

KEY:
(SEE NOTES FOR EQUIPMENT DETAILS)

 TWIN FLUORESCENT LUMINAIRE

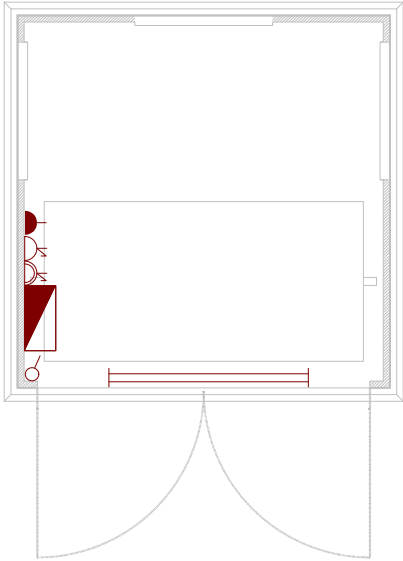
 13A UNSWITCHED FUSED SPUR FOR RTU

 13A SWITCHED SINGLE SOCKET LABELLED FOR TEST EQUIPMENT

 13A SWITCHED DOUBLE SOCKET

 LIGHT SWITCH

 CONSUMER UNIT



- 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.
 - THE LIGHTING AND POWER REQUIREMENTS ARE SUMMARISED BELOW. REFER TO EDS 07-0119 FOR FURTHER DETAILS.
 - ALL WORK AND TESTING SHALL BE CARRIED OUT BY SUITABLY COMPETENT OPERATIVES IN ACCORDANCE WITH BS 7671.
 - ALL ACCESSORIES AND ACCESSORY MOUNTING BOXES OR ENCLOSURES SHALL BE IP56 SURFACE MOUNTED FROM THE MK MASTERSEAL RANGE OR EQUIVALENT.

- POWER SUPPLY OPTIONS**
- MINIMUM 4mm² SWA FROM THE LV CABINET/BOARD 13A AUXILIARY SUPPLY TERMINALS OR 35mm² SERVICE FROM LV MLLAK OR LV DISTRIBUTION NETWORK. ALL SUPPLIES SHALL BE TERMINATED IN A 100A OUT-OUT FUSED AT 30A.

- DISTRIBUTION BOARD**
- THE DISTRIBUTION BOARD SHALL BE INSULATED SINGLE-PHASE AND NEUTRAL (TO BS EN 61439-1) WITH A MINIMUM OF 5 WAYS AND INCLUDE:
 - A 100A/25A DOUBLE-POLE (PHASE AND NEUTRAL) DISCONNECTOR WITH 15kA BREAKING CAPACITY (TO BS EN 60891)
 - RCBOs (TO BS EN 61008-1) AND MCBS (TO BS EN 60898-2) WITH 15kA BREAKING CAPACITY.
 - 160A RCBO FOR THE 13A SOCKET OUTLET CIRCUIT.
 - 16A MCB FOR THE TEST EQUIPMENT 13A SOCKET OUTLET.
 - 63/10A MCB FOR THE LIGHTING CIRCUIT.
 - 6A MCB FOR EACH RTU OR RTU IF INSTALLED.
 - A SPARE WAY COMPLETE WITH BLANKING PLATE FOR FUTURE USE.
 - THE DISTRIBUTION BOARD SHALL BE MOUNTED AT A HEIGHT OF 1350mm TO 1450mm ABOVE FINISHED FLOOR LEVEL.

