Electrical Services

Specification and Form of Tender

Project: Mains and Sub Mains Distribution Replacement

Location: St Andrews House, 201 London Road, Derby DE1 2TZ

Client: Derbyshire Healthcare NHS
NHS Foundation Trust

May 2020

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1 Preliminaries

1.1 Contract Preliminaries

The following preliminaries clauses are supplemental to and shall be read in conjunction with all preliminary clauses included within these documents and available from the Main Contractor.

1.2 Definition of Terms

The following definitions to this Specification are deemed to apply unless there is something in the subject or context inconsistent with such construction.

The **Client and Employer** shall mean:

Derbyshire Healthcare NHS Foundation Trust

The **Project Manager** shall mean:

Derbyshire Healthcare NHS Foundation Trust – Capital Projects

The **Engineer** shall mean:

EP Consulting
Alpine House
16A Alpine Street
Old Basford
Nottingham NG6 0HS
Tel: 0115 924 44433

The **Main Contractor** shall mean the successful Electrical Contractor nominated by the Client to execute the described works, which are subject to this Specification and should include the Contractors Personal Representatives, Successors and Assignees.

The **Main Contract** shall mean the agreement made between the Main Contractor and the Employer for the execution of the works described in the Main Contract and shall include the Forms of Tender, Specifications, Drawings, etc.

The **Works** shall mean and include all plant and materials to be provided and the works to be carried out by the Main Contractor.

The **Site** shall mean the actual place or places to which materials, equipment, goods and other items to be used in the execution of the contract shall be delivered or where the work shall be carried out by the Main Contractor including the area surrounding a certain place or places where the Main Contractor shall, with the consent of the Client, actually use in connection with the works, other than merely for the purposes of access to the set place or places.

1.3 Guarantee

The whole of the works are to be guaranteed and maintained for a period of 12 months after completion and commissioning into service, any defects that may make themselves apparent in that period shall be made good at the Main Contractor's expense, provided always that the fault has not arisen from causes outside the Main Contractor's control.

1.4 Acceptance of Tender

The Employers do not bind themselves to accept the lowest Tender nor to reimburse the Tenderer for any expenses incurred in Tendering. The Tender is to remain open for acceptance for a period of 60 days from the date of submission.

1.5 Submission of Tenders

The Tender shall be submitted in accordance with the Invitation to Tender, Preliminaries and Conditions of Contract, which together with this Specification and the appropriate Drawings form the Tender documents.

The Tenderer shall submit a quotation on the Form of Tender and enter a breakdown of prices on a separate Tender Summary Sheet.

The Tender shall be based upon the specified equipment. To retain a consistency across the site, this is a specific requirement to be adhered to.

1.6 Inspections of Existing Conditions

Arrangements should be made to visit site by contacting the Capital Projects Team as noted in the Invitation to Tender letter.

The Tenderer is strongly advised to visit site to ascertain the full extent of the existing services across the many locations.

Any claims out of any matter where the grounds are based on a lack of familiarity with the existing conditions will not be considered.

1.7 Extent of Works

The Tenderer shall include for the provision and supervision of an adequate and suitably qualified labour force equipped with all necessary plant, tools, equipment and access equipment required for the execution of the works.

The tender shall note that due to the nature of the location, no lone working is allowed.

The works shall be the Electrical Installation as set down in this Specification, Schedules and the accompanying drawing(s) together with all additional work, both temporary and permanent which may be required to ensure the correct functioning and fixing of the installation.

The Tender submitted shall also include the following:

a) All costs in respect of delivery of materials required to carry out the work together with the specialist plant and equipment.

b) All costs relating to the Client's safety requirements and total compliance with the Health & Safety at Work Act.

c) All costs relating to the successful Contractor providing a copy of their Health & Safety Policy together with producing Method Statements for approval by the Project Manager

d) All costs relating to the necessary management, supervision and maintaining records in accordance with Construction (Design & Management) Regulations 2015.

1.8 Discrepancies

In the event of any discrepancies between the Drawings and the Specification, the Tenderer shall include for all items shown or described. The Tenderer shall inform the Consulting Engineer in writing at the time of Tender of any such discrepancies.

Claims for additional costs for items shown on the Drawings but not specified or vice versa will not be considered after the date of submission of the Tenders.

1.9 Health and Safety

The Tenderers attention is drawn to all the provisions contained within the Health & Safety at Works Act 1974 and the Electricity at Works Act 1989.

Additionally, the Main Contractor shall be responsible for the management, supervision and maintaining records in compliance with Construction (Design & Management) Regulations 2015.

The Tenderer shall pay full regard to the requirements of these particular items of legislation as far as it applies to the work and include for all costs incurred in pursuance or compliance with the same.

The Main Contractor shall be aware that the Radbourne Unit will be in full operation throughout the Contract period. It is imperative that the Main Contractor and specialist Commissioning Engineers ensure that their works do not prevent the safe circulation of the Staff, Patients or Visitors around the site. The working area must be kept clean and tidy and have proper warning signs and barriers.

The Main Contractor shall be aware that the Derbyshire Healthcare NHS Foundation Trust requires that all contractors and subcontractors adhere to their 'Control of Contractors Policy and Procedures' document together with their 'Health & Safety Handbook for Contractors' which advises the safe working practices required to minimise disruption to the operational use of the buildings by Staff & Public.

1.10 Schedule of Rates

Within 14 days of receipt of notification, the successful Tenderer shall submit a detailed and Quantified Schedule of Rates to the Consulting Engineer.

The total amount of the schedule shall be the same as the original Tender and reflect the constituent parts of the work as indicated on the Tender Summary. The costs of additions and/or omissions to the Contract shall be calculated using the Schedule of Rates wherever possible.

1.11 Interim Claims

Valuation of work for interim payment shall be agreed jointly by the Main Contractor and the Consulting Engineer. The Electrical Contractor shall agree regular dates with the Consulting Engineer or give at least 5 days prior notice of valuation inspections.

Claims shall be submitted in the form of percentage completion with items identified on the Tender Summary. This form shall be in addition to any other procedure required by the Contract.

Any claims for unfixed materials stored on site shall be supported by copy invoices and itemised lists of said materials.

1.12 Liaison

The Main Contractor shall examine all available information pertaining to furniture and equipment layouts, together with prevailing site conditions in conjunction with the Client as appropriate before commencing any work.

Where repositioning of equipment is required as a result of this consultation, this shall be agreed with the Consulting Engineer before installation works commence.

Claims for extra costs for repositioning arising from lack of consultation with the Client and the Consulting Engineer will not be considered.

1.13 Continuity of Labour

The Main Contractor shall endeavour to maintain the same personnel on the works for the complete Contract. Each site shall have an appointed person / operative to undertake a supervisory role.

Changes to personnel shall only be made as a result of unforeseen circumstances.

The Consulting Engineer shall be advised in writing of any proposed changes and replacement personnel shall be fully conversant with the development, nature and standards required by the works.

The Healthcare Trust require that all operatives working on site shall provide evidence of having undertaken an Enhanced Level Disclosure Barring Service (DBS) check.

A daily record of operatives working attendances shall be maintained and kept on site for inspection if requested by the Client or Client's representative.

1.14 List of Drawings

The Drawings listed below are those upon which the Tender is deemed to be based.

These Drawings shall be read in conjunction with the Specification:

2036/E/01	Existing Electrical Services Layout
2036/E/02	Proposed Electrical Services Layout
2036/E/03	Existing Electrical Schematic
2036/E/04	Proposed Electrical Schematic

1.15 Daywork

No daywork will be allowed unless specifically requested by the Engineer. Daywork rates shall be those as detailed in the Form of Tender.

1.16 Quality of Material

All materials to be used for the installation shall be of British / European manufacture except where specifically stated otherwise.

All items of plant, equipment and materials etc shall be the best of their particular type and shall be fit for the purpose intended.

All equipment and accessories shall carry the CE marking.

All materials must comply with the current British Standard specification.

The Technical Specification details the specific standards for materials to be used.

1.17 Builder's Work

The Main Contractor shall be responsible for the undertaking all builder's work associated with the works, such as the forming of holes for cabling and containment etc.

The Main Contractor shall include for the making good following builder's work and any holes or damage left following the removal of redundant accessories or cabling. The making good shall also be followed by a discreet patch re-decoration of the affected area.

The Main Contractor shall ensure that any the holes made for cabling systems to pass through are appropriately sized and effectively fire stopped on completion. The Fire Stopping material shall be an approved product and be applied by a competent person and certified when complete.

Notice of all intended builder's works shall be provided to the Project Manager together with a specific Method Statement and Risk Assessment to be approved before commencement.

1.18 Clearance of Site

The Main Contractor shall remove at their expense, any rubbish and surplus material arising from their works and ensure all working locations are kept clean and tidy at all times. The Main Contractor is reminded that the safety of the Site Staff and the Public is of paramount importance.

1.19 Type of Construction

The Tenderer shall inspect the sites and acquaint themselves with sufficient details to carry out their installation work.

Close attention is required to determine the various types of ceiling and wall finishes.

1.20 Bylaws and Regulations

The Tenderer shall allow for their installations and alterations to comply with all local Bylaws and Regulations and as detailed by the IET 18th Edition Wiring Regulations BS7671:2018, BS5266-1:2016 and BS EN 1838:2013, including all current amendments.

2 Particular Specification

2.1 General

This specification covers the works to be carried out and materials to be used for the mains and sub mains distribution replacement works at St Andrews House under the supervision of:

E P Consulting
16A Alpine House
Alpine Street
Old Basford
Nottingham NG6 0HS
Tel: 0115 924 4433

2.2 Contract Conditions

A set of Contract Conditions can be obtained from Derbyshire Healthcare NHS Foundation Trust, however, it is envisaged that the successful Specialist Fire Alarm Contractor will become the Main Building Contractor.

2.3 The Works

The works will consist of the electrical installation for the new layouts and shall generally consist of the following:

- removal of existing
- Replacement of Main and Sub Main Distribution Boards
- Rectifying Codes C1 and C2 report is latest Electrical Condition report.

2.4 Programme of Works

As part of the Tender process the Electrical Contractor shall submit a programme of works along with Tender costs. The Electrical contractor shall note that all works shall be undertaken at the weekends unless otherwise agreed with the client.

The Electrical Contractor should be aware that the building will remain fully occupied and operational during these works and, therefore, sufficient out-of-hours working will be necessary in order to carry out isolations and identification of circuits to be isolated.

Where circuits are isolated, he shall ensure that the services to all other areas not forming part of these works remain fully operational at all times. Suitable time should be allowed within his tender for investigation works to fully understand the nature of the circuits to be isolated.

2.5 Type of Construction

Full details of the type of construction of the building can be ascertained from the Architect.

2.6 Main Contractors Attendance

The Electrical Contractor will carry out all chasing, cutting of holes as necessary and making good in accordance with the details provided by the Electrical Contractor.

2.7 General Method of Installation

The electrical services installation shall be wherever possible flush and concealed within the fabric of the building.

However, it will be necessary to install a system of galvanised trunking and conduit for the supplies serving the Plant Rooms and similar areas. The Contractor shall be aware of the types of cable to be used and the routes available.

For compliance with regulation 521.10.202 all wiring systems throughout the building shall be supported such that they will not be liable to premature collapse in the event of fire.

Cables installed in ceiling voids shall run parallel and at right angles to supporting beams, notching of any joists or other structural elements of the building will not be permitted. If cables are routed between joists they shall be fixed at a depth greater than 50mm from the ceiling or floor, or a greater depth of 50mm within any partitioning, to comply with the 18th Edition of the Wiring Regulations.

Cables buried in plaster or in plasterboard partitions shall run vertical and shall be protected by a minimum 20mm PVC conduit for all switch drops, lighting drops and main circuits. Due consideration shall be given to the requirements of the BS7671, 18th Edition Wiring Regulations.

Cable trunking, tray and basket shall be used wherever practical for all main cabling within ceiling voids and exposed ceiling spaces. Where four or more cables are routed together, cable trunking, tray or basket MUST be used.

Separate containment including cable trays, baskets and trunking shall be utilised for each of the following:

- LV cabling
- fire alarm cabling

All wiring connections shall be made at the electrical equipment / accessory point.

All wiring to 3-phase items of equipment, unless otherwise indicated, shall be carried out utilising XLPE/SWA/LSF armoured cables to BS6724 and BS5476. All cables shall be suitably clipped, supported and contained.

2.8 Isolation Procedures

As with all buildings on Hospital sites the Electrical Contractor shall ensure that the isolation and reinstatement of the supply to any circuit is undertaken in conjunction with the Estates Department. The Electrical Contractor must be in possession of a Permit to Work for all works on the Electrical Systems

2.9 Removal of Existing

The Electrical Contractor shall visit site to fully ascertain the extent of the requirements for the removal of existing services.

This includes the removal of all cabling services on the internal and external parts of the building not required.

Any equipment which is not required for re-use on this project shall be inspected by the Consulting Engineer prior to being disposed of in a safe and approved manner.

2.10 Regulations and Standards

The Electrical Contractor shall ensure that the installation is installed, inspected and tested in accordance with the following:

1. The Requirements for Electrical Installations, IET Wiring Regulations 18th Edition, BS7671:2018.
2. Statutory Acts including Health & Safety at Work Act, Electricity at Work Regulations 1989 and Workplace (Health Safety and Welfare) Regulations.
3. British Standards and British Standards Codes of Practice. Where an appropriate standard does not exist, CENELEC Harmonisation or IEC Standard shall be used where relevant.
4. National Inspection Council for Electrical Installations, Contractors Standards for Installation.
5. The requirements of the Electricity Supply Authority.
6. Local Authority Building Regulations, including Part L.
7. Local Fire Officers Requirements.
8. Specific manufacturer instructions or recommendations.
9. The works shall be carried out and installed to comply with the Health Authority Manuals and Standards.

2.11 System of Wiring

The system of wiring to be used for the Contract shall be as follows:

2.11.1 Lighting, General Purpose Power, 13A Socket Outlets

6242B cables are to be concealed within the fabric of the building cables shall be suitably contained in galvanised / PVC conduit or trunking throughout their entire length

Where cables run within walls, they should be concealed within the plaster finish and be protected by galvanised / PVC conduits with a minimum diameter of 20mm.

2.11.2 Fire Alarm Cables

Fire alarm cabling should be carried out utilising Draka Firetuf Plus 'Enhanced' FT120 cables concealed above ceilings and within the fabric of the building.

It should be noted that the Electrical Contractor must take into consideration BS 5839-1:2002 Recommendation 26.2f, which states, *"The method of cable support shall withstand a similar temperature and duration to that of the cable, while maintaining adequate support. This in effect precludes the use of plastic cable clips, cable ties or trunking, where these products are the sole means of support"*.

2.11.3 Telephone / Data Cabling

Cabling to the systems shall be carried out utilising Cat6 structured cabling.

2.11.4 Wiring Systems

The Electrical Contractor shall provide a wiring system in accordance with 521.10.202 of BS 7671:2018 which states that "*wiring systems shall be supported such that they will not be liable to premature collapse in the event of fire"*.

Wiring systems hanging across access or egress routes may hinder evacuation and fire-fighting activities.

Cables installed in or on steel cable containment systems are deemed to meet the requirements of this regulation. This regulation precludes, for example, the use of non-metallic cable clips or cable ties as a sole means of support where cables are clipped direct to exposed services or suspended under the cable tray and the use of non-metallic cable trunking as a sole means of support of the cables therein.

Suitably spaced steel or copper clips, saddles or ties are examples of that will meet the requirements of this regulation.

Plastic fixings such as raw plugs are also **NOT** permitted for use on the wiring system.

The requirements of Regulation 521.10.202 shall also apply irrespective of the classification of conditions for evacuation in emergency. Non-metallic cable trunking, or other non-metallic means of support, can fail when subject either direct flame or hot products of combustion; this may lead to wiring systems hanging across access or egress routes such that they hinder evacuation and firefighting activities. This precludes the use of non-metallic cable clips, cable ties or trunking as a sole means of support, for example where non-metallic trunking or conduit is used a suitable fire-resistant means of support / retention must be provided to prevent the cable falling out in the event of fire. The term "Wiring System" which is used in the regulation is defined in BS 7671 as an assembly made up of cable or busbars and parts which secure, and if necessary, enclose the cables or busbars, thus the term covers cables and busbars together with any containment system for them such as conduit, trunking and cable tray.

It should be noted that the requirements of Regulation 521.10.202 applies to all types of circuit systems and electrical services that encroach on escape routes irrespective of rated voltage. These may include, but not be limited to, distribution circuits, final circuits, safety circuits, and data / communications services.

2.12 Positions of Equipment

The positions of equipment are correct for the purposes of tender as shown on the drawings. The positions shown are indicative only, final positions of accessories and electrical equipment shall be confirmed with the Engineer on site before the installation proceeds.

The Contractor shall ensure that the installation is compatible with the installation of all other trades and is to comply with BS5839-1:2017 and all other relevant regulations.

2.13 Location of Accessories and Equipment

Generally, mounting heights shall be 1000mm maximum for switches, control units, etc and 450mm min. for cleaners sockets.

In Kitchenette areas a single outlet shall be installed for each under worktop appliance. This outlet shall have an isolator mounted above the worktop and it shall be clearly engraved to indicate its purpose.

Mounting heights shall be measured from the finish floor level to the bottom of the plate of the accessory.

Light switches shall be 150mm in from any door frame or corner to which is it adjacent.

When locating accessories / equipment, the following instructions shall be adhered to, as far as possible:

i) Where a number of items are to be located in proximity, they shall form a regular arrangement, ie vertically or horizontally.

ii) A uniformity of layout shall be conformed to, ie all light switches shall be same distance from the architrave, etc.

iii) Where accessories are located on short sections of wall or piers, they shall be positioned on the centre line.

iv) Care should be taken to ensure that the plates or accessories of equipment are fixed squarely in unison with adjacent accessories or fixtures.

v) The positions on the drawings of all accessories / equipment are approximate only and it shall be the Electrical Contractors responsibility to consult with other trades to ascertain the positions of cupboards and other furniture and fixings which may or may not be shown on the plans. The furniture items indicated on the drawings are purely indicative, and do not represent any final positions or may not be shown to scale.

2.14 Fire Stopping

The Electrical Contractor shall be responsible for providing all their own fire stopping where cables or services penetrate any fire barrier.

The Electrical Contractor shall obtain the Fire Strategy drawings and make full due allowance within the tender for all fire stopping necessary for their installation.

All fire stopping must be undertaken by an accredited contractor utilising approved products and certified on completion in compliance with the Client's site policy.

2.15 Schedule of Suppliers / Equipment

Unless advised at the time of the Tender submission it will be deemed that the Contractor has included for the specified products where stipulated. Alternative manufacturers will only be considered during the tender evaluation period providing a separate schedule of proposed items is submitted with the Tender.

Alternatives to the specified products **WILL NOT** be considered after Tender submission.

2.16 Samples

The Electrical Services Contractor shall include in his tender and submit as requested, a sample of fire alarm device or other items associated with the system provided under this contract.

Such samples shall be submitted by the Contractor to the Engineer within 7 days after request and in advance of any order for same for installation of the works.

2.17 Labelling

Except for local switches, multi-gang switches and controls shall be provided with engraved labels indicating their purpose.

The Electrical Contractor shall supply and fit labels also as required by the 18th Edition of the IET Wiring Regulations.

All labels shall be manufactured from a 'Traffolyte' type product as follows:

- Warning notices, ie danger 400 volts, black letters on yellow background.
- Prohibition, ie emergency stop, red letters on a white background.
- General, ie distribution board ref DB1, black letters on a white background.

Fixing to distribution boards, etc shall be by the means of 2no. Brass screws per label.

Distribution board labels shall include Title, Reference, Point of Supply (Circuit Ref) and size of cable.

All multi-gang switch points are to have an engraved plate or separate labels identifying the function of each switch.

2.18 Provisional Sums

The Electrical Contractor should note that a number of Provisional Sums are indicated on Tender Summary.

2.19 Manufacturers Quotations

The Electrical Contractor should be aware that a number of provisional quotations may have been obtained from a number of manufacturers. Such quotations would have been obtained during the development briefing stage of this project and therefore will not be fully up to date.

The Electrical Contractor shall be fully responsible for making their own enquiries to the manufacturers with regard to their requirements for this project and shall be responsible for forwarding relevant drawings and confirming all design parameters to the manufacturers and suppliers of equipment.

2.20 Instruction and Training

The Electrical Fire Alarm Contractor shall be responsible for providing the necessary instruction and training for the appropriate members of Estates Department. The training shall be arranged at a time convenient for the Estates Department and shall be undertaken by the Emergency Lighting manufacturer's representative who is fully conversant and has an in-depth knowledge of the installation, operation and maintenance of the system together with a familiarity of the luminaires utilised.

Given that the installation will follow a detailed Programme of Works some of the Fire Alarm may be operational at an early stage of the overall project. Therefore, the training will need to be arranged for a time that coincides with the completion of the first section of work. The system will then grow as each area of works is completed.

2.21 As Fitted and Working Drawings

The Electrical Contractor shall be responsible for maintenance of working drawings throughout the construction period of the Project. A DWG or DXF CAD file can be made available for use by the Electrical Contractor.

The Electrical Contractor shall be responsible for updating the services drawings on a regular basis to suit the latest building layouts and shall allow for all printing costs with regard to these drawings and for distributing them to both the Design and Construction teams as necessary.

In addition to this, the Electrical Contractor shall allow for all 'As Fitted' drawings to be presented to the Consultant on both a paper print and DWG CAD files compatible with AutoCAD LT.

The drawings shall also be included within two bound copies of an O&M Manual to be prepared by the Electrical Contractor. The Manuals shall include all Test and Commissioning Certification together with all manufacturers' information and maintenance requirements for all products and systems supplied and installed by the Electrical Contractor.

The Electrical Contractor shall liaise with the Consulting Engineer to ensure that this information is made available with sufficient time to allow scrutiny and comment where necessary.

3 Electrical Supply and Distribution

3.1 Overview

This section of the electrical specification covers the works to be carried out to provide an electrical service to the building together with distribution of this service throughout the installation.

3.2 Extent of Works

The works include the provision of new LV switchboard provided by Heathrose Ltd and mains and sub-mains distribution equipment including distribution boards, sub-mains cables and consumer units required to complete the installation.

3.3 Electrical Supply

The Electrical Contractor should note there is an existing 200A supply located in the external plant/electrical room as indicated on the drawings. The existing incoming supply then terminates into an existing bus bar chamber located on the opposite wall. From this position there are various outgoing ways serving Main Building, the lift, Boiler house etc as indicated on the schematic drawing 2035-E-03

The Electrical Contractor shall allow for replacing the existing bus bar chamber and outgoing isolators with a new custom built cubicle switchgear manufactured by Heatherose Ltd (Appendix A). The new switchgear shall be wall mounted and complete with incoming 200A isolator for incoming supply, 6No outgoing ways to reserve existing services and an integral 6way SPN distribution board to serve external lighting and new lighting to the switch room.

The Electrical Contractor shall allow for liaising with the supply authority to providing new sub main cables from the CT meter to the new LV switchboard.

All works to be closely liaised with NHS Estates and the Project Manager to ensure minimum disruption is occurred.

The Electrical contractor shall make allowance within their Tender for undertaking all code C1, C2 and C3 items identified in the Electrical Condition report (Appendix B) Particular attention should be taken to additional bonding to gas and water which isn't present at the moment.

3.4 Mains / Sub-Mains & Distribution Equipment

As detailed previously, the Electrical Contractor shall provide a new LV switchboard within external plant room.

Within the Main Building the Electrical Contractor shall allow for replacing the existing Dormain Smith MCCB panel board located within the Ground Floor Electric riser. The existing board shall be replaced with a new Schneider electric 9 way powerpact 4 board Ref: MG2C9.

The existing MCCB panel board currently serves a number of SPN distribution boards throughout building. The Electrical Contractor shall allow for replacing each SPN distribution with 1No TPN distribution board per floor as indicated on the drawings. Existing Circuits serving distribution board MG, Fire Alarm Panel and Hoist shall be reconnected to new MCCB Panel. All other existing circuits to be disconnected and replaced

The Electrical Contractor shall allow for extending circuits were necessary to reach the new distribution board positions.

New distribution boards shall be provided as follows:

Distribution Board GF shall be a Schneider Electric 250A bus bar rated 24 way TP&N type B distribution board reference SEA9BN24 complete with switch disconnector

Distribution Board FF shall be a Schneider Electric 125A bus bar rated 24 way TP&N type B distribution board reference SEA9BN24 complete with switch disconnector

Distribution Board SF shall be a Schneider Electric 125A bus bar rated 24 way TP&N type B distribution board reference SEA9BN24 complete with switch disconnector

Distribution Board TF shall be a Schneider Electric 125A bus bar rated 24 way TP&N type B distribution board reference SEA9BN24 complete with switch disconnector

The Electrical Contractor shall allow for all necessary termination kits to allow the appropriate termination of cables to the switchgear.

The Electrical Contractor shall allow for cables to be supported and suitably contained along its entire length. All cables are to be routed through the building and **NOT** outside.

The Electrical Contractor shall allow for cables to be supported and suitably clipped along its entire length.

The Electrical contractor shall make allowance within their Tender for undertaking all code C1, C2 and C3 items identified in the Electrical Condition report (Appendix B) Particular attention should be taken to additional bonding to gas and water which isn't present at the moment.

The Electrical Contractor shall allow for all works to be undertaken at either weekends or out of hours.

The final routes are to be agreed on site in conjunction with the Consulting Engineer and Architect.

The LV main distribution installation shall comprise of XLPE/SWA/LSF cables to BS 6724 and BS 5476 radiating from the main LV MCB boards. The final locations of all distribution boards are to be agreed with the Architect.

Sub Mains cable sizes shall be as calculated by the Consulting Engineer.

Mains and sub mains cable shall be run on and suitably clamped to medium duty galvanised cable trays throughout their length generally utilising ceiling voids and roof voids wherever possible.

Ty-raps shall not be used for fixing of cables.

Cables shall be fixed with proprietary steel cleats or steel banding of sufficient residual strength to withstand any imposed forces introduced under fault conditions.

Where a single cable runs to an item of plant / switchgear it is permissible that it may be cleated to the building structure provided that it has no detrimental effect to the cable.

At every 10m run throughout the length, cables shall be fitted with engraved laminated labels stating the item of plant they feed and the cable reference.

All cables passing through floors, ceilings or walls will require fire stopping provided by the Electrical Contractor.

All cable routes shall be determined and fully co-ordinated with all other services by the Electrical Contractor.

Transient voltage surge suppression units (TVSS) shall be installed to the following items of equipment:

Type 1 surge arrester on incoming panel

Each distribution board serving IT Server equipment (active type required)

Each distribution board shall be complete with a suitably rated integral main isolator of the fault making load breaking type.

Blanks shall be provided to all unused ways of miniature circuit breaker distribution boards

Type written circuit charts in transparent plastic envelopes shall be provided inside cover of all distribution boards which shall be provided with the following details:

a) Board ref and location

b) Supply source and size of supply cables

c) Maximum demand load for the board

d) For each way:

i) Circuit reference and description

ii) Number of outlets / lights on circuit

iii) Size and type of conductors

iv) Rating of and type of MCB

v) Measured earth loop at distribution board

Spare ways are not to be printed spare but left blank

Generally, all distribution boards are surface mounted at a mounting height of 2.2m to the top of the board.

Where distribution board feeds time clocks and contactors, these shall be housed in an extension box and be DIN rail mounted.

Loose equipment adjacent to distribution boards that could be housed in an extension box will not be acceptable.

Residual circuit devices of 30mA sensitivity shall be provided to all general small power ring circuits serving sockets unless provision may cause nuisance tripping due to the nature of the equipment served.

A dedicated power supply has been provided to the data cabinet. This shall not be RCD protected. However, where this drops down partitioning walls, this shall be protected with galvanised conduit.

Sub metering shall be provided to CIBSE Guide TM39 and generally cover all lighting boards, power boards and heating and ventilation control panels.

The installation has been designed to give a load balance across phases as far as practical. The Electrical Contractor shall phase balance and on testing, shall instigate any modifications necessary to improve load balancing.

A minimum of 2 no. locking off devices are to be provided for each distribution board.

The Electrical Contractor should note that all main distribution boards are required to be provided with a barrel lock supplied by the distribution board manufacturer.

The Contractor shall provide rubber matting adjacent to each distribution board to BS 921 and this shall run the full length of all LV distribution boards within the building.

3.5 Surge Protection

The Electrical Contractor shall provide and install surge protection to the new LV Switchboard and main panel boards shall generally consist of:

- Combined arresters fitted at main incoming switchboards shall be capable of handling direct lightning currents (10/350µs waveform) up to 50kA or 100kA depending on the lightning protection level. Where the lightning protection level is unknown, BS7671 recommends a minimum discharge capacity of 12.5kA per pole (50kA total for 4 pole three phase and neutral supplies).
- The arrester shall utilise voltage switching spark gap technology to limit surge energy loads on downstream equipment and shall also be leakage current free.
- The arrester shall be fully energy co-ordinated to work correctly in conjunction with other surge protection devices from the same manufactures range as per BSEN62305-4 and BS7671 amendment 1 section 534.
- The arrester shall be a combined Type 1 / 2 / Class I/II SPD and comply with EN 61643-11:2012.
- The arrester shall have KEMA, VDE, UL, VdS approvals / certification.
- The arrester shall be tested for vibration and shock proof characteristics in accordance with EN 60068 – 2.
- The arrester shall have a maximum let through voltage of 1.5kV making it suitable for Overvoltage Category I of IEC 60364-4-44 and BS7671 amendment 1section 443.
- The arrester shall have visual status indication e.g. Green - ok. Red – defect and optional volt free remote signal contacts to indicate status if required. Remote panel indication can be provided by the optional DEHNpanel.
- Typical devices such as manufactured by DEHN.

The Electrical Contractor shall provide and install surge protection to sub distribution boards shall generally consisting of:

- The arrester shall have a Maximum discharge current of 40kA 8/20µs per pole 160kA 8/20µs, Type 2 surge arrester.
- The arrester shall be fully energy co-ordinated to work correctly in conjunction with other surge protection devices from the same manufactures range as per BSEN62305-4 and BS7671 amendment 1 section 534.

- The arrester shall be of the pluggable type to facilitate tool free easy removal and replacement of modules. Modules should be self-locking with quick easy release button.
- The arrester shall be a Type 2 / Class II SPD and comply with EN 61643-11:2012.
- The arrester shall have KEMA, VDE, UL, VdS approvals / certification.
- The arrester shall be tested for vibration and shock proof characteristics in accordance with EN 60068 – 2.
- The arrester shall have a maximum let through voltage of 1.5kV making it suitable for Overvoltage Category I of IEC 60364-4-44 and BS7671 amendment 1 section 443.
- The arrester shall have thermo dynamic control which disconnects the device from the supply in case of failure.
- Typical devices such as manufactured by DEHN eg DEHNguard.

3.6 Earthing and Bonding

Earthing and supplementary bonding shall be provided to meet the requirements of the IET Wiring Regulations and the requirements of the Regional Electricity Supply Company.

The Electrical Contractor shall design and install all necessary earthing and bonding in accordance with the requirements of the BS7671:2018, 18th Edition of the Wiring Regulations and the Supply Authority Regulations.

The Electrical Contractor shall supply and fit a new heavy duty, wall mounted copper Earth bar within the Plant room. The bar shall be 50mm x 6mm and fixed to the wall on insulated mountings and provide 10 x M12 studs. Earth cables connected to this Earth Bar shall be labelled with cable markers to show their function.

All Earth continuity conductors shall be sleeved PVC yellow / green at all points of connection.

The Electrical Contractor shall ensure that all necessary earthing and bonding is fully integrated with the installation. Special attention should be paid to the bonding of stainless steel equipment and sinks.

Earth cables connected to the earth bar shall be labelled with cable markers to show their function.

The Electrical Contractor shall carry out all earthing and bonding to mechanical services and fixed equipment together with elements of the building structure as appropriate and shall therefore establish all necessary details to enable proper completion of the work.

Metalwork is to be bonded in and on the structure shall include, but not be limited to all parts of the steel structure, metallic roof deck rainwater gullies, louvers, hand rails, services, flues and any metallic components penetrating the roof structure.

Special attention should be paid to bonding of stainless steel equipment and sinks.

All general earth continuity conductors shall be sleeved PVC yellow / green at all points of connection.

4 Technical Specification - Materials and Workmanship

4.1 Basis of Design

4.1.1 Definitions of Voltage

Extra Low Voltage - not exceeding 50V AC or 120V ripple-free DC, either between conductors or to Earth.

Low Voltage – Exceeding extra low voltage but not exceeding 1000V AC or 1500V DC between conductors, or 600V AC or 900V DC between conductors and Earth.

High Voltage – Normally exceeding low voltage.

4.1.2 Regulations

The design, installation and setting to work shall comply with all statutory regulations and in particular with the latest editions and publications of the following, including all amendments to date:

a) BS7671:2018 - Requirements for Electrical Installations
b) The Electricity Act
c) Local Electricity Supply Authority Requirements
d) The Building Regulations
e) The Water Bylaws
f) The Acts of Parliament and Local Bylaws
g) British Standards and Codes of Practice
h) CIBSE Guides

4.1.3 Standards

The complete installation shall comply with all relevant standard, British Standard Codes of Practice and where indicated, with other Standards and Specifications and all amendments thereto.

The relevant Standards shall be those that are current at the date for return of Tender unless alternative dates are indicated.

Equipment and products not manufactured in the United Kingdom shall be of a standard which ensures its compliance with all appropriate British Standards.

4.2 Supply Authority

4.2.1 General

The Contractor shall allow for co-ordination and be responsible for all liaising with the local Electricity Supply Authority and shall ensure that all of their technical requirements are met with adequate time to meet the agreed final service connection date.

4.3 Low Voltage Switchgear

4.3.1 General

The Contractor shall design, supply and install the Low Voltage equipment as stated in the Particular Specification in the positions indicated on the Drawing.

The Contractor shall clearly identify any deviation from this Specification. These deviations are to be listed in the Tender covering letter.

4.3.2 Factory Built Assembly Cubicle Switchboard

The factory built assemblies shall be referred to herein as the FBS.

The FBS shall comply with the following Specifications:

Factory Built Assemblies	BS5486, EN 60439
Air Circuit Breakers	BSEN60947-2
Switch-Disconnectors & Fuse Combination Units	BSEN60947-3
HRC Fuses	BS88
MCBs	BSEN60898
MCCBs	BSEN60947-2
Motor Starters	BSEN60947-4-1
Indicating Instruments	BS89
Current Transformers	BS3938
Indicating Lamps	BSEN60073
Push Buttons	BSEN60073
Low Voltage Switchgear & Control Gear	BS5486, EN 60439

4.3.3 Inspection and Tests

Bespoke equipment is to be factory inspected and tested and if required, facilities to be provided for witnessing of final tests at work. Tests to include:

a) Checking with compliance to drawings
b) Insulation Resistance - 2500V for 10 seconds
c) Functional tests on all devices

If site testing/erection/commissioning is required, this will be called for in specific Technical Specifications.

4.3.4 Fault Rating and Busbars

Shall be:

i) Compliant with BS5486 Part 2;

ii) Mechanically and Electrically designed to withstand the fault level and shall be ASTA certified design rated at not less than 50kA RMS for 1 sec;

iii) Formed from solid drawn, high conductivity copper bars having a constant current rating with a uniform cross sectional area throughout their length and current density not exceeding 2.22 Amps/mm^2;

iv) Clearly marked with the appropriate colours to indicate each phase, neutral and Earth. Droppers shall be as short and as straight as possible;

v) Full segregated and shrouded from all other sections of the switchboard;

vi) Two bolt fixings wherever possible and due consideration shall be given to high stresses at bolted connections;

vii) Secured by high tensile steel bolts and nuts with anti-vibration locking devices.

4.3.5 Construction of FBS's

Shall be:

i) Designed and constructed in accordance with the requirements of BS5486-1:1990 EN 60439-1:1990 to Form 4, such that a fault associated with any circuit of busbars cannot effect the satisfactory operation of the remaining equipment;

ii) Constructed from quality folded and welded mild steel sheet not less than 2.0mm thick. They shall be divided into smaller bolted sections to facilitate handling and each section shall be equipped with a removable eye bolts to BS4278 for lifting purposes;

iii) Of the maximum width to be dispatched in one piece shall not exceed 2 metres. The frame shall be capable of being readily extended at each end;

iv) Of a height of the bottom of the largest functional unit shall be a minimum of 300mm above floor level. No device requiring manual operation or reading shall be mounted higher than 2000mm;

v) FBS's shall be duct and damp protected to IP41 minimum.

All equipment with FBS including busbars and risers shall be so arranged that maintenance can be readily carried out without the need for major dismantling. When front access only boards are specified, particular attention shall be made to the busbars and risers with a view to maintenance.

Each section shall be provided with full width access doors with individual doors not exceeding 750mm width. Doors shall be open at least 90 degrees and be key lockable to prevent unauthorised access. All the panel locks are to have identical key numbers. All doors shall be fitted with flexible Earthing conductor to ensure Earth continuity.

4.3.6 Fuse Links and Holders

Suitably rated fuses shall be provided at all points within the FBS necessary for circuit protection and isolation, separate fuses being provided for instruments, indication, alarm, heater and coil circuits. Fuse ratings shall be rationalised as far as possible to limit spares.

Fuses shall be housed in all-insulated carriers with fully shrouded bases and shall not be interchangeable with carriers and bases provided for removable solid links which shall be coloured white.

Low voltage fuse links shall be HRC cartridge type to BS88 Parts 1 and 2 and identified by labels indicating duty.

4.3.7 Switch Board Earthing

Shall be:

i) Provided with Earthing continuity in the form of copper bonding tape or cable connected to the Earth busbar;

ii) Provided with a main Earth bar of copper to run the full length of each board so that all cable sheaths, armouring and trunking or conduit plates may be bonded to it;

iii) Where the fault level at the switchgear is 33kA or less, the minimum size of 30mm x 6mm;

iv) For short circuit duty in excess of 33kA the size of not less than 50mm x 6.3mm;

v) Provided with flexible circuit protection conductor to movable panels, ie (meter push button).

4.3.8 Padlocks

Each switchboard shall be provided with a set of two padlocks. Padlocks shall be used to lock the circuit breaker switch operating mechanism in the "out of service" or "off" conditions. In addition, where withdrawable isolating type circuit breakers or switches are used, padlocks shall be used to lock the covers over live contacts when the units are withdrawn.

4.3.9 Paint Preparation and Finish

Shall be:

i) Suitable for the operating environment in which they are to be installed. Proprietary items may be used in their standard finish subject to the approval of the Engineer;

ii) After all matching and forming has been completed, all steelwork surface shall be thoroughly cleaned of rust, scale, welding slab or spatter and other contaminations prior to any painting;

iii) Immediately after cleaning, have all surfaces protected by an approved corrosion resistant primer, followed immediately by one intermediate and two finishing coats of paint to give a minimum total dry film thickness of 50 microns (0.002");

iv) High quality stove enamel paints.

Steel fixings and fastenings shall be treated to prevent corrosion by hot dip galvanising to BS729 before painting.

Any damage occurring to any part of a painting scheme shall be made good to the same standard of corrosion protection and appearance as that originally employed.

4.3.10 FBS Cabling Facilities and Wiring

Shall be:

i) In multi-tier compartments and individual terminal covers provided for each circuit such that additional circuits may be terminated safely whilst the panel is energised;

ii) Where front access or cabling is necessary, the vertical cableways shall have a minimum width of 250mm clear of terminals;

iii) Provided with lockable access doors;

iv) Provided with un-drilled removable gland plates for cables. Prior to manufacture, the Contractor shall confirm cabling termination requirements to the Engineer;

v) Run neatly within the cubicle in suitable cable looms or panel trunking and in the case of instrument or safety, low voltage circuits run in separate groups accommodated within the cubicles;

vi) Adequately secured without the use of adhesive materials;

vii) Where wiring carried across door hinges, neatly loomed and rolled in the plane of the hinges to minimise flexing of the wiring;

viii) Bushed or grommeted where wiring passes through sheet metal or plastic;

ix) In repetitive units wired in an identical pattern to match the arrangement of each component;

x) Adequately rated, tinned copper stranded conductors of no less than 1.0mm² (32/0.20) PVC insulated 600V grade, sheath coloured as follows:

AC Black
DC Grey

xi) Minimum size of conductor for CT circuits to be 2.5mm²;

xii) Terminated with suitable ring or space crimp or bootlace ferrules and identified at both ends by means of white or resistor colour coded ferrules imprinted to correspond with the diagram of connections, wires linking common points in the circuit shall bear the same reference at each termination.

4.3.11 FBS Terminal Blocks

Shall be:

i) For the connection of small wiring, comprise shrouded anti-tracking mouldings of melamine phenolic or comparable material with provision for securing conductors either by high tensile screws or clamps or by solder tag connection;

ii) Arranged such that both terminals and wiring ends are readily accessible and have separate terminals provided for incoming and outgoing wires;

iii) Adequately shielded from accidental contact and be clearly identified and inscribed if they remain "LIVE" in the event the FBS is isolated.

4.3.12 Labels to Switchgear Equipment

Shall be:

i) Provided with a title label and circuit designation labels shall be fixed to the front cover of each circuit compartment, all indicators, instruments, relays, control switches, push buttons, fuses and other ancillary apparatus with labels clearly stating their function;

ii) Fitted to the front of the panels and be of White/Black/White, except where otherwise specified, laminated with radius or chamfered front edges;

iii) For essential and non-essential sections of the panel, have circuit labels of different colours to enable easy identification. Danger labels and warning labels in Yellow/Black/Yellow;

iv) Fixed square to the equipment by means of screws or rivets of nylon or non-corrodible material. Labels affixed with adhesive will not be accepted.

