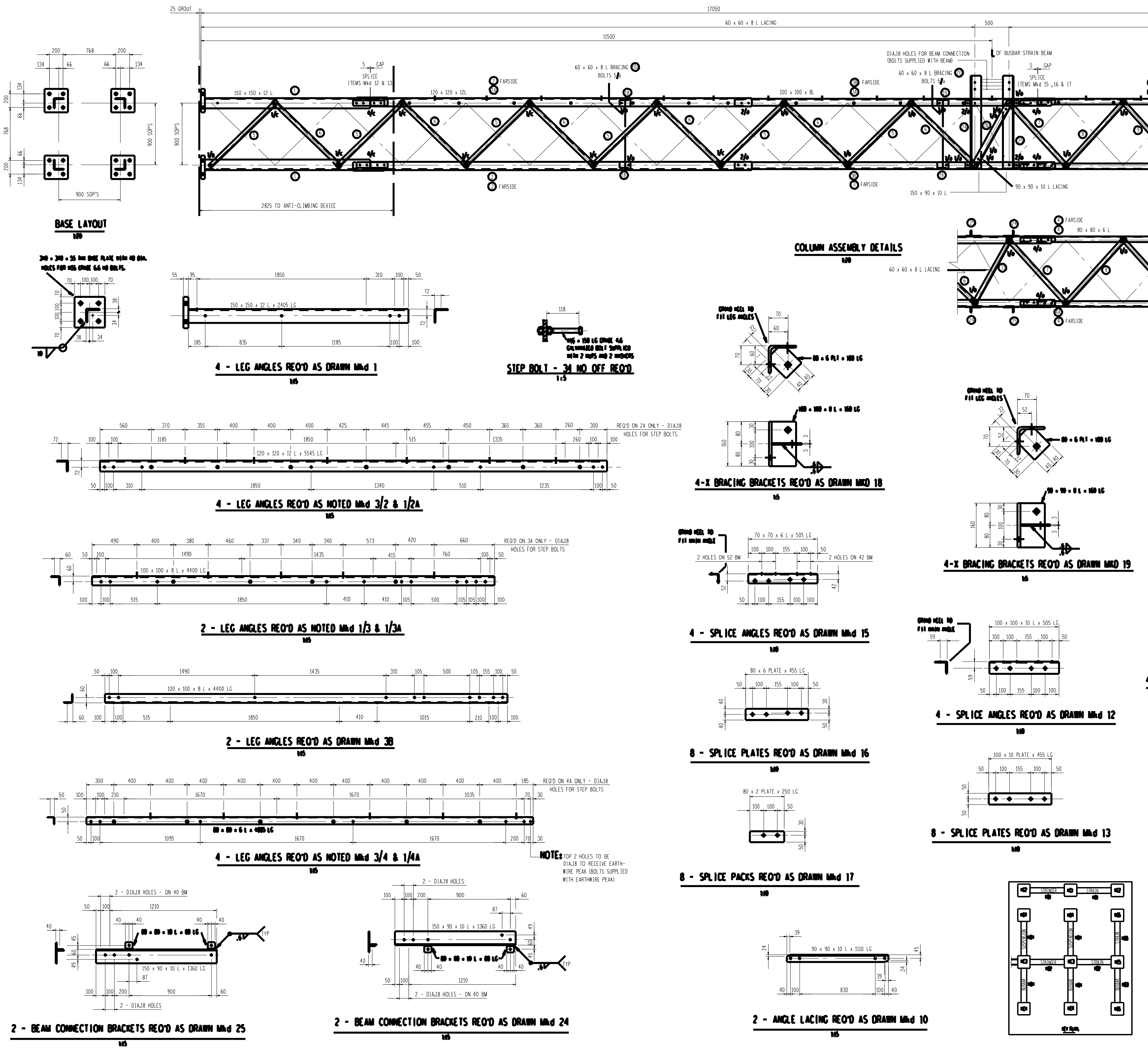

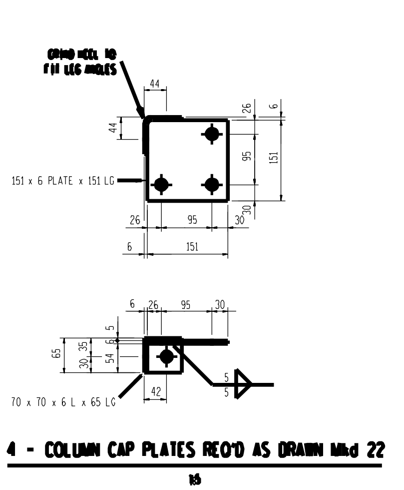

LACING / BRACING SCHEDULE

MARK	NO OFF	TYPE	A	B	C	D	E	F
5	24	60 x 60 x 8	1310	1290	40	30	...	...
6	24	60 x 60 x 8	1310	1290	40	30	8	7
7	4	60 x 60 x 5	1308	1278	40	30	14	13
8	12	60 x 60 x 5	1322	1242	40	30	...	...
9	8	60 x 60 x 5	1322	1242	40	30	23	24
11	2	60 x 60 x 8	1110	1030	40	30	...	...
14	4	70 x 70 x 6	854	754	50	40	...	...
...	...	X-BRACING	A	B	C	D	G	
20	2	60 x 60 x 8	1302	1222	40	30	611	
20A	2	60 x 60 x 8	1326	1246	40	30	623	
21	2	60 x 60 x 8	1146	1066	40	30	533	

BOLT SCHEDULE

*** STRENGTH GRADE 8.8 ***

MARK	TYPE	NO OFF	LENGTH
a	M20	141	45
b	M20	14	50
c	M20	64	55
d	M20	4	60
...	...	...	...

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) TIGHTENING TORQUE = 340 Nm

MASS OF STEELWORK (BOLTS EXCLUDED)	2252 kg
MASS OF GRADE 4.6 BOLTS (STEP BOLTS)	19. kg
NO.OFF GRADE 8.8 BOLTS	223.

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 22 DIAMETER U.O.N.
5) OPEN HOLES AND SITE BOLTS INDICATED THUS:
STEP 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: NA.....
11) LIMITATIONS OF GENERAL USAGE:
THESE STRUCTURES HAVE BEEN DESIGNED TO SAFELY WITHSTAND THE FOLLOWING LOADING CONDITIONS:
A) MAX. CONDUCTOR LOAD OF 28 kN PER PHASE AT -10 DEG. 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 LAINGSBURG 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 ESKOM'S CIVIL ENGINEERING DIVISION.
C) SHORT-CIRCUIT LOADS DUE TO PHASE-TO-PHASE AND PHASE-TO-EARTH FAULTS.

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 [03, 164] 0390 6000 - 001 s1.

REV	AUTH MAG	DATE DATUM	REVISION/REVISIES	BY DEUR	CHKD NAGES
1	D.D.		AS BUILD REVISION.	A.D.	D.D.
0			FIRST ISSUE / EERSTE UITREIKING		

INDEX REF/INDEKSVERW

REFERENCE DRAWINGS / VERWYSINGSTEKENINGE

ESKOM

275 kV YARD STEELWORK
ASSEMBLY AND DETAILS OF BUSBAR STRAIN COLUMN TYPE NC6

DRAWN / GETEKEN — CHKD / NAGES — APPROVED — GOEDGEKEUR

SCALE / SKAAL: AS SHOWN

0·54/3906 REV 1

SIZE / GROOTTE A0L

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