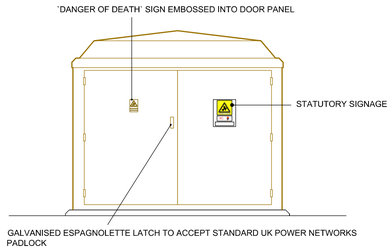
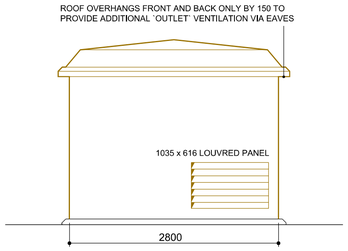


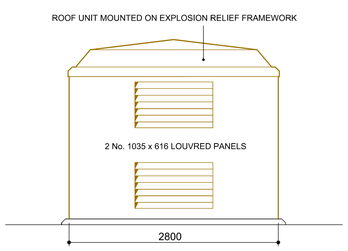
LEFT HAND SIDE ELEVATION



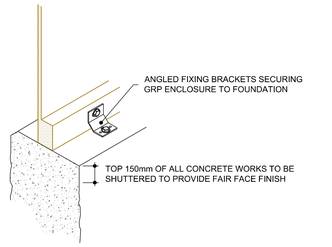
FRONT ELEVATION



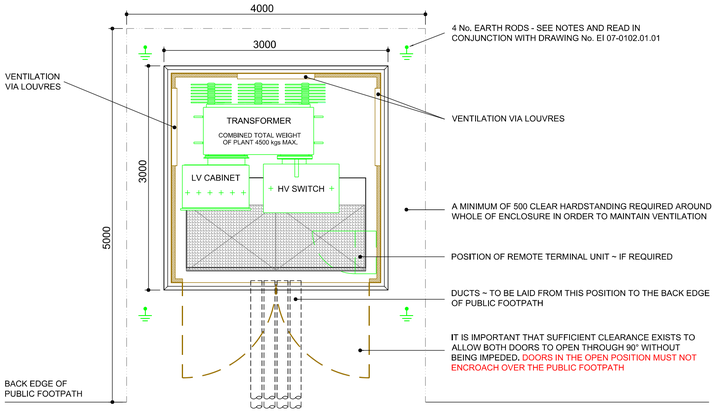
RIGHT HAND SIDE ELEVATION



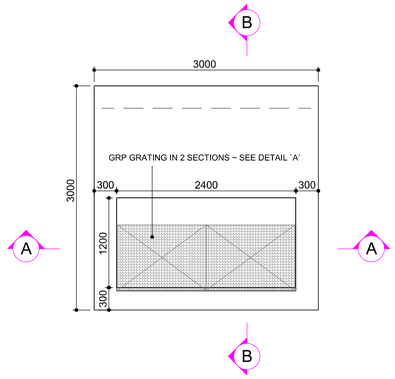
REAR ELEVATION



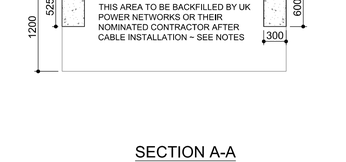
FIXING OF GRP TO FOUNDATION DETAIL



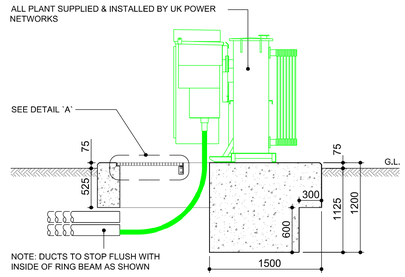
GRP SUBSTATION ~ PLAN



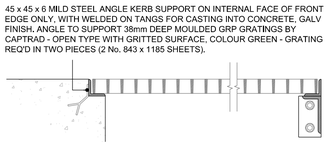
FOUNDATION ~ PLAN VIEW



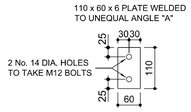
SECTION A-A



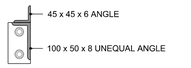
SECTION B-B SHOWING DUCT ENTRIES



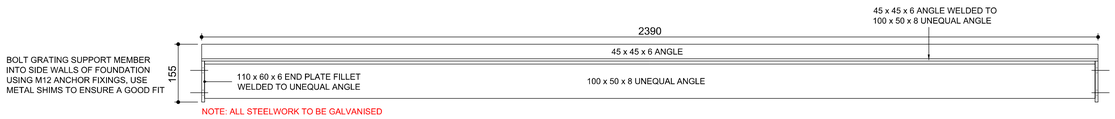
DETAIL `A`



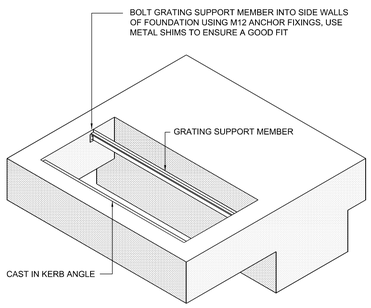
END PLATE DETAIL 1



END PLATE DETAIL 2

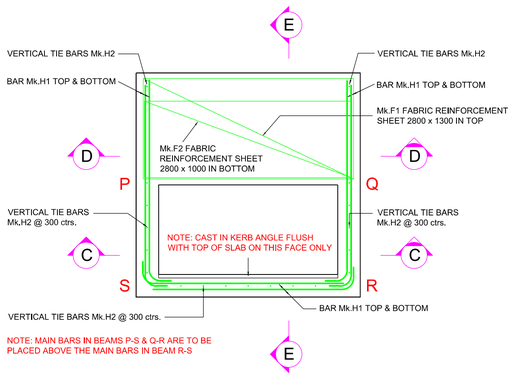


FRONT VIEW OF GRATING SUPPORT MEMBER



FOUNDATION ~ ISOMETRIC VIEW

CHAMFERS & GRATINGS OMITTED FOR CLARITY



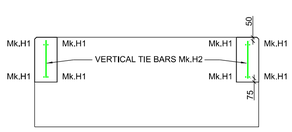
NOTE: MAIN BARS IN BEAMS P-S & Q-R ARE TO BE PLACED ABOVE THE MAIN BARS IN BEAM R-S

