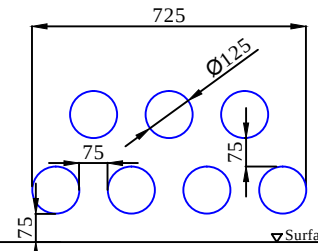
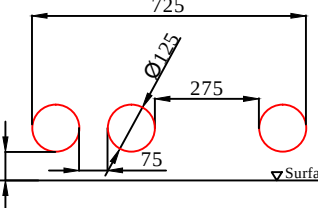


Rev	Revision Note	Date	Drawn by	Approved
1-0	Original Drawing	22/03/10	DS	MS
1-1	Amendments to pit and ducting	04/02/11	AS	MS
1-2	Change to Drawing Subject - Flat Roof Substation Original Drawing	11/01/12	AS	MS
1-3	Duct details amended	29/03/12	AS	MS
1-4	Product information updated	08/11/12	AS	MS
1-5	Wording of sub station stamp amended	10/09/14	SW	MS



LV DUCT ARRANGEMENT



HV DUCT ARRANGEMENT

- NB:
- ALL DUCT SIZES REFER TO INTERNAL DIAMETER
 - DUCTS SHOWN AS VIEWED FROM INSIDE PIT
 - SCALE : 1:20

APPROVED FOR CONSTRUCTION

NB: THIS SUBSTATION IS ONLY TO BE USED WITH THE PERMISSION OF THE ELECTRIC NETWORKS ASSET MANAGER

GENERAL NOTES

- IF IN DOUBT - ASK !! DO NOT SCALE
- THIS DRAWING IS TO BE READ IN CONJUNCTION WITH ALL OTHER ENGINEERING DRAWINGS IN THIS SERIES AND THE GTC SUBSTATION SPECIFICATION.
- ALL WORK TO BE CARRIED OUT IN ACCORDANCE WITH THE RELEVANT BRITISH STANDARDS, CODES OF PRACTICE AND BUILDING PRACTICE.
- ALL DIMENSIONS TO BE CHECKED PRIOR TO STARTING THE WORKS ON SITE. ANY DISCREPANCIES TO BE REPORTED TO THE ENGINEER IMMEDIATELY.
- CONTRACTOR TO ASCERTAIN THE LOCATION OF SERVICES ON SITE PRIOR TO STARTING THE WORK.

ELECTRICAL NOTES

THE SUPPLY FOR THE SUBSTATION POWER AND LIGHTING WILL BE TAKEN FROM THE TRANSFORMER MOUNTED FUSE CABINET AUXILIARY FUSE WAY USING 6mm² COPPER SWA PVC CABLE TO SUPPLY A SINGLE PHASE 25A SHEET LIGHTING CLOUT MOUNTED BELOW THE POWER AND LIGHTING FUSE BOARD. THIS WILL FEED A 10A CONSUMER UNIT WITH A MINIMUM OF 4 MCB CONTROLLED WAYS (2x 16A FOR POWER AND 2x 6A FOR LIGHTING WITH A SHARED 16A WAY FOR SPECIAL REQUIREMENTS SUCH AS SCADA OR REMOTE ACTUATOR UNITS. EACH OUTGOING WAY WILL BE LABELED TO IDENTIFY CIRCUITS.

ALL INTERNAL WIRING TO BE CONTAINED IN 20mm HIGH IMPACT BLACK PVC CONDUIT AND ALL ACCESSORIES WILL BE NON METALLIC HIGH IMPACT AND FULLY INSULATED AND WEATHERPROOF AND SOURCE FROM A QUALITY MANUFACTURER (e.g. MEN OR MS).

TWO 13A SWITCHED SOCKET OUTLETS WITH 30mA RCD PROTECTION WILL BE PROVIDED IN A CONVENIENT LOCATION ON THE LEFT HAND SIDE OF THE SUBSTATION.

