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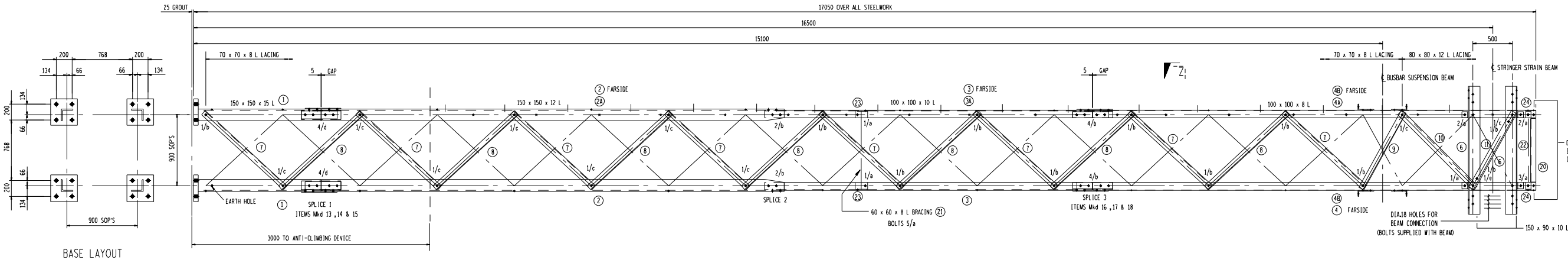


BASE LAYOUT

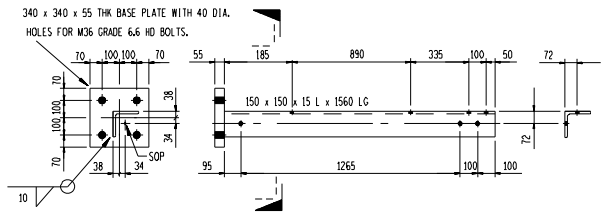
1:20

PLAN ON COLUMN CAP

1:20

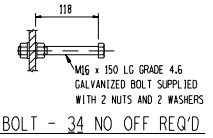
COLUMN ASSEMBLY DETAILS

1:20



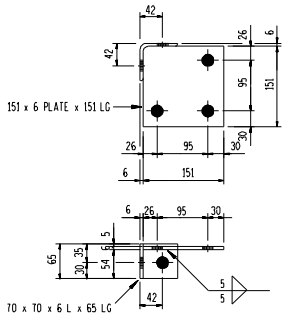
4 - LEG ANGLES REQ'D AS DRAWN Mkd 1

1:15



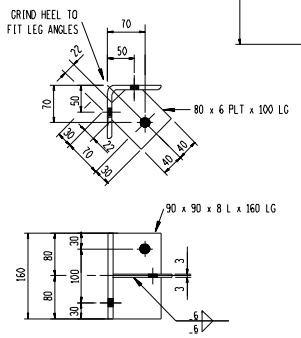
STEP BOLT - 34 NO OFF REQ'D

1:5



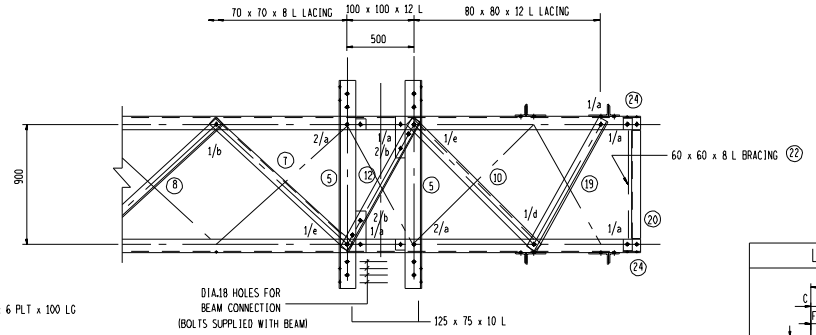
4 - COLUMN CAP PLATES REQ'D AS DRAWN Mkd 24

