



**Lift Replacements  
Albion Towers, Redbridge Towers and  
Shirley Towers**

**ELECTRICAL PARTICULAR SPECIFICATION**

**RP200299**

**CAPITAL ASSETS**

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# Quality Management

<b>Job No</b>	RP200299		
<b>Project</b>	Albion Towers, Redbridge Towers and Shirley Towers lift replacements		
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<b>Title</b>	Albion Towers, Redbridge Towers and Shirley Towers lift replacements		
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## Revision Status / History

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# ELECTRICAL SPECIFICATION

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## **1.0 Preliminaries**

The contract preliminaries are included in the main bill/specification for this project and shall be read in conjunction with all the contract documents.

## **2.0 Standard Specification**

### **2.1 General**

The electrical works shall be executed entirely in accordance with the Southampton City Council, Property Services Standard Specification for Electrical Engineering Services Issue 11, 27th April 2015, except where varied directly by the Particular Specification. The Works shall in all ways comply with the Electricity at Work Regulation, current edition of BS 7671 (IEE Wiring Regulations), the Health and Safety at Work Act and its associated regulations, the Factories Act and associated regulations.

The electrical engineering services shall be carried out by a National Inspection Council for Electrical Installation Contracting (NICEIC) registered contractor or a member of the Electrical Contractors Association (ECA). All operatives employed on electrical installation work shall be competent and be in possession of an Electro technology Certification Scheme card (ECS) or Client/Contractor National Safety Group (CCNSG) Safety Passport. If any operatives are not in possession of this card they shall be deemed not competent to work at any of the Authority's premises.

### **2.2 References to Standards**

References to British, European, other National or International Standards shall be deemed to mean the latest edition of the Standard.

### **2.3 Testing and Certification - Electronic**

The whole of the finished works shall be inspected and tested in accordance with the current editions of BS 7671, BS 5839 and BS 5266. A full list of certificates required is shown below. In all cases, the certificates shall include test results, serial numbers and most recent calibration dates of instruments used.

- Format shall be Adobe Acrobat portable document format (PDF).
- Electrical Installation Certificate
- Minor Works Certificate
- Emergency lighting installation certificate in accordance with BS 5266-1.
- Emergency lighting completion and test certificate in accordance with BS 5266-1.
- Fire Alarm Installation Certificate in accordance with BS 5839-1
- Fire Alarm Commissioning Certificate in accordance with BS 5839-1
- CCTV System commissioning certificate (paper)
- Lightning Protection test certificate

The issue of a Certificate of Practical Completion and payment is subject to the satisfactory receipt of the above Certificates.

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## **2.4 Electronic Certification**

Printed original certificates are not required. Certification shall be sent by e-mail and must be validated accordingly with the status being duplicate mode or that dictated by the Contract Administrator. All files shall be WinZipped and it is important that the correct client reference is used. PDF files shall be named by property and date.

## **2.5 Materials and Equipment**

The materials and equipment used throughout the sub-contract shall be the best of their respective kinds and in accordance with the drawings and particular specification to the entire satisfaction of the Contract Administrator. All materials shall be subject to approval and in the case of any which are different from the various approved alternative specified samples, must be submitted to the Contract Administrator before installation. The Electrical Contractor shall remove any materials which do not meet the requirements of the specification and replace them with approved material at his own expense and shall meet the cost of any additional builders work which may involve in so doing. Materials shall conform to the requirements of Southampton City Council, Property Services Standard Specification for Electrical Engineering, Issue 11.

## **2.6 Construction Design Management (CDM) Regulations – 2015**

This project is Notifiable under the Construction (Design and Management) Regulations. Contractor is to provide input into the production of the Construction Stage Health & Safety Plan to include but not limited to on-site risk assessment, method statements with specific reference to the electrical installations. All work undertaken will be in accordance with the method statements provided and the current editions of all relevant legislation and recommendations, including Building Regulations, British Standards and Health & Safety legislation. The contractor is to provide a competent supervisor on site for the duration of the contract to oversee the works and to ensure that all work is completed in a neat and professional manner.

