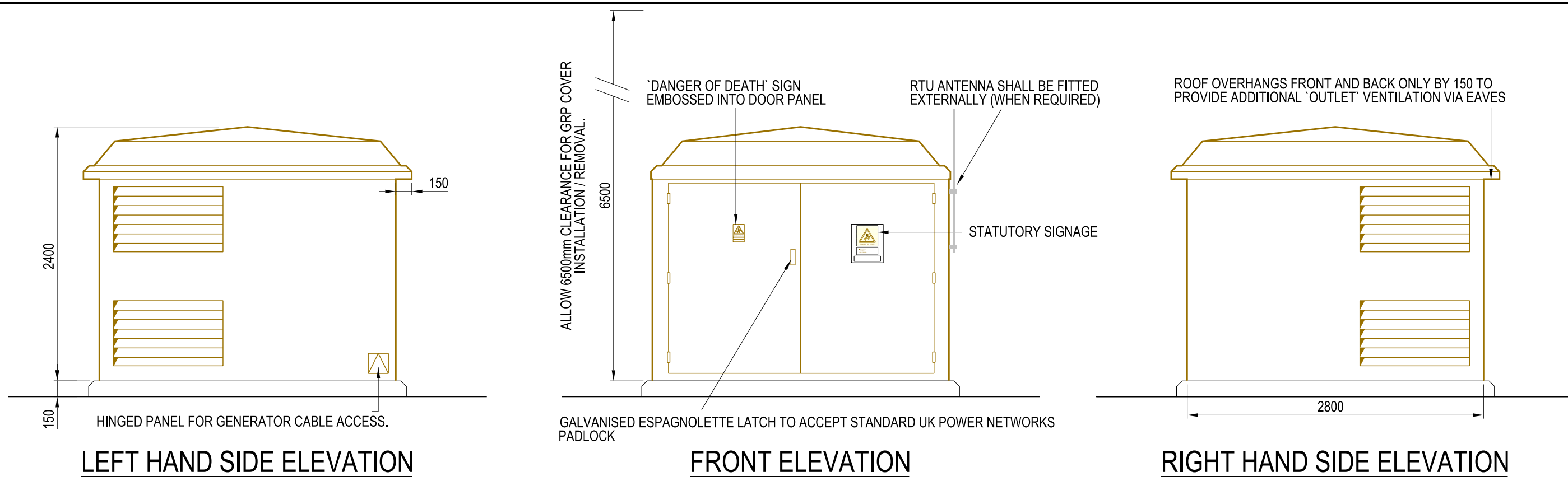
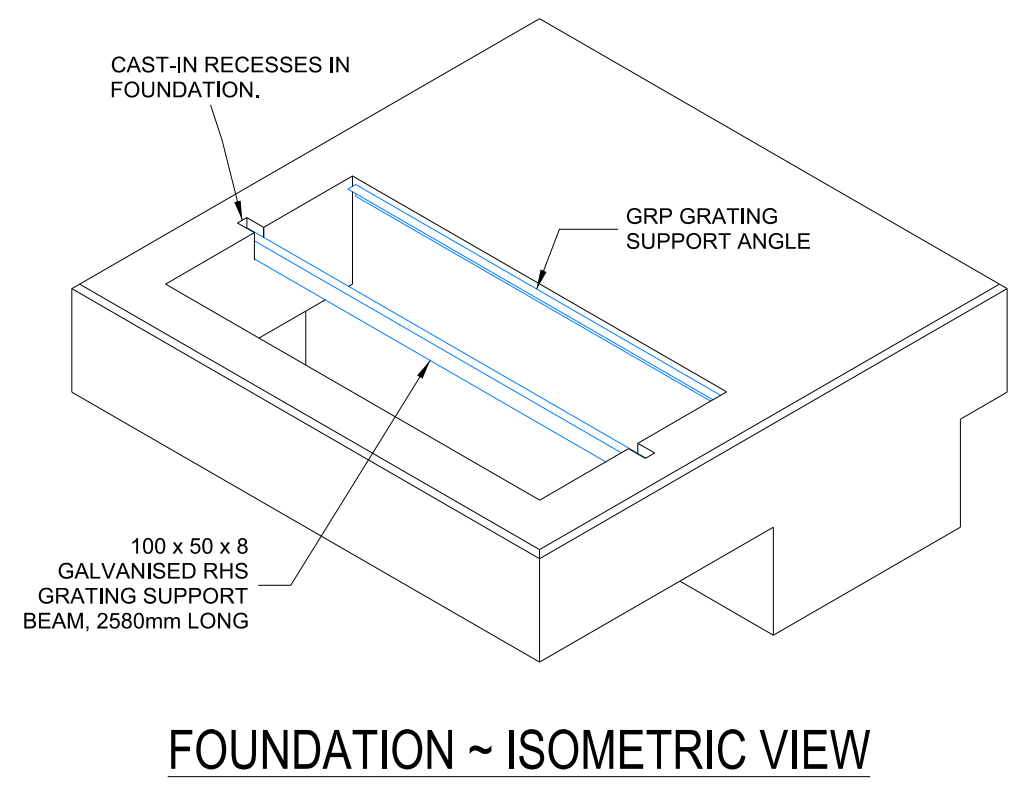
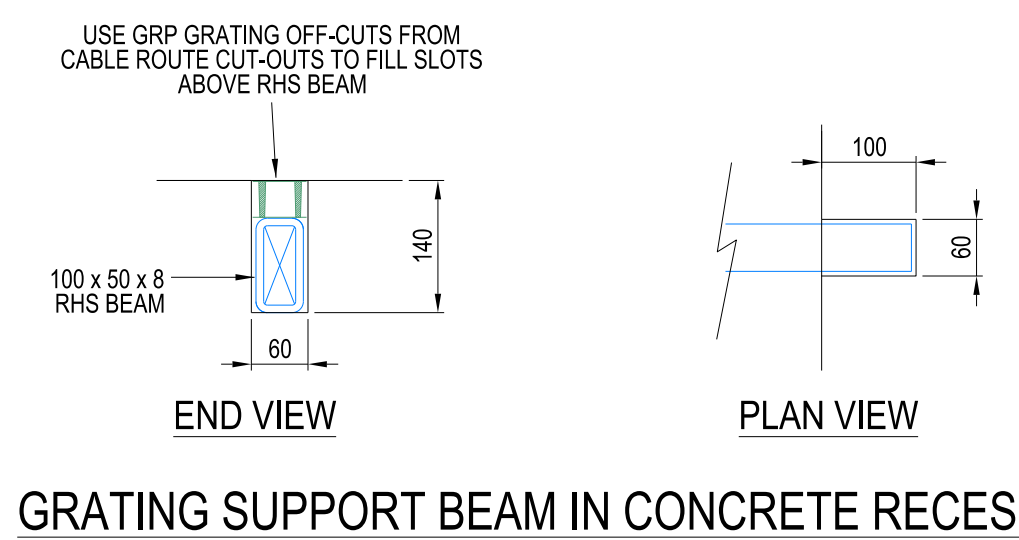