4.3.13 Fuse Switches and Switches

Shall be:

i) Rated in accordance with BSEN60947-3 and be fitted with solid or HRC fuse links as appropriate for each phase and a Neutral link all contained within the switch case, with the terminals accessible from the front of the switch. Phase barriers and contact shrouds shall be provided with an interlock to prevent withdrawal or access when the switch is in the "ON" position;

ii) Provided with a free handle control mechanism to prevent inching and damage to contacts and fitted "ON" and "OFF" position. When padlocked in the "OFF" position, interlocks shall prevent the unit door being closed;

iii) Totally enclosed in separate compartments, easily accessible for maintenance and suitable for live cabling;

iv) On all units which are partly or completely withdrawable and where covers are opened or removed for the replacement of fuse cartridges, etc. all live connections and contacts shall be fully shrouded and identified;

v) Have the compartment doors painted red for Fire Alarm switches.

4.3.14 Distribution Boards

Shall be:

i) Metal clad construction with 500V rating;

ii) Manufactured to comply with BS5486, BSEN60898 and BS7671;

iii) Fitted with blanking shields for all spare ways;

iv) Fitted with 25% spare way capacity;

v) Fitted with neutral bars having a terminal for each circuit way;

vi) Fitted with HRC fuses or MCBs as stated in the Particular Specification;

vii) Fitted with insulating shields to prevent accidental contact and barriers shall be provided between phases;

viii) Fitted with spare ways as specified in the Particular Specification and on the drawings;

ix) Fitted with numbered multi-terminal bar for both CPC and Neutral conductors to correspond with circuits;

x) Fitted with isolating main switch to BSEN60947-3;

xi) Fitted at height of 2.2m to the top of the board unless otherwise approved by the Engineer;

xii) Fitted with charts mounted on the inside of the board which shall be typewritten and placed in transparent non-flammable pockets securely screwed to the boards;

xiii) Fitted with identification labels;

xiv) Fitted with hinged lockable door to BS5486 and BSEN60439-3.

4.3.15 Miniature Circuit Breakers (MCB)

Shall be:

i) Thermal/magnetic type having a quick break, trip free mechanism arranged to ensure simultaneous opening of each phase and comply with the requirements of BSEN60898;

ii) Of the type and fault rating as specified in the Particular Specification, a minimum of 10kA.

4.3.16 Moulded Case Circuit Breakers (MCCBs)

Shall:

i) Have adequate fault ratings for the system fault level;

ii) Be of the quick-make, quick-break type having a trip free mechanism arranged to ensure simultaneous opening of each phase;

iii) Be compliant with the requirements of BSEN60947-2;

iv) Be provided with adjustable thermal and magnetic trip release;

v) Be operated by switch dollies providing clear indication of the ON, OFF or TRIPPED positions and have provision for locking in the OFF position;

vi) Be moulded in shock resisting material.

4.3.17 Residual Current Devices (RCDs)

Shall:

i) Meet requirements of BSEN61009;

ii) Be designed to isolate each live conductor simultaneously within 300ms at the rated tripping current;

iii) Have a trip current sensitivity rating as detailed in the Particular Specification.

4.3.18 HRC Fuses and Carriers

Shall be:

i) To comply with BS88 Part 1 and Part 2;

ii) Class Q1 unless otherwise indicated;

iii) Supplied with 33.3% spare cartridge fuses.

4.4 Instruments, Meters, Push Buttons and Indicating Lights

Shall:

i) Comply with BS37, BS89 and BS3839;

ii) Be protected by separate fuses;

iii) Be of the type, size and accuracy as in the Particular Specification;

iv) Comply with BS3693-1 for instruments and meter scales;

v) Be completely segregated in instrument compartments which shall house test links for energy meter testing;

vi) Be fastened and keyed so that the lamps be capable of replacement from the front of the apparatus without disturbance to the lamp holder or panel wiring;

vii) Have filament lamps be arranged to operate at 20% below their rated voltage.

4.5 High Voltage Cabling

Shall be:

i) BASEC certified;

ii) If paper insulated, cables up to and including 11kV comply with BS6480 and be mass impregnated, non-draining, belted type, sheaths of lead for armoured cables and lead alloy for unarmoured cables;

iii) If paper insulated aluminium sheath cables up to and including 11kV and comply with BS6480;

iv) Installed in one complete length without any joints unless prior instruction in writing is given by the Engineer;

v) Sealed by plumbing / hermetically at all times;

vi) Installed by staff who are fully qualified and competent for the types of joints and terminations to be made;

vii) Laid and terminated in the manner recommended by the various manufacturers;

viii) Where phasing out is to be done at the last joint in a high voltage run, an oversize box shall be used to minimise distortion at the cores.

4.6 Low Voltage Cables

Shall:

i) Be BASEC certified;

ii) Have bends with a minimum internal bending radius of twice the minimum radii recommended by the manufacturer;

iii) Delivered to site with the maker's seals and labels intact;

iv) Limited for grouping based on formulae given in the BS7671, except where stated otherwise;

v) Where passing through structural floors / walls forming the fire barrier shall be sheathed and fire stopped.

4.6.1 Cables in Conduits and Trunking

Shall be:

i) Single core LS0H insulated ref. 6491B as indicated in the Particular Specification having high conductivity copper conductors and manufactured in accordance with BS6004:2012;

i) Single core EPR insulated braided and compounded cables ref. 6101T to BS6007:2000 in areas subject to high temperatures, where called for in the Particular Specification;

ii) Coloured in accordance with the IET Wiring Regulations, or fitted with coloured sleeves only with the approval of the Engineer;

iii) Installed without any joints, all connections being made at switch positions, lighting points, etc;

iv) Installed on the "loop in" system;

v) Installed with due regard to the loading length of run and voltage drop, and to the size called for on the Drawings and in the Particular Specification;

vi) Terminated at equipment positions unless otherwise indicated by means of soldered lugs of appropriate size, eyelet type cable terminations or crimped type terminations of reputable manufacture. Shake proof washers to be used where electric motors are connected;

vii) Fitted with reducing pin lug where cable cores are larger than terminal holes;

viii) Double or twisted back on themselves for all single connections so pinching screws shall not be permitted to cut the conductors;

ix) Firmly twisted together before the connection is made;

x) Terminated in the box to which lighting fitting appliance is to be connected;

xi) Provided with circuit protective conductors throughout its length to meet BS7671;

Cables shall not:

xii) Pass through lighting fittings or bulkhead fittings unless heat resistant type, ie of EPR rubber to BS6007:2000;

xiii) Be trapped under plain washers as a termination.

4.6.2 Mineral Insulated Sheathed Cable

Shall be:

i) Sheathed with copper in accordance with the Particular Specification with high conducting copper conductors embedded in compressed magnesium oxide;

ii) 600V grade for all 13A power, fire alarms and other low voltage systems;

iii) 1000V grade for all sub-mains, motor wiring and three-phase equipment;

iv) Installed in accordance with British Standards copper sheathed 6081 where run on walls, behind plaster or on the surface, cable symmetrical and in with building design. The routes to be pre-approved by the Engineer;

v) Terminated for concealed work using MICS boxes with patent clamps wherever possible. Ring type glands are not to be used and in cases where cables are above 2.5mm²;

vi) Terminated using Earth tail screw on pot with cold plastic compound, neoprene sleeving and colour tags or coloured PVC extension sleeving to BS4848 and 3858;

vii) Terminated using high temperature sleeves and compound for direct connection into tungsten lighting fittings;

viii) PVC covered in ducts where buried in the ground or otherwise indicated in the Particular Specification;

ix) Installed using galvanised boxes where PVC covered;

x) Installed using PVC hoods and shrouds when in conditions as item (viii);

xi) Installed using only bending, stripping and sealing tools recommended by the manufacturer;

xii) Installed in accordance with current recommendations of the manufacturer;

Mineral Insulated Copper Sheathed (MICS) Cables shall be:

xiii) Looped where connections are made to motors and other equipment where vibrations could be transmitted;

xiv) Covered with tiles where installed in the ground;

xv) Tested after sealing with a 1000 copper sheathed volt insulation tester and again 48 hours later. No reading other than infinity shall be accepted;

xvi) Where cables are run on the surface they shall be fixed by saddles at centres not exceeding 500mm on vertical and horizontal runs;

xvii) Cables fixed above ceilings shall be clipped at all changes of direction and not more than 600mm intervals. Saddles shall be fixed with brass screws;

xviii) Where 5 or more MICS cables are run on the surface or in the ceiling voids/ducts, they shall be fixed on approved cable trays by saddles, brass nuts and bolts.

xix) Fixed with surge suppressers for the following:

Three-phase star motors
Contactors (240-415V)
Fluorescent (series or no p.f. correction)

MICS cables shall not be:

xx) Left unsealed at any time during installation;

xxi) Terminated using sleeved conductors longer than 4 feet;

xxii) Be installed using joint boxes unless the Engineer's approval is obtained.

4.6.3 Flexible Cables and Cords

Shall be:

i) For normal accessories, be of multi-core cables of circular form, coloured white, PVC insulated and sheathed to BS6500, ref. 3093Y;

ii) For all tungsten lighting fittings, be silicone rubber insulated, glass fibre braided to BS6500, ref. 2782D or glass insulated;

iii) For fluorescent fittings, be EP rubber insulated CSP sheathed to BS6500 ref. 3183TQ;

iv) Include where necessary, a straining cord to ensure weight is not carried on the conductors in accordance with IET Regulations;

v) Have metallic protection where required by the Engineer, ie in places where cables are liable to mechanical damage, boiler houses, etc;

vi) Have Earth conductors of sufficient length to ensure that no undue stress is placed on the Earth conductor.

4.6.4 PVC / PVC Systems

Shall be:

i) To BS6004 being insulated and sheathed in Poly-Vinyl-Chloride;

ii) Copped cored unless otherwise stated in the Particular Specification;

iii) Only used where called for in the Particular Specification and where is can be concealed within the fabric of the building;

iv) Wired in the "loop in" system with no joint boxes unless prior permission is given by the Engineer and run symmetrical to the building with "drops" perpendicular;

v) Complete with an integral Earth continuity conductor in order to provide an Earth point at all accessories;

vi) Fixed using patent nylon clips at a maximum of 250mm centres for surface work or 600mm for concealed work with patent tie wraps;

vii) Protected by rigid PVC rounded or oval section conduit as necessary for all "drops" to switches, sockets, etc. protected by PVC capping only with Engineers instruction;

viii) Clear of gas and heating pipes by at least 150mm and shall be fixed below such pipes;

ix) Clipped to side joists and only traversing joists where no damage will suffer to the cables from floor boards;

x) Run square to the building and avoid all contact with polystyrene insulation;

xi) Of minimum size indicated in the Specification with sufficient cross sectional area to carry the full load current of the circuit with allowances for the thermal insulation and other cables without excessive voltage drop;

xii) PVC / PVC cables shall be protected by metal capping only with express permission of the Engineer.

4.6.5 Armoured and Unarmoured Mains Cables

Shall be:

i) As called for in the Particular Specification regarding minimum size, cores, insulation, armouring, sheathing, working temperatures and fire rating;

ii) Manufactured to the relevant British Standard BS6480 BS6346, BS1442, BS6746;

iii) Without any intermediate joints between one definite terminals point and another;

iv) Protected by ducting where ground is "made up" and for all entrances to buildings;

v) Protected by interlocking cable tiles and marking tape unless otherwise stated in the Particular Specification;

vi) Protected against other services where run in service ducts;

vii) Supported by cleats for all surface work at recommended cable intervals no less than 600mm to ensure no undue stress is put upon the cable or sealing glands. Where multiple runs of cables are involved, cable tray shall be used;

viii) Terminated using compression type glands to BS6121 shrouds through spreader boxes to crimped terminations;

ix) Bonded with 20mm x 2mm tape for cables up 35mm² and through body of gland for cables over 35mm²;

x) Only installed at temperature of over 0°C;

xi) Connected to the internal Earthing terminal of the equipment by a bonding conductor sized in accordance with BS7671;

xii) Bonded and Earthed at one end only with insulated glands used at the open circuit end for single core cable;

xiii) Supported below the gland to ensure that the gland is relieved of the weight of the cable;

xiv) Where sized for volt drop, it may be necessary to provide a cable extension box to spread the cores to enable the cores to be terminated without undue handling. The Contractor shall satisfy himself that the equipment terminals will accept the cable socket without detriment to the clearances between terminals and enclosures;

xv) Protected with an approved preventative jointing compound at the interface of all bi-metallic connections;

xvi) Provided with core identification using coloured or numbered plastic stretch or shrink ferrules at all terminations;

xvii) Identified by permanent brass labels indicating cable size, number of core and "to" or "from" designation, voltage, date;

xviii) In ducts, labelled at 3 metre intervals.

4.6.6 Excavation and Laying of Underground Cables, External

Shall be:

i) Laid direct in trench unless otherwise indicated;

ii) Drawn through ducts as they enter buildings, under roadways or car parking areas and elsewhere as indicated;

iii) Laid and the trenches shall be backfilled within 24 hours. At all times, safety precaution shall be taken and arrangements made to prevent damage to cables;

iv) Where run underground, be laid on a bed of sifted sand 75mm deep;

v) Provided with the minimum cover specified as below:

Type of Cable	Location and Depth of Cover		
	In Open Ground	Under Roadways or Under Pavement	Under / Alongside Railways / Drainage
High Voltage	1000mm	120mm	1000mm
Low Voltage Telephone Co Axial	600mm	800mm	500mm

vi) Provided with route markers at 50m intervals or change in direction with inset lead/ plastic information tags.

4.6.7 Cable Warning Covers

Interlocking cable covers shall:

i) Meet the requirements of BS2484;

ii) Be provided to cables laid direct in the ground unless directed otherwise. The material and dimension of the covers shall be as specified below:

Type of Cable	Material Cover	Dimensions Cover (nominal) length x width	Diameter of Cables	Number of Cables / Cover
High Voltage	Reinforced	914mm x 152mm	<50	1
	Concrete	914mm x 178mm	>50	1
Low Voltage Telephone Co Axial	Earthenware	229mm x 152mm	<50	1
			<40	2

4.6.8 Cable Ducts

Shall be:

i) 90mm minimum bore;

ii) As detailed in the Particular Specification or agreed by the Engineering from:

a) Earthenware, either salt glazed or ceramic glazed internally, of the self-aligning type or plastic type with sealing flange suitable to ensure self-alignment of the bore;

b) Steel or iron complying with BS788 with screwed and socketed joints;

c) Fibre with suitable collar joints;

d) PVC to BS4607.

iii) Sealed at each end with a plastic compound or other approved sealing substance to the satisfaction of the Engineer. A suitable draw wire shall be installed in all spare ducts.

4.6.9 Segregation

A minimum clearance in accordance with the table listed below shall be allowed from any equipment, pipework or ductwork. The distance shall be measured from the external surface of any lagging as far as practicable.

Cable	High Voltage	Low Voltage	Telephone	Co Axial	Equipment Pipework Ductwork
Buried	mm	mm	mm	mm	mm
1.					
High Voltage	150	300	300	300	600
Low Voltage	300	25	150	150	300
Phone	600	150	50	50	200
Co Axial	600	150	50	50	200
2.					
High Voltage	150	300	300	300	600
Low Voltage	300	see note 2150	-	150	150
Phone	300	150	-	-	-
Co Axial	300	150	-	-	100

NOTES

- *The minimum spacing will apply unless otherwise indicated*
- *Low voltage cables in air may be bunched subject to any requirements regarding segregation and installation methods set out in BS7671 and any requirements that may be indicated regarding grouping, installation of defined conditions or installation in enclosed trenches.*
- *When cables are in steel pipes, the minimum spacing need not be maintained, but a minimum space of 25mm shall be left between the pipes.*

Mutual Detrimental Influence

Electrical installation shall not be installed in contact with any steam, water, gas or other pipework, or any heating, cooling or ventilation ductwork or appliance. A minimum distance of 100mm shall be maintained from the insulation of pipework or 150mm uninsulated pipework, with conduits run below any trace heating pipework, ductwork or appliance.

Notwithstanding the requirements of the BS7671 Chapter 41, independent electrical systems shall be provided for the following:

a) Mains voltage lighting and power (LV)
b) Radio, Impulse clock, alarm and call systems (ELV)
c) British Telecommunications Systems
d) Internal Telephones
e) Patient Monitoring
f) Fire Alarm Systems and Safety Lighting

In no instance shall LV and ELV circuits be enclosed in the same trunking compartment, the same conduit systems or the same multi-core cable.

Public Telephone Operator communication circuits, internal telephone circuits and patient monitoring circuits shall be segregated throughout from all other circuits and each other and shall not be drawn into the same enclosure as cables of any other circuit, neither shall they form part of any composite cable, flexible cable or flexible cord.

4.7 Cable Trunking and Tray Systems

Cable trunking and tray systems shall be as called for in the Particular Specification.

4.7.1 Cable Tray

Shall be:

i) Galvanised medium return flanged to perforate not less than 1mm up to 150mm width or 1.5mm from 200mm to 450mm width and 2mm from 600mm to 900mm width unless stated otherwise;

ii) Of adequate size to support the cables without undue bunching;

iii) Supported at intervals by suitable brackets / Unistrut necessary to provide rigid fixing;

iv) Installed on structure which the Contractor has satisfied himself is capable of providing adequate fixings;

iv) The Contractor shall notify the Engineer where difficulty is experienced or anticipated;

v) Installed using factory formed bends and tees and when cut sections are used for sets, they shall be free from sharp edges, welded and installed with mushroom type bolts;

vi) Painted together with handmade accessories with zinc rich paint where cuts have been made;

vii) Suitably protected by means of lead or PVC liners where holes have been cut to allow cables back entry.

4.7.2 Cables

Shall be fixed to cable tray as follows:

i) By means of proprietary forms of plastic cable clips, saddles, straps, etc;

ii) By means of galvanised metal saddles and clips where higher than average temperatures are likely to be experienced;

iii) By means of brass screws, bolts, nuts, etc where applicable.

4.7.3 Trunking Generally

Trunking shall be:

i) Provided where more than 2 conduits are required;

ii) Sized to conform to BS7671;

iii) Routed and installed after agreement with Engineer;

iv) Free from all sharp projections and edges;

v) Electrically and Mechanically continuous throughout;

vi) Fitted with purpose made radius bends and tees and terminated with blank end pieces;

vii) Suitably flanged for entry into building;

viii) Compartmented to conform to BS7671 to segregate services;

ix) Provided with pin racks and retaining straps to support cables;

x) Provided with fire barrier units where penetrating fire zones;

xi) Supported to manufacturers guidelines.

4.7.4 Metal Trunking

i) To BS4678-1-2;

ii) Galvanised to BSEN10143;

iii) Of stainless steel for all areas subject to Food Hygiene Regulations;

iv) Bonded with PVC/copper straps unless manufacturers system is acceptable to the Engineer.

4.7.5 PVC Trunking

Shall:

i) Conform to BS4678-4;

ii) Be installed to manufacturers Specification regarding thermal expansion and support.

PVC mini trunking shall only be used where permission from the Engineer is given or specified in the Particular Specification.

4.8 Conduit Systems

Shall be:

i) Free from any imperfections and manufactured to BS31:1988 Class B and not less than 20mm diameter;

ii) Within the building fabric, black enamelled unless otherwise specified in the Particular Specification;

iii) Where mounted outside a building, run in floor trenches subject to dampness buried in the ground, or where directed by the Engineer, hot dip galvanised;

iv) Protected from mechanical damage and weather when stored on site;

v) Threaded to length specified in BS31, carefully reamed to remove all sharp edges and burrs after screwing; oil and filters being completely removed before erection and already cut threads cleaned by running dies over them and then wiping clean;

vi) Swabbed dry before wiring is commenced;

vii) Painted with rust inhibiting paint after erection where screwed threads are exposed and where conduit finish is damaged;

viii) Arranged to butt in solidly to box couplers, accessories, etc. and jointed with proper screwed couplings;

ix) In accordance with the appropriate table in BS7671 in respect of cable capacity and sufficiently large to allow easy draw in or withdrawal of one or all cables;

x) Electrically and mechanically continuous throughout forming a completely bonded system;

xi) Tested for continuity before cabling is commenced;

xii) Fitted with locknuts on all running couplings having smooth even bearing faces;

xiii) Set on site to form bends using bend machines, all sets being neatly made without restricting the bore;

xiv) Held in an efficient vice for threading. The Contractor is advised that badly marked conduit or poor threads will not be accepted;

xv) Coupled to equipment having tapped entries by smooth bore bushes screwed into the couplings terminating the conduit run. The couplings shall be backed by circular locknuts;

xvi) Coupled to equipment having untapped conduit entries by smooth bore brass bushes inside the equipment with brass compression rings and flanged couplings with backing circular locknuts outside the equipment;

xvii) Capable of withstanding a "Dead Weight of 25 kilos", after installation in the presence of the Engineer's representative at his discretion.

4.8.1 Steel Conduit Galvanised

Conduit where galvanised shall be:

i) Fixed with galvanised saddles as for surface or flush installation;

ii) Fixed with stainless steel screws;

iii) Painted with zinc rich paint where exposed conduit threads are left;

iv) Installed with all necessary galvanised accessories including box lids.

4.8.2 Boxes for Conduit

Conduit boxes shall be:

i) Standard, circular, black enamelled or galvanised where appropriate, malleable cast iron to BS31:1988;

ii) Fitted with heavy gauge cast or pressed steel lids secured in position with brass screws;

iii) Provided with tapped spouted entries;

iv) Of the waterproof type when erected in exposed positions and gasketed with waterproof plastic compound after wiring with external fixing lugs;

i) Of the multiple adaptable type of dimensions not less than 150 x 100 x 37.5mm where two or more conduit run parallel.

Not more than 3no 20mm conduits will be permitted to enter the longer side of the box, and where more or larger conduits are to be accommodated, larger boxes shall be used;

v) Of the cast type with cast lids where (v) are used on the surface;

vi) Fixed to the fabric of the building and in accessible positions;

vii) Be supplied with a fillet to segregate services where necessary (lighting and small power cables may pass in the same box, but telephone, fire alarms, etc must be segregated);

viii) Fitted with extension rings where necessary in order that the edge of the conduit box is flush with the finished ceiling.

4.8.3 Conduit Installation

Conduit on the surface shall be installed:

i) Using spacer bar saddles spaced at distances no more than:

Conduit Size	Spacing
20mm - 25mm	1.500m
32mm	2.000m

ii) Using distance saddles on switch and socket outlets drops or otherwise called for in the Particular Specification;

iii) With saddles fixed with a proprietary make of wall plug and screws of sufficient length to enter the main fabric to a minimum of 25mm. No fixings will be allowed in seams. All building fabric to be drilled;

iv) With due regard to neatness and finished appearance being made unobtrusive and where exposed on the surface of walls or ceilings, runs shall be symmetrical and in keeping with the building design. The routes of all surface conduits shall be approved by the Engineer before installation;

v) At distances of 20mm apart where two or more conduit runs parallel and where conduits must cross, a similar space must be left at the crossing.

Conduit where sunk in plaster of walls, partition walls, ceilings or roof spaces shall be installed.

vi) Using pressed saddles fastened by means of 2-25mm long black japanned screws and proprietary plugs where necessary, saddles in roof space and voids being installed at the minimum centres stated for surface work.

vii) In such a manner that the edge of the conduit box is flush with the finished surface. Particular note is drawn to suspended ceilings and where panelled ceilings are installed, the Contractor's attention is drawn to the need for accurate positioning of the boxes above the panels in the exact positions shown on the ceiling hole drawing.

Conduit shall not:

i) Have more than two right angle bends in any conduit run without the provision of a draw in box;

ii) Be installed in runs of more than 9.00m without draw in boxes;

iii) Be fitted with tees, elbows or manufactured bends unless specifically stated in the Particular Specification or prior permission is given by the Engineer. Circular junction boxes or adaptable boxes shall be used in their stead;

iv) Be fixed, where buried, by means of 'crampits' or nails;

v) Be concealed before inspection;

vi) Have cables drawn in until all conduit is complete;

vii) Be dismantled for wiring;

viii) Be installed within 150mm of gas, water, LPHW or steam unless express approval of the Engineer is obtained;

ix) Have any rust patches or other defects;

x) Be installed in ducts without approval of the Engineer.

4.8.4 Plastic Conduit Systems

Where PVC conduit is called for within the Particular Specification, all conduits shall comply with BS4607 AH grade.

i) Light gauge conduit (coloured white) may be used for protected cast concrete work where builder's traffic is minimal or for protected surface work, eg in false ceilings.

ii) Heavy gauge conduit (coloured black) shall be used in all locations where a possibility of physical maltreatment exists.

iii) Conduit joints shall be jointed and terminated utilising the appropriate components as supplied by the conduit manufacturers.

a) Permanent Adhesive

A solvent cement to produce a rigid watertight joint when used with standard couplers and accessories

b) Flexible Adhesive

A non-hardening adhesive to be used where expansion facilities are required in long conduit rungs in conjunction with expansion couplers

iv) Conduit Bends

Up to 25mm diameter may bend cold with the use of appropriate bending spring obtained from the conduit manufacturer.

v) Expansion of Conduits

Adequate allowance shall be made for longitudinal expansion and contraction of the conduits under normal working temperature variations as follows:

a) Expansion couplers should be used on all straight runs of conduit exceeding 6 metres in length;

b) Conduit shall be free to slide within saddles;

c) Special consideration may need to be given to the fixing of accessories in situations where the temperature fluctuates excessively. Oversize or slotted fixing holes may be necessary.

vi) Conduit Support

Shall be at intervals of 1½ metres in isolated positions or 1 metre in accessible situations. Where working temperatures tend to be high, this spacing should be reduced accordingly.

vii) Conduit Accessories

Wherever possible, conduit junction boxes shall be of the BS circular pattern with appropriate spout entries. Tangential entry circular boxes shall be used where appropriate.

Multiple conduits may necessitate the use of large PVC adaptable boxes for junctions.

viii) Support for Light Fittings

Care must be taken in the support of totally enclosed lighting fittings. Where high temperature are likely to occur, special all insulated heat resistant boxes shall be used.

4.8.5 Flexible Conduit

Flexible metallic conduit shall be:

i) PVC sheathed of type to meet particular situation of ample capacity and mechanically robust and weatherproof;

ii) Run between the internal wiring systems and fixed apparatus, motors, thermostats, etc;

iii) Kept to the shortest length;

iv) Connected to equipment with factory made clamps;

v) Run with an Earth conductor of minimum size 2.5mm² insulated cable, installed internally and connected externally at each end of the conduit with Earth clamps;

vi) Manufactured in accordance with BS731.

4.9 Lighting Switches

Lighting switches shall be:

i) Supplied and installed by the Contractor as detailed on the Drawings and in the Particular Specification;

ii) Manufactured in accordance with BS3676;

iii) Plate switches with rocker operated white finish unless otherwise stated in the Particular Specification;

i) Mounted at 1,000mm to centre unless otherwise directed;

iv) Watertight and galvanised for use in exterior locations with membrane or with rotary action.

4.10 Switch Disconnectors

Shall:

i) Be provided as local means of isolation for compliance with BS7671;

ii) Meet BSEN60943;

iii) Full duty rating;

iv) Disconnect all unearthed phased conductors;

v) Labelled as detailed;

vi) Be capable of means of locking in the "off" position.

4.11 Socket Outlets

Socket outlets shall be:

i) Supplied and installed by the Contractor and detailed on the Drawings and in the Particular Specification;

ii) Manufactured in accordance with BS1363;

iii) 13A rectangular pin with white finish wired on a ring main system unless otherwise stated in the Particular Specification;

iv) Switched unless otherwise stated in the Particular Specification;

v) Supplied with a fused plug top for each socket outlet, an equal division of 3 and 13A fuses being provided. These to be handed to the Consulting Engineer prior to completion on site;

vi) Mounted as detailed in Schedule and Particular Specification;

vii) Provided with RCD protection where called for to BS4293, BS11363 and BS7671;

viii) Provided with spring gasketed flap/screw or seal to meet protection requirements;

ix) Vertically in line where in close proximity with light switches.

4.12 Luminaires / Light Fittings

Luminaires / light fittings shall:

i) Be as detailed in the Schedule, Particular Specification and Drawings;

ii) Unless directed otherwise, mounted on one conduit box for tungsten fittings. Fluorescent fittings shall have two conduit boxes for support;

iii) Suspended independent of any false ceiling structure unless specific arrangements have been made;

iv) Finally fed by heat resistant glass / silicone insulated flex Ref. 2827D, 0.75mm² to BS6500 for all tungsten fittings;

v) Through wired only using heat resistant cable EPR Ref. 6101T;

vi) Earthed in all cases to conform to BS7671, BS67, BS4533, BS5042, BSEN60920 / 61048 / 60598 / 60922;

vii) Be supplied with new lamps and tubes as detailed in Particular Specification with 10% spare lamps for each type installed.

4.13 Mounting Heights

The following mounting heights shall be used unless otherwise stated:

Accessories	Location / Function	Height affl
Light Switch	General	1000mm
	In Disabled Facilities	900mm
Socket Outlet	General	450mm
	Kitchens	1350mm
	Above Worktops	150mm
	In Divisional Wall in Showroom	450mm
	External	800mm
Dado Trunking		TBA
Shaver Socket Outlet		1000mm
Fused Connection Unit	Radiant Wall Heater	1800mm
	Radiant Heater - focal point	300mm
	Tubular Heater	300mm
	Clock	1800mm
	Above Worktop	150mm
Cooker Control Unit		1000mm
Cooker Connection Unit		450mm
Isolating Transformer		1300mm
Room Thermostat		1600mm
Telephone Outlet	General	450mm
Radio/TV Outlet		450mm
Push Button		1000mm
Fire Alarm Call		1000mm
Bell or Buzzer		2200mm
Flex Outlet Plate		150mm from cable entry equipment
Distribution Board		1800mm
Infra Beam Detector		1900mm
Fan / Heater Controller		1000mm

Heights are from finished floor level to the centre of the accessory or equipment, except in the case of worktops when the measurement shall be from the worktop surface. If the specified height of an accessory coincides with the top of tiling, the accessory shall be mounted above the tiling leaving a clear gap of 50mm.

Where apparatus is located underneath a worktop, the accessory shall be mounted 100mm below the underside of the worktop. In car parks and garages, the heights shall comply with the appropriate Regulations relating to the presence of petroleum vapour. Where the accessory falls within tiling, it shall be located at the cross joint in four tiles. All accessories shall line through horizontally.

4.14 Connections to Appliances

4.14.1 General

The following tables specify standard connection methods for a range of appliances and motors and these methods shall be used unless otherwise indicated.

4.14.2 Connections to Appliances

Appliance	Maximum Rating	Outlet		Rating of Fuse (BS1362)		Cable or Cord
		Type	Pilot Lamp	A	Type	Size mm
Water Heater – Storage	1kW	SFC	YES	13	D	1.5
	3Kw	SFC	YES	13	D	1.5
Water Heater – Instant	4kW	DPS	YES	-	D	2.5
	7Kw	DPS	YES	-	D	2.5
Room Heater – Storage	3.4kW	DPS	YES	-	D	2.5
Room Heater – Convector	1kW	SFC	YES	13	D	1.5
	3kW	SFC	YES	13	D	1.5
Room Heater – Radiant	2kW	SFC	YES	13	D	1.5
	3kW	SFC	YES	13	D	1.5
Shower	8.4kW	DPPS	YES	-	B	6.0
Towel Rail		SFC	YES	13	B	1.5
Cooker	45A	CC	YES	-	A	6.0
Waste Disposal Unit		SFC	YES	13	E	1.5
Sanitary Disposal Unit		SFC	YES	13	E	1.5
Macerator		SFC	YES	13	A	1.5
Extract Fan (single phase) - wall or window mounted without controller	150W	SFC	YES	3	E	1.5
		SFC with FO	YES	3	A or	1.5
		FO or DPS	NO	-	C E	1.5
Extract Fan (single phase) - with unfused controller	150W	SFC with FO or DPS	NO NO	3 -	A or C E	1.5
Extract Fan (single phase) - with fused controller	150W	SFC with FO or DPS	NO NO	3 -	A or C E	1.5

Codings

Outlets	DPPS	Double pole pull cord switch c/w flag indicator
	DPS	Double pole switch
	SFC	13A switched fused connector
	CC	Cooker connection outlet
	FO	Flex outlet
Cables	A	PVC - insulated, non-sheathed cabled in conduit (as section 8)
	B	85° rubber - insulated non-sheathed cables in conduit (as section 8)
	C	PVC - insulated multi core sheathed cables (as section 9)
	D	85° rubber insulated HOFR sheathed flexible cord
	E	PVC insulated and sheathed (circular) flexible cord

Notes

1. *SFC or DPS to be engraved with the legend "WATER HEATER".*
2. *Applies only when SFC immediately adjacent to fan.*
3. *Where the fan is in the same room as and not more than 2m from SFC, an FO is to be located immediately adjacent to the fan.*

4. *Where the fan is more than 2m from SFC, a DPS is to be located immediately adjacent to the fan.*
5. *Cable to be routed from SFC via controlled to FO or DPS.*

4.15 Earthing

4.15.1 The Earthing System for the Electrical Services Installation

Shall:

i) Comply with the BS7671 and 7430;

ii) Provide for all main equipotential bonding between main Earth, water, gas and main mechanical services. Bond all non-current carrying metal parts of electrical equipment to the Earthing system;

iii) Follow special instructions detailed in the BS7671 for Earthing, eg metal conduits, trunking, outlet boxes, motor casings, etc;

iv) Be made using PVC insulated single core cables coloured green and yellow of the rating and termination detailed in BS7671;

v) Thermally and electrically adequate for the fault conditions associated with the system to be installed to discharge without endangering personnel or equipment;

vi) Where protective multiple Earthing is to be employed, follow the Supply Authority's Regulations for bonding leads;

vii) Where liable to corrosion (buried in ground, floors, walls, fixed externally, etc.) be PVC sheathed or wrapped with corrosion resistant tape;

viii) Where buried in the ground be laid in sand and protected with interlocking cable ties;

ix) Have brass bolts, nuts and washers for all fixings (bronze where liable to corrosion);

x) Have separate Earth bonding for Telecommunication Systems.

4.15.2 Earth Electrode System

Shall:

i) Be set out to meet the site and soil conditions;

ii) Comprise solid drawn high conductivity copper Earth electrode rods of 15mm diameter, 1.2m long sections with internal screw and socket joints;

iii) Fitted with hardened steel tip and driving cap;

iv) Be driven into the ground to a minimum depth of 2.4m;

v) Be connected by means of a purpose made clamp below ground level in a proprietary branch of concrete inspection pit with a removable cover;

vi) Include all Earthing conductors which together with the electrode system provide the required value of impedance. The Earthing conductors to be insulated between Main Earth Bar and Earth Electrode and fitted with copper disconnecting links to provide a testing facility at the point of connection to the Earth electrode. The Links to be of equivalent cross sectional area to the Earthing conductor.

4.15.3 Earthing Tape

Shall:

i) Be high conductivity, un-tinned except where otherwise specified;

ii) Be PVC sheathed or PVC wrapped where run externally or in the ground, through walls and floors or in situations where is may be liable to corrosion. Sheaths and wrappings shall be green and yellow;

iii) Be fixed by means of purpose made brass or bronze saddles;

iv) Be jointed by tinning both pieces before assembly, riveting with at least 2 rivets and sweating solid;

v) Be connected to equipment by tinning the contact area and clamping or by drilling the tape, tinning the contact area and bolting with high tensile plated steel bolts, flat washers, nuts and locknuts.

4.16 Testing and Commissioning

4.16.1 Introduction

As detailed elsewhere in this Specification, the work will be tested and commissioned when completed to conform to BS7671.

Tests may also be carried out as the work proceeds as required by conditions and the decision of the Site Engineer.

Although the Consulting Engineer may employ Site Engineers to inspect, test and commission the works, this in no way relieves the Contractor from any of his responsibilities in ensuring that the work is effectively and adequately supervised by his own staff.

4.16.2 Commissioning

At the end of the Contract or at the end of a particular section of the Contract, the Contractor shall satisfy himself that the installation is 100% complete and that all labels and fuse board circuit schedules are fitted, etc.

He shall ensure that all manufacturers' information is available, that all equipment functions are as intended and that keys are ready to hand over.

He shall than notify the Engineer that the installation is complete and demonstrate that it is. No installation will be taken over by the Client which is not complete in every respect.

The Engineer may, if he so wishes, inspects large items of plant at works prior to delivery to site to ensure that it fulfils the purpose for which it is designed.

4.16.3 Test and Test Instruments

Tests shall be carried out as each section of the work is completed and during the progress of the works as required by the Engineer.

The tests shall be carried out to BS7671 Part 6: Inspection and Testing. This shall include as follows:

- Continuity of ring final circuit conductors

- Continuity of protective conductors including main and supplementary equipotential binding
- Earth electrode resistance
- Insulation resistance
- Insulation of site-built assemblies
- Protection by electrical separation
- Protection by barriers or enclosure provided during erection
- Insulation of non-conducting floors and walls
- Polarity
- Earth fault loop impedance
- Operation of residual current devices and fault voltage operated protective devices
- Ability to withdraw cables from conduit

The Contractor shall provide all labour and fully calibrated instruments certified as necessary.

These tests may be witnessed by the Engineer who will make out the necessary test certificates. The form of these certificates is as detailed.

When the Contractor is ready to carry out a test he shall give the Engineer at least 7 days notice. He shall satisfy himself that the installation is in a fit state for the tests to be made. It is not intended that repeat tests should need to be witnessed because some circuits failed to satisfy the readings required as detailed in the IET Regulations.

The Engineer may, if he so wishes, use his own instruments for these tests.

4.16.4 Test during the Course of the Contract

If the installation is to be conduit or trunking concealed within the fabric of the building, the Contractor shall ensure that continuity is tested and maintained before the conduits are concealed and shall notify the Engineer who may witness these tests if he so wishes.

4.17 General Specification

4.17.1 Guarantee

The whole of the works is to be guaranteed and maintained for a period of 12 months after the completion and any defects that may make themselves apparent in that period shall be made good at the Contractors expense, provided always that the fault has not arisen from causes outside the Contractors control.

4.17.2 Insurance

The Contractor shall insure such plant and materials ordered for the installation as may for the time being be upon the site and shall keep them insured against destruction or damage by fire for the full value of such plant and materials until the completion of the Contract.

The Contractor shall insure against all claims for compensation or damage brought by a workman or persons entitled to payment under the Employers Liability Acts, or on account of

injury sustained by such workmen and are to indemnify the Purchaser against all claims arising in respect of such.

Full insurance shall also be taken out by the Contractor in respect of all Third Party Risks.

The Contractor shall provide any other insurance which may be necessary to comply with Contract Conditions.

4.17.3 As Fitted Drawing

When the works have been taken over, a completion certificate prescribed by the Institute of Electrical Engineers shall be forwarded to the Engineer as detailed in this Specification under "Testing and Commissioning" and the "As Fitted Drawings" of the installation. The latter shall be ink on tracing negatives recording the following:

i) Plans of each floor showing exact location and sizes of all cables or conduit runs, circuit wiring, positions of control gear, lighting points, socket outlets, etc;

ii) Schematic diagram showing all equipment as fitted with main and sub main cable connections together with sizes of all cables and ratings of all equipment;

iii) The Drawings are to include all additional to or reductions from the works during the progress.

Final payment to the Contractor will not be certified until such Drawings are received and approved by the Engineer.

4.17.4 CAD Drawings

The Electrical Contractor shall allow for all As Fitted Drawings as requested in the Standard Specification, to be issued as 1:50 scale.

In addition to this, the Electrical Contractor shall allow for all the "As Fitted" Drawings to be made available in electronic format compatible with AutoCAD LT, either as a DXF file or a DWG file.

The Electrical Contractor shall liaise with the Engineer to ensure this is carried out and that his requirements are met.

4.17.5 Site Representation

The Contractor shall keep a competent foreman in charge of the work who shall be in constant attendance during the progress of the work. The Engineer shall be at liberty to object to any representative or person employed by the Contractor in the execution of the contract or otherwise about the work, who shall misconduct himself and be incompetent or negligent, and the Contractor shall remove such a person or persons objected to upon receipt from the Engineer of notice in writing requiring him to do so.

4.17.6 Drawings and Specification

The Contractor shall be responsible for taking his measurements from the Drawings except for those items where provisional measurements and quantities are specifically stated and no extra price will be allowed on account of any dimensional or clerical errors or omission on the plans.

Any minor part or parts not on the Drawing or in the Specification but which are clearly necessary to the satisfactory completion of the work shall be deemed to be included for in the Tender and no exact amount will be allowed on account of such omission. In the event

of any major discrepancies arising between the Drawings and the Specification, the Tenderer shall bring such to the notice of the Engineer who shall decide which is to be followed.

4.17.7 Damage

The Contractor shall be responsible for any damage caused by his employees, either to the works and subject of this contract or incidental thereto and shall reinstate all such damage at his own cost.

4.17.8 Regulations

The Contractor shall be held responsible that the whole of his works are carried out in accordance with the following Regulations:

i) The Regulations for the Electrical Equipment of Buildings, as issued by the Institute of Electrical Engineers BS7671:2018;

ii) Any bylaws and Regulations of the Governments, County or Borough and Local Councils;

iii) The Rules and Regulations of the Central Electricity Councils;

iv) British Standards Institution Specifications.