TWO 1800mm FLUORESCENT LAMP UNITS WITH POLYCARBONATE COVERS TO AT LEAST IP56 SPECIFICATION WILL BE FITTED TO THE CEILING AND CONTROLLED BY A NON METALLIC FULLY INSULATED LIGHTING SWITCH FITTED 1500mm ABOVE FINISHED FLOOR LEVEL ADJACENT TO THE FIRST LEAF OPENING DOOR. FOR ROOF MOUNTED SUBSTATIONS WALL MOUNTED BULKHEAD LIGHTS WILL BE FITTED.

THE SOCKETS ARE TO BE WIRED IN 2.5mm² COPPER CABLE AND THE LIGHTING WIRED IN 1.5mm² COPPER CABLE.

THE ELECTRICAL INSTALLATION IS TO BE IN ACCORDANCE WITH THE CURRENT EDITION OF BS7671 - IEE WIRING REGULATIONS

FOR SUBSTATIONS WITH SEPARATE HV AND LV EARTHING (HOT EARTHING)

CARE MUST BE TAKEN WITH LIGHTING AND SOCKET SUPPLIES TO AVOID THE POSSIBILITY OF MAKING CONTACT BETWEEN DIFFERENT EARTHING SYSTEMS.

AT HOT SITES ALL FITTINGS, SWITCHES AND CONDUIT MUST BE NON-METALLIC AND FULLY INSULATED TO THE SPECIFICATION ABOVE.

ALL 13A SOCKETS (INCLUDING SOCKET OUTLETS IN THE TRANSFORMER MOUNTED FUSE CABINET) MUST BE PROTECTED BY A 30mA RCD WITH THE EARTH TERMINAL CONNECTED TO THE HV STEELWORK



APPROVED SUPPLIERS

STANDARD GRP SUBSTATION DOORS, VENTILATORS AND GRP TRENCH COVERS:
ENVIVO MANUFACTURING, OBTAINED FROM:
UTILITY POWER SYSTEMS, CARBWOOD ROAD, CHESTERFIELD TRADING ESTATE, CHESTERFIELD S41 9QB
Tel: 01246 262860
Fax: 01246 455915
Contact: ROB TAYLER

STEEL DOORS AND VENTILATORS AND GRP TRENCH COVERS:
SUNWAY ENGINEERING LTD, KINGSNORTH INDUSTRIAL ESTATE, WOOTTON ROAD, ASHFORD, KENT TN23 6LL
Tel: 01233 638619
Fax: 01233 625137
Email: SALES@SUNWAYDOORS.CO.UK

CABLEDUGGING SYSTEM
ERICO, 52 MILFORD ROAD, READING, BERKSHIRE, R1 8LJ
Tel: 01189 588386

Drawing Scale : 1:50

O.S.REF : N/A

Network Number : N/A

Drawing Number : GTC-E-SS-0014_R1-5_1_of_1

Substation Type: CLOSE COUPLED SUBSTATION
FLAT ROOF DETAIL
GENERAL ARRANGEMENT

SHEET SIZE A1

A WRITTEN INDEMNITY WILL BE REQUIRED IN ADDITION TO THE STANDARD TERMS AND CONDITIONS. A COPY OF THIS CAN BE OBTAINED FROM GTC.

APPLICATION:
1 COAT COMPRISING FLEX-RESIN 1858 APPLIED AT A RATE OF 1.2 LITRES/M² USING A SYNTHETIC LAMBSWOOL ROLLER, WITH POLYMAT 185 MEMBRANE SYSTEM.

REINFORCEMENT - 1 COAT FLEX-RESIN 1858 APPLIED AT A RATE OF 0.4 LITRES/M² USING A SYNTHETIC LAMBSWOOL ROLLER.

COLOUR:
DARK GREY

REINFORCEMENT:
POLYMAT GLASS FIBRE MATTING.

MINIMUM DRY THICKNESS:
2MM.

SURFACE PROTECTION:
FOR ANTI SLIP FINISH, ADD GRIT AT A RATE OF 250 G/LITRE TO FLEX-RESIN 1858.

TOPPOINT MPA, POLYPOOL 185 IS B.B.A. APPROVED AS A BALCONY / WALKWAY SURFACE.

ACCESSORIES:
POLYPOOL GRP TRIMS.