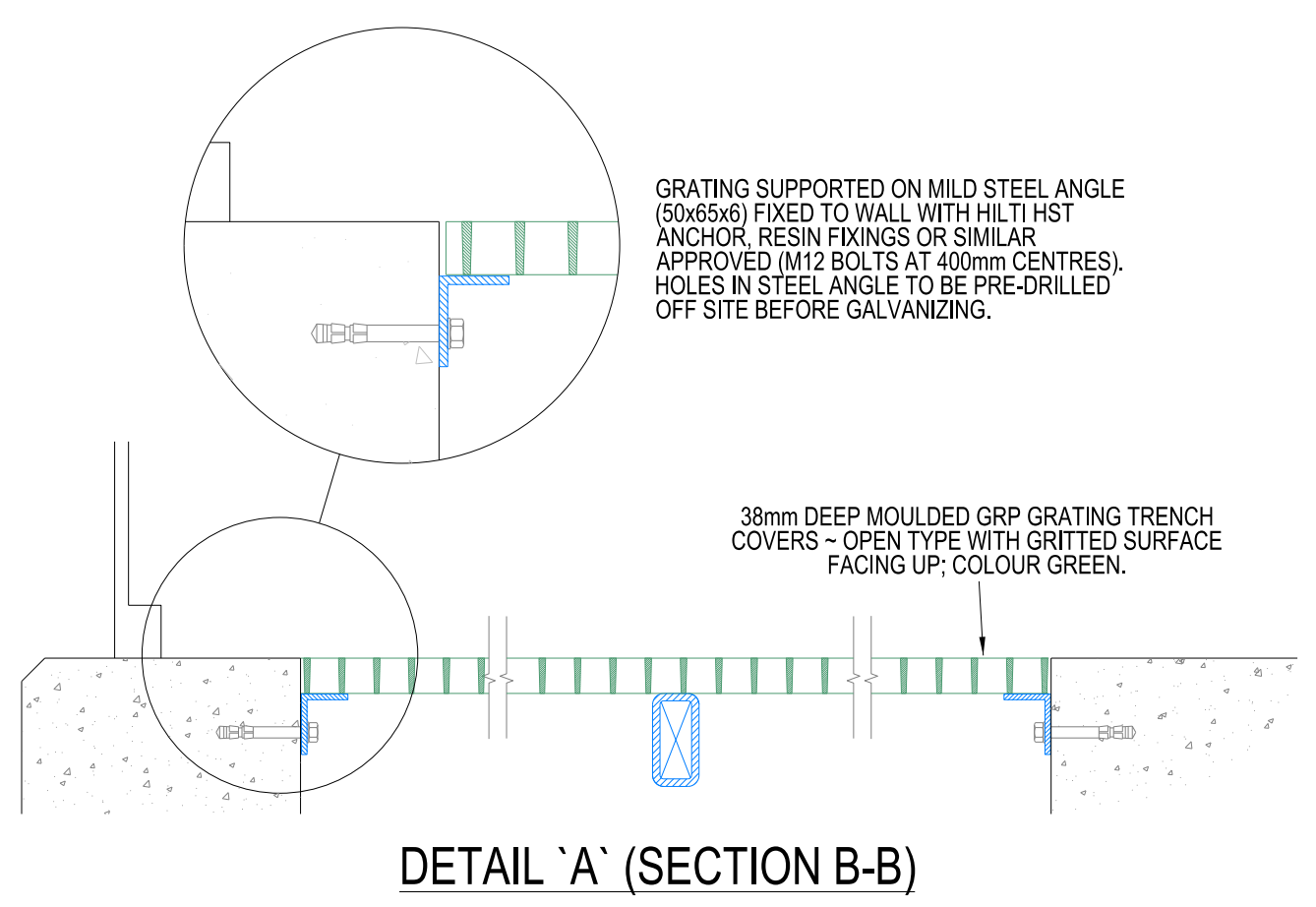
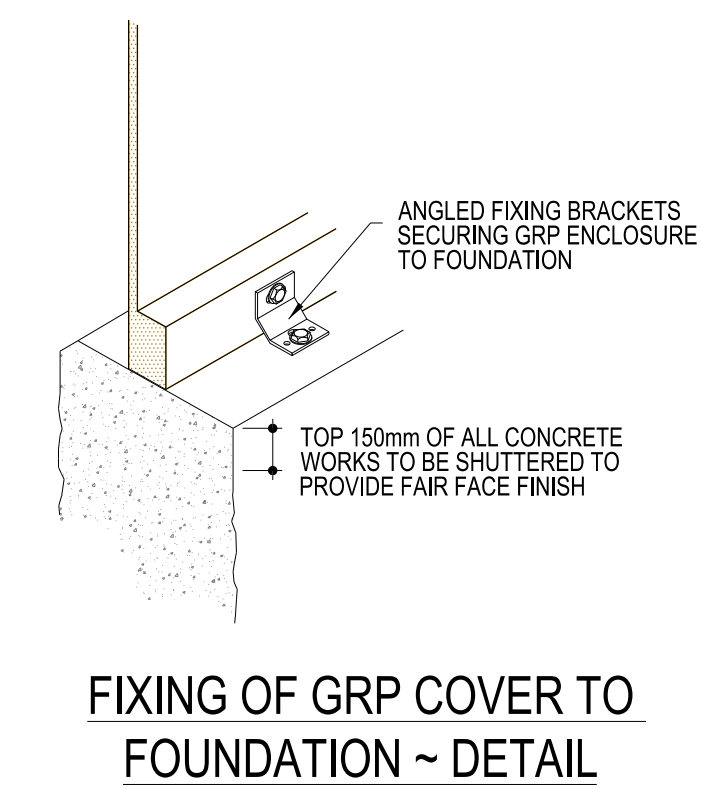
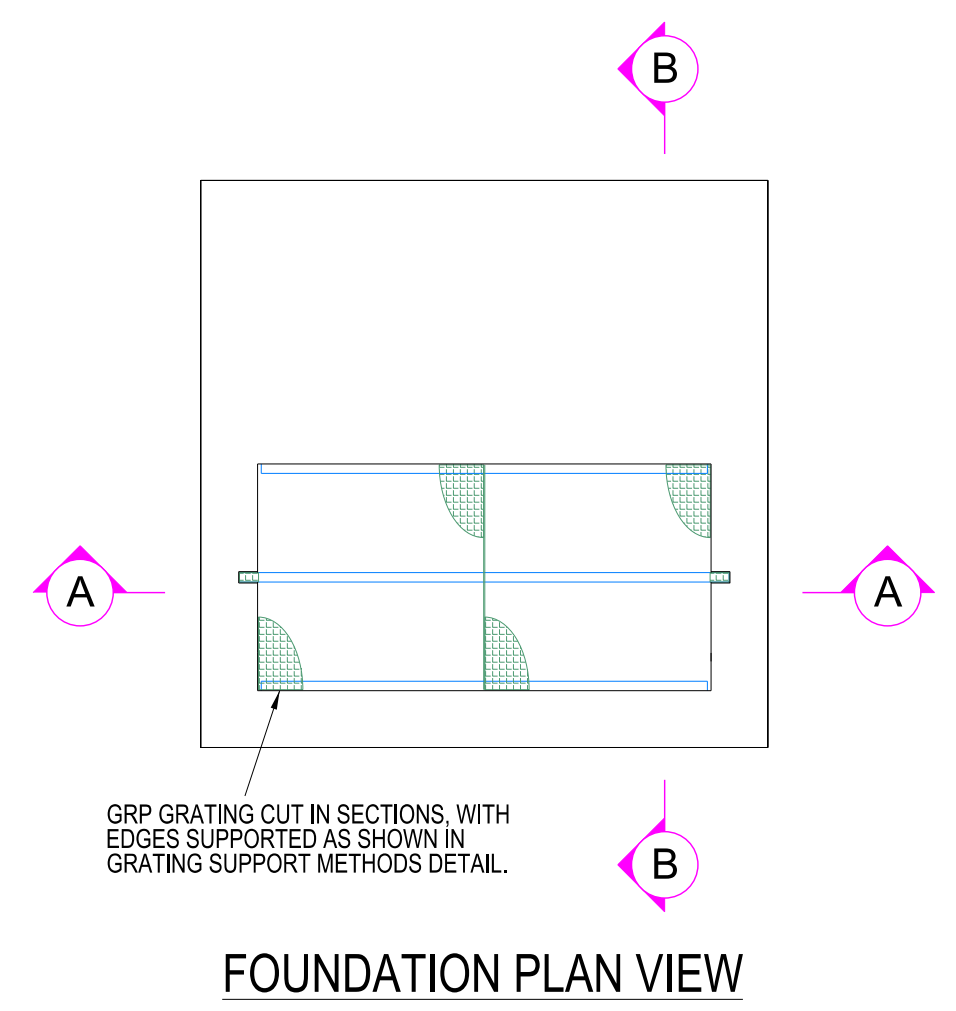
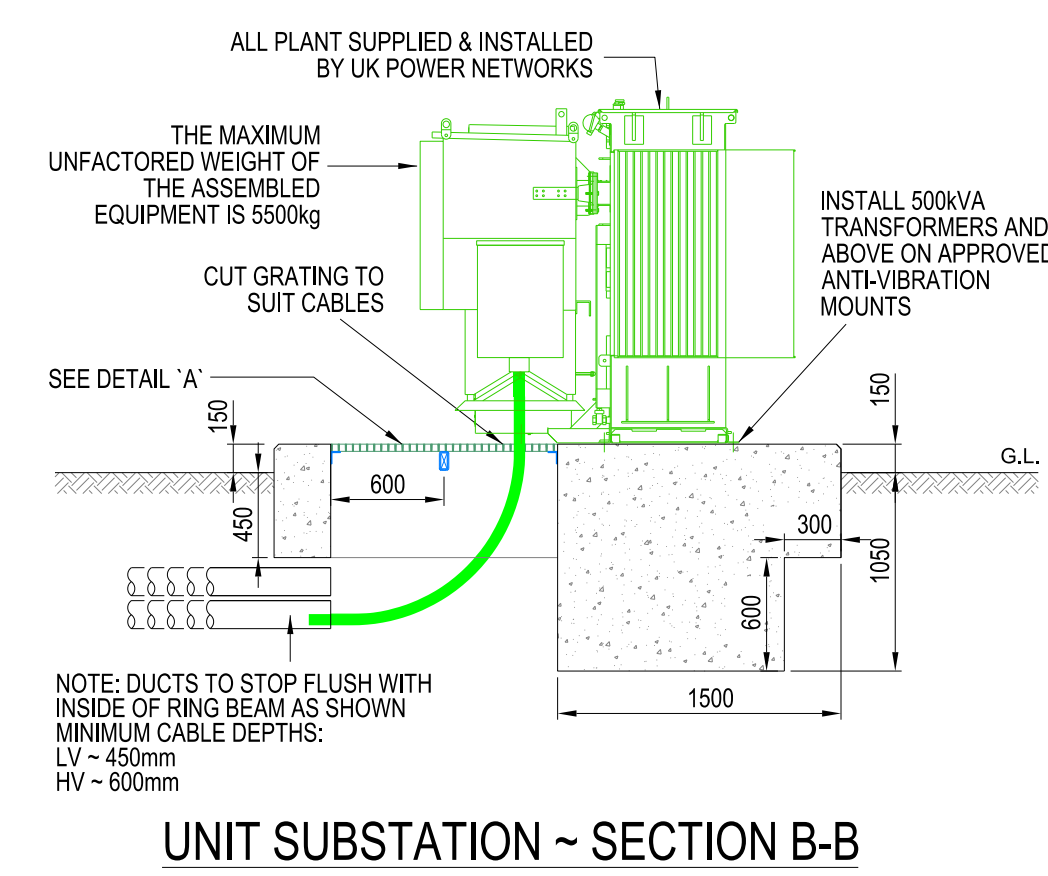