Prior to practical completion, provide input into the production of the Project Health & Safety File with specific reference to the safe operation and maintenance of the electrical installations. Provide an Operations & Maintenance manual (O&M) with all relevant technical data, as fitted drawings and completed test certification.

## **2.7 Asbestos Procedure**

Before any work starts on site the contractor MUST have confirmation from SCC Environment and Safety Team that a site asbestos survey has been carried out and it is safe to work.

The Council's asbestos procedure must be adhered to at all times. A copy of safe working procedures will be available on site for all operatives to view. If at any time there is any doubt as to material containing asbestos work must be stopped and the material tested. The Contract Administrator must be informed and appropriate action taken. The type of work is not likely to present an asbestos risk. The asbestos database is available upon request and will be supplied BEFORE any work commences and this will normally be sufficient. However, all asbestos risks should be considered at all times for each individual job, and if the work does involve a significant destructive

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element that might disturb concealed building materials, the contractor must arrange with the Contract Administrator that a project survey is carried out by SCC Environment and Safety Team so that the risk can be fully assessed.

If there are any suspicious materials, all works **must stop immediately, and the Contract Administrator and people in the vicinity informed immediately.**

All contractors involved directly with the works must have carried out asbestos awareness training and within the last 12 months.

**Please Note**

These notes are for guidance only, please refer to the main contract preliminary documents for the contractual requirements for Health and Safety.

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## 3.0 Particular Specification

### 3.1 Introduction

This section of the specification details the electrical engineering services work that shall be carried out as part of the replacement lift programme of the existing electric traction top drive direct acting 1:1 passenger lifts at the following residential Tower Blocks in Southampton:

Shirley Towers. Church Street, Southampton, SO15 5PD.

Albion Towers. Golden Grove, Southampton, SO14 1HZ.

Redbridge Towers. Cuckmere Lane, Southampton, SO16 9AT

This specification should be read in conjunction with all tender information and documents.

Description of the sites: -

Shirley Towers is a 15 storey residential tower block with 2 lifts serving 9 alternate floors. (G, 1, 3, 5, 7, 9, 11, 13 and 15).

Albion Towers is a 15 storey residential tower block with 2 lift serving 9 alternate floors. (G, 1, 3, 5, 7, 9, 11, 13 and 15).

Redbridge Towers is a 19 storey residential tower block with 2 lifts serving 19 floors in total. One lift serves 11 odd numbered floors (G, 1, 3, 5, 7, 9, 11, 13, 15, 17 and 19) with the second lift serving 10 even numbered floors (G, 2, 4, 6, 8, 10, 12, 14, 16 and 18)

#### Scope of Works

The scope of the works shall include the electrical supply and installation of services to provide a complete installation as follows.

The work specified in this document provides for the supply, delivery, off-loading, positioning, installation, testing, certification and setting to work of the following:

- 400/230v switchgear and distribution equipment
- Luminaries (including provision of lamps) including lighting control equipment and emergency lighting
- Fire Alarm System
- Electrical Power Systems
- Communication & CCTV Systems
- Lightning Protection System
- Wiring accessories
- Cabling and the associated containment
- Builders work associated with cable openings and making good
- Operating and maintenance manuals and record drawings

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The works shall include:

