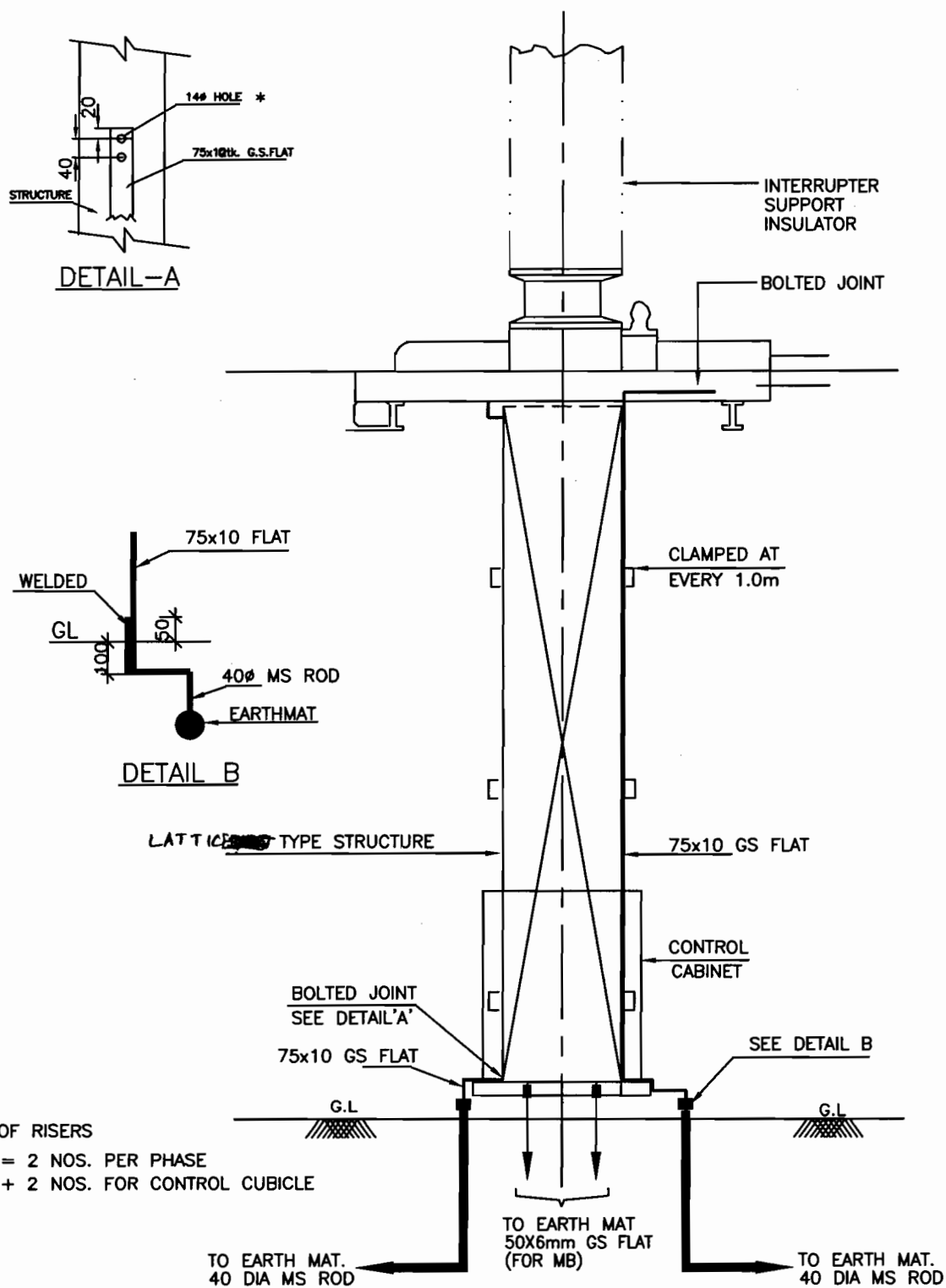


EQUIPMENT EARTHING DETAILS.



NOTE:

1) * BOLT SIZE AND HOLE SIZE SHALL BE TO SUIT RESPECTIVE EQPT./STRUCTURE.



EQUIPMENT EARTHING DETAILS 400kV SF6 CIRCUIT BREAKER

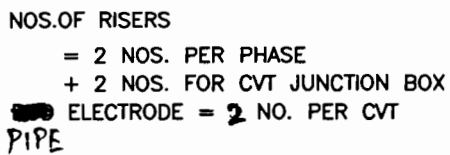
COMPUTER REF. NO.

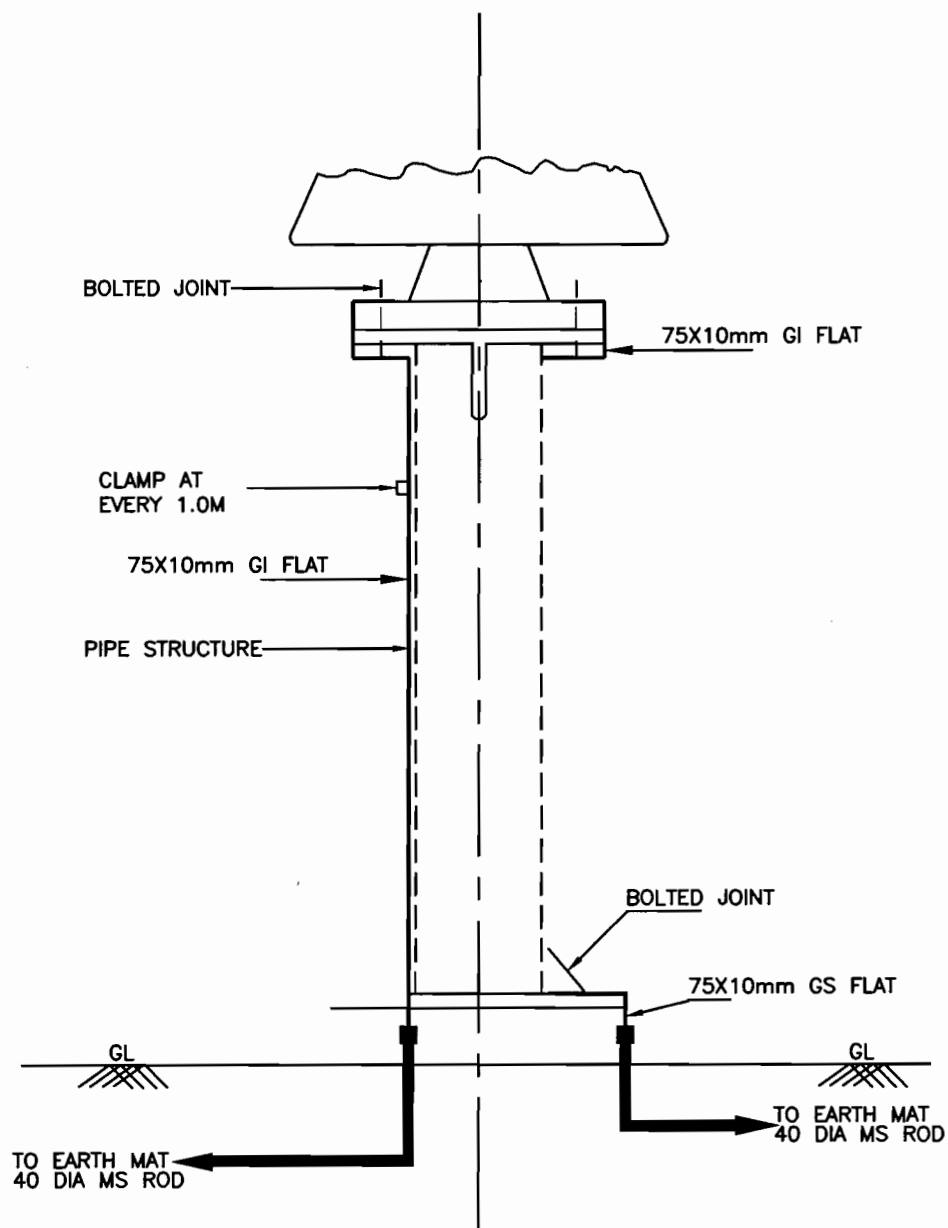
DRG. No.

TB-4-332-509-004

REV. 00

SHEET No.
2





NOS.OF RISERS = 2 NOS.

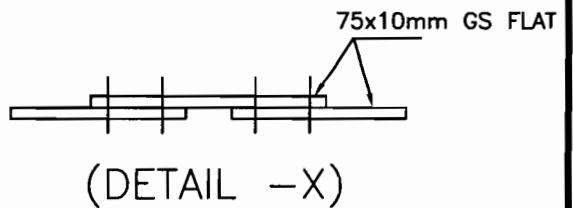
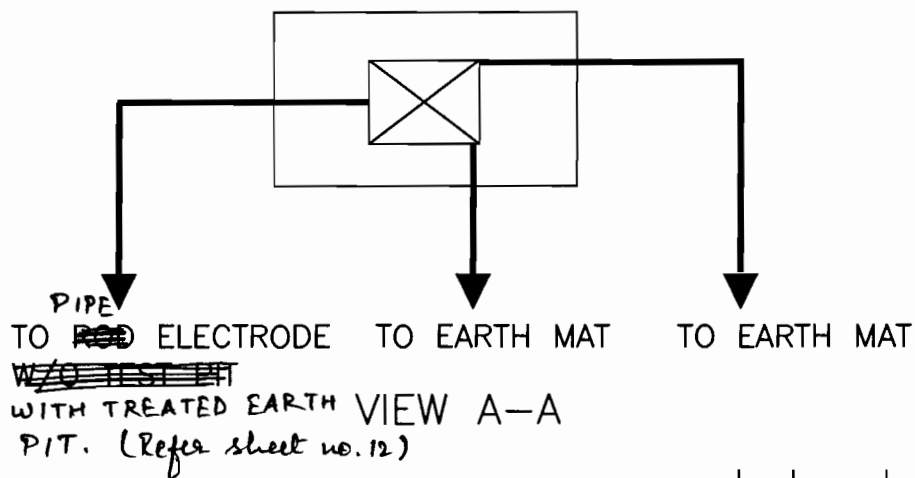
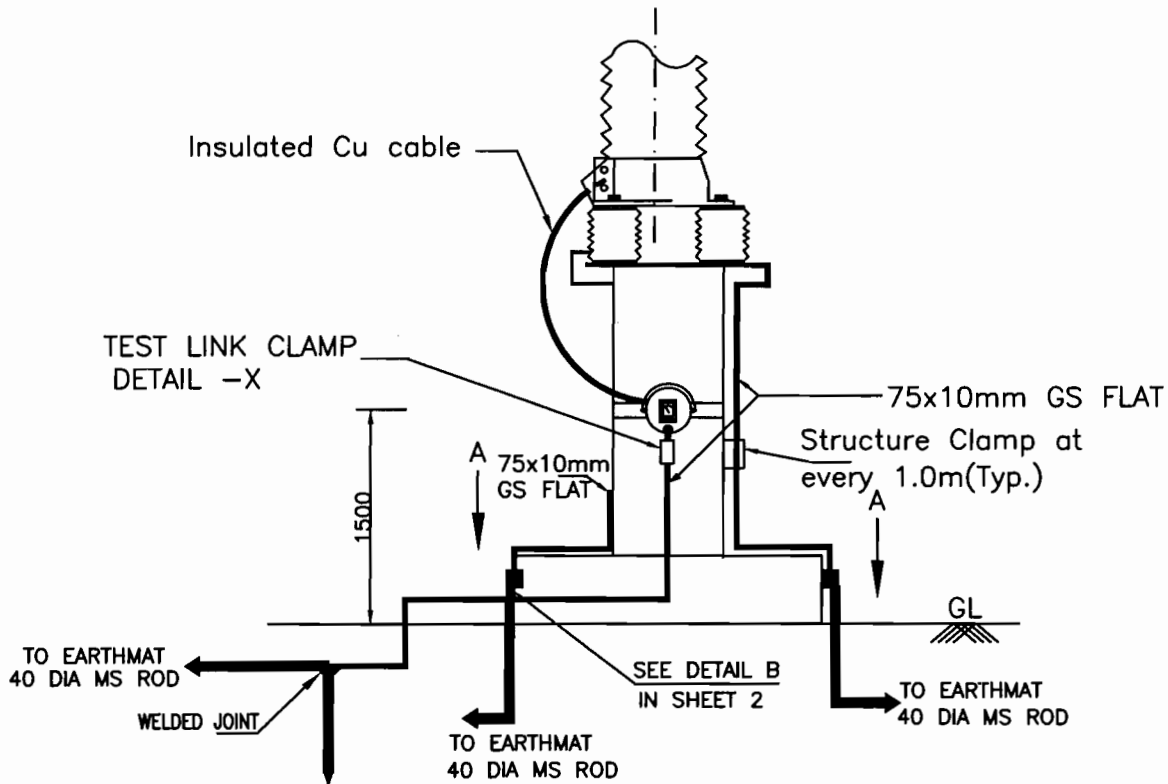


EQUIPMENT EARTHING DETAILS 400kV POST INSULATOR (SOLID CORE TYPE)

DRG. No. TB-4-332-509-004

REV. 00

SHEET No.
4



NOTES;

1. LA SHALL BE EARTHED THROUGH EARTH TERMINAL OF SURGE COUNTER
2. NO. OF ~~ROD~~ ^{PIPE} ELECTRODE : 2 NO. PER PHASE,
NO OF RISERS = 2 NOS. PER PHASE.
3. TEST LINK SHALL HAVE PROVISION TO BOLT TEST LEAD BEFORE ISOLATING THE MAIN EARTHING CONNECTIONS (AS PER SKETCH ABOVE) = 1NO.



