

Job Information

Engineer Checked Approved

Name: PSJ SK
Date: 24-Mar-03 24-Mar-03

Structure Type SPACE FRAME

Number of Nodes 30 Highest Node 32
Number of Elements 34 Highest Beam 64
Number of Plates 6 Highest Plate 106

Number of Basic Load Cases 3
Number of Combination Load Cases 3

Included in this printout are data for:
All The Whole Structure

Included in this printout are results for load cases:
Type L/C Name

Type	L/C	Name
Primary	1	DL
Combination	11	S1:DL+LL
Combination	12	S2:DL+WL
Combination	13	S3:DL+LL+WL

*Design of
Steel Canopy*

Section Properties

Prop	Section	Area (cm ²)	I _{yy} (cm ⁴)	I _{zz} (cm ⁴)	J (cm ⁴)	Material
1	PIP114.3X4.5	15.520	234.000	234.000	468.639	MATERIAL1
2	C300X90X9	48.570	309.000	6.44E+3	20.156	MATERIAL1
3	Rect 0.02x0.15	33.000	618.750	13.310	48.321	MATERIAL1
4	Rect 0.40x0.01	48.000	5.760	6.4E+3	22.605	MATERIAL1

Plate Thickness

Prop	Node A (cm)	Node B (cm)	Node C (cm)	Node D (cm)	Material
5	1.200	1.200	1.200	1.200	MATERIAL1

Materials

Mat	Name	E (kN/mm ²)	v	Density (kg/m ³)	α (1/°K)
1	STEEL	205.000	0.300	7.83E+3	12E-6
2	STAINLESSSTEEL	197.930	0.300	7.83E+3	18E-6
3	ALUMINUM	68.948	0.330	2.71E+3	23E-6
4	MATERIAL1	205.000	0.300	7.85E+3	12E-12
5	CONCRETE	21.718	0.170	2.4E+3	10E-6

Supports

Node	X (kN/mm)	Y (kN/mm)	Z (kN/mm)	rX (kN/m/deg)	rY (kN/m/deg)	rZ (kN/m/deg)
4	Fixed	Fixed	Fixed	-	-	-
5	Fixed	Fixed	Fixed	-	-	-
7	Fixed	Fixed	Fixed	-	-	-
10	Fixed	Fixed	Fixed	-	-	-

Basic Load Cases

Number	Name
1	DL
2	LL
3	WL

Combination Load Cases

Comb.	Combination L/C Name	Primary	Primary L/C Name	Factor
11	S1:DL+LL	1	DL	1.00
		2	LL	1.00
12	S2:DL+WL	1	DL	1.00
		3	WL	1.00
13	S3:DL+LL+WL	1	DL	1.00
		2	LL	0.75
		3	WL	0.75

Beam Loads : 1 DL

Beam	Type	Direction	Fa	Da (cm)	Fb	Db	Ecc. (cm)
51	UNI	kg/m	GY	-20.000	-	-	-
52	UNI	kg/m	GY	-20.000	-	-	-
53	UNI	kg/m	GY	-20.000	-	-	-
54	UNI	kg/m	GY	-20.000	-	-	-
55	UNI	kg/m	GY	-20.000	-	-	-
56	UNI	kg/m	GY	-20.000	-	-	-
57	UNI	kg/m	GY	-20.000	-	-	-
58	UNI	kg/m	GY	-20.000	-	-	-
59	UNI	kg/m	GY	-20.000	-	-	-
60	UNI	kg/m	GY	-20.000	-	-	-
61	UNI	kg/m	GY	-20.000	-	-	-
62	UNI	kg/m	GY	-20.000	-	-	-
63	UNI	kg/m	GY	-20.000	-	-	-
64	UNI	kg/m	GY	-20.000	-	-	-

