



The Honourable Society of Lincoln's Inn The Chapel: External Lighting Project

SPECIFICATION AND SCOPE OF WORKS FOR A NEW EXTERNAL LIGHTING SCHEME FOR THE CHAPEL AND ITS UNDERCROFT WITH ALL ASSOCIATED WIRING AND CONTROLS

LOCATION OF PROJECT

The Chapel
Lincoln's Inn
London WC2A 3TL

SCOPE OF WORK

The installation of a new exterior lighting system to include new luminaires and controls, complete with all associated electrical installation works and commissioning services. These works are to be undertaken by an electrical contractor acting as principal contractor under CDM Regulations.

CLIENT

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DESIGNERS AND LIGHTING CONSULTANTS [CA]

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DOCUMENTS

This document forms part of an overall package of tender information, for details of the other documents please refer to the document transmission sheet overleaf.

Documents will be issued electronically; any updates will include an updated document transmission sheet.

2. Form of Contract

The form of contract will be negotiated between main contractor and subcontractor with the contractor responsible for the electrical design of cable sizing and circuit protection as part of a Contractor Design Portion.

3. Documentation

This tender document [4004TDv1] is to be read in conjunction with the documentation listed in the document transmission sheet included on page three of this document and any subsequent tender updates. All referenced documentation is relevant to the specification and scope of works and should be accounted for in the tender return.

The specification includes product reference material from specified suppliers. Project specific quotations will be issued to tenderers to ensure compliance with the specified products and materials. Notwithstanding the CDP, substitutions will not be allowed. However, contractors will be responsible for checking all quotations for accuracy and validity.

It should be noted that the information provided in this document and the schedule is given as a performance specification and that the responsibility for the electrical design of the system remains with the electrical contractor who will be responsible for all cable sizing, determination of phasing and circuit protection etc. this forms part of the Contractor Design Portion under the contract. Luminaires and controls are fully specified and, except where specifically expressed, do not form part of the CDP.

4. Scope of Works

The tendering electrical contractors should note that they shall be responsible for all of the works detailed or implied within this document except where expressed to the contrary – or separately agreed with the CA. The contractor should therefore include for all of the following:

- i. The supply and installation of all cables, containment, circuit protection, luminaires, lamps, light sources (including spares) transformers, drivers, tracks, brackets, fixings, accessories and any hardware specified or implied herein.
- ii. The connection of all of the new and improved lighting to the existing lighting control system located in the mezzanine level plant room on the Chapel's south staircase and its connection to the existing supply.
- iii. The reconnection of all non-redundant lighting not controlled by the new control system including all necessary installations required for the reconnection and new controls as set out below.
- iv. The removal and disposal of all redundant light fittings, appliances, distribution equipment, sockets, photocells, sensors and switches. Note that in some cases, where agreed with the CA, it will be more appropriate for a cable to be disconnected, cut back and made safe rather than being completely removed. It should be noted that the contractor will also remove all redundant surface cabling and its fixing plugs etc as part of their works.
- v. The testing and inspection of the entire electrical installation in the area covered by this scope of works that is not made redundant by the works specified in this document with recommendations for any necessary remedial works to the installation to attain the required standards under BS7671. It should be noted that fully priced recommendations for any such remedial works should be presented no later than two weeks after the contract start date so that remedial works can be programmed and follow on in a timely fashion.
- vi. The tendered price shall be made on the relevant "Tender Return Schedule" and be valid for acceptance for SIX months from the tender return date. The tendered price shall also be valid for all works carried out within TWELVE months of the tender return date.
- vii. Except where specified to the contrary all electrical accessories are to be selected from the MK LOGIC PLUS range. 13A Socket outlets are to be provided with metal finishes. Plastic wiring accessories, conduits, trunking and face plates are not to be used without prior agreement of the CA.