EQUIPMENT EARTHING DETAILS
LIGHTNING ARRESTER(360kV)

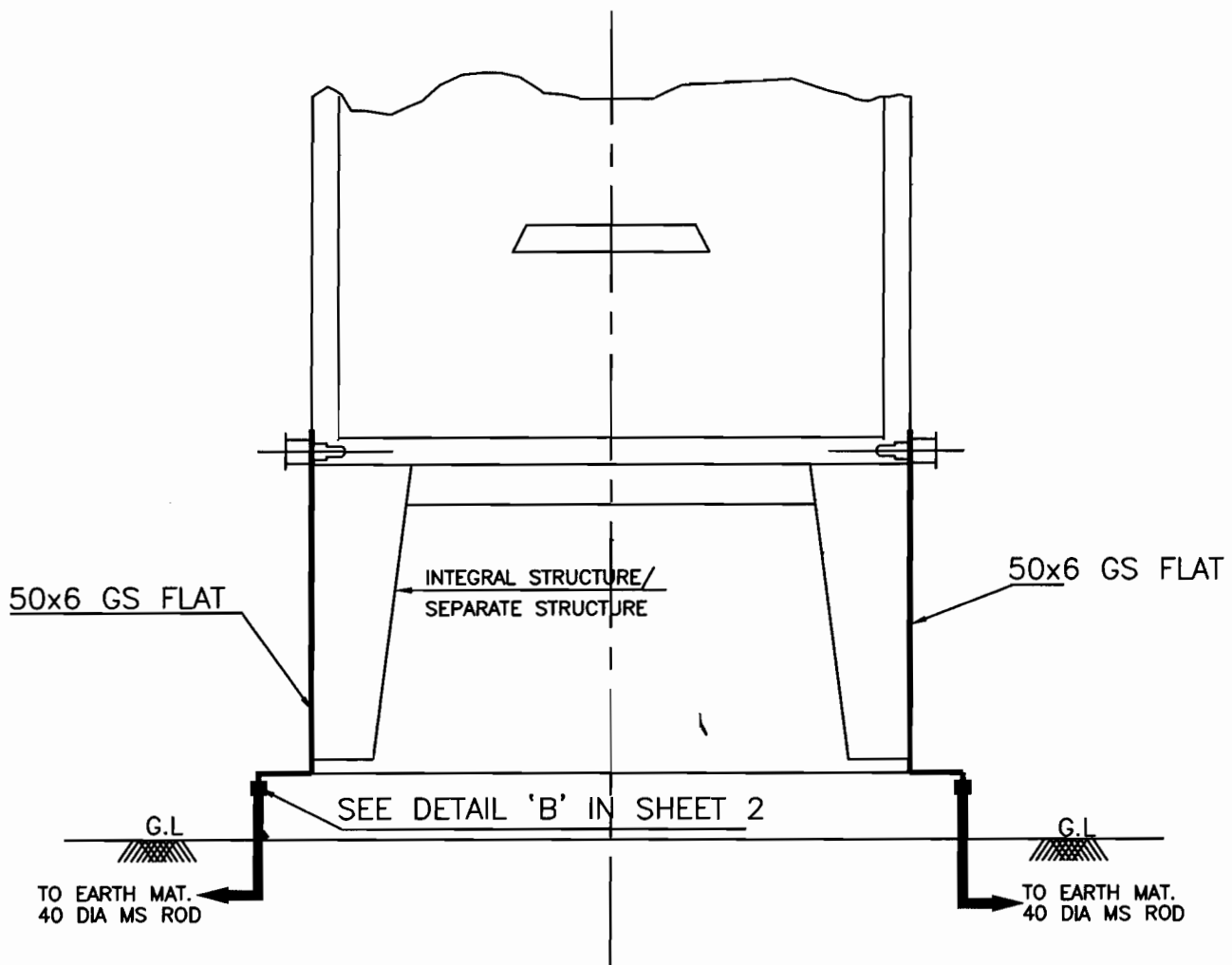
COMPU. DRG. REF.

DRG.NO.

TB-4-332-509-004

REV. 00

SHEET No.
5



NOS.OF RISERS = 2 NOS.



EQUIPMENT EARTHING DETAILS MARSHALLING KIOSK

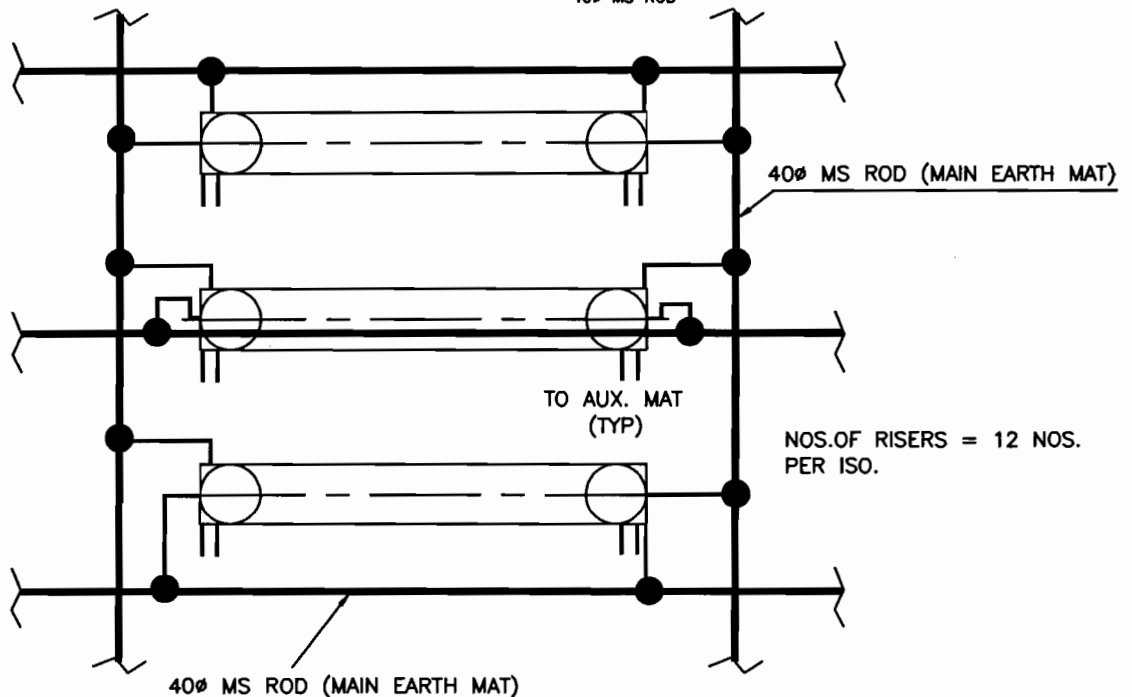
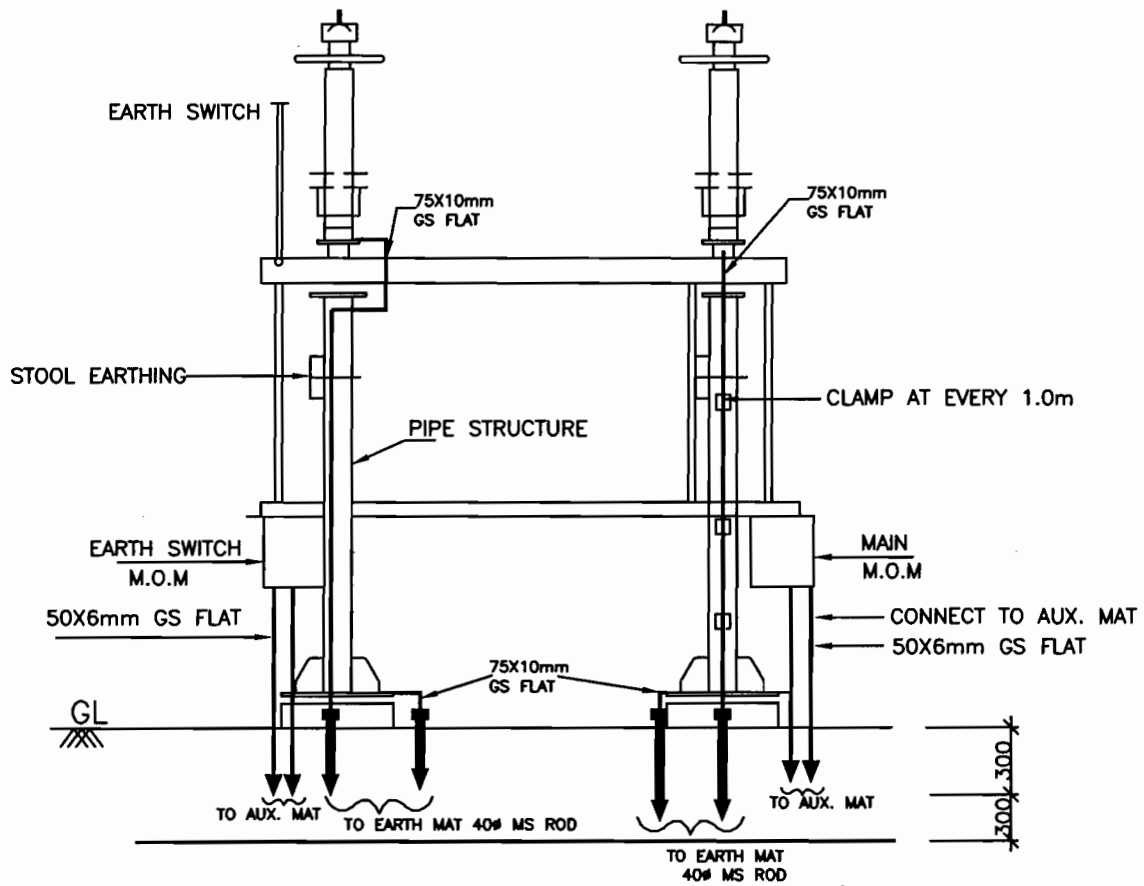
COMPUTER REF. NO.

DRG. No.

TB-4-332-509-004

REV. 00

SHEET No.
6



NOTES

1. AUXILIARY EARTH MAT SHALL BE PROVIDED BELOW EVERY MOM BOX (REFER SHEET **20**)

● RISER



EQUIPMENT EARTHING DETAILS

400KV HORIZONTAL CENTER BREAK ISOLATOR (TYPICAL) WITH ONE EARTHSWITCH

COMPUTERREF.NO.