Selfweight : 1 DL

Direction Factor

Y	-1.000
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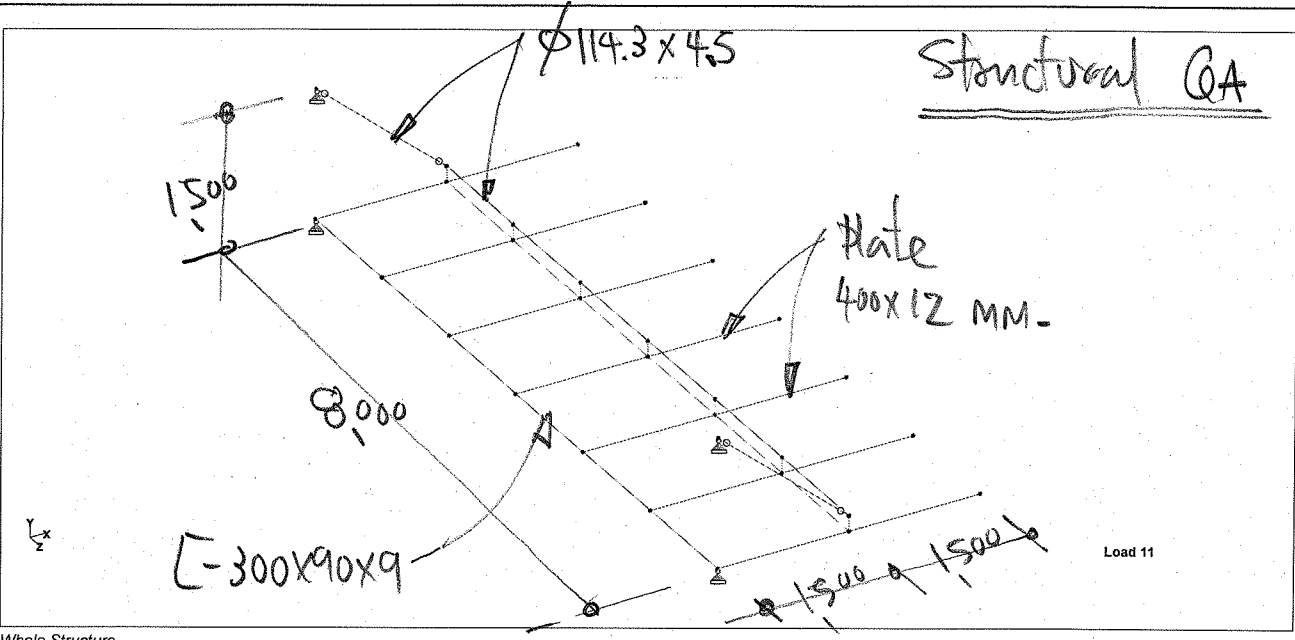
Beam Loads : 2 LL

Beam	Type	Direction	Fa	Da (cm)	Fb	Db	Ecc. (cm)
51	UNI	kg/m	GY	-66.000	-	-	-
52	UNI	kg/m	GY	-66.000	-	-	-
53	UNI	kg/m	GY	-66.000	-	-	-
54	UNI	kg/m	GY	-66.000	-	-	-
55	UNI	kg/m	GY	-66.000	-	-	-
56	UNI	kg/m	GY	-66.000	-	-	-
57	UNI	kg/m	GY	-66.000	-	-	-
58	UNI	kg/m	GY	-66.000	-	-	-
59	UNI	kg/m	GY	-66.000	-	-	-
60	UNI	kg/m	GY	-66.000	-	-	-
61	UNI	kg/m	GY	-66.000	-	-	-
62	UNI	kg/m	GY	-66.000	-	-	-
63	UNI	kg/m	GY	-66.000	-	-	-
64	UNI	kg/m	GY	-66.000	-	-	-