- i) Visit site to gain full acquaintance of the existing electrical system and define the requirements of the new systems within the building, especially where electrical works are being carried out.
- ii) The contractor is to carry out prior testing of all systems and circuits affected by the work prior to starting informing the Contract Administrator of any failures.
- iii) Remove existing redundant and associated equipment. Ensure circuits are made safe. Follow all SCC procedures where asbestos may be present.
- iv) Prepare a fully itemised sub contract programme for comment by the CA in advance of the pre contract site meeting.
- v) Supply, install and commission new lighting and small power systems in the building. Allow for all containment associated with these works.
- vi) The existing sub main cables running from the existing switchroom up to the lift machine room have been tested recently and the electrical test certificates are included within these tender documents. The contractor shall check and confirm these existing cables are suitable for the new lift installations. Otherwise allow to supply and install new sub main cables. The contractor is to make it clear in their tender submission what has been allowed.
- vii) Supply, install and commission new fire alarm system components. Equipment to match existing.
- viii) Allow for all earthing and bonding to IEE Regulations standard.
- ix) Allow to investigate the site and bring to the Engineer's attention any items not fully covered by this specification or not shown on the drawing.
- x) Allow for provisional sums as detailed in the Cost Summary.
- xi) The contractor shall be responsible for producing working drawings to confirm the design intent and fully detail to permit installation of all services. The production and formal submission of the contractors working drawings shall be shown on the contractors Sub Contract programme allowing at least 14 days for the CA to comment and return.
- xii) The Contractor shall make allowance for co-ordinating the electrical services with all other trades.
- xiii) All discrepancies shall be brought to the attention of the Engineer before prices are submitted.
- xiv) Prepare co-ordinated working drawings showing the inter-relationship with the mechanical services installation and the building structure, and installation drawings which shall be submitted, to the Engineer prior to commencement of the installation, showing the proposed works.
- xv) Prepare 'as installed' drawings upon completion of the work.
- xvi) Submit all test certificates as described in the latest editions of BS 7671 (IEE Wiring Regulations), BS 5266 (Emergency Lighting) and BS 5839 (Fire Alarms) on completion of the works. See SCC standard specification.
- xvii) Prepare O&M manual upon completion of the work and submit to the Engineer for acceptance prior to handing to the client.

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- xviii) The proposed electrical installation shall be carried out in strict accordance with the latest edition of the IEE wiring regulations (BS 7671) including all amendments, SCC standard specification and this specification.
- xix) The Contractor shall allow for all builders work in connection with the above electrical works including making-good, filling of holes etc.

All works shall be carried out in accordance with this specification.

### 3.2 Removals

The contractor shall isolate, disconnect and remove the lighting and associated cabling and power from the Lift Machine Room.

One of the existing lifts shall remain operational until the new lift has been commissioned.

On completion the contractor shall isolate, disconnect and remove the all redundant electrical equipment including isolators and associated cabling.

### 3.3 Main Switchgear

The Contractor shall design, supply, install, wire and connect the following main switchgear:

Redbridge Towers – the intention is to keep the existing 3phase isolator located in the ground floor switchroom and the sub-main up to the lift machine room. The existing 3 phase isolators and distribution in the lift machine rooms are to be replaced with new. There is other electrical switchgear adjacent and this is to be left as is.

Shirley Towers – the intention is to keep the existing 3phase isolator located in the ground floor switchroom and the sub-main up to the lift machine room. The existing 3 phase isolators and distribution in the lift machine rooms are to be replaced with new. There is other electrical switchgear adjacent and this is to be left as is.

Albion Towers – the intention is to keep the existing 3phase isolator located in the ground floor switchroom and the sub-main up to the lift machine room. The existing 3 phase isolator feeding the BUSBAR and the BUSBAR is to be replaced with new. The existing 3 phase isolators and distribution in the lift machine rooms are to be replaced with new. There is other electrical switchgear adjacent and this is to be left as is.

Switchgear to be used: -

Eaton MEM Bus Bar chamber or equal and approved

Eaton MEM Glasgow TPN fused switch disconnecter or equal and approved for each lift

Eaton MEM Glasgow SPN fused switch disconnecter or equal and approved for LIFT DB

The contractor shall supply install and connect Eaton MEM connection set.

### 3.4 Distribution

The distribution of circuit cabling for this installation shall be via:

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- (i) Single LSOH Cables (6491B) within a steel trunking and conduit containment system.
- (ii) Single LSOH Cables (6491B) within a non-metallic trunking and conduit containment system.
- (iii) Multicore LSOH Cables (FP200) clipped direct to the structure of the building.
- (iv) Multicore XLPE/SWA/PVC multicore armoured power cable to BS5467 clipped direct to the structure of the building.

All cables must have a BASEC approved marking on the cable.

#### Cable Colours

Warning notices are to be fixed at the distribution board where there is a mix of cable colours. Notice should be black characters on yellow background and should read:

#### CAUTION

This installation has wiring colour to two versions of BS 7671. Great care should be taken before undertaking extension, alteration or repair, that all conductors are correctly identified.