4.17.9 Materials and Workmanship

Any materials used on this Contract shall comply with appropriate British Standards where such apply. Where materials of a particular manufacturer are called for in the Specification, the Engineer has the authority to reject any materials which are not of the manufacturer specified. Should the Engineer deem it necessary, vouchers must be produced as evidence that the materials are such as are required for the work.

The words "or other approved" shall mean any make of equal quality of materials, but the use of such alternative makes of materials must be approved by the Engineer.

The whole of the works shall be carried out in a straightforward manner by competent workmen under skilled supervision.

The Engineer has the authority to reject any work he may consider unfit and have any portion of work taken down, removed or undone which he may consider executed in an unworkmanlike manner or with improper materials, at the expense of the Electrical Contractor.

4.17.10 Maintenance Manuals

Immediately prior to handover, the following items made up in the form of a manual shall be provided. Three copies of this manual are required and each shall comprise of a black A4 size ring binder suitably indexed containing clear plastic A4 size sleeves for each document.

Each Manual shall contain the following:

i) An inventory of all equipment supplied showing details of make, model, type, serial / catalogue number, rating together with location, drawing and date of manufacturer for specialist items of plant;

ii) Lubrication instructions for all equipment;

iii) Manufacturer's instruction manuals of servicing and maintenance for each specialist item of plant including guidance on assembly and dismantling, safety, special tools,

maintenance equipment, test instruments and spare equipment items provided under this Contract;

iv) General information including makers and insurance, test certificates, warranties, etc.

4.17.11 Test and Completion Certificates

The following Test and Completion Certificates shall be provided where applicable:

i) As issued by the NICEIC for the following installations:

- Electrical Installation
- Emergency Lighting Installation
- Fire Alarm System Installation and Commissioning

ii) Certificates of Test and Examination for Passenger and Goods Lifts/Hoists as prescribed in BS5655 Part 10.

iii) For Lighting Protection Installation, a certificate showing:

- Air termination network - No. of, size and method of fixing
- Down Conductors - No. of, size and method of fixing
- Bonds - Items bonded
- Joints - Type
- Test Points - Type, No. of and size

Earth Terminations - Type, size, length or rod or area of mat, resistance value at each position, sketch layout of terminations and combined resistance of all terminations

Confirmation that the installation has been tested and inspected and conforms to the current edition of BS6651.

iv) Certificate for other systems including Public Address, TV Aerials, Security CCTV, etc.

All relevant certificates shall be enclosed in A4 clear plastic sleeves and incorporated in the Service Manuals previously described.

4.17.12 Site Conditions

The Contractor shall examine the site and make themselves familiar with the local conditions, construction and occupation of the building and other matters relevant to the execution of the Contract.

Claims for lack of knowledge will not be entertained.

The Contractor shall, when authorised in writing, vary the Drawings or Schedule by way of an extra or omission but no variations shall be made without such authorisation

All authorised extras, omissions and variations shall be measured by the Surveyor named in the Contract and the value thereof shall be determined by the Surveyor according to the applicable provisions of the Contract.

Save that where extra work cannot be so measured or valued, it shall be paid for in accordance with the National Schedule of Daywork Charges as agreed between the Royal Institute of Chartered Surveyors and the National Federated Electrical Association.

4.17.13 Ordering of Materials

It is essential that the successful Contractor, upon receipt of the official order, places his orders for the equipment required at a sufficiently early enough date to ensure absolutely NO DELAY in the progress of this contract.

5 Tender Summary and Form of Tender

5.1 Summary of Tender – Electrical Services

1.	Preliminaries	£	
2.	Removal of Existing	£	
3.	Supply and Install of Main LV Switchgear within Plant Room	£	
4.	Supply and Install of MCCB Panel Board to Main Building	£	
5.	Supply and Install of Sub Distribution Boards	£	
6.	Rectifying all C1 and C2 codes in Electrical Condition report	£	
7.	Builders Works	£	
8.	Earthing and Bonding	£	
9.	Electrical Testing of all existing circuits	£	
10.	'As Fitted' Drawings and Operating Manuals	£	
	Sub Total	£	
	Provisional Sum for additional earthing to existing Submains	£	2000.00
	Contingencies	£	6,000.00
	TOTAL TENDER SUM	£	

Signed: .....

For and on Behalf of: .....

Date: .....

Note: Tender will not be valid unless submitted on this form.

5.2 Daywork Rates – Electrical Services

Labour		Normal Time
Advanced Electrician	Rate	£.....
Qualified Electrician	Rate	£.....
Assistant/Mate	Rate	£.....

Rates for overtime working, excluding statutory holidays:

Labour		Time and Half
Advanced Electrician	Rate	£.....
Qualified Electrician	Rate	£.....
Assistant/Mate	Rate	£.....
Labour		Double Time
Advanced Electrician	Rate	£.....
Qualified Electrician	Rate	£.....
Assistant/Mate	Rate	£.....

Daywork Percentage Additions

Materials	nett cost	+ .....%
Labour (ECA/RICS Definition)	nett cost	+ .....%
Sub Contracts	nett cost	+ .....%
Plant	nett cost	+ .....%

Signed: ..... Dated: .....

Company: .....

Address: .....

.....

Appendix A – LV Switchgear

Unit 23 Newark Business Park,
Brunel Drive.
Newark,
Notts, NG24 2EG
Tel 01636 702805
Fax 01636 679376
admin@heatherose.co.uk

Quote Ref: ENQ-000070
St Andrews House - Derby

21st May 2020

FAO: Jamie Hallam
jamie.hallam@epconsulting.co.uk

Dear Sir,

We thank you for your enquiry for the above project and have pleasure in forwarding our quotation for the manufacture of the LV panel detailed below.

We have taken our design from the items listed on your drawing and photos

St Andrews House – Derby LV Panel
Wall mounted enclosure
Form 4 Type 2
Busbar 50KA for 1S
1x 200A TPN MCCB TMD incomer
1x 200A TPN MCCB TMD
1x 100A TPN MCCB TMD
2x 63A TPN MCCB TMD
1x integral 6W DB
- 1x 2P 63A 30mA RCD
- 2x 6A 1P MCB Type C
- 1x 16 1P MCB Type C
- 1x 32 1P MCB Type C
- 1x Lighting time clock
- 1x Contactor with override

All relevant title, terminal & warning labels
Workshop testing
Kerbside delivery to site with final Positioning by others

Exclusions:
Supply of any item not listed in our scope of supply
Civil works & Field Wiring

Total price of: £8,097.00 + VAT

Unit 23 Newark Business Park,
Brunel Drive.
Newark,
Notts, NG24 2EG
Tel 01636 702805
Fax 01636 679376
admin@heatherose.co.uk

Payment terms TBA

Standard Terms

1. This proposal is exclusive of VAT, which will be applied at the current rate at the time of invoicing.
2. Payment terms are strictly **30 days nett** from the date of invoice or application.
3. Orders placed against our quotation are subject to credit approval being acceptable to Heatherose Ltd. Credit restrictions against contract values may be enforced.
4. All goods and equipment invoiced are the sole property of Heatherose Limited until full payment has been received.
5. Wiring Diagrams / Schematics **2-4 weeks** from receipt of written order and final design information.
   Control Panel Delivery **4-10 weeks** from approval of control panel schematics / wiring diagrams.
   O & M Documentation **2 weeks** after practical completion, in electronic format only.
6. Order placement and provision of design information must take account of the above timescales to ensure that critical dates such as crane lifts can be met. Any acceleration of the works required due to lateness of design information will be chargeable.
7. No allowance has been made for any diamond drilling, builder's work, plinths, chasing or making good.
8. No allowance has been made to offload, crane or hoist the Control Panels.
9. This proposal is based upon all items being ordered and not part supply.
10. Errors and omissions are excluded.

Project Specific Terms

1. Adequate work area lighting to be provided by others.
2. All pipeline devices would be issued for fitment by the Mechanical Contractor.
3. No allowance has been made for the protection of goods and equipment once delivered to site.
4. Access to all sensors, points, plant and control panels shall be provided unless otherwise agreed.
5. All site welfare facilities to be provided by others.
6. Waste produced on-site will be cleared to a disposal point provided to us free-of-charge.
7. All Control Panels will be manufactured in accordance with our Standard Control Panel Specification, available on request.
8. The delivery of the listed equipment will be as follows, unless otherwise agreed in writing:
9. Fourteen days' notice for commissioning engineers is required prior to their work being carried out, so that personnel can be scheduled.
10. Our commissioning schedule is based upon un-restricted access to site and that all associated installation services should be complete before commissioning will commence. Failure to provide utilities or incomplete installations that force return visits will incur additional cost.
11. This proposal is based upon the assumption that all necessary volt free contacts required other than those generated within our control panel will be provided by others. No allowance has been made to provide any interface cards or wiring adaptors associated with the plant.
12. This proposal is based upon the assumption that all equipment to be interfaced with is regularly and safely maintained in good working order.
13. Wiring to remote external devices will be via roped ducts provided by others or trenches excavated and backfilled by others.
14. No allowance has been made for removal and disposal of asbestos materials
15. No allowance has been made for continuous site representation.
16. No allowance has been made for the identification or removal of obsolete materials.
17. No allowance has been made for the supply of spares, unless specifically detailed elsewhere within the quotation.
18. No allowance has been made for the commissioning of any equipment not supplied as part of this quotation.
19. No allowance has been made for any item of plant or equipment not detailed within this quotation.

Unit 23 Newark Business Park,
Brunel Drive.
Newark,
Notts, NG24 2EG
Tel 01636 702805
Fax 01636 679376
admin@heatherose.co.uk

20. No allowance has been made for any temporary works.
21. No allowance has been made for out of hours working
22. Our Normal working hours are Monday - Friday from 08:00 -17:00
23. Our Premium Time Working hours are Monday – Friday from 17:00 – 23:00 and Saturday – Sunday 07:00 -23:00
24. Our Night working hours are 23:00 to 6:00

Our quotation will remain fixed and open for acceptance for sixty days from the date above and will be subject to our standard terms and conditions of sale.

If any further information is required, I would be pleased to discuss this quotation in greater detail with yourself.

Yours faithfully,

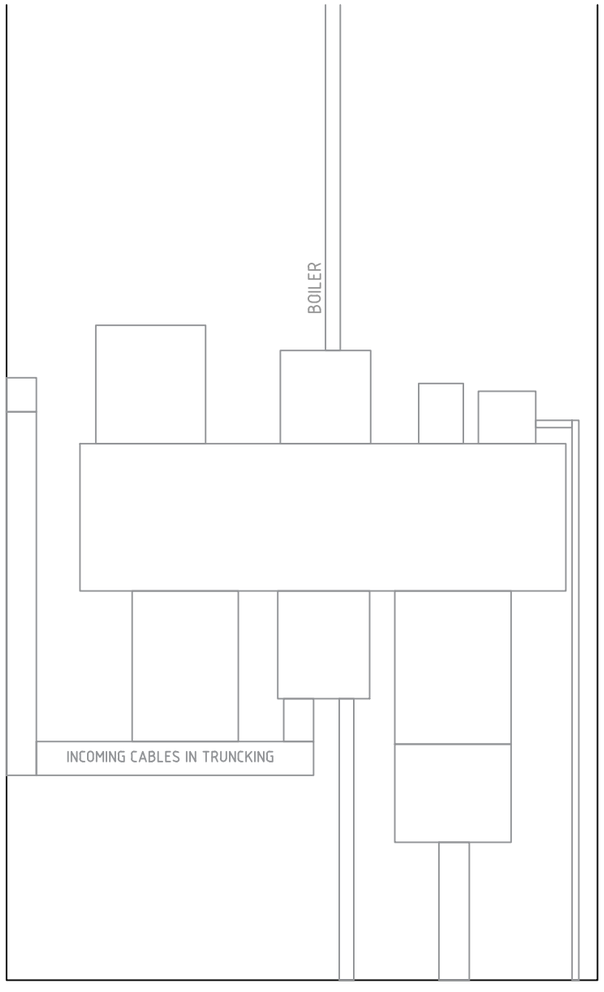
Jordan Gaunt

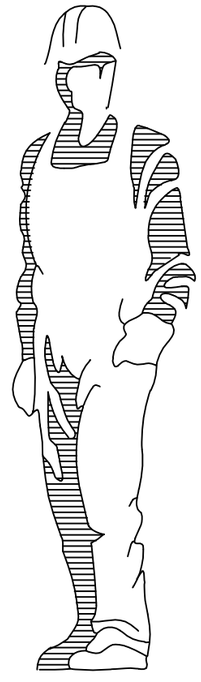
SWITCHBOARD SPECIFICATION

Form 4 Type 2
FRONT ACCESS
BOTTOM & TOP ENTRY
BOTTOM & TOP EXIT
400V 3ph 4 Wire 50Hz
BUSBAR CURRENT RATING: 800A 50KA FOR 1S

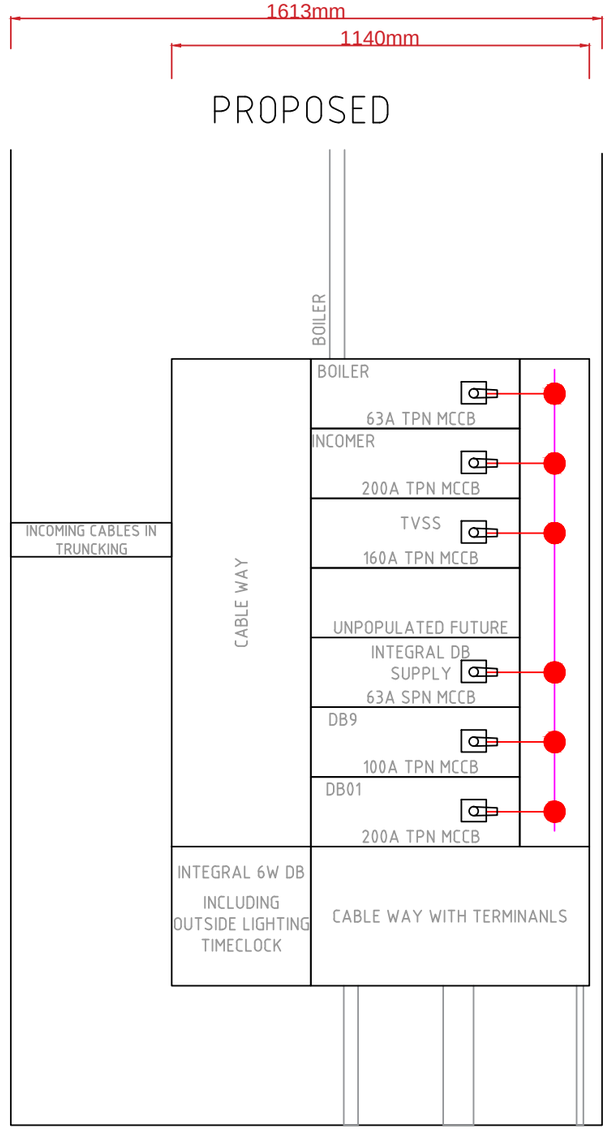
EXISTING

EXISTING





PROPOSED



APPROXIMATE PANEL DEPTH
400MM

Heatherose Limited
Manufacturing Engineers
Tel : 01636 702805
www.heatherose.co.uk

PANEL LAYOUT

EP CONSULTING - ST ANDREWS HOUSE - DERBY

DATE	DRAWN BY	CHECKED BY	REVISION	PAGE	DRAWING No.
21/05/2020	JG	JG	0	1 OF 1	ENQ-000070-L

Appendix B – Electrical Test Condition Report

NICEIC APPROVED CONTRACTOR

This certificate is not valid if the serial number has been defaced or altered **IPN4/0464927**

ELECTRICAL INSTALLATION CONDITION REPORT

Issued in accordance with British Standard 7671 - Requirements for Electrical Installations by an Approved Contractor or Conforming Body enrolled with NICEIC, Warwick House,Houghton Hall Park, Houghton Regis,Dunstable,LU5 5ZX

Contractor's Reference Number

N/A

A. DETAILS OF THE CLIENT

Client: Derbyshire MHS Trust

Address: Kingsway Hospital
Kingsway
Derby
Derbyshire

Postcode: DE21 3LZ

B. PURPOSE OF THE REPORT

This report must be used only for reporting on the condition of an existing installation.

Purpose for which this report is required: Annual Periodic Inspection

Date(s) on which inspection and testing were carried out: N/A

C. DETAILS OF THE INSTALLATION

Occupier: Derbyshire MHS Trust

Address: St Andrews House
London Road
Derby

Postcode:

Estimated age of the electrical installation: 1995 years

Description of premises: domestic, commercial, industrial, other (Please state): Commercial

Evidence of alterations or additions: á

If yes, estimated age: 2 years

Date of previous inspection: N/A

Electrical Installation Certificate No or previous Periodic Inspection or Condition Report No: N/A

Records of installation available: No

Records held by: N/A

D. EXTENT OF THE INSTALLATION AND LIMITATIONS ON THE INSPECTION AND TESTING

Extent of the electrical installation covered by this report:

Entire Fixed Electrical Installation, 10% sample inspection of accessories

Agreed limitations (including the reasons), if any, on the inspection and testing:

None

Agreed with: N/A

Operational limitations including the reasons (see page No. N/A)

None

The inspection and testing have been carried out in accordance with BS 7671, as amended. Cables concealed within trunking and conduits, or cables and conduits concealed under floors, in inaccessible roof spaces and generally within the fabric of the building or underground, have not been visually inspected unless specifically agreed between the client and inspector prior to the inspection.

E. SUMMARY OF THE CONDITION OF THE INSTALLATION

General condition of the installation (in terms of electrical safety):

The Installation is good in areas where refurbishment works have taken place, but the original installations have a number of defects which require works to bring them up to current standards.

Summary of the condition of the installation continued on additional pages? No á Yes Specify page No(s):

Overall assessment of the installation: ~~SATISFACTORY~~ UNSATISFACTORY

An 'Unsatisfactory' assessment indicates that dangerous (CODE C1) and/or potentially dangerous (CODE C2) conditions have been identified, or that Further investigation without delay (FI) is required

This report should have been reviewed and confirmed by the registered Qualified Supervisor of the Approved Contractor responsible for issuing it. (See declaration on page 2)

Please see the 'Notes for Recipients'

F. OBSERVATIONS AND RECOMMENDATIONS FOR ACTIONS TO BE TAKEN

Referring to the attached schedules of inspection and test results, and subject to the limitations at D:

There are no items adversely affecting electrical safety. N/A or The following observations and recommendations for are made N/A

Item No		Code Ú
1	Mains PB .	
2	Main Water bond to boiler house is not present	C1
3	Gas Bond Connected To Side Of Main Building 200A Isolator and Main Earth From Meters Connects To Top Of Isolator For Boiler Room, earth bar required to marshal main earthing conductors and bonds	C2
4	Submain to Main building uses SWA as an earthing conductor, this is undersized for Bonding purposes	C2
5	Supply For Lift Isolator Connected To Main Switch Incoming Side, 25mm Tails With BS 88 200A Fuse Protection	C2
6	Main Earthing Conductor Undersized at 25mm	C2
7	Labelling of the main busbar and isolators is poor	C2
8	Outside Lights Isolator	
9	Armoured Feeding Lighting Column Protected With Rewireable Fuse Carrier 15A, this is oversized for the connected load and has a short circuit capacity of 1KA which is inadequate	C2
10	No Banjo For Armoured, Armourings Is CPC For Lighting Column.	C2
11	Warning Labels Missing From Isolator.	C2
12	Unable To Gain Access To Lamp Post to carry out tests	C2
13	DB01 (Main Building)	
14	Bus Bar Chamber Where Main Incomers Terminates Reduces Down Too 25mm Tails Backed Up With BS 88 200A, cable is undersized for the protective device Fuses Main Building Isolator ISO 2	C2
15	Screws Missing From Cover	C2
16	Warming Labels Missing	C2
17	Main 25mm Water Bond Not Connected and Hanging In Cub Female W.C	C2

Additional Pages? No Yes á Specify page 49

ÚOne of the following codes, as appropriate, has been allocated to each of the observations made above to indicate to the person(s) responsible for the installation the degree of urgency for remedial action:

Code C1 *"Danger Present".* Risk of injury. Immediate remedial action required.
Code C2 *"Potentially dangerous".* Urgent remedial action required.
Code C3 *"Improvement recommended".*
Code FI *"Further investigation required without delay".*

Please see the notes for recipient for guidance regarding the Classification codes.

Immediate remedial action required for items:	105, 55, 2, 26, 35
Urgent remedial action required for items:	95, 42, 43, 44, 45, 46, 47, 48, 49, 86, 88, 89, 94, 9
Further investigation required without delay for items:	156
Improvement recommended for items:	50, 51, 85, 87, 90, 91, 92, 93, 96, 98, 100, 102, 10

G. DECLARATION

I/We, being the person(s) responsible for the inspection and testing of the electrical installation (as indicated by my/our signatures below), particulars of which are described in page 1 (see C), having exercised reasonable skill and care when carrying out the inspection and testing, hereby declare that the information in this report, including the observations (see F) and the attached schedules (see H), provides an accurate assessment of the condition of the electrical installation taking into account the stated extent of the installation and the limitations of the inspection and testing (see D).

I/We further declare that in my/our judgement, the overall assessment of the installation in terms of its suitability for continued use is

~~SATISFACTORY~~ / UNSATISFACTORY* (see F) at the time the inspection was carried out, and that it should be further inspected as recommended (see I).

*An 'Unsatisfactory' assessment indicates that dangerous (CODE C1) and/or potentially dangerous (CODE C2) conditions have been identified, or that Further investigation without delay (FI) is required.

INSPECTION, TESTING AND ASSESSMENT BY:

Signature	C Hawley
Name (CAPITALS)	CHRISTOPHER HAWLEY
Position	Approved Electrician
Date:	09/05/2018

REPORT REVIEWED AND CONFIRMED BY:

Signature	
Name (CAPITALS)	D A BROOKS
	(Registered Qualified Supervisor for the Approved Contractor at J)
Date:	09/05/2018

Please see the 'Guidance for Recipients on the classification codes' in the 'Notes for Recipients'

APPROVED CONTRACTOR

This certificate is not valid if the serial number has been defaced or altered **IPN4/0464927**

ELECTRICAL INSTALLATION CONDITION REPORT

H. SCHEDULES AND ADDITIONAL PAGES

Inspection Schedule: Page(s) No 4,5,6

Additional pages, including additional source(s) data sheets: Page No(s)

Schedule of Circuit Details for the Installation: Page No(s) Odd, 7 - 47

Schedule of Test Results for the Installation: Page No(s) Even, 8 - 48

The pages identified are an essential part of this report. The report is valid only if accompanied by all the schedules and additional pages identified above.

I. NEXT INSPECTION

I/We recommend that this installation is further inspected and tested after an interval of not more than 5 Years *(Enter interval in terms of years, months or weeks, as appropriate)*

provided that any items at F which have been attributed a Classification code C1 (danger present) are remedied immediately and that any items which have been attributed a code C2 (potentially dangerous) or FI (further investigation required without delay) are remedied or investigated respectively as a matter of urgency. Items which have been attributed a Classification code C3 should be improved as soon as practicable (see F).

J. DETAILS OF NICEIC APPROVED CONTRACTOR

Trading Title: K A Brooks Electrical Ltd

Address:
552 Nottingham Rd
Chaddesden
Derby
Derbyshire
PostcodeDE21 6QL

Telephone number: 01332671971

Email Address: N/A

Enrolment number: (Essential information) 034184

Branch number: (if applicable) N/A

K. SUPPLY CHARACTERISTICS AND EARTHING ARRANGEMENTS

System Type(s)

TN-S	
TN-C-S	á
TN-C	
TT	
IT	

Number and Type of Live Conductors

a.c.	á		d.c.		
1-phase (2 wire)		1-phase (3 wire)		2 pole	
2-phase (3 wire)				3 pole	
3-phase (3 wire)		3-phase (4 wire)	á	other	N/A
Other	N/A				

Nature of Supply Parameters

Nominal Voltage(s): Up	400	V	UÒþ 230 V
Nominal frequency, fþ	50	Hz	
Prospective fault current, IÙÀÄ	2.7	kA	
External earth fault loop impendance, Ñ ÅÇ	0.09	É	
Number of sources	1		

Notes:
(1) by enquiry
(2) by enquiry or by measurement
(3) where more than one supply, record the higher or highest values
(4) by measurement

Characteristics of Primary Supply Overcurrent Protective Device(s)

BS(EN)	BS 88 Fuse HRC gG(General	
Type	gG	
Rated current	200	A
Short-circuit capacity	33	kA
Confirmation of supply polarity	á	(á)

L. PARTICULARS OF INSTALLATION AT THE ORIGIN

Means of Earthing

Distributor's facility:	á	Type: (eg rod(s),tape(s))	N/A	
Installation earth electrode:	á	Electrode resistance, RO:	N/A	(É)

Details of Installation Earth Electrode (where applicable)

Location:	N/A
Method of measurement:	N/A

Main Switch/Switch-Fuse/Circuit-Breaker/RCD

Type: BS(EN)	BS EN 60947-3	Voltage rating	400	V
No of Poles	3	Rated current,IÐ	200	A
Primary supply conductors material	Cu	RCD operating current, IÙ *	N/A	mA
Primary supply conductors csa	70 mmâ	Rated time delay*	N/A	ms
		RCD operating time (at IÙ)*	N/A	ms

Earthing and protective bonding conductors

Earthing conductor

Conductor material	Cu	
Conductor csa	25	mmâ
Connection/ continuity verified	á	(á)

Main protective bonding conductors

Conductor material	Cu	
Conductor csa	35	mmâ
Connection/ continuity verified	á	(á)

Bonding of extraneous-conductive-parts (á)

Water installation pipes	X	Lightning protection	á
Oil installation pipes	N/A	Structural steel	N/A
Gas installation pipes	á		

Other: N/A

** (applicable only where an RCD is suitable and is used as a main circuit-breaker)*

Please see the 'Notes for Recipients'

ELECTRICAL INSTALLATION CONDITION REPORT

INSPECTION SCHEDULE FOR DISTRIBUTION BOARDS AND CIRCUITS

Item	Description	Outcome*	Location reference
1.0	Condition/adequacy of distributor's/supply intake equipment Ú		
1.1	Service cable	á	
1.2	Service head	á	
1.3	Distributor's earthing arrangement(s)	á	
1.4	Meter tails - Distributor/ Consumer	á	
1.5	Metering equipment	á	
1.6	Means of main isolation (where present)	á	
2.0	Presence of adequate arrangements for parallel or switched alternative sources		
2.1	Adequate arrangements where a generating set operates as a switched alternative to the public supply	N/A	
2.2	Adequate arrangements where a generating set operates in parallel with the public supply	N/A	
3.0	Automatic disconnection of supply		
3.1	Main earthing and bonding arrangements		
	• Presence and condition of distributor's earthing arrangement	C2	See Section F
	• Presence and condition of earth electrode arrangement	N/A	
	• Adequacy of earthing conductor size	C2	See Section F
	• Adequacy of earthing conductor connections	á	
	• Accessibility of earthing conductor connections	á	
	• Adequacy of main protective bonding conductor size(s)	C2	See Section F
	• Adequacy of main protective bonding conductor connections	C1	See Section F
	• Accessibility of main protective bonding connections	á	
	• Accessibility and condition of other protective bonding connections	á	
	• Provision of earthing/bonding labels at all appropriate locations	C2	See Section F
3.2	FELV		
	• Source providing at least simple separation	á	
	• Plugs, socket-outlets and the like not interchangeable with those of other systems within the premises	á	
3.3	Reduced low voltage		
	• Adequacy of source	á	
	• Plugs, socket-outlets and the like not interchangeable with those of other systems within the premises	á	
4.0	Other methods of protection (where the methods of protection listed below are employed, details should be provided on separate sheets)		
4.1	Double insulation	á	
4.2	Reinforced insulation	á	
4.3	Use of obstacles	N/A	
4.4	Placing out of reach	N/A	
4.5	Non-conducting location	N/A	
4.6	Earth-free local equipotential bonding	N/A	
4.7	Electrical separation for more than one item of equipment	N/A	
5.0	Distribution equipment		
5.1	Adequacy of working space/accessibility of equipment	á	
5.2	Security of fixing	á	
5.3	Condition of insulation of live parts	C2	See Section F
5.4	Adequacy/security of barriers	C2	See Section F
5.5	Condition of enclosure(s) in terms of IP rating	C2	See Section F
5.6	Condition of enclosure(s) in terms of fire rating	á	
5.7	Enclosure not damaged/deteriorated so as to impair safety	C2	See Section F
5.8	Presence of main switch(es), linked where required	á	
5.9	Operation of main switch(es) (functional check)	á	
5.10	Correct identification of circuit protective devices	C2	See Section F
5.11	Adequacy of protective devices for prospective fault current	á	
5.12	RCD(s) provided for fault protection - includes RCBOs	C3	
5.13	RCD(s) provided for additional protection - includes RCBOs	C3	
5.14	RCD(s) provided for protection against fire - includes RCBOs	C3	

** All Outcome boxes must be completed*
'á' indicates Acceptable condition
'LIM' indicates a Limitation
'N/A' indicates Not applicable

Unacceptable condition state C1 or C2
Improvement recommended state C3
Further investigation required without delay state FI
(to determine whether danger or potential danger exists)

Outcome
Provide additional comment where appropriate on attached numbered sheets. C1, C2, C3 and FI coded items to be recorded in Section F of the report.

INSPECTION SCHEDULE FOR DISTRIBUTION BOARDS AND CIRCUITS

Item	Description	Outcome*	Location reference
5.15	Manual operation of circuit-breakers and RCDs to prove disconnection	á	
5.16	Presence of RCD retest notice at or near equipment where required	C2	See Section F
5.17	Presence of diagrams, charts or schedules at or near equipment, where required	C2	See Section F
5.18	Presence of non-standard (mixed) cable colour warning notice at or near equipment where required	C2	See Section F
5.19	Presence of alternative/additional supply arrangement warning notice(s) at or near equipment where required	N/A	
5.20	Presence of replacement next inspection recommendation label	á	
5.21	Presence of other required labelling (specify)	C2	See Section F
5.22	Examination of protective device(s) and base(s); correct type and rating (no signs of unacceptable thermal damage, arcing or overheating)	á	
5.23	Single-pole switching or protective devices in line conductors only	á	
5.24	Protection against mechanical damage where cables enter equipment	C2	See Section F
5.25	Protection against electromagnetic effects where cables enter metallic enclosures	á	
6.0	Distribution/final circuits		
6.1	Identification of conductors	á	
6.2	Cables correctly supported throughout their length	C2	See Section F
6.3	Condition of insulation of live parts	C1	See Section F
6.4	Non-sheathed cables protected by enclosure in conduit, ducting or trunking	á	
6.5	Suitability of containment systems for continued use (including flexible conduit)	C2	See Section F
6.6	Cables correctly terminated in enclosures (indicate extent of sampling in Section D of report)	C2	See Section F
6.7	Confirmation of indication that SPD(s) are functional	N/A	
6.8	Confirmation that ALL conductor connections, including connections to busbars are correctly located in terminals and are tight and secure	á	
6.9	Examination of cables for signs of unacceptable thermal and mechanical damage/deterioration	á	
6.10	Adequacy of cables for current-carrying capacity with regard to the type and nature of installation	C2	See Section F
6.11	Adequacy of protective devices; type and rated current for fault protection	C2	See Section F
6.12	Presence and adequacy of circuit protective conductors	C1	See Section F
6.13	Co-ordination between conductors and overload protective devices	C2	See Section F
6.14	Cable installation methods/practices appropriate to the type and nature of installation and external influences	á	
6.15	Cables where exposed to direct sunlight, of a suitable type	á	
6.16	Cables installed under floors, above ceilings, in walls / partitions, adequately protected against damage		
	• installed in prescribed zones (see Section D. Extent and limitations)	á	
	• incorporating earthed armour or sheath, or installed within earthed wiring system, or otherwise protected against mechanical damage by nails, screws and the like (see Section D. Extent and limitations)	á	
6.17	Provision of additional protection by 30 mA RCD		
	• Ú for mobile equipment not exceeding a rating of 32 A for use outdoors	C3	
	• Ú for all socket-outlets of rating 20 A or less, unless exempt	C3	
	• Ú for cables installed in walls / partitions at a depth of less than 50 mm	N/A	
	• Ú for cables installed in walls / partitions containing metal parts regardless of depth	N/A	
6.18	Provision of fire barriers, sealing arrangements and protection against thermal effects	á	
6.19	Band II cables segregated/separated from Band I cables	á	
6.20	Cables segregated/separated from non-electrical services	á	
6.21	Termination of cables at enclosures (identify numbers and locations of items inspected in Section D)		
	• Connections under no undue strain	á	
	• No basic insulation of a conductor visible outside an enclosure	C2	See Section F
	• Connections of live conductors adequately enclosed	C1	See Section F
	• Adequacy of connection at point of entry to enclosure (gland, bush or similar)	C2	See Section F
6.22	General condition of wiring systems	C3	
6.23	Temperature rating of cable insulation	á	
6.24	Condition of accessories including socket-outlets, switches and joint boxes	C2	See Section F
6.25	Suitability of accessories for external influences	á	
6.26	Single-pole switching or protective devices in line conductors only	á	
6.27	Adequacy of connections, including cpcs, within accessories and to fixed and stationary equipment - identify /record numbers and locations of items inspected	C2	See Section F
7.0	Isolation and switching		

** All Outcome boxes must be completed*
'á' indicates Acceptable condition
'LIM' indicates a Limitation
'N/A' indicates Not applicable

Unacceptable condition state C1 or C2
Improvement recommended state C3
Further investigation required without delay state FI
(to determine whether danger or potential danger exists)

Outcome
Provide additional comment where appropriate on attached numbered sheets. C1, C2, C3 and FI coded items to be recorded in Section F of the report.

INSPECTION SCHEDULE FOR DISTRIBUTION BOARDS AND CIRCUITS

Item	Description	Outcome*	Location reference
7.1	Isolators		
	• presence and condition of appropriate devices	á	
	• acceptable location (state if local or remote)	á	
	• capable of being secured in the OFF position	á	
	• correct operation verified	á	
	• clearly identified by position and/or durable marking(s)	á	
	• Warning label posted in situations where live parts cannot be isolated by the operation of a single device	N/A	
7.2	Switching off for mechanical maintenance		
	• presence and condition of appropriate devices	á	
	• acceptable location	á	
	• capable of being secured in the OFF position	á	
	• correct operation verified	á	
	• clearly identified by position and/or durable marking(s)	á	
7.3	Emergency switching/stopping		
	• presence and condition of appropriate devices	N/A	
	• readily accessible for operation where danger might occur	N/A	
	• correct operation verified	N/A	
	• clearly identified by position and/or durable marking(s)	N/A	
7.4	Functional switching		
	• presence and condition of appropriate devices	á	
	• correct operation verified	á	
8.0	Current-using equipment (permanently connected)		
8.1	Condition of equipment in terms of IP rating	C2	See Section F
8.2	Equipment does not constitute a fire hazard	á	
8.3	Enclosure not damaged/deteriorated so as to impair safety	C2	See Section F
8.4	Suitability for the environment and external influences	C2	See Section F
8.5	Security of fixing	á	
8.6	Cable entry holes in ceiling above luminaires, sized or sealed so as to restrict the spread of fire (indicate extent of sampling in Section D of report)	á	
8.7	Recessed luminaires (e.g. downlighters)		
	• correct type of lamps fitted	N/A	
	• installed to minimise build-up of heat by use of "fire rated" fittings, insulation displacement box or similar	N/A	
	• no signs of overheating to surrounding building fabric	N/A	
	• no signs of overheating to conductors/terminations	N/A	
9.0	Location(s) containing a bath or shower		
9.1	Additional protection by RCD not exceeding 30 mA		
	• for low voltage circuits serving the location	á	
	• for low voltage circuits passing through Zone 1 and Zone 2 not serving the location	N/A	
9.2	Where used as a protective measure, requirements for SELV or PELV are met	N/A	
9.3	Shaver sockets comply with BS EN 61558-2-5 or BS 3535	N/A	
9.4	Presence of supplementary bonding conductors unless not required by BS 7671: 2008	N/A	
9.5	Low voltage (e.g. 230 volts) socket-outlets sited at least 3 m from zone 1	á	
9.6	Suitability of equipment for external influences for installed location in terms of IP rating	á	
9.7	Suitability of equipment for installation in a particular zone	á	
9.8	Suitability of current-using equipment for a particular position within the location	á	
10.0	Other special installations or locations		
	List special locations present, if any. List the results of particular inspections applied (a separate page is required for each location).	N/A	
		N/A	
		N/A	
		N/A	
		N/A	
		N/A	

** All Outcome boxes must be completed*
'á' indicates Acceptable condition
'LIM' indicates a Limitation
'N/A' indicates Not applicable

Unacceptable condition state C1 or C2
Improvement recommended state C3
Further investigation required without delay state FI
(to determine whether danger or potential danger exists)

Outcome
Provide additional comment where appropriate on attached numbered sheets. C1, C2, C3 and FI coded items to be recorded in Section F of the report.