FOUNDATION ~ PLAN VIEW

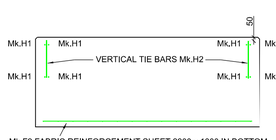
REINFORCEMENT SCHEDULE TO BS 8666:2005

Member	Mark	Type	Size	Total	Length	Shape Code	A	B	C	D
Ground beam / base	H1	B500B	12	12	2975	11	250			
	H2	B500B	12	12	450	00	450			
					Length	Width				
Base fabric top	F1	A252		1	2800	1300				
Base fabric bottom	F2	A252		1	2800	1000				

NOTE: REINFORCEMENT WITHIN TOP & BOTTOM OF PLINTH TO BE CONNECTED TOGETHER AND 600mm EARTH TAIL LEFT FOR CONNECTION TO UK POWER NETWORKS PLANT EARTH TERMINAL

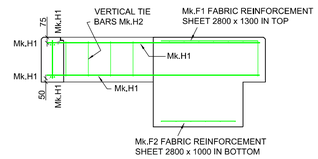


SECTION C-C



SECTION D-D

NOTE: MAIN BARS IN BEAMS P-S & Q-R ARE TO BE TIED INTO THE MAIN BARS IN BEAM R-S



SECTION E-E

SPECIFICATION NOTES.

ALL BUILDERSWORK TO BE PROVIDED BY CLIENTS DEVELOPER / BUILDER UNLESS EXPRESSLY STATED OTHERWISE.

GENERAL NOTES:

- THIS DRAWING IS NOT TO BE SCALED AND 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 WILL BE NOT PERMITTED.
- THE DEVELOPER WILL BE RESPONSIBLE FOR OBTAINING ALL PLANNING CONSENTS AND APPROVALS BEFORE CONSTRUCTION WORK COMMENCES.

SUBSTATION LOCATION.

