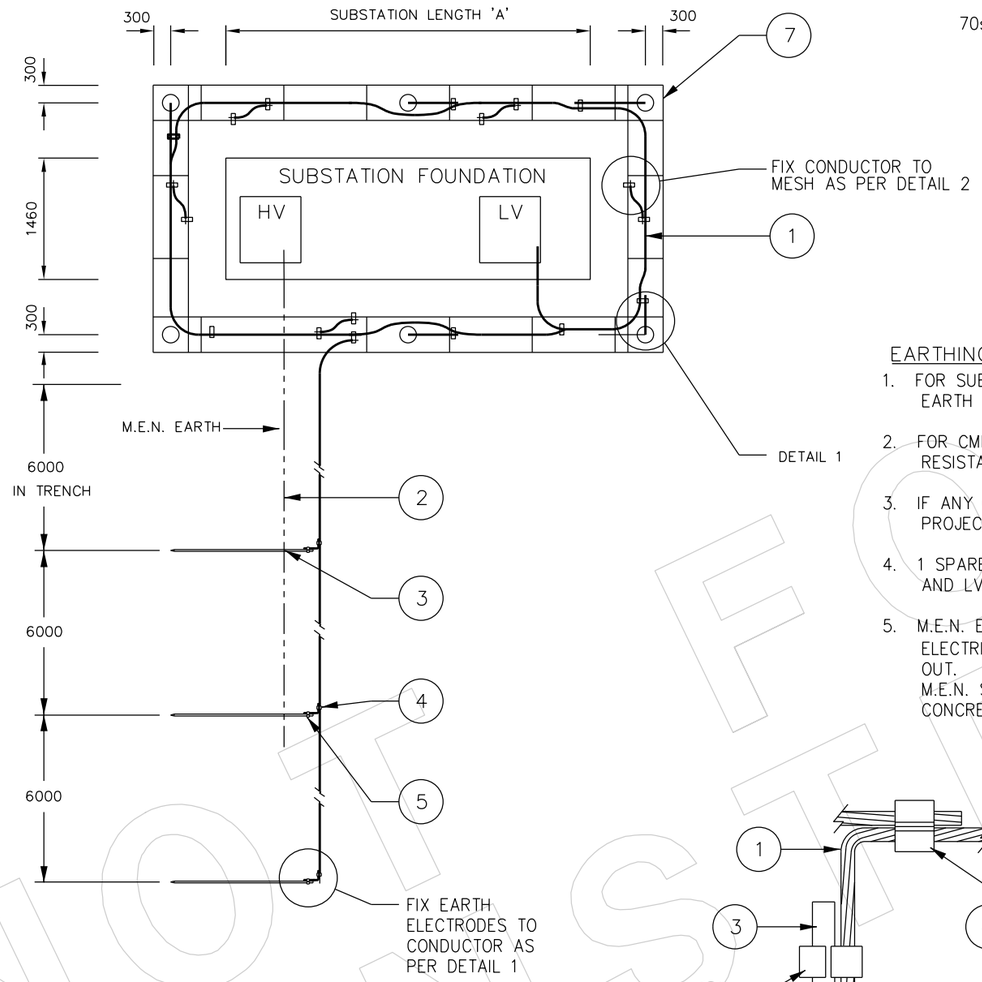
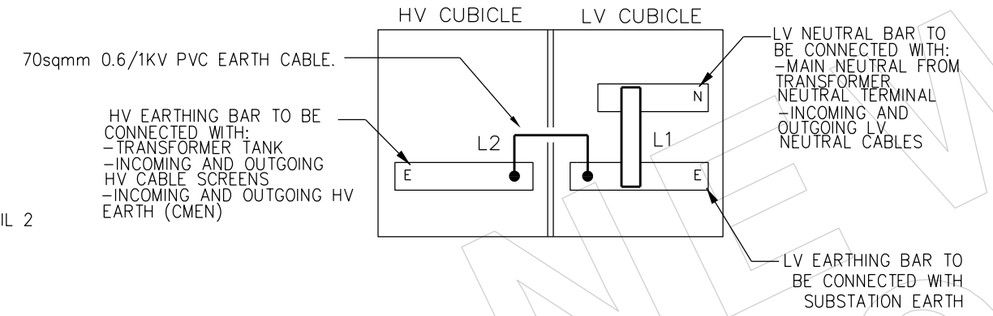
LENGTH 'A':

3300 – KIOSK SUBSTATION WITH HOLEC MAGNEFIX SWITCHGEAR.