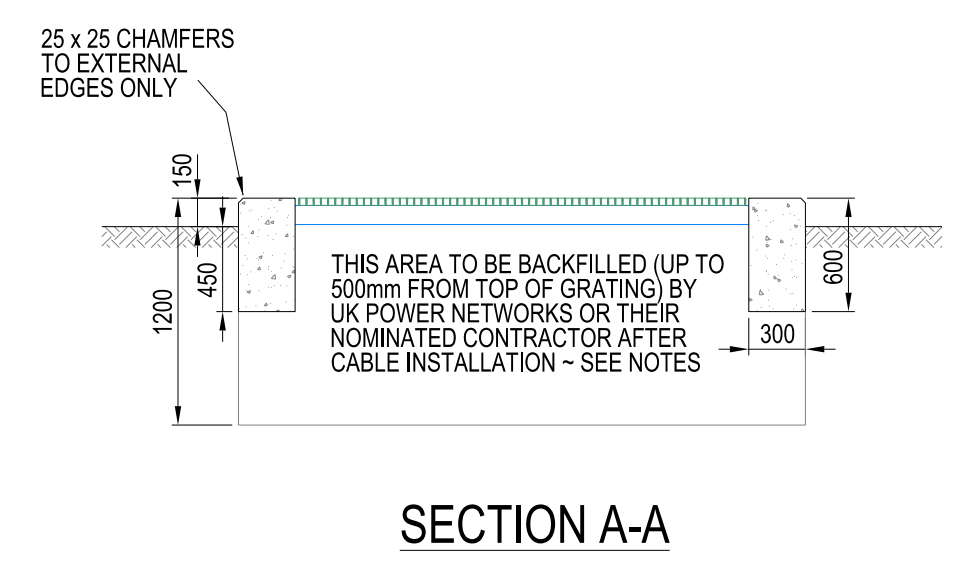
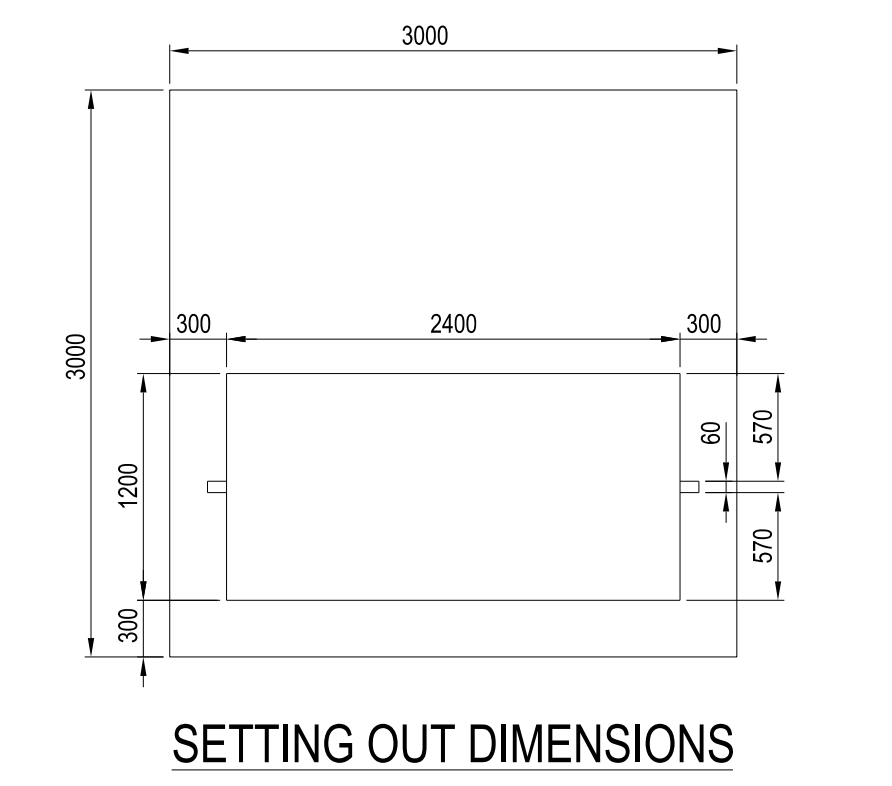
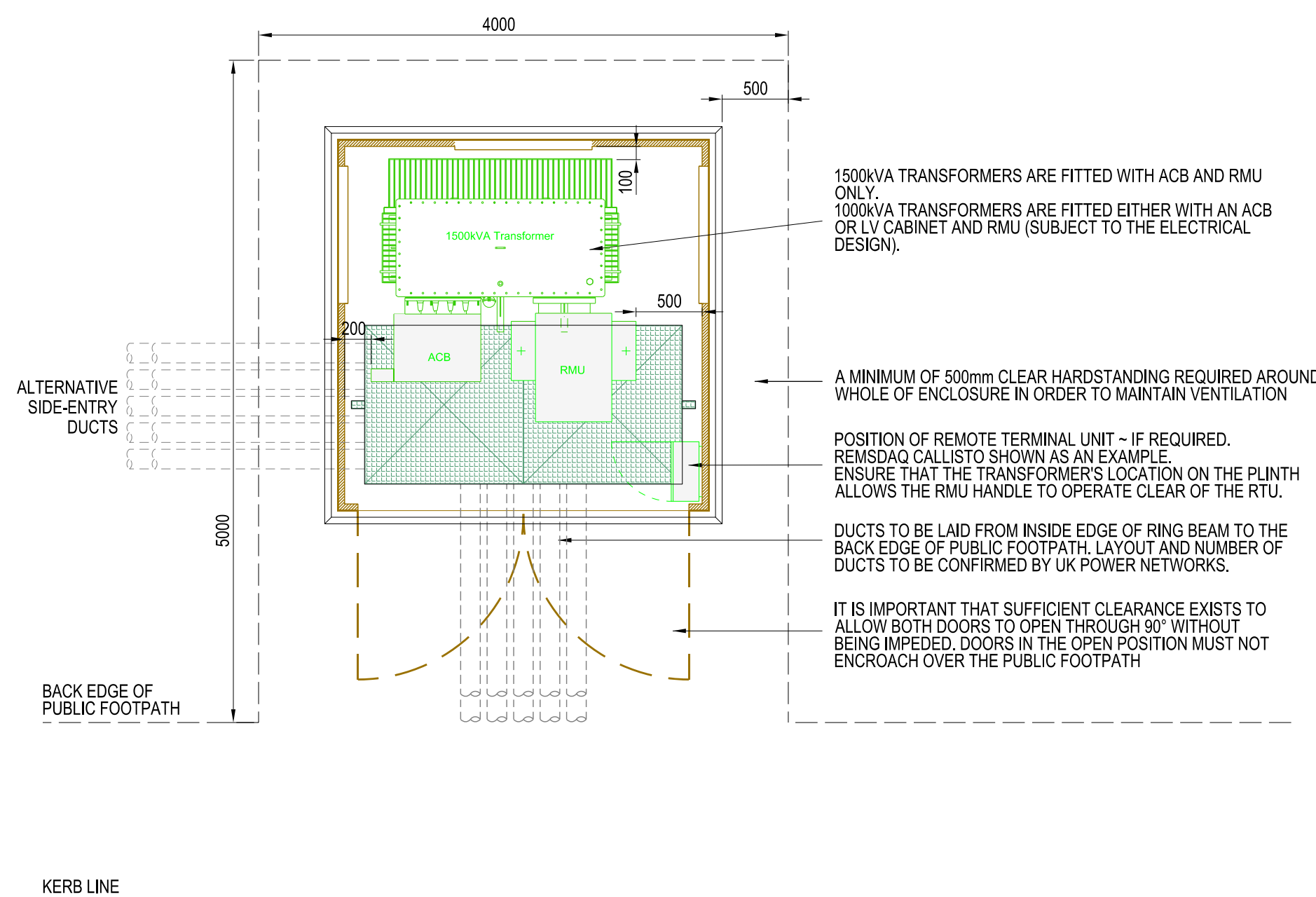




**PROPOSED SUBSTATION LOCATION TO BE ADVISED BY DEVELOPER AND AGREED WITH UK POWER NETWORKS PRIOR TO CONSTRUCTION.**

**IF WITHIN 10m OF A WATERCOURSE OR WITHIN 50m OF A BOREHOLE USE THE FULLY-BUNDED DESIGN DRAWING EDS 07-3102.02**

**LOCATION PLAN**



- GENERAL NOTES**
- DO NOT SCALE FROM THIS DRAWING. NO VARIATION TO THE STATED DIMENSIONS OR MATERIALS SPECIFIED WILL BE PERMITTED WITHOUT PRIOR WRITTEN CONSENT FROM UK POWER NETWORKS.