The new installation is to be connected to the existing supply. It should be noted that the estimated maximum demand for the new lighting installation will be less than 2kW although the programmable nature of the system will result in the applied load being considerably less than this figure.

CDP ITEMS

- viii. The design, supply and installation of all cabling, containment and switchgear required for the completion of the specified works – including any additional small power works. All to the satisfaction of the CA.
- ix. The design, supply and installation of all necessary equipotential bonding to water, gas and/or oil services and earth connection to the lightning conductor system.

FIXED PRICE ITEMS – EXCLUDING ALL WORKS TO THE UNDERCROFT

- The item numbers 4.1, 4.2 etc refer to separately priced items on the Tender Return Schedule
- LED Light sources may be subject to manufacturers' development changes. Final specifications to be checked with the CA before ordering.

4.1. Rationalise Lighting Controls and Distribution

The contractor shall include a fixed price for modifications to the lighting control panel in the mezzanine plant room

The modifications shall include the installation of any additional modules in the rack, its connection to the existing system and all necessary commissioning to integrate the module into the existing system.

Power for the outgoing lighting circuits is to be taken from the local distribution board in the plant room where it has been established that there is sufficient capacity for the applied load.

The contractor shall include a fixed price for the removal of any existing lighting control equipment, switchgear and all other control equipment that will be made redundant by the new installation.

This item shall include all necessary distribution and circuit protection for the specified lighting works and all electrical services set out and/or implied in the following specification. This shall include but not be limited to

- a) Supplies to all outgoing circuits
- b) Supply to new lighting control system
- c) Reconnection of all existing services not made redundant by the works set out herein
- e) Provision of no less than four spare circuits at any new distribution board.

The contractor shall include in this item for the installation and termination of the lighting control system and all associated network wiring. Suitable surge protection shall also be included to protect the controls.

The lighting control system manufacturer will have allowed within their quotation for the on-site commissioning of the system by an approved engineer. Once commissioned by the manufacturers the lighting presets will initially be set by the Lighting Consultant and thereafter by the client. The contractor shall allow for mounting each of the control system components as follows:

- i. The control components rack and suitable surge protection for the processor and control equipment
- ii. The manual override control point as shown on the relevant drawings (1 x 10 button control on the gallery)
- iii. All control wiring is to be installed in continuous steel conduits. Plastic trunking or conduits are not to be used.

Refer to the lighting control system quotation, wiring schematic and datasheets for further information. It should be noted that the new lighting is designed to be terminated via independently wired circuits that will be terminated to separate control channels.

In the following, and on the specification general arrangement drawing

- “DALI#” refers to the DALI channel or loop to which a circuit is initially allocated although the contractor may choose to revise this assignment to adjust load balancing or phasing of supplies.
- Details of locations, fixing positions and mounting brackets are to be found on the luminaire schedule and drawings.
- Setting out and focusing information will be provided on site by the Lighting Consultant.

4.2. Commissioning the Lighting Controls and all Luminaires

- i) The Lighting Consultant will supervise the setting out of all luminaires, control devices. The Contractor shall not 2nd fix luminaires before setting out has taken place. Setting out dates will be co-ordinated by the Lighting Consultant in conjunction with the contractor’s programme.
- ii) The contractor shall be required to install all luminaires and accessories and provide all labour, access and any other resources so that the luminaires can be focused by the contractor under the direction of the Lighting Consultant.
- iii) The contractor should note that commissioning of the luminaires and controls is most effectively undertaken by working through the following sequence commencing after second fix works have been completed:
 - Electrical test of each luminaire to the termination point to its dedicated control channel (switched/dimmer/DALI/DMX). This determines any electrical or wiring errors.
 - Initial control system commissioning to ensure all control devices are functioning correctly and will allow the testing via the control system of each luminaire from the control system processor and user interface.
 - Testing via the control system of each luminaire from the control system processor and user interface. This proves that each luminaire is functioning on the correct control channel.
 - Witnessing of the above step by the Lighting Consultant
 - Focusing of the luminaires to be carried out by the contractor under the direction of the Lighting Consultant. It should be noted that it may be necessary to access each luminaire on two separate occasions for focusing and sufficient access and resources should be allowed for this.
 - Initial scene setting by the controls manufacturers under the direction of the Lighting Consultant.
 - Any required re-focusing of the luminaires by the contractor under the direction of the Lighting Consultant.
 - Further scene setting by the controls manufacturers under the direction of the Lighting Consultant.