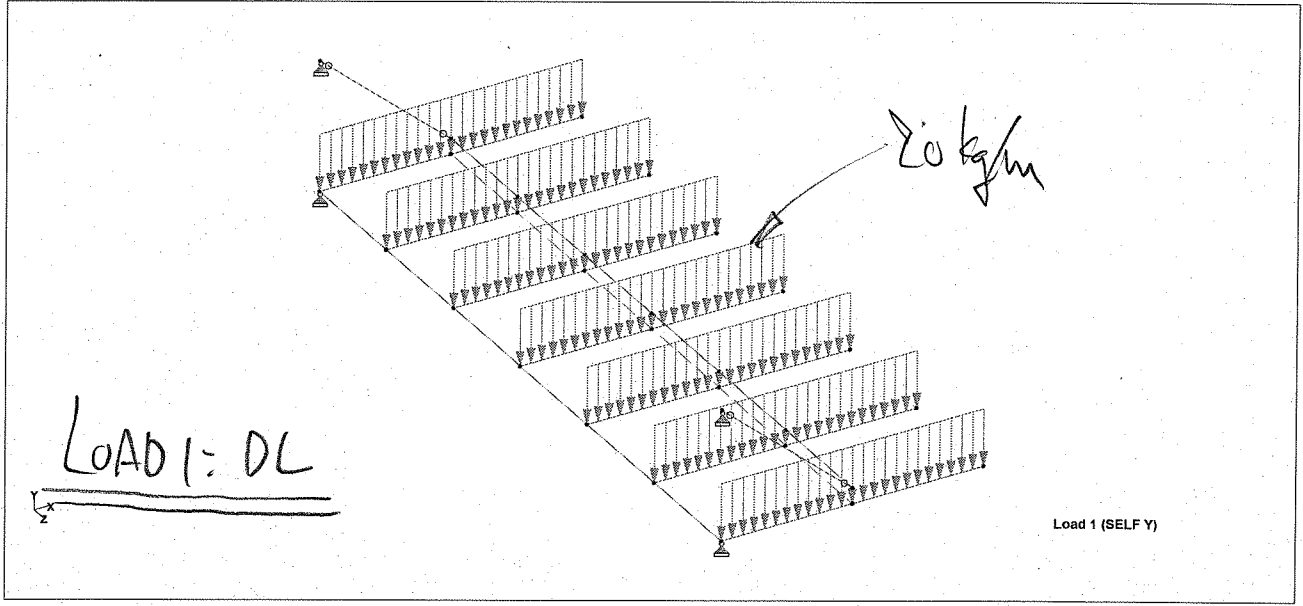
Beam Loads : 3 WL

Beam	Type	Direction	Fa	Da (cm)	Fb	Db	Ecc. (cm)
51	UNI	kg/m	Y	54.000	-	-	-
52	UNI	kg/m	Y	54.000	-	-	-
53	UNI	kg/m	Y	54.000	-	-	-
54	UNI	kg/m	Y	54.000	-	-	-
55	UNI	kg/m	Y	54.000	-	-	-
56	UNI	kg/m	Y	54.000	-	-	-
57	UNI	kg/m	Y	54.000	-	-	-
58	UNI	kg/m	Y	54.000	-	-	-
59	UNI	kg/m	Y	54.000	-	-	-
60	UNI	kg/m	Y	54.000	-	-	-
61	UNI	kg/m	Y	54.000	-	-	-
62	UNI	kg/m	Y	54.000	-	-	-
63	UNI	kg/m	Y	54.000	-	-	-
64	UNI	kg/m	Y	54.000	-	-	-