  - ALL DIMENSIONS ARE IN MILLIMETRES.
  - THE RUNNING OF SPRINKLER SYSTEM, HEATING, GAS, TELECOMS, WATER AND OTHER SERVICES THROUGH OR UNDER THE SUBSTATION AREA IS NOT PERMITTED.
  - WORKMANSHIP AND MATERIALS TO CONFORM TO THE LATEST EDITION OF THE RELEVANT CODES OF PRACTICE OR BRITISH STANDARD AND EUROCODES.
  - LOCATION OF THE SITE SHALL BE OVERLAID ON THE ORDNANCE SURVEY MAP AND ADDED ONTO THE PROJECT SPECIFIC DRAWING.

- PLANNING, LOCATION AND POSITION**
- POSITION AND ORIENTATION OF THE SUBSTATION SHALL BE AGREED WITH UK POWER NETWORKS PRIOR TO THE COMMENCEMENT OF ANY BUILDING WORKS ON SITE
  - SUBSTATIONS SHALL BE LOCATED ADJACENT TO A PUBLIC HIGHWAY OR REACHED BY A PRIVATE DEDICATED ACCESS WAY WITH FULL CONTROL AND ASSOCIATED LEGAL RIGHTS.
  - THE DEVELOPER IS RESPONSIBLE FOR OBTAINING ALL PLANNING CONSENTS AND BUILDING REGULATION APPROVALS.
  - UNIMPEDED ACCESS FOR UK POWER NETWORKS PERSONNEL IS REQUIRED AT ALL TIMES. 365 DAYS OF THE YEAR (24/7). ANY DOORS OR GATES ON THE ACCESS ROUTE SHALL BE LOCKED WITH THE STANDARD UK POWER NETWORKS LOCKING SUITE.
  - ACCESS VIA 24 HOUR SECURITY IS UNACCEPTABLE.
  - PROPOSED SOFT LANDSCAPING ADJACENT TO THE SUBSTATION (E.G. PLANTING SCHEMES) SHALL ALLOW FOR FUTURE PLANT GROWTH WITHOUT COMPROMISING ACCESS OR VENTILATION THROUGH DOORS AND LOUVRES.
  - GRP SUBSTATIONS SHALL BE AT LEAST 4m AWAY FROM THE NEAREST BUILDING UNLESS A 4HR FIRE BARRIER IS LOCATED IN BETWEEN.

- FOUNDATION AND REINFORCED CONCRETE**
- AS STATED ON DRAWING OR TO SUIT THE SITE CONDITION.
  - SUFFICIENT COVER TO THE REINFORCEMENT TO ACHIEVE A 4 HOUR FIRE RATING (60mm MINIMUM).
  - FOR PRELIMINARY DESIGN, ASSUME 500mm INCREASE IN GROUND PRESSURE AT FORMATION LEVEL.
  - STRUCTURAL CONCRETE TO BE POURED ON 50mm GEN 1 MIX CONCRETE BLINDING ON 1200 GAUGE GEOMEMBRANE, ON SAND BLINDING, ON WELL COMPACTED DTP1 TYPE MATERIAL.
  - REINFORCING BARS TO BE ELECTRICALLY CONTINUOUS.

- FLOOR SLAB**
- TO THE STRUCTURAL ENGINEER'S SPECIFICATIONS TO SUSTAIN LOADS SHOWN. THE ENTIRE ACCESS ROUTE IS TO BE CAPABLE OF SUSTAINING THE EQUIPMENT LOAD.
  - STANDARD FLOOR SLAB THICKNESS OF 225mm MINIMUM REINFORCED CONCRETE WITH A SUITABLE WEARING SCREED WITH A MINIMUM COMPRESSIVE STRENGTH OF 40N/mm<sup>2</sup> AFTER 28 DAYS. CONCRETE WORKS FINISHED WITH STEEL FLOAT TO WITHIN +2mm OVER 2000mm.
  - REINFORCEMENT TO DEVELOPER'S STRUCTURAL ENGINEER'S REQUIREMENTS.

- GRP ENCLOSURE**
- SUPPLIED AND INSTALLED BY UK POWER NETWORKS. USUALLY DELIVERED ASSEMBLED. FLAT PACK UNITS ARE AVAILABLE ON REQUEST.
  - TOTAL WEIGHT OF GRP ENCLOSURE IS 600kg.
  - THREE WAY LOCKING DEVICE WITH FREE ISSUED UK POWER NETWORKS PADLOCK.