#### Programming

Works are to be carried out within the principle contractor programme.

Note: All certification to be approved by the Engineer before Practical Completion is achieved.

#### Marking of Wiring within Distribution Boards and Consumer Units

Neutral conductors within distribution boards and consumer units shall be marked as to their circuit reference by means of sleeves or ferrules.

### 3.5 **Distribution Equipment**

The contractor shall supply, install, wire and connect the following distribution equipment:

MEMShield 3 Type B Distribution Board with switch disconnecter and door barrel lock with 2 keys or equal and approved

The distribution boards is to be provided with spare capacity of at least 20%.

### 3.6 **Labels**

All new mains switchgear and distribution boards shall be labelled by means of engraved labels, black letters on yellow background character size 6mm. Labels shall be fitted by means of Nylon fasteners. Steel set screws and nuts, self-taping screws or pop rivets are not permitted.

Rigid plastic warning signs, black on yellow and of size 150 x 80mm shall be affixed to the switchroom doors with artificial respiration and Electricity at Work Regulation notices, displayed within the Switchroom.

Each accessory shall be marked as to the distribution board and way number that controls it by means of an adhesive label affixed to its top edge. E.g. DB1-2. All key switched, switched and un-switched fuse connection units shall have an additional label with respect to their function. E.g. Water Heater.

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Upon completion of the contract the contractor shall ensure the entire installation is fully compliant with the regulations and this specification. Known defects are labelling, IPX rating of the trunking and distribution boards, existing cabling not secured using metal tie wraps / banding. All existing or new cables found in the main lobby must be metal tie wrapped / banded and correctly contained.

### 3.7 **Earthing and Bonding**

#### Main and Supplementary Bonding Conductors

Main and Supplementary Bonding Conductors shall be single core stranded copper conductors with L.S.F. insulation. Where main bonding conductors are connected to other services or supplementary bonding conductors to other metal parts of the building, a label, which shall be of a clear and permanent nature, shall be provided stating:

SAFETY ELECTRICAL CONNECTION - DO NOT REMOVE

A schedule of main services and extraneous metalwork requiring bonding are shown below together with cable sizes.

#### Main Services Bonding

New switchgear equipotential lift supply

#### Supplementary Bonding

Bond the following items as applicable:-

Hot, cold and waste service pipes at all points of utilisation 4.0mm<sup>2</sup>

Ventilation plant and ductwork 6.0mm<sup>2</sup>

Heating plant and ductwork 6.0mm<sup>2</sup>

Structural steelwork 6.0mm<sup>2</sup> (every 15m)

This schedule includes for the major items required to be bonded, but should not be considered exhaustive. Bonding shall generally comply with the requirements of BS 7671, the IEE Regulations and the Supply Authorities PME Regulations.

#### Earthing Conductors

Earthing conductors shall be separate single core; LSF (Low Smoke and Fume) insulated copper conductors.

The circuit protective conductors for each circuit shall be sized to suit the Distribution Board schedule.

### 3.8 **Lighting**

The Contractor shall design, supply, install, wire and connect luminaires to suit the individual lifts. **All luminaires stated in this specification maybe equal and approved, however if alternatives are proposed must be proved by calculations to meet the requirements of CIBSE Guidelines**

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**and any technical publication to the type of dwelling / room the luminaire is lighting.**

All new luminaires shall be complete with polylux lamps of Colour Temperature 4000K. All fluorescent lighting shall high frequency control gear fitted.

The Contractor shall supply, install, wire and connect Thorn Aquaforce II 2 x 35w T5 HF luminaires in each lift shaft, the light fittings shall be located 500mm from the top and bottom of the lift shaft and with a light fitting installed at the centre point of the fitting between each floor level. The light closest to the top and bottom are to be mounted horizontally and the remainder vertically. Final position of the light fittings is to be agreed with the lift engineer. Lux level to be achieved is a minimum 50Lux. The top, bottom and 2 intermediate shaft lights are to have a 3-hour emergency capability and the light switch is to be sited in lift machine room with a 2-gang switch (1 switch, 1 key switch) with neon indicator. 2 other light switches are to be installed in lift pit and on top of the lift car these are to be controlled by a contactor sited in the lift machine room.