- IT IS IMPORTANT THAT THE POSITION AND ORIENTATION OF THE SUBSTATION IS DISCUSSED AND AGREED WITH THE UK POWER NETWORKS PROJECT DESIGNER PRIOR TO THE COMMENCEMENT OF ANY BUILDING WORKS ON SITE.
- SUBSTATIONS SHOULD BE LOCATED ADJACENT TO A PUBLIC HIGHWAY OR REACHED BY A PRIVATE DEDICATED ACCESS WAY WITH FULL CONTROL AND ASSOCIATED LEGAL RIGHTS.
- 24 HOUR UNIMPEDED UK POWER NETWORKS PERSONNEL ACCESS IS REQUIRED AT ALL TIMES, 365 DAYS OF THE YEAR. ANY DOORS OR GATES ON THE ACCESS ROUTE ARE TO BE LOCKED IN STANDARD UK POWER NETWORKS LOCKING SUITE.
- ACCESS VIA 24HR SECURITY IS UNACCEPTABLE.
- CONSIDERATION IS TO BE GIVEN AT THE DESIGN STAGE IF ADJACENT SOFT LANDSCAPING IS PROPOSED ~ PLANTING SCHEMES MUST ALLOW ADEQUATE PROVISION FOR FUTURE PLANT GROWTH WITHOUT COMPROMISING ACCESS TO DOORS OR LOUVRES.
- SUBSTATION DOORS MUST NOT ENCROACH OVER PUBLIC FOOTPATH.
- NOTE: THIS DESIGN IS NOT SUITABLE IF LOCATED WITHIN 10m OF A WATERCOURSE OR WITHIN 50m OF A BOREHOLE ~ USE THE FULLY BUNDED VARIANT FOR THESE LOCATIONS.

FOUNDATIONS, CONCRETE & REINFORCEMENT.

- THE STANDARD DESIGN SHOWN IS BASED ON A NET INCREASE OF GROUND PRESSURE AT FORMATION LEVEL NOT EXCEEDING 25kN/m². THIS IS CONSIDERED ADEQUATE FOR NORMAL GROUND CONDITIONS, SHOULD SPECIAL SITE CONDITIONS EXIST SUCH AS MADE UP GROUND OR VARIABLE BEARING PRESSURES THEN THE CLIENT'S STRUCTURAL ENGINEER IS TO DESIGN SUITABLE ALTERNATIVE FOUNDATIONS ~ ALL ALTERNATIVE PROPOSALS TO BE SUBMITTED TO UK POWER NETWORKS FOR COMMENT / APPROVAL PRIOR TO BUILDING WORKS COMMENCING ON SITE.
- LOCAL SOFT SPOTS MUST BE EXCAVATED AND BROUGHT UP TO FOUNDATION FORMATION LEVEL WITH A DESIGNATED GEN1 MIX TO BS 8500-2 WITH A CEMENT COMBINATION TO ENSURE SULPHATE RESISTANCE OR SULPHATE RESISTING PORTLAND CEMENT TO BS 4027.
- CONCRETE TO BE DESIGNATED RC30/37 MIX WITH 20mm AGGREGATE, TO BS 8500-2 WITH A CEMENT COMBINATION TO ENSURE SULPHATE RESISTANCE OR SULPHATE RESISTING PORTLAND CEMENT TO BS 4027.
- ALL REINFORCEMENT TO HAVE A MINIMUM COVER OF 50mm AND A NOMINAL COVER OF 75mm. RIBBED BAR REINFORCEMENT SHALL BE TO BS 4449 - STRENGTH GRADE: B500B. FABRIC REINFORCEMENT SHALL BE TO BS 4483.
- ALL EXTERNAL EDGES ABOVE GROUND LEVEL TO HAVE 25mm x 25mm CHAMFERS.
- CAST IN STEEL ANGLE SUPPORT AS SHOWN IN DETAIL `A`.
- TOP 150mm OF ALL CONCRETE WORKS TO BE SHUTTERED TO PROVIDE A FAIR FACE FINISH.
- TOP OF ALL CONCRETE WORKS TO BE FINISHED SMOOTH & LEVEL WITHIN ±2mm WITH A STEEL TROWEL ~ IT SHOULD BE NOTED THAT A HIGH STANDARD OF WORKMANSHIP IS REQUIRED.

GRP ENCLOSURE.