NICEIC APPROVED CONTRACTOR

This certificate is not valid if the serial number has been defaced or altered **IPN4/0464927**

SCHEDULE OF CIRCUIT DETAILS FOR THE PRIMARY DISTRIBUTION BOARD

CIRCUIT DETAILS

TO BE COMPLETED IN EVERY CASE

Location of distribution board: Car Park Plant Room

Distribution board designation: BUS BAR CHAMBER

TO BE COMPLETED ONLY IF THE DISTRIBUTION BOARD IS NOT CONNECTED DIRECTLY TO THE ORIGIN OF THE INSTALLATION*

Supply to distribution board is from: Main Incoming Supply

No of phases: 3

Nominal voltage: 400 V

Overcurrent protective device for the distribution circuit:

Associated RCD (if any): BS(EN)

Type: BS(EN)

Rating: 200 A

RCD No of poles:

IÜ mA

Circuit number and line	Circuit designation	Type of wiring (see code below)	Þ Reference method	Number of points served	Circuit conductors: csa Live (mmâ)	Circuit conductors: csa cpc (mmâ)	Max. disconnection time permitted by BS 7671 (s)	Overcurrent protective devices BS (EN)	Overcurrent protective devices Type	Overcurrent protective devices Rating (A)	Overcurrent protective devices Short-circuit capacity (kA)	RCD Operating current, IÜ (mA)	Maximum Ö permitted by BS 7671 (É)
1 /TP	ISO 1 Main Switch	D	B	1	70	Steel	5.0	60898 MCB	B	N/A	10	N/A	N/A
2 /TP	ISO 2 Supply To Main Building DB01	F	D	1	150	240	5.0	88 Fuse HRC	gG	200	10	N/A	0.18
3 /L3	Supply to: Outside Lights	B	B	1	6	20	0.4	3036 Fuse (SE)	N/A	15	1	N/A	2.43
4 /TP	Supply to: DB 09	F	C	1	35	25	5.0	88 Fuse HRC	gG	100	10	N/A	0.42
5 /TP	ISO 5 (Redundant)	N/A	N/A	N/A	N/A	N/A	0.4	N/A	N/A	N/A	N/A	N/A	N/A
6 /TP	ISO 5 Supply To Boiler DB	F	C	1	25	76	5.0	88 Fuse HRC	gG	60	10	N/A	0.00

** In such cases, details of the distribution (sub-main) circuit(s), together with the test results for the circuit(s), must also be provided, on continuation schedules.*

Þ See Table 4A2 of Appendix 4 of BS 7671

CODES FOR TYPE OF WIRING								
A	B	C	D	E	F	G	H	O (Other - please state)
Thermoplastic insulated/ sheathed cables	Thermoplastic cables in metallic conduit	Thermoplastic cables in non metallic conduit	Thermoplastic cables in metallic trunking	Thermoplastic cables in non metallic trunking	Thermoplastic/ SWA cables	Thermosetting/ SWA cables	Mineral-insulated cables	

See next page for Schedule of Test Results

NICEIC APPROVED CONTRACTOR

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SCHEDULE OF TEST RESULTS FOR THE PRIMARY DISTRIBUTION BOARD

TEST RESULTS

TO BE COMPLETED ONLY IF THE DISTRIBUTION BOARD IS NOT CONNECTED DIRECTLY TO THE ORIGIN OF THE INSTALLATION

Characteristics at this distribution board

	YES	Confirmation of supply polarity			
* See note below					
Ö	*0.09	É	Operating times of associated RCD (if any)	At IÜ	ms
IÙ	*2.7	kA		At 5IÜ	ms
		Phase sequence confirmed (where appropriate)			

Test instruments (serial numbers) used:

Earth fault loop impedance	KAB11	RCD	
Insulation resistance	KAB5	Multi function	
Continuity	KAB5	Other	

Circuit number and line	Circuit impedances (É)					Insulation resistance				Polarity	Maximum measured earth fault loop impedance, Ö	RCD operating times		Test button operation
	Ring final circuits only (measured end to end)			All circuits (At least one column to be completed)		Line/Line Ú	Line/Neutral Ú	Line/Earth Ú	Neutral/Earth			at IÜ	at 5IÜ (if applicable)	
	rã (Line)	rÐ (Neutral)	rå (cpc)	Rã + Rå	Rå	(MÉ)	(MÉ)	(MÉ)	(MÉ)	(á)	(É)	(ms)	(ms)	(á)
1 /TP	N/A	N/A	N/A	N/A	N/A	200+	200+	200+	200+	á	N/A	N/A	N/A	
2 /TP	N/A	N/A	N/A	0.03	N/A	200+	200+	200+	200+	á	0.06	N/A	N/A	
3 /L3	N/A	N/A	N/A	0.01	N/A	N/A	200+	200+	200+	á	0.10	N/A	N/A	
4 /TP	N/A	N/A	N/A	0.10	N/A	200+	200+	200+	200+	á	0.19	N/A	N/A	
5 /TP	N/A	N/A	N/A	N/A	N/A	200+	200+	200+	200+		N/A	N/A	N/A	
6 /TP	N/A	N/A	N/A	0.05	N/A	200+	200+	200+	200+	á	0.14	N/A	N/A	

** Note: Where the installation can be supplied by more than one source, such as a primary source (eg public supply) and a secondary source (eg standby generator), the higher or highest values must be recorded.*

TESTED BY

Signature:	*I Hawley*	Position:	Approved Electrician
Name: (CAPITALS)	CHRISTOPHER HAWLEY	Date of testing:	04/05/2018

See previous page for Schedule of Circuit Details

APPROVED CONTRACTOR

This certificate is not valid if the serial number has been defaced or altered **IPN4/0464927**

SCHEDULE OF CIRCUIT DETAILS FOR THE PRIMARY DISTRIBUTION BOARD

CIRCUIT DETAILS

TO BE COMPLETED IN EVERY CASE

Location of distribution board: Ground Floor Riser Room

Distribution board designation: DB 01

TO BE COMPLETED ONLY IF THE DISTRIBUTION BOARD IS NOT CONNECTED DIRECTLY TO THE ORIGIN OF THE INSTALLATION*

Supply to distribution board is from: Plant Room In Car Park

No of phases: 3

Nominal voltage: 400 V

Overcurrent protective device for the distribution circuit:

Associated RCD (if any): BS(EN)

Type: BS(EN) BS 88

Rating: 200 A

RCD No of poles:

IÜ mA

Circuit number and line	Circuit designation	Type of wiring (see code below)	Þ Reference method	Number of points served	Circuit conductors: csa Live (mmâ)	Circuit conductors: csa cpc (mmâ)	Max. disconnection time permitted by BS 7671 (s)	Overcurrent protective devices BS (EN)	Overcurrent protective devices Type	Overcurrent protective devices Rating (A)	Overcurrent protective devices Short-circuit capacity (kA)	RCD Operating current, IÜ (mA)	Maximum Ö permitted by BS 7671 (É)
1 /L1	Supply to: DB06 (3rd Floor)	F	C	1	25	19.9	5.0	60947-2 MCCB	N/A	63	N/A	N/A	0.57
1 /L2	Spare	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
1 /L3	Supply to: Fire Alarm DB	A	C	1	4	1.5	0.4	60947-2 MCCB	N/A	32	N/A	N/A	1.12
2 /L1	Spare						0.4						
2 /L2	Supply to: DB04 (1st Floor)	F	C	1	25	22.5	5.0	60947-2 MCCB	N/A	63	N/A	N/A	0.57
2 /L3	Supply to: DB 05 (2nd Floor)	F	C	1	25	22.5	5.0	60947-2 MCCB	N/A	63	N/A	N/A	0.57
3 /TP	Hoist (Disconnected)	F	C	1	4	N/A	0.4	60947-2 MCCB	N/A	25	N/A	N/A	0.58
4 /TP	Spare	N/A	N/A	N/A	N/A	N/A	0.4	N/A	N/A	N/A	N/A	N/A	N/A
5 /TP	Supply to: LOP DB	D	N/A	1	35	25	5.0	60947-2 MCCB	N/A	100	N/A	N/A	0.36
6 /TP	MAINS SWITCH FOR DB	D	N/A	1	25	N/A	0.4	60947-2 MCCB	N/A	250	N/A	N/A	0.18
7 /TP	Spare	N/A	N/A	N/A	N/A	N/A	0.4	60947-2 MCCB	N/A	32	N/A	N/A	0.0
8 /TP	Spare	N/A	N/A	N/A	N/A	N/A	0.4	N/A	N/A	N/A	N/A	N/A	N/A
9 /TP	Spare	N/A	N/A	N/A	N/A	N/A	0.4	N/A	N/A	N/A	N/A	N/A	N/A
10 /TP	Spare	N/A	N/A	N/A	N/A	N/A	0.4	N/A	N/A	N/A	N/A	N/A	N/A
11 /TP	Supply to: DB - MG (A/C DB)	F	C	1	10	16	5.0	60947-2 MCCB	N/A	63	N/A	N/A	0.57
12 /TP	Supply to: DB-GF	A	B	1	25	25	5.0	60947-2 MCCB	N/A	63	N/A	N/A	0.57

** In such cases, details of the distribution (sub-main) circuit(s), together with the test results for the circuit(s), must also be provided, on continuation schedules.*

Þ See Table 4A2 of Appendix 4 of BS 7671

CODES FOR TYPE OF WIRING								
A	B	C	D	E	F	G	H	O (Other - please state)
Thermoplastic insulated/ sheathed cables	Thermoplastic cables in metallic conduit	Thermoplastic cables in non metallic conduit	Thermoplastic cables in metallic trunking	Thermoplastic cables in non metallic trunking	Thermoplastic/ SWA cables	Thermosetting/ SWA cables	Mineral-insulated cables	

See next page for Schedule of Test Results

NICEIC APPROVED CONTRACTOR

This certificate is not valid if the serial number has been defaced or altered **IPN4/0464927**

SCHEDULE OF TEST RESULTS FOR THE PRIMARY DISTRIBUTION BOARD

TEST RESULTS

TO BE COMPLETED ONLY IF THE DISTRIBUTION BOARD IS NOT CONNECTED DIRECTLY TO THE ORIGIN OF THE INSTALLATION

Characteristics at this distribution board

YES — Confirmation of supply polarity

* See note below

Ö *0.06 É — Operating times of associated RCD (if any) At IÜ ms; At 5IÜ ms

IÙ *0.0 kA

Phase sequence confirmed (where appropriate)

Test instruments (serial numbers) used:

Earth fault loop impedance	KAB11	RCD	
Insulation resistance	KAB11	Multi function	
Continuity	KAB11	Other	

Circuit number and line	Circuit impedances (É)					Insulation resistance				Polarity	Maximum measured earth fault loop impedance, Ö	RCD operating times		Test button operation
	Ring final circuits only (measured end to end)			All circuits (At least one column to be completed)		Line/Line Ú	Line/Neutral Ú	Line/Earth Ú	Neutral/Earth			at IÜ	at 5IÜ (if applicable)	
	rã (Line)	rÐ (Neutral)	rå (cpc)	Rã + Rå	Rå	(MÉ)	(MÉ)	(MÉ)	(MÉ)	(á)	(É)	(ms)	(ms)	(á)
1 /L1	N/A	N/A	N/A	0.10	N/A	N/A	200+	200+	200+	á	0.16	N/A	N/A	
1 /L2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A	N/A	N/A	
1 /L3	N/A	N/A	N/A	0.01	N/A	N/A	200+	200+	200+	á	0.07	N/A	N/A	
2 /L1	N/A	N/A	N/A	0.09	N/A	N/A	200+	200+	200+	á	0.15	N/A	N/A	
2 /L2	N/A	N/A	N/A	0.02	N/A	N/A	200+	200+	200+	á	0.08	N/A	N/A	
2 /L3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A	N/A	N/A	
3 /TP	N/A	N/A	N/A	LIM	N/A	N/A	N/A	N/A	N/A		N/A	N/A	N/A	
4 /TP	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A	N/A	N/A	
5 /TP	N/A	N/A	N/A	0.01	N/A	200+	200+	200+	200+	á	0.07	N/A	N/A	
6 /TP	N/A	N/A	N/A	0.00	N/A	200+	200+	200+	200+		0.06	N/A	N/A	
7 /TP	N/A	N/A	N/A	N/A	N/A	N/A	200+	200+	200+		N/A	N/A	N/A	
8 /TP	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A	N/A	N/A	
9 /TP	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A	N/A	N/A	
10 /TP	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A	N/A	N/A	
11 /TP	N/A	N/A	N/A	0.03	N/A	200+	200+	200+	200+	á	0.09	N/A	N/A	
12 /TP	N/A	N/A	N/A	0.01	N/A	200+	200+	200+	200+	á	0.07	N/A	N/A	

* Note: *Where the installation can be supplied by more than one source, such as a primary source (eg public supply) and a secondary source (eg standby generator), the higher or highest values must be recorded.*

TESTED BY

Signature:	*C Hawley*	Position:	Approved Electrician
Name: (CAPITALS)	CHRISTOPHER HAWLEY	Date of testing:	02/05/2018

See previous page for Schedule of Circuit Details

NICEIC APPROVED CONTRACTOR

This certificate is not valid if the serial number has been defaced or altered **IPN4/0464927**

SCHEDULE OF CIRCUIT DETAILS FOR THE PRIMARY DISTRIBUTION BOARD

CIRCUIT DETAILS

TO BE COMPLETED IN EVERY CASE

Location of distribution board: 3rd Floor Riser Cub Back Wall

Distribution board designation: DB 06

TO BE COMPLETED ONLY IF THE DISTRIBUTION BOARD IS NOT CONNECTED DIRECTLY TO THE ORIGIN OF THE INSTALLATION*

Supply to distribution board is from: DB01 Ckt 1L1

No of phases: 1

Nominal voltage: 230 V

Overcurrent protective device for the distribution circuit:

Associated RCD (if any): BS(EN)

Type: BS(EN) 60947-2 MCCB

Rating: 63 A

RCD No of poles:

IÜ mA

Circuit number and line	Circuit designation	Type of wiring (see code below)	Þ Reference method	Number of points served	Circuit conductors: csa Live (mmâ)	Circuit conductors: csa cpc (mmâ)	Max. disconnection time permitted by BS 7671 (s)	Overcurrent protective devices BS (EN)	Overcurrent protective devices Type	Overcurrent protective devices Rating (A)	Overcurrent protective devices Short-circuit capacity (kA)	RCD Operating current, IÜ (mA)	Maximum Ö permitted by BS 7671 (É)
1 /L1	Lights Lift Lobby + Corridor	D	B	9	1.5	1.5	0.4	60898 MCB	B	6	10	N/A	7.28
2 /L1	Lights 01, 02, 03 + 27	D	B	???	1.5	1.5	0.4	60898 MCB	B	6	10	N/A	7.28
3 /L1	Lights Rooms 22, 32 + 33	D	B	16	1.5	1.5	0.4	60898 MCB	B	10	10	N/A	4.37
4 /L1	Lights Room 25	D	B	12	1.5	1.5	0.4	60898 MCB	B	6	10	N/A	7.28
5 /L1	Spare	N/A	N/A	N/A	N/A	N/A	0.4	N/A	N/A	N/A	N/A	N/A	N/A
6 /L1	Sockets Near Lift Corridor and Skirting Sockets Rooms 1 + 2	D	B	6	2.5	1.5/con	0.4	60898 MCB	B	32	10	N/A	1.37
7 /L1	Smoke Room (Not Found)	D	B	N/A	2.5	1.5	0.4	60898 MCB	B	16	10	N/A	2.73
8 /L1	Sockets Skirting Trunking Room 15	D	B	2	2.5	1.5/con	0.4	60898 MCB	B	32	10	N/A	1.37
9 /L1	Sockets Skirting Rooms 12, 13 + 14	D	B	6	2.5	1.5/con	0.4	60898 MCB	B	32	10	N/A	1.37
10 /L1	Sockets On Pillars White Room 25 Near Window	D	B	2	4	1.5	0.4	60898 MCB	B	32	10	N/A	1.37
11 /L1	RCD Spur Room 12	D	B	1	2.5	2.5	0.4	60898 MCB	B	16	10	N/A	2.73
12 /L1	Sockets Rooms 12, 13,14 + 15 White Sockets On Pillars	D	B	6	4	1.5	0.4	60898 MCB	B	32	10	N/A	1.37
13 /L1	Fans Male W.C	D	B	2	1.5	1.5	0.4	60898 MCB	B	16	10	N/A	2.73
14 /L1	Spare	N/A	N/A	N/A	N/A	N/A	0.4	N/A	N/A	N/A	N/A	N/A	N/A
15 /L1	Sockets In DB Riser 10 and Room 9 Store Room	D	B	2	2.5	1.5	0.4	60898 MCB	B	32	10	N/A	1.37
16 /L1	Spare	N/A	N/A	N/A	N/A	N/A	0.4	N/A	N/A	N/A	N/A	N/A	N/A
17 /L1	Sockets Rooms 25 On Pillar White and 32 and 24 Cleaners	D	B	3	4	1.5	0.4	60898 MCB	B	32	10	N/A	1.37
18 /L1	Sockets Rooms 21, 22, 23, 34 White Sockets On Pillars and Canteen Dado	D	B	10	4	1.5	0.4	60898 MCB	B	32	10	N/A	1.37
19 /L1	Lights Main Corridor	D	B	9	1.5	1.5	0.4	60898 MCB	B	6	10	N/A	7.28
20 /L1	Lights Near DB Riser	D	B	5	1.5	1.5	0.4	60898 MCB	B	6	10	N/A	7.28
21 /L1	Lights Rooms 23 + 34	D	B	10	1.5	1.5	0.4	60898 MCB	B	6	10	N/A	7.28
22 /L1	Lights Canteen Far End	D	B	10	1.5	1.5	0.4	60898 MCB	B	6	10	N/A	7.28
23 /L1	Lights Rooms 12 + 13	D	B	8	1.5	1.5	0.4	60898 MCB	B	6	10	N/A	7.28
24 /L1	Sockets Skirting Trunking Rooms 33	D	B	1	2.5	1.5/con	0.4	60898 MCB	B	32	10	N/A	1.37
25 /L1	Sockets Server Room 27	D	B	2	2.5	1.5	0.4	60898 MCB	B	16	10	N/A	2.73
26 /L1	Sockets Skirting Trunking Rooms 24, 25	D	B	7	2.5	1.5/con	0.4	60898 MCB	B	32	10	N/A	1.37

** In such cases, details of the distribution (sub-main) circuit(s), together with the test results for the circuit(s), must also be provided, on continuation schedules.*
Þ See Table 4A2 of Appendix 4 of BS 7671

CODES FOR TYPE OF WIRING								
A	B	C	D	E	F	G	H	O (Other - please state)
Thermoplastic insulated/ sheathed cables	Thermoplastic cables in metallic conduit	Thermoplastic cables in non metallic conduit	Thermoplastic cables in metallic trunking	Thermoplastic cables in non metallic trunking	Thermoplastic/ SWA cables	Thermosetting/ SWA cables	Mineral-insulated cables	

See next page for Schedule of Test Results

NICEIC APPROVED CONTRACTOR

This certificate is not valid if the serial number has been defaced or altered **IPN4/0464927**

SCHEDULE OF TEST RESULTS FOR THE PRIMARY DISTRIBUTION BOARD

TEST RESULTS

TO BE COMPLETED ONLY IF THE DISTRIBUTION BOARD IS NOT CONNECTED DIRECTLY TO THE ORIGIN OF THE INSTALLATION

Characteristics at this distribution board

YES — Confirmation of supply polarity

* See note below

Ö *0.16 É — Operating times of associated RCD (if any): At IÜ ms; At 5IÜ ms

IÙ *1.5 kA

Phase sequence confirmed (where appropriate)

Test instruments (serial numbers) used:

Earth fault loop impedance	KAB11	RCD	KAB11
Insulation resistance	KAB11	Multi function	
Continuity	KAB11	Other	

Circuit number and line	Circuit impedances (É)					Insulation resistance				Polarity	Maximum measured earth fault loop impedance, Ö	RCD operating times		Test button operation
	Ring final circuits only (measured end to end)			All circuits (At least one column to be completed)		Line/Line Ú	Line/Neutral Ú	Line/Earth Ú	Neutral/Earth			at IÜ	at 5IÜ (if applicable)	
	rã (Line)	rÐ (Neutral)	rå (cpc)	Rã + Rå	Rå	(MÉ)	(MÉ)	(MÉ)	(MÉ)	(á)	(É)	(ms)	(ms)	(á)
1 /L1	N/A	N/A	N/A	N/A	0.68	N/A	200+	200+	200+	á	0.84	N/A	N/A	
2 /L1	N/A	N/A	N/A	N/A	0.73	N/A	200+	200+	200+	á	0.89	N/A	N/A	
3 /L1	N/A	N/A	N/A	N/A	0.75	N/A	200+	200+	200+	á	0.91	N/A	N/A	
4 /L1	N/A	N/A	N/A	N/A	1.44	N/A	200+	200+	200+	á	1.60	N/A	N/A	
5 /L1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A	N/A	N/A	
6 /L1	0.38	0.39	COND	N/A	0.66	N/A	200+	200+	200+	á	0.82	N/A	N/A	
7 /L1	N/A	N/A	N/A	N/A	N/A	N/A	200+	200+	200+		N/F	N/A	N/A	
8 /L1	0.53	0.52	COND	N/A	0.61	N/A	200+	200+	200+	á	0.77	N/A	N/A	
9 /L1	0.45	0.44	COND	N/A	0.25	N/A	200+	200+	200+	á	0.41	N/A	N/A	
10 /L1	0.41	0.40	0.89	N/A	0.29	N/A	200+	200+	200+	á	0.45	N/A	N/A	
11 /L1	N/A	N/A	N/A	N/A	0.18	N/A	200+	200+	200+	á	0.34	N/A	N/A	
12 /L1	0.37	0.49	0.31	N/A	0.25	N/A	200+	200+	200+	á	0.41	N/A	N/A	
13 /L1	N/A	N/A	N/A	N/A	0.49	N/A	200+	200+	200+	á	0.65	N/A	N/A	
14 /L1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A	N/A	N/A	
15 /L1	0.08	0.07	0.03	N/A	0.14	N/A	200+	200+	200+	á	0.30	N/A	N/A	
16 /L1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A	N/A	N/A	
17 /L1	0.44	0.44	0.88	N/A	0.24	N/A	200+	200+	200+	á	0.40	N/A	N/A	
18 /L1	0.71	0.70	0.29	N/A	0.74	N/A	200+	200+	200+	á	0.90	N/A	N/A	
19 /L1	N/A	N/A	N/A	N/A	0.79	N/A	200+	200+	200+	á	0.95	N/A	N/A	
20 /L1	N/A	N/A	N/A	N/A	0.53	N/A	200+	200+	200+	á	0.69	N/A	N/A	
21 /L1	N/A	N/A	N/A	N/A	1.42	N/A	200+	200+	200+	á	1.58	N/A	N/A	
22 /L1	N/A	N/A	N/A	N/A	0.85	N/A	200+	200+	200+	á	1.01	N/A	N/A	
23 /L1	N/A	N/A	N/A	N/A	0.61	N/A	200+	200+	200+	á	0.77	N/A	N/A	
24 /L1	0.89	0.75	COND	N/A	1.31	N/A	200+	200+	200+	á	1.47	N/A	N/A	
25 /L1	N/A	N/A	N/A	N/A	0.46	N/A	200+	200+	200+	á	0.62	N/A	N/A	
26 /L1	0.80	0.79	COND	N/A	1.49	N/A	200+	200+	200+	á	1.65	N/A	N/A	

** Note: Where the installation can be supplied by more than one source, such as a primary source (eg public supply) and a secondary source (eg standby generator), the higher or highest values must be recorded.*

TESTED BY

Signature:	C Hawley	Position:	Approved Electrician
Name: (CAPITALS)	CHRISTOPHER HAWLEY	Date of testing:	03/05/2018

See previous page for Schedule of Circuit Details

NICEIC APPROVED CONTRACTOR

This certificate is not valid if the serial number has been defaced or altered **IPN4/0464927**

SCHEDULE OF CIRCUIT DETAILS FOR THE PRIMARY DISTRIBUTION BOARD

CIRCUIT DETAILS

TO BE COMPLETED IN EVERY CASE

Location of distribution board: 3rd Floor Riser Cub Back Wall

Distribution board designation: DB 06

TO BE COMPLETED ONLY IF THE DISTRIBUTION BOARD IS NOT CONNECTED DIRECTLY TO THE ORIGIN OF THE INSTALLATION*

Supply to distribution board is from: DB01 Ckt 1L1 No of phases: 1 Nominal voltage: 230 V

Overcurrent protective device for the distribution circuit: Associated RCD (if any): BS(EN)

Type: BS(EN) 60947-2 MCCB Rating: 63 A RCD No of poles: IÜ mA

Circuit number and line	Circuit designation	Type of wiring (see code below)	Þ Reference method	Number of points served	Circuit conductors: csa Live (mmâ)	cpc (mmâ)	Max. disconnection time permitted by BS 7671 (s)	Overcurrent protective devices BS (EN)	Type	Rating (A)	Short-circuit capacity (kA)	RCD Operating current, IÜ (mA)	Maximum Ö permitted by BS 7671 (É)
27 /L1	Sockets Skirting Trunking Rooms 25 + 27	D	B	2	2.5	1.5/con	0.4	60898 MCB	B	32	10	N/A	1.37
28 /L1	Spare	N/A	N/A	N/A	N/A	N/A	0.4	N/A	N/A	N/A	N/A	N/A	N/A
29 /L1	Sockets On Pillar White Rooms 1, 2, 25, + 27	D	B	6	4	1.5	0.4	60898 MCB	B	32	10	N/A	1.37
30 /L1	Sockets Room 24 and Fan	A	B	2	2.5	1.5	0.4	60898 MCB	B	32	10	N/A	1.37
31 /L1	Lights DB Riser Room 10, Domestic Store 9 and Womens W.C Fan	D	B	3	1.5	1.5	0.4	60898 MCB	B	16	10	N/A	2.73
32 /L1	Spare	N/A	N/A	N/A	N/A	N/A	0.4	N/A	N/A	N/A	N/A	N/A	N/A
33 /L1	Air Filter???? (Not Found)	D	B	N/A	2.5	1.5	0.4	60898 MCB	B	16	10	N/A	2.73
34 /L1	Lights Canteen Near End	D	B	10	1.5	1.5	0.4	60898 MCB	B	6	10	N/A	7.28
35 /L1	Lights Rooms 14 + 15	D	B	10	1.5	1.5	0.4	60898 MCB	B	6	10	N/A	7.28
36 /L1	Lights Room 24	D	B	12	1.5	1.5	0.4	60898 MCB	B	6	10	N/A	7.28

** In such cases, details of the distribution (sub-main) circuit(s), together with the test results for the circuit(s), must also be provided, on continuation schedules.*

Þ See Table 4A2 of Appendix 4 of BS 7671

CODES FOR TYPE OF WIRING								
A	B	C	D	E	F	G	H	O (Other - please state)
Thermoplastic insulated/ sheathed cables	Thermoplastic cables in metallic conduit	Thermoplastic cables in non metallic conduit	Thermoplastic cables in metallic trunking	Thermoplastic cables in non metallic trunking	Thermoplastic/ SWA cables	Thermosetting/ SWA cables	Mineral-insulated cables	

See next page for Schedule of Test Results

NICEIC APPROVED CONTRACTOR

This certificate is not valid if the serial number has been defaced or altered **IPN4/0464927**

SCHEDULE OF TEST RESULTS FOR THE PRIMARY DISTRIBUTION BOARD

TEST RESULTS

TO BE COMPLETED ONLY IF THE DISTRIBUTION BOARD IS NOT CONNECTED DIRECTLY TO THE ORIGIN OF THE INSTALLATION

Characteristics at this distribution board

YES — Confirmation of supply polarity

* See note below

Ö *0.16 É

IÙ *1.5 kA

Operating times of associated RCD (if any): At IÜ ms; At 5IÜ ms

Phase sequence confirmed (where appropriate)

Test instruments (serial numbers) used:

Earth fault loop impedance	KAB11	RCD	KAB11
Insulation resistance	KAB11	Multi function	
Continuity	KAB11	Other	

Circuit number and line	Circuit impedances (É)					Insulation resistance				Polarity	Maximum measured earth fault loop impedance, Ö	RCD operating times		Test button operation
	Ring final circuits only (measured end to end)			All circuits (At least one column to be completed)		Line/Line Ú	Line/Neutral Ú	Line/Earth Ú	Neutral/Earth			at IÜ	at 5IÜ (if applicable)	
	rã (Line)	rÐ (Neutral)	rå (cpc)	Rã + Rå	Rå	(MÉ)	(MÉ)	(MÉ)	(MÉ)	(á)	(É)	(ms)	(ms)	(á)
27 /L1	0.92	0.92	COND	N/A	0.71	N/A	200+	200+	200+		0.87	N/A	N/A	
28 /L1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A	N/A	N/A	
29 /L1	0.55	0.56	0.87	N/A	0.23	N/A	200+	200+	200+	á	0.39	N/A	N/A	
30 /L1	0.23	0.22	0.34	N/A	0.27	N/A	200+	200+	200+	á	0.43	N/A	N/A	
31 /L1	N/A	N/A	N/A	N/A	0.07	N/A	200+	200+	200+	á	0.23	N/A	N/A	
32 /L1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A	N/A	N/A	
33 /L1	N/A	N/A	N/A	N/A	N/A	N/A	200+	200+	200+		N/F	N/A	N/A	
34 /L1	N/A	N/A	N/A	N/A	1.02	N/A	200+	200+	200+	á	1.18	N/A	N/A	
35 /L1	N/A	N/A	N/A	N/A	0.76	N/A	200+	200+	200+	á	0.92	N/A	N/A	
36 /L1	N/A	N/A	N/A	N/A	0.52	N/A	200+	200+	200+	á	0.68	N/A	N/A	

* Note: *Where the installation can be supplied by more than one source, such as a primary source (eg public supply) and a secondary source (eg standby generator), the higher or highest values must be recorded.*

TESTED BY

Signature:	*C Hawley*	Position:	Approved Electrician
Name: (CAPITALS)	CHRISTOPHER HAWLEY	Date of testing:	03/05/2018

See previous page for Schedule of Circuit Details

NICEIC APPROVED CONTRACTOR

This certificate is not valid if the serial number has been defaced or altered **IPN4/0464927**

SCHEDULE OF CIRCUIT DETAILS FOR THE PRIMARY DISTRIBUTION BOARD

CIRCUIT DETAILS

TO BE COMPLETED IN EVERY CASE

Location of distribution board: Ground Floor Riser Room Above DB01

Distribution board designation: Fire Alarm DB

TO BE COMPLETED ONLY IF THE DISTRIBUTION BOARD IS NOT CONNECTED DIRECTLY TO THE ORIGIN OF THE INSTALLATION*

Supply to distribution board is from: DB01 Ckt 1L3

No of phases: 1

Nominal voltage: 230 V

Overcurrent protective device for the distribution circuit:

Associated RCD (if any): BS(EN)

Type: BS(EN) BS 60947-2 MCCB

Rating: 32 A

RCD No of poles:

IÜ mA

Circuit number and line	Circuit designation	Type of wiring (see code below)	Þ Reference method	Number of points served	Circuit conductors: csa Live (mmâ)	Circuit conductors: csa cpc (mmâ)	Max. disconnection time permitted by BS 7671 (s)	Overcurrent protective devices BS (EN)	Overcurrent protective devices Type	Overcurrent protective devices Rating (A)	Overcurrent protective devices Short-circuit capacity (kA)	RCD Operating current, IÜ (mA)	Maximum Ö permitted by BS 7671 (É)
1 /L3	Fire Alarm	A	C	1	1.5	1.5	0.4	60898 MCB	B	6	6	N/A	7.28

** In such cases, details of the distribution (sub-main) circuit(s), together with the test results for the circuit(s), must also be provided, on continuation schedules.*

Þ See Table 4A2 of Appendix 4 of BS 7671

CODES FOR TYPE OF WIRING								
A	B	C	D	E	F	G	H	O (Other - please state)
Thermoplastic insulated/ sheathed cables	Thermoplastic cables in metallic conduit	Thermoplastic cables in non metallic conduit	Thermoplastic cables in metallic trunking	Thermoplastic cables in non metallic trunking	Thermoplastic/ SWA cables	Thermosetting/ SWA cables	Mineral-insulated cables	

See next page for Schedule of Test Results

APPROVED CONTRACTOR

This certificate is not valid if the serial number has been defaced or altered **IPN4/0464927**

SCHEDULE OF TEST RESULTS FOR THE PRIMARY DISTRIBUTION BOARD

TEST RESULTS

TO BE COMPLETED ONLY IF THE DISTRIBUTION BOARD IS NOT CONNECTED DIRECTLY TO THE ORIGIN OF THE INSTALLATION

Characteristics at this distribution board

YES	Confirmation of supply polarity
Ö *0.07 É	Operating times of associated RCD (if any): At IÜ ___ ms; At 5IÜ ___ ms
IÙ * kA	
Phase sequence confirmed (where appropriate)	

* See note below

Test instruments (serial numbers) used:

Earth fault loop impedance	KAB11	RCD	
Insulation resistance	KAB11	Multi function	
Continuity	KAB11	Other	

Circuit number and line	Circuit impedances (É)					Insulation resistance				Polarity	Maximum measured earth fault loop impedance, Ö	RCD operating times		Test button operation
	Ring final circuits only (measured end to end)			All circuits (At least one column to be completed)		Line/Line Ú	Line/Neutral Ú	Line/Earth Ú	Neutral/Earth			at IÜ	at 5IÜ (if applicable)	
	rã (Line)	rÐ (Neutral)	rå (cpc)	Rã + Rå	Rå	(MÉ)	(MÉ)	(MÉ)	(MÉ)	(á)	(É)	(ms)	(ms)	(á)
1 /L3	N/A	N/A	N/A	0.60	N/A	N/A	200+	200+	200+	á	0.67	N/A	N/A	

* Note: *Where the installation can be supplied by more than one source, such as a primary source (eg public supply) and a secondary source (eg standby generator), the higher or highest values must be recorded.*

TESTED BY

Signature:	[signature]	Position:	Approved Electrician
Name: (CAPITALS)	CHRISTOPHER HAWLEY	Date of testing:	04/05/2018

See previous page for Schedule of Circuit Details

APPROVED CONTRACTOR

This certificate is not valid if the serial number has been defaced or altered **IPN4/0464927**

SCHEDULE OF CIRCUIT DETAILS FOR THE PRIMARY DISTRIBUTION BOARD

CIRCUIT DETAILS

TO BE COMPLETED IN EVERY CASE

Location of distribution board: 1st Floor Riser Room (Back Wall)

Distribution board designation: DB 04

TO BE COMPLETED ONLY IF THE DISTRIBUTION BOARD IS NOT CONNECTED DIRECTLY TO THE ORIGIN OF THE INSTALLATION*

Supply to distribution board is from: DB01 Ckt 2L2

No of phases: 1

Nominal voltage: 230 V

Overcurrent protective device for the distribution circuit:

Associated RCD (if any): BS(EN)

Type: BS(EN) BS 60947-2

Rating: 63 A

RCD No of poles:

IÜ mA

Circuit number and line	Circuit designation	Type of wiring (see code below)	Þ Reference method	Number of points served	Circuit conductors: csa Live (mmâ)	Circuit conductors: csa cpc (mmâ)	Max. disconnection time permitted by BS 7671 (s)	Overcurrent protective devices BS (EN)	Overcurrent protective devices Type	Overcurrent protective devices Rating (A)	Overcurrent protective devices Short-circuit capacity (kA)	RCD Operating current, IÜ (mA)	Maximum Ö permitted by BS 7671 (É)
1 /L2	Spare	N/A	N/A	N/A	N/A	N/A	0.4	N/A	N/A	N/A	N/A	N/A	N/A
2 /L2	Spare	N/A	N/A	N/A	N/A	N/A	0.4	N/A	N/A	N/A	N/A	N/A	N/A
3 /L2	Spare	N/A	N/A	N/A	N/A	N/A	0.4	N/A	N/A	N/A	N/A	N/A	N/A
4 /L2	Spare	N/A	N/A	N/A	N/A	N/A	0.4	N/A	N/A	N/A	N/A	N/A	N/A
5 /L2	Spare	N/A	N/A	N/A	N/A	N/A	0.4	N/A	N/A	N/A	N/A	N/A	N/A
6 /L2	Spare	N/A	N/A	N/A	N/A	N/A	0.4	N/A	N/A	N/A	N/A	N/A	N/A
7 /L2	Spare	N/A	N/A	N/A	N/A	N/A	0.4	N/A	N/A	N/A	N/A	N/A	N/A
8 /L2	Spare	N/A	N/A	N/A	N/A	N/A	0.4	N/A	N/A	N/A	N/A	N/A	N/A
9 /L2	Spare	N/A	N/A	N/A	N/A	N/A	0.4	N/A	N/A	N/A	N/A	N/A	N/A
10 /L2	Spare	N/A	N/A	N/A	N/A	N/A	0.4	N/A	N/A	N/A	N/A	N/A	N/A
11 /L2	Heater Corridor (Near DB Cub)	D	B	1	2.5	1.5	0.4	60898 MCB	B	20	10	N/A	2.19
12 /L2	Lights Mains Cub, Server Room and Male W.C Extract Fan	D	B	3	1.5	1.5	0.4	60898 MCB	B	10	10	N/A	4.37
13 /L2	Spare	N/A	N/A	N/A	N/A	N/A	0.4	N/A	N/A	N/A	N/A	N/A	N/A
14 /L2	Sockets Riser Room and Domestic Store	D	B	2	2.5	1.5/COND	0.4	60898 MCB	B	32	10	N/A	1.37
15 /L2	Spare	N/A	N/A	N/A	N/A	N/A	0.4	N/A	N/A	N/A	N/A	N/A	N/A
16 /L2	White Sockets On Pillars Main Office Far End RHS	D	B	4	2.5	1.5/TRUN	0.4	60898 MCB	B	32	10	N/A	1.37
17 /L2	White Sockets On Centre Pillars Main Office Far End	D	B	3	2.5	1.5/TRUN	0.4	60898 MCB	B	32	10	N/A	1.37
18 /L2	White Sockets On Pillars Main Office Far End LHS	D	B	2	2.5	1.5/TRUN	0.4	60898 MCB	B	32	10	N/A	1.37
19 /L2	Lights Corridor Near Mains	D	B	11	1.5	1.5	0.4	60898 MCB	B	6	10	N/A	7.28
20 /L2	Lights Offices Near DB Rooms 1 + 6	D	B	10	1.5	1.5	0.4	60898 MCB	B	6	10	N/A	7.28
21 /L2	Lights Lift Lobby Corridor and EM's	D	B	9	1.5	1.5	0.4	60898 MCB	B	6	10	N/A	7.28
22 /L2	Spare	N/A	N/A	N/A	N/A	N/A	0.4	N/A	N/A	N/A	N/A	N/A	N/A
23 /L2	Spare	N/A	N/A	N/A	N/A	N/A	0.4	N/A	N/A	N/A	N/A	N/A	N/A
24 /L2	Spare	N/A	N/A	N/A	N/A	N/A	0.4	N/A	N/A	N/A	N/A	N/A	N/A
25 /L2	Spare	N/A	N/A	N/A	N/A	N/A	0.4	N/A	N/A	N/A	N/A	N/A	N/A
26 /L2	Spurs In W.C's Riser Cubs, Riser Cub Room 33 and Main Office Far Riser Cub	D	B	4	2.5	1.5	0.4	60898 MCB	B	16	10	N/A	2.73
27 /L2	Spare	N/A	N/A	N/A	N/A	N/A	0.4	N/A	N/A	N/A	N/A	N/A	N/A

** In such cases, details of the distribution (sub-main) circuit(s), together with the test results for the circuit(s), must also be provided, on continuation schedules.*
Þ See Table 4A2 of Appendix 4 of BS 7671

CODES FOR TYPE OF WIRING								
A	B	C	D	E	F	G	H	O (Other - please state)
Thermoplastic insulated/ sheathed cables	Thermoplastic cables in metallic conduit	Thermoplastic cables in non metallic conduit	Thermoplastic cables in metallic trunking	Thermoplastic cables in non metallic trunking	Thermoplastic/ SWA cables	Thermosetting/ SWA cables	Mineral-insulated cables	

See next page for Schedule of Test Results

NICEIC APPROVED CONTRACTOR

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SCHEDULE OF TEST RESULTS FOR THE PRIMARY DISTRIBUTION BOARD

TEST RESULTS

TO BE COMPLETED ONLY IF THE DISTRIBUTION BOARD IS NOT CONNECTED DIRECTLY TO THE ORIGIN OF THE INSTALLATION

Characteristics at this distribution board

YES — Confirmation of supply polarity

* See note below

Ö *0.08 — É — Operating times of associated RCD (if any) — At IÜ ____ ms — At 5IÜ ____ ms

IÙ * ____ kA

Phase sequence confirmed (where appropriate) ____

Test instruments (serial numbers) used:

Earth fault loop impedance	KAB11	RCD	KAB11
Insulation resistance	KAB11	Multi function	
Continuity	KAB11	Other	

Circuit number and line	Circuit impedances (É)					Insulation resistance				Polarity	Maximum measured earth fault loop impedance, Ö	RCD operating times		Test button operation
	Ring final circuits only (measured end to end)			All circuits (At least one column to be completed)		Line/Line Ú	Line/Neutral Ú	Line/Earth Ú	Neutral/Earth			at IÜ	at 5IÜ (if applicable)	
	rã (Line)	rÐ (Neutral)	rå (cpc)	Rã + Rå	Rå	(MÉ)	(MÉ)	(MÉ)	(MÉ)	(á)	(É)	(ms)	(ms)	(á)
1 /L2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A	N/A	N/A	
2 /L2	N/A		N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A	N/A	N/A	
3 /L2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A	N/A	N/A	
4 /L2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A	N/A	N/A	
5 /L2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A	N/A	N/A	
6 /L2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A	N/A	N/A	
7 /L2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A	N/A	N/A	
8 /L2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A	N/A	N/A	
9 /L2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A	N/A	N/A	
10 /L2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A	N/A	N/A	
11 /L2	N/A	N/A	N/A	N/A	N/A	N/A	200+	200+	200+	á	0.21	N/A	N/A	
12 /L2	N/A	N/A	N/A	N/A	N/A	N/A	200+	200+	200+	á	0.50	N/A	N/A	
13 /L2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A	N/A	N/A	
14 /L2	N/A	N/A	N/A	0.13	N/A	N/A	200+	200+	200+	á	0.21	N/A	N/A	
15 /L2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A	N/A	N/A	
16 /L2	0.78	0.79	0.37	0.30	N/A	N/A	200+	200+	200+	á	0.38	N/A	N/A	
17 /L2	0.70	0.71	0.19	0.28	N/A	N/A	200+	200+	200+	á	0.36	N/A	N/A	
18 /L2	0.91	0.92	1.47	0.38	N/A	N/A	200+	200+	200+	á	0.46	N/A	N/A	
19 /L2	N/A	N/A	N/A	0.60	N/A	N/A	200+	200+	200+	á	0.68	N/A	N/A	
20 /L2	N/A	N/A	N/A	0.56	N/A	N/A	200+	200+	200+	á	0.64	N/A	N/A	
21 /L2	N/A	N/A	N/A	0.57	N/A	N/A	200+	200+	200+	á	0.65	N/A	N/A	
22 /L2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A	N/A	N/A	
23 /L2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A	N/A	N/A	
24 /L2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A	N/A	N/A	
25 /L2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A	N/A	N/A	
26 /L2	N/A	N/A	N/A	1.80	N/A	N/A	200+	200+	200+	á	1.88	N/A	N/A	
27 /L2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A	N/A	N/A	

** Note: Where the installation can be supplied by more than one source, such as a primary source (eg public supply) and a secondary source (eg standby generator), the higher or highest values must be recorded.*

TESTED BY

Signature:	C Hawley	Position:	Approved Electrician
Name: (CAPITALS)	CHRISTOPHER HAWLEY	Date of testing:	02/05/2018

See previous page for Schedule of Circuit Details

NICEIC APPROVED CONTRACTOR

This certificate is not valid if the serial number has been defaced or altered **IPN4/0464927**

SCHEDULE OF CIRCUIT DETAILS FOR THE PRIMARY DISTRIBUTION BOARD

CIRCUIT DETAILS

TO BE COMPLETED IN EVERY CASE

Location of distribution board: 1st Floor Riser Room (Back Wall)

Distribution board designation: DB 04

TO BE COMPLETED ONLY IF THE DISTRIBUTION BOARD IS NOT CONNECTED DIRECTLY TO THE ORIGIN OF THE INSTALLATION*

Supply to distribution board is from: DB01 Ckt 2L2

No of phases: 1

Nominal voltage: 230 V

Overcurrent protective device for the distribution circuit:

Associated RCD (if any): BS(EN)

Type: BS(EN) BS 60947-2

Rating: 63 A

RCD No of poles:

IÜ mA

Circuit number and line	Circuit designation	Type of wiring (see code below)	Þ Reference method	Number of points served	Circuit conductors: csa Live (mmâ)	Circuit conductors: csa cpc (mmâ)	Max. disconnection time permitted by BS 7671 (s)	Overcurrent protective devices BS (EN)	Overcurrent protective devices Type	Overcurrent protective devices Rating (A)	Overcurrent protective devices Short-circuit capacity (kA)	RCD Operating current, IÜ (mA)	Maximum Ö permitted by BS 7671 (É)
28 /L2	Sockets Lift Lobby	D	B	2	4	1.5/TRUN	0.4	60898 MCB	B	20	10	N/A	2.19
29 /L2	Spare	N/A	N/A	N/A	N/A	N/A	0.4	N/A	N/A	N/A	N/A	N/A	N/A
30 /L2	Light Domestic Store Room 11 and Extract Fans Ladies W.C Room 12	D	B	3	2.5	1.5	0.4	60898 MCB	B	16	10	N/A	2.73
31 /L2	RCD Spur Domestic Store Room 11	D	B	1	2.5	1.5	0.4	60898 MCB	B	16	10	N/A	2.73
32 /L2	A/C Unit Lift Lobby???	D	B	1	2.5	1.5	0.4	60898 MCB	B	16	10	N/A	2.73
33 /L2	White Sockets On Pillar Near Window Main Office LHS 1st Row	D	B	1	4	1.5/TRUN	0.4	60898 MCB	B	32	10	N/A	1.37
34 /L2	White Sockets On Pillar Main Office Outside Record Store 32	D	B	1	4	1.5/TRUN	0.4	60898 MCB	B	32	10	N/A	1.37
35 /L2	White Sockets On Pillars Hot Deck Office Near Windows 33	D	B	3	4	1.5/TRUN	0.4	60898 MCB	B	32	10	N/A	1.37
36 /L2	White Sockets On Pillars Hot Desk Office Near Door 33 Offices Rooms 01 + 02	D	B	3	4	1.5/TRUN	0.4	60898 MCB	B	32	10	N/A	1.37