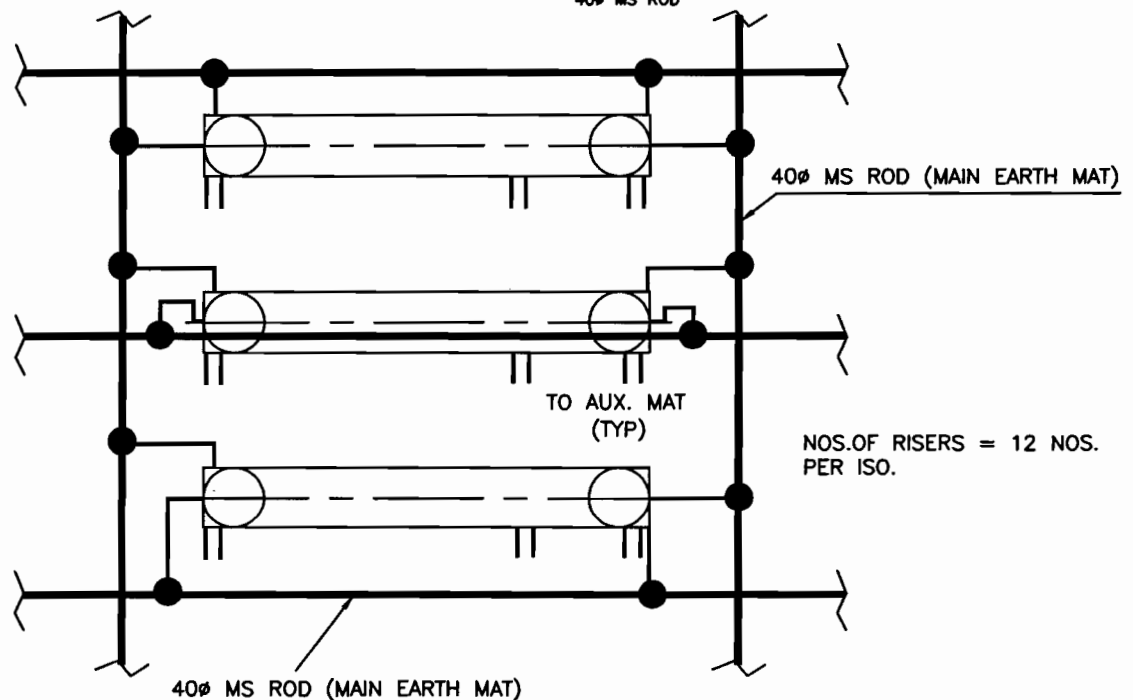
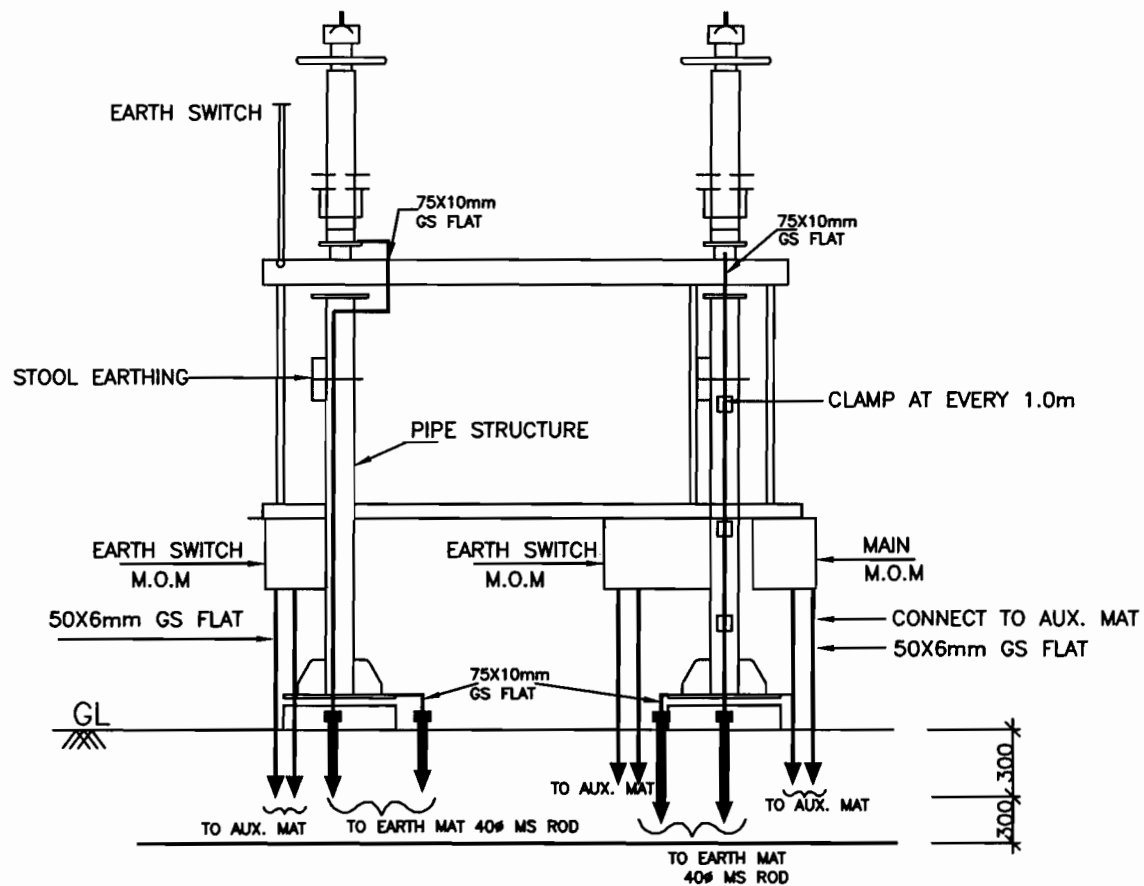
DRG. No.

TB-4-332-509-004

REV. 00

SHEET No.

7



NOTES

1. AUXILIARY EARTH MAT SHALL BE PROVIDED BELOW EVERY MOM BOX (REFER SHEET 20)

● RISER



EQUIPMENT EARTHING DETAILS

400KV HORIZONTAL CENTER BREAK ISOLATOR (TYPICAL) WITH TWO EARTH SWITCH

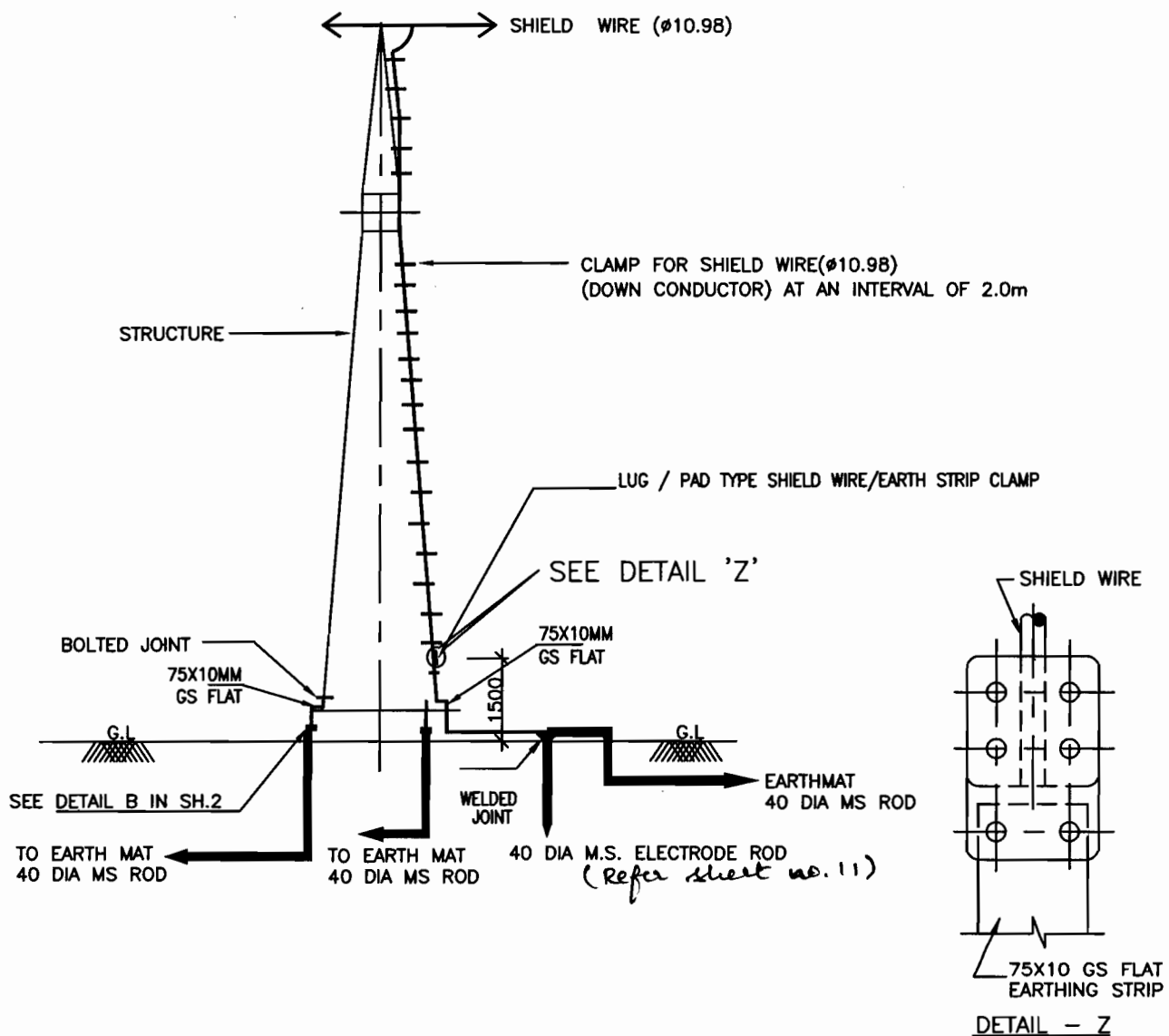
COMPUTER REF. NO.

DRG. No.

TB-4-332-509-004

REV. 00

SHEET No.
7A



NOTE:

