

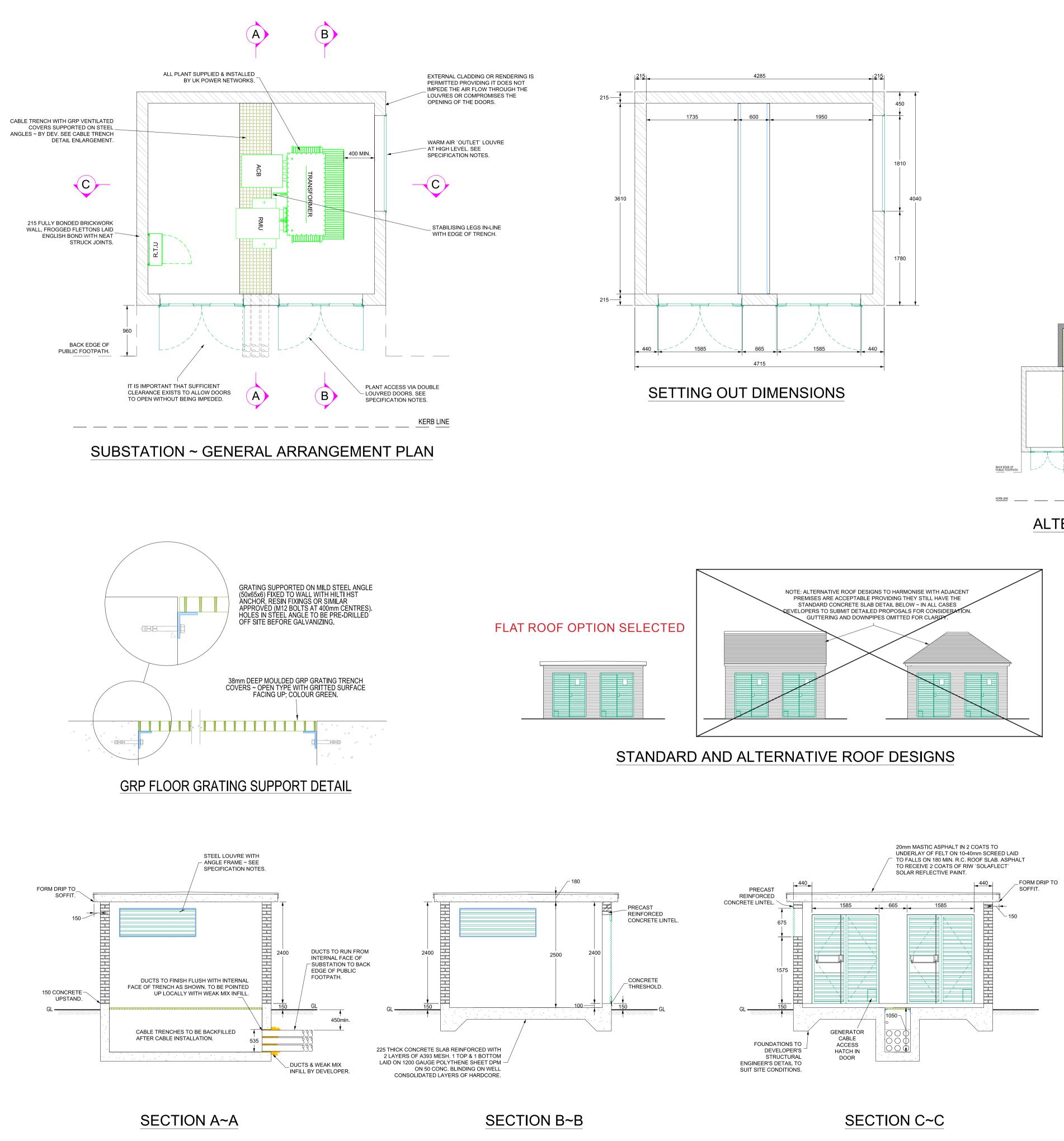


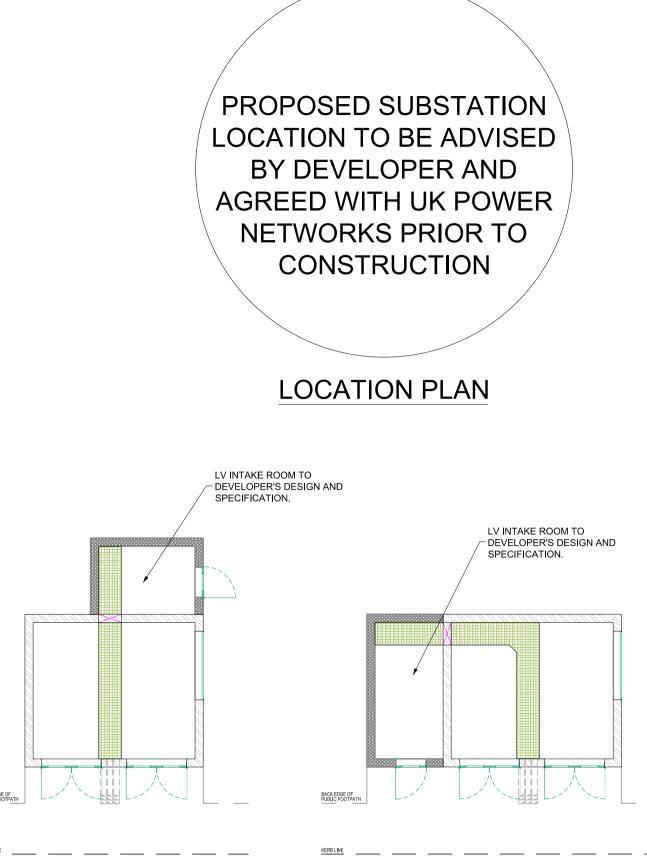


180119-STRIPE-XX-XX-DR-AX-91002



KEY:					
	NEW TIMBER POST AND RAIL FENCE				
_	EXISTING HEDGE RETAINED				
	NEW PALISADE FENCE / GATE				
	EXISTING METAL MESH FENCE RETAINED				
••••	EXISTING METAL MESH FENCE REMOVED				
	NEW ARMCO FLOOD BARRIER				
	EXISTING TIMBER FENCE RETAINED				
	EXISTING TIMBER FENCE REMOVED				
	EXISTING IRON RAILING RETAINED				
	EXISTING GATE RETAINED				
••••	EXISTING POST AND WIRE FENCE RETAINED				
ELECTRICAL SPECIFICATION NOTE.					