- INTERNAL LIGHTING**
- THE SUBSTATION SHALL A MINIMUM OF ONE LIGHT FITTING ABOVE THE DOOR, IF REQUIRED.
 - ADDITIONAL LIGHT FITTINGS SHALL BE INSTALLED TO PROVIDE ADEQUATE ILLUMINANCE TO ALL AREAS.
 - THE LIGHT FITTINGS SHALL BE POSITIONED TO AVOID SHADOWS WHEN EQUIPMENT DOORS ARE OPEN.
 - ALL LIGHT FITTINGS SHALL BE MOUNTED AT A MAXIMUM HEIGHT OF 2200mm ABOVE FINISHED FLOOR LEVEL AND BE POSITIONED TO AID FUTURE MAINTENANCE. LIGHT FITTINGS SHALL NOT BE INSTALLED ABOVE AN LV BOARD.
 - ORIGINAL PURPOSE LIGHT FITTINGS SHALL BE OF THE FLUORESCENT IMPACT AND CORROSION RESISTANT TYPE, CORROSION RESISTANT WITH A POLYCARBONATE PRISMATIC DIFFUSER (TO BS EN 60598-1) AND SHALL HAVE A MINIMUM DEGREE OF PROTECTION OF IP56. THE PREFERRED SIZE IS A 1500mm TWIN LAMP FITTING.
 - LIGHT FITTINGS SHALL BE FITTED WITH 3kW OR 4kW T5 OR T16 LINEAR FLUORESCENT TUBES OF THE HIGH FREQUENCY ENERGY EFFICIENT TYPE (TO BS EN 60598-1) OR EQUIVALENT LED. ALL LAMPS SHALL HAVE CAPS OF THE 'B' PIN TYPE AND A MINIMUM COLOUR TEMPERATURE OF 3000K (A WHITE APPEARANCE).
 - LIGHT FITTINGS SHOULD BE CONNECTED VIA A PLUG IN ROSE (OR SIMILAR) TO AID FUTURE MAINTENANCE. A PROTECTIVE CONDUCTOR SHALL BE CONNECTED TO THE EARTH TERMINAL OF EACH FITTING.
 - A SURFACE MOUNTED LIGHT SWITCH WITH NEON INDICATOR SHALL BE POSITIONED ADJACENT TO THE SUBSTATION DOOR.
 - ALL LIGHT SWITCHES SHALL BE MOUNTED AT 1400mm ABOVE FINISHED FLOOR LEVEL.

- POWER**
- ONE DOUBLE 13A SOCKET OUTLET (TO BS 1363) SHALL BE INSTALLED IN ADDITION TO ANY SOCKET IN THE LV CABINET.
 - AN ADDITIONAL SINGLE 13A SOCKET OUTLET (TO BS 1363) SHALL BE INSTALLED, DESIGNATED AND LABELLED AS A TEST EQUIPMENT SOCKET AND SUPPLIED VIA A SEPARATE MCB.
 - ANY RTU/RTU SHALL BE SUPPLIED BY AN UNSWITCHED FUSE CONNECTION UNIT (TO BS 1363) FUSED AT 5A.
 - RCDs CIRCUITS SHALL BE USED FOR ALL POWER CIRCUITS.
 - ALL SMALL POWER ACCESSORIES SHOULD BE MOUNTED AT 1500mm ABOVE FINISHED FLOOR LEVEL.

- CABLING**
- ALL CABLES SHALL BE 6491B LSH TO BS EN 50525-3-41 AND SHALL COMPLY WITH BASEC. ALL INSULATION SHALL USE PHASE OR NEUTRAL COLOURS THROUGHOUT THE LENGTH OF THE CONDUCTOR IN ACCORDANCE WITH BS 7671. NOTE: THE USE OF COLOURED SLEEVES TO MARK CONDUCTORS IS NOT ACCEPTABLE.
 - ALL CABLES SHALL USE STRANDED COPPER CONDUCTORS WITH THE FOLLOWING MINIMUM CROSS SECTIONAL AREA:
 - LIGHTING 1.5mm²
 - OUT-OUT UNIT TALLS 25mm²
 - SMALL POWER 4.0mm²
 - ALL CABLES EXCEPT ARMoured CABLES AND OUT-OUT TALLS SHALL BE ENCLOSED IN PLASTIC CONDUIT OR TRUNKING. THE TYPES AND SIZES SHALL BE SUITABLE FOR THE OPERATING CONDITIONS.
 - ALL CABLES SHALL BE INSTALLED WITHOUT JOINTS OTHER THAN AT EQUIPMENT AND TERMINAL FITTINGS.

