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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Unenclosed-perimeter Platform-floored Test Cell (test cell 1)

Test Cell Fabric Matrix

Table 1- Test Cell 1 Fabric Matrix

Item	Specification
Footings	Treated poles set in a concrete pier
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, 21mm cavity, 12mm plywood lining
Ceiling	10mm Plasterboard, R4.0 Glass wool ceiling batt
Roof	Softwood truss, battens, reflective foil sarking, Colorbond sheet metal roofing

Test Cell Plans

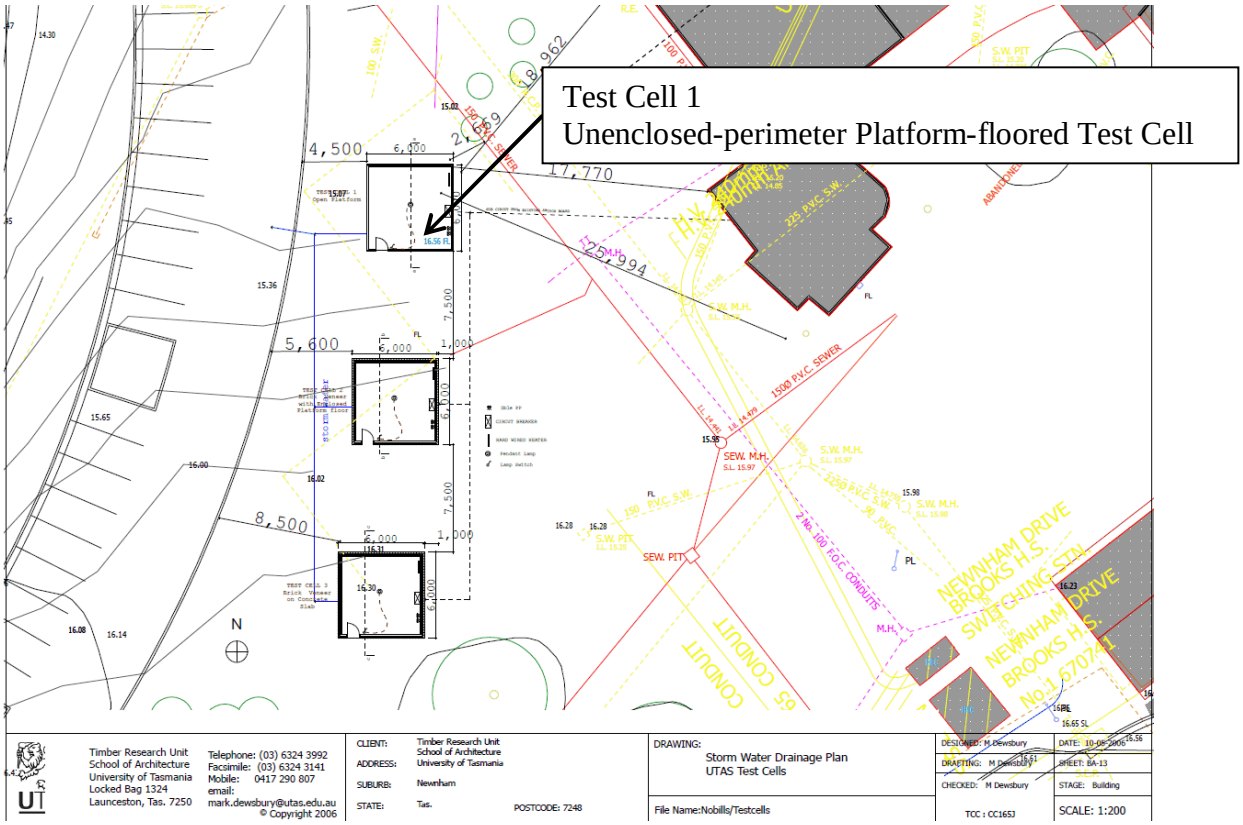


Figure A2.1 - Test Cell Site Plan (not to scale)

Dewsbury

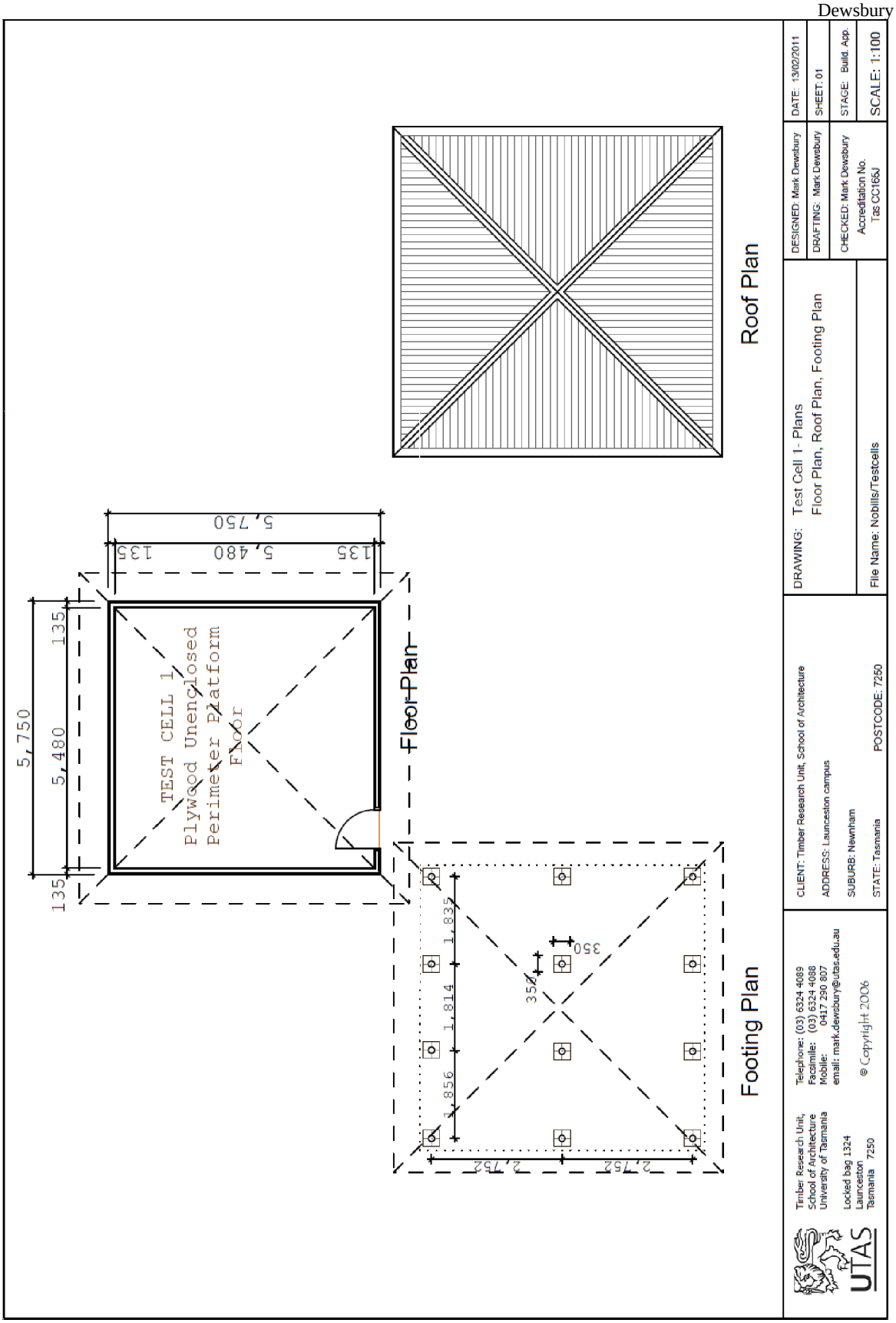


Figure A2.2 - Test Cell 1 Footing Plan, Floor Plan and Roof Plan (not to scale)

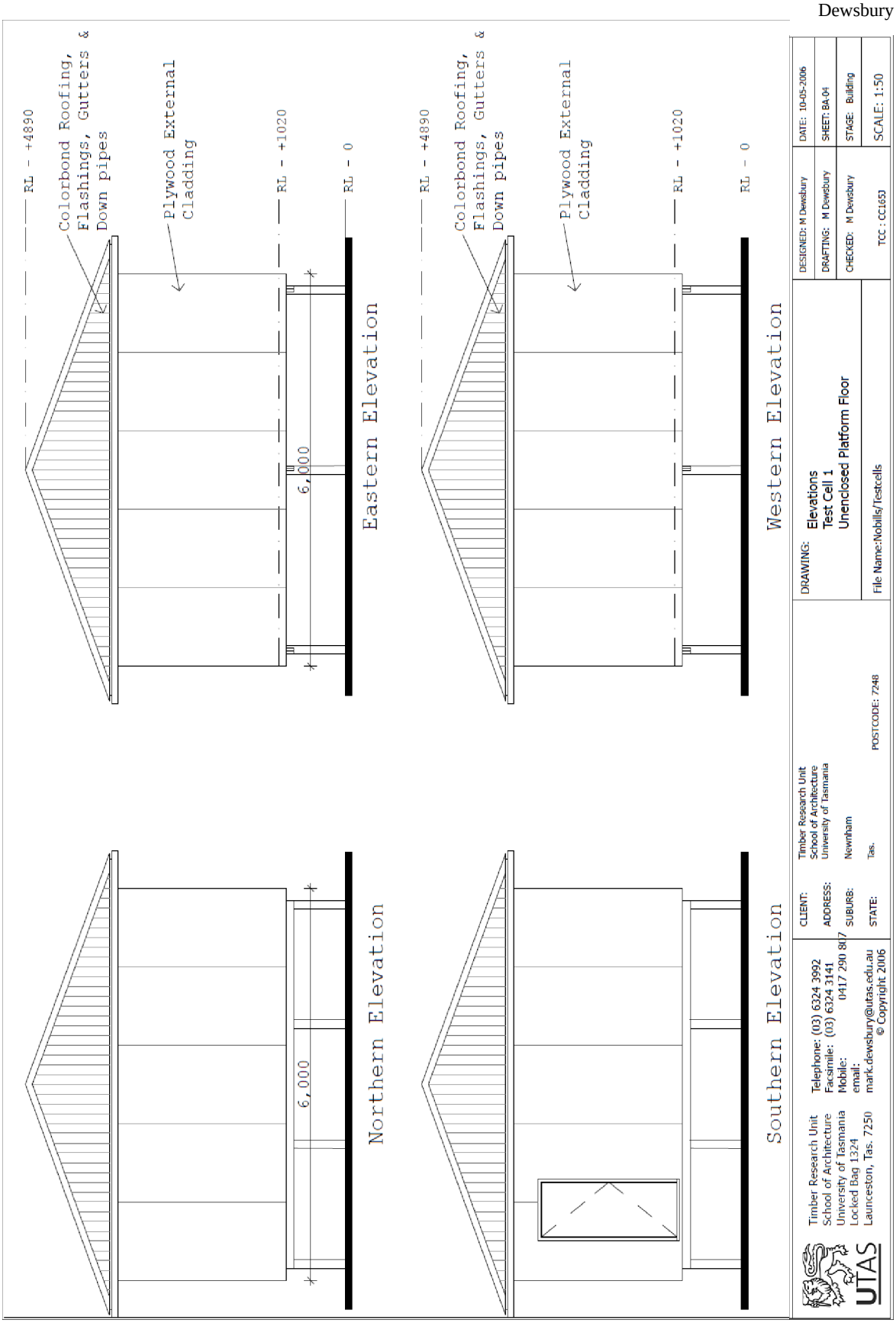


Figure A2.3 - Test Cell 1 Elevations (not to scale)

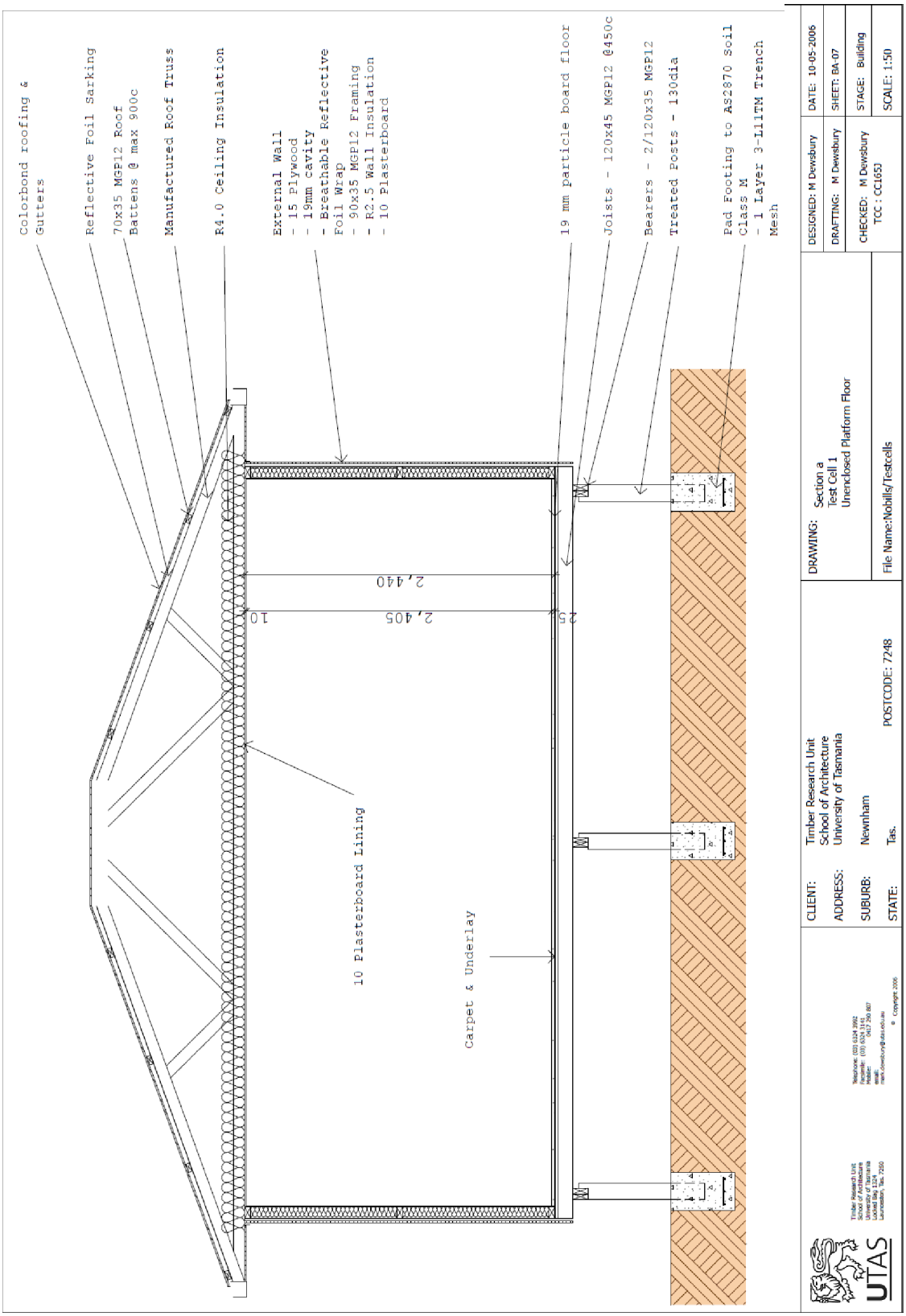


Figure A2.4 - Test Cell 1 Section (not to scale)

Test Cell Framing Data

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

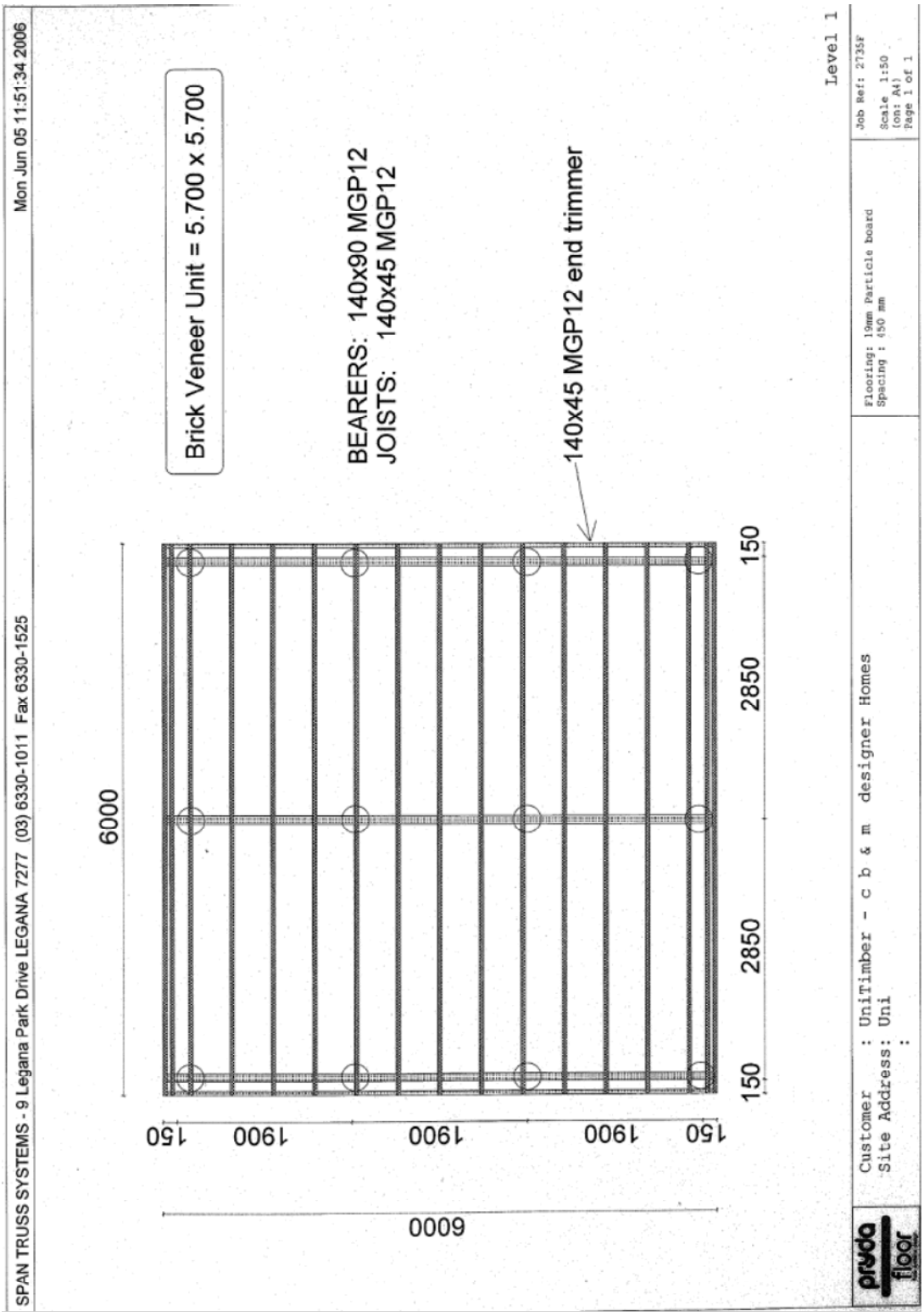


Figure A2.5 - Test Cell 1 – Post, Bearer and Joist Data (not to scale)