1. NO. OF ROD ELECTRODE WITH TEST PIT : 1 NO. PER TOWER WITH DOWN CONDUCTOR.

NOS.OF RISERS = 2 NOS. PER TOWER



EQUIPMENT EARTHING DETAILS
SHIELD WIRE TOWER

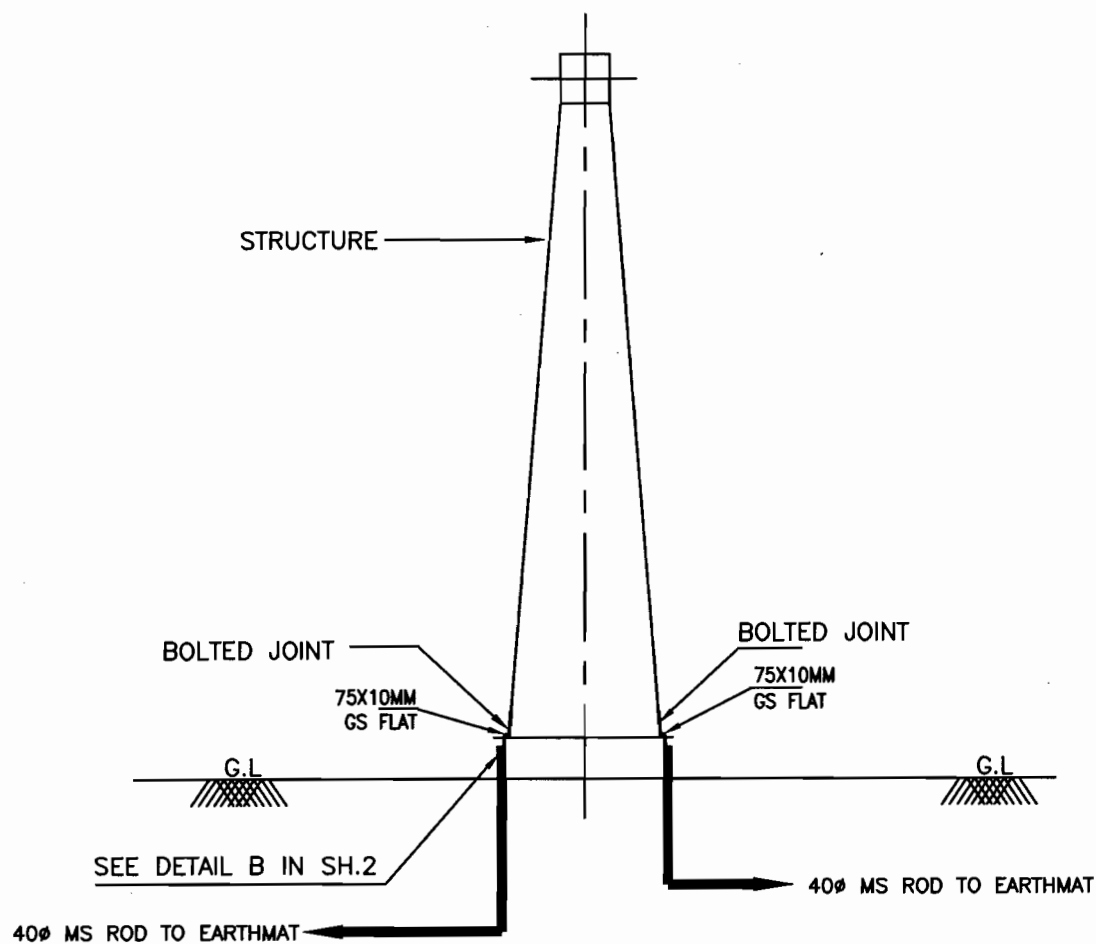
COMPUTER REF. NO.

DRG. No.

TB-4-332-509-004

REV. 00

SHEET No.
8



NOS.OF RISERS = 2 NOS. PER TOWER



EQUIPMENT EARTHING DETAILS TOWER WITHOUT PEAK

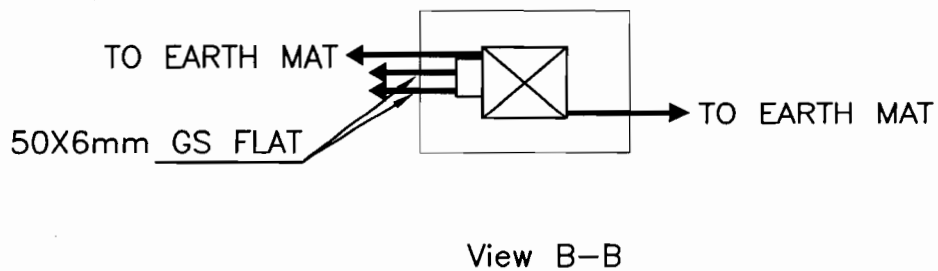
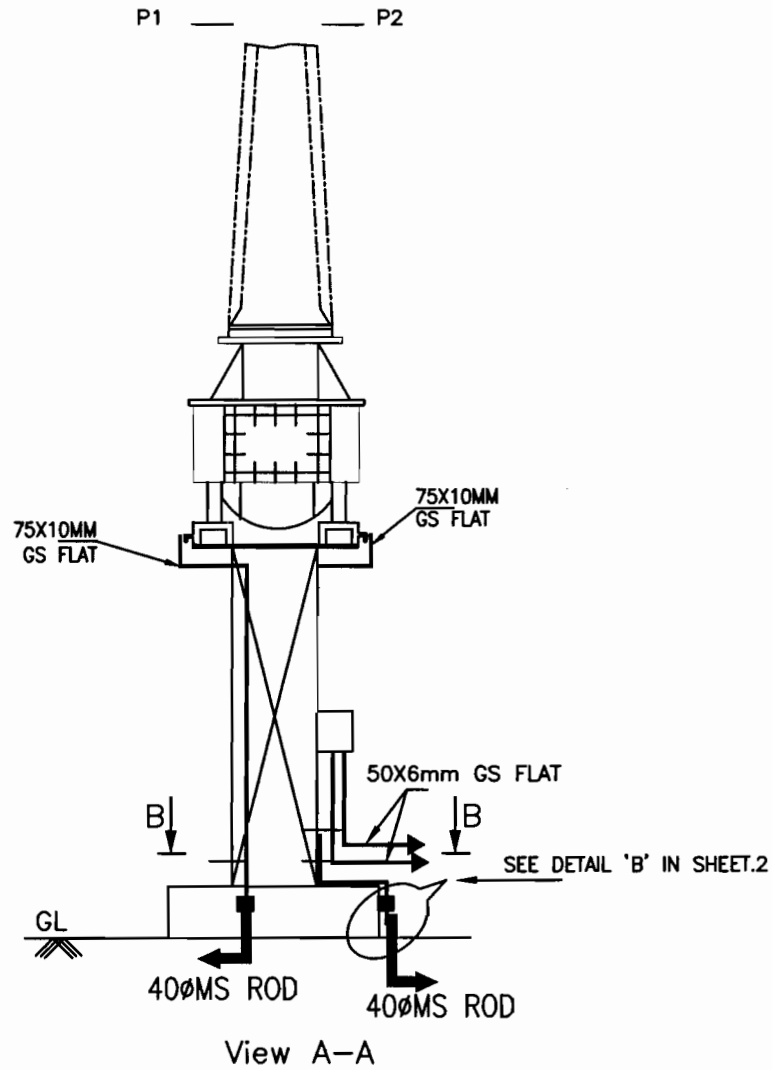
COMPUTERREF.NO.

DRG. No.

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SHEET No.
8A



NOS.OF RISERS
= 2 NOS. PER PHASE
+ 2 NOS. FOR CT JB



EQUIPMENT EARTHING DETAILS 400kV Current Transformer

COMPU. DRG. REF.

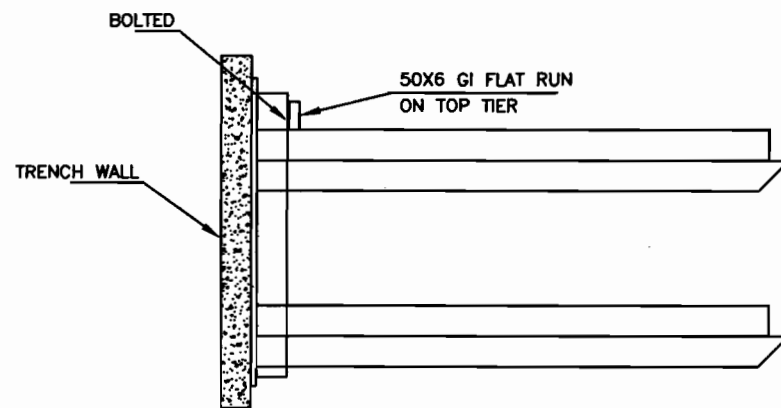
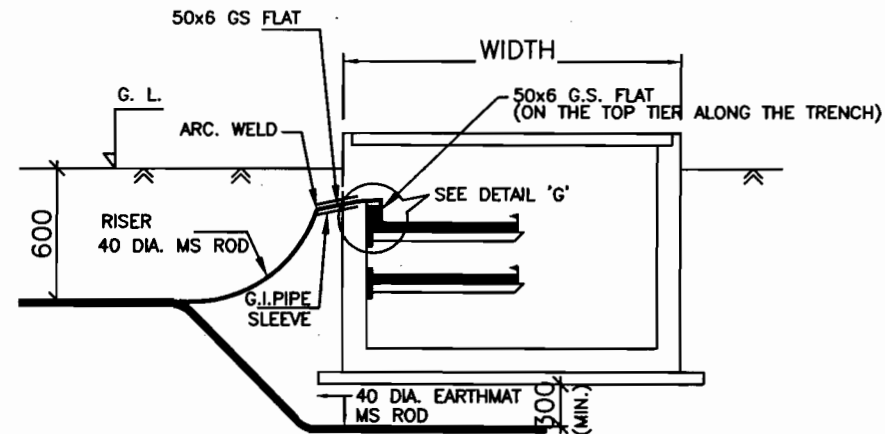
DRG.NO.

TB-4-332-509-004

REV. 00

SHEET No.

9



DETAIL 'G'

DETAIL FOR CONNECTING GI FLAT RUNNING
ON TOP TIER TRENCH TO EMBEDDED PLATE.

NOTE:

1. ALL TRENCHES SHALL BE EARTHED AT AN INTERVAL OF 30M ALONG THE LENGTH OF TRENCH & FREE ENDS.
2. THE EARTH STRIP (50x6 G.S. FLAT) SHALL BE BOLTED TO TOP RACK ALONG THE TRENCH RUN & CONTROL ROOM AT EVERY 2M INTERVAL.
3. WHERE THE CABLE RACKS ARE PROVIDED ON BOTH SIDES OF THE TRENCH, BOTH SIDES SHALL BE EARTHED AS PER ABOVE.



EQUIPMENT EARTHING DETAILS CABLE TRENCH

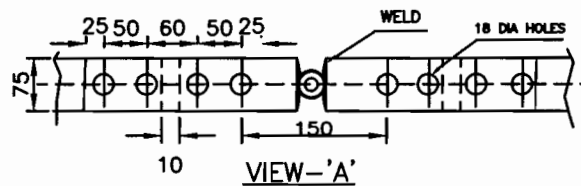
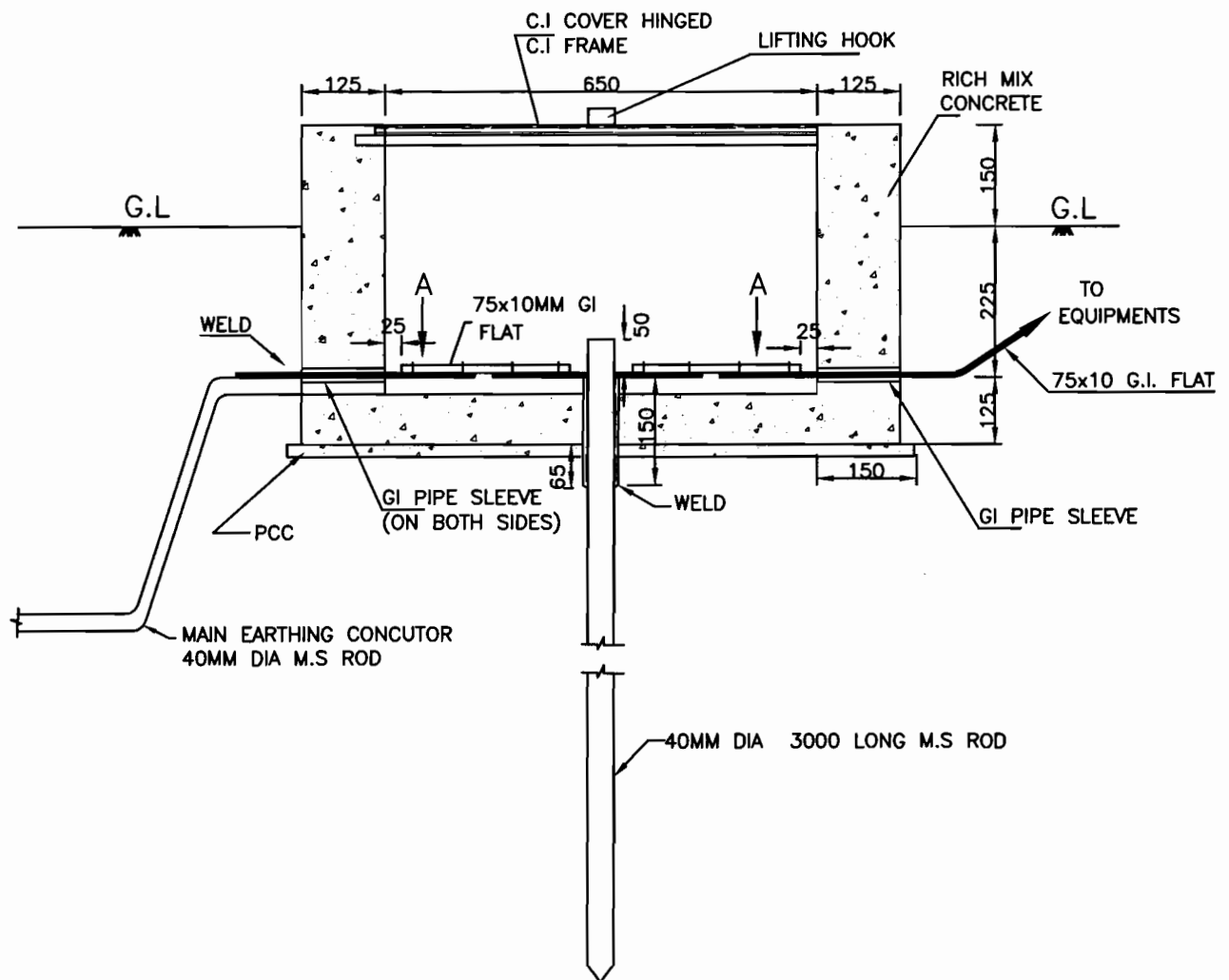
COMPU. DRG. REF.