The wiring shall be contained in its own galvanised metal trunking throughout.

Luminaires mounted on plasterboard ceilings shall be fitted to conduit boxes installed flush with the ceiling.

All circuits shall be wired in suitably sized cable and included in the schedule of distribution. Separate CPCs shall be installed for all circuits, as required.

Switching shall be as indicated on the drawings. Switches shall be as MK Grid Plus/Logic Plus Grid switches, with white insulated rockers and either white, flush or surface mounted metalclad as appropriate.

**3.9 Emergency Lighting**

The contractor shall supply, install, wire and connect emergency lighting equipment to the positions shown on their drawings. Where lights are switched their key switches are to be located adjacent to controllers. Key switches shall be MK. All emergency signage is to be installed in all appropriate locations to conform to the latest British Standards BS5266 & BS ES ISO 7010. Signs should be positioned between 2 m and 2.5 m AFFL measured to the base of the sign.

The illuminated emergency exit luminaire shall be Emergi-Lite Silver-Scape RB3LS1 1W LED or equal and approved.

**NOTE The new signage arrows must match the rest of the building directional signage**

**Emergency lighting switching shall be configured such that each emergency lighting system should have a suitable means for simulating failure of the normal supply for test purposes (i.e. without interruption of the normal supply).**

Emergency lighting log book to be updated to include new installation

**3.10 Power**

**Switched Socket Outlets**

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All 13A switched socket outlets shall be MK 'Logic Plus', white flush, MK 'Metalclad Plus', metalclad flush or MK 'Metalclad Plus' metalclad surface or equal and approved as appropriate installed in the positions agreed with the lift engineer.

13A socket outlets shall be located flush mounted steel boxes.

All equipment shall be engraved as to their supply and/or function by means of 4mm high black lettering.

The wiring shall be contained in galvanised metal trunking and conduit system which can be shared with the lighting containment.

All socket outlets circuits shall be protected by RCBO of sensitivity 30mA. Other RCBO circuits are stated in Schedule of distribution.

Both earthing terminals of the MK13A socket outlets shall be used to terminate the CPCs in all cases.

Separate CPCs shall be installed throughout the conduit and trunking network and shall be of size as indicated in the schedule of distribution.

**NOTE: All electrical equipment must be Building Regulations PART M compliant.**

### 3.11 Fixed Equipment

Key switched and switched fuse connection units shall be MK 'Logic Plus' white flush insulated pattern, Mk 'Metalclad Plus' metalclad flush or MK 'Metalclad Plus' metalclad surface metalclad installed or equal and approved.

Fixed equipment circuits shall be wired as radial circuits and shall be protected by MCBs or RCBOs as indicated in the schedule of distribution. Switched or unswitched fused connection units shall be located either in surface mounted steel boxes or metal flush boxes.

CPCs shall be provided of size to suit the schedule of distribution.

The following switched and un-switched fuse connection units shall be provided for the following items of equipment:

Convection heaters – fused connection unit

Lift car lighting – fused connection unit

Lift emergency alarm – fused connection unit

Extraction fan – fused connection unit

Supply fan – fused connection unit

All fused connection units are to be fused at a suitable rating for the equipment they are feeding and fitted with neon indicators.

2 x Digital Room Thermostats DT200 by Honeywell, Control Systems Ltd or equal and approved

The contractor shall install a minimum 20mm galvanised steel conduit links from the main containment to the final position of the equipment. This conduit is to be surface mounted.

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### 3.12 Containment

The contractor is to install a cable management system. Where the cable containment passes through fire boundaries, all cables and/or cable containment is to pass through the EZ-Path Cablofil fire stop cable management system to maintain fire barriers.

All overhead surface containment must be either in metal conduits/trunking or non-inverted tray/basket or if inverted then the cables be secured to the tray/basket using metal cable clips or if plastic containment is used then the cables must be secured using metal clips/banding. NO plastic tie wraps are to be used ONLY metal tie wraps. Cabling in scooter store shall be metal conduit.