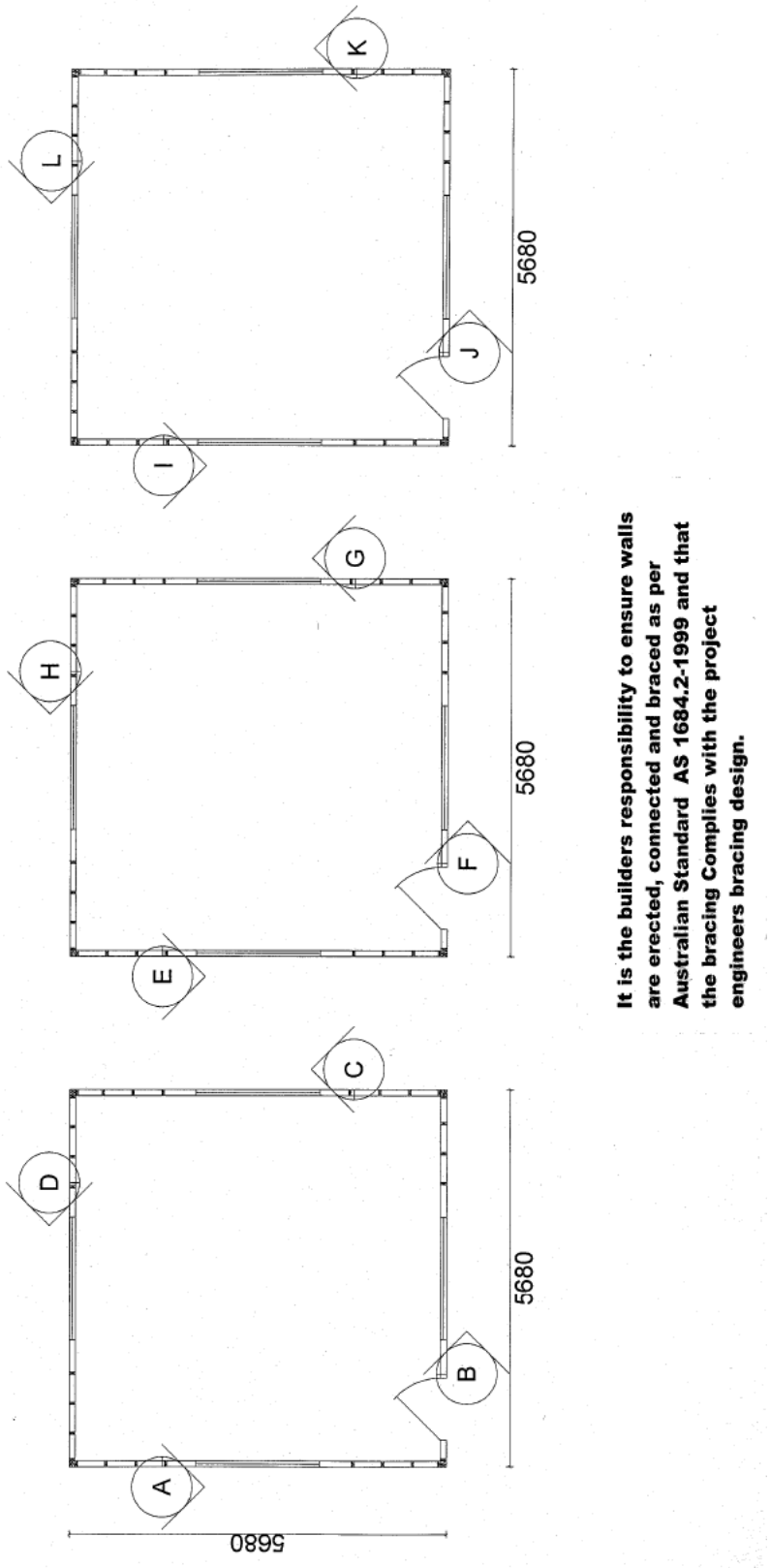
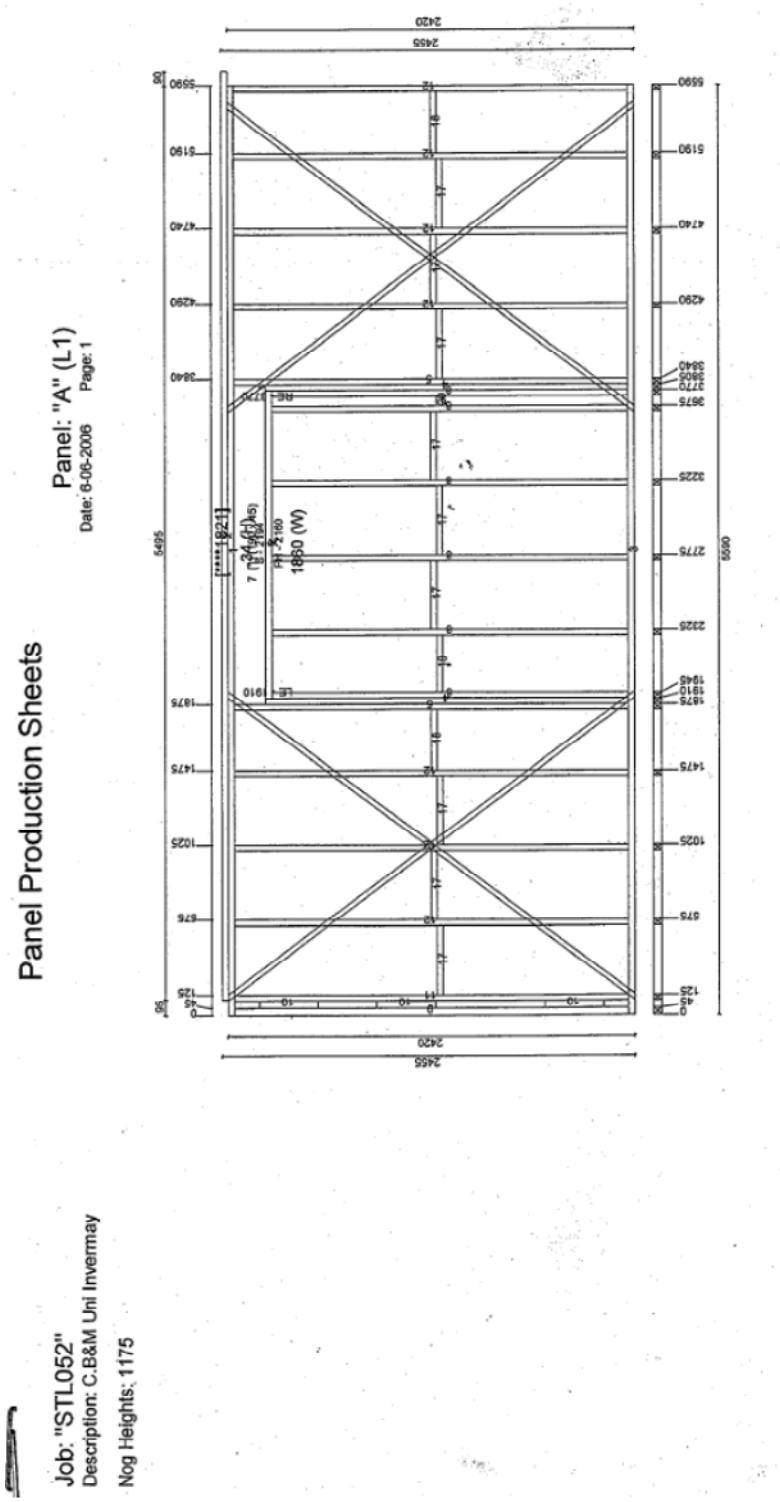
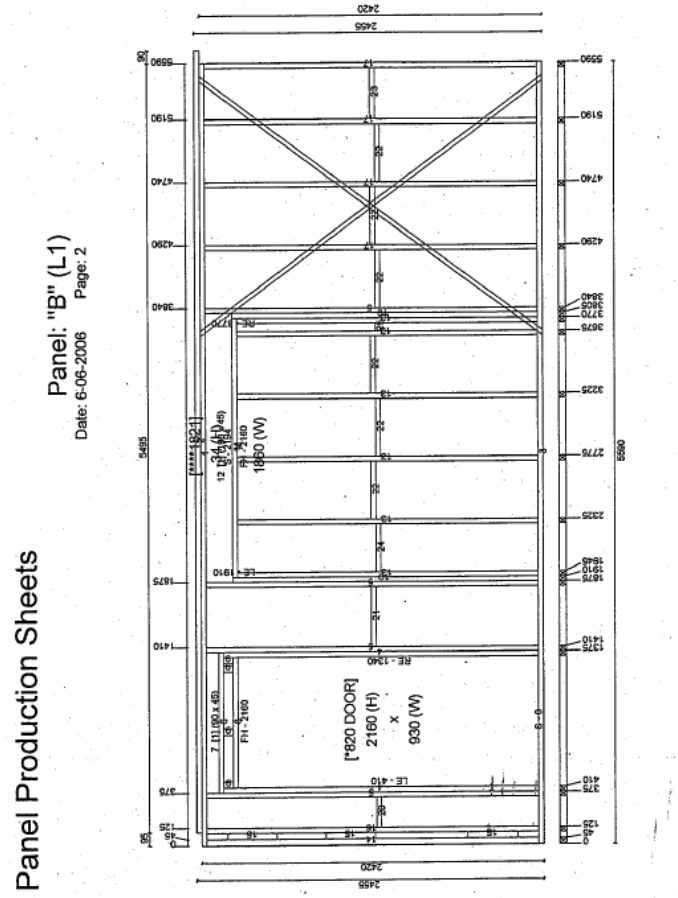


Figure A2.6 - Test Cell 1 – Wall-framing Data, walls A, B, C & D (not to scale)



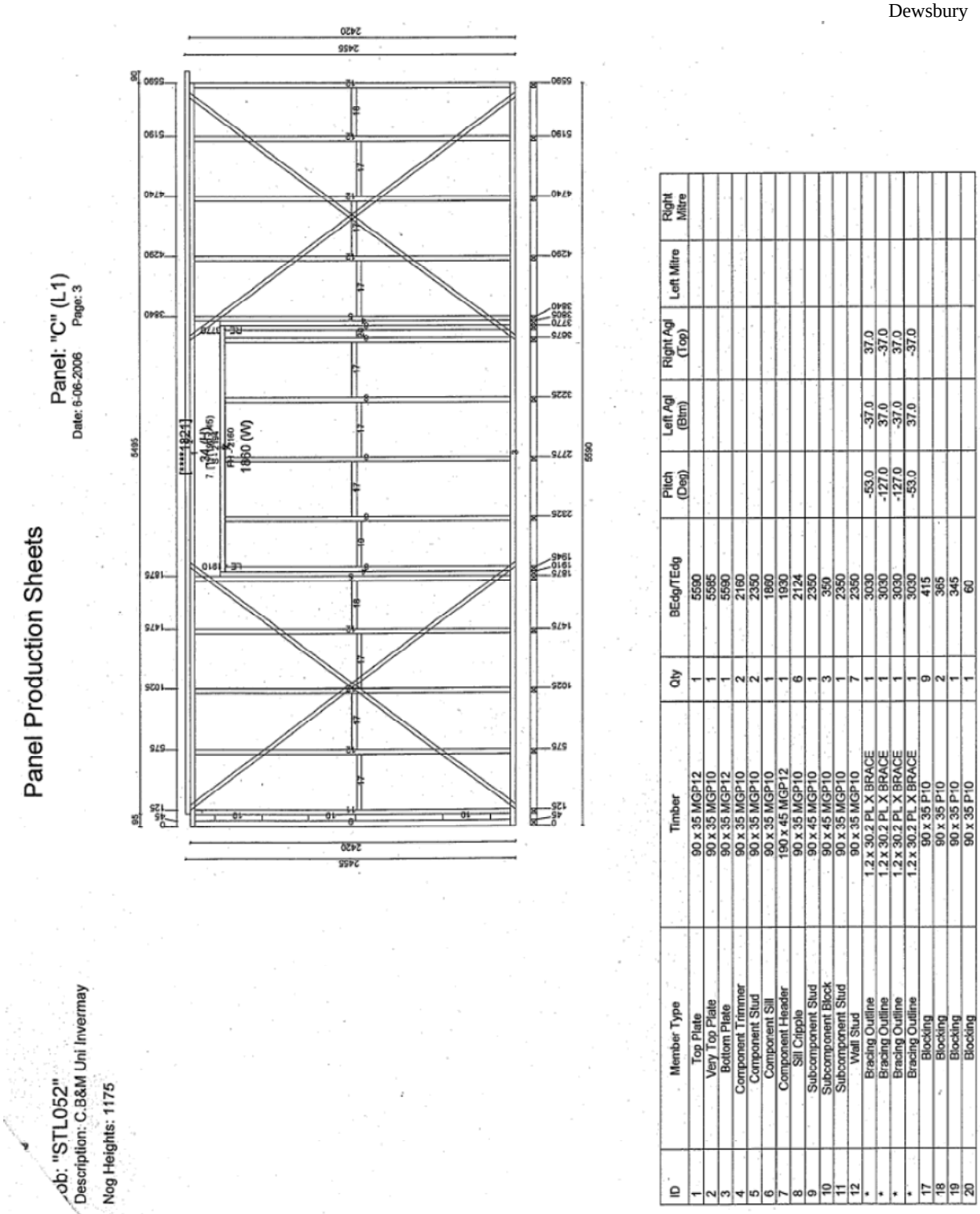
ID	Member Type	Timber	Qty	BEdg/TEdg	Pitch (Deg)	Left Agl (Btm)	Right Agl (Top)	Left Mitre	Right Mitre
1	Top Plate	90 x 35 MGP12	1	5590					
2	Very Top Plate	90 x 35 MGP10	1	5585					
3	Bottom Plate	90 x 35 MGP12	1	5590					
4	Component Trimmer	90 x 35 MGP10	2	2160					
5	Component Stud	90 x 35 MGP10	2	2350					
6	Component Sill	90 x 35 MGP10	1	1860					
7	Component Header	180 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 A2.7 - Test Cell 1 – Wall-framing Data: Wall A (not to scale)



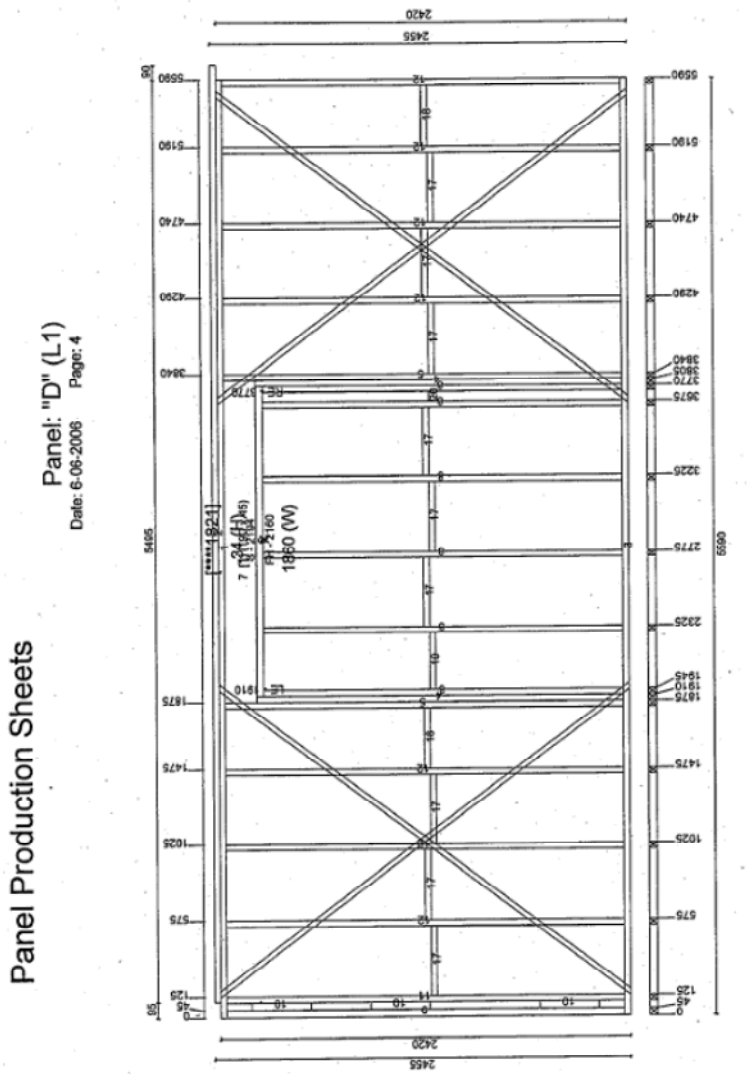
ID	Member Type	Timber	Qty	BEdg/TEdg	Pitch (Deg)	Left Agl (Blm)	Right Agl (Top)	Left Mitre	Right Mitre
1	Top Plate	90 x 35 MGP12	1	5590					
2	Very Top Plate	90 x 35 MGP10	1	5585					
3	Bottom Plate	90 x 35 MGP12	1	5590					
4	Component Trimmer	90 x 35 MGP10	2	2225					
5	Component Stud	90 x 35 MGP10	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 Cripple	90 x 45 MGP12	4	65					
10	Comporlent 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 A2.8 - Test Cell 1 – Wall-framing Data: Wall B (not to scale)



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



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	385					
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)

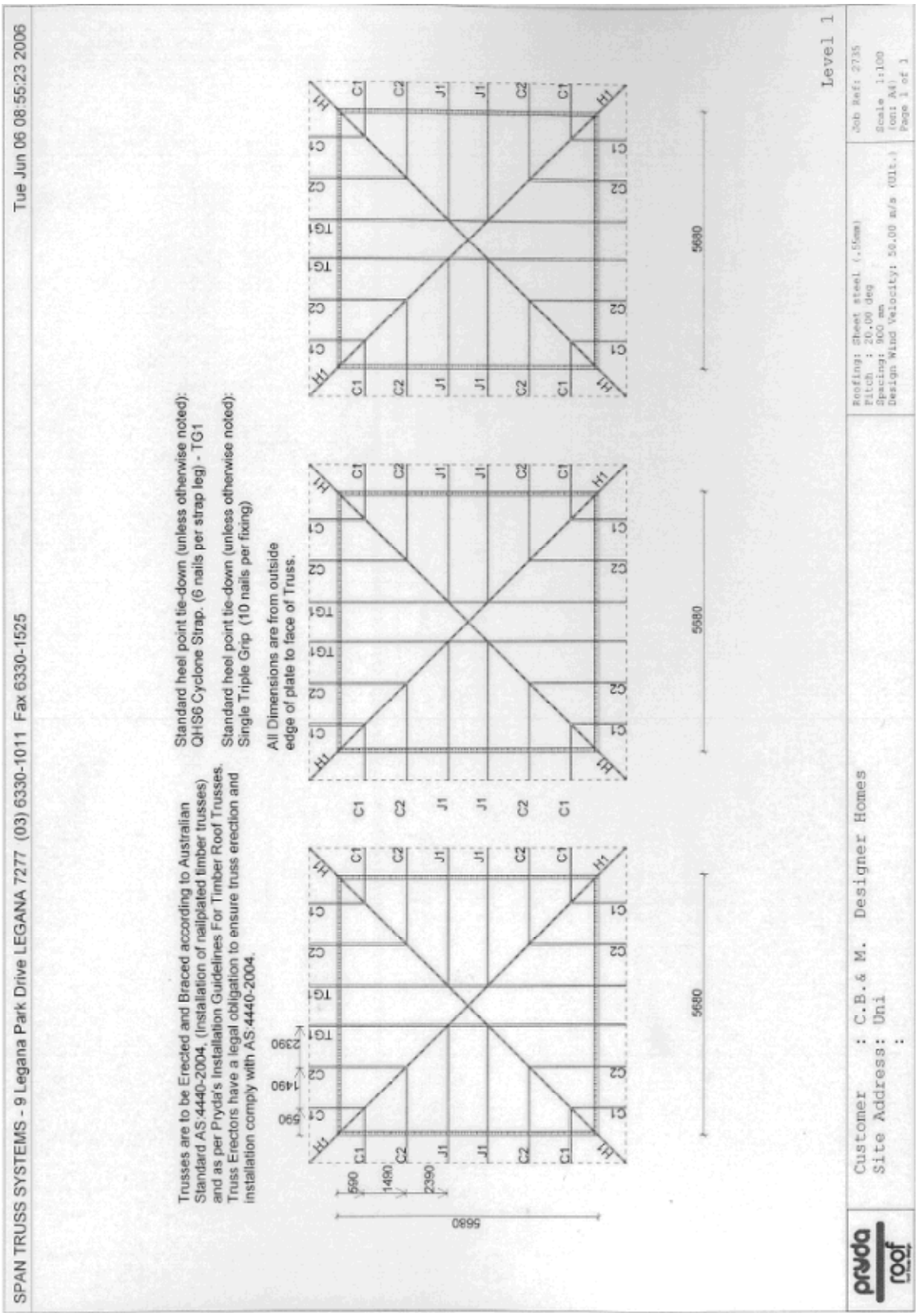
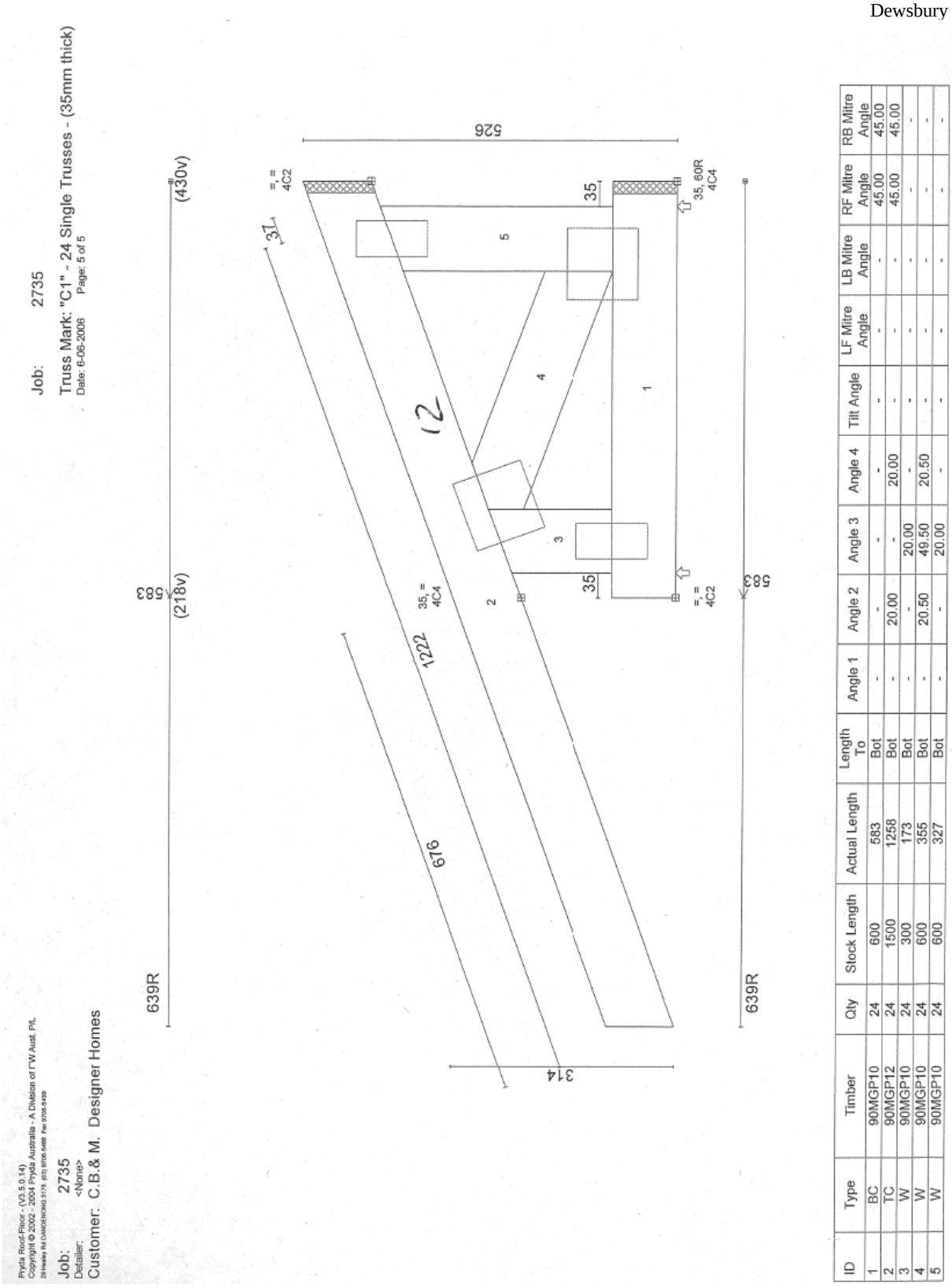
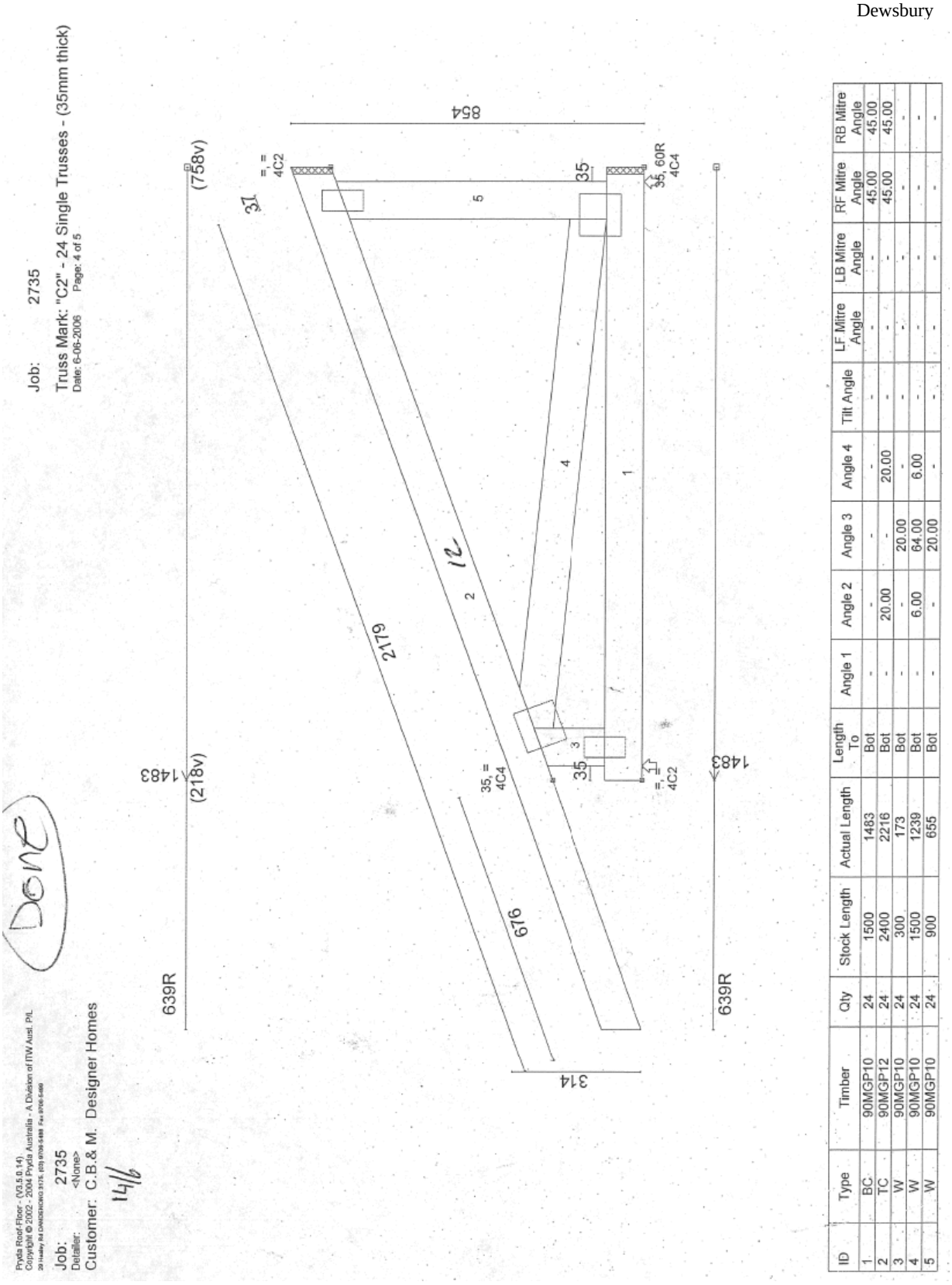