DRG. NO.

TB-4-332-509-004

REV. 00

SHEET
10



NOTE:

1. SUPPLY OF FIXING BOLTS NUTS & WASHERS FOR GI FLAT EARTHING CONDUCTOR IS ALSO FORMS PART OF THE SCOPE.
- ~~2. TO BE USED FOR CONNECTING TRANSFORMER, REACTOR NEUTRAL~~
2. To be used for Towers with peak, lightning masts and corners of fence & gates.



EQUIPMENT EARTHING DETAILS
ROD EARTH ELECTRODE WITH TEST PIT

COMPU. DRG. REF.

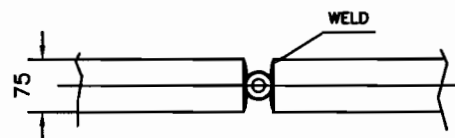
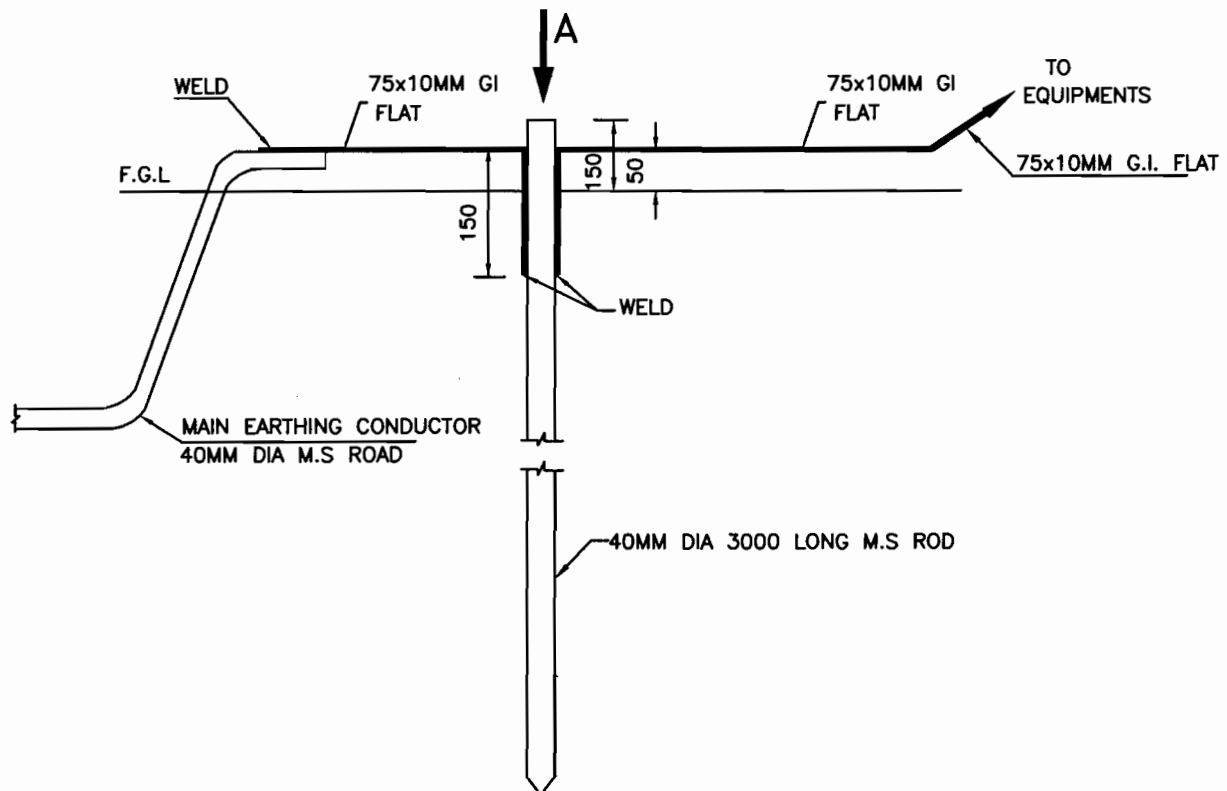
DRG. No.

TB-4-332-509-004

REV. 00

SHEET No.

11



VIEW-'A'

NOTES:-

1. SUPPLY OF FIXING BOLTS NUTS & WASHERS FOR GI FLAT EARTHING CONDUCTOR IS ALSO FORMS PART OF THE SCOPE.
2. ALL NUTS, BOLTS & WASHERS SHALL BE GALVANISED.



EQUIPMENT EARTHING DETAILS ROD EARTH ELECTRODE WITHOUT TEST PIT

COMPU. DRG. REF.

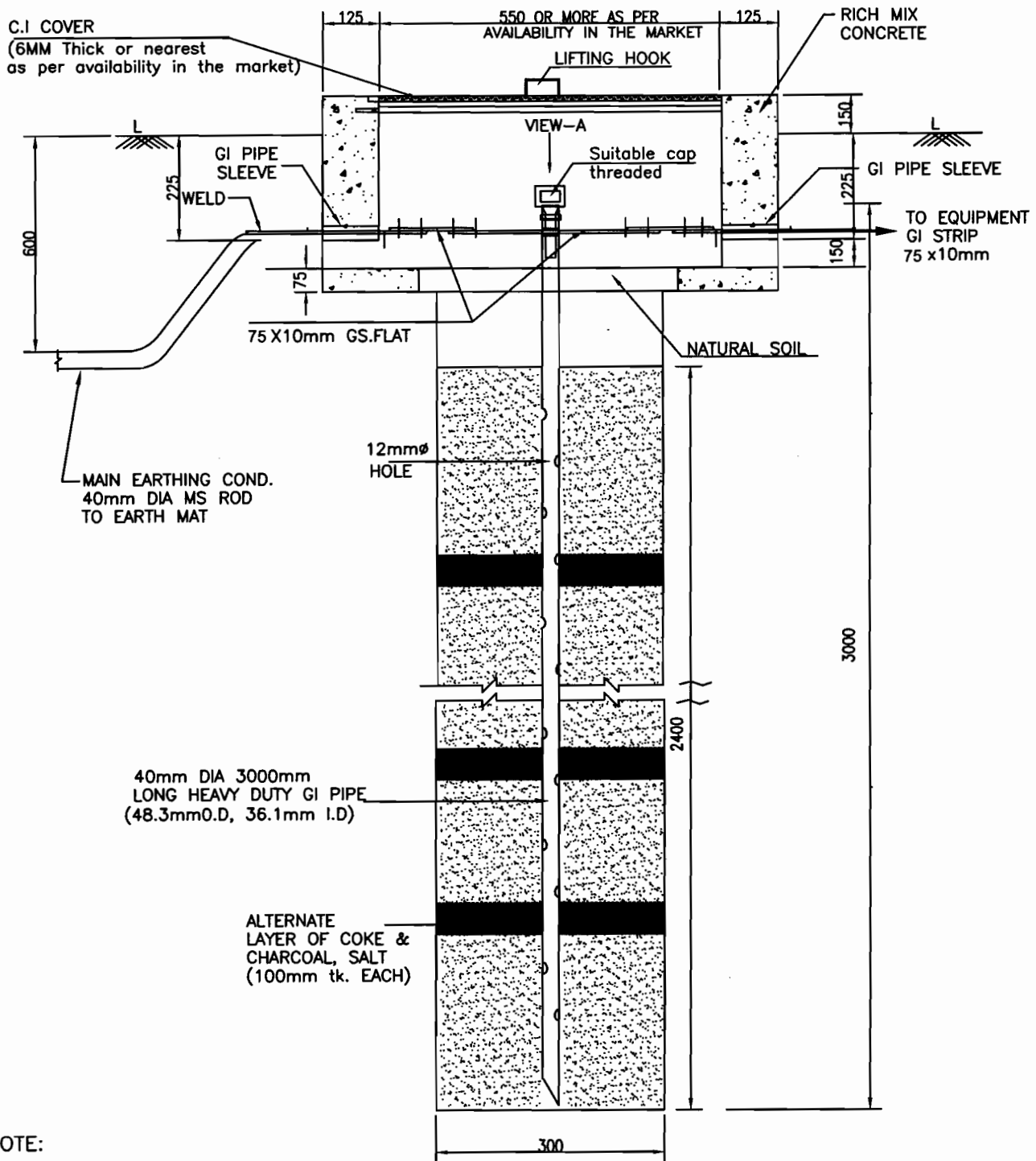
DRG. No.

TB-4-332-509-004

REV. 00

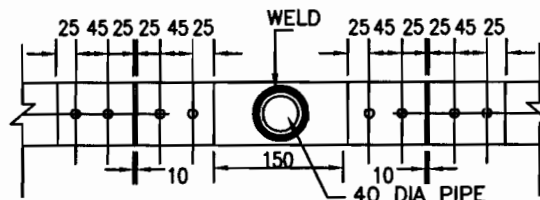
SHEET No.

11A



NOTE:

1. ALL NUTS, BOLTS AND WASHERS,
GI PIPE AND WIRE MESH SHALL BE
GALVANISED AS PER SPECIFICATION.
2. PIPE SLEEVE ENDS SHALL BE SEALED
AFTER COMPLETION OF WORKS.
3. FOR WELDING DETAIL
REFER SHEET 21 & 22
4. TO BE USED FOR CONNECTING TRANSFORMER
NEUTRAL, GRID INTERCONNECTIONS, CVT & LA.



