

NOTES :

1. LOCATION OF ELECTRODES

- (a) ELECTRODES SHALL BE SITED AS DIRECTED, NOT LESS THAN 15 METRES FROM THE NEAREST TOWER LEG ON THE DIAGONAL LINE. WHERE THE WIDTH OF THE EASEMENT IS NOT SUFFICIENT TO PERMIT 15 METRE DIAGONAL SPACING, THE ELECTRODES SHALL BE POSITIONED 3 METRES INSIDE THE EASEMENT AND NOT LESS THAN 15 METRES FROM THE TOWER.
- (b) THE FIRST ELECTRODE SHALL BE LOCATED IN THE MOST FAVOURED POSITION, PROVISION BEING MADE TO LOCATE THE TOTAL ESTIMATED NUMBER OF ELECTRODES. THE SECOND AND ADDITIONAL ELECTRODES SHALL BE POSITIONED AS REMOTELY AS POSSIBLE FROM THE ELECTRODES ALREADY INSTALLED.
- (c) ELECTRODES SHALL BE POSITIONED AS REMOTELY AS POSSIBLE FROM CLIFFS AND GULLIES.
- (d) ELECTRODES SHALL BE POSITIONED AS REMOTELY AS POSSIBLE FROM HOUSES, FREQUENTED AREAS, ETC.
- (e) WHERE TWO OR MORE LINES ARE LOCATED ON ONE EASEMENT CORRIDOR THE SEPARATE EARTHING ELECTRODE SYSTEMS SHALL BE NOT LESS THAN 6 METRES APART.

2. INSTALLATION

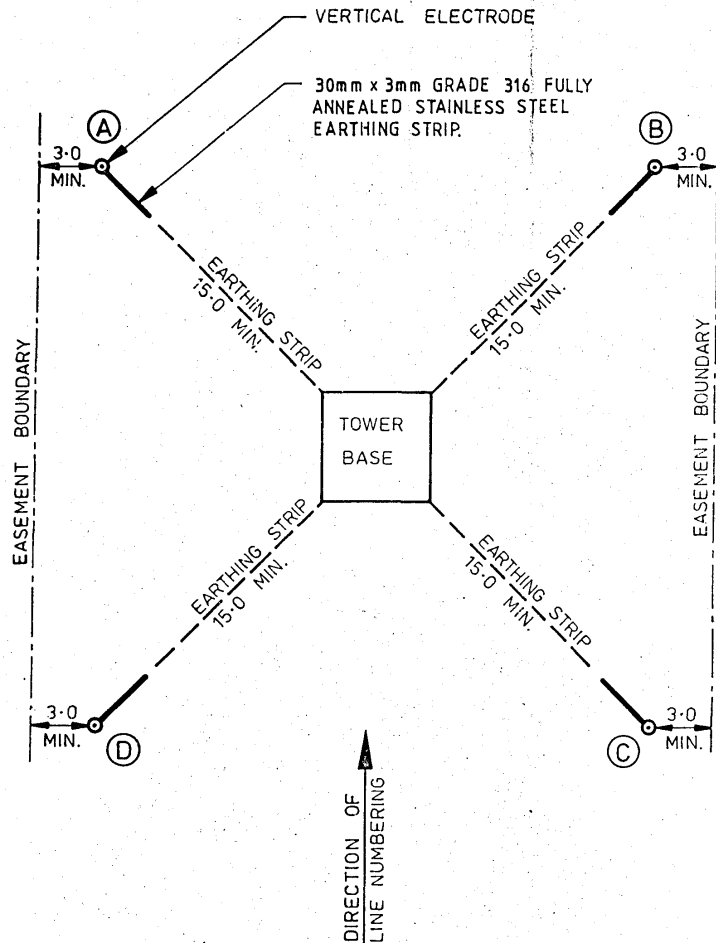
- (a) WHERE IT IS ESTIMATED THAT MORE THAN ONE ELECTRODE WILL BE REQUIRED AT A TOWER SITE, THE FIRST ELECTRODE SHALL BE INSTALLED TO A MINIMUM DEPTH OF 35 METRES.
- (b) THE HORIZONTAL CONNECTING STRIPS SHALL BE INSTALLED AT THE FOLLOWING DEPTHS, AS APPROPRIATE :
 - (1) 0.5 METRES IN SOIL OR WHERE ROCK OCCURS UNDER A SOIL OVERBURDEN OF 0.4 METRES OR MORE.
 - (2) WHERE ROCK OCCURS UNDER A SOIL OVERBURDEN OF MORE THAN 0.25 METRES BUT LESS THAN 0.4 METRES, THE STRIP SHALL BE BURIED AN ADDITIONAL 0.1 METRES INTO THE ROCK.
 - (3) WHERE ROCK OCCURS AT THE SURFACE OR UNDER A SOIL OVERBURDEN OF LESS THAN 0.25 METRES THE STRIP SHALL BE BURIED TO A DEPTH OF 0.25 METRES INTO THE ROCK AND GROUTED IN WITH A MIXTURE CONSISTING OF FOUR PARTS SAND TO ONE PART PORTLAND CEMENT.