Figure A2.11 - Test Cell 1 – Roof-framing Data (not to scale)



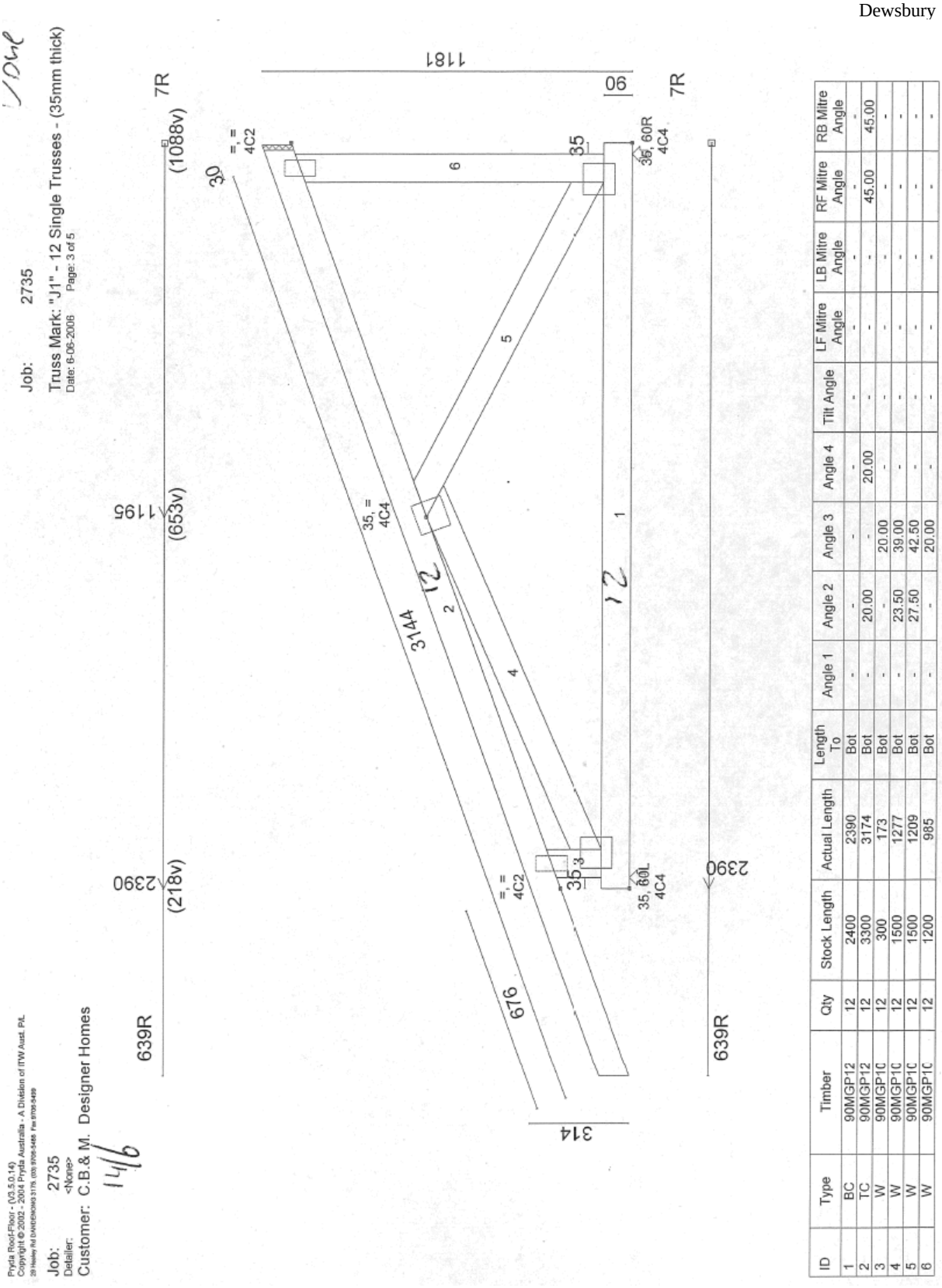
ID	Type	Timber	Qty	Stock Length	Actual Length	Length To	Angle 1	Angle 2	Angle 3	Angle 4	Tilt Angle	LF Mitre Angle	LB Mitre Angle	RF Mitre Angle	RB Mitre Angle
1	BC	90MGP10	24	600	583	Bot	-	-	-	-	-	-	-	45.00	45.00
2	TC	90MGP12	24	1500	1258	Bot	-	20.00	-	20.00	-	-	-	45.00	45.00
3	W	90MGP10	24	300	173	Bot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



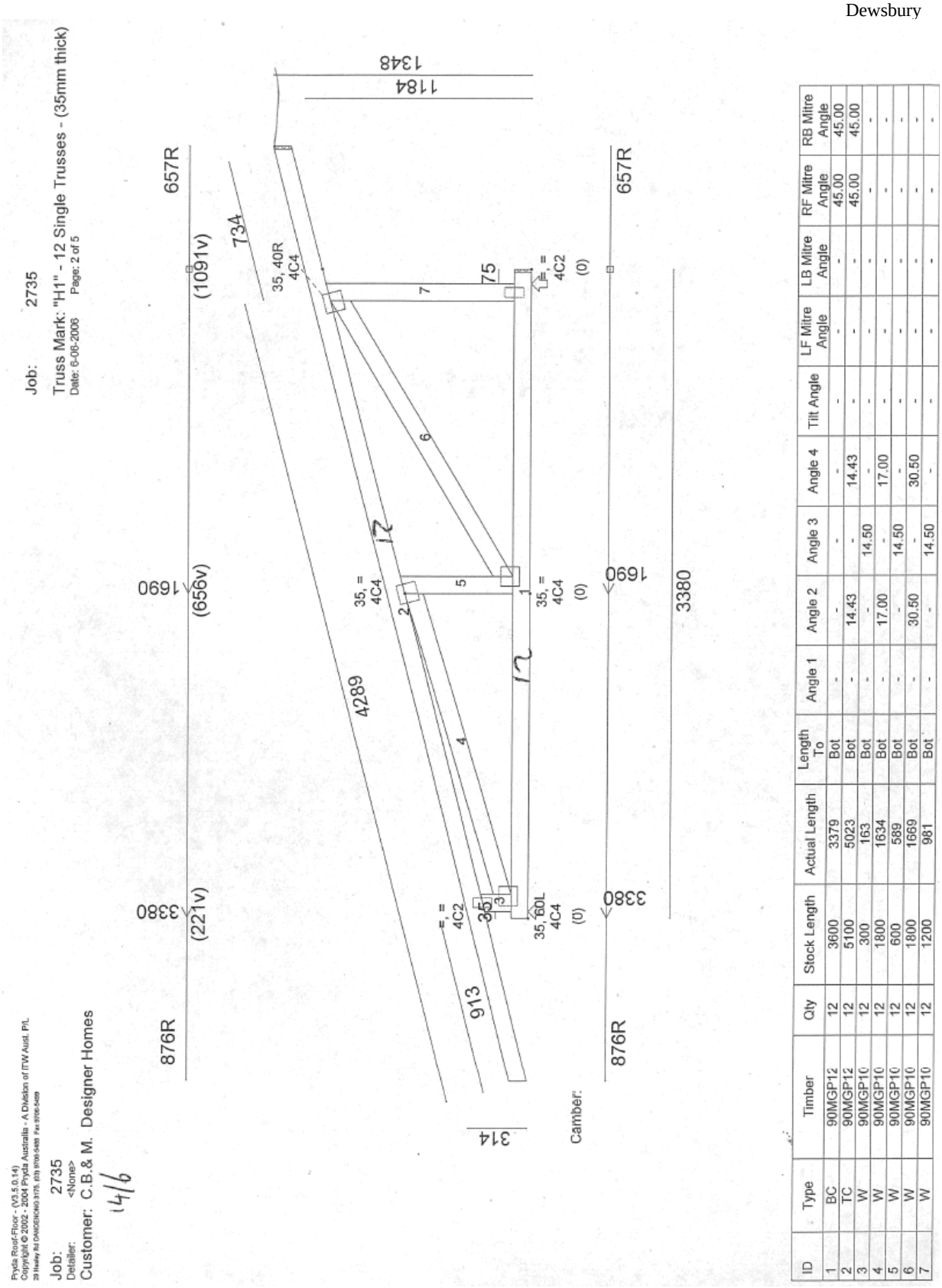
ID	Type	Timber	Qty	Stock Length	Actual Length	Length To	Angle 1	Angle 2	Angle 3	Angle 4	Tilt Angle	LF Mitre Angle	LB Mitre Angle	RF Mitre Angle	RB Mitre Angle
1	BC	90MGP10	24	1500	1483	Bot	-	-	-	-	-	-	-	45.00	45.00
2	TC	90MGP12	24	2400	2216	Bot	-	20.00	-	20.00	-	-	-	45.00	45.00
3	W	90MGP10	24	300	173	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 A2.13 - Test Cell 1 – Roof-framing Data: Truss C2 (not to scale)



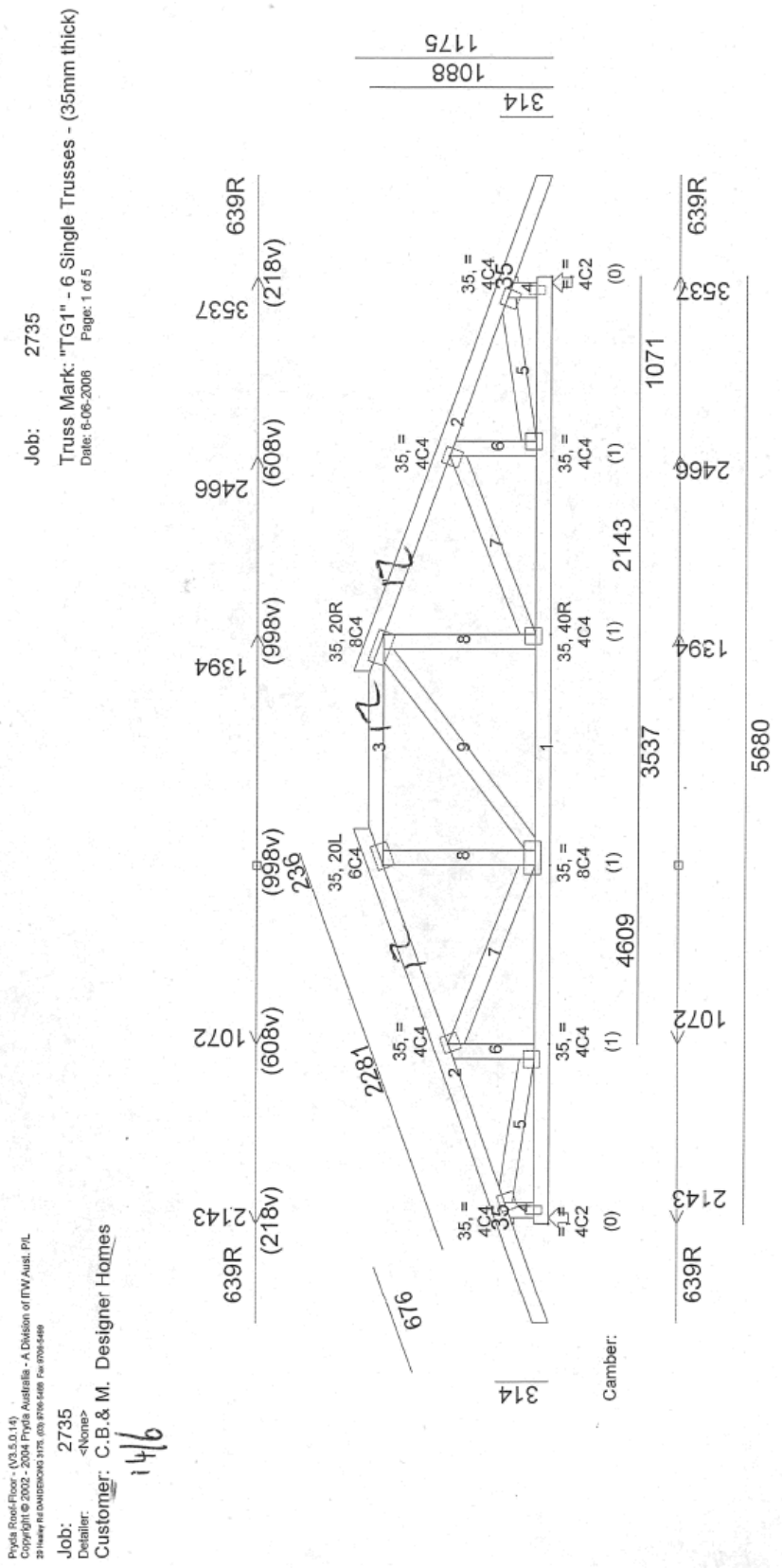
ID	Type	Timber	Qty	Stock Length	Actual Length	Length To	Angle 1	Angle 2	Angle 3	Angle 4	Tilt Angle	LF Mitre Angle	LB Mitre Angle	RF Mitre Angle	RB Mitre Angle
1	BC	90MGP12	12	2400	2390	Bot	-	-	-	-	-	-	-	-	-
2	TC	90MGP12	12	3300	3174	Bot	-	20.00	-	20.00	-	-	-	45.00	45.00
3	W	90MGP1C	12	300	173	Bot	-	-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



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	3600	3379	Bot	-	-	-	-	-	-	-	45.00	45.00
2	TC	90MGP12	12	5100	5023	Bot	-	14.43	-	14.43	-	-	-	45.00	45.00
3	W	90MGP10	12	300	163	Bot	-	-	14.50	-	-	-	-	-	-
4	W	90MGP10	12	1800	1634	Bot	-	17.00	-	17.00	-	-	-	-	-
5	W	90MGP10	12	600	589	Bot	-	-	14.50	-	-	-	-	-	-
6	W	90MGP10	12	1800	1669	Bot	-	30.50	-	30.50	-	-	-	-	-
7	W	90MGP10	12	1200	981	Bot	-	-	14.50	-	-	-	-	-	-

Figure A2.15 - Test Cell 1 – Roof-framing Data: Truss H1 (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	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	Cln	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

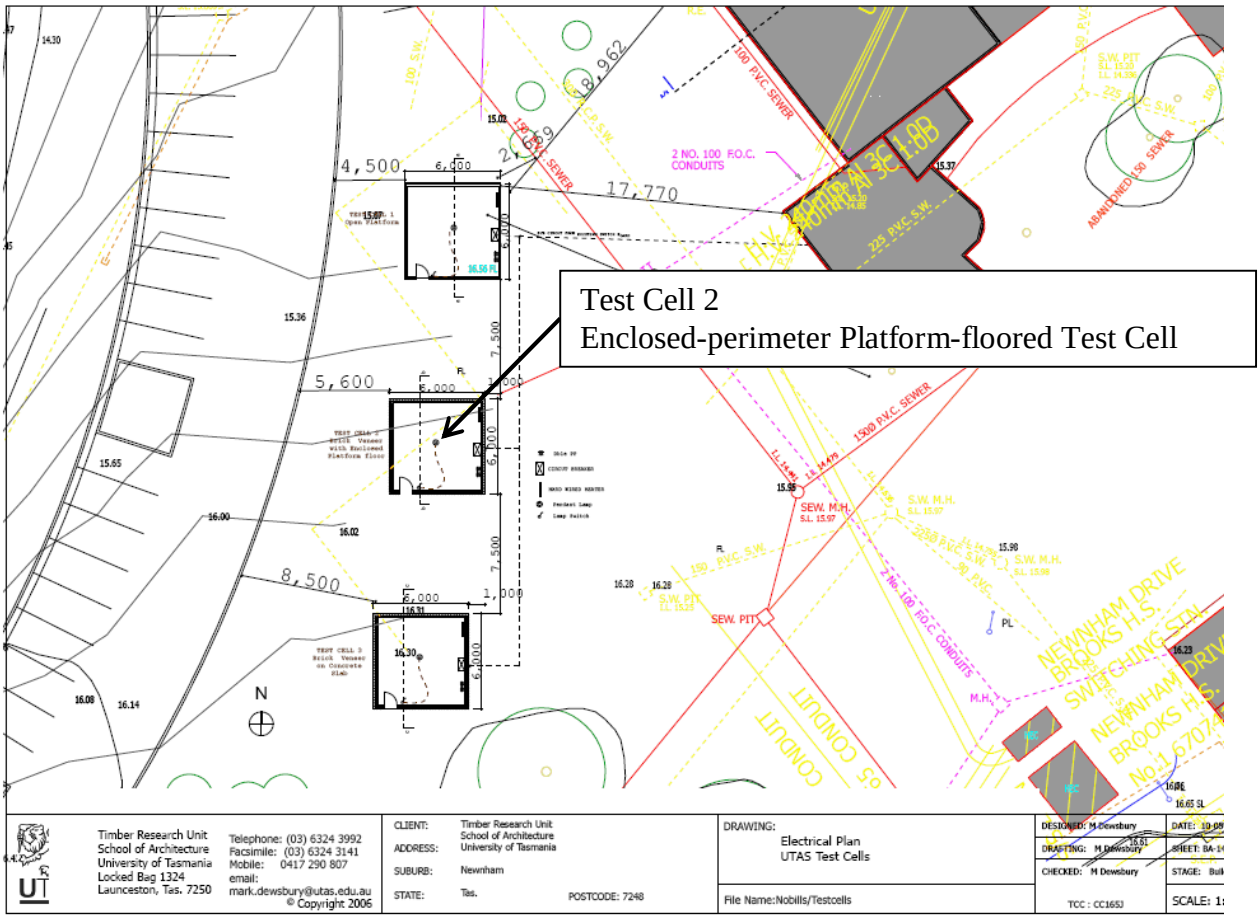


Figure A2.17- Test Cell Site Plan (not to scale)

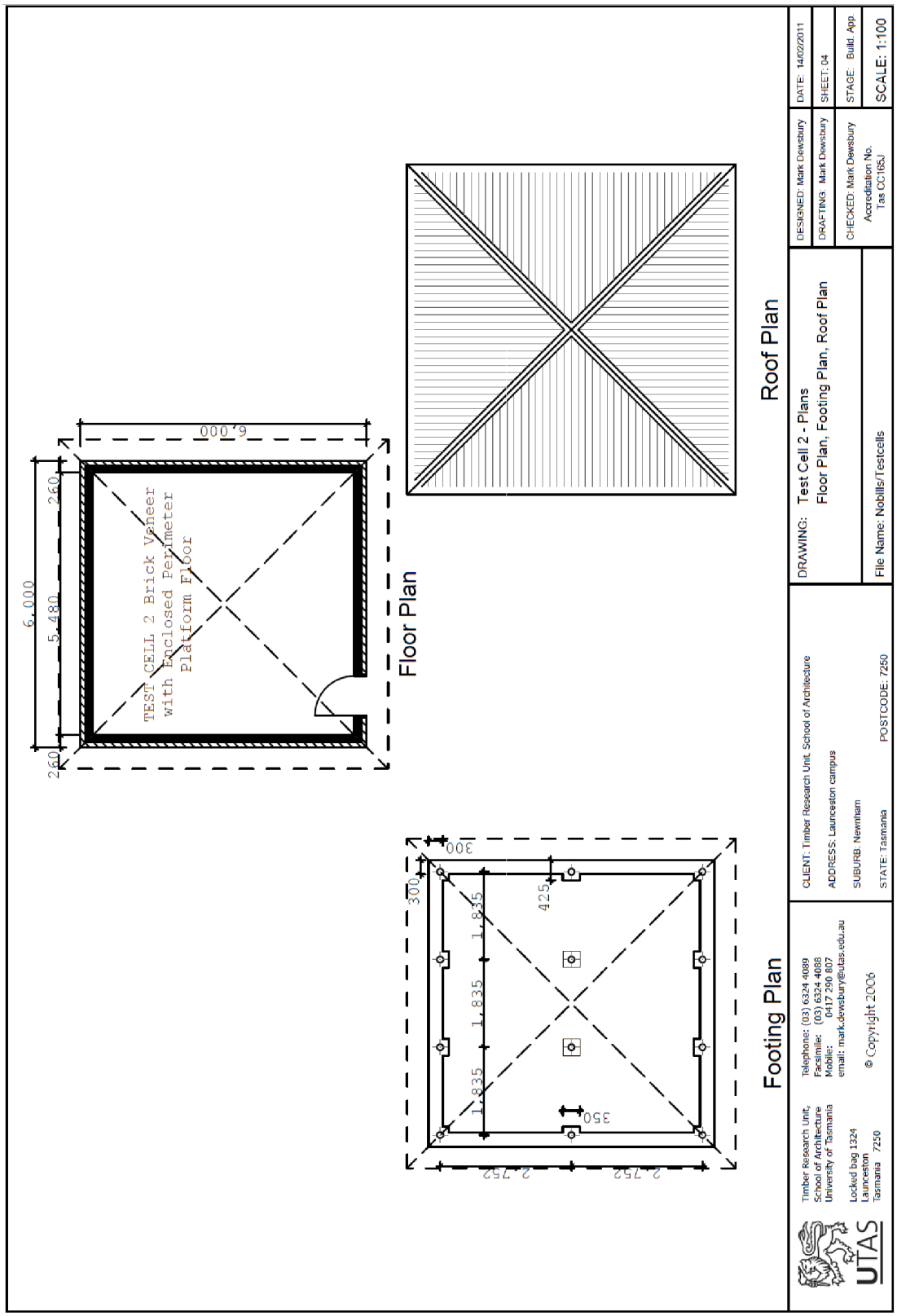


Figure A2.18 - Test Cell 2 Footing Plan, Floor Plan and Roof Plan (not to scale)