VIEW-A



EQUIPMENT EARTHING DETAILS DETAILS OF PIPE ELECTRODE IN TREATED EARTH PIT

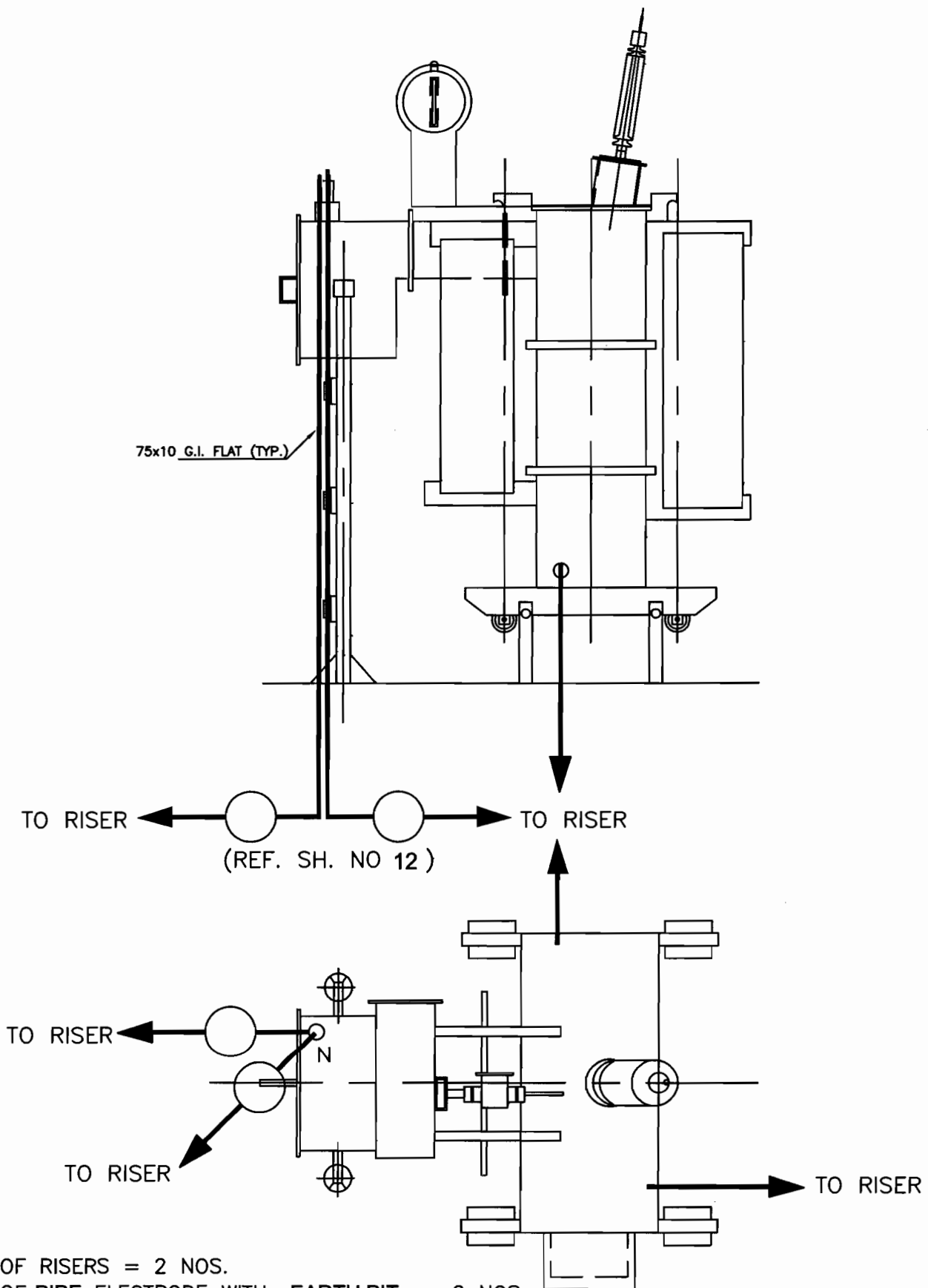
COMPUTER REF. NO.

DRG. No.

TB-4-332-509-004

REV. 00

SHEET No.
12



EQUIPMENT EARTHING DETAILS AUXILIARY TRANSFORMER

COMPU. DRG. REF.

D:\RAJAT\MURADNAGAR\EQ-ERTH\SH26

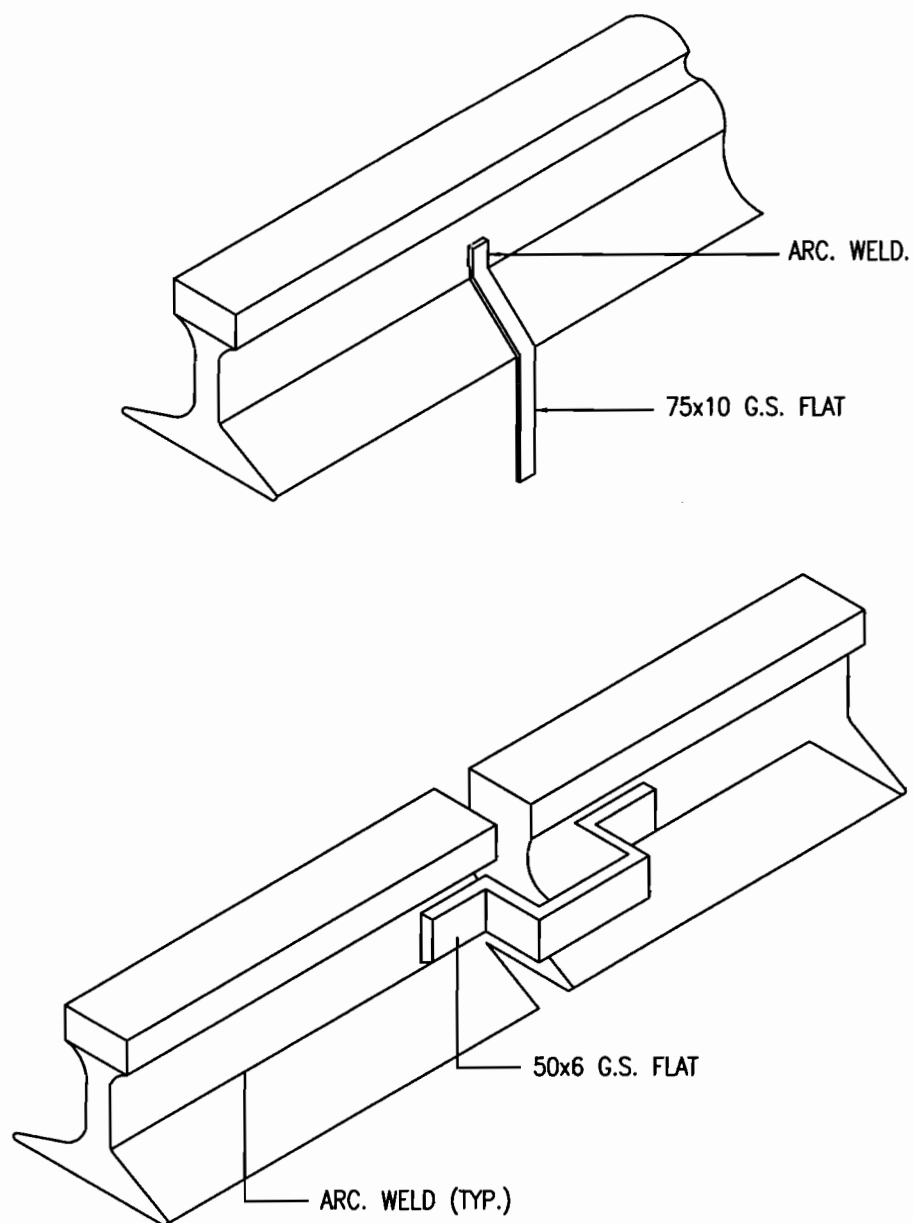
Report No.

TB-4-332-509-004

REV. 00

SHEET No.

13



NOTE:—

1. RAILWAY TRACKS WITHIN SWITCHYARD AREA SHALL BE EARTHED AT A SPACING OF 30 m AND ALSO AT BOTH ENDS.



EQUIPMENT EARTHING DETAILS

RAIL BONDING

COMPU. DRG. REF.

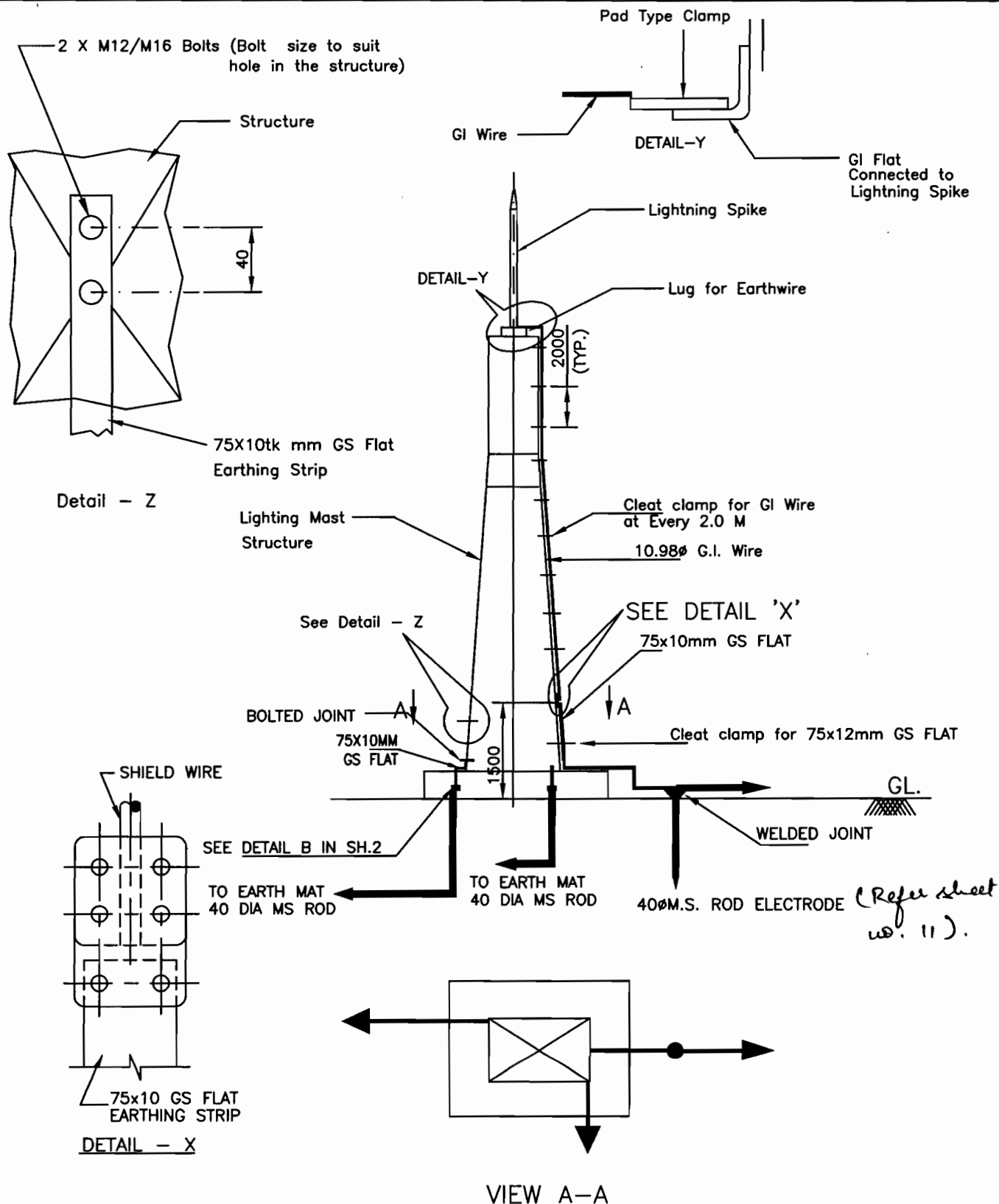
DRG. NO.

TB-4-332-509-004

REV. 00

SHEET No.