** In such cases, details of the distribution (sub-main) circuit(s), together with the test results for the circuit(s), must also be provided, on continuation schedules.*

Þ See Table 4A2 of Appendix 4 of BS 7671

CODES FOR TYPE OF WIRING								
A	B	C	D	E	F	G	H	O (Other - please state)
Thermoplastic insulated/ sheathed cables	Thermoplastic cables in metallic conduit	Thermoplastic cables in non metallic conduit	Thermoplastic cables in metallic trunking	Thermoplastic cables in non metallic trunking	Thermoplastic/ SWA cables	Thermosetting/ SWA cables	Mineral-insulated cables	

See next page for Schedule of Test Results

NICEIC APPROVED CONTRACTOR

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SCHEDULE OF TEST RESULTS FOR THE PRIMARY DISTRIBUTION BOARD

TEST RESULTS

TO BE COMPLETED ONLY IF THE DISTRIBUTION BOARD IS NOT CONNECTED DIRECTLY TO THE ORIGIN OF THE INSTALLATION

Characteristics at this distribution board

YES — Confirmation of supply polarity

* See note below

Ö *0.08 — É — Operating times of associated RCD (if any) — At IÜ ____ ms — At 5IÜ ____ ms

IÙ * kA

Phase sequence confirmed (where appropriate)

Test instruments (serial numbers) used:

Earth fault loop impedance	KAB11	RCD	KAB11
Insulation resistance	KAB11	Multi function	
Continuity	KAB11	Other	

Circuit number and line	Circuit impedances (É)					Insulation resistance				Polarity	Maximum measured earth fault loop impedance, Ö	RCD operating times		Test button operation
	Ring final circuits only (measured end to end)			All circuits (At least one column to be completed)		Line/Line Ú	Line/Neutral Ú	Line/Earth Ú	Neutral/Earth			at IÜ	at 5IÜ (if applicable)	
	rã (Line)	rÐ (Neutral)	rå (cpc)	Rã + Rå	Rå	(MÉ)	(MÉ)	(MÉ)	(MÉ)	(á)	(É)	(ms)	(ms)	(á)
28 /L2	N/A	N/A	N/A	0.46	N/A	N/A	200+	200+	200+	á	0.54	N/A	N/A	
29 /L2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A	N/A	N/A	
30 /L2	N/A	N/A	N/A	0.35	N/A	N/A	200+	200+	200+	á	0.43	N/A	N/A	
31 /L2	N/A	N/A	N/A	0.15	N/A	N/A	200+	200+	200+	á	0.23	N/A	N/A	
32 /L2	N/A	N/A	N/A	LIM	N/A	N/A	200+	200+	200+		LIM	N/A	N/A	
33 /L2	0.26	0.25	0.62	0.23	N/A	N/A	200+	200+	200+	á	0.31	N/A	N/A	
34 /L2	0.16	0.15	0.34	0.19	N/A	N/A	200+	200+	200+	á	0.27	N/A	N/A	
35 /L2	0.43	0.44	0.77	0.22	N/A	N/A	200+	200+	200+		0.30	N/A	N/A	
36 /L2	0.40	0.39	0.58	0.20	N/A	N/A	200+	200+	200+		0.28	N/A	N/A	

* Note: *Where the installation can be supplied by more than one source, such as a primary source (eg public supply) and a secondary source (eg standby generator), the higher or highest values must be recorded.*

TESTED BY

Signature:	C Hawley	Position:	Approved Electrician
Name: (CAPITALS)	CHRISTOPHER HAWLEY	Date of testing:	02/05/2018

See previous page for Schedule of Circuit Details

NICEIC APPROVED CONTRACTOR

This certificate is not valid if the serial number has been defaced or altered **IPN4/0464927**

SCHEDULE OF CIRCUIT DETAILS FOR THE PRIMARY DISTRIBUTION BOARD

CIRCUIT DETAILS

TO BE COMPLETED IN EVERY CASE

Location of distribution board: 2nd Floor Riser Cub Back Wall

Distribution board designation: DB 05

TO BE COMPLETED ONLY IF THE DISTRIBUTION BOARD IS NOT CONNECTED DIRECTLY TO THE ORIGIN OF THE INSTALLATION*

Supply to distribution board is from: DB 01 Ckt 2/L3

No of phases: 1

Nominal voltage: 230 V

Overcurrent protective device for the distribution circuit:

Associated RCD (if any): BS(EN)

Type: BS(EN) 60947-2 MCCB

Rating: 63 A

RCD No of poles:

IÜ mA

Circuit number and line	Circuit designation	Type of wiring (see code below)	Þ Reference method	Number of points served	Circuit conductors: csa Live (mmâ)	Circuit conductors: csa cpc (mmâ)	Max. disconnection time permitted by BS 7671 (s)	Overcurrent protective devices BS (EN)	Overcurrent protective devices Type	Overcurrent protective devices Rating (A)	Overcurrent protective devices Short-circuit capacity (kA)	RCD Operating current, IÜ (mA)	Maximum Ö permitted by BS 7671 (É)
1 /L1	Lights Lift Lobby + Corridor	D/B	B	11	1.5	1.5	0.4	60898 MCB	B	6	10	N/A	7.28
2 /L1	Lights Room 208	D/B	B	13	1.5	1.5	0.4	60898 MCB	B	6	10	N/A	7.28
3 /L1	Lights Room 203 Row 1 + Office Near End Road	D/B	B	9	1.5	1.5	0.4	60898 MCB	B	6	10	N/A	7.28
4 /L1	Lights Room 203 Rows 2 + 3 (Road Side)	D/B	B	6	1.5	1.5	0.4	60898 MCB	B	6	10	N/A	7.28
5 /L1	Lights Room 203 Rows 4, 5, 6 + 7 (Road Side)	D/B	B	12	1.5	1.5	0.4	60898 MCB	B	6	10	N/A	7.28
6 /L1	Socket Room 203 Skirting Far End (Car Park Side)	D/B	B	3	2.5	COND	0.4	60898 MCB	B	32	10	N/A	1.37
7 /L1	Sockets Corridor, Lift Lobby and 208 Skirting	D/B	B	4	2.5	COND	0.4	60898 MCB	B	32	10	N/A	1.37
8 /L1	Sockets Room 203 Skirting Centre of Wall (Road	D/B	B	3	2.5	COND	0.4	60898 MCB	B	32	10	N/A	1.37
9 /L1	RCD Sockets + Water Heater Spur Room 202	D/B	B	2	2.5	1.5	0.4	60898 MCB	B	32	10	N/A	1.37
10 /L1	Not Found	D/B	B	LIM	2.5	1.5	0.4	60898 MCB	B	16	10	N/A	2.73
11 /L1	Lights Room 202 and Ladies Extract Fans	D/B	B	3	1.5	1.5	0.4	60898 MCB	B	10	10	N/A	4.37
13 /L1	Sockets Room 203 White Sockets Near End Trunking Drops (Car Park Side)	D/B	B	5	4	1.5	0.4	60898 MCB	B	32	10	N/A	1.37
12 /L1	Not Found	D/B	B	LIM	2.5	1.5	0.4	60898 MCB	B	10	10	N/A	4.37
14 /L1	Sockets Room 203 White Sockets On Centre	D/B	B	7	4	1.5	0.4	60898 MCB	B	32	10	N/A	1.37
15 /L1	Sockets Room 203 White Sockets Far End Trunking Drops (Road Side)	D/B	B	8	4	1.5	0.4	60898 MCB	B	32	10	N/A	1.37
16 /L1	Sockets Room 203 White Sockets Near End Trunking Drops (Road Side)	D/B	B	5	4	1.5	0.4	60898 MCB	B	32	10	N/A	1.37
17 /L1	Sockets room 208 + 203 White Sockets On Trunking Drops	D/B	B	7	4	1.5	0.4	60898 MCB	B	32	10	N/A	1.37
18 /L1	Spare	N/A	N/A	N/A	N/A	N/A	0.4	N/A	N/A	N/A	N/A	N/A	N/A
19 /L1	Lights Room 203 Rows 8, 9 10 + 11 (Road Side)	D/B	B	12	1.5	1.5	0.4	60898 MCB	B	6	10	N/A	7.28
20 /L1	Lights Room 203 Rows 12, 13, 14 + 15 (Road	D/B	B	12	1.5	1.5	0.4	60898 MCB	B	6	10	N/A	7.28
21 /L1	Lights Room 203 Rows 16 + 17	D/B	B	6	1.5	1.5	0.4	60898 MCB	B	6	10	N/A	7.28
22 /L1	Lights Room 204 + 203 Row 1 + Far Middle Exit Row + EM	D/B	B	14	1.5	1.5	0.4	60898 MCB	B	6	10	N/A	7.28
23 /L1	Lights Room 203 Rows 6 + 7 (Near Windows) 8 + 9 (Car Park Side)	D/B	B	8	1.5	1.5	0.4	60898 MCB	B	6	10	N/A	7.28
24 /L1	Sockets Skirting Room 203 Near End + 204 (Car Park Side)	D/B	B	3	2.5	COND	0.4	60898 MCB	B	32	10	N/A	1.37

** In such cases, details of the distribution (sub-main) circuit(s), together with the test results for the circuit(s), must also be provided, on continuation schedules.*
Þ See Table 4A2 of Appendix 4 of BS 7671

CODES FOR TYPE OF WIRING								
A	B	C	D	E	F	G	H	O (Other - please state)
Thermoplastic insulated/ sheathed cables	Thermoplastic cables in metallic conduit	Thermoplastic cables in non metallic conduit	Thermoplastic cables in metallic trunking	Thermoplastic cables in non metallic trunking	Thermoplastic/ SWA cables	Thermosetting/ SWA cables	Mineral-insulated cables	

See next page for Schedule of Test Results

NICEIC APPROVED CONTRACTOR

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SCHEDULE OF TEST RESULTS FOR THE PRIMARY DISTRIBUTION BOARD

TEST RESULTS

TO BE COMPLETED ONLY IF THE DISTRIBUTION BOARD IS NOT CONNECTED DIRECTLY TO THE ORIGIN OF THE INSTALLATION

Characteristics at this distribution board

YES — Confirmation of supply polarity

* See note below

Ö *0.15 É — Operating times of associated RCD (if any) At IÜ ms; At 5IÜ ms

IÙ *1.6 kA

Phase sequence confirmed (where appropriate)

Test instruments (serial numbers) used:

Earth fault loop impedance	KAB11	RCD	
Insulation resistance	KAB11	Multi function	
Continuity	KAB11	Other	

Circuit number and line	Circuit impedances (É)					Insulation resistance				Polarity	Maximum measured earth fault loop impedance, Ö	RCD operating times		Test button operation
	Ring final circuits only (measured end to end)			All circuits (At least one column to be completed)		Line/Line Ú	Line/Neutral Ú	Line/Earth Ú	Neutral/Earth			at IÜ	at 5IÜ (if applicable)	
	rã (Line)	rÐ (Neutral)	rå (cpc)	Rã + Rå	Rå	(MÉ)	(MÉ)	(MÉ)	(MÉ)	(á)	(É)	(ms)	(ms)	(á)
1 /L1	N/A	N/A	N/A	1.13	N/A	N/A	N/A	N/A	N/A	á	1.28	N/A	N/A	
2 /L1	N/A	N/A	N/A	0.69	N/A	N/A	N/A	N/A	N/A	á	0.84	N/A	N/A	
3 /L1	N/A	N/A	N/A	1.45	N/A	N/A	N/A	N/A	N/A	á	1.60	N/A	N/A	
4 /L1	N/A	N/A	N/A	0.58	N/A	N/A	N/A	N/A	N/A	á	0.73	N/A	N/A	
5 /L1	N/A	N/A	N/A	0.52	N/A	N/A	N/A	N/A	N/A	á	0.67	N/A	N/A	
6 /L1	0.89	0.89	COND	0.43	N/A	N/A	N/A	N/A	N/A	á	0.58	N/A	N/A	
7 /L1	0.47	0.46	COND	0.36	N/A	N/A	N/A	N/A	N/A	á	0.51	N/A	N/A	
8 /L1	0.63	0.64	COND	0.69	N/A	N/A	N/A	N/A	N/A	á	0.84	N/A	N/A	
9 /L1	0.10	0.11	COND	0.15	N/A	N/A	N/A	N/A	N/A	á	0.30	N/A	N/A	
10 /L1	N/A	N/A	N/A	LIM	N/A	N/A	N/A	N/A	N/A		LIM	N/A	N/A	
11 /L1	N/A	N/A	N/A	0.41	N/A	N/A	N/A	N/A	N/A	á	0.56	N/A	N/A	
13 /L1	0.47	0.47	0.54	0.25	N/A	N/A	N/A	N/A	N/A	á	0.40	N/A	N/A	
12 /L1	N/A	N/A	N/A	LIM	N/A	N/A	N/A	N/A	N/A		LIM	N/A	N/A	
14 /L1	0.50	0.49	0.44	0.26	N/A	N/A	N/A	N/A	N/A	á	0.41	N/A	N/A	
15 /L1	0.63	0.62	0.65	0.32	N/A	N/A	N/A	N/A	N/A	á	0.47	N/A	N/A	
16 /L1	0.40	0.41	0.47	0.33	N/A	N/A	N/A	N/A	N/A	á	0.48	N/A	N/A	
17 /L1	0.50	0.49	0.57	0.21	N/A	N/A	N/A	N/A	N/A	á	0.36	N/A	N/A	
18 /L1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A	N/A	N/A	
19 /L1	N/A	N/A	N/A	0.72	N/A	N/A	N/A	N/A	N/A	á	0.87	N/A	N/A	
20 /L1	N/A	N/A	N/A	0.83	N/A	N/A	N/A	N/A	N/A	á	0.98	N/A	N/A	
21 /L1	N/A	N/A	N/A	0.83	N/A	N/A	N/A	N/A	N/A	á	0.98	N/A	N/A	
22 /L1	N/A	N/A	N/A	1.14	N/A	N/A	N/A	N/A	N/A	á	1.29	N/A	N/A	
23 /L1	N/A	N/A	N/A	0.79	N/A	N/A	N/A	N/A	N/A	á	0.94	N/A	N/A	
24 /L1	0.33	0.33	LIM	0.27	N/A	N/A	N/A	N/A	N/A	á	0.42	N/A	N/A	

** Note: Where the installation can be supplied by more than one source, such as a primary source (eg public supply) and a secondary source (eg standby generator), the higher or highest values must be recorded.*

TESTED BY

Signature:	*C Hawley*	Position:	Approved Electrician
Name: (CAPITALS)	CHRISTOPHER HAWLEY	Date of testing:	09/05/2018

See previous page for Schedule of Circuit Details

NICEIC APPROVED CONTRACTOR

This certificate is not valid if the serial number has been defaced or altered **IPN4/0464927**

SCHEDULE OF CIRCUIT DETAILS FOR THE PRIMARY DISTRIBUTION BOARD

CIRCUIT DETAILS

TO BE COMPLETED IN EVERY CASE

Location of distribution board: 2nd Floor Riser Cub Back Wall

Distribution board designation: DB 05

TO BE COMPLETED ONLY IF THE DISTRIBUTION BOARD IS NOT CONNECTED DIRECTLY TO THE ORIGIN OF THE INSTALLATION*

Supply to distribution board is from: DB 01 Ckt 2/L3

No of phases: 1

Nominal voltage: 230 V

Overcurrent protective device for the distribution circuit:

Associated RCD (if any): BS(EN)

Type: BS(EN) 60947-2 MCCB

Rating: 63 A

RCD No of poles:

IÜ mA

Circuit number and line	Circuit designation	Type of wiring (see code below)	Þ Reference method	Number of points served	Circuit conductors: csa Live (mmâ)	cpc (mmâ)	Max. disconnection time permitted by BS 7671 (s)	Overcurrent protective devices BS (EN)	Type	Rating (A)	Short-circuit capacity (kA)	RCD Operating current, IÜ (mA)	Maximum Ö permitted by BS 7671 (É)
25 /L1	Sockets Skirting Room 203 Near End and Office (Road Side)	D/B	B	3	2.5	COND	0.4	60898 MCB	B	32	10	N/A	1.37
26 /L1	Sockets Skirting Room 203 Far End (Road Side)	D/B	B	3	2.5	COND	0.4	60898 MCB	B	32	10	N/A	1.37
27 /L1	Spare	N/A	N/A	N/A	N/A	N/A	0.4	60898 MCB	B	32	N/A	N/A	1.37
28 /L1	Male W.C Fans	D/B	B	1	1.5	1.5	0.4	60898 MCB	B	10	10	N/A	4.37
29 /L1	Spare	N/A	N/A	N/A	N/A	N/A	0.4	60898 MCB	B	32	N/A	N/A	1.37
30 /L1	Sockets Riser Room and Blank Plate In 202 LIM	D/B	B	2	2.5	1.5	0.4	60898 MCB	B	20	10	N/A	2.19
31 /L1	Lights Room 203 Rows 2, 3, 4, + 5 (Car Park Side)	D/B	B	12	1.5	1.5	0.4	60898 MCB	B	6	10	N/A	7.28
32 /L1	Lights Mains Cub	D/B	B	1	1.5	1.5	0.4	60898 MCB	B	6	10	N/A	7.28
33 /L1	Fans Spur Room 203, 208 Car Park Side	D/B	B	5	2.5	1.5	0.4	60898 MCB	B	16	10	N/A	2.73
34 /L1	Fans Spur Room 203 and Office Road Side	D/B	B	7	2.5	1.5	0.4	60898 MCB	B	16	10	N/A	2.73
35 /L1	Spare	N/A	N/A	N/A	N/A	N/A	0.4	N/A	N/A	N/A	N/A	N/A	N/A
36 /L1	Spare	N/A	N/A	N/A	N/A	N/A	0.4	N/A	N/A	N/A	N/A	N/A	N/A

** In such cases, details of the distribution (sub-main) circuit(s), together with the test results for the circuit(s), must also be provided, on continuation schedules.*
Þ See Table 4A2 of Appendix 4 of BS 7671

CODES FOR TYPE OF WIRING								
A	B	C	D	E	F	G	H	O (Other - please state)
Thermoplastic insulated/ sheathed cables	Thermoplastic cables in metallic conduit	Thermoplastic cables in non metallic conduit	Thermoplastic cables in metallic trunking	Thermoplastic cables in non metallic trunking	Thermoplastic/ SWA cables	Thermosetting/ SWA cables	Mineral-insulated cables	

See next page for Schedule of Test Results

APPROVED CONTRACTOR

This certificate is not valid if the serial number has been defaced or altered **IPN4/0464927**

SCHEDULE OF TEST RESULTS FOR THE PRIMARY DISTRIBUTION BOARD

TEST RESULTS

TO BE COMPLETED ONLY IF THE DISTRIBUTION BOARD IS NOT CONNECTED DIRECTLY TO THE ORIGIN OF THE INSTALLATION

Characteristics at this distribution board

YES — Confirmation of supply polarity

* See note below

Ö *0.15 É — Operating times of associated RCD (if any) At IÜ ms; At 5IÜ ms

IÙ *1.6 kA

Phase sequence confirmed (where appropriate)

Test instruments (serial numbers) used:

Earth fault loop impedance	KAB11	RCD	
Insulation resistance	KAB11	Multi function	
Continuity	KAB11	Other	

Circuit number and line	Circuit impedances (É)					Insulation resistance				Polarity	Maximum measured earth fault loop impedance, Ö	RCD operating times		Test button operation
	Ring final circuits only (measured end to end)			All circuits (At least one column to be completed)		Line/Line Ú	Line/Neutral Ú	Line/Earth Ú	Neutral/Earth			at IÜ	at 5IÜ (if applicable)	
	rã (Line)	rÐ (Neutral)	rå (cpc)	Rã + Rå	Rå	(MÉ)	(MÉ)	(MÉ)	(MÉ)	(á)	(É)	(ms)	(ms)	(á)
25 /L1	0.35	0.36	LIM	0.67	N/A	N/A	N/A	N/A	N/A	á	0.82	N/A	N/A	
26 /L1	0.70	0.70	LIM	0.36	N/A	N/A	N/A	N/A	N/A	á	0.51	N/A	N/A	
27 /L1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A	N/A	N/A	
28 /L1	N/A	N/A	N/A	LIM	N/A	N/A	N/A	N/A	N/A		LIM	N/A	N/A	
29 /L1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A	N/A	N/A	
30 /L1	N/A	N/A	N/A	LIM	N/A	N/A	N/A	N/A	N/A		LIM	N/A	N/A	
31 /L1	N/A	N/A	N/A	0.16	N/A	N/A	N/A	N/A	N/A	á	0.31	N/A	N/A	
32 /L1	N/A	N/A	N/A	0.06	N/A	N/A	N/A	N/A	N/A	á	0.21	N/A	N/A	
33 /L1	N/A	N/A	N/A	0.62	N/A	N/A	N/A	N/A	N/A	á	0.77	N/A	N/A	
34 /L1	N/A	N/A	N/A	0.54	N/A	N/A	N/A	N/A	N/A	á	0.69	N/A	N/A	
35 /L1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A	N/A	N/A	
36 /L1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A	N/A	N/A	

* Note: *Where the installation can be supplied by more than one source, such as a primary source (eg public supply) and a secondary source (eg standby generator), the higher or highest values must be recorded.*

TESTED BY

Signature:	*C Hawley*	Position:	Approved Electrician
Name: (CAPITALS)	CHRISTOPHER HAWLEY	Date of testing:	09/05/2018

See previous page for Schedule of Circuit Details

NICEIC APPROVED CONTRACTOR

This certificate is not valid if the serial number has been defaced or altered **IPN4/0464927**

SCHEDULE OF CIRCUIT DETAILS FOR THE PRIMARY DISTRIBUTION BOARD

CIRCUIT DETAILS

TO BE COMPLETED IN EVERY CASE

Location of distribution board: Ground Floor Riser Room LHS Wall

Distribution board designation: LOP DB

TO BE COMPLETED ONLY IF THE DISTRIBUTION BOARD IS NOT CONNECTED DIRECTLY TO THE ORIGIN OF THE INSTALLATION*

Supply to distribution board is from: DB01 Ckt 5 /TP

No of phases: 3

Nominal voltage: 400 V

Overcurrent protective device for the distribution circuit:

Associated RCD (if any): BS(EN)

Type: BS(EN) 60947-2

Rating: 100 A

RCD No of poles:

IÜ mA

Circuit number and line	Circuit designation	Type of wiring (see code below)	Þ Reference method	Number of points served	Circuit conductors: csa Live (mmâ)	Circuit conductors: csa cpc (mmâ)	Max. disconnection time permitted by BS 7671 (s)	Overcurrent protective devices BS (EN)	Overcurrent protective devices Type	Overcurrent protective devices Rating (A)	Overcurrent protective devices Short-circuit capacity (kA)	RCD Operating current, IÜ (mA)	Maximum Ö permitted by BS 7671 (É)
1 /L1	Spare	N/A	N/A	N/A	N/A	N/A	0.4	N/A	N/A	N/A	N/A	N/A	N/A
1 /L2	Spare	N/A	N/A	N/A	N/A	N/A	0.4	N/A	N/A	N/A	N/A	N/A	N/A
1 /L3	Spare	N/A	N/A	N/A	N/A	N/A	0.4	N/A	N/A	N/A	N/A	N/A	N/A
2 /L1	Spare	N/A	N/A	N/A	N/A	N/A	0.4	N/A	N/A	N/A	N/A	N/A	N/A
2 /L2	Spare	N/A	N/A	N/A	N/A	N/A	0.4	N/A	N/A	N/A	N/A	N/A	N/A
2 /L3	Spare	N/A	N/A	N/A	N/A	N/A	0.4	N/A	N/A	N/A	N/A	N/A	N/A
3 /TP	Supply to: LOP DB03 (1st Floor)	F	C	1	10	13.5	0.4	3871 MCB	2	50	N/A	N/A	0.66
4 /TP	Supply to: LOP DB04 (2nd Floor)	F	C	1	10	13.5	0.4	3871 MCB	2	50	N/A	N/A	0.66
5 /L1	Supply to: LOP DB05 (3rd Floor)	H	C	1	10	12.5	0.4	3871 MCB	2	50	N/A	N/A	0.66
5 /L2	Spare	N/A	N/A	N/A	N/A	N/A	0.4	N/A	N/A	N/A	N/A	N/A	N/A
5 /L3	Spare	N/A	N/A	N/A	N/A	N/A	0.4	N/A	N/A	N/A	N/A	N/A	N/A
6 /L1	Spare	N/A	N/A	N/A	N/A	N/A	0.4	N/A	N/A	N/A	N/A	N/A	N/A
6 /L2	Spare	N/A	N/A	N/A	N/A	N/A	0.4	N/A	N/A	N/A	N/A	N/A	N/A
6 /L3	Spare	N/A	N/A	N/A	N/A	N/A	0.4	N/A	N/A	N/A	N/A	N/A	N/A

** In such cases, details of the distribution (sub-main) circuit(s), together with the test results for the circuit(s), must also be provided, on continuation schedules.*

Þ See Table 4A2 of Appendix 4 of BS 7671

CODES FOR TYPE OF WIRING								
A	B	C	D	E	F	G	H	O (Other - please state)
Thermoplastic insulated/ sheathed cables	Thermoplastic cables in metallic conduit	Thermoplastic cables in non metallic conduit	Thermoplastic cables in metallic trunking	Thermoplastic cables in non metallic trunking	Thermoplastic/ SWA cables	Thermosetting/ SWA cables	Mineral-insulated cables	

See next page for Schedule of Test Results

NICEIC APPROVED CONTRACTOR

This certificate is not valid if the serial number has been defaced or altered **IPN4/0464927**

SCHEDULE OF TEST RESULTS FOR THE PRIMARY DISTRIBUTION BOARD

TEST RESULTS

TO BE COMPLETED ONLY IF THE DISTRIBUTION BOARD IS NOT CONNECTED DIRECTLY TO THE ORIGIN OF THE INSTALLATION

Characteristics at this distribution board

YES — Confirmation of supply polarity

* See note below

Ö *0.07 É — Operating times of associated RCD (if any) — At IÜ ms — At 5IÜ ms

IÙ * kA

Phase sequence confirmed (where appropriate)

Test instruments (serial numbers) used:

Earth fault loop impedance	KAB11	RCD	
Insulation resistance	KAB11	Multi function	
Continuity	KAB11	Other	

Circuit number and line	Circuit impedances (É)					Insulation resistance				Polarity	Maximum measured earth fault loop impedance, Ö	RCD operating times		Test button operation
	Ring final circuits only (measured end to end)			All circuits (At least one column to be completed)		Line/Line Ú	Line/Neutral Ú	Line/Earth Ú	Neutral/Earth			at IÜ	at 5IÜ (if applicable)	
	rã (Line)	rÐ (Neutral)	rå (cpc)	Rã + Rå	Rå	(MÉ)	(MÉ)	(MÉ)	(MÉ)	(á)	(É)	(ms)	(ms)	(á)
1 /L1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A	N/A	N/A	
1 /L2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A	N/A	N/A	
1 /L3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A	N/A	N/A	
2 /L1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A	N/A	N/A	
2 /L2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A	N/A	N/A	
2 /L3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A	N/A	N/A	
3 /TP	N/A	N/A	N/A	0.09	N/A	200+	200+	200+	200+	á	0.16	N/A	N/A	
4 /TP	N/A	N/A	N/A	0.09	N/A	200+	200+	200+	200+		0.16	N/A	N/A	
5 /L1	N/A	N/A	N/A	0.09	N/A	N/A	200+	200+	200+	á	0.16	N/A	N/A	
5 /L2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A	N/A	N/A	
5 /L3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A	N/A	N/A	
6 /L1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A	N/A	N/A	
6 /L2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A	N/A	N/A	
6 /L3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A	N/A	N/A	

* Note: *Where the installation can be supplied by more than one source, such as a primary source (eg public supply) and a secondary source (eg standby generator), the higher or highest values must be recorded.*

TESTED BY

Signature:	*C Hawley*	Position:	Approved Electrician
Name: (CAPITALS)	CHRISTOPHER HAWLEY	Date of testing:	02/05/2018

See previous page for Schedule of Circuit Details

NICEIC APPROVED CONTRACTOR

This certificate is not valid if the serial number has been defaced or altered **IPN4/0464927**

SCHEDULE OF CIRCUIT DETAILS FOR THE PRIMARY DISTRIBUTION BOARD

CIRCUIT DETAILS

TO BE COMPLETED IN EVERY CASE

Location of distribution board: 1st Floor Riser Room (Left Wall)

Distribution board designation: LOP DB 03

TO BE COMPLETED ONLY IF THE DISTRIBUTION BOARD IS NOT CONNECTED DIRECTLY TO THE ORIGIN OF THE INSTALLATION*

Supply to distribution board is from: LOP Ckt

No of phases: 3 Nominal voltage: 400 V

Overcurrent protective device for the distribution circuit:

Associated RCD (if any): BS(EN)

Type: BS(EN) BS 3871 MCB Type 2 Rating: 50 A

RCD No of poles: IÜ mA

Circuit number and line	Circuit designation	Type of wiring (see code below)	Þ Reference method	Number of points served	Circuit conductors: csa Live (mmâ)	Circuit conductors: csa cpc (mmâ)	Max. disconnection time permitted by BS 7671 (s)	Overcurrent protective devices BS (EN)	Overcurrent protective devices Type	Overcurrent protective devices Rating (A)	Overcurrent protective devices Short-circuit capacity (kA)	RCD Operating current, IÜ (mA)	Maximum Ö permitted by BS 7671 (É)
1 /L1	Sockets Main Room LHS (Red)	D	B	3	4	1.5	0.4	61009 RCD/RCBO	B	32	10	30	1.44
1 /L2	Sockets Main Room (Red Drop Near Store Room)	D	B	2	4	1.5	0.4	61009 RCD/RCBO	B	32	10	30	1.44
1 /L3	Sockets Room 33 (Red Far Wall Drops)	D	B	6	4	1.5	0.4	61009 RCD/RCBO	B	32	10	30	1.44
2 /L1	Sockets Room 02 (Red On Drops)	D	B	6	4	1.5	0.4	61009 RCD/RCBO	B	32	10	30	1.44
2 /L2	Sockets Main Room RHS (Red No 1-4 Drops)	D	B	12	4	1.5	0.4	61009 RCD/RCBO	B	32	10	30	1.44
2 /L3	Sockets Main Room (Red Middle Of Room Pillar	D	B	6	2.5	1.5	0.4	61009 RCD/RCBO	B	32	10	30	1.44
3 /L1	Sockets Main Room (LHS Red 2nd + 3rd Drops)	D	B	6	2.5	1.5	0.4	61009 RCD/RCBO	B	32	10	30	1.44
3 /L2	Data Cab Supply	A	E or F	1	2.5	1.5	0.4	61009 RCD/RCBO	B	20	10	30	2.30
3 /L3	Door Entry Supply (Main Entrance Above Door)	A	E or F	2	2.5	1.5	0.4	61009 RCD/RCBO	B	16	10	30	2.88
4 /L1	Sockets Room 33 (Above Skirting)	H	C	2	2.5	SHEATH	0.4	61009 RCD/RCBO	B	20	10	30	2.30
4 /L2	SPARE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4 /L3	Sockets 2xRed Main Room Above Skirting LHS	H	C	2	2.5	SHEATH	0.4	61009 RCD/RCBO	B	20	10	30	2.30
5 /L1	SPARE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
5 /L2	Lights W.C Both Ends	A	E or F	23	1.5	1.5	0.4	60898 MCB	B	10	10	N/A	4.60
5 /L3	Shower	A	E or F	2	10	4	0.4	61009 RCD/RCBO	B	50	10	30	0.92
6 /L1	Sockets On Dado Room 02	A	E or F	5	4	1.5	0.4	61009 RCD/RCBO	B	32	10	30	1.44
6 /L2	Sockets Kitchen	A	E or F	8	4	1.5	0.4	61009 RCD/RCBO	B	32	10	30	1.44
6 /L3	Water Heater Kitchen	A	E or F	2	4	1.5	0.4	61009 RCD/RCBO	B	20	10	30	2.30
7 /L1	Lights Main Room Open Plan LHS+RHS+Em's	A	E or F	39	1.5	1.5	0.4	60898 MCB	B	10	10	N/A	4.60
7 /L2	Sockets Main Room Small Office's RHS (01-24 > 01-27)	A	E or F	4	4	1.5	0.4	61009 RCD/RCBO	B	32	10	30	1.44
7 /L3	Sockets Main Room Small Office's RHS (01-28 > 01-31 and Dados 01-33	A	E or F	10	4	1.5	0.4	61009 RCD/RCBO	B	32	10	30	1.44
8 /L1	Lights Main Room Open Plan Centre Rows and Em's	A	E or F	25	1.5	1.5	0.4	60898 MCB	B	10	10	N/A	4.60
8 /L2	Sockets Cleaners Main Room Small Office's RHS (01-24 > 01-27)	A	E or F	4	4	1.5	0.4	61009 RCD/RCBO	B	32	10	30	1.44
8 /L3	Sockets Cleaners Main Room Small Office's RHS (01-28 > 01-32)	A	E or F	5	4	1.5	0.4	61009 RCD/RCBO	B	20	10	30	2.30
9 /L1	Sockets Centre Dado Main Room	A	E or F	16	4	1.5	0.4	61009 RCD/RCBO	B	32	10	30	1.44
9 /L2	Sockets Main Room Small Office LHS (01-20 > 01-23)	A	E or F	4	4	1.5	0.4	61009 RCD/RCBO	B	32	10	30	1.44

** In such cases, details of the distribution (sub-main) circuit(s), together with the test results for the circuit(s), must also be provided, on continuation schedules.*

Þ See Table 4A2 of Appendix 4 of BS 7671

CODES FOR TYPE OF WIRING								
A	B	C	D	E	F	G	H	O (Other - please state)
Thermoplastic insulated/ sheathed cables	Thermoplastic cables in metallic conduit	Thermoplastic cables in non metallic conduit	Thermoplastic cables in metallic trunking	Thermoplastic cables in non metallic trunking	Thermoplastic/ SWA cables	Thermosetting/ SWA cables	Mineral-insulated cables	

See next page for Schedule of Test Results

NICEIC APPROVED CONTRACTOR

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SCHEDULE OF TEST RESULTS FOR THE PRIMARY DISTRIBUTION BOARD

TEST RESULTS

TO BE COMPLETED ONLY IF THE DISTRIBUTION BOARD IS NOT CONNECTED DIRECTLY TO THE ORIGIN OF THE INSTALLATION

Characteristics at this distribution board

YES — Confirmation of supply polarity

* See note below

Ö *0.16 É — Operating times of associated RCD (if any) At IÜ ms; At 5IÜ ms

IÙ *1.5 kA

Phase sequence confirmed (where appropriate)

Test instruments (serial numbers) used:

Earth fault loop impedance	KAB11	RCD	KAB11
Insulation resistance	KAB11	Multi function	
Continuity	KAB11	Other	

Circuit number and line	Circuit impedances (É)					Insulation resistance				Polarity	Maximum measured earth fault loop impedance, Ö	RCD operating times		Test button operation
	Ring final circuits only (measured end to end)			All circuits (At least one column to be completed)		Line/Line Ú	Line/Neutral Ú	Line/Earth Ú	Neutral/Earth			at IÜ	at 5IÜ (if applicable)	
	rã (Line)	rÐ (Neutral)	rå (cpc)	Rã + Rå	Rå	(MÉ)	(MÉ)	(MÉ)	(MÉ)	(á)	(É)	(ms)	(ms)	(á)
1 /L1	0.40	0.38	0.34	0.02	N/A	N/A	200+	200+	200+	á	0.18	29.2	9.1	
1 /L2	0.27	0.26	0.23	0.12	N/A	N/A	200+	200+	200+	á	0.28	29.0	9.3	
1 /L3	0.40	0.40	0.63	0.08	N/A	N/A	200+	200+	200+	á	0.24	29.2	8.5	
2 /L1	0.62	0.58	0.21	0.08	N/A	N/A	200+	200+	200+	á	0.24	29.1	9.2	
2 /L2	0.77	0.78	0.17	0.24	N/A	N/A	200+	200+	200+	á	0.40	29.0	9.1	
2 /L3	0.67	0.66	0.43	0.26	N/A	N/A	200+	200+	200+	á	0.42	29.2	9.1	
3 /L1	1.04	1.04	0.14	0.18	N/A	N/A	200+	200+	200+	á	0.34	29.2	9.3	
3 /L2	N/A	N/A	N/A	0.19	N/A	N/A	200+	200+	200+	á	0.35	29.1	9,2	
3 /L3	N/A	N/A	N/A	0.32	N/A	N/A	200+	200+	200+	á	0.48	30.7	8.7	
4 /L1	N/A	N/A	N/A	0.25	N/A	N/A	200+	200+	200+	á	0.41	10.6	8.9	
4 /L2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A	N/A	N/A	
4 /L3	N/A	N/A	N/A	0.21	N/A	N/A	200+	200+	200+	á	0.37	29.0	9.1	
5 /L1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A	N/A	N/A	
5 /L2	N/A	N/A	N/A	1.17	N/A	N/A	200+	200+	200+	á	1.33	N/A	N/A	
5 /L3	N/A	N/A	N/A	0.05	N/A	N/A	200+	200+	200+	á	0.21	28.8	9,1	
6 /L1	0.24	0.25	0.23	0.11	N/A	N/A	200+	200+	200+	á	0.27	29.0	28.6	
6 /L2	0.17	0.17	0.45	0.20	N/A	N/A	200+	200+	200+	á	0.36	42.6	8.7	
6 /L3	N/A	N/A	N/A	0.02	N/A	N/A	200+	200+	200+	á	0.18	11.9	8.7	
7 /L1	N/A	N/A	N/A	0.73	N/A	N/A	200+	200+	200+	á	0.89	N/A	N/A	
7 /L2	0.38	0.38	1.07	0.32	N/A	N/A	200+	200+	200+	á	0.48	29.0	8.5	
7 /L3	0.52	0.52	1.46	0.48	N/A	N/A	200+	200+	200+	á	0.64	28.8	9.1	
8 /L1	N/A	N/A	N/A	1.33	N/A	N/A	200+	200+	200+	á	1.49	N/A	N/A	
8 /L2	N/A	N/A	N/A	0.87	N/A	N/A	200+	200+	200+	á	1.03	29.2	9.3	
8 /L3	N/A	N/A	N/A	1.02	N/A	N/A	200+	200+	200+	á	1.18	29.2	9.1	
9 /L1	0.27	0.26	0.80	0.16	N/A	N/A	200+	200+	200+	á	0.32	29,9	10.2	
9 /L2	0.38	0.38	1.08	0.41	N/A	N/A	200+	200+	200+	á	0.57	29.2	9.3	

** Note: Where the installation can be supplied by more than one source, such as a primary source (eg public supply) and a secondary source (eg standby generator), the higher or highest values must be recorded.*

TESTED BY

Signature:	*C Hawley*	Position:	Approved Electrician
Name: (CAPITALS)	CHRISTOPHER HAWLEY	Date of testing:	02/05/2018

See previous page for Schedule of Circuit Details

NICEIC APPROVED CONTRACTOR

This certificate is not valid if the serial number has been defaced or altered **IPN4/0464927**

SCHEDULE OF CIRCUIT DETAILS FOR THE PRIMARY DISTRIBUTION BOARD

CIRCUIT DETAILS

TO BE COMPLETED IN EVERY CASE

Location of distribution board: 1st Floor Riser Room (Left Wall)

Distribution board designation: LOP DB 03

TO BE COMPLETED ONLY IF THE DISTRIBUTION BOARD IS NOT CONNECTED DIRECTLY TO THE ORIGIN OF THE INSTALLATION*

Supply to distribution board is from: LOP Ckt

No of phases: 3

Nominal voltage: 400 V

Overcurrent protective device for the distribution circuit:

Associated RCD (if any): BS(EN)

Type: BS(EN) BS 3871 MCB Type 2

Rating: 50 A

RCD No of poles:

IÜ mA

Circuit number and line	Circuit designation	Type of wiring (see code below)	Þ Reference method	Number of points served	Circuit conductors: csa Live (mmâ)	Circuit conductors: csa cpc (mmâ)	Max. disconnection time permitted by BS 7671 (s)	Overcurrent protective devices BS (EN)	Overcurrent protective devices Type	Overcurrent protective devices Rating (A)	Overcurrent protective devices Short-circuit capacity (kA)	RCD Operating current, IÜ (mA)	Maximum Ö permitted by BS 7671 (É)
9 /L3	Lights Main Room Small Office LHS (01-20 >	A	E or F	20	1.5	1.5	0.4	60898 MCB	B	6	10	N/A	7.67
10 /L1	Lights Main Room Small Office's RHS (01-24 >	A	E or F	25	1.5	1.5	0.4	60898 MCB	B	10	10	N/A	4.60
10 /L2	Sockets Cleaners Main Room Small Offices LHS (01-20 > 01-22)	A	E or F	4	4	1.5	0.4	61009 RCD/RCBO	B	20	10	30	2.30
10 /L3	Lights Main Room Small Office RHS (01-29 >	A	E or F	39	1.5	1.5	0.4	60898 MCB	B	10	10	N/A	4.60
11 /L1	SPARE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
11 /L2	SPARE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
11 /L3	SPARE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
12 /L1	SPARE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
12 /L2	SPARE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
12 /L3	SPARE	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