  - THE THRESHOLD SECTION BELOW THE DOORS IS REMOVABLE TO FACILITATE PLANT MOVEMENT.
  - KEEP 1000mm CLEARANCE MINIMUM ABOVE ENCLOSURE FOR PRESSURE RELIEF AT ALL TIMES.
  - ALLOW 6500mm CLEAR HEADROOM FOR THE REMOVAL OF THE ENCLOSURE DURING MAINTENANCE OR REPLACEMENT OF THE TRANSFORMER.
  - MAXIMUM LOAD ON ROOF TO BE 2.5kN/m<sup>2</sup>.
  - LOUVRED VENTS SHALL NOT BE OBSTRUCTED; A MINIMUM CLEAR AREA OF 500mm IS REQUIRED AROUND THE ENCLOSURE.
  - STANDARD COLOURS ARE MID BROWN 08-B-25 OR DARK GREEN 14-C-39 TO BS4800.

- DUCTS**
- 125mm INTERNAL DIAMETER TWIN WALLED HIGH DENSITY POLYETHYLENE DUCTING TO ESI 12-24 OR BS EN 61386, LAID FLAT AND LEVEL.
  - NUMBER AND ENTRY POSITIONS SHALL BE VERIFIED BY UK POWER NETWORKS.

- INFILL TO AREA AROUND CABLES**
- AFTER CABLE INSTALLATION, SEAL ALL CABLE DUCTS, FILL TRENCHES WITH SAND WITH 100mm ABOVE TOP DUCT AND TO A MINIMUM OF 500mm BELOW THE TOP OF GRATINGS.

- GRP GRATINGS AND SUPPORTS**
- USE APPROVED 38mm DEEP MOULDED GRP GRATINGS; OPEN TYPE WITH GRITTED SURFACE AND COLOUR GREEN.
  - GRATING SHALL BE FLUSH WITH TOP OF FOUNDATION AND SECURELY SUPPORTED, SEATED LEVEL WITH NO NOTICEABLE ROCKING OR SLIDING.
  - CUT OFF OPENINGS FOR CABLE PENETRATIONS ENSURING THE GRATINGS CAN BE REMOVED WITH CABLES IN-SITU WHILE STILL REMAINING STABLE.
  - STEELWORK FOR GRP GRATING SUPPORTS SHALL BE GALVANISED.

- REFERENCES**
- |             |                                                   |
|-------------|---------------------------------------------------|
| SHEET 2     | EARTHING LAYOUT                                   |
| SHEET 3     | SMALL POWER AND LIGHTING LAYOUT                   |
| EAS 07-0000 | APPROVED EQUIPMENT LIST - CIVIL                   |
| EAS 02-0000 | APPROVED EQUIPMENT LIST - CABLES & DUCTS          |
| EDS 07-0119 | SUBSTATION ELECTRICAL SERVICES                    |
| EDS 07-3101 | PRE-DESIGN REQUIREMENTS FOR SECONDARY SUBSTATIONS |
| EDS 07-3102 | SECONDARY SUBSTATION CIVIL DESIGN STANDARD        |

- EQUIPMENT WHICH MAY BE USED WITH THIS DESIGN**
- UNIT SUBSTATION WITH A 1500kVA TRANSFORMER OR BELOW.
  - MICRO SUBSTATION.
  - COMPACT SUBSTATION.

|                                                                                                                                      |          |                                            |          |          |
|--------------------------------------------------------------------------------------------------------------------------------------|----------|--------------------------------------------|----------|----------|
| C                                                                                                                                    | 26-10-18 | Design revised to show 1500kVA transformer | UA       | RDH      |
| B                                                                                                                                    | 05-01-18 | Equipment positioning dimension added.     | UA       | UKPN     |
| A                                                                                                                                    | 09-08-17 | ORIGINAL                                   | UA       | RDH      |
|                                                                                                                                      |          |                                            | UA       | UKPN     |
| Version                                                                                                                              | Date     | Description                                | Checked  | Dm.      |
|                                                                                                                                      |          |                                            | Approved | Designed |
| <div><div>UK<br/>Power<br/>Networks</div></div> |          |                                            |          |          |
| TITLE<br><div>UNIT OR PADMOUNT<br/>SUBSTATION IN A GRP<br/>ENCLOSURE<br/>CIVIL LAYOUT</div>                                          |          |                                            |          |          |
| SCALE NTS                                                                                                                            |          | @A1                                        | APPROVED | Version  |
| DRAWING NO.<br>EDS 07-3102.01                                                                                                        |          |                                            |          | C        |
| Sht 1 of 3                                                                                                                           |          |                                            |          |          |
| SITE<br>SECONDARY SITES                                                                                                              |          |                                            |          |          |