14



NOTE:

1. PAD TYPE CLAMP 1 NO.
2. NO. OF ROD ELECTRODE=1 NO. PER LIGHTNING MAST
(Refer sheet no. 11)



EQUIPMENT EARTHING DETAILS

Lightning Mast

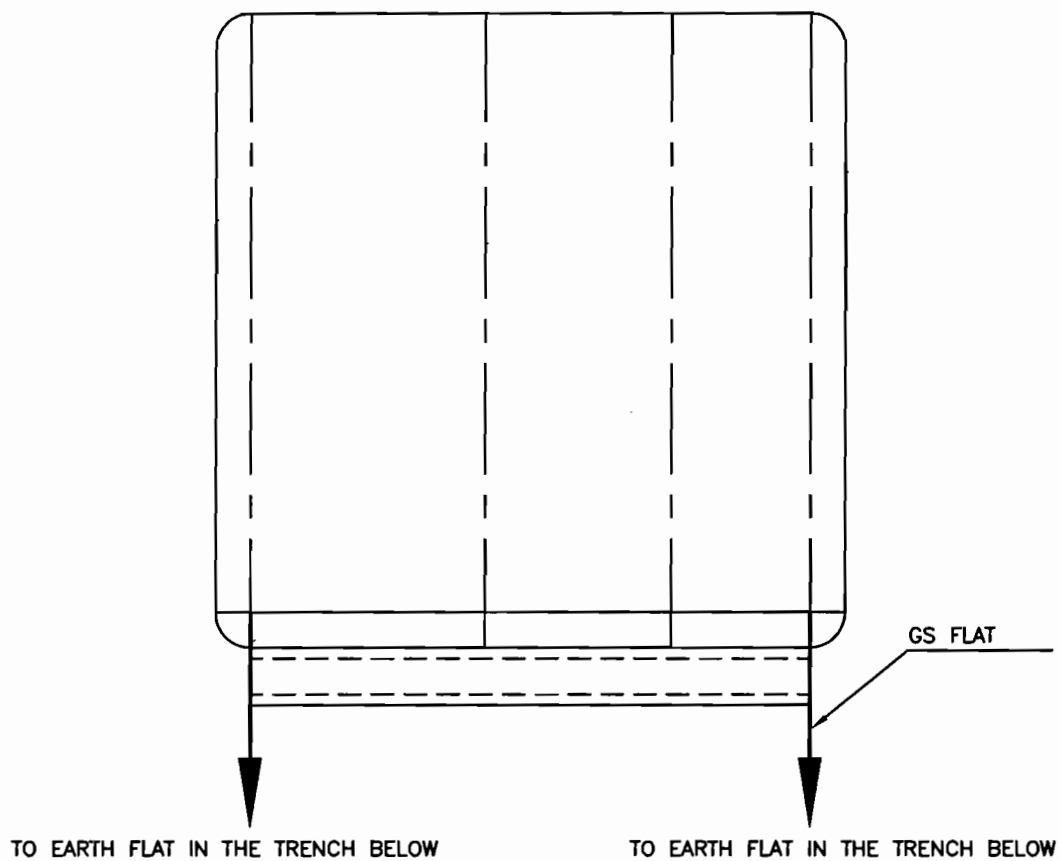
COMPU. DRG. REF.

DRG.NO.

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REV. 00

SHEET No.
15



EQUIPMENT

FLAT SIZE

AC / DC DISTRIBUTION BOARDS	50X6 MM
CONTROL & RELAY PANELS	50X6 MM
BATTERY CHARGER PANELS	50X6 MM
SCADA, PLCC PANELS	50X6 MM



EQUIPMENT EARTHING DETAILS

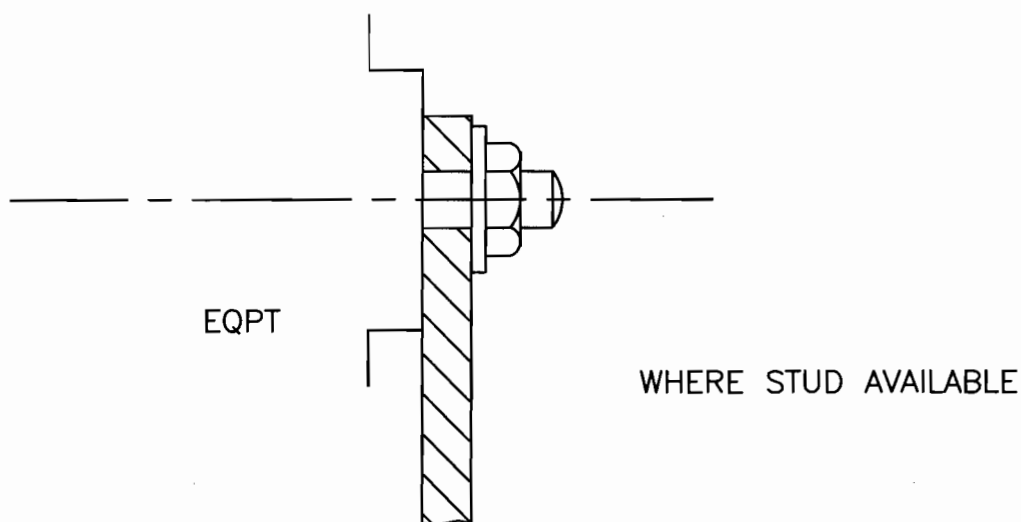
AC/DC DISTRIBUTION BOARDS CONTROL AND RELAY BOARD/
BATTERY CHARGER PANELS/SCADA, PLCC PANELS

DRG. No.

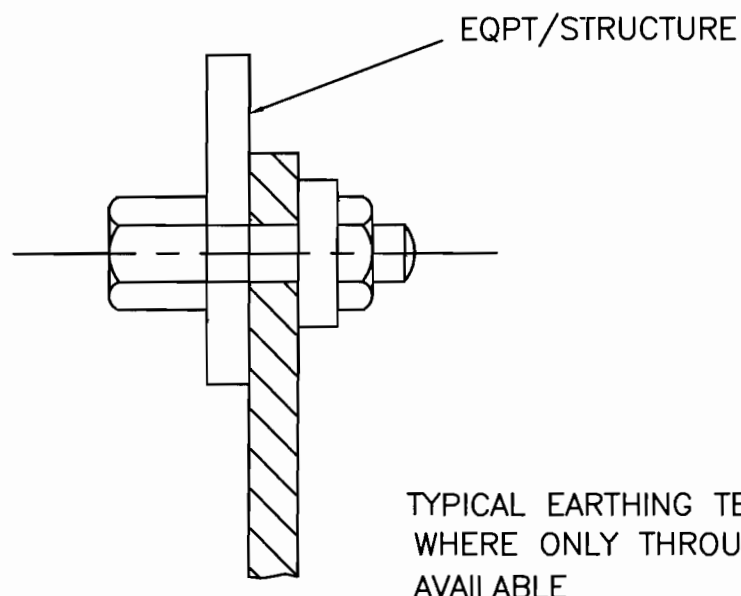
TB-4-332-509-004

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SHEET No.
16



TYPICAL EARTHING TERMINAL JOINT



TYPICAL EARTHING TERMINAL JOINT
WHERE ONLY THROUGH HOLE IS
AVAILABLE

NOTE

1. THIS IS GENERAL TYPICAL BOLTING ARRANGEMENT APPLICABLE TO ALL PANELS, EQUIPMENT, ETC, WHERE BOLTING ARRANGEMENT IS PROVIDED.
2. IN CASE EARTHING TERMINAL COMPRISES ONLY A TAPPED HOLE SUITABLE BOLT/ SCREW WITH WASHER MAY BE USED FOR EARTHING CONDUCTOR TERMINATION



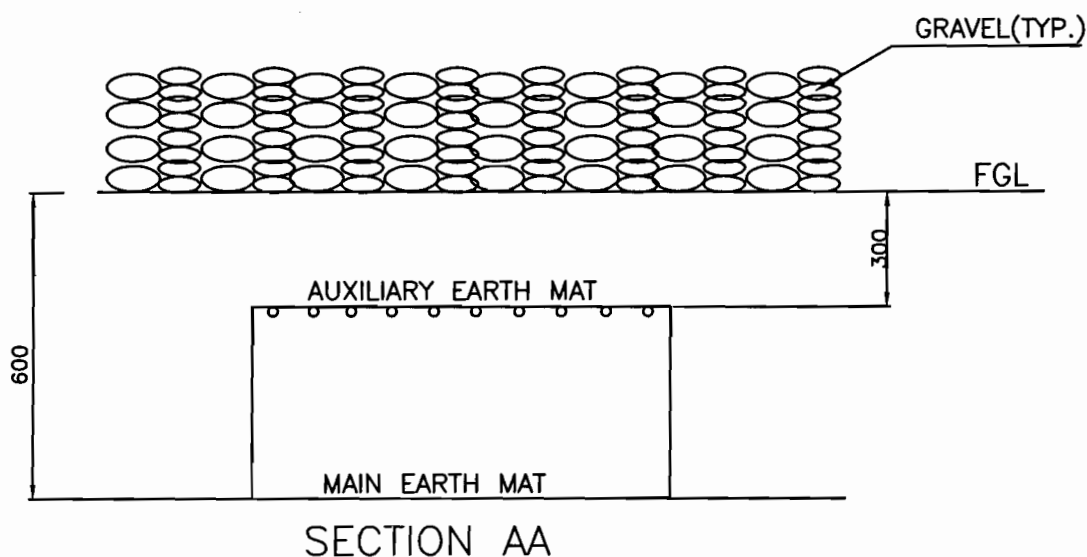
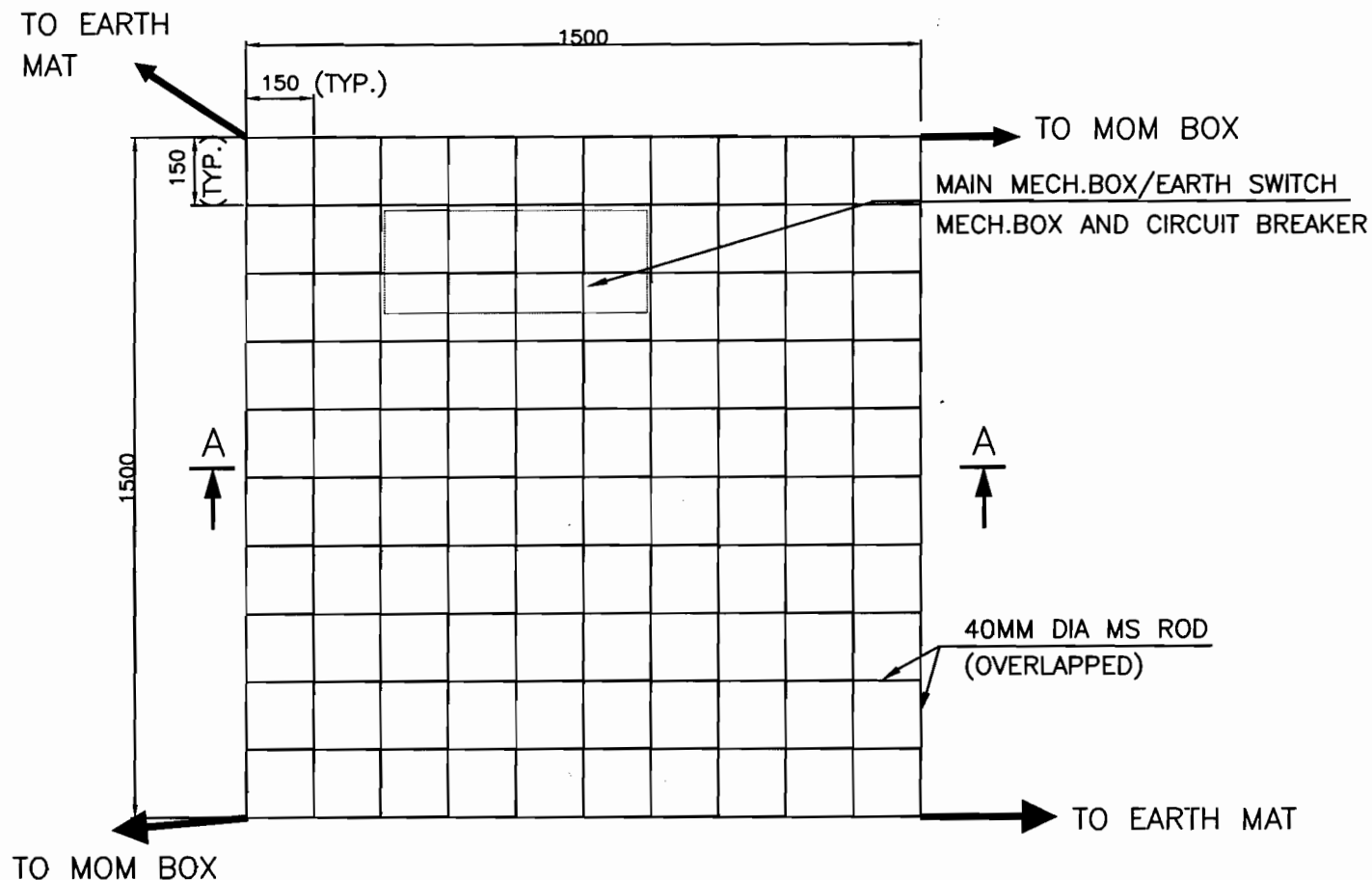
EQUIPMENT EARTHING DETAILS TYPICAL ARRANGEMENT OF BOLTED JOINTS

DRG. No.