** In such cases, details of the distribution (sub-main) circuit(s), together with the test results for the circuit(s), must also be provided, on continuation schedules.*

Þ See Table 4A2 of Appendix 4 of BS 7671

CODES FOR TYPE OF WIRING								
A	B	C	D	E	F	G	H	O (Other - please state)
Thermoplastic insulated/ sheathed cables	Thermoplastic cables in metallic conduit	Thermoplastic cables in non metallic conduit	Thermoplastic cables in metallic trunking	Thermoplastic cables in non metallic trunking	Thermoplastic/ SWA cables	Thermosetting/ SWA cables	Mineral-insulated cables	

See next page for Schedule of Test Results

NICEIC APPROVED CONTRACTOR

This certificate is not valid if the serial number has been defaced or altered **IPN4/0464927**

SCHEDULE OF TEST RESULTS FOR THE PRIMARY DISTRIBUTION BOARD

TEST RESULTS

TO BE COMPLETED ONLY IF THE DISTRIBUTION BOARD IS NOT CONNECTED DIRECTLY TO THE ORIGIN OF THE INSTALLATION

Characteristics at this distribution board

YES — Confirmation of supply polarity

* See note below

Ö *0.16 É

IÙ *1.5 kA

Operating times of associated RCD (if any): At IÜ ms; At 5IÜ ms

Phase sequence confirmed (where appropriate)

Test instruments (serial numbers) used:

Earth fault loop impedance	KAB11	RCD	KAB11
Insulation resistance	KAB11	Multi function	
Continuity	KAB11	Other	

Circuit number and line	Circuit impedances (É)					Insulation resistance				Polarity	Maximum measured earth fault loop impedance, Ö	RCD operating times		Test button operation
	Ring final circuits only (measured end to end)			All circuits (At least one column to be completed)		Line/Line Ú	Line/Neutral Ú	Line/Earth Ú	Neutral/Earth			at IÜ	at 5IÜ (if applicable)	
	rã (Line)	rÐ (Neutral)	rå (cpc)	Rã + Rå	Rå	(MÉ)	(MÉ)	(MÉ)	(MÉ)	(á)	(É)	(ms)	(ms)	(á)
9 /L3	N/A	N/A	N/A	0.69	N/A	N/A	200+	200+	200+	á	0.85	N/A	N/A	
10 /L1	N/A	N/A	N/A	0.62	N/A	N/A	200+	200+	200+	á	0.78	N/A	N/A	
10 /L2	N/A	N/A	N/A	0.74	N/A	N/A	200+	200+	200+	á	0.90	29.2	8.5	
10 /L3	N/A	N/A	N/A	1.18	N/A	N/A	200+	200+	200+	á	1.34	N/A	N/A	
11 /L1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A	N/A	N/A	
11 /L2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A	N/A	N/A	
11 /L3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A	N/A	N/A	
12 /L1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A	N/A	N/A	
12 /L2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A	N/A	N/A	
12 /L3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A	N/A	N/A	

* Note: *Where the installation can be supplied by more than one source, such as a primary source (eg public supply) and a secondary source (eg standby generator), the higher or highest values must be recorded.*

TESTED BY

Signature:	C Hawley	Position:	Approved Electrician
Name: (CAPITALS)	CHRISTOPHER HAWLEY	Date of testing:	02/05/2018

See previous page for Schedule of Circuit Details

NICEIC APPROVED CONTRACTOR

This certificate is not valid if the serial number has been defaced or altered **IPN4/0464927**

SCHEDULE OF CIRCUIT DETAILS FOR THE PRIMARY DISTRIBUTION BOARD

CIRCUIT DETAILS

TO BE COMPLETED IN EVERY CASE

Location of distribution board: 2nd Floor Riser LHS Wall

Distribution board designation: LOP DB 04

TO BE COMPLETED ONLY IF THE DISTRIBUTION BOARD IS NOT CONNECTED DIRECTLY TO THE ORIGIN OF THE INSTALLATION*

Supply to distribution board is from: LOP Ground Floor LHS Ckt 4 /TP

No of phases: 3

Nominal voltage: 400 V

Overcurrent protective device for the distribution circuit:

Associated RCD (if any): BS(EN)

Type: BS(EN) BS 3871 Type 2

Rating: 50 A

RCD No of poles:

IÜ mA

Circuit number and line	Circuit designation	Type of wiring (see code below)	Þ Reference method	Number of points served	Circuit conductors: csa Live (mmâ)	Circuit conductors: csa cpc (mmâ)	Max. disconnection time permitted by BS 7671 (s)	Overcurrent protective devices BS (EN)	Type	Rating (A)	Short-circuit capacity (kA)	RCD Operating current, IÜ (mA)	Maximum Ö permitted by BS 7671 (É)
1 /L1	Sockets Red Room 203 Centre Trunking Drops	D	B	21	4	1.5	0.4	60898 MCB	B	32	10	N/A	1.37
1 /L2	Sockets Red Room 203 Near Trunking Drops and Office Dado (Road Side)	D	B	16	4	1.5	0.4	60898 MCB	B	32	10	N/A	1.37
1 /L3	Sockets Red Room 203 Far Trunking Drops (Road	D	B	21	4	1.5	0.4	60898 MCB	B	32	10	N/A	1.37
2 /L1	Sockets Red Room 203 + 208 Trunking Drops and 203 Office Dado	D	B	20	4	1.5	0.4	60898 MCB	B	32	10	N/A	1.37
2 /L2	Sockets Red Room 203 Trunking Drops and 204 (Car Park Side)	D	B	18	4	1.5	0.4	60898 MCB	B	32	10	N/A	1.37
2 /L3	Lights W.C's Near	A	B	5	1.5	1.5	0.4	60898 MCB	C	6	10	N/A	3.64
3 /L1	Lights W.C's Far End	A	B	11	1.5	1.5	0.4	60898 MCB	C	6	10	N/A	3.64
3 /L2	Sockets Far End Dado	A	B	4	4	1.5	0.4	61009 RCD/RCBO	B	32	10	30	1.37
3 /L3	Spare	N/A	N/A	N/A	N/A	N/A	0.4	N/A	N/A	N/A	N/A	N/A	N/A
4 /L1	Sockets Red Above Skirting Far End (Road Side)	H	B	7	2.5	SHEATH	0.4	60898 MCB	B	20	10	N/A	2.19
4 /L2	Sockets Red Above Skirting Near End (Road Side)	H	B	9	2.5	SHEATH	0.4	60898 MCB	B	20	10	N/A	2.19
4 /L3	Sockets Red Above Skirting Room 208 (Car Park	H	B	3	2.5	SHEATH	0.4	60898 MCB	B	20	10	N/A	2.19
5 /L1	Sockets Red Above Skirting Skirting Far End (Car Park Side) and Server Room	H/A	B	6	2.5	SHEATH/1	0.4	60898 MCB	B	20	10	N/A	2.19
5 /L2	Sockets Red Above Skirting Near End (Car Park Side)	H	B	5	2.5	1.5	0.4	60898 MCB	B	20	10	N/A	2.19
5 /L3	Sockets Room 208 Dado and Far Twin	A	B	7	2.5	1.5	0.4	61009 RCD/RCBO	C	32	10	30	0.68
6 /L1	Spare	N/A	N/A	N/A	N/A	N/A	0.4	N/A	N/A	N/A	N/A	N/A	N/A
6 /L2	Spare	N/A	N/A	N/A	N/A	N/A	0.4	N/A	N/A	N/A	N/A	N/A	N/A
6 /L3	Spare	N/A	N/A	N/A	N/A	N/A	0.4	N/A	N/A	N/A	N/A	N/A	N/A

** In such cases, details of the distribution (sub-main) circuit(s), together with the test results for the circuit(s), must also be provided, on continuation schedules.*
Þ See Table 4A2 of Appendix 4 of BS 7671

CODES FOR TYPE OF WIRING								
A	B	C	D	E	F	G	H	O (Other - please state)
Thermoplastic insulated/ sheathed cables	Thermoplastic cables in metallic conduit	Thermoplastic cables in non metallic conduit	Thermoplastic cables in metallic trunking	Thermoplastic cables in non metallic trunking	Thermoplastic/ SWA cables	Thermosetting/ SWA cables	Mineral-insulated cables	

See next page for Schedule of Test Results

NICEIC APPROVED CONTRACTOR

This certificate is not valid if the serial number has been defaced or altered **IPN4/0464927**

SCHEDULE OF TEST RESULTS FOR THE PRIMARY DISTRIBUTION BOARD

TEST RESULTS

TO BE COMPLETED ONLY IF THE DISTRIBUTION BOARD IS NOT CONNECTED DIRECTLY TO THE ORIGIN OF THE INSTALLATION

Characteristics at this distribution board

YES — Confirmation of supply polarity

* See note below

Ö *0.16 É — Operating times of associated RCD (if any) At IÜ ms; At 5IÜ ms

IÙ *1.5 kA

Phase sequence confirmed (where appropriate)

Test instruments (serial numbers) used:

Earth fault loop impedance	KAB11	RCD	
Insulation resistance	KAB11	Multi functior	KAB11
Continuity	KAB11	Other	

Circuit number and line	Circuit impedances (É)					Insulation resistance				Polarity	Maximum measured earth fault loop impedance, Ö	RCD operating times		Test button operation
	Ring final circuits only (measured end to end)			All circuits (At least one column to be completed)		Line/Line Ú	Line/Neutral Ú	Line/Earth Ú	Neutral/Earth			at IÜ	at 5IÜ (if applicable)	
	rã (Line)	rÐ (Neutral)	rå (cpc)	Rã + Rå	Rå	(MÉ)	(MÉ)	(MÉ)	(MÉ)	(á)	(É)	(ms)	(ms)	(á)
1 /L1	0.74	0.75	0.33	0.32	N/A	N/A	200+	200+	200+	á	0.48	N/A	N/A	
1 /L2	0.40	0.40	0.27	0.32	N/A	N/A	200+	200+	200+	á	0.48	N/A	N/A	
1 /L3	0.57	0.56	0.13	0.36	N/A	N/A	200+	200+	200+	á	0.52	N/A	N/A	
2 /L1	0.77	0.74	0.50	0.40	N/A	N/A	200+	200+	200+	á	0.56	N/A	N/A	
2 /L2	0.63	0.63	0.37	0.30	N/A	N/A	200+	200+	200+	á	0.46	N/A	N/A	
2 /L3	N/A	N/A	N/A	0.95	N/A	N/A	200+	200+	200+	á	1.11	N/A	N/A	
3 /L1	N/A	N/A	N/A	2.19	N/A	N/A	200+	200+	200+	á	2.35	N/A	N/A	
3 /L2	0.53	0.54	1.25	0.42	N/A	N/A	200+	200+	200+	á	0.58	25.4	13.3	á
3 /L3	N/A	N/A	N/A	N/A	N/A	N/A	200+	200+	200+		N/A	N/A	N/A	
4 /L1	N/A	N/A	N/A	0.87	N/A	N/A	200+	200+	200+	á	1.03	N/A	N/A	
4 /L2	N/A	N/A	N/A	0.80	N/A	N/A	200+	200+	200+	á	0.96	N/A	N/A	
4 /L3	N/A	N/A	N/A	0.24	N/A	N/A	200+	200+	200+	á	0.40	N/A	N/A	
5 /L1	N/A	N/A	N/A	0.50	N/A	N/A	200+	200+	200+	á	0.66	N/A	N/A	
5 /L2	N/A	N/A	N/A	0.47	N/A	N/A	200+	200+	200+	á	0.63	N/A	N/A	
5 /L3	0.32	0.33	0.72	0.25	N/A	N/A	200+	200+	200+	á	0.41	25.4	13.6	á
6 /L1	N/A	N/A	N/A	N/A	N/A	N/A	200+	200+	200+		N/A	N/A	N/A	
6 /L2	N/A	N/A	N/A	N/A	N/A	N/A	200+	200+	200+		N/A	N/A	N/A	
6 /L3	N/A	N/A	N/A	N/A	N/A	N/A	200+	200+	200+		N/A	N/A	N/A	

** Note: Where the installation can be supplied by more than one source, such as a primary source (eg public supply) and a secondary source (eg standby generator), the higher or highest values must be recorded.*

TESTED BY

Signature:	*C Hawley*	Position:	Approved Electrician
Name: (CAPITALS)	CHRISTOPHER HAWLEY	Date of testing:	09/05/2018

See previous page for Schedule of Circuit Details

NICEIC APPROVED CONTRACTOR

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SCHEDULE OF CIRCUIT DETAILS FOR THE PRIMARY DISTRIBUTION BOARD

CIRCUIT DETAILS

TO BE COMPLETED IN EVERY CASE

Location of distribution board: 3rd Floor Riser Cub LHS Wall

Distribution board designation: LOP DB 05

TO BE COMPLETED ONLY IF THE DISTRIBUTION BOARD IS NOT CONNECTED DIRECTLY TO THE ORIGIN OF THE INSTALLATION*

Supply to distribution board is from: LOP Ground Floor LHS

No of phases: 1

Nominal voltage: 230 V

Overcurrent protective device for the distribution circuit:

Associated RCD (if any): BS(EN)

Type: BS(EN) BS 3871 Type 2

Rating: 63 A

RCD No of poles:

IÜ mA

Circuit number and line	Circuit designation	Type of wiring (see code below)	Þ Reference method	Number of points served	Circuit conductors: csa Live (mmâ)	Circuit conductors: csa cpc (mmâ)	Max. disconnection time permitted by BS 7671 (s)	Overcurrent protective devices BS (EN)	Overcurrent protective devices Type	Overcurrent protective devices Rating (A)	Overcurrent protective devices Short-circuit capacity (kA)	RCD Operating current, IÜ (mA)	Maximum Ö permitted by BS 7671 (É)
1 /L1	Sockets Red Above Skirting Trunking Rooms 13 +	H	C	2	2.5	SHEATH	0.4	61009 RCD/RCBO	B	20	6	30	2.19
2 /L1	Sockets Red Above Skirting Trunking Rooms 1 + 2	H	C	2	2.5	SHEATH	0.4	61009 RCD/RCBO	B	20	6	30	2.19
3 /L1	Sockets Red Above Skirting Trunking Rooms 23, 24, 25, 32 + 34	H	C	7	2.5	SHEATH	0.4	61009 RCD/RCBO	B	20	6	30	2.19
4 /L1	Sockets On Pillars Red Rooms 12, 13, 14, 15 + 16 and Dado Room 15	D	B	20	4	1.5	0.4	61009 RCD/RCBO	B	32	6	30	1.37
5 /L1	Sockets Dado Room 32	D	B	4	4	1.5	0.4	61009 RCD/RCBO	B	32	6	30	1.37
6 /L1	Sockets Red On Pillars Rooms 12, 22 + 25 Dados Rooms 22, 23, 33 + 34	D	B	38	4	1.5	0.4	61009 RCD/RCBO	B	32	6	30	1.37
7 /L1	Sockets Red On Pillars Rooms 1, 2, 25, + 27	D	B	13	4	1.5	0.4	61009 RCD/RCBO	B	32	6	30	1.37
8 /L1	Sockets On Pillars Red, Rooms 25 Near Window	D	B	6	4	1.5	0.4	61009 RCD/RCBO	B	32	6	30	1.37
9 /L1	Sockets Canteen Dado	A	B	8	4	1.5	0.4	61009 RCD/RCBO	B	32	6	30	1.37
10 /L1	Canteen Zip Hydro Tap	A	B	1	4	1.5	0.4	61009 RCD/RCBO	B	20	6	30	2.19
11 /L1	Canteen Water Heater	A	B	1	4	1.5	0.4	61009 RCD/RCBO	B	20	6	30	2.19
12 /L1	Sockets Room 16	A	B	4	4	1.5	0.4	61009 RCD/RCBO	B	32	6	30	1.37
13 /L1	Lights W.C's Near	A	B	5	1.5	1.5	0.4	61009 RCD/RCBO	B	6	6	30	7.28
14 /L1	Lights W.C's Far End	A	B	10	1.5	1.5	0.4	61009 RCD/RCBO	B	6	6	30	7.28
15 /L1	Lights Room 16 and Far Corridor	A	B	13	1.5	1.5	0.4	61009 RCD/RCBO	B	6	6	30	7.28
16 /L1	Sockets On Dado Room 24 Window Wall	A	B	14	4	1.5	0.4	61009 RCD/RCBO	B	32	6	30	1.37
17 /L1	Sockets Dado Corridor Wall Room 24	A	B	11	4	1.5	0.4	61009 RCD/RCBO	B	32	6	30	1.37
18 /L1	Spare	N/A	N/A	N/A	N/A	N/A	0.4	N/A	N/A	N/A	N/A	N/A	N/A

** In such cases, details of the distribution (sub-main) circuit(s), together with the test results for the circuit(s), must also be provided, on continuation schedules.*

Þ See Table 4A2 of Appendix 4 of BS 7671

CODES FOR TYPE OF WIRING								
A	B	C	D	E	F	G	H	O (Other - please state)
Thermoplastic insulated/ sheathed cables	Thermoplastic cables in metallic conduit	Thermoplastic cables in non metallic conduit	Thermoplastic cables in metallic trunking	Thermoplastic cables in non metallic trunking	Thermoplastic/ SWA cables	Thermosetting/ SWA cables	Mineral-insulated cables	

See next page for Schedule of Test Results

NICEIC APPROVED CONTRACTOR

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SCHEDULE OF TEST RESULTS FOR THE PRIMARY DISTRIBUTION BOARD

TEST RESULTS

TO BE COMPLETED ONLY IF THE DISTRIBUTION BOARD IS NOT CONNECTED DIRECTLY TO THE ORIGIN OF THE INSTALLATION

Characteristics at this distribution board

YES — Confirmation of supply polarity

* See note below

Ö *0.16 É — Operating times of associated RCD (if any) At IÜ ms; At 5IÜ ms

IÙ *1.5 kA

Phase sequence confirmed (where appropriate)

Test instruments (serial numbers) used:

Earth fault loop impedance	KAB11	RCD	KAB11
Insulation resistance	KAB11	Multi function	
Continuity	KAB5	Other	

Circuit number and line	Circuit impedances (É)					Insulation resistance				Polarity	Maximum measured earth fault loop impedance, Ö	RCD operating times		Test button operation
	Ring final circuits only (measured end to end)			All circuits (At least one column to be completed)		Line/Line Ú	Line/Neutral Ú	Line/Earth Ú	Neutral/Earth			at IÜ	at 5IÜ (if applicable)	
	rã (Line)	rÐ (Neutral)	rå (cpc)	Rã + Rå	Rå	(MÉ)	(MÉ)	(MÉ)	(MÉ)	(á)	(É)	(ms)	(ms)	(á)
1 /L1	N/A	N/A	N/A	0.27	N/A	N/A	200+	200+	200+	á	0.43	28.2	8.9	á
2 /L1	N/A	N/A	N/A	0.32	N/A	N/A	200+	200+	200+	á	0.48	28.2	9.1	á
3 /L1	N/A		N/A	0.53	N/A	N/A	200+	200+	200+	á	0.69	32.8	10.0	á
4 /L1	0.59	0.69	0.22	0.31	N/A	N/A	200+	200+	200+	á	0.47	31.4	9.7	á
5 /L1	0.47	0.47	0.68	0.25	N/A	N/A	200+	200+	200+	á	0.41	18.9	8.7	á
6 /L1	0.88	0.88	1.47	0.62	N/A	N/A	200+	200+	200+	á	0.78	30.9	10.8	á
7 /L1	0.56	0.56	0.53	0.43	N/A	N/A	200+	200+	200+	á	0.59	29.0	8.1	á
8 /L1	0.36	0.37	0.46	0.37	N/A	N/A	200+	200+	200+	á	0.53	30.3	7.0	á
9 /L1	0.41	0.41	1.16	0.55	N/A	N/A	200+	200+	200+	á	0.71	26.9	6.8	á
10 /L1	N/A	N/A	N/A	0.77	N/A	N/A	200+	200+	200+	á	0.93	30.9	10.6	á
11 /L1	N/A	N/A	N/A	0.41	N/A	N/A	200+	200+	200+	á	0.57	30.9	9.1	á
12 /L1	OPEN	0.37	1.08	0.57	N/A	N/A	200+	200+	200+	á	0.73	29.0	9.1	á
13 /L1	N/A	N/A	N/A	1.11	N/A	N/A	200+	200+	200+	á	1.17	29.9	29.2	á
14 /L1	N/A	N/A	N/A	2.19	N/A	N/A	200+	200+	200+	á	2.35	30.5	29.0	á
15 /L1	N/A	N/A	N/A	1.53	N/A	N/A	200+	200+	200+	á	1.69	30.3	9.1	á
16 /L1	N/A	N/A	N/A	0.41	N/A	N/A	200+	200+	200+	á	0.57	29.4	23.9	á
17 /L1	N/A	N/A	N/A	0.25	N/A	N/A	200+	200+	200+	á	0.41	14.4	10.4	á
18 /L1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A	N/A	N/A	

* Note: *Where the installation can be supplied by more than one source, such as a primary source (eg public supply) and a secondary source (eg standby generator), the higher or highest values must be recorded.*

TESTED BY

Signature:	*C Hawley*	Position:	Approved Electrician
Name: (CAPITALS)	CHRISTOPHER HAWLEY	Date of testing:	03/05/2018

See previous page for Schedule of Circuit Details

NICEIC APPROVED CONTRACTOR

This certificate is not valid if the serial number has been defaced or altered **IPN4/0464927**

SCHEDULE OF CIRCUIT DETAILS FOR THE PRIMARY DISTRIBUTION BOARD

CIRCUIT DETAILS

TO BE COMPLETED IN EVERY CASE

Location of distribution board: Door Access Cub Ground Floor

Distribution board designation: DB - MG A/C Board

TO BE COMPLETED ONLY IF THE DISTRIBUTION BOARD IS NOT CONNECTED DIRECTLY TO THE ORIGIN OF THE INSTALLATION*

Supply to distribution board is from: DB01 Ckt 11/ TP

No of phases: 3

Nominal voltage: 400 V

Overcurrent protective device for the distribution circuit:

Associated RCD (if any): BS(EN)

Type: BS(EN) 60947-2 MCCB

Rating: 32 A

RCD No of poles:

IÜ mA

Circuit number and line	Circuit designation	Type of wiring (see code below)	Reference method Þ	Number of points served	Circuit conductors: csa Live (mmâ)	Circuit conductors: csa cpc (mmâ)	Max. disconnection time permitted by BS 7671 (s)	Overcurrent protective devices BS (EN)	Overcurrent protective devices Type	Overcurrent protective devices Rating (A)	Overcurrent protective devices Short-circuit capacity (kA)	RCD Operating current, IÜ (mA)	Maximum Ö permitted by BS 7671 (É)
1 /L1	A/C Control Spur (Above Ceiling Mains Cub)	A	C	1	2.5	1.5	0.4	60898 MCB	C	20	10	N/A	1.09
1 /L2	A/C Units Indoors Rooms 19 - 24	A	C	6	2.5	1.5	0.4	60898 MCB	C	20	10	N/A	1.09
1 /L3	A/C Units Indoors Rooms 40 - 50	A	C	6	2.5	1.5	0.4	60898 MCB	C	20	10	N/A	1.09
2 /L1	A/C Units Indoors Rooms 46 - 55	A	C	6	2.5	1.5	0.4	60898 MCB	C	20	10	N/A	1.09
2 /L2	A/C Units Indoors Rooms 25 - 29	A	C	5	2.5	1.5	0.4	60898 MCB	C	20	10	N/A	1.09
2 /L3	A/C Units Indoors Rooms 36 - 44	A	C	5	2.5	1.5	0.4	60898 MCB	C	20	10	N/A	1.09
3 /L1	A/C Units Indoors Corridors Outside Rooms 03, 12, 53, 56	A	C	4	2.5	1.5	0.4	60898 MCB	C	20	10	N/A	1.09
3 /L2	A/C Units Indoors Corridors Outside Rooms 28 and Far Reception	A	C	2	2.5	1.5	0.4	60898 MCB	C	20	10	N/A	1.09
3 /L3	Over Door Heater Far Reception	A	C	1	2.5	1.5	0.4	60898 MCB	C	20	10	N/A	1.09
4 /TP	A/C Unit Outdoors No 1	F	C	1	4	4	0.4	60898 MCB	C	32	10	N/A	0.68
5 /TP	A/C Unit Outdoors No 3	F	C	1	4	4	0.4	60898 MCB	C	32	10	N/A	0.68
6 /TP	A/C Unit Outdoors No 2	F	C	1	4	4	0.4	60898 MCB	C	32	10	N/A	0.68
7 /L1	A/C Units Indoors Rooms 02 - 03 and 56 - 58	A	C	5	2.5	1.5	0.4	60898 MCB	C	20	10	N/A	1.09
7 /L2	Spare	N/A	N/A	N/A	N/A	N/A	0.4	N/A	N/A	N/A	N/A	N/A	N/A
7 /L3	SAS Supply (Above Ceiling)	A	C	1	2.5	1.5	0.4	60898 MCB	C	10	10	N/A	2.19
8 /L1	Spare	N/A	N/A	N/A	N/A	N/A	0.4	N/A	N/A	N/A	N/A	N/A	N/A
8 /L2	Spare	N/A	N/A	N/A	N/A	N/A	0.4	N/A	N/A	N/A	N/A	N/A	N/A
8 /L3	Spare	N/A	N/A	N/A	N/A	N/A	0.4	N/A	N/A	N/A	N/A	N/A	N/A

** In such cases, details of the distribution (sub-main) circuit(s), together with the test results for the circuit(s), must also be provided, on continuation schedules.*

Þ See Table 4A2 of Appendix 4 of BS 7671

CODES FOR TYPE OF WIRING								
A	B	C	D	E	F	G	H	O (Other - please state)
Thermoplastic insulated/ sheathed cables	Thermoplastic cables in metallic conduit	Thermoplastic cables in non metallic conduit	Thermoplastic cables in metallic trunking	Thermoplastic cables in non metallic trunking	Thermoplastic/ SWA cables	Thermosetting/ SWA cables	Mineral-insulated cables	

See next page for Schedule of Test Results

NICEIC APPROVED CONTRACTOR

This certificate is not valid if the serial number has been defaced or altered **IPN4/0464927**

SCHEDULE OF TEST RESULTS FOR THE PRIMARY DISTRIBUTION BOARD

TEST RESULTS

TO BE COMPLETED ONLY IF THE DISTRIBUTION BOARD IS NOT CONNECTED DIRECTLY TO THE ORIGIN OF THE INSTALLATION

Characteristics at this distribution board

YES — Confirmation of supply polarity

* See note below

Ö *0.09 É — Operating times of associated RCD (if any): At IÜ ____ ms; At 5IÜ ____ ms

IÙ *1.3 kA

Phase sequence confirmed (where appropriate)

Test instruments (serial numbers) used:

Earth fault loop impedance		RCD	
Insulation resistance		Multi function	KAB5
Continuity		Other	

Circuit number and line	Circuit impedances (É)					Insulation resistance				Polarity	Maximum measured earth fault loop impedance, Ö	RCD operating times		Test button operation
	Ring final circuits only (measured end to end)			All circuits (At least one column to be completed)		Line/Line Ú	Line/Neutral Ú	Line/Earth Ú	Neutral/Earth			at IÜ	at 5IÜ (if applicable)	
	rã (Line)	rÐ (Neutral)	rå (cpc)	Rã + Rå	Rå	(MÉ)	(MÉ)	(MÉ)	(MÉ)	(á)	(É)	(ms)	(ms)	(á)
1 /L1	N/A	N/A	N/A	0.14	N/A	N/A	200+	200+	200+	á	0.23	N/A	N/A	
1 /L2	0.30	0.29	0.36	0.13	N/A	N/A	200+	200+	200+	á	0.22	N/A	N/A	
1 /L3	0.45	0.46	0.27	0.26	N/A	N/A	200+	200+	200+	á	0.35	N/A	N/A	
2 /L1	0.53	0.53	0.41	0.24	N/A	N/A	200+	200+	200+	á	0.33	N/A	N/A	
2 /L2	0.47	0.48	0.58	0.33	N/A	N/A	200+	200+	200+	á	0.42	N/A	N/A	
2 /L3	0.53	0.51	0.64	0.20	N/A	N/A	200+	200+	200+	á	0.29	N/A	N/A	
3 /L1	0.40	0.41	0.22	0.61	N/A	N/A	200+	200+	200+	á	0.70	N/A	N/A	
3 /L2	0.45	0.46	0.71	0.38	N/A	N/A	200+	200+	200+	á	0.47	N/A	N/A	
3 /L3	N/A	N/A	N/A	0.18	N/A	N/A	200+	200+	200+	á	0.27	N/A	N/A	
4 /TP	N/A	N/A	N/A	0.14	N/A	N/A	200+	200+	200+	á	0.23	N/A	N/A	
5 /TP	N/A	N/A	N/A	0.13	N/A	N/A	200+	200+	200+	á	0.22	N/A	N/A	
6 /TP	N/A	N/A	N/A	0.07	N/A	N/A	200+	200+	200+	á	0.16	N/A	N/A	
7 /L1	0.48	0.47	0.49	0.29	N/A	N/A	200+	200+	200+	á	0.38	N/A	N/A	
7 /L2	N/A	N/A	N/A	N/A	N/A	N/A	200+	200+	200+		N/A	N/A	N/A	
7 /L3	N/A	N/A	N/A	0.16	N/A	N/A	200+	200+	200+	á	0.25	N/A	N/A	
8 /L1	N/A	N/A	N/A	N/A	N/A	N/A	200+	200+	200+		N/A	N/A	N/A	
8 /L2	N/A	N/A	N/A	N/A	N/A	N/A	200+	200+	200+		N/A	N/A	N/A	
8 /L3	N/A	N/A	N/A	N/A	N/A	N/A	200+	200+	200+		N/A	N/A	N/A	

* Note: *Where the installation can be supplied by more than one source, such as a primary source (eg public supply) and a secondary source (eg standby generator), the higher or highest values must be recorded.*

TESTED BY

Signature:	*C Hawley*	Position:	Approved Electrician
Name: (CAPITALS)	CHRISTOPHER HAWLEY	Date of testing:	01/05/2018

See previous page for Schedule of Circuit Details

NICEIC APPROVED CONTRACTOR

This certificate is not valid if the serial number has been defaced or altered **IPN4/0464927**

SCHEDULE OF CIRCUIT DETAILS FOR THE PRIMARY DISTRIBUTION BOARD

CIRCUIT DETAILS

TO BE COMPLETED IN EVERY CASE

Location of distribution board: Ground Floor Riser Room

Distribution board designation: DB-GF

TO BE COMPLETED ONLY IF THE DISTRIBUTION BOARD IS NOT CONNECTED DIRECTLY TO THE ORIGIN OF THE INSTALLATION*

Supply to distribution board is from: DB01 Ckt 12/TP

No of phases: 3

Nominal voltage: 400 V

Overcurrent protective device for the distribution circuit:

Associated RCD (if any): BS(EN)

Type: BS(EN) 60947-2 MCCB

Rating: 63 A

RCD No of poles:

IÜ mA

Circuit number and line	Circuit designation	Type of wiring (see code below)	Reference method Þ	Number of points served	Circuit conductors: csa Live (mmâ)	Circuit conductors: csa cpc (mmâ)	Max. disconnection time permitted by BS 7671 (s)	Overcurrent protective devices BS (EN)	Overcurrent protective devices Type	Overcurrent protective devices Rating (A)	Overcurrent protective devices Short-circuit capacity (kA)	RCD Operating current, IÜ (mA)	Maximum Ö permitted by BS 7671 (É)
1 /L1	Light Far Main Entrance, W.C and Waiting Area	A	B	18	1.5	1.5	0.4	61009 RCD/RCBO	C	10	10	30	2.19
1 /L2	Lights Rooms 18 - 31 and Corridor	A	B	48	1.5	1.5	0.4	61009 RCD/RCBO	C	10	10	30	2.19
1 /L3	Lights Rooms 40 - 50	A	B	40	1.5	1.5	0.4	61009 RCD/RCBO	C	10	10	30	2.19
2 /L1	Lights Rooms 39 - 49	A	B	28	1.5	1.5	0.4	61009 RCD/RCBO	C	10	10	30	2.19
2 /L2	Lights Admin Area and Corridor	A	B	17	1.5	1.5	0.4	61009 RCD/RCBO	C	10	10	30	2.19
2 /L3	Lights W.C and Corridor and Stairs	A/H	B	16	1.5	1.5	0.4	61009 RCD/RCBO	C	10	10	30	2.19
3 /L1	Lights Rooms 55 - 58	A	B	26	1.5	1.5	0.4	61009 RCD/RCBO	C	10	10	30	2.19
3 /L2	Lights Near Entrance, Waiting Area and Rooms 1 - 6	A	B	28	1.5	1.5	0.4	61009 RCD/RCBO	C	10	10	30	2.19
3 /L3	Lights Lift Plant Room	B	B	6	1.5	COND	0.4	61009 RCD/RCBO	C	10	10	30	2.19
4 /L1	Car Park Lights	A/F	B	3	1.5	1.5	0.4	61009 RCD/RCBO	C	10	10	30	2.19
4 /L2	Extract Fans Near Staff W.C's	A	B	2	2.5	1.5	0.4	61009 RCD/RCBO	C	16	10	30	1.37
4 /L3	Extract Fan Far W.C's and Time Clock In DB Cub	A	B	1	2.5	1.5	0.4	61009 RCD/RCBO	C	16	10	30	1.37
5 /L1	Sockets Cleaners 01, 02, 56, 57, 58	A	B	7	2.5	1.5	0.4	61009 RCD/RCBO	C	32	10	30	0.68
5 /L2	Sockets Cleaners Corridor	A	B	10	2.5	1.5	0.4	61009 RCD/RCBO	C	32	10	30	0.68
5 /L3	Sockets Cleaners 51 - 54	A	B	5	2.5	1.5	0.4	61009 RCD/RCBO	C	32	10	30	0.68
6 /L1	Sockets Cleaners 19 - 24	A	B	6	2.5	1.5	0.4	61009 RCD/RCBO	C	32	10	30	0.68
6 /L2	Sockets Cleaners 40 - 50	A	B	5	2.5	1.5	0.4	61009 RCD/RCBO	C	32	10	30	0.68
6 /L3	Sockets Cleaners 36 - 48	A	B	10	2.5	1.5	0.4	61009 RCD/RCBO	C	32	10	30	0.68
7 /L1	Sockets Cleaners 25 - 33	A	B	8	2.5	1.5	0.4	61009 RCD/RCBO	C	32	10	30	0.68
7 /L2	Sockets Rooms 57 - 58	A	B	4	2.5	1.5	0.4	61009 RCD/RCBO	C	32	10	30	0.68
7 /L3	Sockest Rooms 55 - 56	A	B	3	2.5	1.5	0.4	61009 RCD/RCBO	C	32	10	30	0.68
8 /L1	Sockets Rooms 19 - 24	A	B	5	2.5	1.5	0.4	61009 RCD/RCBO	C	32	10	30	0.68
8 /L2	Sockets Rooms 42 + 45	A	B	2	2.5	1.5	0.4	61009 RCD/RCBO	C	32	10	30	0.68
8 /L3	Sockets Reception Desk	A	B	7	2.5	1.5	0.4	61009 RCD/RCBO	C	32	10	30	0.68
9 /L1	Sockets Admin	A	B	5	2.5	1.5	0.4	61009 RCD/RCBO	C	32	10	30	0.68
9 /L2	Spare	A	B	N/A	2.5	1.5	0.4	61009 RCD/RCBO	C	32	10	30	0.68
9 /L3	Sockets Reception	A	B	6	2.5	1.5	0.4	61009 RCD/RCBO	C	32	10	30	0.68
10 /L1	Water Heater	A	B	1	2.5	1.5	0.4	60898 MCB	C	20	10	N/A	1.09
10 /L2	Sockets Reception	A	B	5	2.5	1.5	0.4	61009 RCD/RCBO	C	32	10	30	0.68

** In such cases, details of the distribution (sub-main) circuit(s), together with the test results for the circuit(s), must also be provided, on continuation schedules.*
Þ See Table 4A2 of Appendix 4 of BS 7671

CODES FOR TYPE OF WIRING								
A	B	C	D	E	F	G	H	O (Other - please state)
Thermoplastic insulated/ sheathed cables	Thermoplastic cables in metallic conduit	Thermoplastic cables in non metallic conduit	Thermoplastic cables in metallic trunking	Thermoplastic cables in non metallic trunking	Thermoplastic/ SWA cables	Thermosetting/ SWA cables	Mineral-insulated cables	

See next page for Schedule of Test Results

NICEIC APPROVED CONTRACTOR

This certificate is not valid if the serial number has been defaced or altered **IPN4/0464927**

SCHEDULE OF TEST RESULTS FOR THE PRIMARY DISTRIBUTION BOARD

TEST RESULTS

TO BE COMPLETED ONLY IF THE DISTRIBUTION BOARD IS NOT CONNECTED DIRECTLY TO THE ORIGIN OF THE INSTALLATION

Characteristics at this distribution board

YES — Confirmation of supply polarity

* See note below

Ö *0.07 É — Operating times of associated RCD (if any) At IÜ ms; At 5IÜ ms

IÙ *0.0 kA

Phase sequence confirmed (where appropriate)

Test instruments (serial numbers) used:

Earth fault loop impedance	KAB11	RCD	KAB11
Insulation resistance	KAB11	Multi function	
Continuity	KAB11	Other	

Circuit number and line	Circuit impedances (É)					Insulation resistance				Polarity	Maximum measured earth fault loop impedance, Ö	RCD operating times		Test button operation
	Ring final circuits only (measured end to end)			All circuits (At least one column to be completed)		Line/Line Ú	Line/Neutral Ú	Line/Earth Ú	Neutral/Earth			at IÜ	at 5IÜ (if applicable)	
	rã (Line)	rÐ (Neutral)	rå (cpc)	Rã + Rå	Rå	(MÉ)	(MÉ)	(MÉ)	(MÉ)	(á)	(É)	(ms)	(ms)	(á)
1 /L1	N/A	N/A	N/A	1.03	N/A	N/A	200+	200+	200+	á	1.10	15.9	21.4	á
1 /L2	N/A	N/A	N/A	1.64	N/A	N/A	200+	200+	200+	á	1.71	16.3	18.0	á
1 /L3	N/A	N/A	N/A	1.82	N/A	N/A	200+	200+	200+	á	1.89	16.1	17.8	á
2 /L1	N/A	N/A	N/A	1.48	N/A	N/A	200+	200+	200+	á	1.55	28.0	7.6	á
2 /L2	N/A	N/A	N/A	0.54	N/A	N/A	200+	200+	200+	á	0.61	28.0	28.2	á
2 /L3	N/A	N/A	N/A	0.71	N/A	N/A	200+	200+	200+	á	0.78	20.1	18.2	á
3 /L1	N/A	N/A	N/A	1.18	N/A	N/A	200+	200+	200+	á	1.25	17.6	18.2	á
3 /L2	N/A	N/A	N/A	1.41	N/A	N/A	200+	200+	200+	á	1.48	17.2	18.0	á
3 /L3	N/A	N/A	N/A	0.61	N/A	N/A	200+	200+	200+	á	0.68	17.8	18.9	á
4 /L1	N/A	N/A	N/A	0.66	N/A	N/A	200+	200+	200+	á	0.73	15.9	19.9	á
4 /L2	N/A	N/A	N/A	0.37	N/A	N/A	200+	200+	200+	á	0.44	27.8	8.1	á
4 /L3	N/A	N/A	N/A	1.11	N/A	N/A	200+	200+	200+	á	1.18	8.5	7.8	á
5 /L1	0.59	0.59	0.99	0.47	N/A	N/A	200+	200+	200+	á	0.54	28.2	28.2	á
5 /L2	0.56	0.56	0.93	0.36	N/A	N/A	200+	200+	200+	á	0.41	28.0	28.0	á
5 /L3	0.53	0.53	0.89	0.43	N/A	N/A	200+	200+	200+	á	0.50	22.7	22.7	á
6 /L1	0.52	0.52	0.87	0.42	N/A	N/A	200+	200+	200+	á	0.49	28.0	7.8	á
6 /L2	0.91	0.92	1.49	0.52	N/A	N/A	200+	200+	200+	á	0.59	28.0	8.1	á
6 /L3	1.08	1.09	1.82	0.73	N/A	N/A	200+	200+	200+	á	0.80	28.2	7.8	á
7 /L1	0.95	0.94	1.55	0.61	N/A	N/A	200+	200+	200+	á	0.68	28.2	8.1	á
7 /L2	0.36	0.35	0.59	0.36	N/A	N/A	200+	200+	200+	á	0.43	28.0	7.8	á
7 /L3	0.26	0.26	0.42	0.27	N/A	N/A	200+	200+	200+	á	0.34	22.7	22.9	á
8 /L1	0.56	0.55	0.96	0.45	N/A	N/A	200+	200+	200+	á	0.52	28.2	7.8	
8 /L2	0.45	0.46	0.91	0.48	N/A	N/A	200+	200+	200+	á	0.55	28.2	7.8	á
8 /L3	0.27	0.27	0.46	0.29	N/A	N/A	200+	200+	200+	á	0.36	23.9	5.7	á
9 /L1	0.29	0.29	0.49	0.32	N/A	N/A	200+	200+	200+	á	0.39	28.2	28.2	á
9 /L2	N/A	N/A	N/A	N/A	N/A	N/A	200+	200+	200+		N/A	28.4	7.8	á
9 /L3	0.20	0.21	0.40	0.24	N/A	N/A	200+	200+	200+	á	0.31	22.9	22.9	á
10 /L1	N/A	N/A	N/A	LIM	N/A	N/A	200+	200+	200+		LIM	N/A	N/A	
10 /L2	0.66	0.66	1.10	0.46	N/A	N/A	200+	200+	200+	á	0.53	22.7	22.7	á