OTHER APPROVED FLAT ROOFING SYSTEMS:
• SAMNAPL - SINGLE PLY MEMBRANE SYSTEM
• BAUDER - THERMOPOX PVC SYSTEM
• DECATANE LIQUID ROOF COATING SYSTEM

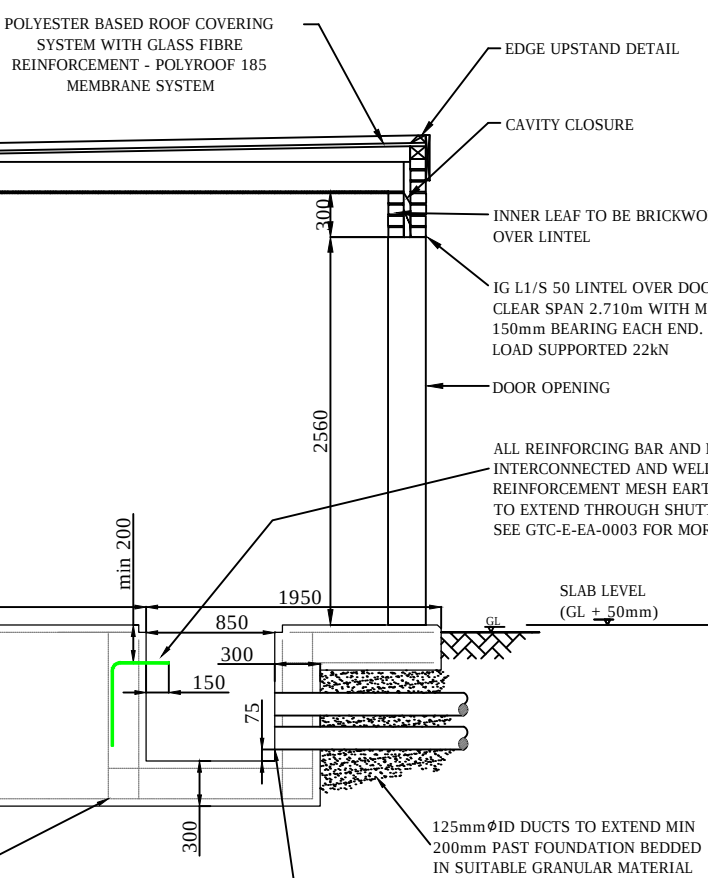
APPLICATION CAN ONLY BE CARRIED OUT BY POLYPOOL PRODUCTS LTD TRAINED AND APPROVED APPLICATIONERS. CONSULT WITH POLYPOOL PRODUCTS LTD FOR DETAILS. CONSULT POLYPOOL PRODUCTS TECHNICAL LITERATURE FOR DETAILS.

DECK:
18MM POLYPOOL APPROVED PLYWOOD SUCH AS FINNBERG SPRUCE L.L. L.L.L. LAY BOARDS, STAGGERED WITH LONG EDGES 90° TO JOISTS, WITH 3MM GAPS BETWEEN BOARDS AND 20MM AT WALL ABUTMENTS. END JOISTS TO BE CENTERED OVER JOISTS. ENSURE FIXINGS DO NOT PROTRUDE ABOVE SURFACE OF BOARD. FIXINGS TO BE ANNULAR. RINGSHANK NAILS 75MM. MINIMUM FIXINGS PER BOARD 24N.

PLY DECK TO BE SECURED TO SW FIRMS TO 1 IN 60 FALL, MIN 18MM THICK, C24 JOISTS 47 x 195 AT 400 CENTRES. JOIST HANGERS RATED AT 2.7 kN (60N) TO SUIT TIMBER JOISTS AND FIXED IN ACCORDANCE WITH MANUFACTURERS INSTRUCTIONS. ALL TIMBER TO BE SCREW FIXED.

