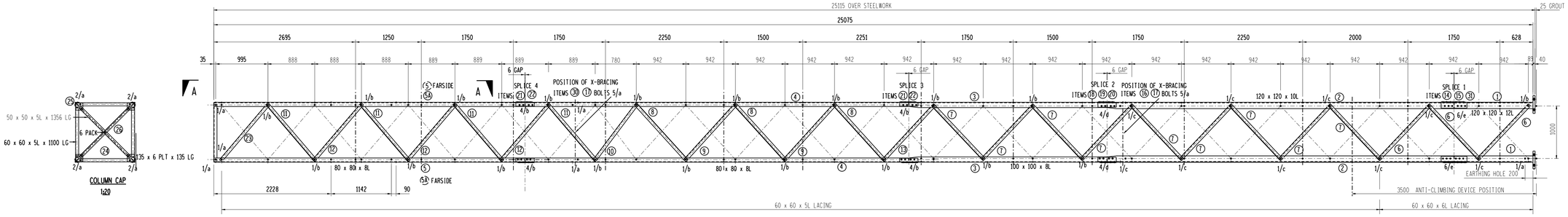
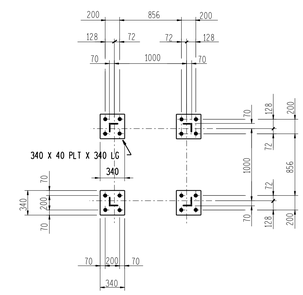
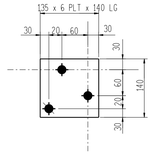


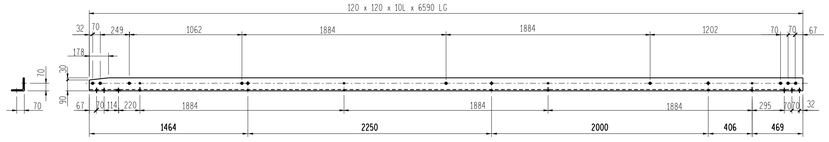
COLUMN ASSEMBLY DETAIL
1:30



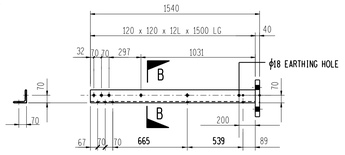
BASE LAYOUT
1:30



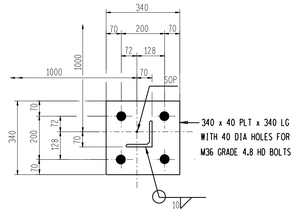
4-GUSSET PLATES REQ'D AS DRAWN MKD 25
1:5