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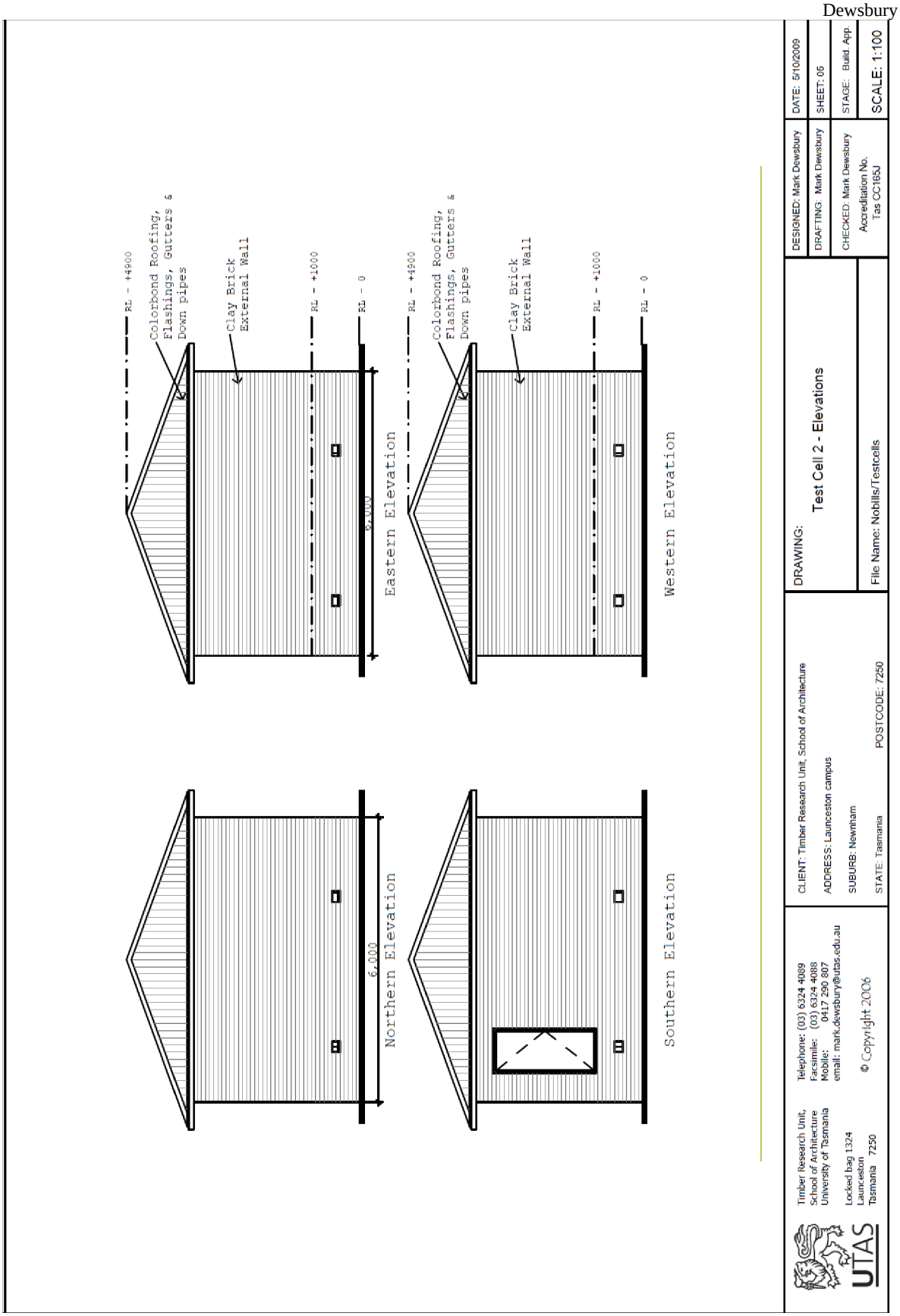


Figure A2.19 - Test Cell 2 Elevations (not to scale)

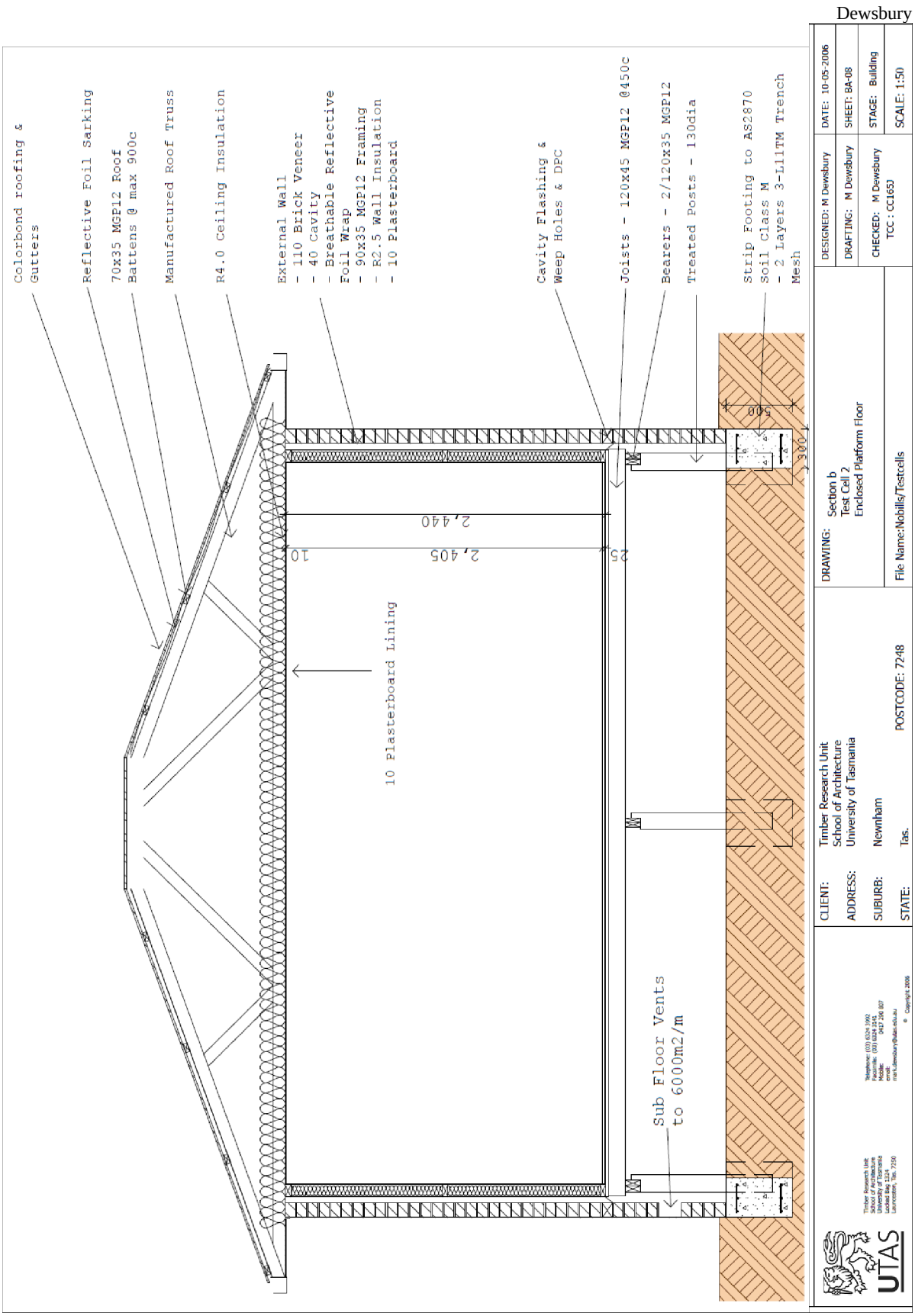


Figure A2.20 - Test Cell 2 Section (not to scale)

Test Cell Framing Data

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

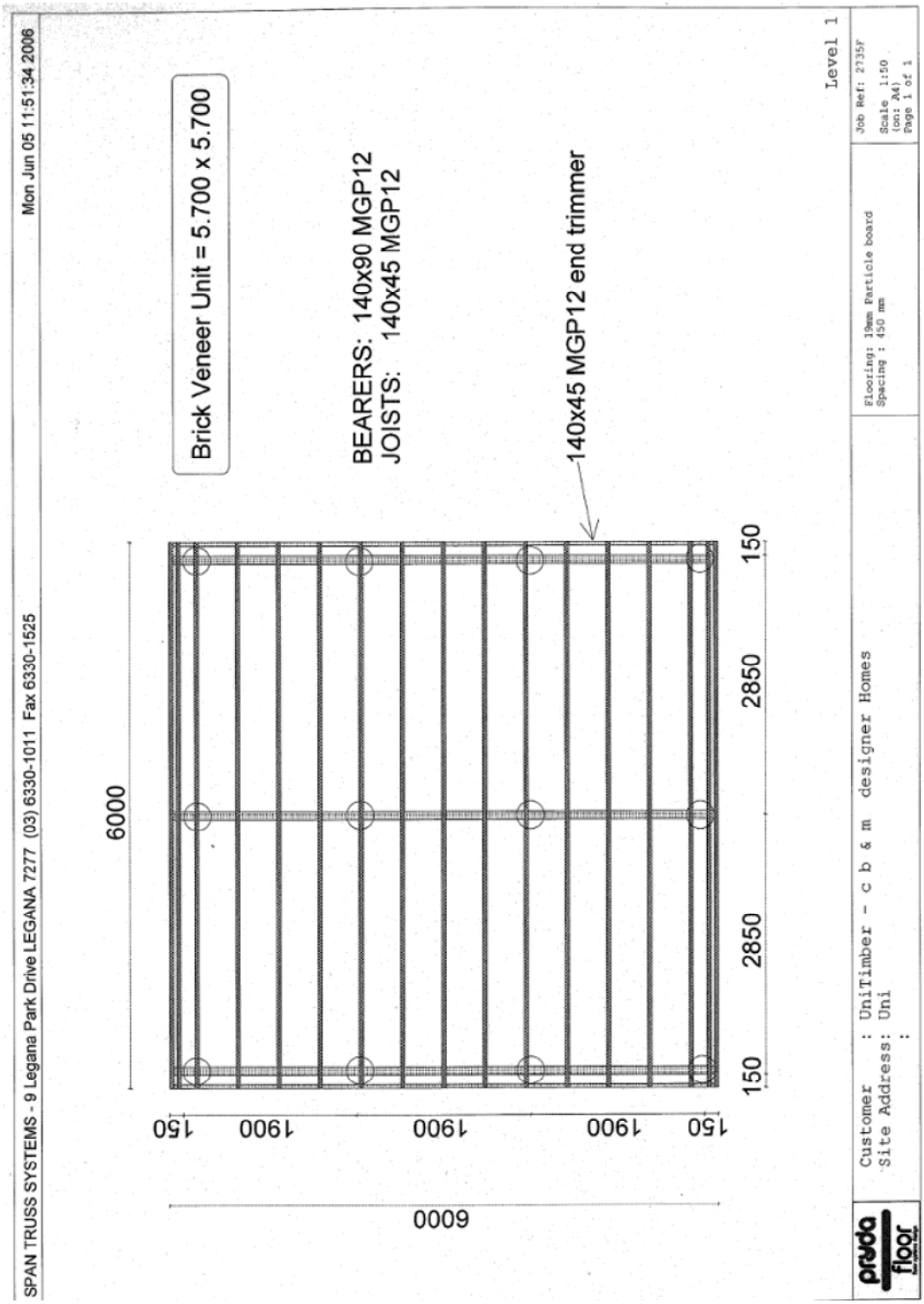


Figure A2.21 - Test Cell 2 – Post, Bearer and Joist Data (not to scale)

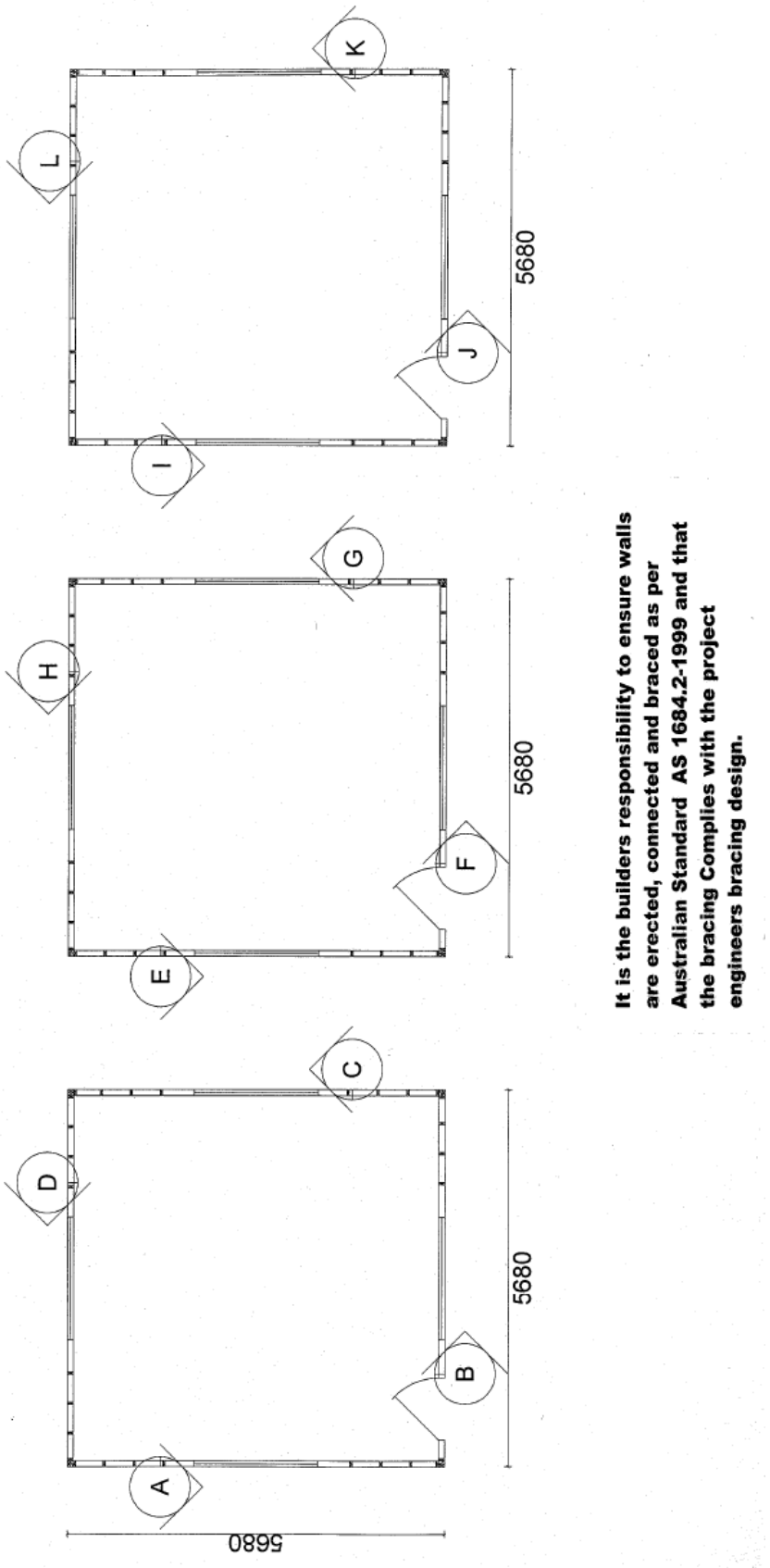
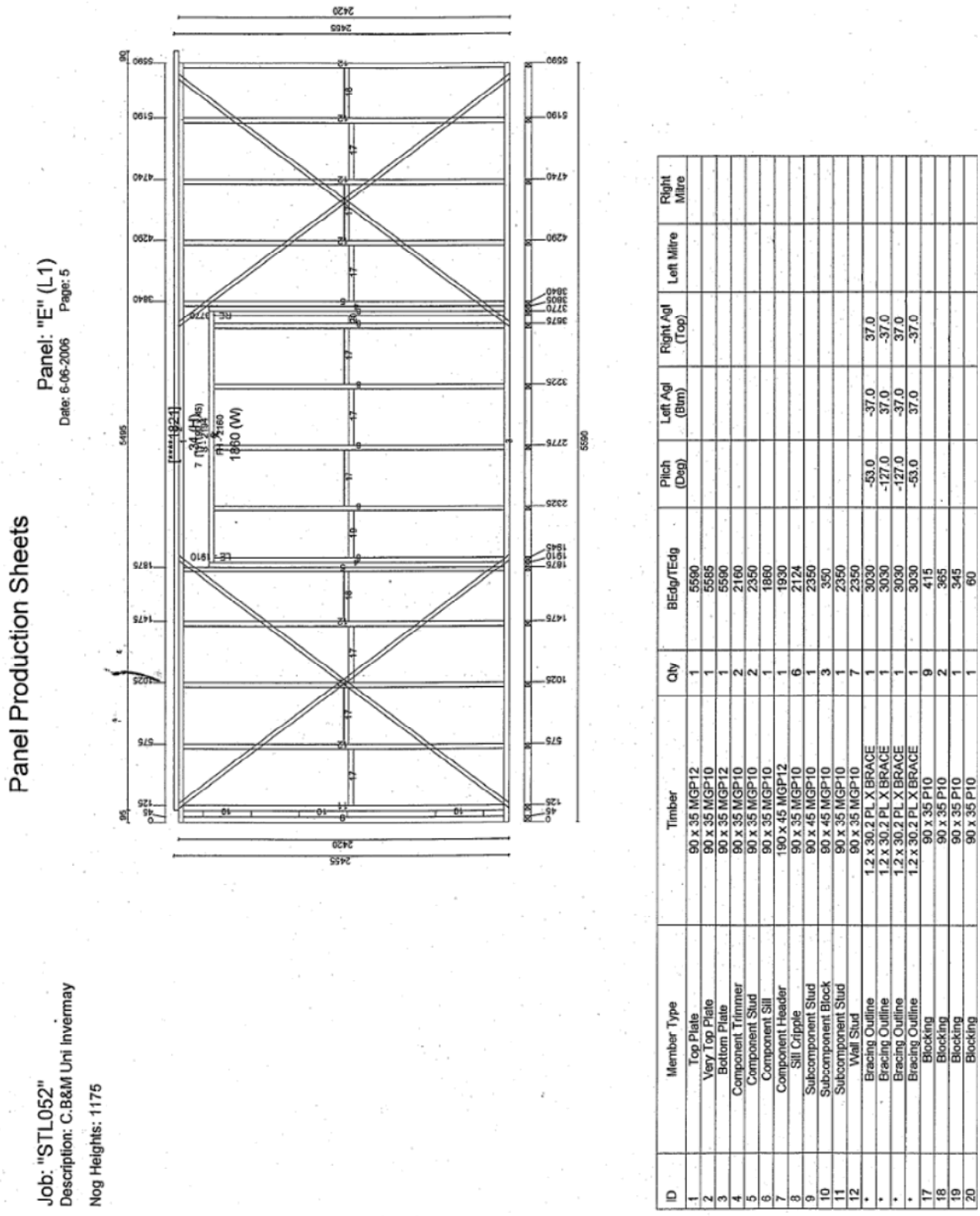
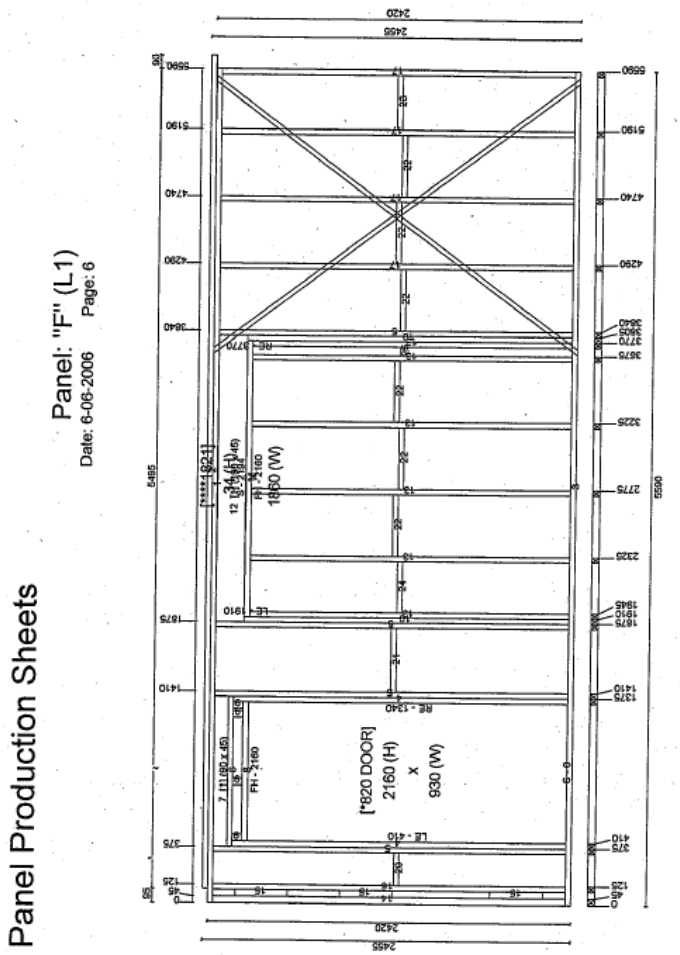


Figure A2.22 - Test Cell 2 – Wall-framing Data, walls E, F, G & H (not to scale)