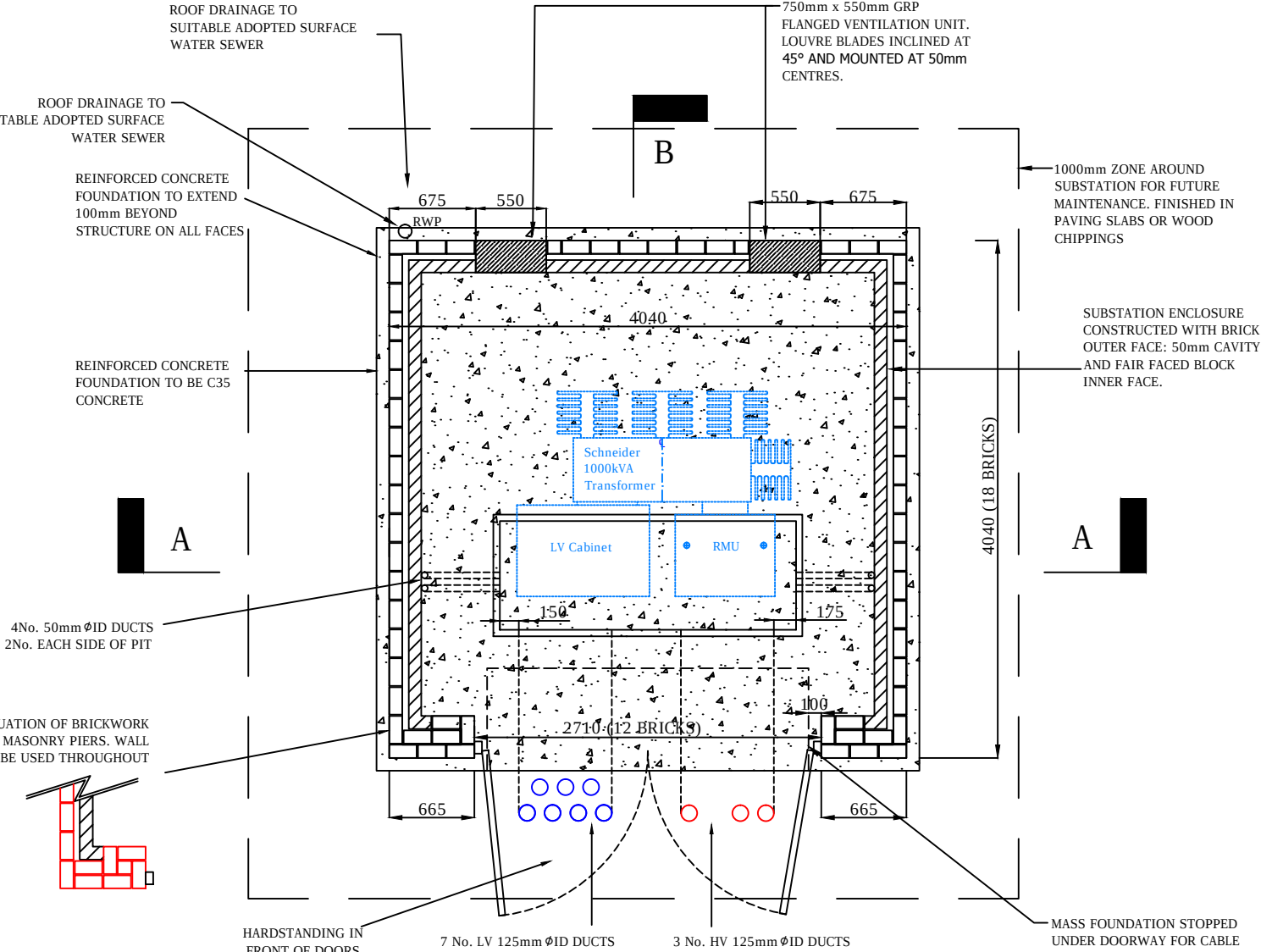
ROOF PLAN

NB: THIS SUBSTATION IS ONLY TO BE USED WITH THE PERMISSION OF THE ELECTRIC NETWORKS ASSET MANAGER

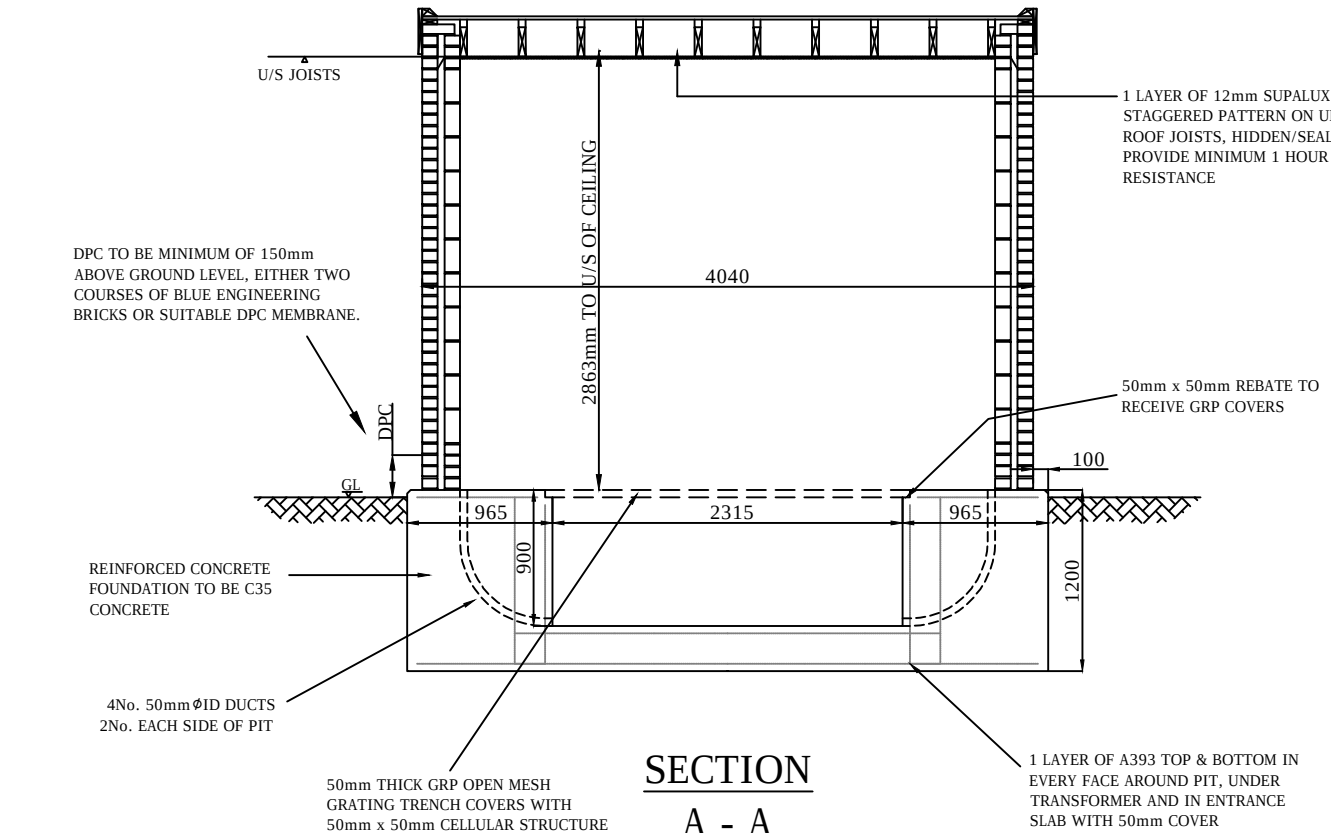