With the exception of the Lift Machine Room and lift shafts (which can be run surface in steel conduit) all containment / cables are to be run subsurface within the building fabric installing a minimum 20mm steel conduit links (no hidden plastic conduit) from the main containment to the final position of the equipment. This conduit is to be chased into the blockwork to a finish level with the blockwork ready for final plaster coating of the blockwork except in all plant/machine rooms and where the containment will be surface mounted.

Where cables are run in ceiling voids then the contractor is to allow for all cabling to be contained.

All conduits and cables passing through fire barrier walls or ceiling shall be provided with an inspection box either side of the fire barrier. Each box shall be fitted with a suitable intumescent gasket.

Where cables in trunking pass through fire barriers rock wool packing shall be used.

In addition, all holes and other openings through walls to be made good with certified intumescent fire stopping, this includes any temporary openings overnight.

#### Note

**No mechanical and electrical containment installation work is to be carried out until a site co-ordination meeting has been held determine the installation routes and location of all M&E services to enable fully co-ordinated working drawings to be produced.**

### 3.13 Fire Detection System

The Contractor shall design, supply, install, wire and connect fire alarm equipment.

The contractor shall be responsible for ensuring that the wiring and type equipment appropriate for the equipment that they choose to install.

The fire alarm system must be Apollo open Protocol and not a closed protocol system that will tie all maintenance and spares into a specific company.

#### System Category

The system category shall be L4.

The system shall be installed, put into service and documented in accordance with the latest edition BS5839-1.

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## **System & Equipment**

The existing CIE (Control & Indication Equipment) which is to remain.

The contractor shall supply install and connect a fire alarm relay unit adjacent to the lift machine room connected to the fire alarm system to send the lifts to the ground floor upon fire activation and connected to the lift control systems. This is a conventional system and appropriate equipment associated with the existing fire alarm panel shall be supplied and installed to carry out the above operations. The fire alarm must remain operational until the fire alarm is reset not on silence alarms

Short circuit isolators shall be placed between each zone.

The Commissioning Contractor shall carry out audibility tests relating to the fire alarm system to achieve the minimum sound levels of 65 dBA or 5 dBA (and with allowance within BS 5839) above background noise likely to persist for a period longer than 30 seconds.

Commissioning shall include full audibility checks to all areas affected by the works.

The Contractor shall be responsible for carrying out all builders work associated with the fire alarm works including but not limited to the following:

1. Cutting away
2. Making Good
3. Redecorating – local decoration to match existing
4. Removal and reinstatement of ceiling tiles.

## **Containment & Cabling**

Fire detection, sounder/beacon devices and power supply cabling shall be installed in fire rated cabling FP200 Gold (OHLS). All cables shall be 300/500V grade. Clips for the cable shall be of the type approved by the manufacturer for prolonged exposure to fire. All cabling shall be installed flush.

Main containment routes are to be used, where possible, however localised containment is to be installed as required. The contractor shall install a minimum 20mm steel conduit links from the main containment to the final position of the equipment. This conduit is to be chased into the blockwork to a finish level with the blockwork ready for final plaster coating. Containment in the plant rooms is to be surface mounted.

## **Cause and Effect**

Upon fire alarm activation via automatic detectors or manual call points all sounders and beacons shall activate; the lift shall return to the ground floor and doors open.

## **Certification, Documentation & Training**

Record drawings, operation instructions log book and certification and shall be provided in accordance with BS5839-1: 2002 requirements.

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### 3.17 Lift Motor Room Heater

The contractor is to supply and install 2 radial circuits from the new distribution board to supply new heaters.

The wiring shall be run in 20mm steel conduit surface mounted to the double pole switch, surface mounted (fused at 3 Amps) via a room thermostat sited at high level but giving optimum performance. Final connection from the fused connection unit to the heater is to be achieved by using a suitable length of 1.5mm<sup>2</sup> Butyl rubber heat resistant cable. All other cabling is to be wired using single core PVC/LSF to 6491B Low Smoke and Fume to BS 7211. The heaters are to be controlled by the room thermostat. The contractor shall supply and install the following equipment: -

2 x Dimplex EPX Range – EPX1000 or equal and approved

Digital Room thermostat DT200 by Honeywell, Control Systems Ltd or equal and approved. Set to activate (heater on) at 8°C.