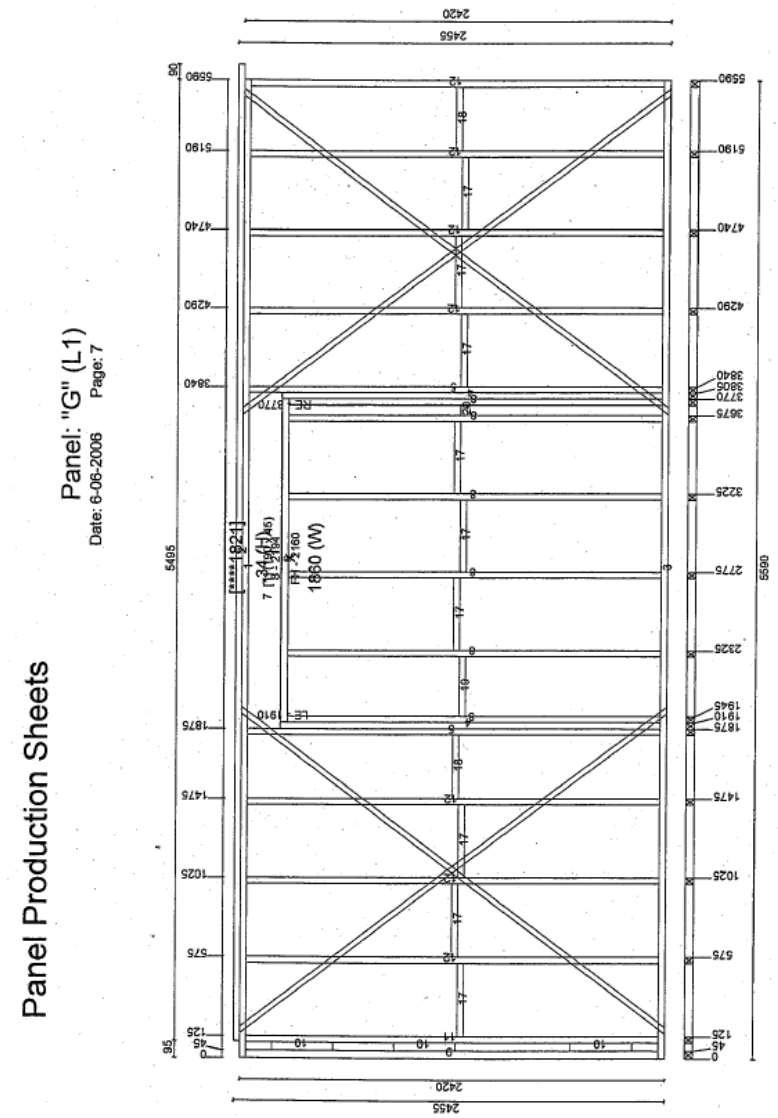
ID	Member Type	Timber	Qty	BEdg/TEdg	Pitch (Deg)	Left Agl (Btm)	Right Agl (Top)	Left Mitre	Right Mitre
1	Top Plate	90 x 35 MGP12	1	5590					
2	Very Top Plate	90 x 35 MGP10	1	5585					
3	Bottom Plate	90 x 35 MGP12	1	5590					
4	Component Trimmer	90 x 35 MGP10	2	2160					
5	Component Stud	90 x 35 MGP10	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 A2.23 - Test Cell 2 – Wall-framing Data: Wall E (not to scale)



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 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 Cripple	90 x 45 MGP12	4	65					
10	Component Trimmer	90 x 35 MGP10	2	2160					
11	Component Sill	90 x 35 MGP10	1	1880					
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)



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

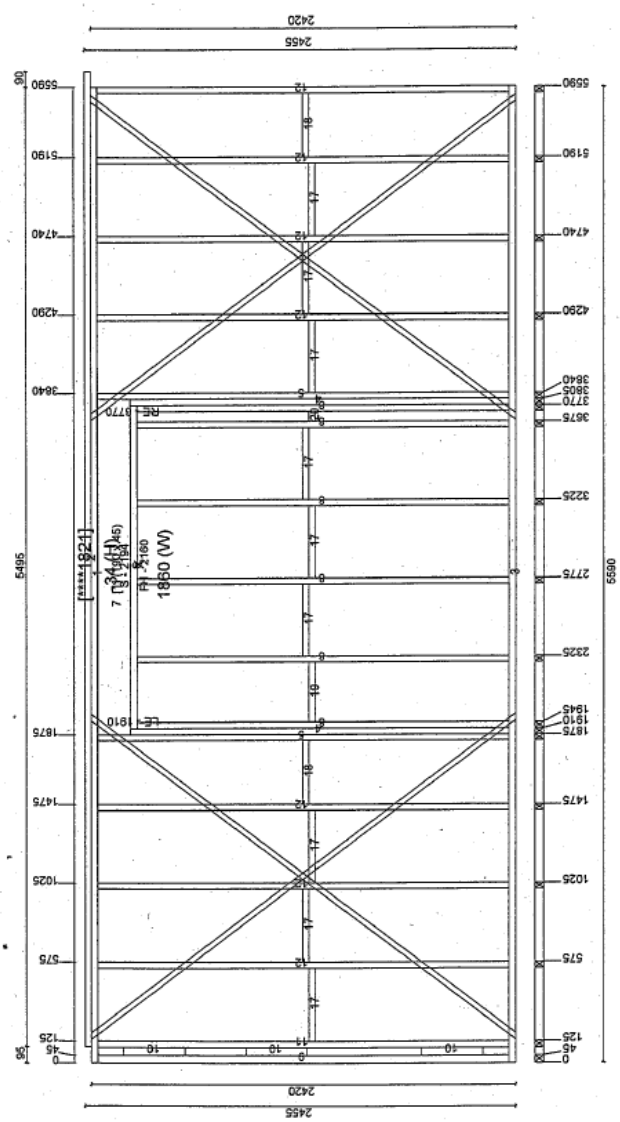
Panel: "H" (L1)

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

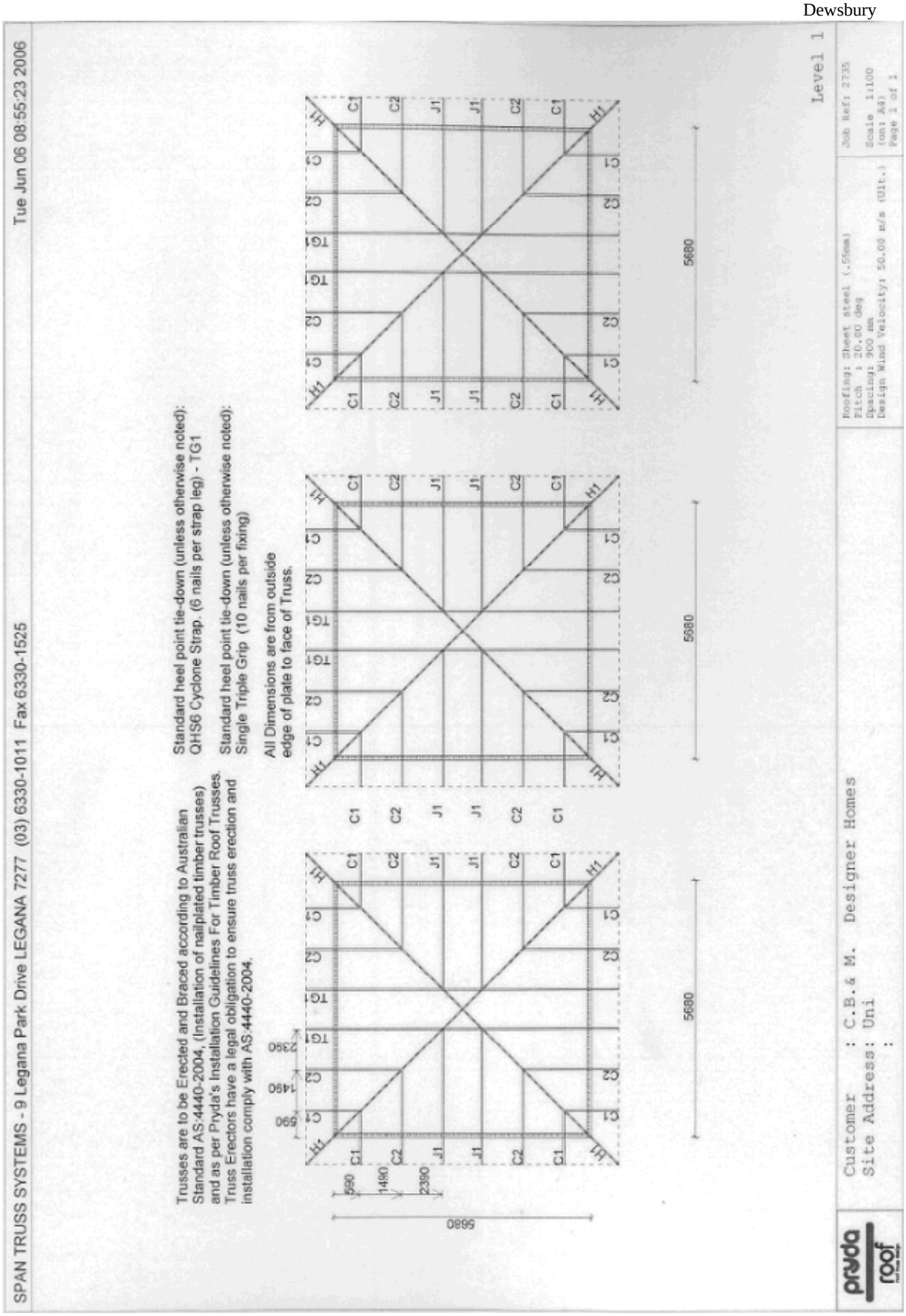
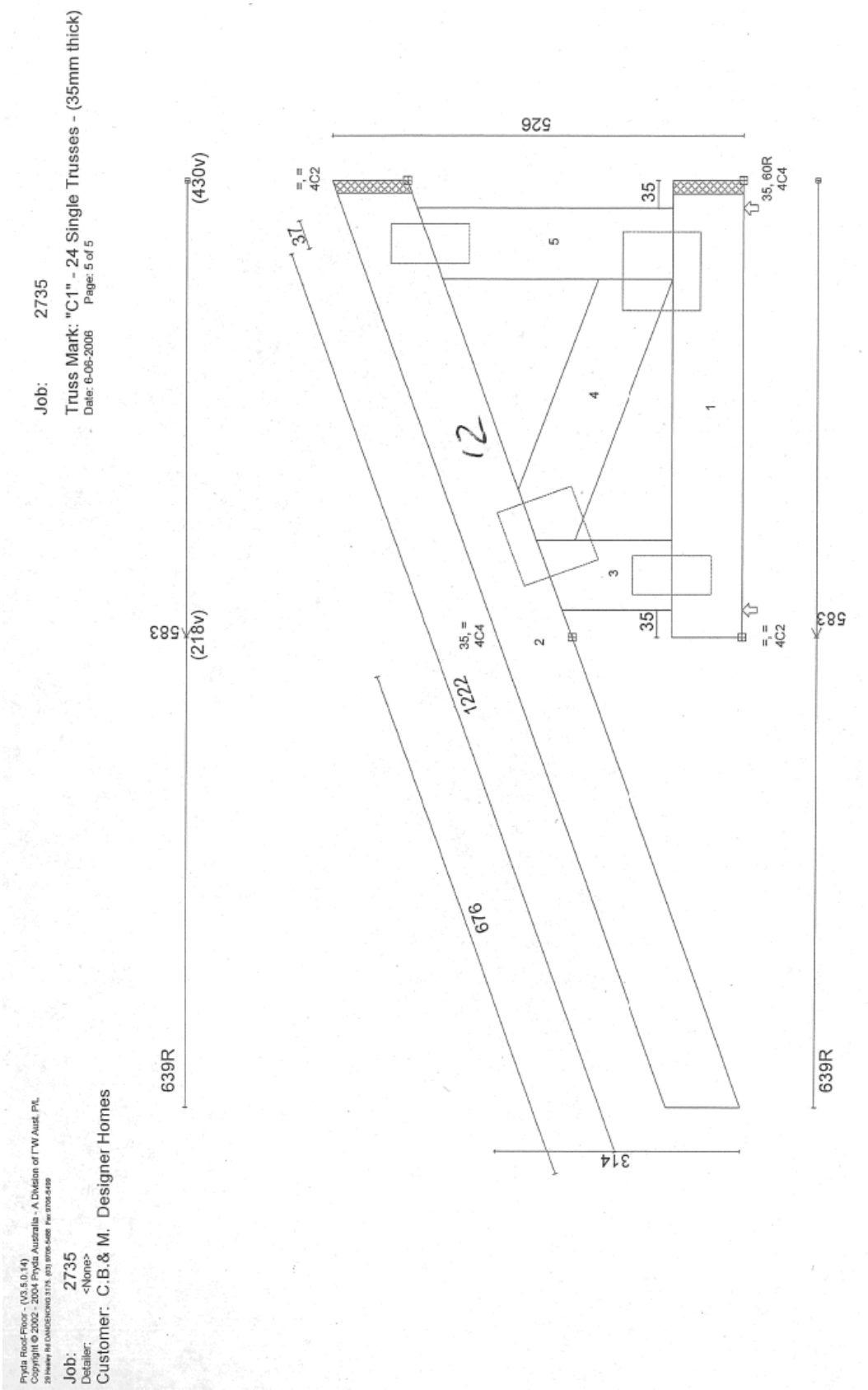
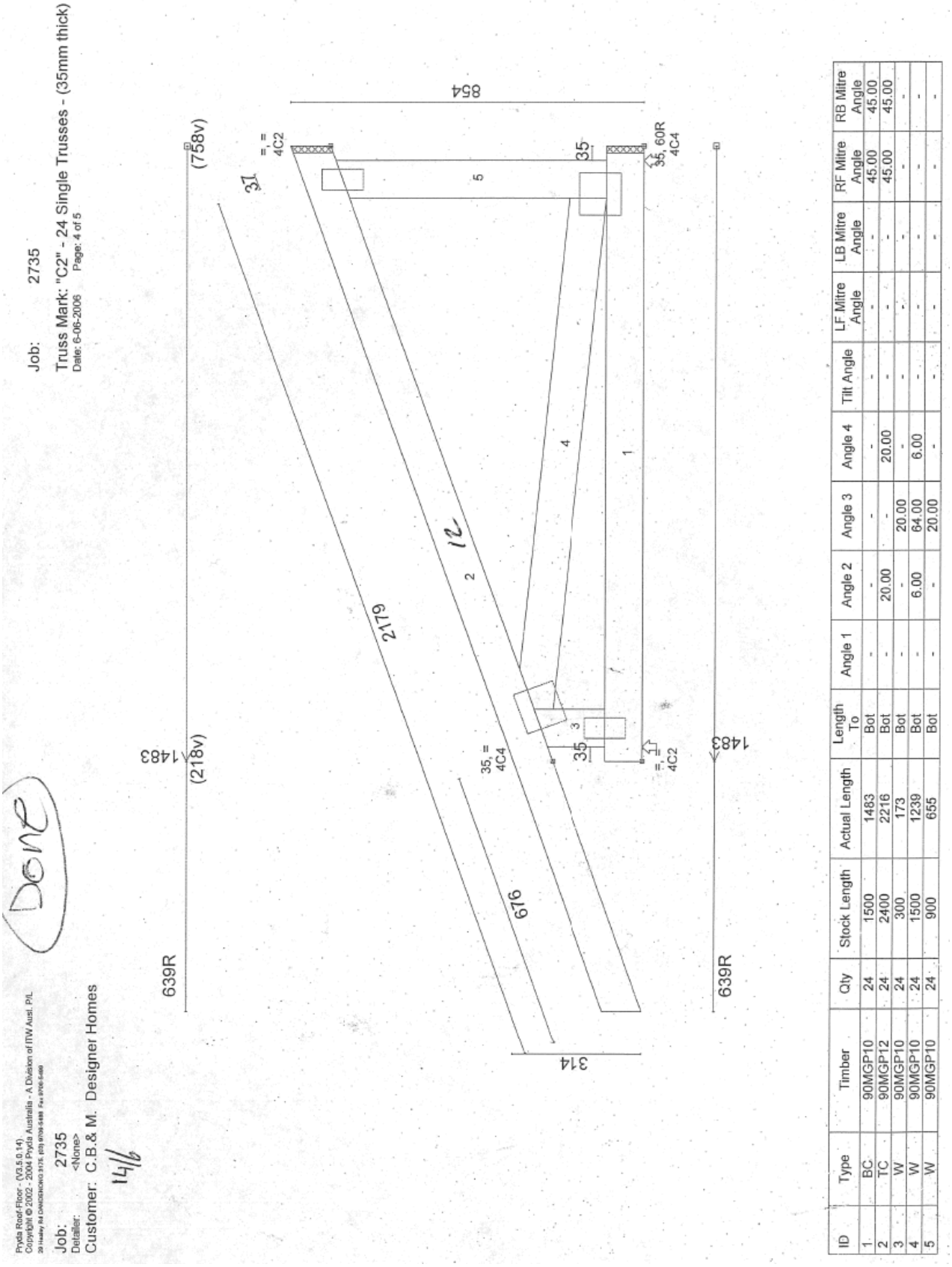


Figure A2.27 - Test Cell 2 – Roof-framing Data (not to scale)



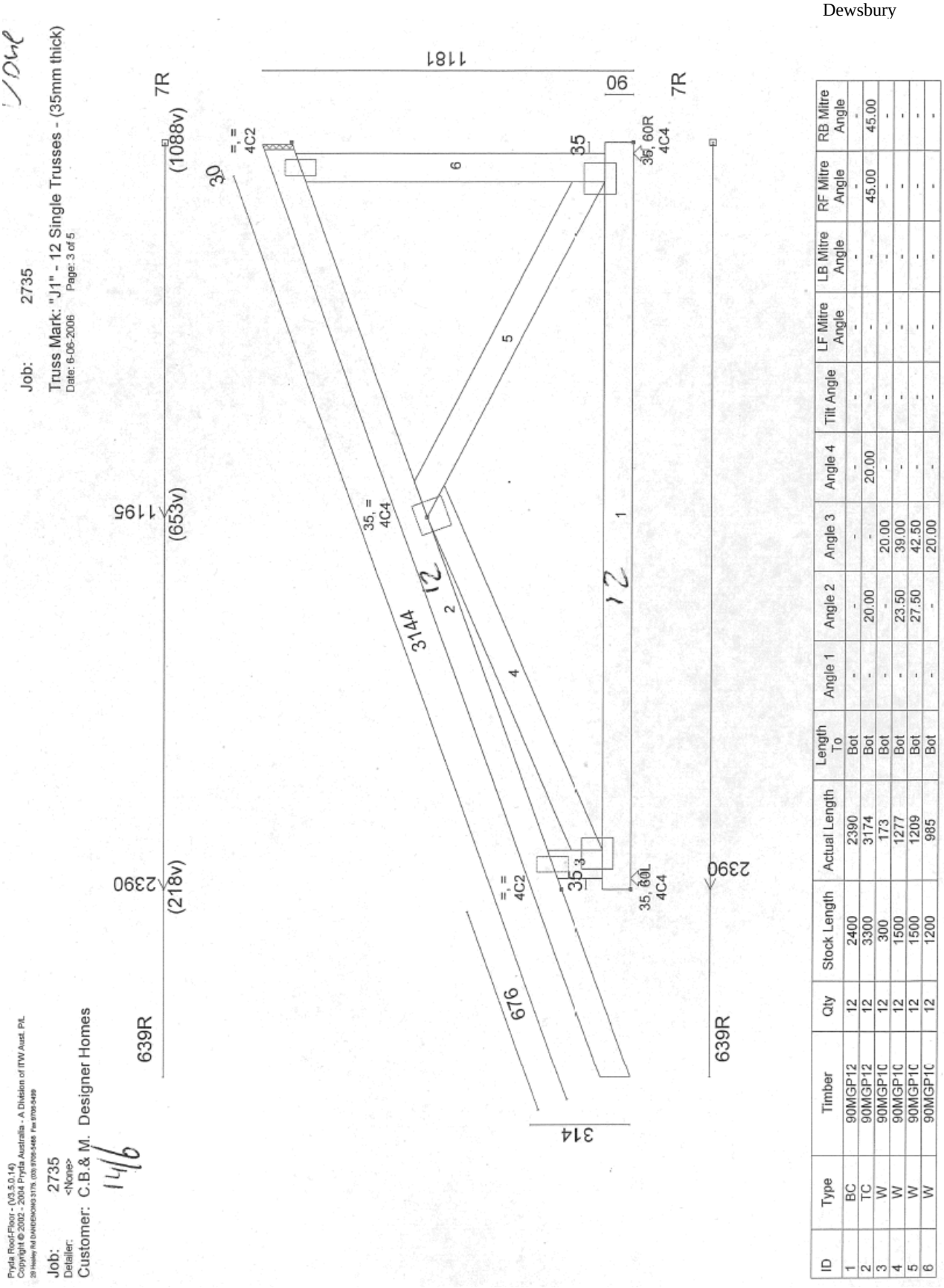
ID	Type	Timber	Qty	Stock Length	Actual Length	Length To	Angle 1	Angle 2	Angle 3	Angle 4	Tilt Angle	LF Mitre Angle	LB Mitre Angle	RF Mitre Angle	RB Mitre Angle
1	BC	90MGP10	24	600	583	Bot	-	-	-	-	-	-	-	45.00	45.00
2	TC	90MGP12	24	1500	1258	Bot	-	20.00	-	20.00	-	-	-	45.00	45.00
3	W	90MGP10	24	300	173	Bot	-	-	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 A2.28 - Test Cell 2 – Roof-framing Data: Truss C1 (not to scale)



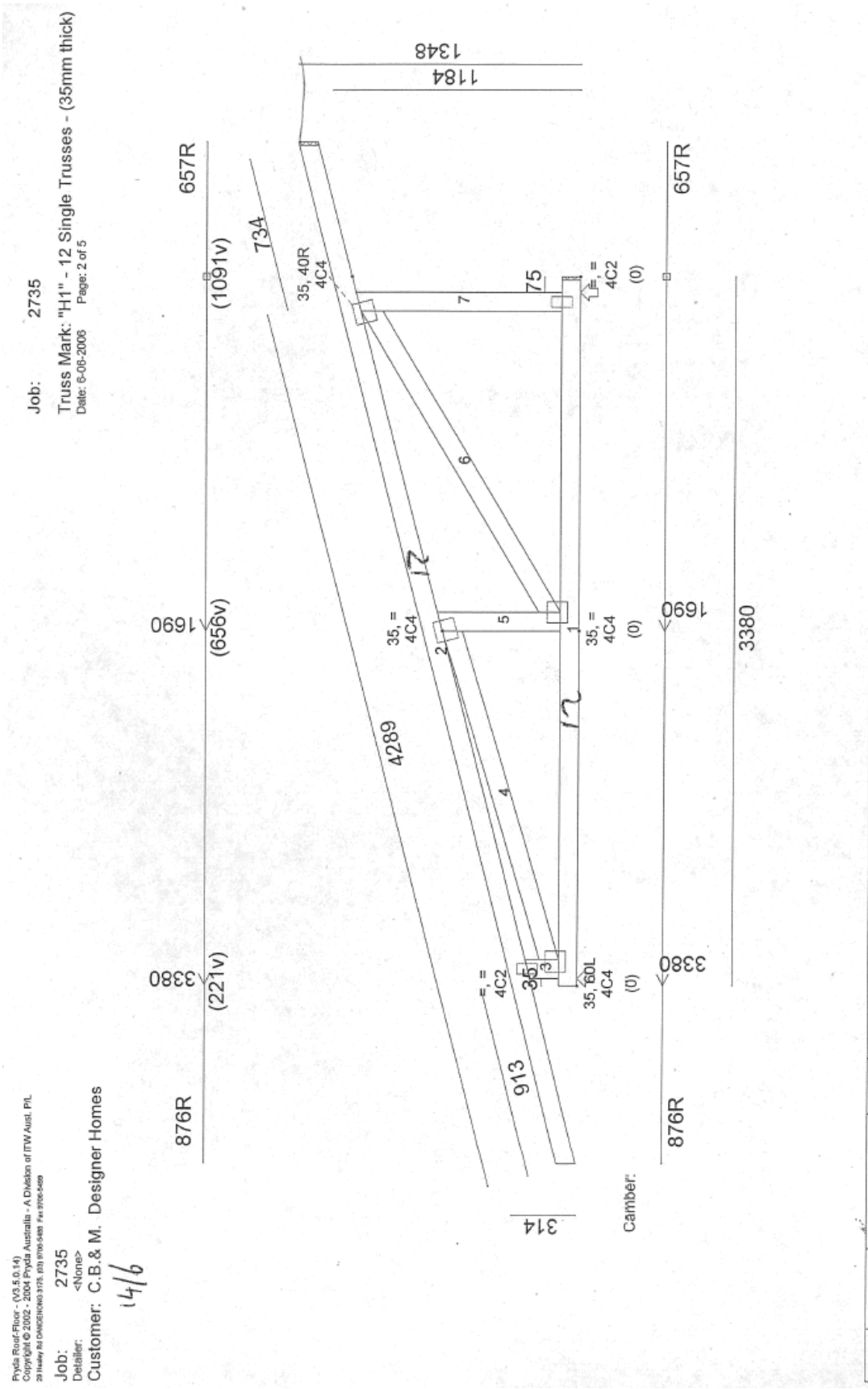
ID	Type	Timber	Qty	Stock Length	Actual Length	Length To	Angle 1	Angle 2	Angle 3	Angle 4	Tilt Angle	LF Mitre Angle	LB Mitre Angle	RF Mitre Angle	RB Mitre Angle
1	BC	90MGP10	24	1500	1483	Bot	-	-	-	-	-	-	-	45.00	45.00
2	TC	90MGP12	24	2400	2216	Bot	-	20.00	-	20.00	-	-	-	45.00	45.00
3	W	90MGP10	24	300	173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