** Note: Where the installation can be supplied by more than one source, such as a primary source (eg public supply) and a secondary source (eg standby generator), the higher or highest values must be recorded.*

TESTED BY

Signature:	*C Hawley*	Position:	Approved Electrician
Name: (CAPITALS)	CHRISTOPHER HAWLEY	Date of testing:	30/04/2018

See previous page for Schedule of Circuit Details

SCHEDULE OF CIRCUIT DETAILS FOR THE PRIMARY DISTRIBUTION BOARD

CIRCUIT DETAILS

TO BE COMPLETED IN EVERY CASE

TO BE COMPLETED ONLY IF THE DISTRIBUTION BOARD IS NOT CONNECTED DIRECTLY TO THE ORIGIN OF THE INSTALLATION*

Location of distribution board: Ground Floor Riser Room

Distribution board designation: DB-GF

Supply to distribution board is from: DB01 Ckt 12/TP

No of phases: 3

Nominal voltage: 400 V

Overcurrent protective device for the distribution circuit:

Associated RCD (if any): BS(EN)

Type: BS(EN) 60947-2 MCCB

Rating: 63 A

RCD No of poles:

IÜ mA

Circuit number and line	Circuit designation	Type of wiring (see code below)	Þ Reference method	Number of points served	Circuit conductors: csa Live (mmâ)	Circuit conductors: csa cpc (mmâ)	Max. disconnection time permitted by BS 7671 (s)	Overcurrent protective devices BS (EN)	Overcurrent protective devices Type	Overcurrent protective devices Rating (A)	Overcurrent protective devices Short-circuit capacity (kA)	RCD Operating current, IÜ (mA)	Maximum Ö permitted by BS 7671 (É)
10 /L3	Sockets Rooms 46 - 51	A	B	4	2.5	1.5	0.4	61009 RCD/RCBO	C	32	10	30	0.68
11 /L1	Sockets Rooms 02 + 03	A	B	3	2.5	1.5	0.4	61009 RCD/RCBO	C	20	10	30	1.09
11 /L2	Sockets Reception Desk	A	B	6	2.5	1.5	0.4	61009 RCD/RCBO	C	20	10	30	1.09
11 /L3	Sockets Rooms 36 - 44	A	B	6	2.5	1.5	0.4	61009 RCD/RCBO	C	20	10	30	1.09
12 /L1	Sockets Waiting Area	A	B	4	2.5	1.5	0.4	61009 RCD/RCBO	C	20	10	30	1.09
12 /L2	Reception Area Power	A	B	4	2.5	1.5	0.4	61009 RCD/RCBO	C	20	10	30	1.09
12 /L3	Access Control	A	B	8	2.5	1.5	0.4	61009 RCD/RCBO	C	20	10	30	1.09
13 /L1	Sockets Room 25 - 27	A	B	4	2.5	1.5	0.4	61009 RCD/RCBO	C	16	10	30	1.37
13 /L2	Intruder Alarm	A	B	1	2.5	1.5	0.4	60898 MCB	C	10	10	30	2.19
13 /L3	Auto Doors	A	B	2	2.5	1.5	0.4	61009 RCD/RCBO	C	20	10	30	1.09
14 /L1	Sockets Rooms 28 - 29	A	B	4	2.5	1.5	0.4	61009 RCD/RCBO	C	20	10	30	1.09
14 /L2	Auto Doors	A	B	1	2.5	1.5	0.4	61009 RCD/RCBO	C	16	10	30	1.37
14 /L3	CCTV Power	A	B	11	2.5	1.5	0.4	61009 RCD/RCBO	C	20	10	30	1.09
15 /L1	SFS High Level Near Lift and Single Socket Bottom Of Stairs	A	B	2	2.5	1.5	0.4	61009 RCD/RCBO	C	20	10	30	1.09
15 /L2	Lights Switch Room	A	B	1	1.5	1.5	0.4	61009 RCD/RCBO	C	10	10	30	2.19
15 /L3	Emergency Lighting Panel	A	B	1	1.5	1.5	0.4	61009 RCD/RCBO	C	10	10	30	2.19
16 /L1	Spare	A	B	N/A	N/A	N/A	N/A	N/A	N/A	N/A	10	30	N/A
16 /L2	Car Park Barrier	A	B	1	2.5	1.5	0.4	61009 RCD/RCBO	C	20	10	30	1.09
16 /L3	Sockets Lift Motor Room	A	B	2	2.5	COND	0.4	61009 RCD/RCBO	C	20	10	30	1.09

** In such cases, details of the distribution (sub-main) circuit(s), together with the test results for the circuit(s), must also be provided, on continuation schedules.*

Þ See Table 4A2 of Appendix 4 of BS 7671

CODES FOR TYPE OF WIRING								
A	B	C	D	E	F	G	H	O (Other - please state)
Thermoplastic insulated/ sheathed cables	Thermoplastic cables in metallic conduit	Thermoplastic cables in non metallic conduit	Thermoplastic cables in metallic trunking	Thermoplastic cables in non metallic trunking	Thermoplastic/ SWA cables	Thermosetting/ SWA cables	Mineral-insulated cables	

See next page for Schedule of Test Results

NICEIC APPROVED CONTRACTOR

This certificate is not valid if the serial number has been defaced or altered **IPN4/0464927**

SCHEDULE OF TEST RESULTS FOR THE PRIMARY DISTRIBUTION BOARD

TEST RESULTS

TO BE COMPLETED ONLY IF THE DISTRIBUTION BOARD IS NOT CONNECTED DIRECTLY TO THE ORIGIN OF THE INSTALLATION

Characteristics at this distribution board

YES — Confirmation of supply polarity

* See note below

Ö *0.07 É — Operating times of associated RCD (if any) At IÜ ms; At 5IÜ ms

IÙ *0.0 kA

Phase sequence confirmed (where appropriate)

Test instruments (serial numbers) used:

Earth fault loop impedance	KAB11	RCD	KAB11
Insulation resistance	KAB11	Multi function	
Continuity	KAB11	Other	

Circuit number and line	Circuit impedances (É)					Insulation resistance				Polarity	Maximum measured earth fault loop impedance, Ö	RCD operating times		Test button operation
	Ring final circuits only (measured end to end)			All circuits (At least one column to be completed)		Line/Line Ú	Line/Neutral Ú	Line/Earth Ú	Neutral/Earth			at IÜ	at 5IÜ (if applicable)	
	rã (Line)	rÐ (Neutral)	rå (cpc)	Rã + Rå	Rå	(MÉ)	(MÉ)	(MÉ)	(MÉ)	(á)	(É)	(ms)	(ms)	(á)
10 /L3	0.49	0.49	0.82	0.36	N/A	N/A	200+	200+	200+	á	0.43	23.7	5.9	á
11 /L1	0.36	0.36	0.62	0.29	N/A	N/A	200+	200+	200+	á	0.36	27.8	28.4	á
11 /L2	0.54	0.54	0.93	0.43	N/A	N/A	200+	200+	200+	á	0.50	22.9	22.7	á
11 /L3	0.81	0.80	1.33	0.54	N/A	N/A	200+	200+	200+	á	0.61	22.7	22.7	á
12 /L1	0.37	0.37	0.64	0.31	N/A	N/A	200+	200+	200+	á	0.38	28.2	7.8	á
12 /L2	0.70	0.70	1.14	0.51	N/A	N/A	200+	200+	200+	á	0.58	28.2	7.8	á
12 /L3	N/A	N/A	N/A	0.27	N/A	N/A	200+	200+	200+	á	0.34	24.4	6.1	á
13 /L1	0.54	0.54	0.93	0.38	N/A	N/A	200+	200+	200+	á	0.47	24.2	6.4	á
13 /L2	N/A	N/A	N/A	0.35	N/A	N/A	200+	200+	200+	á	0.42	N/A	N/A	
13 /L3	N/A	N/A	N/A	0.38	N/A	N/A	200+	200+	200+	á	0.45	11.9	7.9	á
14 /L1	0.54	0.53	0.92	0.45	N/A	N/A	200+	200+	200+	á	0.52	28.4	8.9	á
14 /L2	N/A	N/A	N/A	0.80	N/A	N/A	200+	200+	200+	á	0.87	28.2	7.8	á
14 /L3	N/A	N/A	N/A	0.85	N/A	N/A	200+	200+	200+	á	0.92	28.0	7.9	á
15 /L1	N/A	N/A	N/A	0.41	N/A	N/A	200+	200+	200+	á	0.48	28.6	7.8	á
15 /L2	N/A	N/A	N/A	0.15	N/A	N/A	200+	200+	200+	á	0.22	28.2	28.2	á
15 /L3	N/A	N/A	N/A	0.91	N/A	N/A	200+	200+	200+	á	0.98	28.2	8.1	á
16 /L1	N/A	N/A	N/A	N/A	N/A	N/A	200+	200+	200+		N/A	N/A	N/A	
16 /L2	N/A	N/A	N/A	0.85	N/A	N/A	200+	200+	200+	á	0.92	25.6	8.7	á
16 /L3	N/A	N/A	N/A	0.29	N/A	N/A	200+	200+	200+	á	0.36	28.2	28.2	á

** Note: Where the installation can be supplied by more than one source, such as a primary source (eg public supply) and a secondary source (eg standby generator), the higher or highest values must be recorded.*

TESTED BY

Signature:	C Hawley	Position:	Approved Electrician
Name: (CAPITALS)	CHRISTOPHER HAWLEY	Date of testing:	30/04/2018

See previous page for Schedule of Circuit Details

APPROVED CONTRACTOR

This certificate is not valid if the serial number has been defaced or altered **IPN4/0464927**

SCHEDULE OF CIRCUIT DETAILS FOR THE PRIMARY DISTRIBUTION BOARD

CIRCUIT DETAILS

TO BE COMPLETED IN EVERY CASE

Location of distribution board: Car Park Plant Room

Distribution board designation: Outside Lights Isolator

TO BE COMPLETED ONLY IF THE DISTRIBUTION BOARD IS NOT CONNECTED DIRECTLY TO THE ORIGIN OF THE INSTALLATION*

Supply to distribution board is from: BUS BAR CHAMBER Ckt 1 /L3

No of phases: 1 Nominal voltage: 230 V

Overcurrent protective device for the distribution circuit:

Associated RCD (if any): BS(EN)

Type: BS(EN) BS 88 Rating: 200 A

RCD No of poles: IÜ mA

Circuit number and line	Circuit designation	Type of wiring (see code below)	Þ Reference method	Number of points served	Circuit conductors: csa Live (mmâ)	cpc (mmâ)	Max. disconnection time permitted by BS 7671 (s)	Overcurrent protective devices BS (EN)	Type	Rating (A)	Short-circuit capacity (kA)	RCD Operating current, IÜ (mA)	Maximum Ö permitted by BS 7671 (É)
*	Outside Lights Corners Lamp Columb	F	B	2	6	ARM	0.4	3036 Fuse (SE)	N/A	15	N/A	N/A	2.43

** In such cases, details of the distribution (sub-main) circuit(s), together with the test results for the circuit(s), must also be provided, on continuation schedules.*

Þ See Table 4A2 of Appendix 4 of BS 7671

CODES FOR TYPE OF WIRING								
A	B	C	D	E	F	G	H	O (Other - please state)
Thermoplastic insulated/ sheathed cables	Thermoplastic cables in metallic conduit	Thermoplastic cables in non metallic conduit	Thermoplastic cables in metallic trunking	Thermoplastic cables in non metallic trunking	Thermoplastic/ SWA cables	Thermosetting/ SWA cables	Mineral-insulated cables	

See next page for Schedule of Test Results

NICEIC APPROVED CONTRACTOR

This certificate is not valid if the serial number has been defaced or altered **IPN4/0464927**

SCHEDULE OF TEST RESULTS FOR THE PRIMARY DISTRIBUTION BOARD

TEST RESULTS

TO BE COMPLETED ONLY IF THE DISTRIBUTION BOARD IS NOT CONNECTED DIRECTLY TO THE ORIGIN OF THE INSTALLATION

Characteristics at this distribution board

YES — Confirmation of supply polarity

* See note below

Ö *0.09 É — Operating times of associated RCD (if any) — At IÜ ____ ms; At 5IÜ ____ ms

IÙ *2.7 kA

Phase sequence confirmed (where appropriate)

Test instruments (serial numbers) used:

Earth fault loop impedance		RCD	
Insulation resistance		Multi function	
Continuity		Other	

Circuit number and line	Circuit impedances (É)					Insulation resistance				Polarity	Maximum measured earth fault loop impedance, Ö	RCD operating times		Test button operation
	Ring final circuits only (measured end to end)			All circuits (At least one column to be completed)		Line/Line Ú	Line/Neutral Ú	Line/Earth Ú	Neutral/Earth			at IÜ	at 5IÜ (if applicable)	
	rã (Line)	rÐ (Neutral)	rå (cpc)	Rã + Rå	Rå	(MÉ)	(MÉ)	(MÉ)	(MÉ)	(á)	(É)	(ms)	(ms)	(á)
*	N/A	N/A	N/A	LIM		N/A	N/A	N/A	N/A		LIM	N/A	N/A	

* Note: *Where the installation can be supplied by more than one source, such as a primary source (eg public supply) and a secondary source (eg standby generator), the higher or highest values must be recorded.*

TESTED BY

Signature:	*K Hawley*	Position:	Approved Electrician
Name: (CAPITALS)	CHRISTOPHER HAWLEY	Date of testing:	08/05/2018

See previous page for Schedule of Circuit Details

NICEIC APPROVED CONTRACTOR

This certificate is not valid if the serial number has been defaced or altered **IPN4/0464927**

SCHEDULE OF CIRCUIT DETAILS FOR THE PRIMARY DISTRIBUTION BOARD

CIRCUIT DETAILS

TO BE COMPLETED IN EVERY CASE

Location of distribution board: Lift Motor Room

Distribution board designation: DB 09

TO BE COMPLETED ONLY IF THE DISTRIBUTION BOARD IS NOT CONNECTED DIRECTLY TO THE ORIGIN OF THE INSTALLATION*

Supply to distribution board is from: BUS BAR CHAMBER 4/TP

No of phases: 3

Nominal voltage: 400 V

Overcurrent protective device for the distribution circuit:

Associated RCD (if any): BS(EN)

Type: BS(EN) BS 88

Rating: 100 A

RCD No of poles:

IÜ mA

Circuit number and line	Circuit designation	Type of wiring (see code below)	Þ Reference method	Number of points served	Circuit conductors: csa Live (mmâ)	Circuit conductors: csa cpc (mmâ)	Max. disconnection time permitted by BS 7671 (s)	Overcurrent protective devices BS (EN)	Overcurrent protective devices Type	Overcurrent protective devices Rating (A)	Overcurrent protective devices Short-circuit capacity (kA)	RCD Operating current, IÜ (mA)	Maximum Ö permitted by BS 7671 (É)
1 /TP	Lift No 1 + Lift Shaft Lights + Lift Motor Room Extract Fan	B	B	5	16/1.5	COND	5.0	88 Fuse HRC	gG	60	N/A	N/A	0.80
2 /TP	Lift No 2 + Lift Shaft Lights	B	B	4	16/1.5	COND	5.0	88 Fuse HRC	gG	60	N/A	N/A	0.80

** In such cases, details of the distribution (sub-main) circuit(s), together with the test results for the circuit(s), must also be provided, on continuation schedules.*

Þ See Table 4A2 of Appendix 4 of BS 7671

CODES FOR TYPE OF WIRING								
A	B	C	D	E	F	G	H	O (Other - please state)
Thermoplastic insulated/ sheathed cables	Thermoplastic cables in metallic conduit	Thermoplastic cables in non metallic conduit	Thermoplastic cables in metallic trunking	Thermoplastic cables in non metallic trunking	Thermoplastic/ SWA cables	Thermosetting/ SWA cables	Mineral-insulated cables	

See next page for Schedule of Test Results

NICEIC APPROVED CONTRACTOR

This certificate is not valid if the serial number has been defaced or altered **IPN4/0464927**

SCHEDULE OF TEST RESULTS FOR THE PRIMARY DISTRIBUTION BOARD

TEST RESULTS

TO BE COMPLETED ONLY IF THE DISTRIBUTION BOARD IS NOT CONNECTED DIRECTLY TO THE ORIGIN OF THE INSTALLATION

Characteristics at this distribution board

YES — Confirmation of supply polarity

* See note below

Ö *0.19 É — Operating times of associated RCD (if any): At IÙ ____ ms; At 5IÙ ____ ms

IÙ *1.3 kA

Phase sequence confirmed (where appropriate)

Test instruments (serial numbers) used:

Earth fault loop impedance	KAB11	RCD	
Insulation resistance	KAB11	Multi function	
Continuity	KAB11	Other	

Circuit number and line	Circuit impedances (É)					Insulation resistance				Polarity	Maximum measured earth fault loop impedance, Ö	RCD operating times		Test button operation
	Ring final circuits only (measured end to end)			All circuits (At least one column to be completed)		Line/Line Ú	Line/Neutral Ú	Line/Earth Ú	Neutral/Earth			at IÙ	at 5IÙ (if applicable)	
	rã (Line)	rÐ (Neutral)	rå (cpc)	Rã + Rå	Rå	(MÉ)	(MÉ)	(MÉ)	(MÉ)	(á)	(É)	(ms)	(ms)	(á)
1 /TP	N/A	N/A	N/A	0.12	N/A	200+	200+	200+	200+	á	0.31	N/A	N/A	
2 /TP	N/A	N/A	N/A	0.07	N/A	200+	200+	200+	N/A	á	0.26	N/A	N/A	

* Note: *Where the installation can be supplied by more than one source, such as a primary source (eg public supply) and a secondary source (eg standby generator), the higher or highest values must be recorded.*

TESTED BY

Signature:	*C Hawley*	Position:	Approved Electrician
Name: (CAPITALS)	CHRISTOPHER HAWLEY	Date of testing:	09/05/2018

See previous page for Schedule of Circuit Details

NICEIC APPROVED CONTRACTOR

This certificate is not valid if the serial number has been defaced or altered **IPN4/0464927**

SCHEDULE OF CIRCUIT DETAILS FOR THE PRIMARY DISTRIBUTION BOARD

CIRCUIT DETAILS

TO BE COMPLETED IN EVERY CASE

Location of distribution board: Boiler Room

Distribution board designation: Boiler DB

TO BE COMPLETED ONLY IF THE DISTRIBUTION BOARD IS NOT CONNECTED DIRECTLY TO THE ORIGIN OF THE INSTALLATION*

Supply to distribution board is from: BUS BAR CHAMBER Ckt 6 /TP

No of phases: 3

Nominal voltage: 400 V

Overcurrent protective device for the distribution circuit:

Associated RCD (if any): BS(EN)

Type: BS(EN) BS 88

Rating: 60 A

RCD No of poles:

IÜ mA

Circuit number and line	Circuit designation	Type of wiring (see code below)	Þ Reference method	Number of points served	Circuit conductors: csa Live (mmâ)	Circuit conductors: csa cpc (mmâ)	Max. disconnection time permitted by BS 7671 (s)	Overcurrent protective devices BS (EN)	Overcurrent protective devices Type	Overcurrent protective devices Rating (A)	Overcurrent protective devices Short-circuit capacity (kA)	RCD Operating current, IÜ (mA)	Maximum Ö permitted by BS 7671 (É)
1 /TP	BMS Panel Boiler Room	B	B	1	6	6	0.4	60898 MCB	C	32	10	N/A	0.68
2 /L1	Sockets Boiler Room	B	B	4	2.5	1.5	0.4	60898 MCB	C	20	10	N/A	1.09
2 /L2	Sockets Switch Room	B	B	2	2.5	1.5	0.4	60898 MCB	C	20	10	N/A	1.09
2 /L3	Outside Lights	B	B	1	1.5	1.5	0.4	61009 RCD/RCBO	B	6	6	30	7.28
3 /L1	Lights Boiler Room	B	B	5	1.5	1.5	0.4	60898 MCB	B	6	10	N/A	7.28
3 /L2	Lights Gas Meter Room and Switch Panel Room	B	B	2	1.5	1.5	0.4	60898 MCB	B	6	10	N/A	7.28
3 /L3	Spare	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4 /L1	Spare	N/A	N/A	N/A	N/A	N/A	0.4	N/A	N/A	N/A	N/A	N/A	N/A
4 /L2	Spare	N/A	N/A	N/A	N/A	N/A	0.4	N/A	N/A	N/A	N/A	N/A	N/A
4 /L3	Spare	N/A	N/A	N/A	N/A	N/A	0.4	N/A	N/A	N/A	N/A	N/A	N/A
5 /L1	Spare	N/A	N/A	N/A	N/A	N/A	0.4	N/A	N/A	N/A	N/A	N/A	N/A
5 /L2	Spare	N/A	N/A	N/A	N/A	N/A	0.4	N/A	N/A	N/A	N/A	N/A	N/A
5 /L3	Spare	N/A	N/A	N/A	N/A	N/A	0.4	N/A	N/A	N/A	N/A	N/A	N/A
6 /L1	Spare	N/A	N/A	N/A	N/A	N/A	0.4	N/A	N/A	N/A	N/A	N/A	N/A
6 /L2	Spare	N/A	N/A	N/A	N/A	N/A	0.4	N/A	N/A	N/A	N/A	N/A	N/A
6 /L3	Spare	N/A	N/A	N/A	N/A	N/A	0.4	N/A	N/A	N/A	N/A	N/A	N/A
7 /L1	Spare	N/A	N/A	N/A	N/A	N/A	0.4	N/A	N/A	N/A	N/A	N/A	N/A
7 /L2	Spare	N/A	N/A	N/A	N/A	N/A	0.4	N/A	N/A	N/A	N/A	N/A	N/A
7 /L3	Spare	N/A	N/A	N/A	N/A	N/A	0.4	N/A	N/A	N/A	N/A	N/A	N/A
8 /L1	Spare	N/A	N/A	N/A	N/A	N/A	0.4	N/A	N/A	N/A	N/A	N/A	N/A
8 /L2	Spare	N/A	N/A	N/A	N/A	N/A	0.4	N/A	N/A	N/A	N/A	N/A	N/A
8 /L3	Spare	N/A	N/A	N/A	N/A	N/A	0.4	N/A	N/A	N/A	N/A	N/A	N/A
9 /L1	Spare	N/A	N/A	N/A	N/A	N/A	0.4	N/A	N/A	N/A	N/A	N/A	N/A
9 /L2	Spare	N/A	N/A	N/A	N/A	N/A	0.4	N/A	N/A	N/A	N/A	N/A	N/A
9 /L3	Spare	N/A	N/A	N/A	N/A	N/A	0.4	N/A	N/A	N/A	N/A	N/A	N/A
10 /L1	Spare	N/A	N/A	N/A	N/A	N/A	0.4	N/A	N/A	N/A	N/A	N/A	N/A
10 /L2	Spare	N/A	N/A	N/A	N/A	N/A	0.4	N/A	N/A	N/A	N/A	N/A	N/A
10 /L3	Spare	N/A	N/A	N/A	N/A	N/A	0.4	N/A	N/A	N/A	N/A	N/A	N/A
11 /L1	Spare	N/A	N/A	N/A	N/A	N/A	0.4	N/A	N/A	N/A	N/A	N/A	N/A

** In such cases, details of the distribution (sub-main) circuit(s), together with the test results for the circuit(s), must also be provided, on continuation schedules.*
Þ See Table 4A2 of Appendix 4 of BS 7671

CODES FOR TYPE OF WIRING								
A	B	C	D	E	F	G	H	O (Other - please state)
Thermoplastic insulated/ sheathed cables	Thermoplastic cables in metallic conduit	Thermoplastic cables in non metallic conduit	Thermoplastic cables in metallic trunking	Thermoplastic cables in non metallic trunking	Thermoplastic/ SWA cables	Thermosetting/ SWA cables	Mineral-insulated cables	

See next page for Schedule of Test Results

NICEIC APPROVED CONTRACTOR

This certificate is not valid if the serial number has been defaced or altered **IPN4/0464927**

SCHEDULE OF TEST RESULTS FOR THE PRIMARY DISTRIBUTION BOARD

TEST RESULTS

TO BE COMPLETED ONLY IF THE DISTRIBUTION BOARD IS NOT CONNECTED DIRECTLY TO THE ORIGIN OF THE INSTALLATION

Characteristics at this distribution board

YES — Confirmation of supply polarity

* See note below

Ö *0.14 É — Operating times of associated RCD (if any) At IÜ ms; At 5IÜ ms

IÙ *1.5 kA

Phase sequence confirmed (where appropriate)

Test instruments (serial numbers) used:

Earth fault loop impedance	KAB11	RCD	KAB11
Insulation resistance	KAB11	Multi function	
Continuity	KAB11	Other	

Circuit number and line	Circuit impedances (É)					Insulation resistance				Polarity	Maximum measured earth fault loop impedance, Ö	RCD operating times		Test button operation
	Ring final circuits only (measured end to end)			All circuits (At least one column to be completed)		Line/Line Ú	Line/Neutral Ú	Line/Earth Ú	Neutral/Earth			at IÜ	at 5IÜ (if applicable)	
	rã (Line)	rÐ (Neutral)	rå (cpc)	Rã + Rå	Rå	(MÉ)	(MÉ)	(MÉ)	(MÉ)	(á)	(É)	(ms)	(ms)	(á)
1 /TP	N/A	N/A	N/A	0.06	N/A	200+	200+	200+	200+	á	0.20	N/A	N/A	
2 /L1	N/A	N/A	N/A	0.26	N/A	N/A	200+	200+	200+	á	0.40	N/A	N/A	
2 /L2	N/A	N/A	N/A	0.20	N/A	N/A	200+	200+	200+	á	0.34	N/A	N/A	
2 /L3	N/A	N/A	N/A	0.07	N/A	N/A	200+	200+	200+	á	0.21	34.1	15.0	á
3 /L1	N/A	N/A	N/A	0.23	N/A	N/A	200+	200+	200+	á	0.37	N/A	N/A	
3 /L2	N/A	N/A	N/A	0.27	N/A	N/A	200+	200+	200+	á	0.41	N/A	N/A	
3 /L3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A	N/A	N/A	
4 /L1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A	N/A	N/A	
4 /L2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A	N/A	N/A	
4 /L3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A	N/A	N/A	
5 /L1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A	N/A	N/A	
5 /L2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A	N/A	N/A	
5 /L3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A	N/A	N/A	
6 /L1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A	N/A	N/A	
6 /L2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A	N/A	N/A	
6 /L3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A	N/A	N/A	
7 /L1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A	N/A	N/A	
7 /L2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A	N/A	N/A	
7 /L3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A	N/A	N/A	
8 /L1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A	N/A	N/A	
8 /L2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A	N/A	N/A	
8 /L3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A	N/A	N/A	
9 /L1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A	N/A	N/A	
9 /L2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A	N/A	N/A	
9 /L3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A	N/A	N/A	
10 /L1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A	N/A	N/A	
10 /L2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A	N/A	N/A	
10 /L3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A	N/A	N/A	
11 /L1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A	N/A	N/A	

** Note: Where the installation can be supplied by more than one source, such as a primary source (eg public supply) and a secondary source (eg standby generator), the higher or highest values must be recorded.*

TESTED BY

Signature:	*C Hawley*	Position:	Approved Electrician
Name: (CAPITALS)	CHRISTOPHER HAWLEY	Date of testing:	04/05/2018

See previous page for Schedule of Circuit Details

NICEIC APPROVED CONTRACTOR

This certificate is not valid if the serial number has been defaced or altered **IPN4/0464927**

SCHEDULE OF CIRCUIT DETAILS FOR THE PRIMARY DISTRIBUTION BOARD

CIRCUIT DETAILS

TO BE COMPLETED IN EVERY CASE

Location of distribution board: Boiler Room

Distribution board designation: Boiler DB

TO BE COMPLETED ONLY IF THE DISTRIBUTION BOARD IS NOT CONNECTED DIRECTLY TO THE ORIGIN OF THE INSTALLATION*

Supply to distribution board is from: BUS BAR CHAMBER Ckt 6 /TP

No of phases: 3

Nominal voltage: 400 V

Overcurrent protective device for the distribution circuit:

Type: BS(EN) BS 88

Rating: 60 A

Associated RCD (if any): BS(EN)

RCD No of poles:

IÜ mA

Circuit number and line	Circuit designation	Type of wiring (see code below)	Þ Reference method	Number of points served	Circuit conductors: csa Live (mmâ)	Circuit conductors: csa cpc (mmâ)	Max. disconnection time permitted by BS 7671 (s)	Overcurrent protective devices BS (EN)	Overcurrent protective devices Type	Overcurrent protective devices Rating (A)	Overcurrent protective devices Short-circuit capacity (kA)	RCD Operating current, IÜ (mA)	Maximum Ô permitted by BS 7671 (É)
11 /L2	Spare	N/A	N/A	N/A	N/A	N/A	0.4	N/A	N/A	N/A	N/A	N/A	N/A
11 /L3	Spare	N/A	N/A	N/A	N/A	N/A	0.4	N/A	N/A	N/A	N/A	N/A	N/A
12 /L1	Spare	N/A	N/A	N/A	N/A	N/A	0.4	N/A	N/A	N/A	N/A	N/A	N/A
12 /L2	Spare	N/A	N/A	N/A	N/A	N/A	0.4	N/A	N/A	N/A	N/A	N/A	N/A
12 /L3	Spare	N/A	N/A	N/A	N/A	N/A	0.4	N/A	N/A	N/A	N/A	N/A	N/A

** In such cases, details of the distribution (sub-main) circuit(s), together with the test results for the circuit(s), must also be provided, on continuation schedules.*

Þ See Table 4A2 of Appendix 4 of BS 7671

CODES FOR TYPE OF WIRING								
A	B	C	D	E	F	G	H	O (Other - please state)
Thermoplastic insulated/ sheathed cables	Thermoplastic cables in metallic conduit	Thermoplastic cables in non metallic conduit	Thermoplastic cables in metallic trunking	Thermoplastic cables in non metallic trunking	Thermoplastic/ SWA cables	Thermosetting/ SWA cables	Mineral-insulated cables	

See next page for Schedule of Test Results

NICEIC APPROVED CONTRACTOR

This certificate is not valid if the serial number has been defaced or altered **IPN4/0464927**

SCHEDULE OF TEST RESULTS FOR THE PRIMARY DISTRIBUTION BOARD

TEST RESULTS

TO BE COMPLETED ONLY IF THE DISTRIBUTION BOARD IS NOT CONNECTED DIRECTLY TO THE ORIGIN OF THE INSTALLATION

Characteristics at this distribution board

YES — Confirmation of supply polarity

* See note below

Ö *0.14 É — Operating times of associated RCD (if any): At IÜ ____ ms; At 5IÜ ____ ms

IÙ *1.5 kA

Phase sequence confirmed (where appropriate)

Test instruments (serial numbers) used:

Earth fault loop impedance	KAB11	RCD	KAB11
Insulation resistance	KAB11	Multi function	
Continuity	KAB11	Other	

Circuit number and line	Circuit impedances (É)					Insulation resistance				Polarity	Maximum measured earth fault loop impedance, Ö	RCD operating times		Test button operation
	Ring final circuits only (measured end to end)			All circuits (At least one column to be completed)		Line/Line Ú	Line/Neutral Ú	Line/Earth Ú	Neutral/Earth			at IÜ	at 5IÜ (if applicable)	
	rã (Line)	rÐ (Neutral)	rå (cpc)	Rã + Rå	Rå	(MÉ)	(MÉ)	(MÉ)	(MÉ)	(á)	(É)	(ms)	(ms)	(á)
11 /L2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A	N/A	N/A	
11 /L3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A	N/A	N/A	
12 /L1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A	N/A	N/A	
12 /L2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A	N/A	N/A	
12 /L3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A		N/A	N/A	N/A	

* Note: *Where the installation can be supplied by more than one source, such as a primary source (eg public supply) and a secondary source (eg standby generator), the higher or highest values must be recorded.*

TESTED BY

Signature:	*C Hawley*	Position:	Approved Electrician
Name: (CAPITALS)	CHRISTOPHER HAWLEY	Date of testing:	04/05/2018

See previous page for Schedule of Circuit Details

F. OBSERVATIONS AND RECOMMENDATIONS FOR ACTIONS TO BE TAKEN

Referring to the attached schedules of inspection and test results, and subject to the limitations at D:

There are no items adversely affecting electrical safety. N/A or The following observations and recommendations for are made N/A

Item No		Code Ú
18	Ckt 1/L1 - No Banjo For Armoured / CPC Bond Too Armourings	C2
19	Ckt 2/L3 - No Banjo For Armoured / CPC Bond Too Armourings	C2
20	Ckt 2/L2 - No Banjo For Armoured / CPC Bond Too Armourings	C2
21	Ckt 1/L3 - MCCB Over Rated For Cable CSA, on a circuit which is unlikely to exceed the cables capacity during normal operation	C2
22	Ckt 3/TP - No Banjo For Armoured / CPC Bond Too Armourings.	C2
23	Cable Disconnected, Live Smashed Rotary Isolator Found Above Ceiling, 3rd Floor Room 315	
24	DB - GF	
25	Screws Missing From DB Cover	C2
26	Ckt 2L3 - Old Stairway Lighting Picked Up Off New Circuit In Conduit Box At Bottom Of Stairs, Lid Missing With Exposed Live Parts Showing, Unable To Obtain Loop Reading Off Stairs Lights	C1
27	Ckt 6L3 - High Continuity Readings indicate a ring which would not pass volt drop calculations at full load	C2
28	EFLI Reading Above Max Zs Permitted	C2
29	Ckt 7L1 EFLI Reading Above Max Zs Permitted	C2
30	Ckt 12L3 No Flex Grip On SFS	C2
31	DB - MG A/C DB	
32	Screws Missing From DB Cove	C2
33	Ckt 2L1 No Flex Grip On SFS Above Ceiling Room 47.	C2
34	Ckt 3L1 Screws Missing From SFS Above Ceiling Outside Room 56	C2
35	Ckt 3L2 A/C Unit With Cover Missing Above Reception Desk With Exposed Live Parts.	C1
36	DB LOP	

Additional Pages? No Yes á Specify page 50

ÚOne of the following codes, as appropriate, has been allocated to each of the observations made above to indicate to the person(s) responsible for the installation the degree of urgency for remedial action:

Code C1 *"Danger Present".* Risk of injury. Immediate remedial action required.
Code C2 *"Potentially dangerous".* Urgent remedial action required.
Code C3 *"Improvement recommended".*
Code FI *"Further investigation required without delay".*

Please see the notes for recipient for guidance regarding the Classification codes.

Immediate remedial action required for items: 26,35,55,105,

Urgent remedial action required for items: 18,19,20,21,22,25,27,28,29,30,32,33,34,37,38,39,

Further investigation required for items: 156,

Improvement recommended for items: 50,51,52,53,56,59,60,61,62,78,81,83,85,87,90,91,

F. OBSERVATIONS AND RECOMMENDATIONS FOR ACTIONS TO BE TAKEN

Referring to the attached schedules of inspection and test results, and subject to the limitations at D:

There are no items adversely affecting electrical safety. N/A or The following observations and recommendations for are made N/A

Item No		Code Ú
37	C50 DB With Exposed Live Parts Once DB Cover Removed	C2
38	Screws Missing From DB Cover	C2
39	Warning Labels Missing From DB Cover .	C2
40	Blank Missing From DB	C2
41	DB 04 1st Floor	
42	Trunking Lid Missing Above DB	C2
43	Hole In Side Of DBTop RHS	C2
44	Hole In Bottom Of DB Paxolin Cut Short	C2
45	Trunking Lid Missing In Places Through Ceiling	C2
46	Warning Labels Missing From DB	C2
47	Screws Missing From DB Cover	C2
48	Cables Generally Untidy In Riser Room Alot Of Redundant Cabling	C2
49	Ckt 11 - Flex Requires Fixing Back To Wall Hanging From Spur In Corridor	C2
50	Ckt 14 - Absence of RCD protection for a socket-outlet that is unlikely to supply portable or mobile equipment for use outdoors, does not serve a location containing a bath or shower, and the use of which is otherwise not considered by the inspector to result in potential danger. (Note: Code C2 would apply if the circuit supplied a socket-outlet in a location containing a bath or shower in accordance with Regulation 701.512.3)	C3
51	Ckt 16 - Absence of RCD protection for a socket-outlet that is unlikely to supply portable or mobile equipment for use outdoors, does not serve a location containing a bath or shower, and the use of which is otherwise not considered by the inspector to result in potential danger. (Note: Code C2 would apply if the circuit supplied a socket-outlet in a location containing a bath or shower in accordance with Regulation 701.512.3)	C3

Additional Pages? No Yes á Specify page 51

ÚOne of the following codes, as appropriate, has been allocated to each of the observations made above to indicate to the person(s) responsible for the installation the degree of urgency for remedial action:

Code C1 *"Danger Present".* Risk of injury. Immediate remedial action required.
Code C2 *"Potentially dangerous".* Urgent remedial action required.
Code C3 *"Improvement recommended".*
Code FI *"Further investigation required without delay".*

Please see the notes for recipient for guidance regarding the Classification codes.

Immediate remedial action required for items:	55,105,
Urgent remedial action required for items:	37,38,39,40,42,43,44,45,46,47,48,49,54,57,58,63,
Further investigation required for items:	156,
Improvement recommended for items:	50,51,52,53,56,59,60,61,62,78,81,83,85,87,90,91,

F. OBSERVATIONS AND RECOMMENDATIONS FOR ACTIONS TO BE TAKEN

Referring to the attached schedules of inspection and test results, and subject to the limitations at D:

There are no items adversely affecting electrical safety. N/A or The following observations and recommendations for are made N/A

Item No		Code Ú
52	Ckt 17 - Absence of RCD protection for a socket-outlet that is unlikely to supply portable or mobile equipment for use outdoors, does not serve a location containing a bath or shower, and the use of which is otherwise not considered by the inspector to result in potential danger. (Note: Code C2 would apply if the circuit supplied a socket-outlet in a location containing a bath or shower in accordance with Regulation 701.512.3)	C3
53	Ckt 18 - Absence of RCD protection for a socket-outlet that is unlikely to supply portable or mobile equipment for use outdoors, does not serve a location containing a bath or shower, and the use of which is otherwise not considered by the inspector to result in potential danger. (Note: Code C2 would apply if the circuit supplied a socket-outlet in a location containing a bath or shower in accordance with Regulation 701.512.3)	C3
54	Ckt 19 - Pattress Above Middle Corridor Door Bent Down Off Wall With Singles In Trunking Showing	C2
55	Ckt 26 - Singles Cable Loose Wired Through Ceiling (Possibly Redundant)	C1
56	Ckt 28 - Absence of RCD protection for a socket-outlet that is unlikely to supply portable or mobile equipment for use outdoors, does not serve a location containing a bath or shower, and the use of which is otherwise not considered by the inspector to result in potential danger. (Note: Code C2 would apply if the circuit supplied a socket-outlet in a location containing a bath or shower in accordance with Regulation 701.512.3)	C3
57	Ckt 30 Unable Too Access SFS For Fan Above Female W.C Ceiling	C2
58	Ckt 32 Unable To Access A/C Rotary Isolator Near 1st Floor Lift Lobby	C2
59	Ckt 33 - Absence of RCD protection for a socket-outlet that is unlikely to supply portable or mobile equipment for use outdoors, does not serve a location containing a bath or shower, and the use of which is otherwise not considered by the inspector to result in potential danger. (Note: Code C2 would apply if the circuit supplied a socket-outlet in a location containing a bath or shower in accordance with Regulation 701.512.3)	C3

Additional Pages? No Yes á Specify page 52

ÚOne of the following codes, as appropriate, has been allocated to each of the observations made above to indicate to the person(s) responsible for the installation the degree of urgency for remedial action:

Code C1 *"Danger Present".* Risk of injury. Immediate remedial action required.
Code C2 *"Potentially dangerous".* Urgent remedial action required.
Code C3 *"Improvement recommended".*
Code FI *"Further investigation required without delay".*

Please see the notes for recipient for guidance regarding the Classification codes.