3. BACKFILLING

- (a) HORIZONTAL - BACKFILLING SHALL BE CARRIED OUT USING EXCAVATED MATERIAL OR SIMILAR.
- (b) VERTICAL - THE HOLE SHALL BE COMPLETELY FILLED WITH A MIXTURE OF EQUAL PARTS BY VOLUME OF BENTONITE AND CASTING PLASTER, TOGETHER WITH SUFFICIENT WATER TO FORM A SMOOTH SLURRY. (TYPICALLY 1:1:4).

4. MEASUREMENT OF RESISTANCE

- (a) THE RESISTANCE TO EARTH OF EACH ELECTRODE SHALL BE MEASURED IMMEDIATELY AFTER INSTALLATION, BOTH INDIVIDUALLY AND CONNECTED TO THE ELECTRODE(S), IF ANY, INSTALLED PREVIOUSLY. BASED ON THESE MEASUREMENTS, THE QUANTITY OF ADDITIONAL EARTHING, IF ANY, REQUIRED TO OBTAIN THE SPECIFIED RESISTANCE SHALL BE RE-ASSESSED.
- (b) IT IS PREFERRED THAT THE RESISTANCE OF THE TEST LEAD USED TO CONNECT THE ELECTRODES BE INSIGNIFICANT. WHERE THIS IS NOT POSSIBLE, A CORRECTION SHALL BE MADE.



UNLESS OTHERWISE STATED ALL DIMENSIONS ARE IN METRES

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| AMENDMENTS | ORIGINAL ISSUE DATE 17.8.72 | REDRAWN & NOTES EXTENSIVELY REVISED. | DRN. I.P.F. | NEW NOTE 3 ADDED. NOTE 4 WAS NOTE 3. | DRN. D.G. | STAINLESS STEEL EARTHING STRIP WAS GAL. STEEL. | DRN. G.H. | 143115 A1 STANDARD TOWER EARTHING. | SCALE N.T.S. | THE ELECTRICITY COMMISSION OF N.S.W. TRANSMISSION DIVISION | W. P. Price <i>(Signature)</i> CHIEF ENGINEER - DATE 11.12.81 |
| | A | | CKD. W.R.P. DATE 8.12.81 | | E | | CKD. R.S. DATE 13-12-82 | | F | | |
| | | | | | | | | REFERENCE DRGS. | CHECKED <i>(Signature)</i> | LOCATION OF VERTICAL EARTH ELECTRODES FOR THE ADDITIONAL | 140097 A3 |
| | | | | | | | | | PASSED <i>(Signature)</i> | EARTHING OF STEEL TOWERS | <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> <input checked="" type="checkbox"/> |

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