1:5



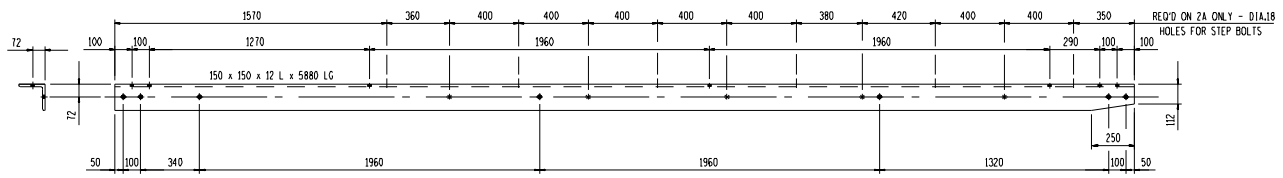
4-X BRACING BRACKETS REQ'D AS DRAWN MKD 23

1:5



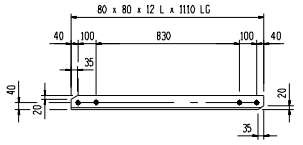
VIEW Z - Z

1:20



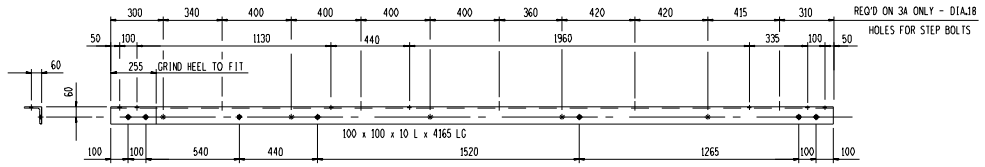
4 - LEG ANGLES REQ'D AS NOTED Mkd 3/2 & 1/2A

1:15



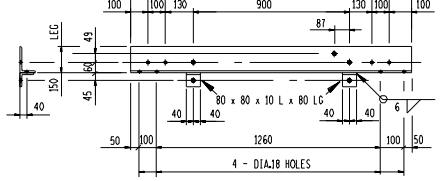
2 - LACING REQ'D AS DRAWN Mkd 11

1:15



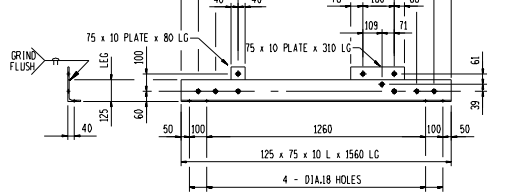
4 - LEG ANGLES REQ'D AS NOTED Mkd 3/3 & 1/3A

1:15



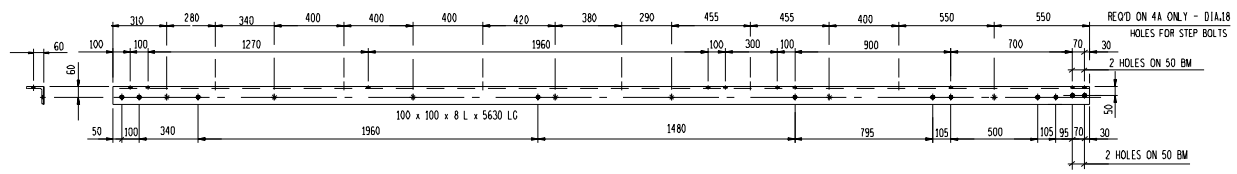
4 - BEAM CONNECTION BRACKETS REQ'D AS DRAWN Mkd 6

1:15



4 - BEAM CONNECTION BRACKETS REQ'D AS DRAWN Mkd 5

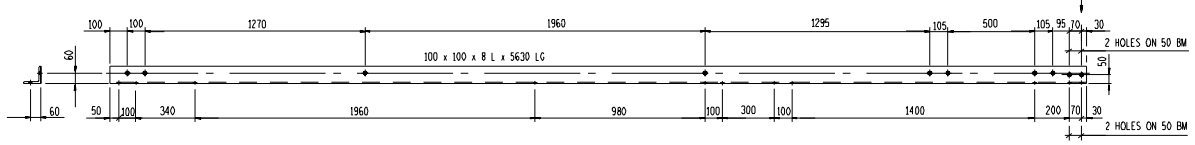
1:15



2 - LEG ANGLES REQ'D AS NOTED Mkd 1/4 & 1/4A

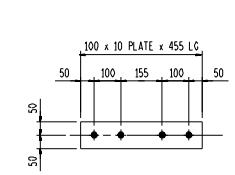
1:15

NOTE: TOP 2 HOLES TO BE DIA.18 TO RECEIVE EARTHWIRE PEAK (BOLTS SUPPLIED WITH PEAK)