4260 – KIOSK SUBSTATION WITH SF6 POWER WATER APPROVED SWITCHGEAR.





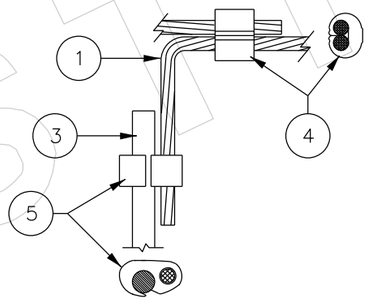
EARTHING TERMINATION ARRANGEMENT

EARTHING REQUIREMENT

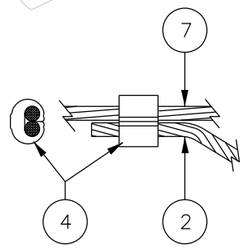
1. FOR SUBSTATION EARTH, WITH LINKS 1 AND 2 OPEN, THE RECORDED EARTH RESISTANCE VALUE MUST NOT BE GREATER THAN 30 OHMS.
2. FOR CMEN EARTH, WITH LINKS 1 AND 2 CLOSED, THE RECORDED EARTH RESISTANCE VALUE MUST NOT BE GREATER THAN 1 OHM.
3. IF ANY OF THE ABOVE VALUES CANNOT BE ACHIEVED, REFER TO THE PROJECT MANAGER.
4. 1 SPARE 10mm THREAD BOLT AND NUT FOR OPERATOR EARTHS ON THE HV AND LV EARTH BARS.
5. M.E.N. EARTH (FROM DISTRIBUTION SYSTEM) MUST NOT BE BROUGHT INTO ELECTRICAL CONTACT WITH FOUNDATION SO THAT TESTING CAN BE CARRIED OUT.
   M.E.N. SHALL BE INSULATED OR IN CONTACT WHERE PASSING THROUGH CONCRETE FOUNDATIONS.

NOTES:

1. EARTHING FOR KIOSK SUBSTATIONS SHALL CONSIST OF SIX EARTH ELECTRODES SURROUNDING THE SUBSTATION AND THREE EARTH ELECTRODES IN THE CABLE ENTRY TRENCH.
2. SUBSTATION SURROUND: SIX BORE HOLES TO BE DRILLED AT LOCATIONS INDICATED FOR EACH HOLE:
   - AUGER DIAMETER TO BE USED SHOULD NOT BE GREATER THAN 150mm.
   - BORE DEPTH IS TO BE 2.0m
   - EARTH ELECTRODE SHALL BE MADE FROM EITHER BARE 70 SQMM COPPER CONDUCTOR OR 70SQMM BARE COPPER CONDUCTOR WITH AN EARTH STAKE ATTACHED VIA A PROFILE "6" COMPRESSION CONNECTOR BEFORE LOWERING THE STAKE INTO THE BORE HOLE. ATTACH THE 70SQMM COPPER CONDUCTOR TO THE EARTH GRID AS SHOWN IN DETAIL 1.
   - BACKFILL BORE HOLE FIRST WITH WATERED SLURRY MIXTURE OF ONE BAG OF EARTHING COMPOUND AND SOIL AT 1:1 RATIO, THEN TOP UP WITH EXISTING SOIL.
3. THREE ADDITIONAL EARTH ELECTRODES ARE TO BE INSTALLED AT THE BOTTOM OF THE CABLE ENTRY TRENCH WITH A DISTANCE OF 6M BETWEEN ELECTRODES AND TO A DEPTH OF 3M. A HAMMER CAN BE USED TO DRIVE CONNECTED EARTH RODS INTO THE GROUND, OR ALTERNATIVELY THE EARTH ELECTRODES CAN BE AS PER NOTE 2.
   DO NOT LET ANY OTHER EARTHING SYSTEM MAKE CONTACT WITH THE SUBSTATION EARTH.
4. EQUIPOTENTIAL EARTH GRID OF 300mm WIDTH MINIMUM TO BE LAID ACROSS AND CONNECTED TO SIX EARTH ELECTRODES AS SHOWN.
5. EQUIPOTENTIAL EARTH MESH OF 400mm WHICH SHALL BE LAID ACROSS USING CONCRETE MESH CHAIRS & CONNECTED TO SIX EARTH ELECTRODES AS SHOWN.
6. TRAFFIC BOLLARDS WHERE REQUIRED SHALL BE CONNECTED TO PERIMETER EARTHING CONDUCTOR BY 70sq.mm COPPER CONDUCTOR WHICH WILL BE SET INSIDE THE POST AND LUGGED OFF ONTO A BARRIER BOLT.
7. PROVIDE 100mm THICK CONTINUOUS CONCRETE POUR OVER EQUIPOTENTIAL EARTHING MESH SURROUNDING SUBSTATION FOR MECHANICAL PROTECTION. CONCRETE POUR SHALL BE MIN 100mm EITHER SIDE OF MESH AND SHALL FINISH 150mm BELOW FINISHED GROUND LEVEL.