SECTION B - B

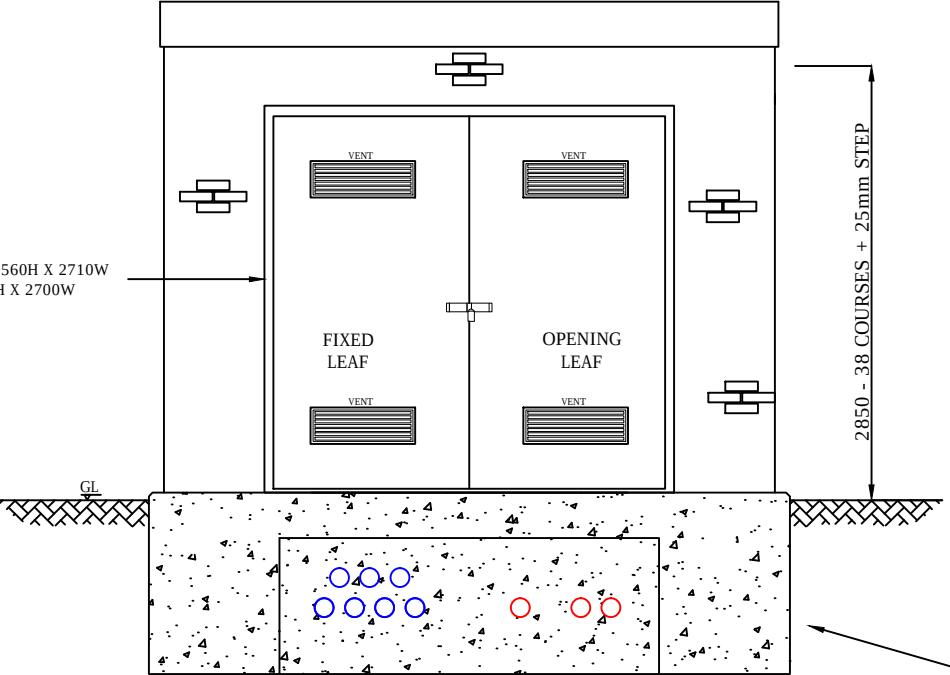
FOR FOUNDATION EARTHING DETAIL PLEASE REFER TO GTC EARTHING DRAWING GTC-E-EA-0003 AND SUBSTATION DOCUMENT GE-TGI-IG-0032