ALTERNATIVE SERVICE INTAKE POSITIONS

REFERENCES EAS 07-0000 EDS 07-1119 EDS 07-3101 EDS 07-3102

- 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 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
- THIS DRAWING IN NOT 'FOR CONSTRUCTION'. DESIGNER TO ISSUE SITE SPECIFIC DRAWINGS FOR UK POWER NETWORKS ACCEPTANCE. • LOCATION OF THE SITE SHALL BE OVERLAID ON THE ORDNANCE SURVEY MAP AND ADDED ONTO THE PROJECT DRAWING TO BE ISSUED 'FOR CONSTRUCTION'.
- PLANNING, LOCATION AND POSITION • 1500kVA SUBSTATIONS ARE NOT PERMITTED ADJACENT TO BUILDINGS WITH ROUTINE
- OCCUPANCY BY MEMBERS OF THE PUBLIC. • 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.
- FOUNDATIONS AND REINFORCED CONCRETE • FOUNDATION TO SUSTAIN WEIGHT OF PLANT (5000kg) IN ANY POSITION WITH REINFORCEMENT TO SUIT SITE CONDITIONS (TO STRUCTURAL ENGINEERS REQUIREMENT AND DETAIL); ASSUME 50kN/m² INCREASE IN GROUND PRESSURE AT FORMATION LEVEL FOR PROJECT PLANNING PURPOSES.
- LOCAL SOFT SPOTS SHALL BE EXCAVATED AND BROUGHT UP TO FOUNDATION FORMATION LEVEL WITH A DESIGNATED GEN1 MIX TO BS 8500-2. • GROUND WORK FOR CABLE ENTRIES SHALL BE FULLY EXCAVATED BY DEVELOPER.
- STRUCTURAL CONCRETE TO BE POURED ON 50mm GEN1 MIX CONCRETE BLINDING ON 1200 GAUGE GEOMEMBRANE, ON SAND BLINDING, ON WELL COMPACTED DTp1 TYPE MATERIAL. • SULPHATE RESISTANCE CEMENT COMBINATION TO BS EN197-1:2011 UNLESS OTHERWISE SPECIFIED.
- RC32/40 CONCRETE MIX WITH 20mm AGGREGATE TO BS 8500-2:2015 UNLESS OTHERWISE SPECIFIED. REINFORCED CONCRETE SLABS TO BE OF 225mm MINIMUMN THICKNESS. ALL REINFORCEMENT TO HAVE A 50mm MINIMUM COVER TO PROVIDE FOUR-HOUR FIRE
- RESISTANCE. • REINFORCEMENT TO BE ELECTRICALLY CONTINOUS FOR EARTHING PURPOSES. REFER TO EATHING DRAWING FOR DETAILS. • STRUCTURAL ENGINEER TO PRODUCE BAR BENDING SCHEDULE.
- BIBBED BAR REINFORCING TO BS 4449 2005 STRENGTH GRADE B500B FABRIC
- REINFORCEMENT TO BS 4483:2005. • TOP 150mm OF ALL CONCRETE WORKS TO BE SHUTTERED TO PROVIDE A FAIR FACE FINISH. • TOP OF ALL CONCRETE WORKS TO BE FINISHED SMOOTH AND LEVEL WITHIN +/-2mm OVER
- 2000mm • APPROVED ANTI-VIBRATION MOUNTS BETWEEN PLANT AND FLOOR SLAB. HYDROPHILIC WATER SEAL BETWEEN KICKER AND CONCRETE WALLS (E.G. HYDROTYTE CJ-0725 OR SIMILAR)
- ROOF
- 180mm THICK ROOF SLAB REINFORCED WITH A393 MESH IN TOP AND BOTTOM LAYER AS MINIMUM REINFORCEMENT. • ALL REINFORCEMENT TO HAVE A 50mm MINIMUM COVER TO PROVIDE FOUR-HOUR FIRE
- RESISTANCE. • PITCH ROOF VARIANTS REQUIRE THE STANDARD CONCRETE SLAB. THE REQUIREMENT FOR MASTIC ASPHALT CAN BE REDUCED TO TWO COATS OF WATERPROOFING TREATMENT/OR
- BUILT-UP PROPRIETARY ROOFING (E.G. RIW 'SYNTHAPRUFE' OR SIMILAR). • ROOFING COMPONENTS SHALL BE LOW MAINTENANCE. I.E. uPVC FASCIA BOARDS INSTEAD OF TIMBER, ROOF VOID SHALL BE ADEQUATELY VENTED.
- HOLLOW BEAMS, PRECAST PLANKS OR LIGHTWEIGHT CONCRETE ON METAL DECKING ARE NOT PERMITTED
- WALLS
- OPTION 1: CONSTRUCTED OF 215mm FULLY BONDED BRICKWORK TO BS EN 771-1 LAID ENGLISH BOND, BRICKS FROGGED. 25N/mm²MIN COMPRESSIVE STRENGTH, WITH NEAT STRUCK JOINTS, WALLS TO PROVIDE FLUSH FINISH INTERNALLY.