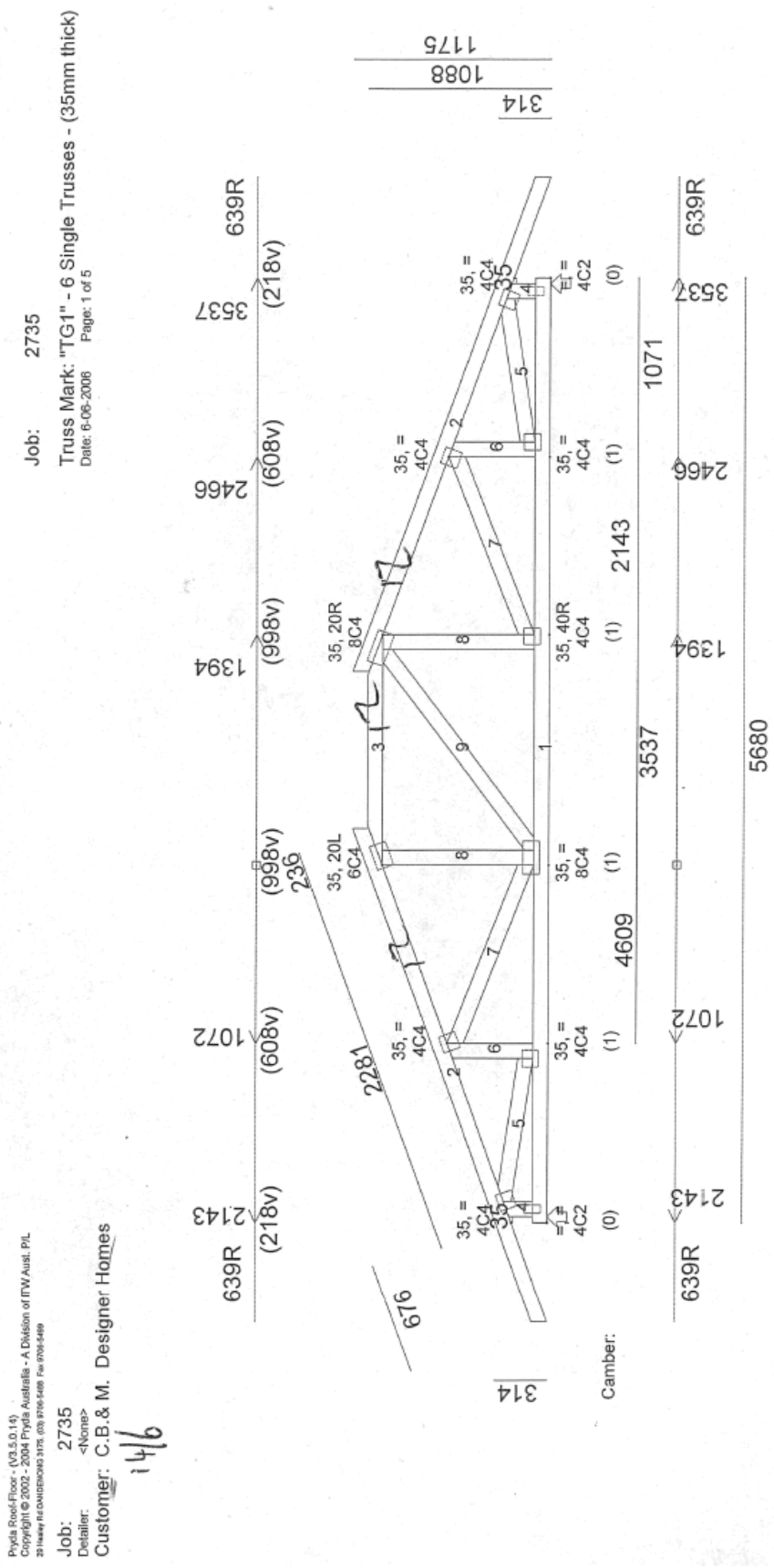
ID	Type	Timber	Qty	Stock Length	Actual Length	Length To	Angle 1	Angle 2	Angle 3	Angle 4	Tilt Angle	LF Mitre Angle	LB Mitre Angle	RF Mitre Angle	RB Mitre Angle
1	BC	90MGP12	12	2400	2390	Bot	-	-	-	-	-	-	-	-	-
2	TC	90MGP12	12	3300	3174	Bot	-	20.00	-	20.00	-	-	-	45.00	45.00
3	W	90MGP10	12	300	173	Bot	-	-	20.00	-	-	-	-	-	-
4	W	90MGP10	12	1500	1277	Bot	-	23.50	39.00	-	-	-	-	-	-
5	W	90MGP10	12	1500	1209	Bot	-	27.50	42.50	-	-	-	-	-	-
6	W	90MGP10	12	1200	985	Bot	-	-	20.00	-	-	-	-	-	-

Figure A2.30 - Test Cell 2 – Roof-framing Data: Truss J1 (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	90MGP12	12	3600	3379	Bot	-	-	-	-	-	-	-	45.00	45.00
2	TC	90MGP12	12	5100	5023	Bot	-	14.43	-	14.43	-	-	-	45.00	45.00
3	W	90MGP10	12	300	163	Bot	-	-	14.50	-	-	-	-	-	-
4	W	90MGP10	12	1800	1634	Bot	-	17.00	-	17.00	-	-	-	-	-
5	W	90MGP10	12	600	589	Bot	-	-	14.50	-	-	-	-	-	-
6	W	90MGP10	12	1800	1669	Bot	-	30.50	-	30.50	-	-	-	-	-
7	W	90MGP10	12	1200	981	Bot	-	-	14.50	-	-	-	-	-	-

Figure A2.31 - Test Cell 2 – Roof-framing Data: Truss H1 (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	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	Cln	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

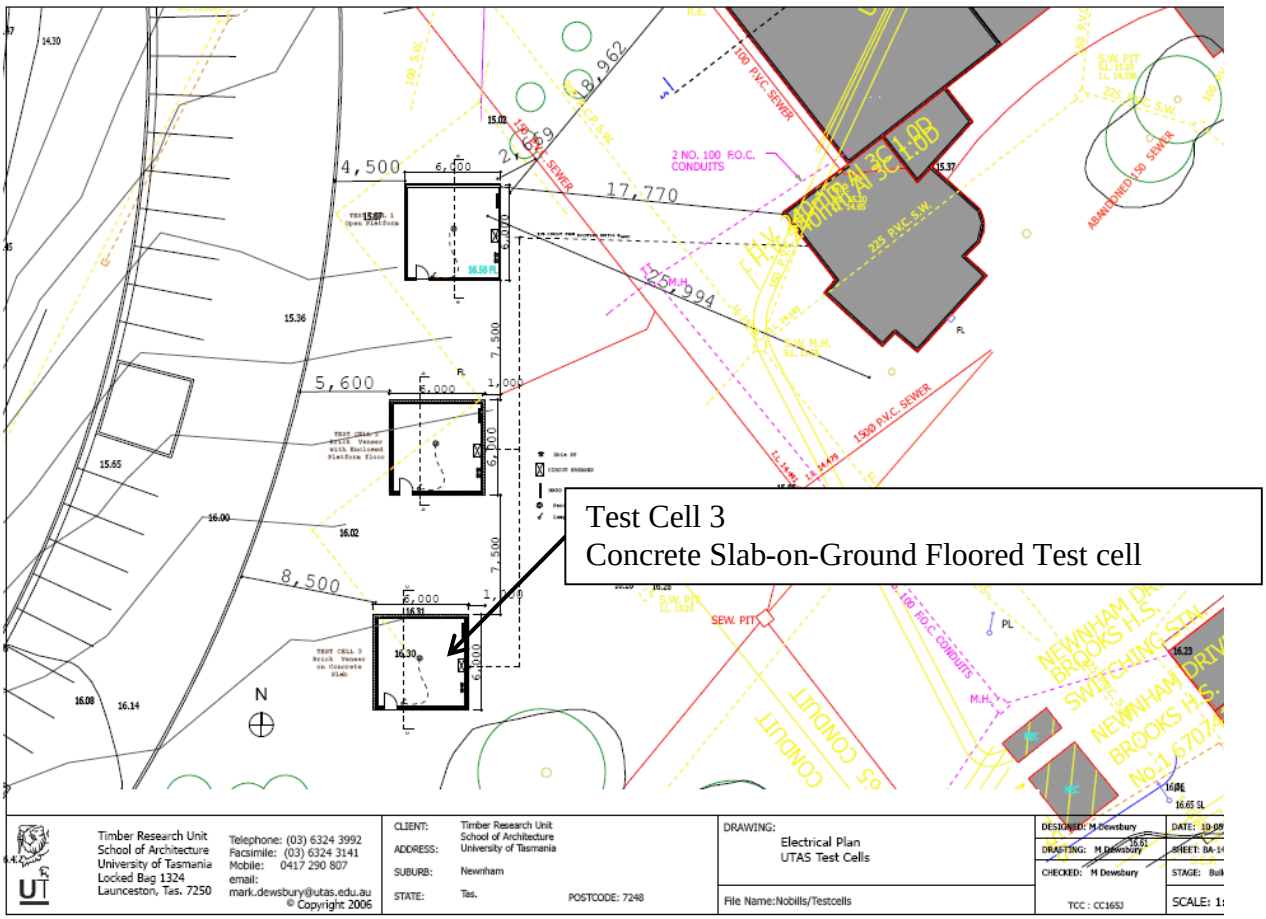


Figure A2.33 - Test Cell Site Plan (not to scale)

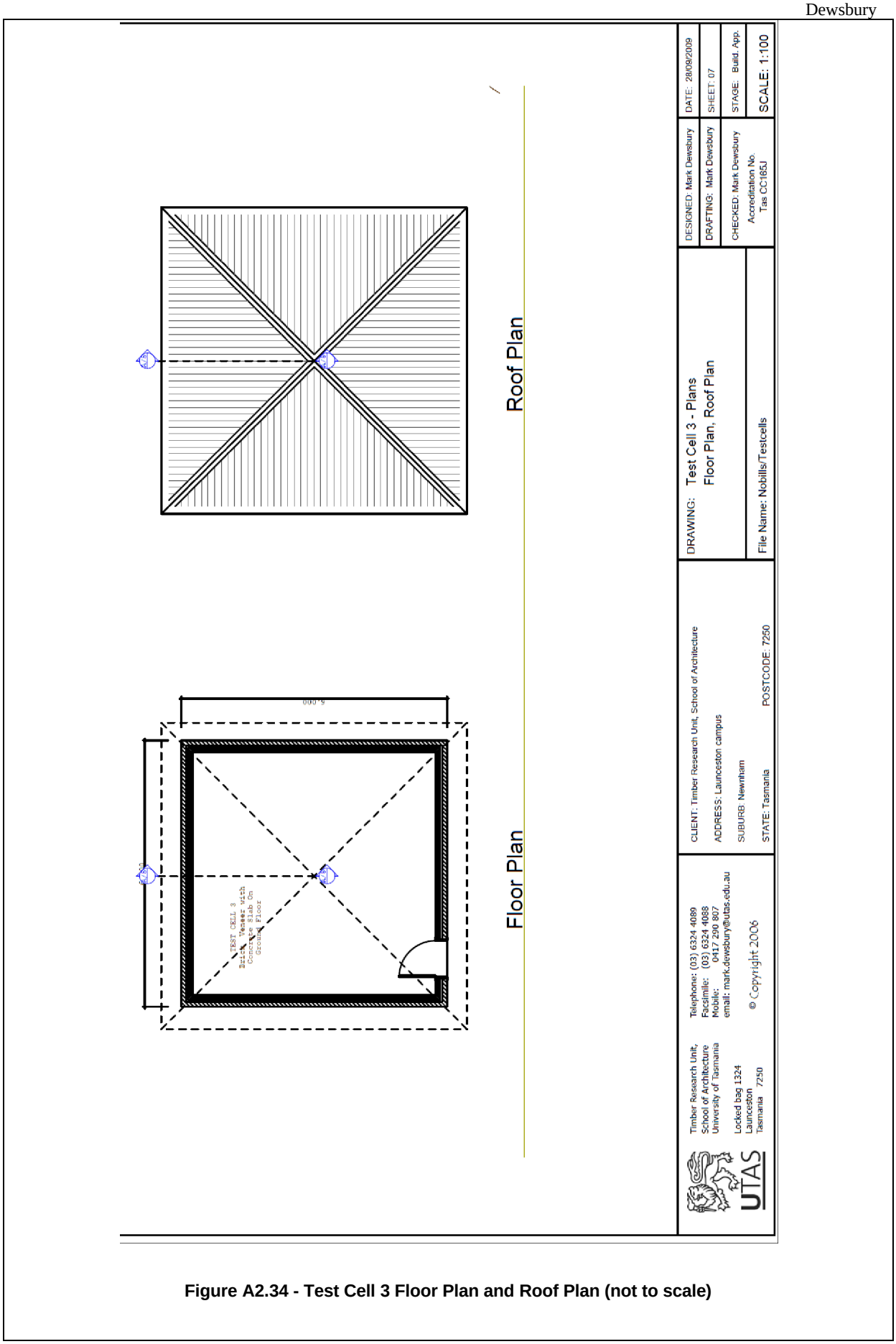


Figure A2.34 - Test Cell 3 Floor Plan and Roof Plan (not to scale)

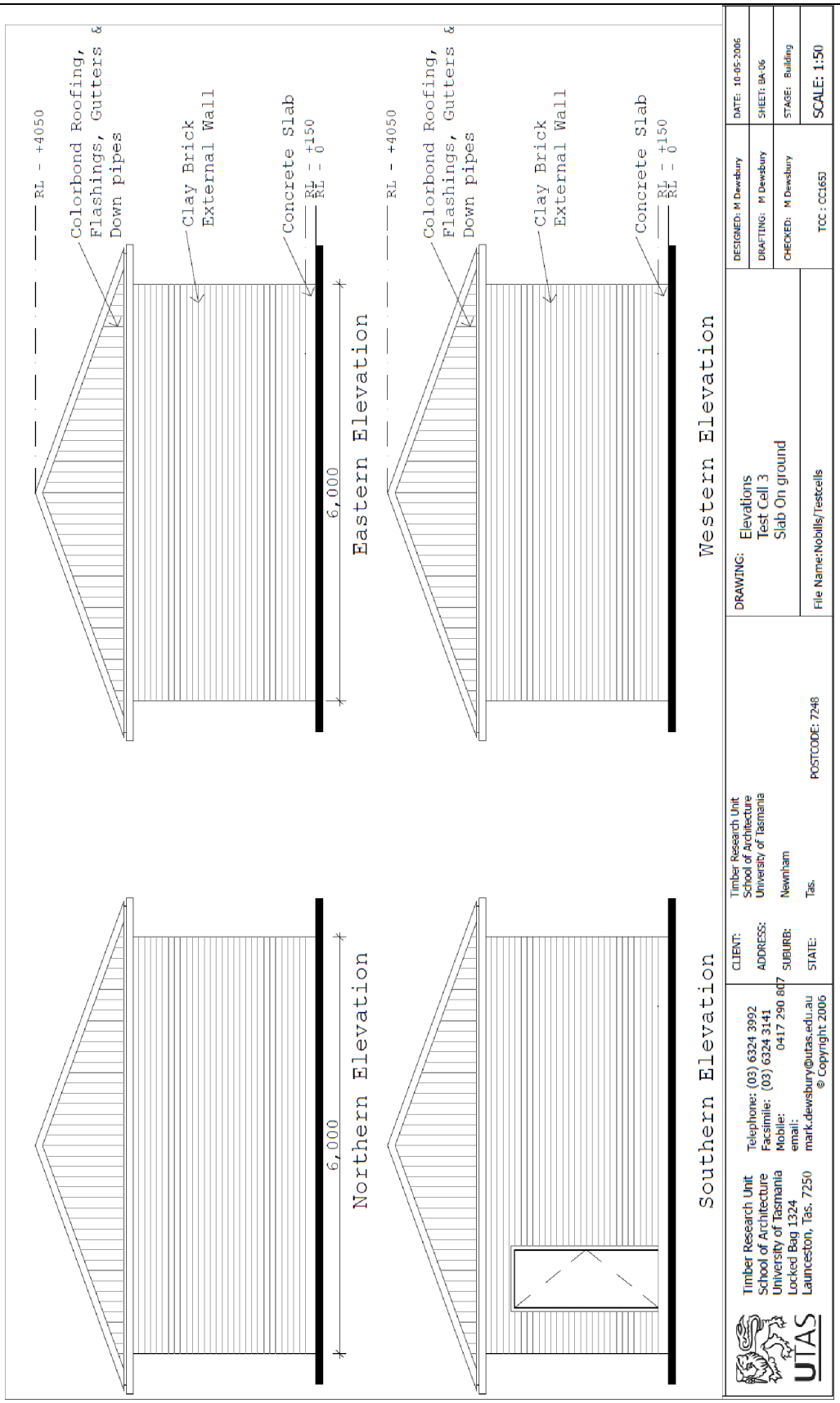


Figure A2.35 - Test Cell 3 External Elevations (not to scale)

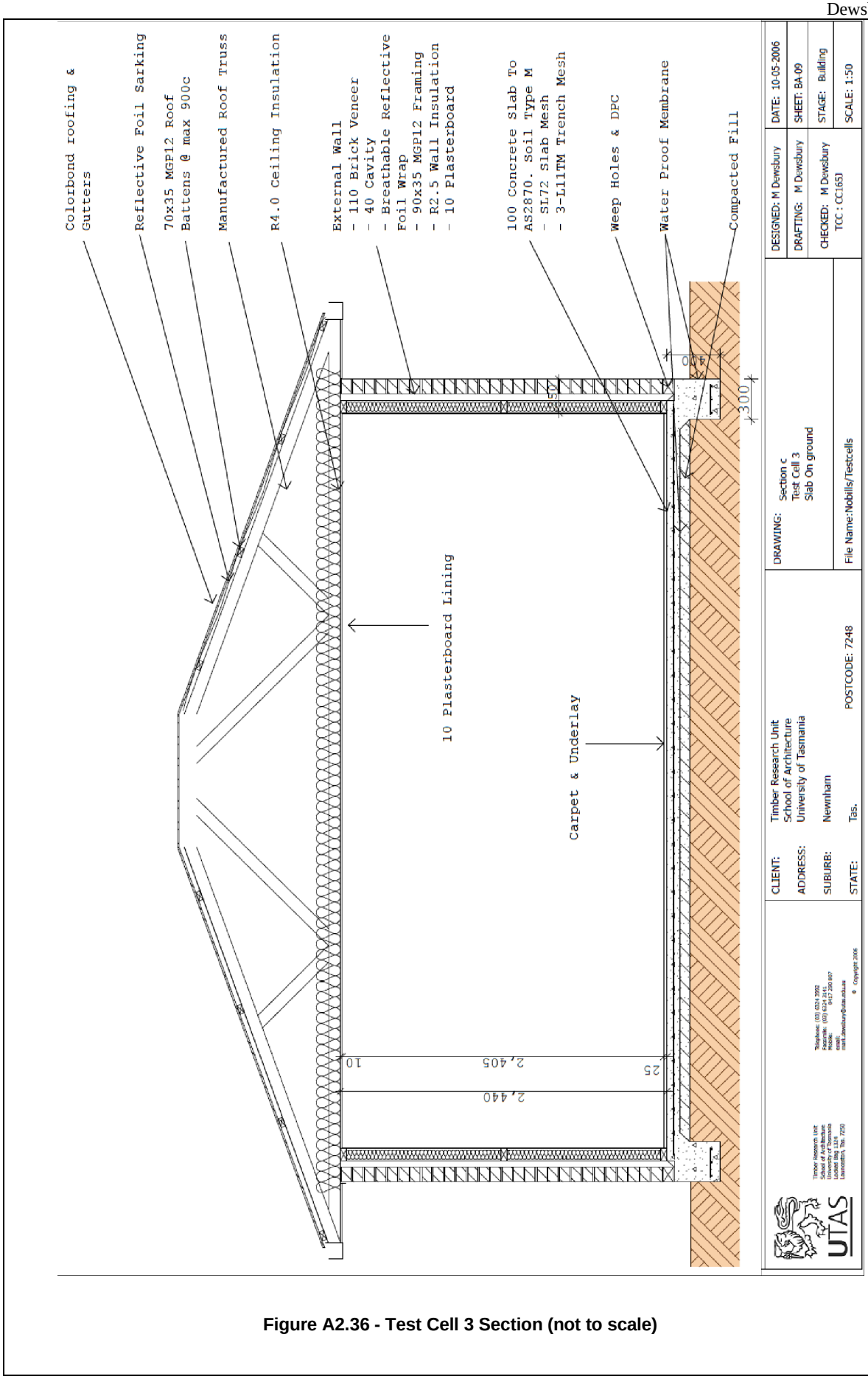


Figure A2.36 - Test Cell 3 Section (not to scale)