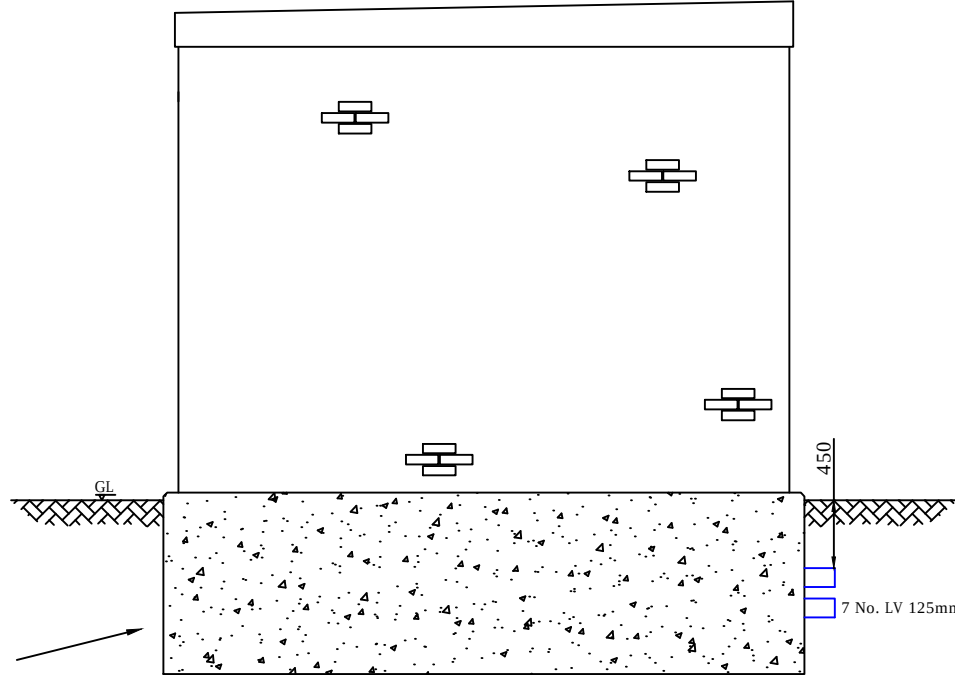
FLOOR PLAN



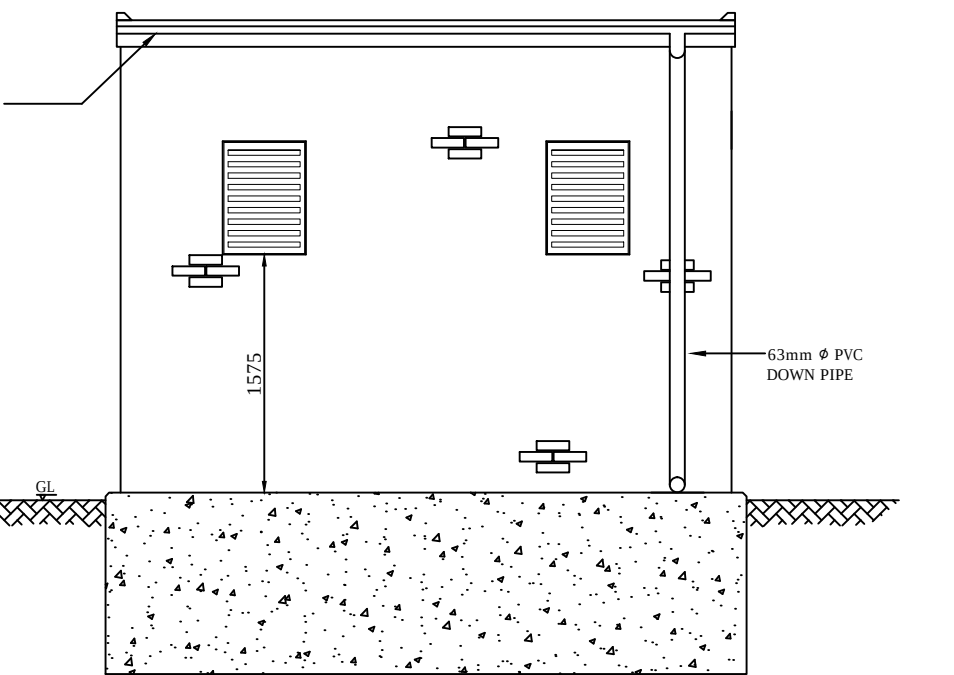
SECTION A - A