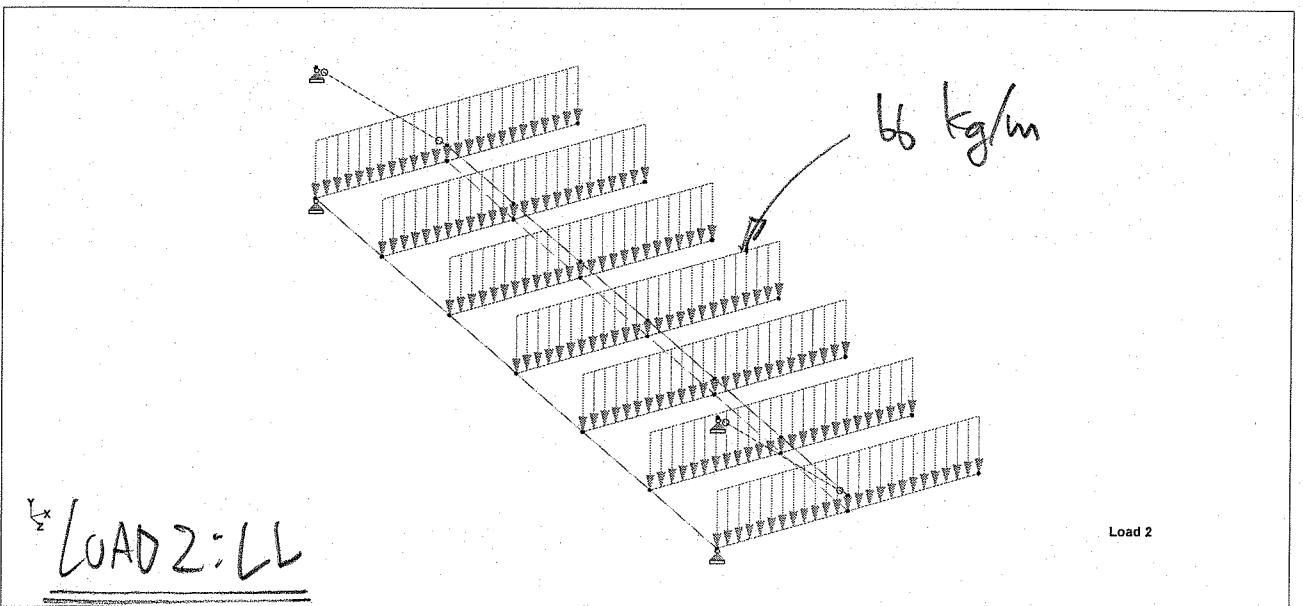
Structural QA



Whole Structure

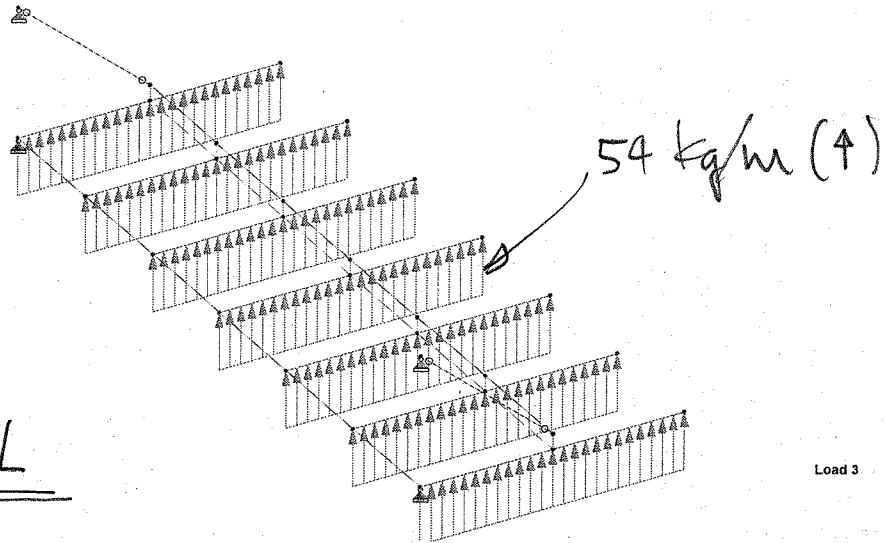


Whole Structure Loads 0.101972kg:1cm 1 DL



Whole Structure Loads 0.101972kg:1cm 2 LL

LOAD 3: WL



Load 3

Whole Structure Loads 0.101972kg:1cm 3 WL

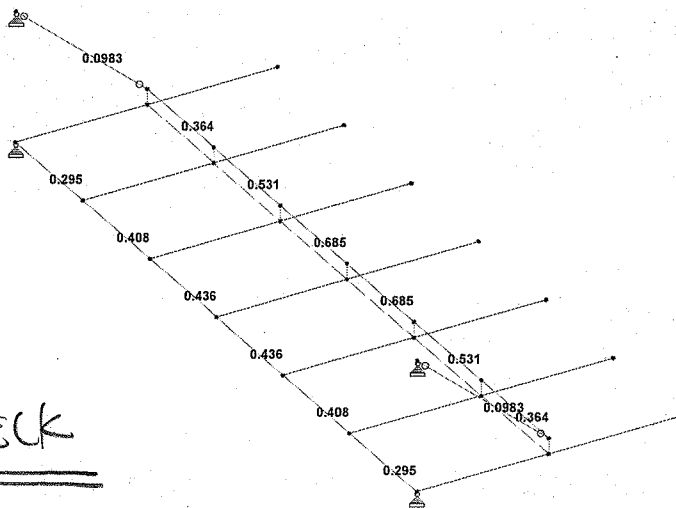
Δ

$\Delta_{max} = 31.48 \text{ mm.}$

Load 11 : Displacement

Whole Structure Displacements 10mm:1cm 11 S1:DL+LL

UNITY CHECK



Load 11

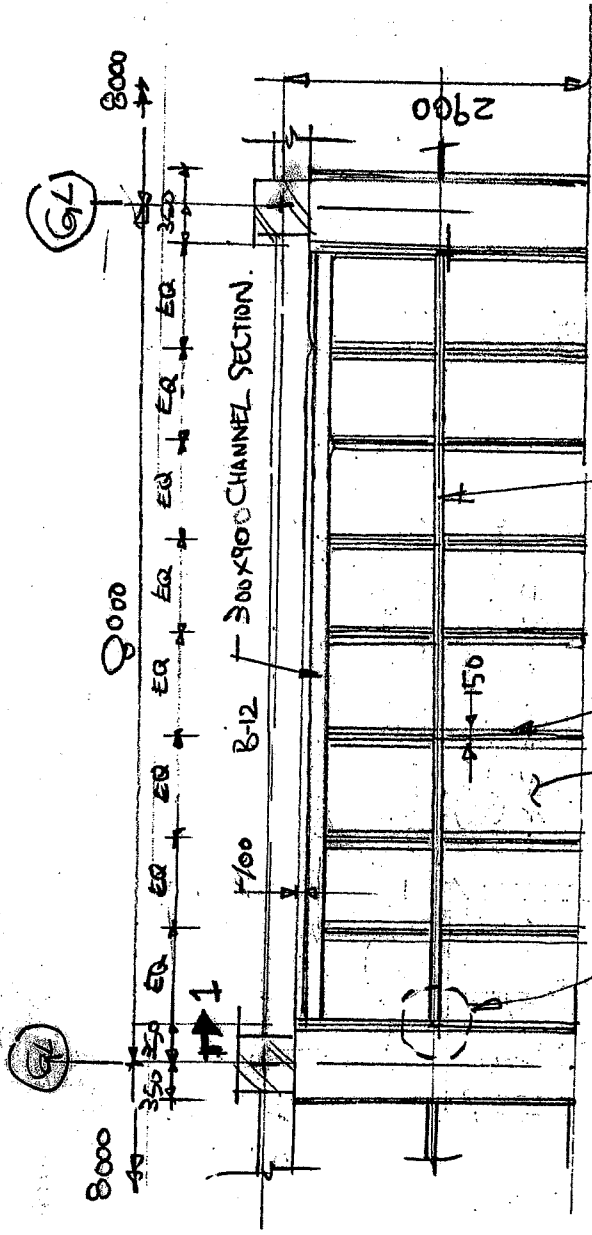
Whole Structure

Node Displacement Summary

	Node	L/C	X (mm)	Y (mm)	Z (mm)	Resultant (mm)	rX (rad)	rY (rad)	rZ (rad)
Max X	13	12:S2:DL+W/L	0.044	-19.321	-0.000	19.321	-0.00	0.00	0.01
Min X	26	11:S1:DL+LL	-1.738	-2.165	0.847	2.902	0.01	0.00	0.01