### 3.18 Lift Motor Room Ventilation Fans

The contractor is to supply and install 1 radial circuit from the new distribution board to supply the new ventilations fans.

The contractor shall supply, install, wire and connect 2No Ventilations fans with the wiring contained run in 20mm surface mounted steel conduit to a metal fused connection unit surface mounted (fused at 3 Amps). All cabling shall be wired using PVC/LSF singles to 6491B Low Smoke and Fume cable.

The contractor shall install, supply, wire and connect fuse connection units with neon indicators, ventilation fans and controls as follows:

High level extract fan Nuair XS9WA complete with XSTH9 back draft damper or equal and approved

Low Level intake Nuair XS9WA complete with XSTH9 back draft damper or equal and approved

A single Digital Room thermostat DT200 by Honeywell, Control Systems Ltd or equal and approved Set to activate (fans on) at 25°C.

Exact positions of fans to be agreed with Lift Engineer

Work to be carried out in the Lift Machine Room position to be agreed with the lift engineer.

### 3.20 Lift Works

The electrical contractor is responsible for the installation of all lighting and power in the lift motor room and in the lift shaft. They are also responsible for the installation of all MCB's and RCBO's within DBLIFT within the lift Machine room.

The lift installation is specified in a separate lift specification and will be carried out by a specialist lift contractor.

The electrical contractor shall work closely with the lift installation contractor to ensure equipment is in place for them to connect into when they require and that there are no clashes between equipment locations.

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### 3.22 Communications

The contractor is to use the existing communication lines and re-position as necessary to suit the new machine room layout. Telephone cabling shall be contained in 20mm galvanised steel surface mounted conduit.

### 3.26 Mounting Heights

Distances are to centre of accessory or equipment above finished floor level unless otherwise stated.

Accessories or Equipment	Location	Height (mm)
Light Switches	General	1200 top edge
Socket outlets	General	550
	High level	150 below ceiling
Fused Connection Unit	Extract Fan	150 below ceiling
Fire Alarm	Call point	1200 top edge
	Sounder / Beacon etc.	2500
Control Switches		1200 top edge
Distribution Board		2000 to top

### 4.0 Provisional Sums

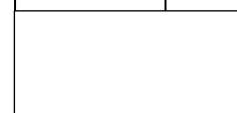
All Provisional Sums in connection with Mechanical and Electrical stated in this document are included in tender documents Section 7 - Provisional Sums and Dayworks.

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3.6	Labels.....	10
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3.8	Lighting.....	11
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3.11	Fixed Equipment .....	13
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3.18	Lift Motor Room Ventilation Fans .....	16
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3.26	Mounting Heights .....	17
4.0	Provisional Sums	17

**TOTAL**



SUMMARY TOTALS FROM COLLECTION

- A SECTION 1 Preliminaries
- B SECTION 2 Standard Electrical Specification
- C SECTION 3 Particular Specification
- D SECTION 4 Provisional Sums

TOTAL CARRIED FORWARD TO FORM OF TENDER

£

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NOTE: The tender shall be EXCLUSIVE OF VAT

Signed as being the priced specification in accordance with the conditions of tender.

Signature .....

Designation .....

on behalf of .....

Address.....

.....

.....

Date ..... Tel No.....

**Note: Within the Electrical Services Section the price shall be deemed to include (either within the rates or as a separate noted provision against this description) all Builders Work generally, including forming all holes and chases, their making good to finishes and providing certified fire stopping where fire walls are penetrated, including any temporary openings overnight.. Unless specifically mentioned within the Electrical Specification the encasement or decoration of pipework, ducts and cables other than for any type of insulation purpose is not deemed to be included. Services trenching external to the building is also not deemed to be included.**

**ITEM**

Above works shall be independently priced and may be subject to omission via a variation order. Claims for loss of profit will not be acceptable.