- UNLESS OTHERWISE STATED, THE STANDARD UK POWER NETWORKS GRP ENCLOSURE WILL BE PROVIDED AND INSTALLED BY UK POWER NETWORKS AS PART OF THE WORKS.
- THE TOTAL WEIGHT OF STANDARD UKPN GRP ENCLOSURE IS 585Kgs.
- ROOF IS SUPPLIED AS A SINGLE MOULDING INCORPORATING ENCAPSULATED TIMBER. MAX LOAD ON ROOF 2.5kN/m².
- ROOF IS MOUNTED ON EXPLOSION RELIEF FRAMEWORK WITH MOUNTINGS. ENCAPSULATED AND BONDED INTO THE CORNERS OF THE ENCLOSURE. THE ROOF IS CAPABLE OF RISING 1m AND RETURNING TO THE NORMAL POSITION.
- DOORS HUNG ON 1½ PAIRS OF STAINLESS STEEL BUTT HINGES.
- DOORS FITTED WITH DOOR STAYS TO HOLD EACH DOOR OPEN AT 90°.
- ESPAGNOLETTE LOCKING SYSTEM ~ SECURED BY UK POWER NETWORKS STANDARD PADLOCK PROVIDED BY UK POWER NETWORKS.
- THE THRESHOLD SECTION BELOW THE DOORS IS REMOVEABLE TO FACILITATE PLANT MOVEMENT.

VENTILATION.

- VIA HIGH AND LOW LEVEL LOUVRED PANELS IN SIDES AND REAR OF GRP ENCLOSURE. LOUVRES MUST NOT BE OBSTRUCTED AT ANY TIME. A MINIMUM CLEAR AREA OF 500mm HARDSTANDING IS REQUIRED AROUND THE GRP ENCLOSURE.

COLOUR.

- STANDARD EXTERIOR COLOURS ARE MID BROWN 08-B-25 OR DARK GREEN 14-C-39 TO BS 4800.

GRATINGS & GRATING SUPPORT.

- 38mm DEEP MOULDED GRP GRATINGS BY CAPTRAD - OPEN TYPE WITH GRITTED SURFACE, COLOUR GREEN. GRATING REQUIRED IN TWO PIECES (2 No. 843 x 1185 SHEETS).
- GRATINGS MUST BE FLUSH WITH TOP OF FOUNDATION AND SECURELY SUPPORTED USING GALVANISED STEEL SUPPORT MEMBER AS SHOWN IN DETAIL `A`.
- GRATINGS MUST BE SEATED LEVEL WITH NO NOTICEABLE ROCKING.
- ALL STEELWORK TO BE GALVANISED.

ASSEMBLY.

- THE GRP ENCLOSURE IS USUALLY DELIVERED FULLY ASSEMBLED.
- AN OPTION FOR A FLAT PACK UNIT IS AVAILABLE ~ SPECIAL ORDER.

DUCTS.

- THE EXACT NUMBER OF DUCTS AND DUCT ENTRY POSITIONS ARE TO BE VERIFIED BY UK POWER NETWORKS TO SUIT THE PROJECT.
- PERMITTED DUCTS:- 125mm INTERNAL DIAMETER TWIN WALLED HIGH DENSITY POLYETHYLENE DUCTING TO ESI 12-24 (BS EN 50086-2-4) LAID FLAT & LEVEL. eg. RIDGIDUCT.

CABLE ACCESS.

- GROUNDWORK FOR CABLE ENTRY TO BE FULLY EXCAVATED BY DEVELOPER.

EARTHING.

- A DEDICATED EARTHING SYSTEM IS REQUIRED TO BE SUPPLIED, INSTALLED AND TESTED BY DEVELOPERS SPECIALIST CONTRACTOR. SEE UK POWER NETWORKS DRAWING No. EI 07-0102.01.01
  FOR FULL DETAILS. REINFORCEMENT WITHIN TOP & BOTTOM OF PLINTH TO BE CONNECTED TOGETHER AND 600mm TAIL LEFT FOR CONNECTION TO UK POWER NETWORKS PLANT EARTH TERMINAL.

NOTES FOR UK POWER NETWORKS CONTRACTORS.

INFILL TO AREA AROUND CABLES.

- BACKFILL WITH BUILDERS SAND AROUND CABLES 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.

GRATINGS.

- NOTE THAT GRATINGS ARE DESIGNED FOR PERSONNEL LOADING ONLY.

Version	Date	Description	Checked	Drn.
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A	22-03-10	ORIGINAL	MD	GD
			PL	GD
			Approved	Designed

UK Power Networks

TITLE

STANDARD PLINTH DETAIL FOR A GRP ENCLOSURE HOUSING A PACKAGE SUBSTATION UP TO 1000kVA

SCALE	NTS	@A1	APPROVED	Version
DRAWING NO.		EI 07-0102.01		A
SITE		SECONDARY SITES		

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