Max Y	23	12:S2:DL+W/L	0.044	9.023	-0.000	9.023	0.00	0.00	0.01
Min Y	13	11:S1:DL+LL	0.022	-31.484	0.000	31.484	-0.00	-0.00	0.01
Max Z	25	11:S1:DL+LL	-0.017	-7.055	0.893	7.111	-0.01	-0.00	0.00
Min Z	21	11:S1:DL+LL	-0.017	-7.055	-0.893	7.111	0.01	0.00	0.00
Max rX	5	11:S1:DL+LL	0.000	0.000	0.000	0.000	0.01	-0.00	-0.00
Min rX	7	11:S1:DL+LL	0.000	0.000	0.000	0.000	-0.01	0.00	-0.00
Max rY	26	11:S1:DL+LL	-1.738	-2.165	0.847	2.902	0.01	0.00	0.01
Min rY	27	11:S1:DL+LL	-1.738	-2.165	-0.847	2.902	-0.01	-0.00	0.01
Max rZ	13	12:S2:DL+W/L	0.044	-19.321	-0.000	19.321	-0.00	0.00	0.01
Min rZ	5	11:S1:DL+LL	0.000	0.000	0.000	0.000	0.01	-0.00	-0.00
Max Rst	13	11:S1:DL+LL	0.022	-31.484	0.000	31.484	-0.00	-0.00	0.01