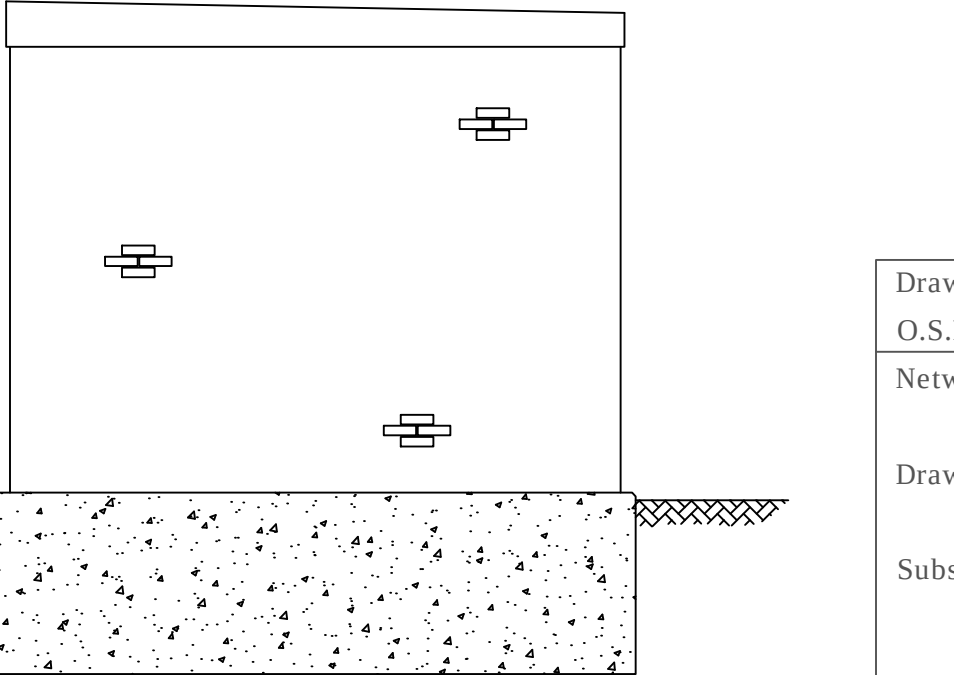
FRONT ELEVATION



SIDE ELEVATION



REAR ELEVATION



SIDE ELEVATION