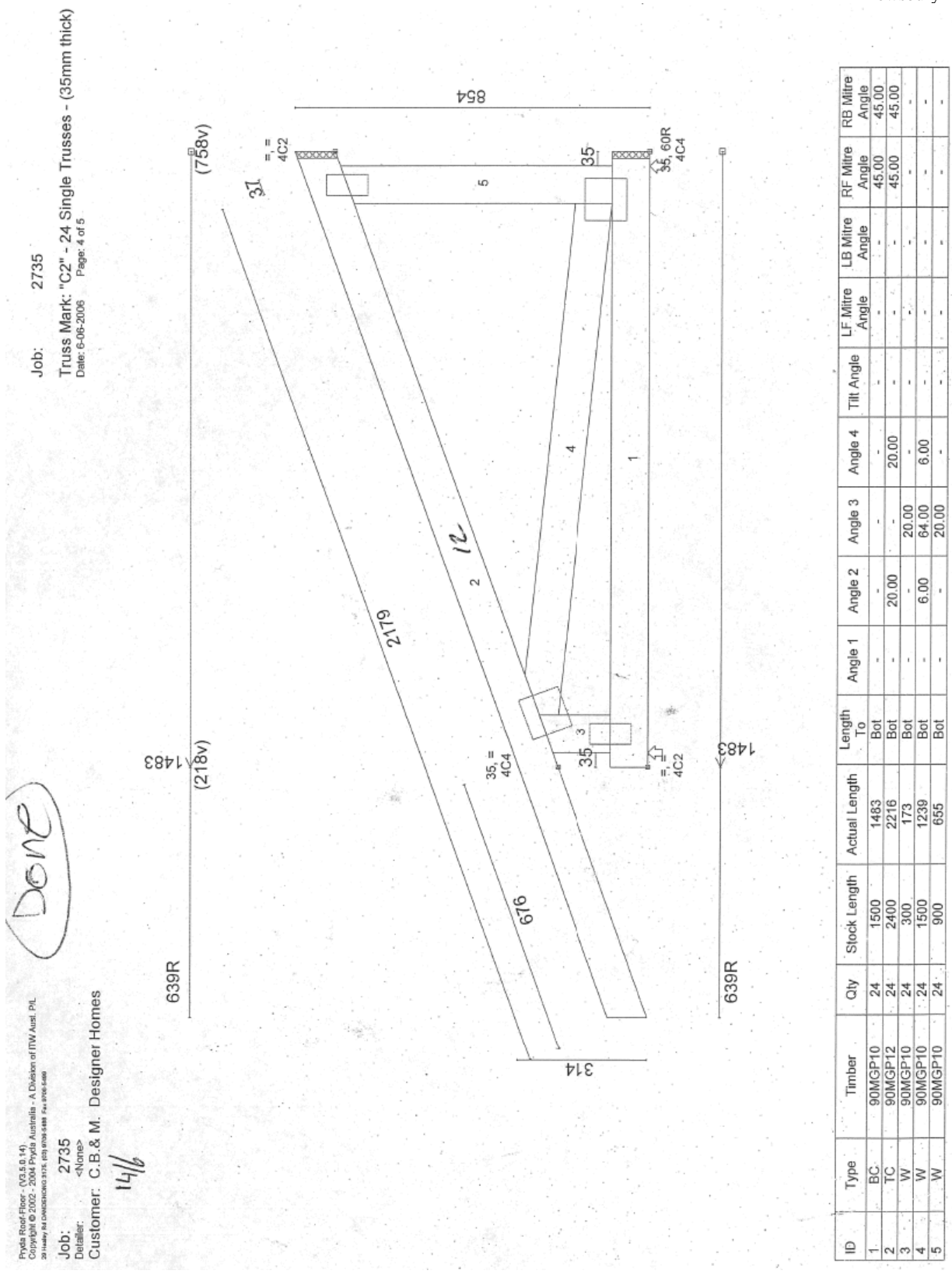


Figure A2.44 - Test Cell 3 – Roof-framing Data: Truss C2 (not to scale)