Test Cell Framing Data

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

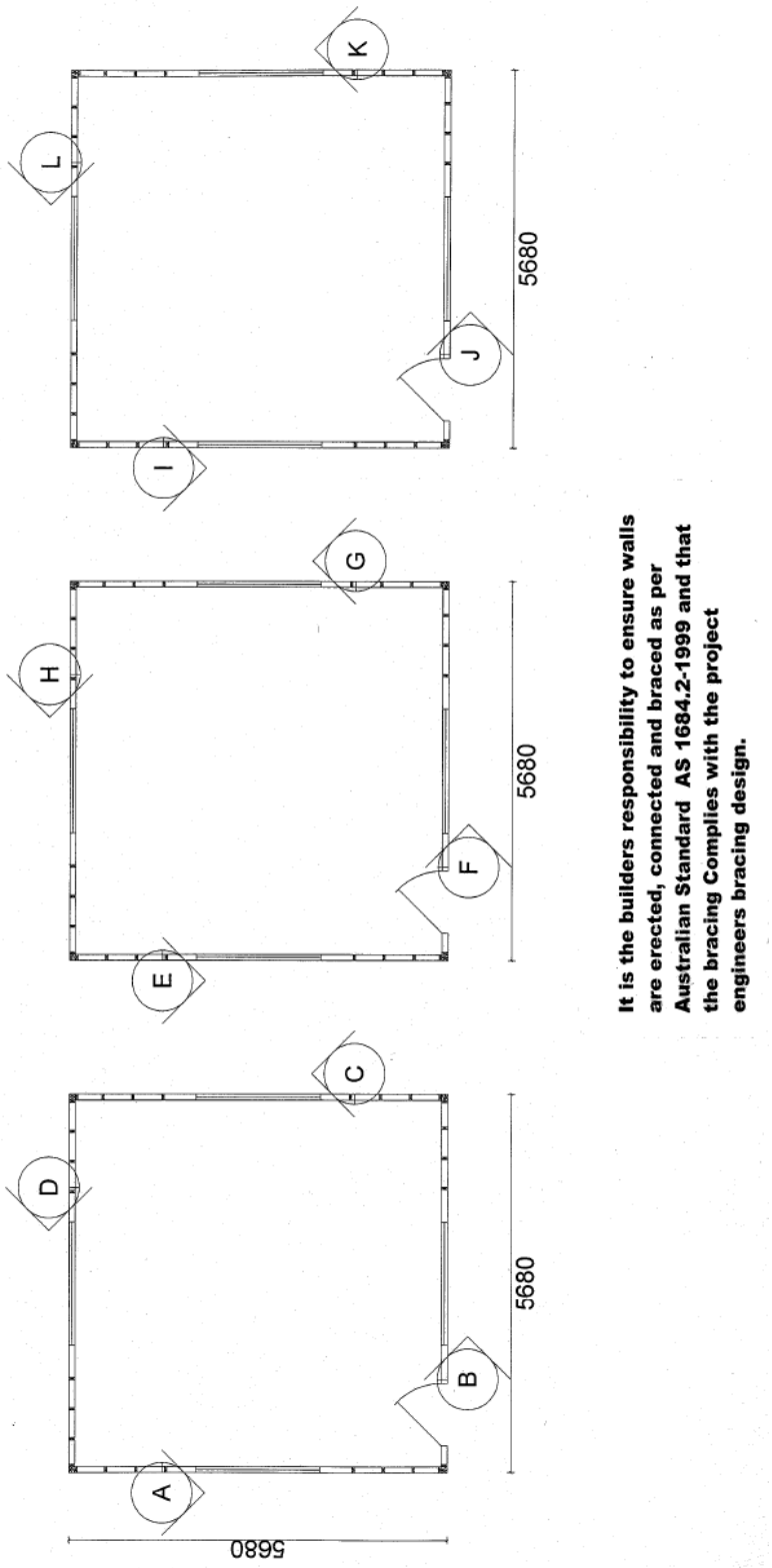
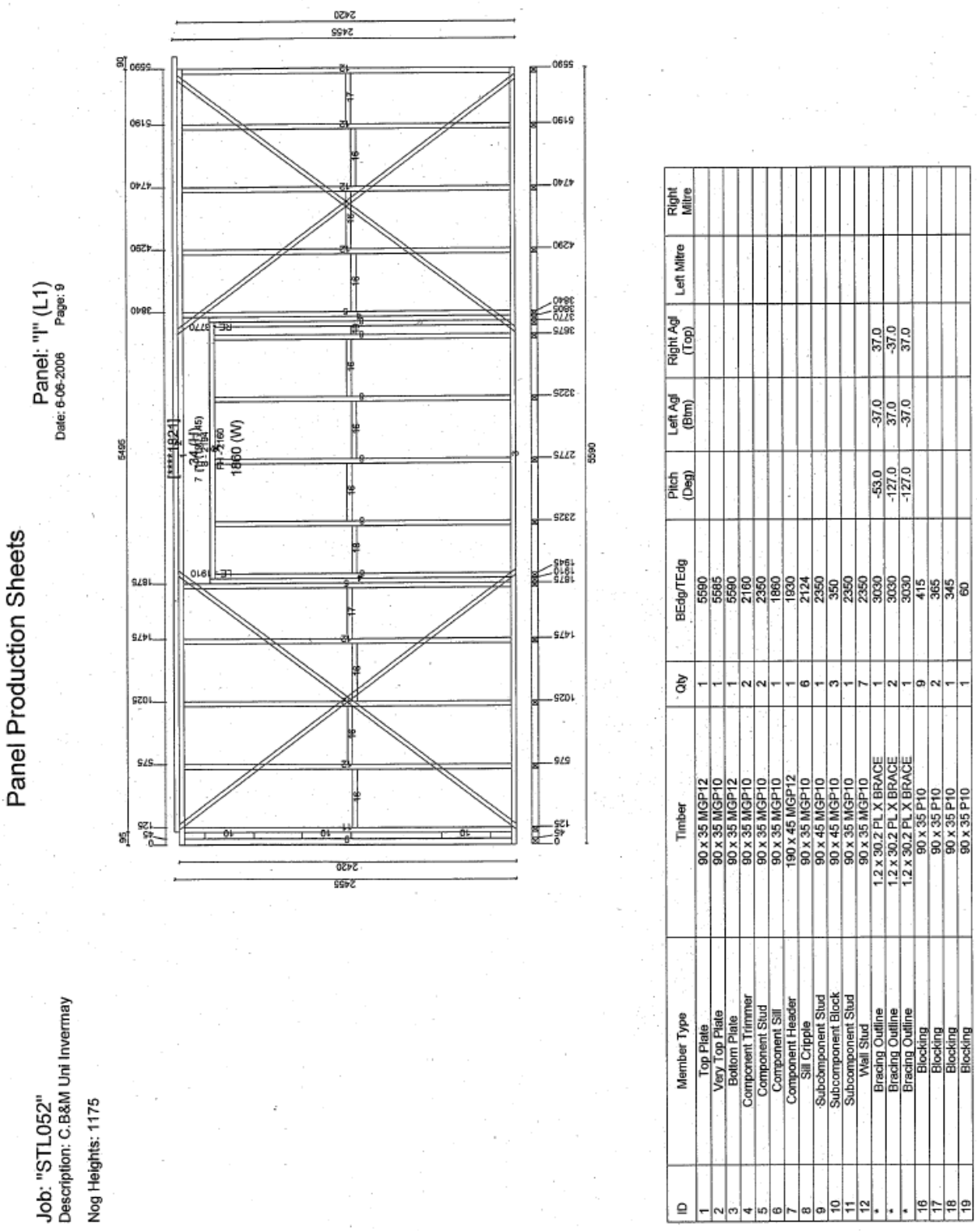
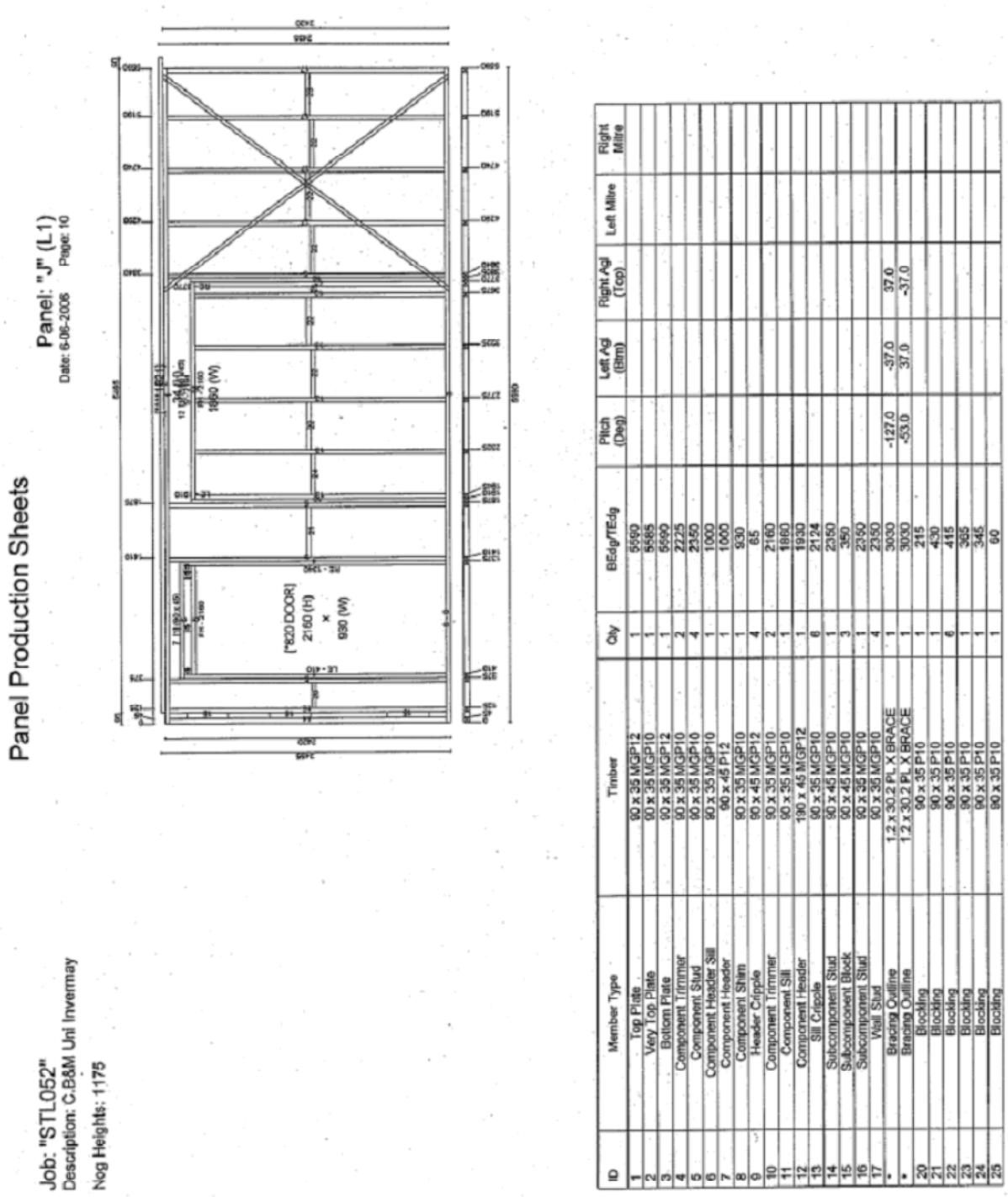


Figure A2.37 - Test Cell 3 – Wall-framing Data, walls I, J, K & L (not to scale)



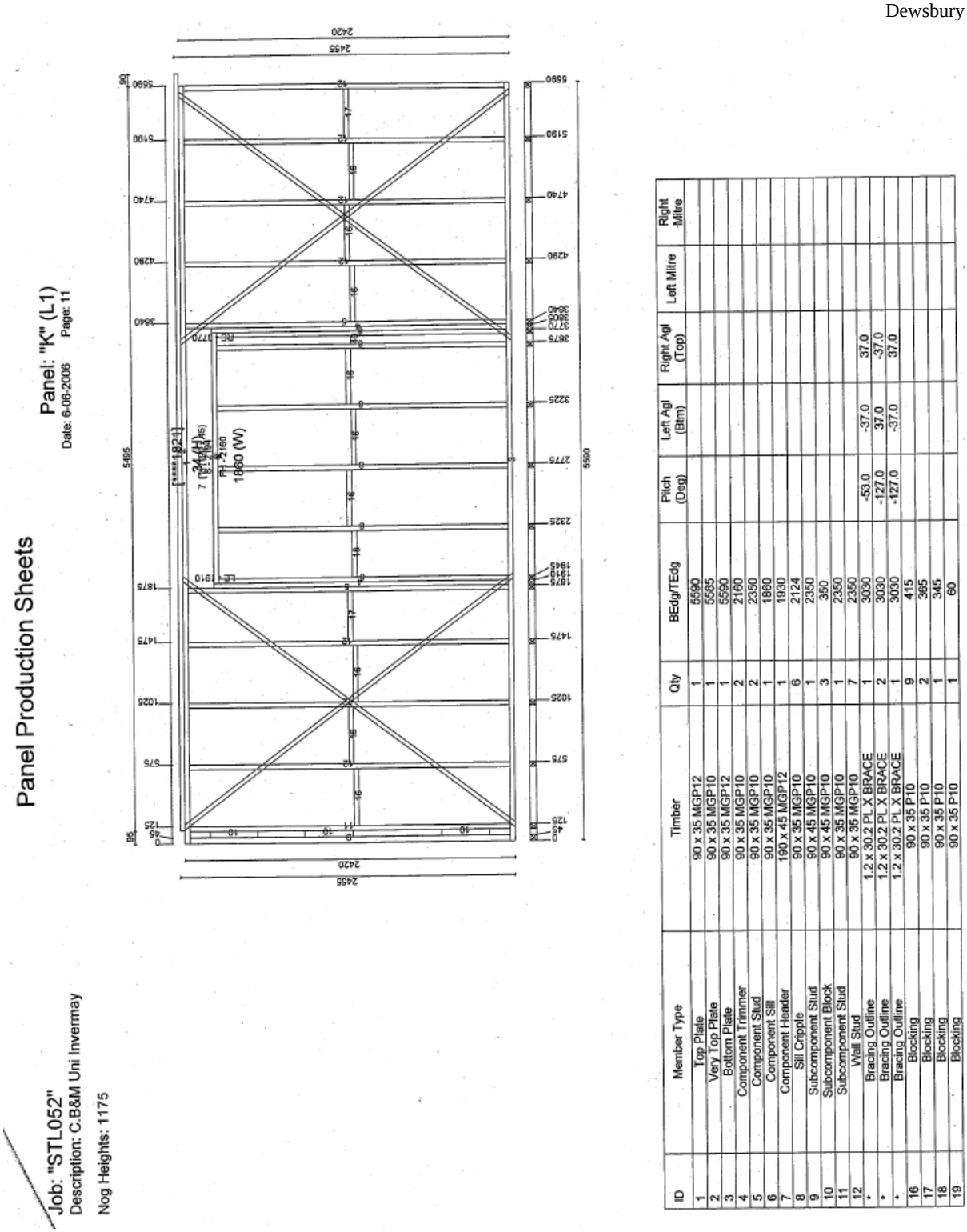
ID	Member Type	Timber	Qty	BEdg/TEdg	Pitch (Deg)	Left Agl (Btm)	Right Agl (Top)	Left Mitre	Right Mitre
1	Top Plate	90 x 35 MGP12	1	5590					
2	Very Top Plate	90 x 35 MGP10	1	5585					
3	Bottom Plate	90 x 35 MGP12	1	5590					
4	Component Trimmer	90 x 35 MGP10	2	2160					
5	Component Stud	90 x 35 MGP10	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	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)



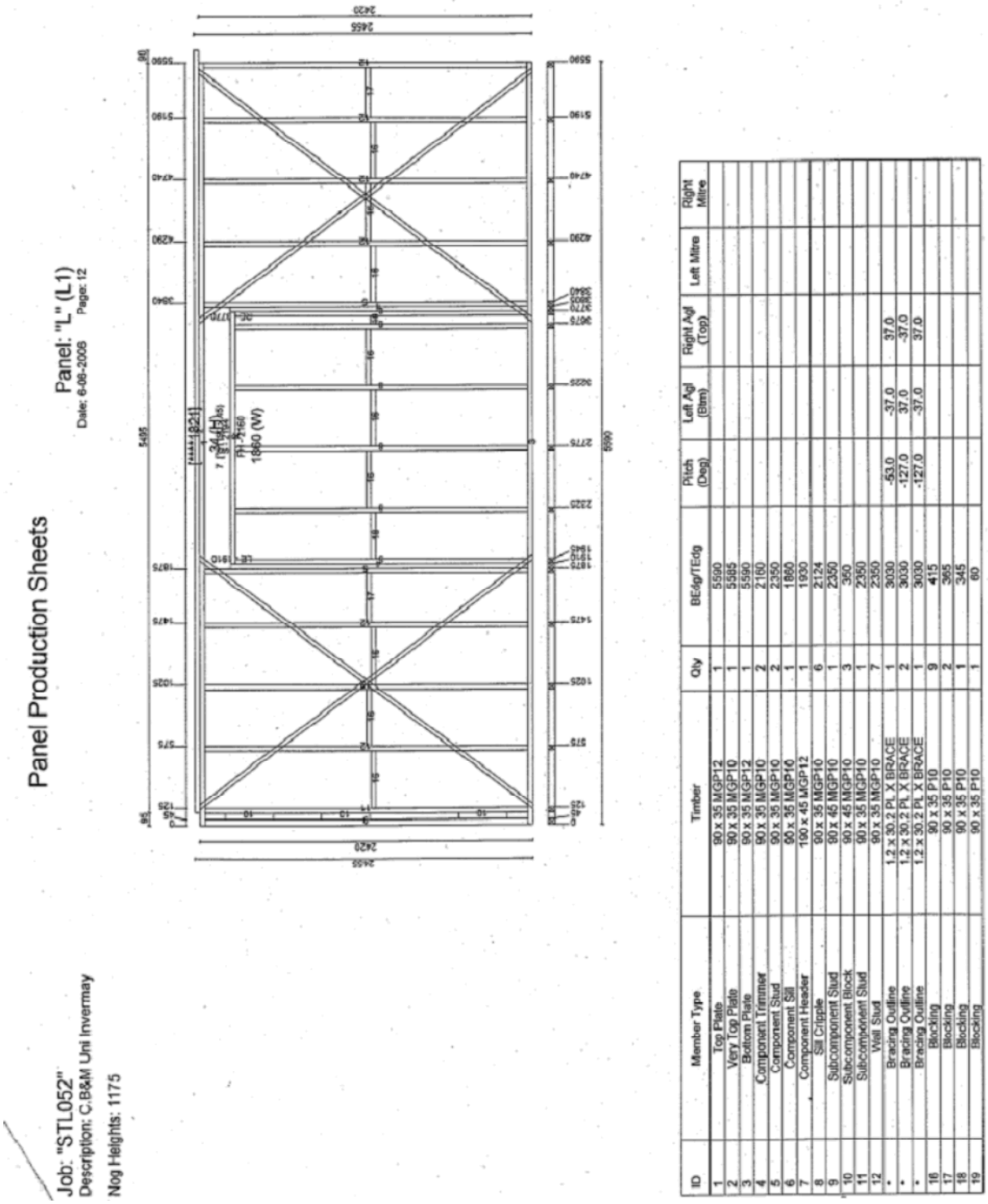
ID	Member Type	Timber	Qty	BEdg/TEdg	Pitch (Deg)	Left Agl (Btm)	Right Agl (Top)	Left Mitre	Right Mitre
1	Top Plate	90 x 35 MGP12	1	5590					
2	Very Top Plate	90 x 35 MGP10	1	5585					
3	Bottom Plate	90 x 35 MGP12	1	5590					
4	Component Trimmer	90 x 35 MGP10	2	2225					
5	Component Stud	90 x 35 MGP10	4	2350					
6	Component Header 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 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	3000	-127.0	-37.0	37.0		
*	Bracing Outline	1.2 x 30.2 PL X BRACE	1	3000	-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	305					
24	Blocking	90 x 35 P10	1	345					
25	Blocking	90 x 35 P10	1	90					

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



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



ID	Member Type	Timber	Qty	BE/dg/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	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	395					
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)