- CONDUIT, TRUNKING AND TRAYS**
- ALL CABLEING SHALL BE INSTALLED IN MINIMUM 20mm CONDUIT SIZED IN ACCORDANCE BS 7671.
 - ALL CONDUIT, BOXES AND FITTINGS SHALL BE HIGH IMPACT, NON-FLAME PROPAGATING, SELF-EXTINGUISHING, HEAVY-DUTY PVC CONDUIT (TO BS EN 61386-1). DIMENSIONS SHALL COMPLY WITH BS EN 60623.
 - THERE SHALL BE SUFFICIENT JUNCTION BOXES, DRAW-IN BOXES AND INSPECTION FITTINGS INSTALLED TO ALLOW CABLES TO BE INSPECTED, WITHDRAWN AND REPLACED IF NECESSARY. THE COMPLETE INSTALLATION SHALL BE ARRANGED USING A LOOP-IN TYPE SYSTEM WITH JOINTS BEING CARRIED OUT AT SWITCHES, ISOLATORS OR APPLANCE FITTINGS.
 - ALL ADAPTABLE BOXES AND ACCESSORIES SHALL MATCH THE CONDUIT AND SHALL BE FITTED WITH EARTHING TERMINALS.
 - JOINTS BETWEEN CONDUITS MAY BE PUSH-FIT, COMPRESSION, MECHANICAL LOCKING OR SOCKET-NO SEaled WITH PVC ADHESIVE, WHERE A WEATHERPROOF OR WATERTIGHT CONNECTION IS REQUIRED PUSH-FIT ARRANGEMENT ALONE IS NOT ACCEPTABLE.
 - ALL CONDUIT SHALL BE SECURED USING MATCHING DISTANCE SADDLES SPACED AT A MAXIMUM DISTANCE OF 750mm AND 200mm FROM ANY BEND, JOINT OR ACCESSORY. ALL BOXES AND ACCESSORIES SHALL BE SECURED INDEPENDENTLY.
 - REFER TO EDS 07-0119 FOR TRUNKING AND CABLE TRAY REQUIREMENTS.

- LABELLING**
- ALL LABELLING SHALL COMPLY WITH BS 7671.
 - ALL DISTRIBUTION BOARD WAYS SHALL BE PERMANENTLY LABELLED TO IDENTIFY CIRCUIT FUNCTION, CABLE SIZE AND PROTECTIVE DEVICE RATING.

- HOT SPOTS**
- ALL SOCKETS SHALL BE DISCONNECTED OR REMOVED.
 - ALL LIGHTING AND RTU SUPPLIES FROM AUXILIARY TERMINALS SHALL BE VIA AN ISOLATION TRANSFORMER.
 - REFER TO EDS 08-0023 FOR FURTHER INFORMATION.

- TESTING AND CERTIFICATION**
- UPON COMPLETION OF THE WORKS, THE INSTALLATION SHALL BE TESTED IN ACCORDANCE WITH BS 7671. AN ELECTRICAL INSTALLATION CERTIFICATE TOGETHER WITH A SCHEDULE OF TEST RESULTS AS DETAILED IN BS 7671 SHALL BE FORWARDED TO UK POWER NETWORKS.

A	26-10-18	ORIGINAL	UA	RDH
			UA	UKPN
Version	Date	Description	Checked	Dr.
			Approved	Designed



TITLE				
UNIT OR PADMOUNT SUBSTATION IN A GRP ENCLOSURE SMALL POWER & LIGHTING				
SCALE	NTS	@A1	APPROVED	Version
DRAWING NO. EDS 07-3102.01 Sht 3 of 3				
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SITE SECONDARY SITES				