✓ DNL

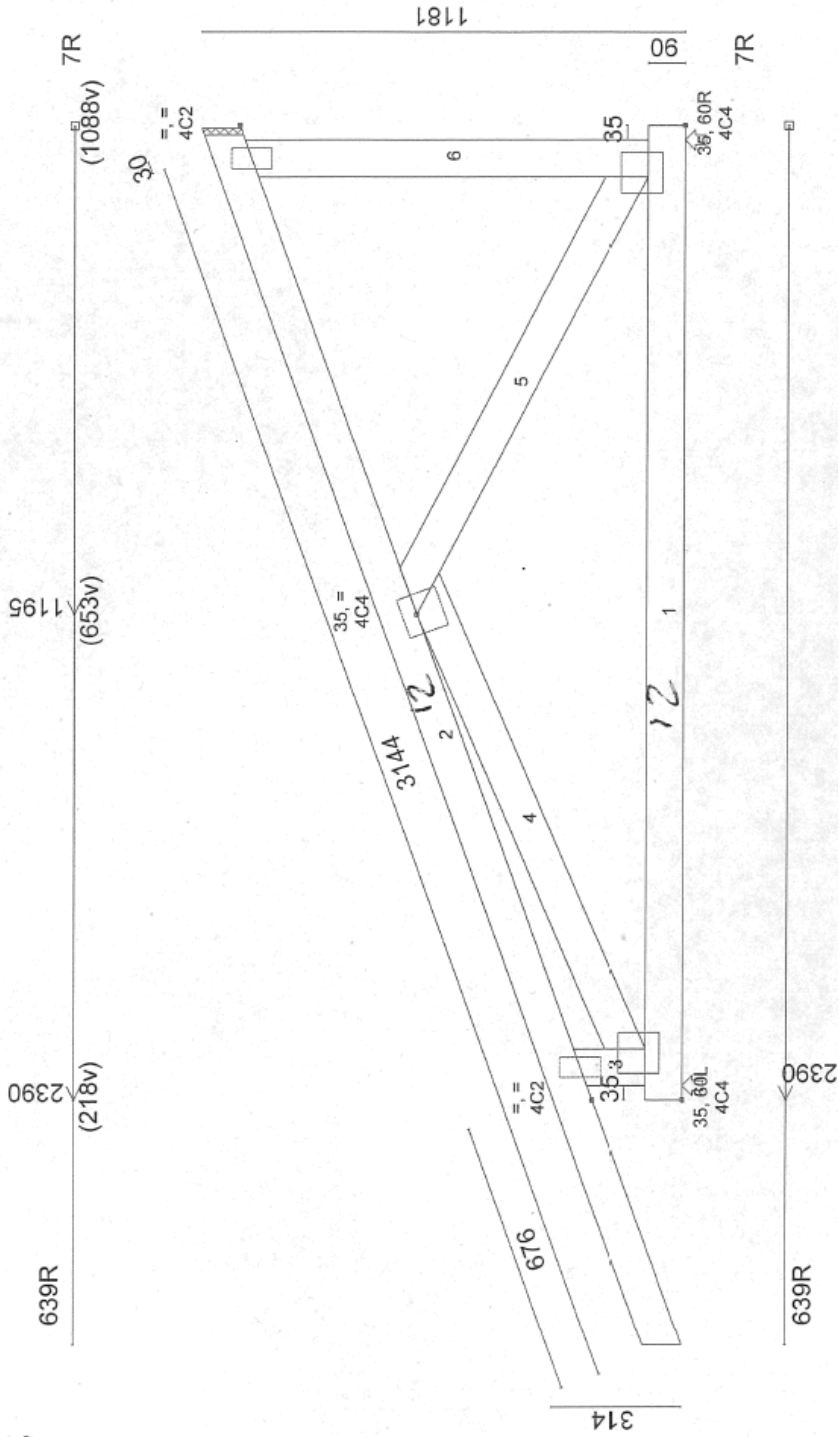
Job: 2735

Truss Mark: "J1" - 12 Single Trusses - (35mm thick)
Date: 6-06-2006 Page: 3 of 5

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Job: 2735
Detailer: <None>
Customer: C.B. & M. Designer Homes

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ID	Type	Timber	Qty	Stock Length	Actual Length	Length To	Angle 1	Angle 2	Angle 3	Angle 4	Tilt Angle	LF Mitre Angle	LB Mitre Angle	RF Mitre Angle	RB Mitre Angle
1	BC	90MGP12	12	2400	2390	Bot	-	-	-	-	-	-	-	-	-
2	TC	90MGP12	12	3300	3174	Bot	-	20.00	-	20.00	-	-	-	45.00	45.00
3	W	90MGP1C	12	300	173	Bot	-	20.00	-	-	-	-	-	-	-
4	W	90MGP1C	12	1500	1277	Bot	-	23.50	-	-	-	-	-	-	-
5	W	90MGP1C	12	1500	1209	Bot	-	27.50	-	-	-	-	-	-	-
6	W	90MGP1C	12	1200	985	Bot	-	-	20.00	-	-	-	-	-	-

Figure A2.45 - Test Cell 3 – Roof-framing Data: Truss J1 (not to scale)