- OPTION 2: TWO SKINS OF BRICKWORK LAID WITH E.M.L. HORIZONTAL BED JOINT REINFORCEMENT EVERY 3" COURSE WITH NO CAVITY, INNER SKIN TO BE OF COMMON FLETTONS, EXTERNAL SKIN TO HARMONISE WITH ADJACENT BRICKWORK.
- ENGINEERING BRICK OR BLOCK ARE NOT PERMITTED. • PROVIDING THAT NON-COMBUSTIBLE MATERIAL IS USED, BRICKWORK WALLS MAY BE RENDERED OR CLAD EXTERNALLY IF SPECIFICALLY REQUIRED BY THE PLANNING CONDITIONS.
- DOORS • ONLY UK POWER NETWORKS APPROVED DOORS SHALL BE FITTED. • DOUBLE DOOR FOR PERSONNEL ACCESS SECURED WITH HASP AND STAPLE TO EXTERNAL FACE OF ACTIVE LEAF. DROP BOLTS TO TOP AND BOTTOM OF INACTIVE LEAF. STANDARD
- PADLOCK FREE ISSUED BY UK POWER NETWORKS. DOUBLE DOOR FOR TRANSFORMER ACCESS SECURED FITTED ON ACTIVE LEAF
- MASTIC POINTING TO FRAME SURROUNDS EXTERNALLY
- VENTILATION AND LOUVRED VENTS • INLET AND OULTET MINIMUM FREE AIR REQUIREMENT 1m² EACH. TOTAL LOUVRED AREA 4m² ASSUMING 50% EFFICIENCY.
- ONLY UK POWER NETWORKS APPROVED VENTS SHALL BE FITTED. • APPROVED LOUVRED VENTS ARE MADE OF MILD STEEL FULLY WELDED INTO AN ANGLE
- FRAME AND SECURED INTERNALLY BY SUITABLE ANCHOR FIXINGS INTO THE BRICKWORK. STANDARD COLOUR GREEN 14-C-39.
- MASTIC POINTING TO FRAME SURROUNDS EXTERNALLY. • VENTS SHALL BE LOCATED TO PROMOTE NATURAL CROSS VENTILATION OF THE SUBSTATION. DUCTS
- 125mm INTERNAL DIAMETER TWIN WALLED HIGH DENSITY POLYETHYLENE DUCTING TO ESL 12-24 OR BS EN 61386:2010 (E.G. RIDGIDUCT OR SIMILAR), LAID FLAT AND LEVEL. • NUMBER AND ENTRY POSITIONS SHALL BE VERIFIED BY UK POWER NETWORKS.
- FINISHES FLOOR TO RECEIVE TWO COATS OF GREY CONCRETE FLOOR PAINT
- WALLS AND CEILINGS TO RECEIVE TWO COATS OF WHITE EMULSION FOR DUST SEALING. • APPROVED DOORS AND VENTS TO RECEIVE A POWDER COATED FINISH.
- INFILL TO AREA AROUND CABLES
- BACKFILL WITH BUILDERS SAND TO FINISH 500mm FROM TOP OF GRATING. • WHERE THE DEVELOPER BUILDS THE PLINTH, IT IS THEIR RESPONSIBILITY TO BACKFILL THE
- VOID AROUND THE CABLES UNDER UK POWER NETWORKS SUPERVISION. • AFTER CABLE INSTALLATION, SEAL ALL CABLE DUCTS, FILL TRENCHES WITH SAND 100mm ABOVE HIGHEST DUCT AND FINISH LEVEL TO A MINIMUM OF 500mm BELOW THE TOP OF GRATINGS.
- GRP GRATINGS AND SUPPORTS
- 38mm DEEP MOULDED GRP GRATINGS, OPEN TYPE WITH GRITTED SURFACE, GREEN. • GRATINGS SHALL BE FLUSH WITH TOP OF FOUNDATION AND SECURELY SUPPORTED. GRATINGS SHALL BE SEATED LEVEL WITH NO NOTICEABLE ROCKING OR SLIDING AND SHALL
- BE LEFT IN POSITION. • 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.

EDS 07-3102.BE EARTHING ARRANGMENTS FOR FREESTANDING SUBSTATIONS WITH BRICK ENCLOSURES EDS 07.3102.BP SMALL POWER AND LIGHTING FOR BRICK-BUILT, INTEGRAL AND BASEMENT SECONDARY SUBSTATIONS APPROVED EQUIPMENT LIST - CIVIL SUBSTATION ELECTRICAL SERVICES PRE-DESIGN REQUIREMENTS FOR SECONDARY

SUBSTATIONS SECONDARY SUBSTATION CIVIL DESIGN STANDARD

Α	05-01-18	ORIGINAL		UA	RDH			
	05-01-10	ONIOINAL		UA	UKPN			
Version	Date	Description		Checked	Drn.			
Version			Approved	Designed				
UK Power Networks								
SUBSTATION FOR A SINGLE								
TRANSFORMER UP TO 1500kVA								
SCALE	NTS	@A1	APPROVED)	Version			
DRAW								
ED		Α						
SITE	SITE SECONDARY SITES							