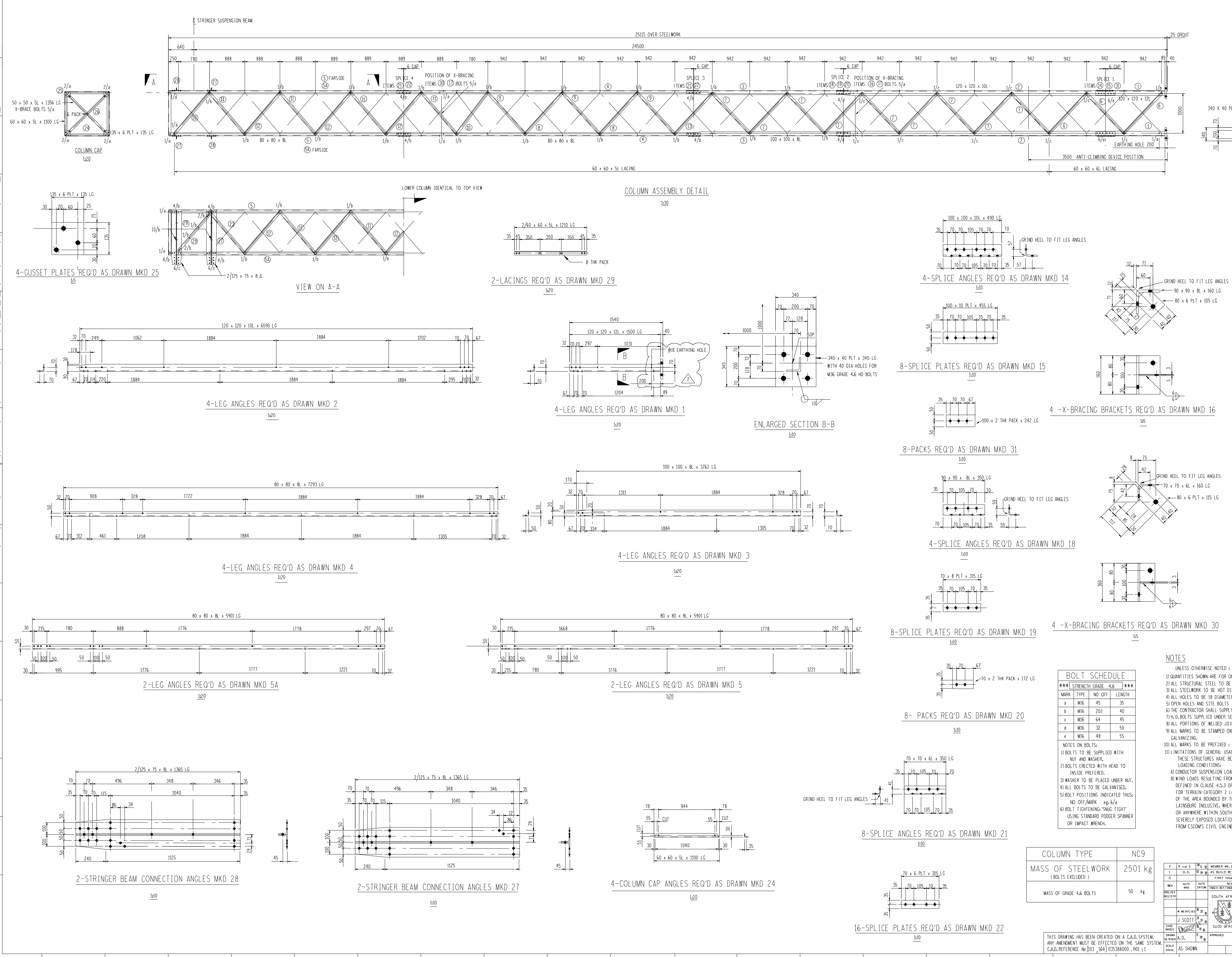

LACING / BRACING SCHEDULE

MARK	NO OFF	TYPE	A	B	C	D
6	12	60 x 60 x 6	1438	1374	0	0
7	36	60 x 60 x 5	1438	1374	0	0
8	8	60 x 60 x 5	1467	1403	0	0
9	12	60 x 60 x 5	1467	1403	18	18
10	5	60 x 60 x 5	1364	1300	0	0
11	14	60 x 60 x 5	1432	1368	18	18
12	12	60 x 60 x 5	1432	1368	0	0
13	4	60 x 60 x 5	1452	1388	0	0
ITEM 23 TO BE CROPPED AS SHOWN - RIGHT HAND SIDE						
23	2	60 x 60 x 5	1432	1368	17	17
		BRACING	A	B	E	
17	4	50 x 50 x 5	1442	1378	689	
26	2	50 x 50 x 5	1342	1278	639	