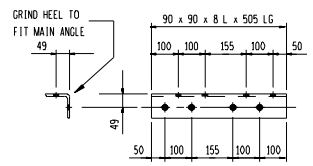
2 - LEG ANGLES REQ'D AS DRAWN Mkd 4B

1:15



4 - SPLICE ANGLES REQ'D AS DRAWN Mkd 13

1:10

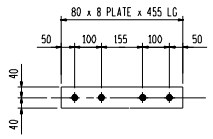


4 - SPLICE ANGLES REQ'D AS DRAWN Mkd 16

1:10

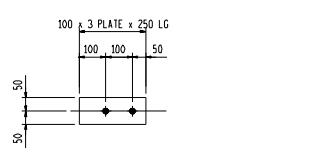
8 - SPLICE PLATES REQ'D AS DRAWN Mkd 14

1:10



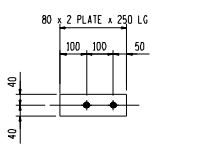
8 - SPLICE PLATES REQ'D AS DRAWN Mkd 17

1:10



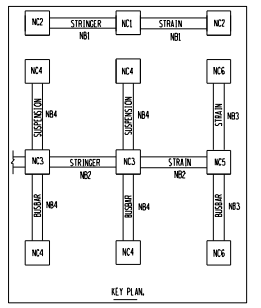
8 - SPLICE PACKS REQ'D AS DRAWN Mkd 15

1:10



8 - SPLICE PACKS REQ'D AS DRAWN Mkd 18

1:10



LACING / BRACING SCHEDULE

MARK	NO OFF	TYPE	A	B	C	D	E	F
7.	32.	70 x 70 x 8	1410	1330	40	35	8	9
8.	28.	70 x 70 x 8	1410	1330	40	35	---	---
9.	2.	70 x 70 x 8	1110	1030	40	35	---	---
10.	4.	80 x 80 x 12	1353	1273	40	40	8	9
19.	2.	80 x 80 x 12	1110	1030	40	40	---	---
20.	4.	70 x 70 x 6	810	750	30	40	---	---
---	---	---	---	---	---	---	---	---
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---	---	---	---	---	---	---	---	---
---	---	---	---	---	---	---	---	---
---	---	X-BRACING	A	B	C	D	G	
21.	2.	60 x 60 x 8	1296	1216	40	30	608	
22.	2.	60 x 60 x 8	1140	1060	40	30	530	

MASS OF STEELWORK (BOLTS EXCLUDED)	2890 kg
MASS OF GRADE 4.6 BOLTS (STEP BOLTS)	10 kg
NO. OFF GRADE 8.8 BOLTS	226

BOLT SCHEDULE

*** STRENGTH GRADE 8.8 ***			
MARK	TYPE	NO OFF	LENGTH
.a.	M20	60.	45.
.b.	M20	94.	50.
.c.	M20	32.	55.
.d.	M20	34.	60.
.e.	M20	6.	70.

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

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 : ZDK_____
11) 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 (q_z) 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 ESKOM'S CIVIL ENGINEERING DIVISION.
C) SHORT-CIRCUIT LOADS DUE TO PHASE-TO-PHASE AND PHASE-TO-EARTH FAULTS.

3907	BEAM NB1
3902	COL. NC2
3901	EARTHWIRE PEAK
3911	ANTI-CLIMBING DEVICE

REV	AUTH MAG	DATE DATUM	REVISION/REVISIES	BY DEAR	CHKD NAGES	REFERENCE DRAWINGS VERWYSINGSTEKENINGE
1	D.D.	IR 94 09	AS BUILD REVISION.	A.D.	D.D.	3901
0			FIRST ISSUE / EERSTE UITREIKING			3911
			INDEX KEY/INDEKSVERW	DEAR	0-54	3902 3903

DRG.TEK REGISTR

CHD NAGES D.D.

DRAWN GETEKEN R.L.POPE

SCALE SKAAL AS SHOWN

APPROVED GOEDGEKEUR N. BARNARD. 96 03 05

ESKOM

275 kV YARD STEELWORK
ASSEMBLY AND DETAILS OF STRINGER STRAIN/BUSBAR SUSPENSION COLUMN TYPE NC3

GOEDGEKEUR

0-54/3903 REV 1

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 [003_164] 039036000 - 801 r1.

SIZE GROOTTE A0