DETAIL 1



DETAIL 2

ITEM	QTY	DESCRIPTION	ITEM NUMBER	DRG REF
7	4	EQUIPOTENTIAL EARTHING MESH	288415	-
	4	EARTHING COMPOUND.(BAG)	10876	-
5	7	COMPRESSION CONNECTOR, "6" PROFILE.	257394	S01-01-05-08
4	20	COMPRESSION CONNECTOR, "C" PROFILE.	255786	S01-01-05-08
3	9	EARTH ROD - 14mm DIA.	230037	S01-01-05-01
2	AS REQ	70sq.mm INSULATED COPPER CONDUCTOR Y/Gr	401059	S02-01-01-23
1	AS REQ	70sq.mm BARE COPPER CONDUCTOR.	9803	S01-01-05-05

MATERIAL SCHEDULE

NO	DESCRIPTION	DRN	DATE	CKD	APPD
10	REMOVED 'OBSOLETE'. CLARIFIED SLAB DIMENSIONS.	A.N.	NOV'20	B.V.	B.C.
9	M.E.N. AND LOCAL EARTH ENTRY AMENDED. OBSOLETE NOT FOR NEW CONSTRUCTION	CWM	JUNE'20	-	-
8	TITLE BLOCK & DRAWING NUMBER FORMATTED	K.T.	FEB'19	C.C.	C.C.
7	NOTE 4 AMENDED	K.T.	JUNE'16	I.B.	B.C.
6	NOTE 2 AMENDED, EARTHING REQUIREMENT NOTE 4 ADDED	A.T.	APR'11	B.C.	S.C.
5	NOTE 3 AMENDED	C.M.	SEP'10	A.T.	S.C.
4	EARTH STAKE SEPARATION INCREASED	A.B.	JULY'09	A.T.	S.C.
3	NOTE 5 AMENDED	J.C	SEP'07	B.C	S.C.
2	SUBSTATION FOUNDATION DIMENSION AMENDED	J.C.	SEP'07	B.C.	S.C.

AMENDMENTS

PowerWater
NORTHERN TERRITORY

DES L.C. (NST)	POWER STANDARD DRAWING
DRN A. SCHMID	EARTHING KIOSK SUBSTATION CONSTRUCTION DETAILS
CKD C. CAMILLERI	
APPD C. CAMILLERI	
SCALE N.T.S.	
ISSUED NOV '04	A3 DRAWING NUMBER S02-02-05-08 10 AMDT
ALL DIM. IN mm	
DRAFTING STANDARD TO A.S.1100	CAD PRODUCT - DO NOT AMEND MANUALLY