BOLT SCHEDULE

MARK	TYPE	NO OFF	LENGTH
*** STRENGTH GRADE 4.6 ***			
a	M16	45	35
b	M16	202	40
c	M16	64	45
d	M16	32	50
e	M16	48	55

NOTES ON BOLTS:
1) BOLTS TO BE SUPPLIED WITH NUT AND WASHER.
2) BOLTS ERECTED WITH HEAD TO INSIDE PREFERED.
3) WASHER TO BE PLACED UNDER NUT.
4) ALL BOLTS TO BE GALVANISED.
5) BOLT POSITIONS INDICATED THUS: NO OFF/MARK eg. 6/a
6) BOLT TIGHTENING: 'SNUG TIGHT' USING STANDARD PODGER SPANNER OR IMPACT WRENCH.

NOTES

UNLESS OTHERWISE NOTED :
1) QUANTITIES SHOWN ARE FOR ONE COLUMN ONLY.
2) ALL STRUCTURAL STEEL TO BE GRADE 300W.
3) ALL STEELWORK TO BE HOT DIP GALVANIZED TO S.A.B.S. 763.
4) ALL HOLES TO BE 18 DIAMETER.
5) OPEN HOLES AND SITE BOLTS INDICATED THUS:
6) THE CONTRACTOR SHALL SUPPLY ALL NUTS, BOLTS, WASHERS, ETC, REQUIRED FOR ERECTION.
7) H.D. BOLTS SUPPLIED UNDER SEPARATE CONTRACT.
8) ALL PORTIONS OF WELDED JOINTS, NOT SEALED BY STRUCTURAL WELD, SHALL BE SEAL WELDED.
9) ALL MARKS TO BE STAMPED ONTO STEELWORK AND SHALL BE CLEARLY LEGIBLE AFTER GALVANIZING.
10) ALL MARKS TO BE PREFIXED : 4ET
11) LIMITATIONS OF GENERAL USAGE-
THESE STRUCTURES HAVE BEEN DESIGNED TO SAFELY WITHSTAND THE FOLLOWING LOADING CONDITIONS:
A) CONDUCTOR SUSPENSION LOAD OF 4,5KN PER PHASE.
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 LAINSBURG INCLUSIVE. WHERE THE STRUCTURES ARE TO BE LOCATED WITHIN THIS AREA, OR ANYWHERE WITHIN SOUTH AFRICA AT A TERRAIN CATEGORY 1 LOCATION (ie. IN A SEVERELY EXPOSED LOCATION), APPROVAL TO USE THESE STRUCTURES MUST BE OBTAINED FROM ESCOM'S CIVIL ENGINEERING DIVISION.

COLUMN TYPE	NC9
MASS OF STEELWORK (BOLTS EXCLUDED)	2501 kg
MASS OF GRADE 4.6 BOLTS	50 kg

THIS DRAWING HAS BEEN CREATED ON A C.A.D. SYSTEM. ANY AMENDMENT MUST BE EFFECTED ON THE SAME SYSTEM. C.A.D. REFERENCE No [103 ,164] 03538A000 .R01 ;1

REV	AUTH MAG	DATE DATUM	REVISION/REVISIES	BY DEUR	CHKD NAGES
2	R v.d E	08 11 93	MEMBER MK.1 CHANGED	DBN	
1	D.D.	02 04 92	AS BUILD REVISION.	A.D.	D.D.
0			FIRST ISSUE / EERSTE UITREIKING		

INDEX REF/INDEKSVERW S2 & S9

REFERENCE DRAWINGS VERWYSINGSTEKENINGE	
3541	EARTHWIRE PEAK
3542	ANTI-CLIMBING DEVICE
0·54	

ESCOM ● EVKOM
SOUTH AFRICA / SUID AFRIKA

400 kV YARD STEELWORK
ASSEMBLY AND DETAILS OF STRINGER SUSPENSION COLUMN TYPE NC9

W MEINTJIES 30 10 85
J SCOTT 29 10 85
CHKD NAGES 16 10 85
DRAWN GETEKEN A.D. 11 09 85
APPROVED
GOEDGEKEUR
SCALE SKAAL AS SHOWN

0·54/3538
REV 2
SIZE GROOTTE A0L

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