TB-4-332-509-004

REV. 00

SHEET No.
19



NOTE:

AUX. EARTH MAT SHALL BE SO POSITIONED THAT THE FOOT OF THE OPERATOR ALWAYS LIE OVER THE AUX. EARTH MAT AREA WHILE ATTENDING/OPERATING THE MECH. BOX.



EQUIPMENT EARTHING DETAILS
AUXILIARY EARTH MAT FOR ISOLATOR MAIN MECH., E/S MECH.
AND CIRCUIT BREAKER CONTROL CUBICLE

COMPU. DRG. REF.

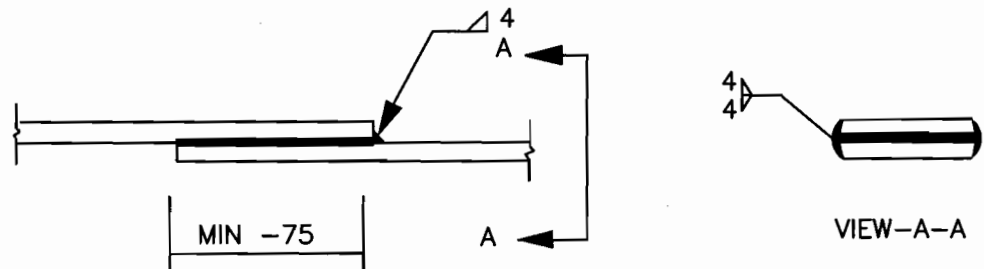
Report No.

TB 4 332 509 004

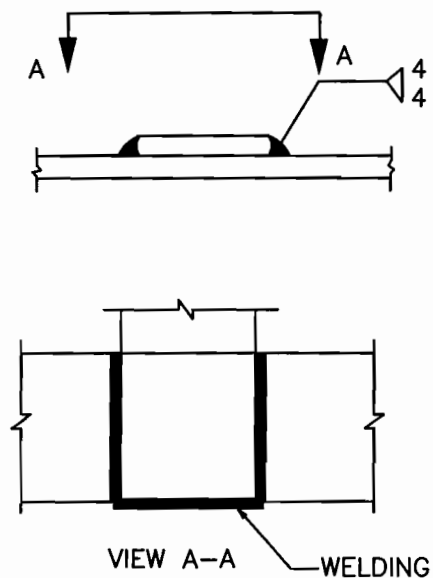
SHEET No.
20

C. STRIP TO STRIP (50X6 MS FLAT)

1. STRAIGHT LAP JOINT/RISER



2. CROSS LAP JOINT



EQUIPMENT EARTHING DETAILS WELDING DETAILS

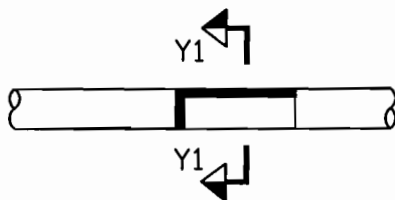
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DRG. No.

TB-4-332-509-004

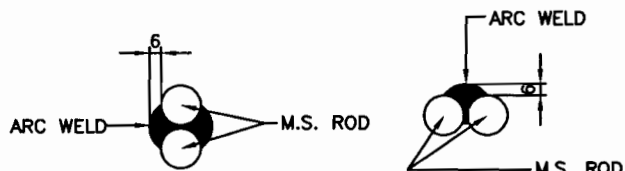
REV. 00

SHEET No.
21



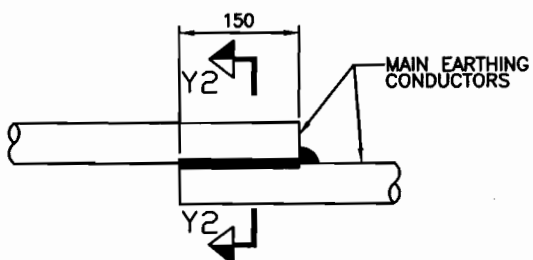
ELEVATION

(CONDUCTOR IN HORIZONTAL PLANE)



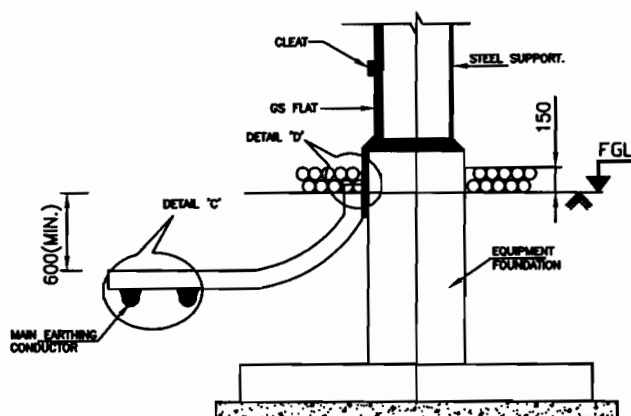
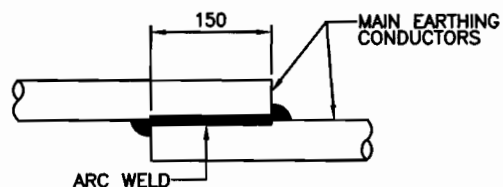
SECTION Y2-Y2

SECTION Y1-Y1

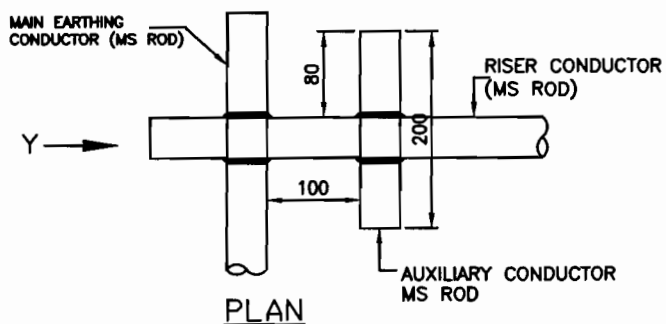


ELEVATION

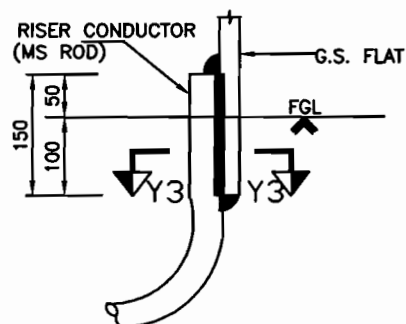
(CONDUCTOR IN VERTICAL PLANE)



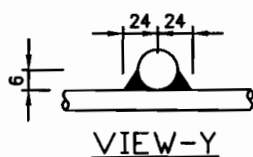
TYPICAL DETAILS OF RISER



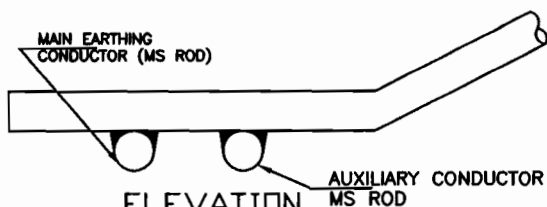
PLAN



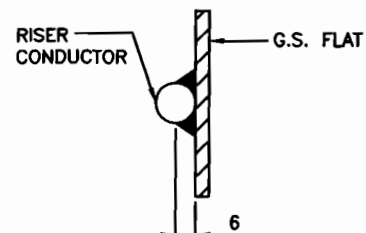
ELEVATION
DETAIL-D



VIEW-Y



ELEVATION
DETAIL-C



TYPICAL OVERLAPPING JOINT OF TWO CONDUCTORS SECTION Y3-Y3



EQUIPMENT EARTHING DETAILS WELDING DETAILS

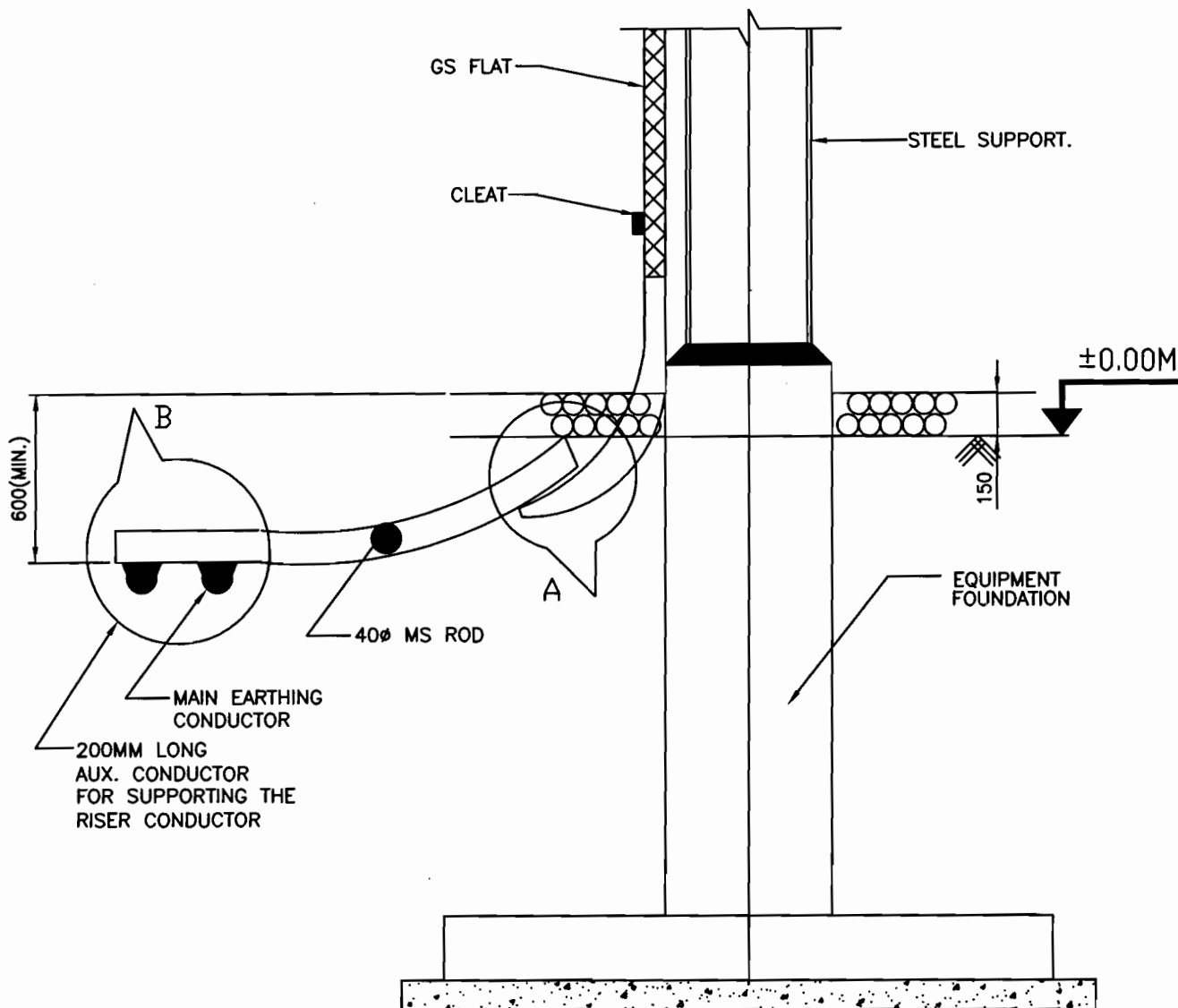
COMPUTERREF.NO.

DRG. No.

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REV. 00

SHEET No.
22



TYPICAL DETAILS OF RISER



EQUIPMENT EARTHING DETAILS WELDING DETAILS

COMPUTER REF. NO.

DRG. No.

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REV. 00

SHEET No.
23