Reactions

Node	L/C	Horizontal FX (kg)	Vertical FY (kg)	Horizontal FZ (kg)	MX (kg·m)	Moment MY (kg·m)	MZ (kg·m)
4	1:DL	-838.13	749.73	0.00	0.00	0.00	0.00
	11:S1:DL+LL	-1531.13	1359.57	0.00	0.00	0.00	0.00
	12:S2:DL+W/L	-271.13	250.77	0.00	0.00	0.00	0.00
	13:S3:DL+LL+I	-932.63	832.89	0.00	0.00	0.00	0.00
5	1:DL	838.13	253.12	2.75	0.00	0.00	0.00
	11:S1:DL+LL	1531.13	336.28	4.90	0.00	0.00	0.00
	12:S2:DL+W/L	271.13	185.08	1.00	0.00	0.00	0.00
	13:S3:DL+LL+I	932.63	264.46	3.05	0.00	0.00	0.00
7	1:DL	838.13	253.12	-2.75	0.00	0.00	0.00
	11:S1:DL+LL	1531.13	336.28	-4.90	0.00	0.00	0.00
	12:S2:DL+W/L	271.13	185.08	-1.00	0.00	0.00	0.00
	13:S3:DL+LL+I	932.63	264.46	-3.05	0.00	0.00	0.00
10	1:DL	-838.13	749.73	0.00	0.00	0.00	0.00
	11:S1:DL+LL	-1531.13	1359.57	0.00	0.00	0.00	0.00
	12:S2:DL+W/L	-271.13	250.77	0.00	0.00	0.00	0.00
	13:S3:DL+LL+I	-932.63	832.89	0.00	0.00	0.00	0.00



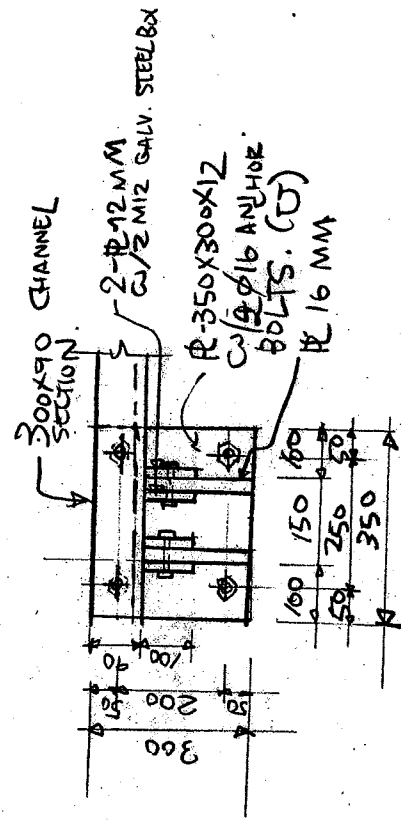
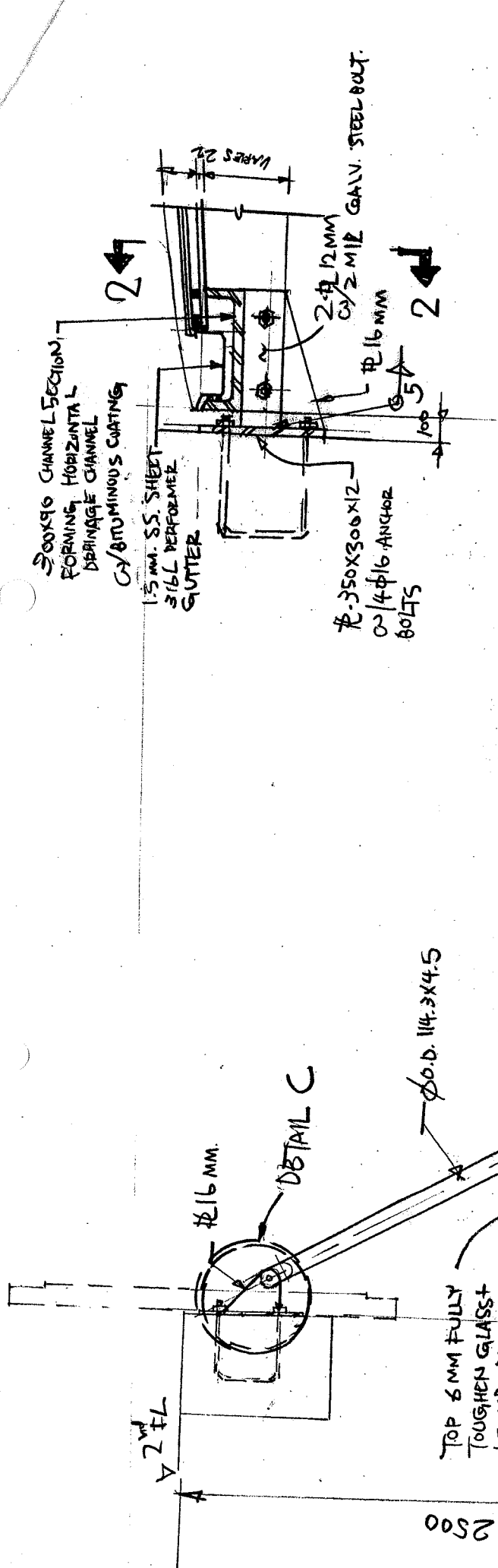
Ø 14.3 X 4.5
 PLUS 150 (W) X 22 (THK) R
 150 (D) X 12 (THK)
 T-SECTION FABRICATED