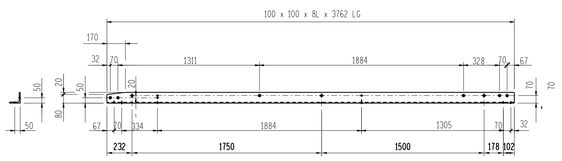
4-LEG ANGLES REQ'D AS DRAWN MKD 2
1:20



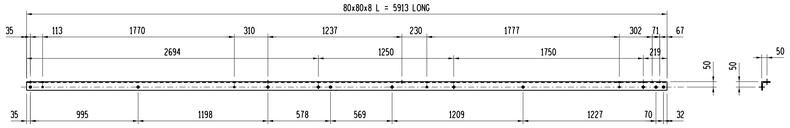
4-LEG ANGLES REQ'D AS DRAWN MKD 1
1:20



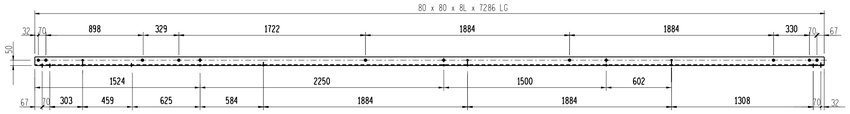
ENLARGED SECTION B-B
1:10



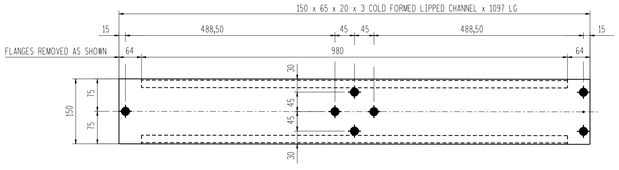
4-LEG ANGLES REQ'D AS DRAWN MKD 3
1:20



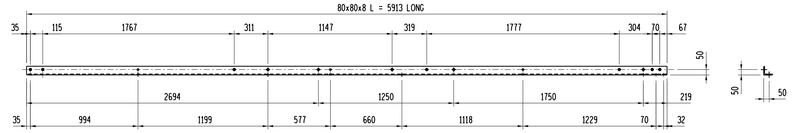
2-LEG ANGLES REQ'D AS DRAWN MKD 5A
1:20



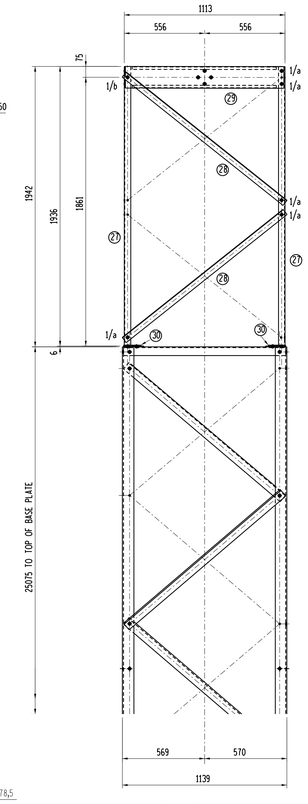
4-LEG ANGLES REQ'D AS DRAWN MKD 4
1:20



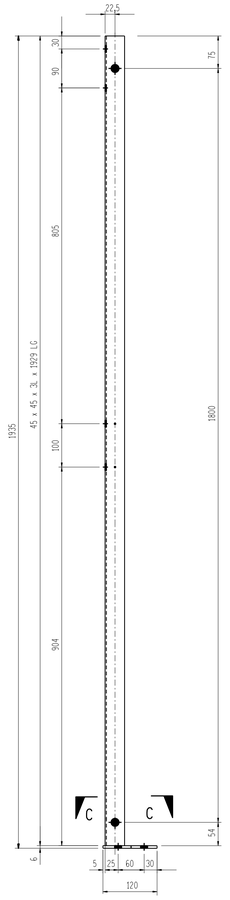
4-EARTHWIRE CONNECTION CHANNELS REQ'D AS DRAWN MKD 29
1:5



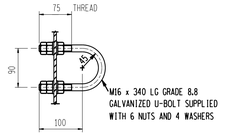
2-LEG ANGLES REQ'D AS DRAWN MKD 5
1:20



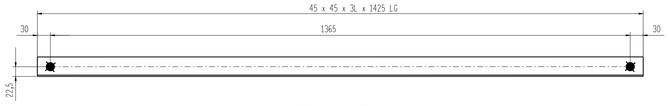
ELEVATION A-A
EARTHWIRE PEAK ASSEMBLY DETAIL
1:15



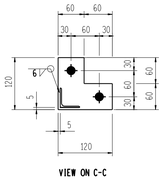
4-LEG ANGLES REQ'D AS DRAWN MKD 27
1:20



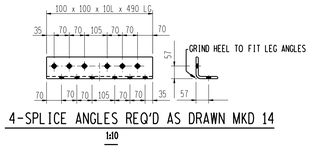
M16 SHACKLE BOLT - 4 NO OFF REQ'D
1:5



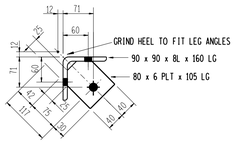
8-LACINGS REQ'D AS DRAWN MKD 28
1:5

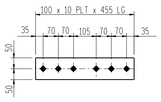


4-LEG ANGLES REQ'D AS DRAWN MKD 30
1:5

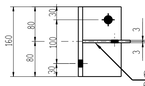


4-SPLICE ANGLES REQ'D AS DRAWN MKD 14
1:10

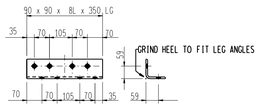




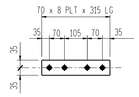
8-SPLICE PLATES REQ'D AS DRAWN MKD 15
1:10



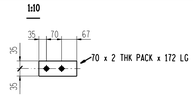
4 -X-BRACING BRACKETS REQ'D AS DRAWN MKD 16
1:5



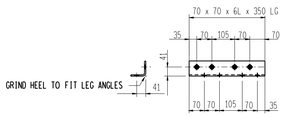
4-SPLICE ANGLES REQ'D AS DRAWN MKD 18
1:10



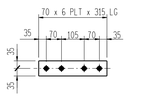
8-SPLICE PLATES REQ'D AS DRAWN MKD 19
1:10



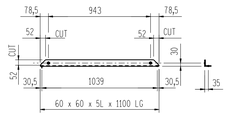
8- PACKS REQ'D AS DRAWN MKD 20
1:10



8-SPLICE ANGLES REQ'D AS DRAWN MKD 21
1:10



16-SPLICE PLATES REQ'D AS DRAWN MKD 22
1:10



4-COLUMN CAP ANGLES REQ'D AS DRAWN MKD 24
1:20

BOLT SCHEDULE

*** STRENGTH GRADE 8.8 ***

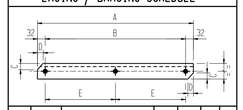
MARK	TYPE	NO OFF	LENGTH
a	M16	65	35
b	M16	202	40
c	M16	64	45
d	M16	40	50
e	M16	48	55

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.

MASS OF STEELWORK
(BOLTS EXCLUDED) — 2501 kg

MASS OF GRADE 8.8 BOLTS	55 kg
MASS OF GRADE 8.8 U-BOLTS	4 kg
TOTAL	2560 kg

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	12	60 x 60 x 5	1467	1403	0	0
9	8	60 x 60 x 5	1467	1403	18	18
10	4	60 x 60 x 5	1364	1300	0	0
11	16	60 x 60 x 5	1432	1368	18	18
12	12	60 x 60 x 5	1430	1362	0	0
13	4	60 x 60 x 5	1452	1388	18	18
23	4	60 x 60 x 5	1426	1362	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	

NOTES

UNLESS OTHERWISE NOTED :
1) QUANTITIES SHOWN ARE FOR ONE COLUMN ONLY.
2) ALL STRUCTURAL STEEL TO BE GRADE 350W.
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.

REV	REVISION DESCRIPTION	BY	CHKD	AUTH	DATE	REFERENCE DRAWINGS

APPROVED BY: DJC. SENEKAL
DATE: 15/05/2012
CHECKED BY: DJC. S
DATE: 15/05/2012
DRAWN BY: PAUL DOYLE
DATE: 24/04/2012
SCALE: as shown

Eskom Transmission

ESKOM HOLDINGS LIMITED
REG NO. 2002/015527/06

400 kV YARD STEELWORK
FLOODLIGHT / EARTHWIRE COLUMN
STEEL ARRANGEMENT AND DETAILS

©

0.54/6106

SHEET NUMBER 3 | REVISION 0

SIZE GROOTTE A0L