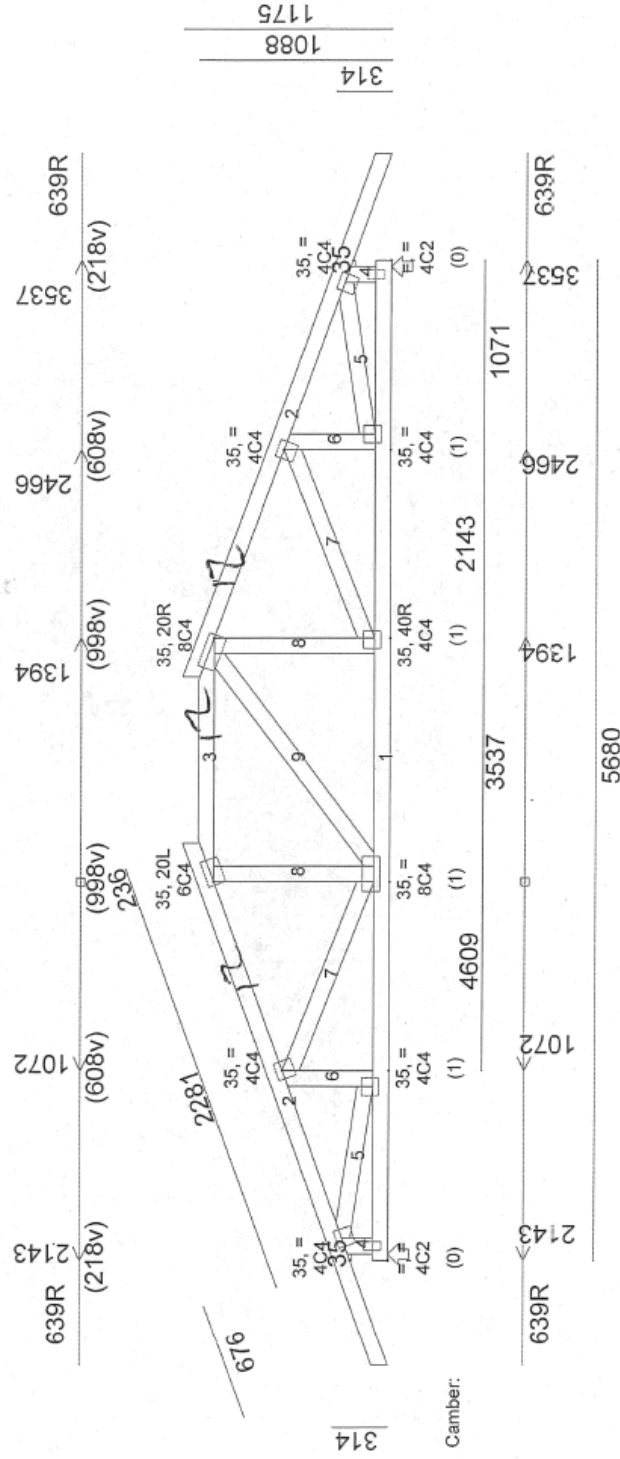
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Job: 2735
 Date: 6-06-2006 Page: 1 of 5

Truss Mark: "TG1" - 6 Single Trusses - (35mm thick)

Job: 2735
 Designer: C.B. & M. Designer: Homes

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ID	Type	Timber	Qty	Stock Length	Actual Length	Length To	Angle 1	Angle 2	Angle 3	Angle 4	Tilt Angle	LF Mitre Angle	LB Mitre Angle	RF Mitre Angle	RB Mitre Angle
1	BC	90MGP10	6	5700	5680	Bot	-	-	-	-	-	-	-	-	-
2	TC	90MGP12	12	3300	3155	Bot	-	20.00	-	20.00	-	-	-	-	-
3	TC	90MGP12	6	1500	1394	Bot	-	70.00	70.00	-	-	-	-	-	-
4	W	90MGP10	12	300	173	Bot	-	-	20.00	-	-	-	-	-	-
5	W	90MGP10	12	900	865	Bot	-	8.50	61.50	8.50	-	-	-	-	-
6	W	90MGP10	12	600	517	Bot	-	-	20.00	-	-	-	-	-	-
7	W	90MGP10	12	1200	1151	Bot	-	21.50	-	21.50	-	-	-	-	-
8	W	90MGP10	12	1200	907	Bot	-	-	-	-	-	-	-	-	-
9	W	90MGP10	6	1800	1516	Cin	53.00	37.00	53.00	37.00	-	-	-	-	-

Figure A2.47 - Test Cell 3 – Roof-framing Data: Truss TG1 (not to scale)

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