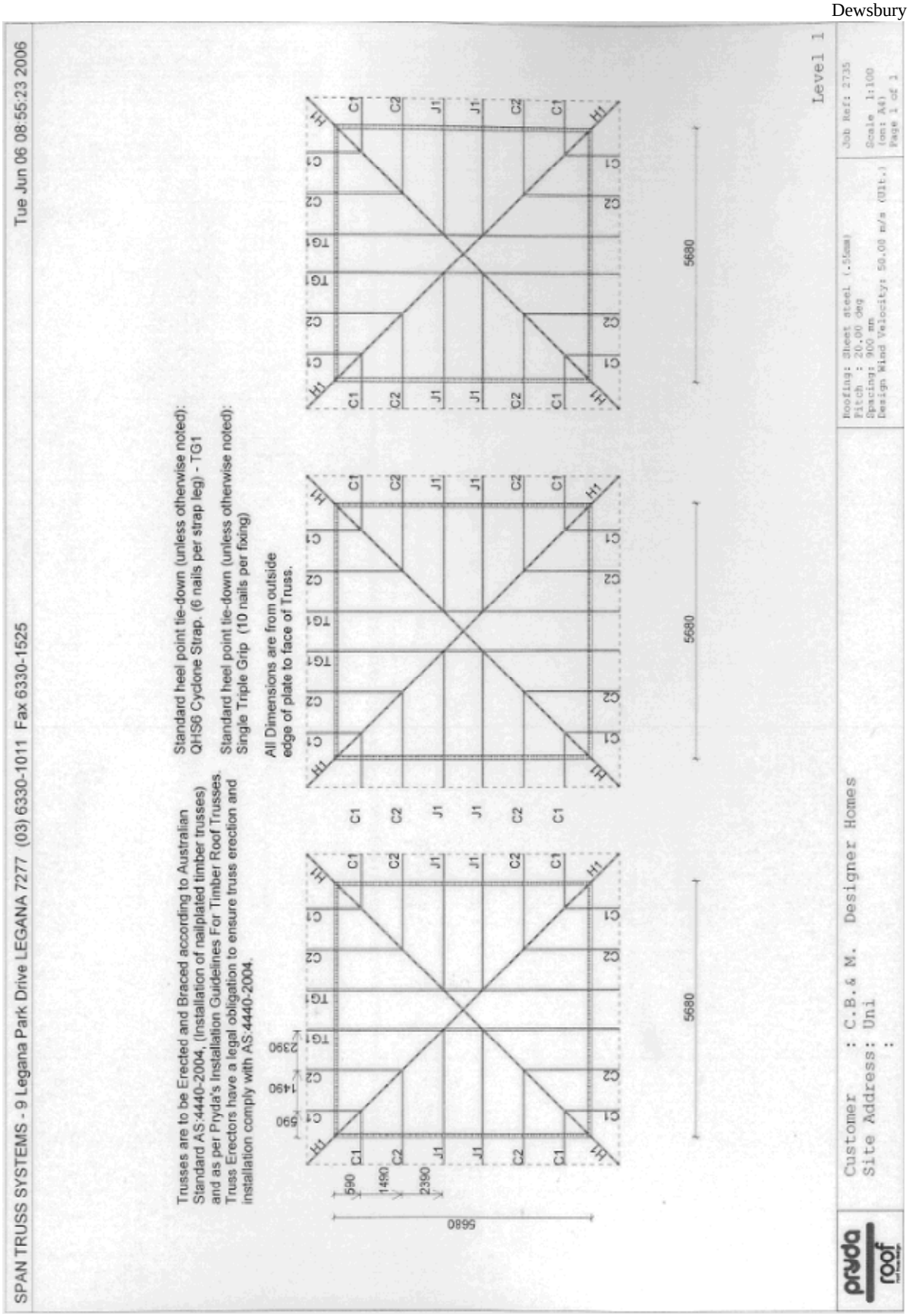
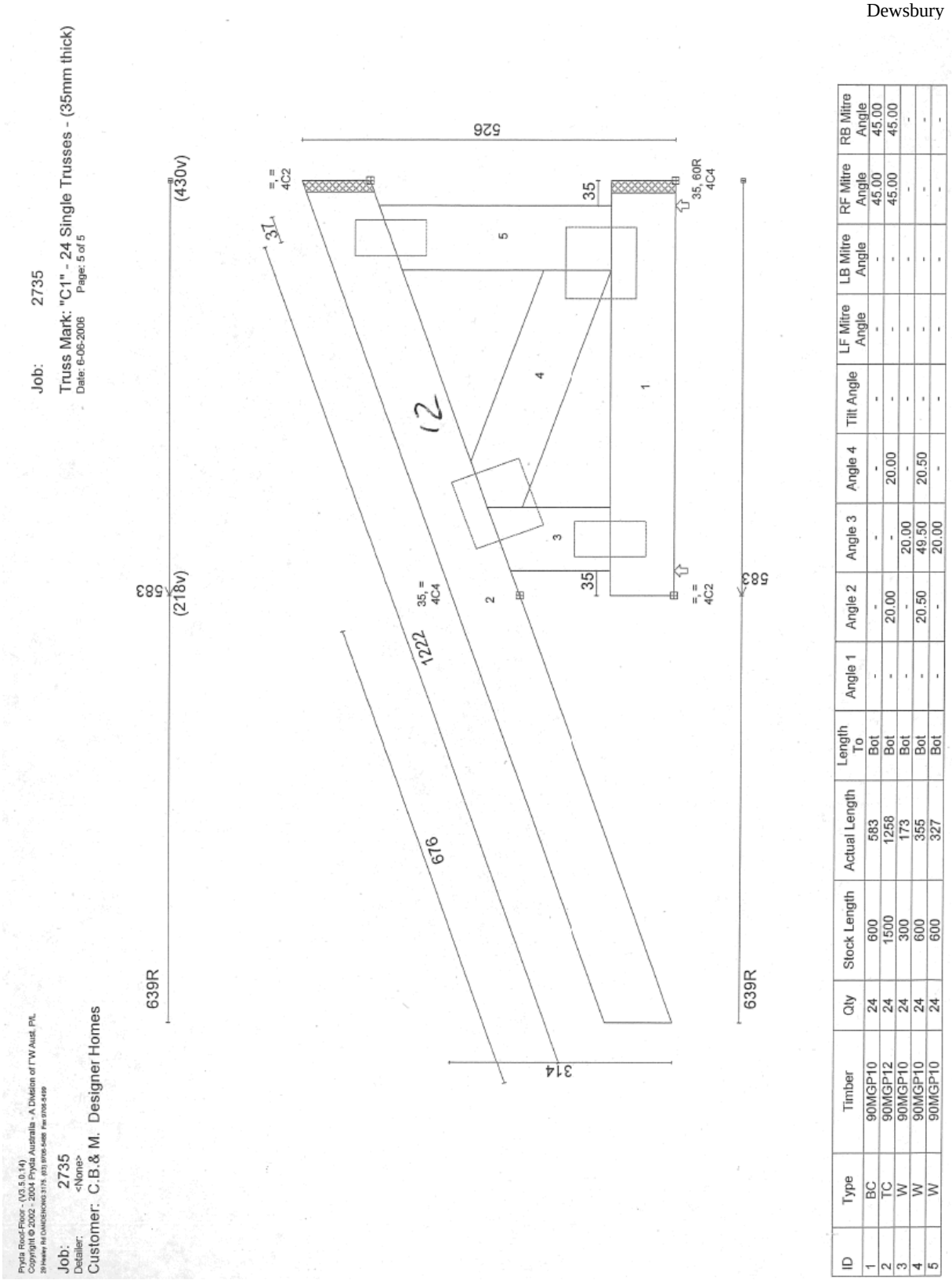
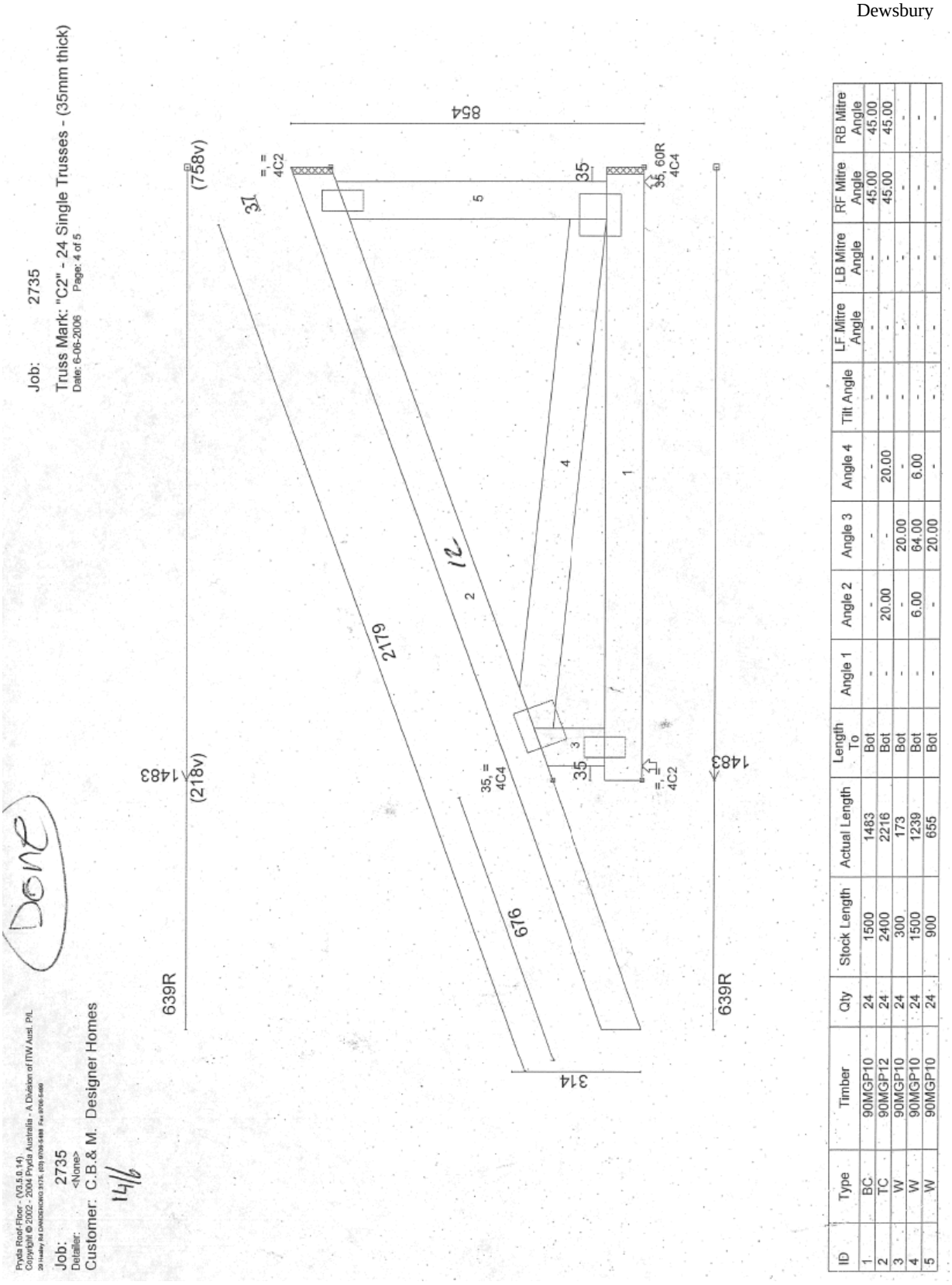


Figure A2.42 - Test Cell 3 – Roof-framing Data (not to scale)



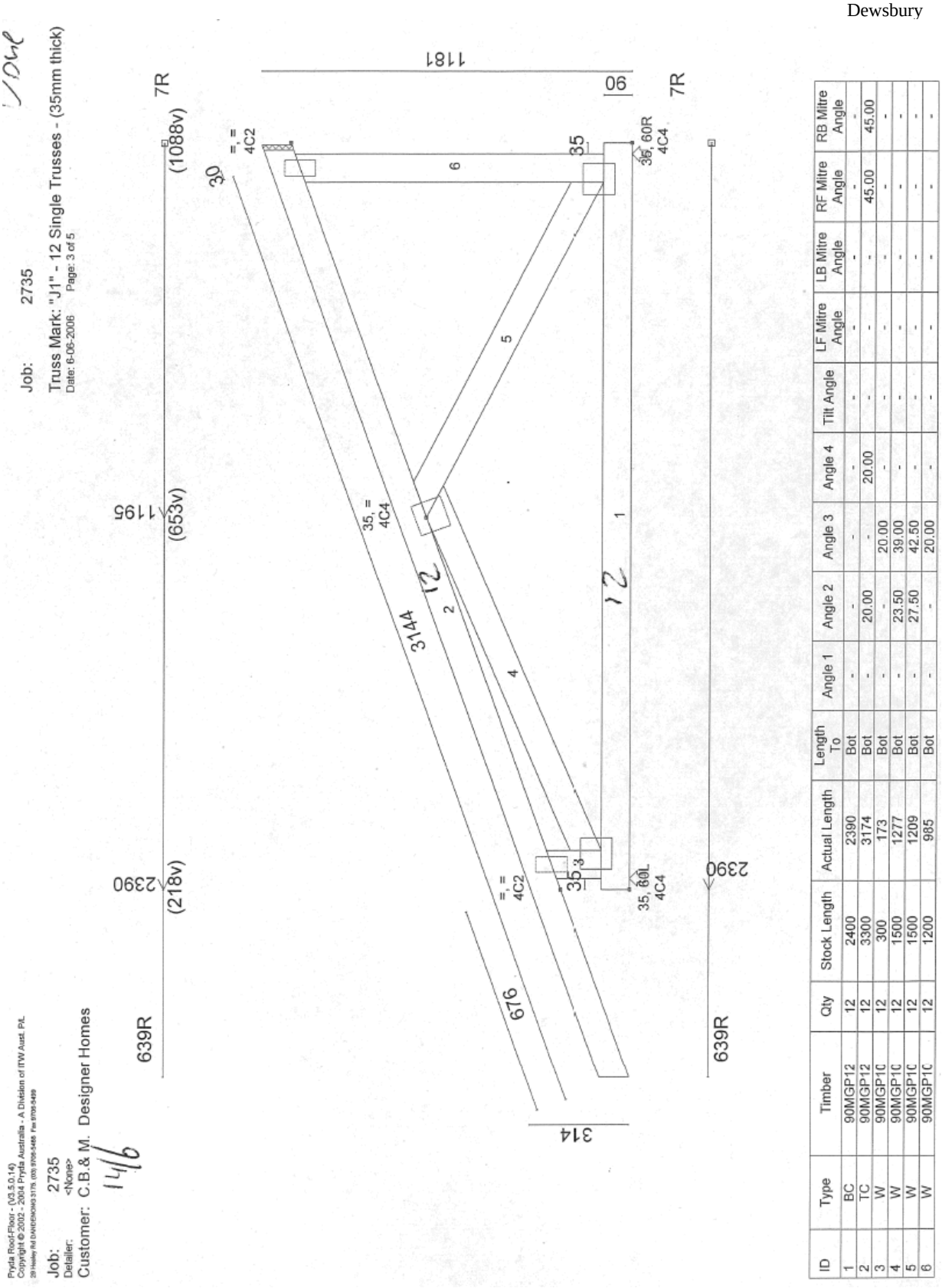
ID	Type	Timber	Qty	Stock Length	Actual Length	Length To	Angle 1	Angle 2	Angle 3	Angle 4	Tilt Angle	LF Mitre Angle	LB Mitre Angle	RF Mitre Angle	RB Mitre Angle
1	BC	90MGP10	24	600	583	Bot	-	-	-	-	-	-	-	45.00	45.00
2	TC	90MGP12	24	1500	1258	Bot	-	20.00	-	20.00	-	-	-	45.00	45.00
3	W	90MGP10	24	300	173	Bot	-	-	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 A2.43 - Test Cell 3 – Roof-framing Data: Truss C1 (not to scale)



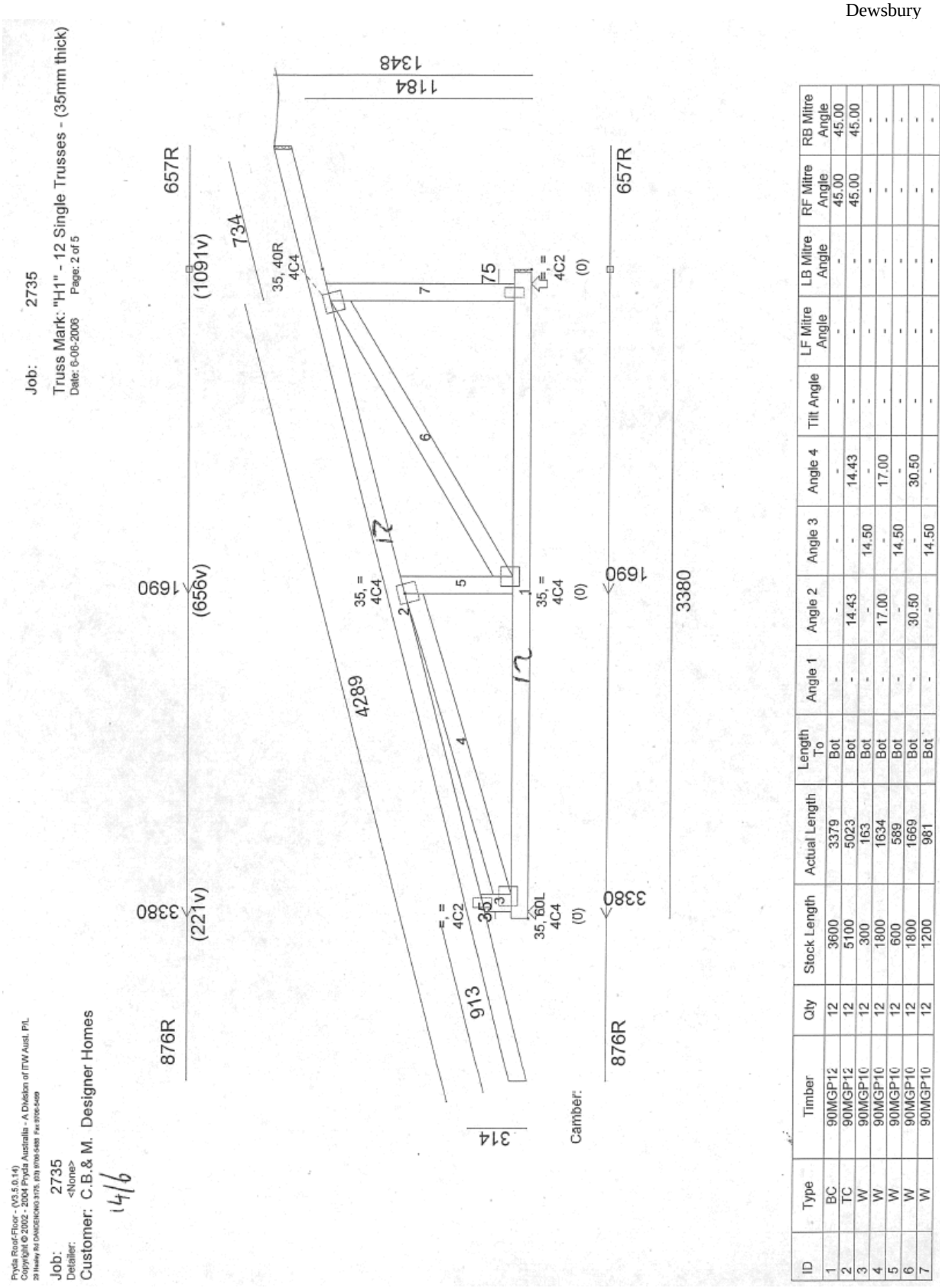
ID	Type	Timber	Qty	Stock Length	Actual Length	Length To	Angle 1	Angle 2	Angle 3	Angle 4	Tilt Angle	LF Mitre Angle	LB Mitre Angle	RF Mitre Angle	RB Mitre Angle
1	BC	90MGP10	24	1500	1483	Bot	-	-	-	-	-	-	-	45.00	45.00
2	TC	90MGP12	24	2400	2216	Bot	-	20.00	-	20.00	-	-	-	45.00	45.00
3	W	90MGP10	24	300	173	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 A2.44 - Test Cell 3 – Roof-framing Data: Truss C2 (not to scale)



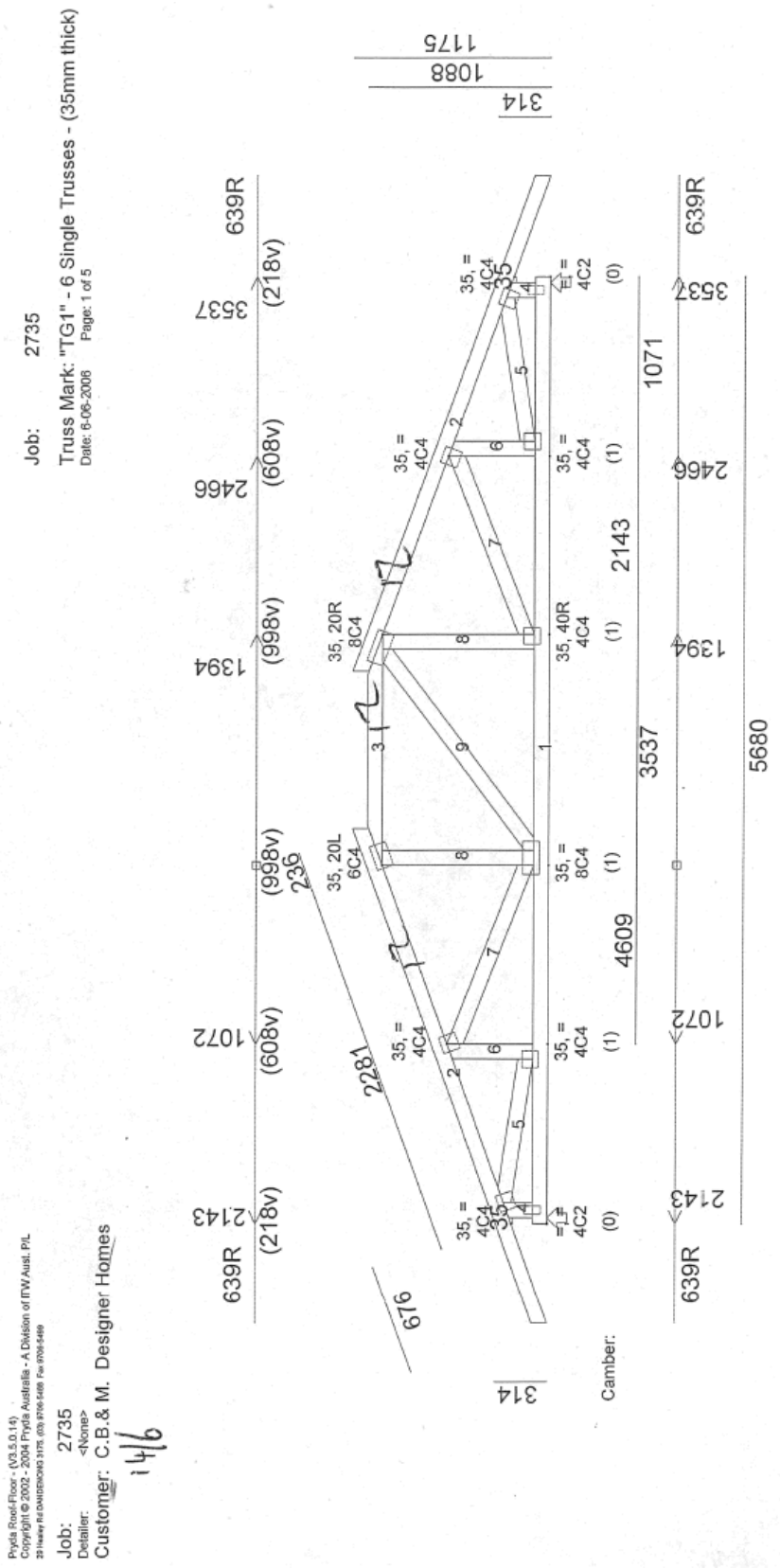
ID	Type	Timber	Qty	Stock Length	Actual Length	Length To	Angle 1	Angle 2	Angle 3	Angle 4	Tilt Angle	LF Mitre Angle	LB Mitre Angle	RF Mitre Angle	RB Mitre Angle
1	BC	90MGP12	12	2400	2390	Bot	-	-	-	-	-	-	-	-	-
2	TC	90MGP12	12	3300	3174	Bot	-	20.00	-	20.00	-	-	-	45.00	45.00
3	W	90MGP10	12	300	173	Bot	-	-	20.00	-	-	-	-	-	-
4	W	90MGP10	12	1500	1277	Bot	-	23.50	39.00	-	-	-	-	-	-
5	W	90MGP10	12	1500	1209	Bot	-	27.50	42.50	-	-	-	-	-	-
6	W	90MGP10	12	1200	985	Bot	-	-	20.00	-	-	-	-	-	-

Figure A2.45 - Test Cell 3 – Roof-framing Data: Truss J1 (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	90MGP12	12	3600	3379	Bot	-	-	-	-	-	-	-	45.00	45.00
2	TC	90MGP12	12	5100	5023	Bot	-	14.43	-	14.43	-	-	-	45.00	45.00
3	W	90MGP10	12	300	163	Bot	-	-	14.50	-	-	-	-	-	-
4	W	90MGP10	12	1800	1634	Bot	-	17.00	-	17.00	-	-	-	-	-
5	W	90MGP10	12	600	589	Bot	-	-	14.50	-	-	-	-	-	-
6	W	90MGP10	12	1800	1669	Bot	-	30.50	-	30.50	-	-	-	-	-
7	W	90MGP10	12	1200	981	Bot	-	-	14.50	-	-	-	-	-	-

Figure A2.46 - Test Cell 3 – Roof-framing Data: Truss H1 (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	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	Cln	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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