Immediate remedial action required for items:	55,105,
Urgent remedial action required for items:	54,57,58,63,65,66,67,68,69,70,71,72,73,75,76,77,
Further investigation required for items:	156,
Improvement recommended for items:	52,53,56,59,60,61,62,78,81,83,85,87,90,91,92,93,

F. OBSERVATIONS AND RECOMMENDATIONS FOR ACTIONS TO BE TAKEN

Referring to the attached schedules of inspection and test results, and subject to the limitations at D:

There are no items adversely affecting electrical safety. N/A or The following observations and recommendations for are made N/A

Item No		Code Ú
60	Ckt 34 - Absence of RCD protection for a socket-outlet that is unlikely to supply portable or mobile equipment for use outdoors, does not serve a location containing a bath or shower, and the use of which is otherwise not considered by the inspector to result in potential danger. (Note: Code C2 would apply if the circuit supplied a socket-outlet in a location containing a bath or shower in accordance with Regulation 701.512.3)	C3
61	Ckt 35 - Absence of RCD protection for a socket-outlet that is unlikely to supply portable or mobile equipment for use outdoors, does not serve a location containing a bath or shower, and the use of which is otherwise not considered by the inspector to result in potential danger. (Note: Code C2 would apply if the circuit supplied a socket-outlet in a location containing a bath or shower in accordance with Regulation 701.512.3)	C3
62	Ckt 36 - Absence of RCD protection for a socket-outlet that is unlikely to supply portable or mobile equipment for use outdoors, does not serve a location containing a bath or shower, and the use of which is otherwise not considered by the inspector to result in potential danger. (Note: Code C2 would apply if the circuit supplied a socket-outlet in a location containing a bath or shower in accordance with Regulation 701.512.3)	C3
63	Ckts 16,17,18,33,34,35 and 36, method of connection for the cpc's does not meet the requirements for high integrity earthing for a circuit where cpc currents could potentially exceed 10mA.	C2
64	LOP DB 05	
65	Warning Labels Missing From DB	C2
66	Excessive Sized Cable Entry Bottom Of DB	C2
67	Ckt 4 - Neutral Continuity Reading Slightly High	C2
68	Face Plate Dyno Labels Incorrect Circuit I.D's	C2
69	Ckt 5 - Face Plate Dyno Labels Incorrect Circuit I.D's	C2
70	Ckt 6 - Face Plate Dyno Labels Incorrect Circuit I.D's	C2

Additional Pages? No Yes á Specify page 53

ÚOne of the following codes, as appropriate, has been allocated to each of the observations made above to indicate to the person(s) responsible for the installation the degree of urgency for remedial action:

Code C1 *"Danger Present".* Risk of injury. Immediate remedial action required.
Code C2 *"Potentially dangerous".* Urgent remedial action required.
Code C3 *"Improvement recommended".*
Code FI *"Further investigation required without delay".*

Please see the notes for recipient for guidance regarding the Classification codes.

Immediate remedial action required for items: 105,

Urgent remedial action required for items: 63,65,66,67,68,69,70,71,72,73,75,76,77,79,80,82,

Further investigation required for items: 156,

Improvement recommended for items: 60,61,62,78,81,83,85,87,90,91,92,93,96,98,100,10

F. OBSERVATIONS AND RECOMMENDATIONS FOR ACTIONS TO BE TAKEN

Referring to the attached schedules of inspection and test results, and subject to the limitations at D:

There are no items adversely affecting electrical safety. N/A or The following observations and recommendations for are made N/A

Item No		Code Ú
71	Ckts 1 to 4 and 6 to 8, method of connection for the cpc's does not meet the requirements for high integrity earthing for a circuit where cpc currents could potentially exceed 10mA...	C2
72	Ckt 10 - Cable Supplying Zip Hydro Boiler Requires Fixing	C2
73	Ckt 12 - No Continuity On Line Conductor	C2
74	DB06	
75	Warning Labels Missing From DB Cover	C2
76	Trunking Lid Missing In Places Throughout Ceilings	C2
77	Screws Missing From DB Cover	C2
78	Ckt 6 - Absence of RCD protection for a socket-outlet that is unlikely to supply portable or mobile equipment for use outdoors, does not serve a location containing a bath or shower, and the use of which is otherwise not considered by the inspector to result in potential danger. (Note: Code C2 would apply if the circuit supplied a socket-outlet in a location containing a bath or shower in accordance with Regulation 701.512.3)	C3
79	No Separate CPC For Circuit Conduit System forms part of the earth path therefore no ring continuity on earths	C2
80	Ckt 7 - Not Found	C2
81	Ckt 8 - Absence of RCD protection for a socket-outlet that is unlikely to supply portable or mobile equipment for use outdoors, does not serve a location containing a bath or shower, and the use of which is otherwise not considered by the inspector to result in potential danger. (Note: Code C2 would apply if the circuit supplied a socket-outlet in a location containing a bath or shower in accordance with Regulation 701.512.3)	C3
82	No Separate CPC For Circuit Conduit System forms part of the earth path therefore no ring continuity on earths	C2

Additional Pages? No Yes á Specify page 54

ÚOne of the following codes, as appropriate, has been allocated to each of the observations made above to indicate to the person(s) responsible for the installation the degree of urgency for remedial action:

Code C1 *"Danger Present".* Risk of injury. Immediate remedial action required.
Code C2 *"Potentially dangerous".* Urgent remedial action required.
Code C3 *"Improvement recommended".*
Code FI *"Further investigation required without delay".*

Please see the notes for recipient for guidance regarding the Classification codes.

Immediate remedial action required for items: 105,

Urgent remedial action required for items: 71,72,73,75,76,77,79,80,82,84,86,88,89,94,95,97,

Further investigation required for items: 156,

Improvement recommended for items: 78,81,83,85,87,90,91,92,93,96,98,100,102,103,13

F. OBSERVATIONS AND RECOMMENDATIONS FOR ACTIONS TO BE TAKEN

Referring to the attached schedules of inspection and test results, and subject to the limitations at D:

There are no items adversely affecting electrical safety. N/A or The following observations and recommendations for are made N/A

Item No		Code Ú
83	Ckt 9 - Absence of RCD protection for a socket-outlet that is unlikely to supply portable or mobile equipment for use outdoors, does not serve a location containing a bath or shower, and the use of which is otherwise not considered by the inspector to result in potential danger. (Note: Code C2 would apply if the circuit supplied a socket-outlet in a location containing a bath or shower in accordance with Regulation 701.512.3)	C3
84	No Separate CPC For Circuit Conduit System forms part of the earth path therefore no ring continuity on earths	C2
85	Ckt 10 - Absence of RCD protection for a socket-outlet that is unlikely to supply portable or mobile equipment for use outdoors, does not serve a location containing a bath or shower, and the use of which is otherwise not considered by the inspector to result in potential danger. (Note: Code C2 would apply if the circuit supplied a socket-outlet in a location containing a bath or shower in accordance with Regulation 701.512.3)	C3
86	Ckt 11 - Hole In Bottom Of RCD Spur	C2
87	Ckt 12 - Absence of RCD protection for a socket-outlet that is unlikely to supply portable or mobile equipment for use outdoors, does not serve a location containing a bath or shower, and the use of which is otherwise not considered by the inspector to result in potential danger. (Note: Code C2 would apply if the circuit supplied a socket-outlet in a location containing a bath or shower in accordance with Regulation 701.512.3)	C3
88	Line conductor ring is open circuit	C2
89	Ckt 13 - MCB Incorrectly Rated For Cable Size	C2
90	Ckt 15 - Absence of RCD protection for a socket-outlet that is unlikely to supply portable or mobile equipment for use outdoors, does not serve a location containing a bath or shower, and the use of which is otherwise not considered by the inspector to result in potential danger. (Note: Code C2 would apply if the circuit supplied a socket-outlet in a location containing a bath or shower in accordance with Regulation 701.512.3)	C3

Additional Pages? No Yes á Specify page 55

ÚOne of the following codes, as appropriate, has been allocated to each of the observations made above to indicate to the person(s) responsible for the installation the degree of urgency for remedial action:

Code C1 *"Danger Present".* Risk of injury. Immediate remedial action required.
Code C2 *"Potentially dangerous".* Urgent remedial action required.
Code C3 *"Improvement recommended".*
Code FI *"Further investigation required without delay".*

Please see the notes for recipient for guidance regarding the Classification codes.

Immediate remedial action required for items: 105,

Urgent remedial action required for items: 84,86,88,89,94,95,97,99,101,104,106,107,108,110

Further investigation required for items: 156,

Improvement recommended for items: 83,85,87,90,91,92,93,96,98,100,102,103,135,137,

F. OBSERVATIONS AND RECOMMENDATIONS FOR ACTIONS TO BE TAKEN

Referring to the attached schedules of inspection and test results, and subject to the limitations at D:

There are no items adversely affecting electrical safety. N/A or The following observations and recommendations for are made N/A

Item No		Code Ú
91	Ckt 17 - Absence of RCD protection for a socket-outlet that is unlikely to supply portable or mobile equipment for use outdoors, does not serve a location containing a bath or shower, and the use of which is otherwise not considered by the inspector to result in potential danger. (Note: Code C2 would apply if the circuit supplied a socket-outlet in a location containing a bath or shower in accordance with Regulation 701.512.3)	C3
92	Ckt 18 - Absence of RCD protection for a socket-outlet that is unlikely to supply portable or mobile equipment for use outdoors, does not serve a location containing a bath or shower, and the use of which is otherwise not considered by the inspector to result in potential danger. (Note: Code C2 would apply if the circuit supplied a socket-outlet in a location containing a bath or shower in accordance with Regulation 701.512.3)	C3
93	Ckt 24 - Absence of RCD protection for a socket-outlet that is unlikely to supply portable or mobile equipment for use outdoors, does not serve a location containing a bath or shower, and the use of which is otherwise not considered by the inspector to result in potential danger. (Note: Code C2 would apply if the circuit supplied a socket-outlet in a location containing a bath or shower in accordance with Regulation 701.512.3)	C3
94	No Separate CPC For Circuit Conduit System forms part of the earth path therefore no ring continuity on earths Neutral Unequal	C2
95	Circuit Line and neutral continuity readings unequal indicating a possible loose connection	C2
96	Ckt 25 - Absence of RCD protection for a socket-outlet that is unlikely to supply portable or mobile equipment for use outdoors, does not serve a location containing a bath or shower, and the use of which is otherwise not considered by the inspector to result in potential danger. (Note: Code C2 would apply if the circuit supplied a socket-outlet in a location containing a bath or shower in accordance with Regulation 701.512.3)	C3
97	Cable Un-supported Where It Leaves Trunking Too YT Drop	C2

Additional Pages? No Yes á Specify page 56

ÚOne of the following codes, as appropriate, has been allocated to each of the observations made above to indicate to the person(s) responsible for the installation the degree of urgency for remedial action:

Code C1 *"Danger Present".* Risk of injury. Immediate remedial action required.
Code C2 *"Potentially dangerous".* Urgent remedial action required.
Code C3 *"Improvement recommended".*
Code FI *"Further investigation required without delay".*

Please see the notes for recipient for guidance regarding the Classification codes.

Immediate remedial action required for items:	105,
Urgent remedial action required for items:	94,95,97,99,101,104,106,107,108,110,111,112,11
Further investigation required for items:	156,
Improvement recommended for items:	91,92,93,96,98,100,102,103,135,137,139,145,146,

F. OBSERVATIONS AND RECOMMENDATIONS FOR ACTIONS TO BE TAKEN

Referring to the attached schedules of inspection and test results, and subject to the limitations at D:

There are no items adversely affecting electrical safety. N/A or The following observations and recommendations for are made N/A

Item No		Code Ú
98	Ckt 26 - Absence of RCD protection for a socket-outlet that is unlikely to supply portable or mobile equipment for use outdoors, does not serve a location containing a bath or shower, and the use of which is otherwise not considered by the inspector to result in potential danger. (Note: Code C2 would apply if the circuit supplied a socket-outlet in a location containing a bath or shower in accordance with Regulation 701.512.3)	C3
99	No Separate CPC For Circuit Conduit System forms part of the earth path therefore no ring continuity on earths	C2
100	Ckt 27 - Absence of RCD protection for a socket-outlet that is unlikely to supply portable or mobile equipment for use outdoors, does not serve a location containing a bath or shower, and the use of which is otherwise not considered by the inspector to result in potential danger. (Note: Code C2 would apply if the circuit supplied a socket-outlet in a location containing a bath or shower in accordance with Regulation 701.512.3)	C3
101	No Separate CPC For Circuit Conduit System forms part of the earth path therefore no ring continuity on earths	C2
102	Ckt 29 - Absence of RCD protection for a socket-outlet that is unlikely to supply portable or mobile equipment for use outdoors, does not serve a location containing a bath or shower, and the use of which is otherwise not considered by the inspector to result in potential danger. (Note: Code C2 would apply if the circuit supplied a socket-outlet in a location containing a bath or shower in accordance with Regulation 701.512.3)	C3
103	Ckt 30 - Absence of RCD protection for a socket-outlet that is unlikely to supply portable or mobile equipment for use outdoors, does not serve a location containing a bath or shower, and the use of which is otherwise not considered by the inspector to result in potential danger. (Note: Code C2 would apply if the circuit supplied a socket-outlet in a location containing a bath or shower in accordance with Regulation 701.512.3)	C3
104	Ckt 31 - MCB Incorrectly Rated For Cable Size	C2
105	Cover Missing On Extract Fan In Cleaners Store With Exposed Live Parts	C1

Additional Pages? No Yes á Specify page 57

ÚOne of the following codes, as appropriate, has been allocated to each of the observations made above to indicate to the person(s) responsible for the installation the degree of urgency for remedial action:

Code C1 *"Danger Present".* Risk of injury. Immediate remedial action required.
Code C2 *"Potentially dangerous".* Urgent remedial action required.
Code C3 *"Improvement recommended".*
Code FI *"Further investigation required without delay".*

Please see the notes for recipient for guidance regarding the Classification codes.

Immediate remedial action required for items: 105,

Urgent remedial action required for items: 99,101,104,106,107,108,110,111,112,113,114,115

Further investigation required for items: 156,

Improvement recommended for items: 98,100,102,103,135,137,139,145,146,147,149,150

F. OBSERVATIONS AND RECOMMENDATIONS FOR ACTIONS TO BE TAKEN

Referring to the attached schedules of inspection and test results, and subject to the limitations at D:

There are no items adversely affecting electrical safety. N/A or The following observations and recommendations for are made N/A

Item No		Code Ú
106	Ckt 33 - Not Found	C2
107	Ckts 8,9,24,26,27 conduit form only earth path from DB to sockets with a 1.5mm earth used around the sockets only, does not meet the requirements for high integrity earthing for a circuit where cpc currents could potentially exceed 10mA.	C2
108	Ckts 10,12,17,18 and 29, method of connection for the cpc's does not meet the requirements for high integrity earthing for a circuit where cpc currents could potentially exceed 10mA.	C2
109	Boiler House DB	
110	Warning Labels Missing From DB Cover	C2
111	Ckt 1/TP - Holes In Side Of Containment To BMS Panel and Lid Loose In Places	C2
112	Ckt 2/L1 Absence of RCD protection for portable or mobile equipment that may reasonably be expected to be used outdoors	C2
113	Ckt 2/L2 - Absence of RCD protection for portable or mobile equipment that may reasonably be expected to be used outdoors	C2
114	Ckt 3/L1 - Switch Showing Signs Of Wear	C2
115	Ckt 3/L2 - Switch Showing Signs Of Corrosion	C2
116	DB09 Lift Motor Room	
117	No Banjo For Incoming Armoured	C2
118	Screw Missing From Fuse Carrier Lid	C2
119	Ckt 1/TP 1.5 Singles Connected Into Isolator No1 Red Phase Supply Side Feeding Lift Lights and Shaft Fused At 60A	C2
120	1.5 Singles Connected Into Isolator No1 Red Phase Load Side Feeding Lift Plant Room Extract Fan Fused At 60A	C2
121	6mm Neutral Straight From Main Isolator Supplying Lift No1 Em Stop	C2

Additional Pages? No Yes á Specify page 58

ÚOne of the following codes, as appropriate, has been allocated to each of the observations made above to indicate to the person(s) responsible for the installation the degree of urgency for remedial action:

Code C1 *"Danger Present".* Risk of injury. Immediate remedial action required.
Code C2 *"Potentially dangerous".* Urgent remedial action required.
Code C3 *"Improvement recommended".*
Code FI *"Further investigation required without delay".*

Please see the notes for recipient for guidance regarding the Classification codes.

Immediate remedial action required for items:	
Urgent remedial action required for items:	106,107,108,110,111,112,113,114,115,117,118,11
Further investigation required for items:	156,
Improvement recommended for items:	135,137,139,145,146,147,149,150,152,153,154,15

F. OBSERVATIONS AND RECOMMENDATIONS FOR ACTIONS TO BE TAKEN

Referring to the attached schedules of inspection and test results, and subject to the limitations at D:

There are no items adversely affecting electrical safety. N/A or The following observations and recommendations for are made N/A

Item No		Code Ú
123	Old MEM 20A Isolator For Extract Fan With Suspect Asbestos Fuse Carriers	C2
124	Extract Fan No Longer In Use / Incorrectly Connected	C2
125	Lift Car Lights SFS Damaged Far Wall	C2
126	No Separate CPC From Main Isolator	C2
127	Ckt 2/TP 1.5 Singles Connected Into Isolator No2 Red Phase Supply Side Feeding Lift Lights and Shaft Fused At 60A	C2
128	. 6mm Singles Too Lift Controller Protected By BS 88 60A Fuse	C2
129	DB 05	
130	Screws Missing From DB Cover	C2
131	Warning Labels Missing From Board Cover	C2
132	Trunking Lid Missing From Bottom Of DB	C2
133	Holes In Bottom Of DB	C2
134	Trunking Lid Missing In Places Throughout Ceiling	C2
135	Ckt 6 - Absence of RCD protection for a socket-outlet that is unlikely to supply portable or mobile equipment for use outdoors, does not serve a location containing a bath or shower, and the use of which is otherwise not considered by the inspector to result in potential danger. (Note: Code C2 would apply if the circuit supplied a socket-outlet in a location containing a bath or shower in accordance with Regulation 701.512.3)	C3
136	No Separate CPC For Circuit Conduit System forms part of the earth path therefore no ring continuity on earths	C2

Additional Pages? No Yes á Specify page 59

ÚOne of the following codes, as appropriate, has been allocated to each of the observations made above to indicate to the person(s) responsible for the installation the degree of urgency for remedial action:

Code C1 *"Danger Present".* Risk of injury. Immediate remedial action required.
Code C2 *"Potentially dangerous".* Urgent remedial action required.
Code C3 *"Improvement recommended".*
Code FI *"Further investigation required without delay".*

Please see the notes for recipient for guidance regarding the Classification codes.

Immediate remedial action required for items:

Urgent remedial action required for items: 123,124,125,126,127,128,130,131,132,133,134,13

Further investigation required for items: 156,

Improvement recommended for items: 135,137,139,145,146,147,149,150,152,153,154,15

F. OBSERVATIONS AND RECOMMENDATIONS FOR ACTIONS TO BE TAKEN

Referring to the attached schedules of inspection and test results, and subject to the limitations at D:

There are no items adversely affecting electrical safety. N/A or The following observations and recommendations for are made N/A

Item No		Code Ú
137	Ckt 7 - Absence of RCD protection for a socket-outlet that is unlikely to supply portable or mobile equipment for use outdoors, does not serve a location containing a bath or shower, and the use of which is otherwise not considered by the inspector to result in potential danger. (Note: Code C2 would apply if the circuit supplied a socket-outlet in a location containing a bath or shower in accordance with Regulation 701.512.3)	C3
138	No Separate CPC For Circuit Conduit System forms part of the earth path therefore no ring continuity on earths	C2
139	Ckt 8 - Absence of RCD protection for a socket-outlet that is unlikely to supply portable or mobile equipment for use outdoors, does not serve a location containing a bath or shower, and the use of which is otherwise not considered by the inspector to result in potential danger. (Note: Code C2 would apply if the circuit supplied a socket-outlet in a location containing a bath or shower in accordance with Regulation 701.512.3)	C3
140	No Separate CPC For Circuit Conduit System forms part of the earth path therefore no ring continuity on earths	C2
141	Ckt 9 - No Separate CPC For Circuit Conduit System forms part of the earth path therefore no ring continuity on earths	C2
142	RCD Socket Not Accessible Behind Water Heater	C2
143	Ckt 10 - Not Found	C2
144	Ckt 12 - Not Found	C2
145	Ckt 13 - Absence of RCD protection for a socket-outlet that is unlikely to supply portable or mobile equipment for use outdoors, does not serve a location containing a bath or shower, and the use of which is otherwise not considered by the inspector to result in potential danger. (Note: Code C2 would apply if the circuit supplied a socket-outlet in a location containing a bath or shower in accordance with Regulation 701.512.3)	C3

Additional Pages? No Yes á Specify page 60

ÚOne of the following codes, as appropriate, has been allocated to each of the observations made above to indicate to the person(s) responsible for the installation the degree of urgency for remedial action:

Code C1 *"Danger Present".* Risk of injury. Immediate remedial action required.
Code C2 *"Potentially dangerous".* Urgent remedial action required.
Code C3 *"Improvement recommended".*
Code FI *"Further investigation required without delay".*

Please see the notes for recipient for guidance regarding the Classification codes.

Immediate remedial action required for items:	
Urgent remedial action required for items:	138,140,141,142,143,144,148,151,155,157,160,16
Further investigation required for items:	156,
Improvement recommended for items:	137,139,145,146,147,149,150,152,153,154,158,15

F. OBSERVATIONS AND RECOMMENDATIONS FOR ACTIONS TO BE TAKEN

Referring to the attached schedules of inspection and test results, and subject to the limitations at D:

There are no items adversely affecting electrical safety. N/A or The following observations and recommendations for are made N/A

Item No		Code Ú
146	Ckt 14 - Absence of RCD protection for a socket-outlet that is unlikely to supply portable or mobile equipment for use outdoors, does not serve a location containing a bath or shower, and the use of which is otherwise not considered by the inspector to result in potential danger. (Note: Code C2 would apply if the circuit supplied a socket-outlet in a location containing a bath or shower in accordance with Regulation 701.512.3)	C3
147	Ckt 15 - Absence of RCD protection for a socket-outlet that is unlikely to supply portable or mobile equipment for use outdoors, does not serve a location containing a bath or shower, and the use of which is otherwise not considered by the inspector to result in potential danger. (Note: Code C2 would apply if the circuit supplied a socket-outlet in a location containing a bath or shower in accordance with Regulation 701.512.3)	C3
148	Damaged Socket On Trunking Drop	C2
149	Ckt 16 - Absence of RCD protection for a socket-outlet that is unlikely to supply portable or mobile equipment for use outdoors, does not serve a location containing a bath or shower, and the use of which is otherwise not considered by the inspector to result in potential danger. (Note: Code C2 would apply if the circuit supplied a socket-outlet in a location containing a bath or shower in accordance with Regulation 701.512.3)	C3
150	Ckt 17 - Absence of RCD protection for a socket-outlet that is unlikely to supply portable or mobile equipment for use outdoors, does not serve a location containing a bath or shower, and the use of which is otherwise not considered by the inspector to result in potential danger. (Note: Code C2 would apply if the circuit supplied a socket-outlet in a location containing a bath or shower in accordance with Regulation 701.512.3)	C3
151	Ckt 22 - Exposed Single Insulated Conductors In Junction Box Outside Far W.C's	C2

Additional Pages? No Yes á Specify page 61

ÚOne of the following codes, as appropriate, has been allocated to each of the observations made above to indicate to the person(s) responsible for the installation the degree of urgency for remedial action:

Code C1 *"Danger Present".* Risk of injury. Immediate remedial action required.
Code C2 *"Potentially dangerous".* Urgent remedial action required.
Code C3 *"Improvement recommended".*
Code FI *"Further investigation required without delay".*

Please see the notes for recipient for guidance regarding the Classification codes.

Immediate remedial action required for items:

Urgent remedial action required for items: 148,151,155,157,160,161,163,165,166,167,

Further investigation required for items: 156,

Improvement recommended for items: 146,147,149,150,152,153,154,158,159,168,169,17

F. OBSERVATIONS AND RECOMMENDATIONS FOR ACTIONS TO BE TAKEN

Referring to the attached schedules of inspection and test results, and subject to the limitations at D:

There are no items adversely affecting electrical safety. N/A or The following observations and recommendations for are made N/A

Item No		Code Ú
152	Ckt 24 - Absence of RCD protection for a socket-outlet that is unlikely to supply portable or mobile equipment for use outdoors, does not serve a location containing a bath or shower, and the use of which is otherwise not considered by the inspector to result in potential danger. (Note: Code C2 would apply if the circuit supplied a socket-outlet in a location containing a bath or shower in accordance with Regulation 701.512.3)	C3
153	Ckt 25 - Absence of RCD protection for a socket-outlet that is unlikely to supply portable or mobile equipment for use outdoors, does not serve a location containing a bath or shower, and the use of which is otherwise not considered by the inspector to result in potential danger. (Note: Code C2 would apply if the circuit supplied a socket-outlet in a location containing a bath or shower in accordance with Regulation 701.512.3)	C3
154	Ckt 26 - Absence of RCD protection for a socket-outlet that is unlikely to supply portable or mobile equipment for use outdoors, does not serve a location containing a bath or shower, and the use of which is otherwise not considered by the inspector to result in potential danger. (Note: Code C2 would apply if the circuit supplied a socket-outlet in a location containing a bath or shower in accordance with Regulation 701.512.3)	C3
155	Ckt 28 - Extract Fans Not Working, unable to obtain ELI reading	C2
156	Ckt 30 - Socket In Riser Room Not Live Requires Further Investigation, unable to obtain ELI reading	FI
157	Ckt 31 - Box Lid Missing Above Door To Room 203 Exposed Single Insulated Cables Showing	C2
158	Ckt 33 - Alot Of Fans Removed Remaining Fans Not Functioning Correctly	C3
159	Ckt 34 - Alot Of Fans Removed Remaining Fans Not Functioning Correctly	C3
160	Ckts 13,14,15,16, and 17, method of connection for the cpc's does not meet the requirements for high integrity earthing for a circuit where cpc currents could potentially exceed 10mA.	C2

Additional Pages? No Yes á Specify page 62

ÚOne of the following codes, as appropriate, has been allocated to each of the observations made above to indicate to the person(s) responsible for the installation the degree of urgency for remedial action:

Code C1 *"Danger Present".* Risk of injury. Immediate remedial action required.
Code C2 *"Potentially dangerous".* Urgent remedial action required.
Code C3 *"Improvement recommended".*
Code FI *"Further investigation required without delay".*

Please see the notes for recipient for guidance regarding the Classification codes.

Immediate remedial action required for items:

Urgent remedial action required for items: 155,157,160,161,163,165,166,167,

Further investigation required for items: 156,

Improvement recommended for items: 152,153,154,158,159,168,169,170,171,172,173,17

F. OBSERVATIONS AND RECOMMENDATIONS FOR ACTIONS TO BE TAKEN

Referring to the attached schedules of inspection and test results, and subject to the limitations at D:

There are no items adversely affecting electrical safety. N/A or The following observations and recommendations for are made N/A

Item No		Code Ú
161	Ckts 6,7,8,24,25 and 29 conduit form only earth path from DB to sockets with a 1.5mm earth used around the sockets only, does not meet the requirements for high integrity earthing for a circuit where cpc currents could potentially exceed 10mA.	C2
162	DB LOP DB03	
163	Ckts 1/L1 to 3/L1, method of connection for the cpc's does not meet the requirements for high integrity earthing for a circuit where cpc currents could potentially exceed 10mA.	C2
164	DB LOP 04	
165	Screws Missing From DB Cover	C2
166	Warning Labels Missing From DB Cover	C2
167	Ckts 1/L1 to 2/L2 and 4/L1 to 5/L2, method of connection for the cpc's does not meet the requirements for high integrity earthing for a circuit where cpc currents could potentially exceed 10mA..	C2
168	Ckt 1/L1- Absence of RCD protection for a socket-outlet that is unlikely to supply portable or mobile equipment for use outdoors, does not serve a location containing a bath or shower, and the use of which is otherwise not considered by the inspector to result in potential danger. (Note: Code C2 would apply if the circuit supplied a socket-outlet in a location containing a bath or shower in accordance with Regulation 701.512.3)	C3
169	Ckt 1/L2 - Absence of RCD protection for a socket-outlet that is unlikely to supply portable or mobile equipment for use outdoors, does not serve a location containing a bath or shower, and the use of which is otherwise not considered by the inspector to result in potential danger. (Note: Code C2 would apply if the circuit supplied a socket-outlet in a location containing a bath or shower in accordance with Regulation 701.512.3)	C3

Additional Pages? No Yes á Specify page 63

ÚOne of the following codes, as appropriate, has been allocated to each of the observations made above to indicate to the person(s) responsible for the installation the degree of urgency for remedial action:

Code C1 *"Danger Present".* Risk of injury. Immediate remedial action required.
Code C2 *"Potentially dangerous".* Urgent remedial action required.
Code C3 *"Improvement recommended".*
Code FI *"Further investigation required without delay".*

Please see the notes for recipient for guidance regarding the Classification codes.

Immediate remedial action required for items:

Urgent remedial action required for items: 161,163,165,166,167,

Further investigation required for items:

Improvement recommended for items: 168,169,170,171,172,173,174,175,176,177,178,17

F. OBSERVATIONS AND RECOMMENDATIONS FOR ACTIONS TO BE TAKEN

Referring to the attached schedules of inspection and test results, and subject to the limitations at D:

There are no items adversely affecting electrical safety. N/A or The following observations and recommendations for are made N/A

Item No		Code Ú
170	Ckt 1/L3 - Absence of RCD protection for a socket-outlet that is unlikely to supply portable or mobile equipment for use outdoors, does not serve a location containing a bath or shower, and the use of which is otherwise not considered by the inspector to result in potential danger. (Note: Code C2 would apply if the circuit supplied a socket-outlet in a location containing a bath or shower in accordance with Regulation 701.512.3)	C3
171	Ckt 2/L1 - Absence of RCD protection for a socket-outlet that is unlikely to supply portable or mobile equipment for use outdoors, does not serve a location containing a bath or shower, and the use of which is otherwise not considered by the inspector to result in potential danger. (Note: Code C2 would apply if the circuit supplied a socket-outlet in a location containing a bath or shower in accordance with Regulation 701.512.3)	C3
172	Ckt 2/L2 - Absence of RCD protection for a socket-outlet that is unlikely to supply portable or mobile equipment for use outdoors, does not serve a location containing a bath or shower, and the use of which is otherwise not considered by the inspector to result in potential danger. (Note: Code C2 would apply if the circuit supplied a socket-outlet in a location containing a bath or shower in accordance with Regulation 701.512.3)	C3
173	Ckt 3/L2 - Absence of RCD protection for a socket-outlet that is unlikely to supply portable or mobile equipment for use outdoors, does not serve a location containing a bath or shower, and the use of which is otherwise not considered by the inspector to result in potential danger. (Note: Code C2 would apply if the circuit supplied a socket-outlet in a location containing a bath or shower in accordance with Regulation 701.512.3)	C3
174	Ckt 4/L1 - Absence of RCD protection for a socket-outlet that is unlikely to supply portable or mobile equipment for use outdoors, does not serve a location containing a bath or shower, and the use of which is otherwise not considered by the inspector to result in potential danger. (Note: Code C2 would apply if the circuit supplied a socket-outlet in a location containing a bath or shower in accordance with Regulation 701.512.3)	C3

Additional Pages? No Yes á Specify page 64

ÚOne of the following codes, as appropriate, has been allocated to each of the observations made above to indicate to the person(s) responsible for the installation the degree of urgency for remedial action:

Code C1 *"Danger Present".* Risk of injury. Immediate remedial action required.
Code C2 *"Potentially dangerous".* Urgent remedial action required.
Code C3 *"Improvement recommended".*
Code FI *"Further investigation required without delay".*

Please see the notes for recipient for guidance regarding the Classification codes.

Immediate remedial action required for items:

Urgent remedial action required for items:

Further investigation required for items:

Improvement recommended for items: 170,171,172,173,174,175,176,177,178,179,

F. OBSERVATIONS AND RECOMMENDATIONS FOR ACTIONS TO BE TAKEN

Referring to the attached schedules of inspection and test results, and subject to the limitations at D:

There are no items adversely affecting electrical safety. N/A or The following observations and recommendations for are made N/A

Item No		Code Ú
175	Ckt 4/L2 - Absence of RCD protection for a socket-outlet that is unlikely to supply portable or mobile equipment for use outdoors, does not serve a location containing a bath or shower, and the use of which is otherwise not considered by the inspector to result in potential danger. (Note: Code C2 would apply if the circuit supplied a socket-outlet in a location containing a bath or shower in accordance with Regulation 701.512.3)	C3
176	Ckt 4/L3 - Absence of RCD protection for a socket-outlet that is unlikely to supply portable or mobile equipment for use outdoors, does not serve a location containing a bath or shower, and the use of which is otherwise not considered by the inspector to result in potential danger. (Note: Code C2 would apply if the circuit supplied a socket-outlet in a location containing a bath or shower in accordance with Regulation 701.512.3)	C3
177	Ckt 5/L1 - Absence of RCD protection for a socket-outlet that is unlikely to supply portable or mobile equipment for use outdoors, does not serve a location containing a bath or shower, and the use of which is otherwise not considered by the inspector to result in potential danger. (Note: Code C2 would apply if the circuit supplied a socket-outlet in a location containing a bath or shower in accordance with Regulation 701.512.3)	C3
178	Ckt 5/L2 - Absence of RCD protection for a socket-outlet that is unlikely to supply portable or mobile equipment for use outdoors, does not serve a location containing a bath or shower, and the use of which is otherwise not considered by the inspector to result in potential danger. (Note: Code C2 would apply if the circuit supplied a socket-outlet in a location containing a bath or shower in accordance with Regulation 701.512.3)	C3
179	Ckt 5/L3 - Absence of RCD protection for a socket-outlet that is unlikely to supply portable or mobile equipment for use outdoors, does not serve a location containing a bath or shower, and the use of which is otherwise not considered by the inspector to result in potential danger. (Note: Code C2 would apply if the circuit supplied a socket-outlet in a location containing a bath or shower in accordance with Regulation 701.512.3)	C3

Additional Pages? No á Yes Specify page

ÚOne of the following codes, as appropriate, has been allocated to each of the observations made above to indicate to the person(s) responsible for the installation the degree of urgency for remedial action:

Code C1 *"Danger Present".* Risk of injury. Immediate remedial action required.
Code C2 *"Potentially dangerous".* Urgent remedial action required.
Code C3 *"Improvement recommended".*
Code FI *"Further investigation required without delay".*

Please see the notes for recipient for guidance regarding the Classification codes.

Immediate remedial action required for items:

Urgent remedial action required for items:

Further investigation required for items:

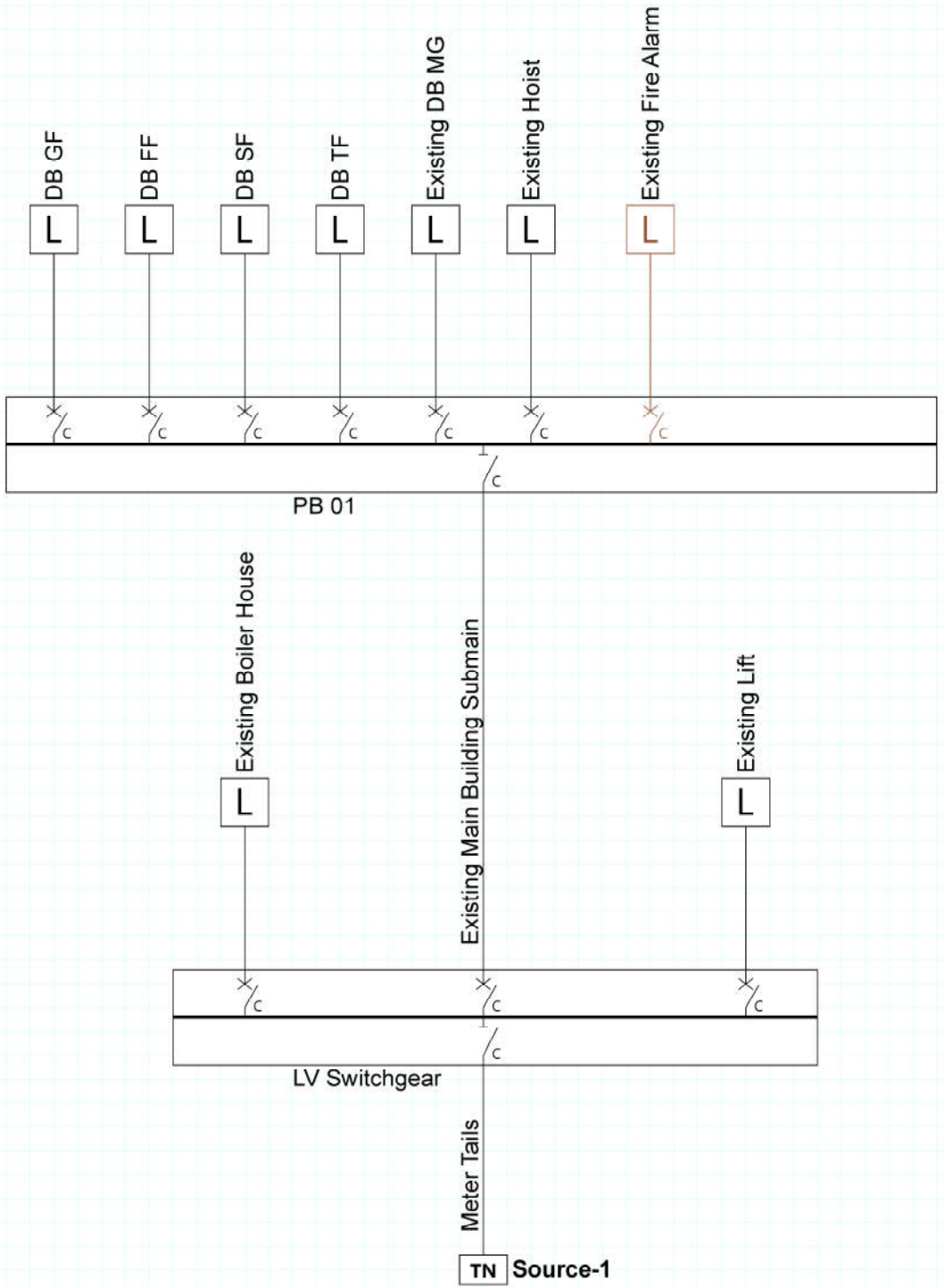
Improvement recommended for items: 175,176,177,178,179,

ADDITIONAL NOTES

Bonding Conductor From DB01 Earth Rod System 25mm CPC

due too TT Earth System and Wet Weather Conditions at Time Of Testing
Earth Fault Loop Readings Changing During Inspection, Possibly

Appendix C – Cable Calculations



EP consulting
building services engineers

Created By:
Jamie

Date:
29/05/2020

Latest Revision:

Rev By:

Date: 29.05.20

Reference:
St Andrews House

Job No:
2036

Switchboard Report

Project Reference:	St Andrews House	**Job Number:**	2036	**Created By:**	Jamie	**Rev Date:**	
Document No:		**Created On:**	29/05/2020	**Revised By:**		**Revision:**	

Board Data

Id No: LV Switchgear

Name:

Cables

Phase	IdNo: Name:	Load (A) Diversified	Load (A) Connected	PF	3rd Harmonic %	Protective Device (A) In	Ir	Type	RCD (mA)	AFDD	Cable Type	Size mm²	Cores	Sep.CPC mm²	Length (m)
L1,L2,L3	Existing Boiler House	20.0	20.0	1.00	0.00	63	63	MCCB	N/A	N/A	Multicore 90°C thermosetting insulated armoured LSF Cu 4E4	25	1 x 1 x 4c	N/A	20
L1,L2,L3	Existing Lift	4.0	40.0	1.00	0.00	100	100	MCCB	N/A	N/A	Multicore 90°C thermosetting insulated armoured LSF Cu 4E4	35	1 x 1 x 4c	25	80
L1,L2,L3	Existing Main Building Submain	96.0	192.0	1.00	0.00	200	200	MCCB	N/A	N/A	Multicore 90°C thermosetting insulated armoured LSF Cu 4E4	150	1 x 1 x 4c	120	100

Switchboard Report

Project Reference:	St Andrews House	**Job Number:**	2036	**Created By:**	Jamie	**Rev Date:**	
Document No:		**Created On:**	29/05/2020	**Revised By:**		**Revision:**	

Board Data

Id No: PB 01 Name:

Cables

Phase	IdNo: Name:	Load (A) Diversified	Load (A) Connected	PF	3rd Harmonic %	Protective Device (A) In	Ir	Type	RCD (mA)	AFDD	Cable Type	Size mm²	Cores	Sep.CPC mm²	Length (m)
L1,L2,L3	DB FF	40.0	40.0	1.00	0.00	100	100	MCCB	N/A	N/A	Multicore 90°C thermosetting armoured *RUN TO 70°C Cu 4D4	25	1 x 1 x 4c	N/A	10
L1,L2,L3	DB GF	40.0	40.0	1.00	0.00	100	100	MCCB	N/A	N/A	Multicore 90°C thermosetting armoured *RUN TO 70°C Cu 4D4	25	1 x 1 x 4c	N/A	5
L1,L2,L3	DB SF	40.0	40.0	1.00	0.00	100	100	MCCB	N/A	N/A	Multicore 90°C thermosetting armoured *RUN TO 70°C Cu 4D4	25	1 x 1 x 4c	N/A	15
L1,L2,L3	DB TF	40.0	40.0	1.00	0.00	100	100	MCCB	N/A	N/A	Multicore 90°C thermosetting armoured *RUN TO 70°C Cu 4D4	25	1 x 1 x 4c	N/A	20
L1,L2,L3	Existing DB MG	20.0	20.0	1.00	0.00	63	63	MCCB	N/A	N/A	Multicore 90°C thermosetting insulated armoured LSF Cu 4E4	16	1 x 1 x 4c	10	20
L1	Existing Fire Alarm	2.0	2.0	1.00	0.00	25	25	MCCB	N/A	N/A	Draka FT120 Cu 4D2	4	1 x 1 x 3c	N/A	20
L1,L2,L3	Existing Hoist	10.0	10.0	1.00	0.00	25	25	MCCB	N/A	N/A	Multicore 90°C thermosetting insulated armoured LSF Cu 4E4	4	1 x 1 x 4c	N/A	20