12 MM. THK.
 PROFILED FINS

DETAIL B

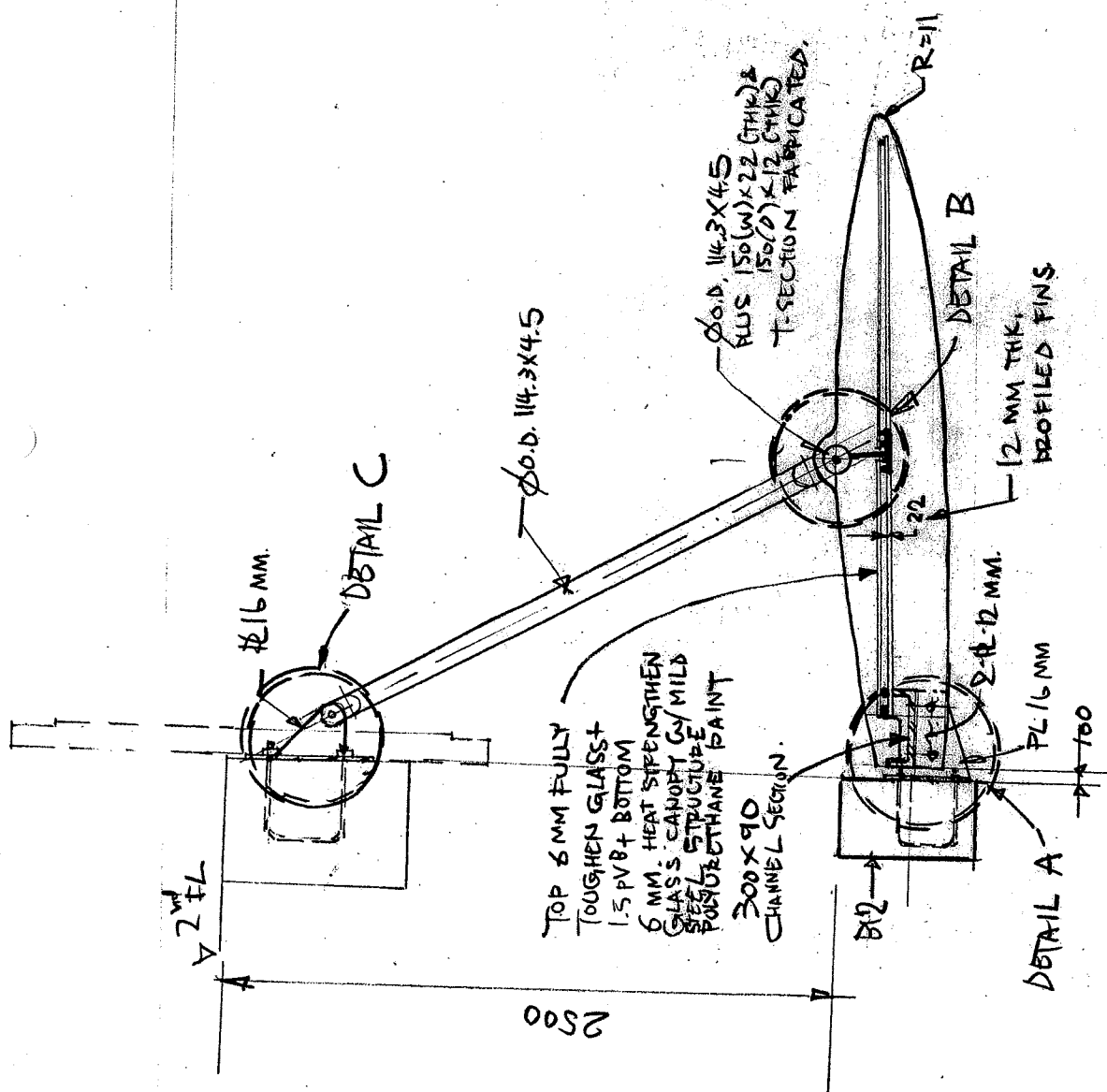
TOP 6 MM. FULLY
 TOUGHEN GLASS +
 1.5 WB + BOTTOM
 6 MM. HEAT STRENGTHEN
 GLASS CANOPY G/MILD
 STEEL STRUCTURE
 POLYURETHANE PAINT.

