



LACING / BRACING SCHEDULE									
MARK	NO OFF	TYPE	A	B	C	D	E	F	
-11	-12	60 x 60 x 5	1279	1219	30	32	---	---	
-12	-26	60 x 60 x 5	1450	1390	30	32	---	---	
-13	-2	70 x 70 x 6	1479	1399	40	35	25	15	
13x	-2	OPP. HAND OF 13	---	---	---	---	---	---	
-14	-8	70 x 70 x 6	1479	1399	40	35	---	---	
-15	-24	70 x 70 x 6	1621	1541	40	35	---	---	
-16	-6	70 x 70 x 6	1621	1541	40	35	20	15	
16x	-6	OPP. HAND OF 16	---	---	---	---	---	---	
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-17	-4	60 x 60 x 5	1474	1414	30	32	---	---	
-18	-24	60 x 60 x 5	1780	1720	30	32	---	---	
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BOLT SCHEDULE			
MARK	TYPE	NO OFF	LENGTH
-a	M20	66	40
-b	M20	192	45
-c	M20	68	50
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48-M20 REVEL WASHERS REQ'D			
NOTES ON BOLTS:			
1) BOLTS TO BE SUPPLIED WITH NUT AND WASHER.			
2) BOLTS ERECTED WITH HEAD TO INSIDE PREFERRED.			
3) WASHER TO BE PLACED UNDER NUT.			
4) ALL BOLTS TO BE GALVANIZED.			
5) BOLT POSITIONS INDICATED THUS: NO OFF/MARK eg. 6/a			
6) BOLT TIGHTENING: "SNUG TIGHT" USING STANDARD POKER SPANNER OR IMPACT WRENCH.			

MASS OF STEELWORK (BOLTS EXCLUDED)		2890 kg
MASS OF GRADE 8.8 BOLTS	81 kg	
NO. OFF GRADE 8.8 U-BOLTS	10	

- NOTES
- UNLESS OTHERWISE NOTED:
- 1) QUANTITIES SHOWN ARE FOR ONE BEAM ONLY.
 - 2) ALL STRUCTURAL STEEL TO BE GRADE 300M.
 - 3) ALL STEELWORK TO BE HOT DIP GALVANIZED TO S.A.B.S. 763.
 - 4) ALL HOLES TO BE 22 DIAMETER UNLESS NOTED.
 - 5) OPEN HOLES AND SITE BOLTS INDICATED THUS:
 - 6) THE CONTRACTOR SHALL SUPPLY ALL NUTS, BOLTS, WASHERS, ETC., REQUIRED FOR ERECTION.
 - 7) ALL PORTIONS OF WELDED JOINTS, NOT SEALED BY STRUCTURAL WELD, SHALL BE SEAL WELDED.
 - 8) ALL MARKS TO BE STAMPED ONTO STEELWORK AND SHALL BE CLEARLY LEGIBLE AFTER GALVANIZING.
 - 9) ALL MARKS TO BE PREFIXED: 4EV.....
 - 10) LIMITATIONS OF GENERAL USAGE:-
THESE STRUCTURES HAVE BEEN DESIGNED TO SAFELY WITHSTAND THE FOLLOWING LOADING CONDITIONS:
A) MAX. CONDUCTOR LOADS OF 28 KN PER PHASE AT -10 DEGREES CENTIGRADE.
NOTE: NOMINAL STRINGING TENSION TO BE 18 KN PER PHASE AT 20 DEGREES CENTIGRADE.
B) WIND LOADS RESULTING FROM A FREE STREAM VELOCITY PRESSURE (qz) OF 1000 Pa AS DEFINED IN CLAUSE 4.5.3 OF SABS 0160-1980. THIS DESIGN PRESSURE IS APPLICABLE FOR TERRAIN CATEGORY 2 LOCATIONS THROUGHOUT SOUTH AFRICA, WITH THE EXCEPTION OF THE AREA BOUNDED BY THE TOWNS OF UPINGTON, KIMBERLEY, COLESBURG AND LANSBURG INCLUSIVE. WHERE THE STRUCTURES ARE TO BE LOCATED WITHIN THIS AREA, OR ANYWHERE WITHIN SOUTH AFRICA AT A TERRAIN CATEGORY 1 LOCATION (i.e. IN A SEVERELY EXPOSED LOCATION), APPROVAL TO USE THESE STRUCTURES MUST BE OBTAINED FROM ESCOM'S CIVIL ENGINEERING DIVISION.
C) SHORT-CIRCUIT LOADS DUE TO PHASE-TO-PHASE AND PHASE-TO-EARTH FAULTS.

1	DJCS	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	DJCS	
2	D. D.	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	D. D.		
3	D. D.	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	D. D.		
4	D. D.	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	D. D.		
5	D. D.	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	D. D.		
6	D. D.	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	D. D.		
7	D. D.	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	D. D.		
8	D. D.	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	D. D.		
9	D. D.	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	D. D.		
10	D. D.	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	D. D.		
11	D. D.	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	D. D.		
12	D. D.	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	D. D.		
13	D. D.	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	D. D.		
14	D. D.	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	D. D.		
15	D. D.	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	D. D.		
16	D. D.	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	D. D.		
17	D. D.	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	D. D.		
18	D. D.	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	D. D.		
19	D. D.	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	D. D.		
20	D. D.	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	D. D.		
21	D. D.	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	D. D.		
22	D. D.	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	D. D.		
23	D. D.	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	D. D.		
24	D. D.	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	D. D.		
25	D. D.	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	D. D.		
26	D. D.	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	D. D.		
27	D. D.	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	D. D.		
28	D. D.	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	D. D.		
29	D. D.	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	D. D.		
30	D. D.	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	D. D.		
31	D. D.	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	D. D.		
32	D. D.	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	D. D.		
33	D. D.	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	D. D.		
34	D. D.	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	D. D.		
35	D. D.	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	D. D.		
36	D. D.	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	D. D.		
37	D. D.	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	D. D.		
38	D. D.	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	D. D.		
39	D. D.	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	D. D.		
40	D. D.	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	D. D.		
41	D. D.	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	D. D.		
42	D. D.	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	D. D.		
43	D. D.	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	D. D.		
44	D. D.	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	D. D.		
45	D. D.	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	D. D.		
46	D. D.	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	D. D.		
47	D. D.	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	D. D.		
48	D. D.	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	D. D.		
49	D. D.	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	D. D.		
50	D. D.	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	D. D.		
51	D. D.	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	D. D.		
52	D. D.	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	D. D.		
53	D. D.	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	D. D.		
54	D. D.	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	D. D.		
55	D. D.	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	D. D.		
56	D. D.	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	D. D.		
57	D. D.	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	D. D.		
58	D. D.	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	D. D.		
59	D. D.	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	D. D.		
60	D. D.	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	D. D.		
61	D. D.	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	D. D.		
62	D. D.	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	D. D.		
63	D. D.	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38					