PLAN
1:50

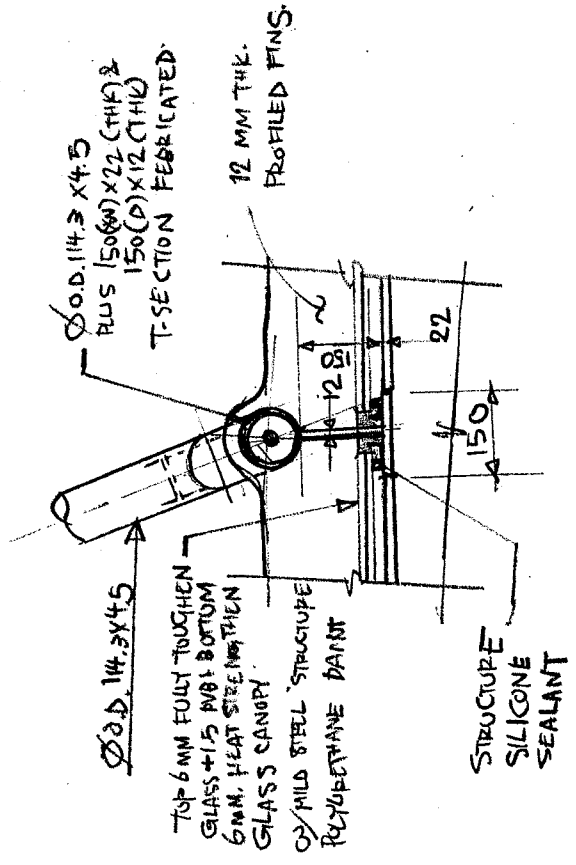
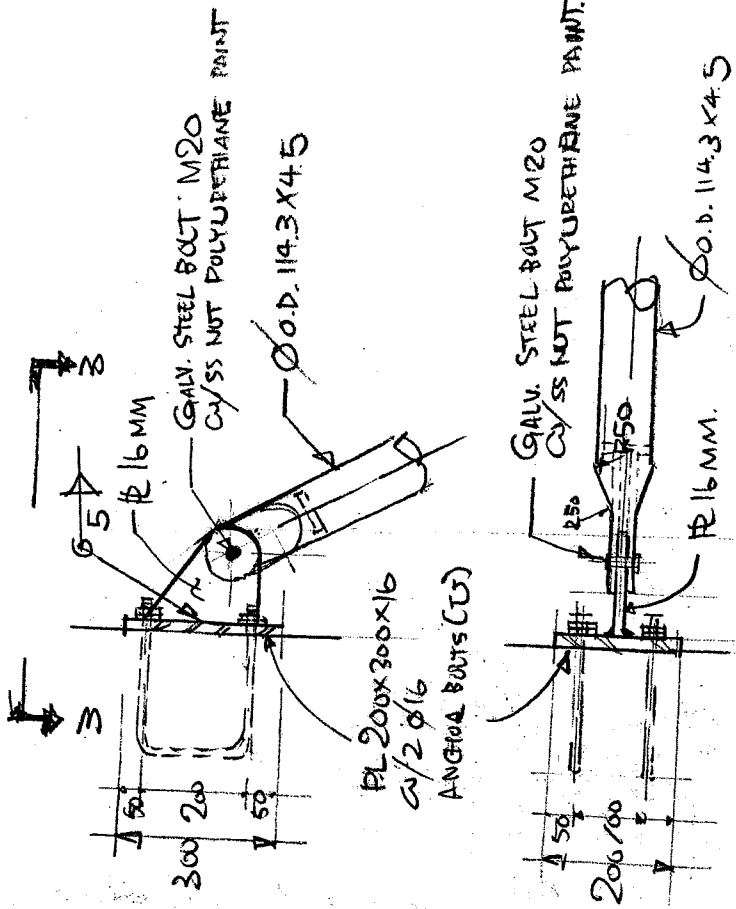


SECTION 2-2

DETAIL A
1:10



SECTION 1-1
1:20



DETAIL C.
 1:10