The contractor should therefore allow full provision for commissioning the lighting system as described above and for the focusing of all luminaires at sessions at which the Lighting Consultant will direct the contractor to focus and adjust spotlights and other fittings to their intended locations.

Commissioning sessions will be scheduled by the lighting consultant once the programme has reached an appropriate stage of progress. Five days’ notice will be given to the contractor’s site supervisor of the timing of such sessions.

Adequate numbers of staff are to be provided by the contractor at these sessions such that sufficient access equipment may be safely moved or modified to ensure that the direction of the lighting is not delayed whilst the equipment is moved or modified. The contractor in pricing of these sessions should assume any necessary overtime rates.

iv) Adequate provision for spare lamps, accessories and other replacement items shall be made such that the commissioning is not delayed due to lack of materials or resources.

v) At the discretion of the Lighting Consultant direction may be given to the contractor for them to carry out further commissioning works during normal working hours such that the out of hours commissioning time is minimised.

vi) In addition, it should be noted that the manufacturer of the control system will require that the following are completed and details readily available prior to their site attendance

- All control equipment installed, cabled and powered up accordingly
- All installed cabling should be clearly identified
- All lighting installed, cabled and powered up accordingly
- All lighting circuits tested
- Ensure control system engineers and operatives have unhindered access to site
- LPL System Overview available
- LPL drawings of lighting control areas and zonings
- All EM battery packs are fully charged - if required
- If Networking / IT is involved that all parties concerned are aware of control system requirements and access to any WIFI networks are accessible
- Suitable wireless access point(s) are installed and commissioned with all admin / configuration information available to control system engineers and operatives
- It is the Electrical Contractors responsibility to ensure the required WIFI Network is in place and installed in its entirety and WIFI networks and passwords are available
- If an IPAD app is being utilized, that a fully charged iPad with the Lutron app is available and WIFI networks and passwords are available

NB it is not anticipated that the existing wireless router / access point in the Great Hall will require extending or modifying.

In the following, the contractor should refer primarily to the drawings and schedules provided and then check all quantities in the suppliers' quotations before pricing.

LUMINAIRES CONNECTED TO THE LIGHTING CONTROLS – EXCLUDING THE UNDERCROFT

4.3. Supply and Install all Luminaires on the West End Flat Roof Area

The contractor shall include a fixed price for the supply and installation all luminaires as above complete with all accessories, bracketry and fixings. It should be noted here that the existing cable route is to be re-used.

4.4. Supply and Install all East Elevation Floodlights

The contractor shall include a fixed price for the supply and installation all luminaires as above complete with all accessories, bracketry and fixings. It should be noted here that the existing cable route is to be re-used.

4.5. Supply and Install all Lantern Brackets and Integrated Floodlights and Fitting Ref AB05

The contractor shall include a fixed price for the supply and installation all luminaires as above complete with all accessories, bracketry and fixings. It should be noted here that the cable route for the lantern brackets is to be directly drilled behind the lantern bracket mounting point into the interior of the chapel where it will appear behind the existing timber panelling. Cabling is then to run to the existing DALI connection points provided in the junction boxes on the window sill levels.

OTHER ITEMS – EXCLUDING THE UNDERCROFT

4.6. Stripping out of Redundant Services

All redundant light fittings, accessories, mounting brackets, cables, containment, switchgear and other electrical distribution equipment is to be stripped out unless otherwise agreed with the CA. Particular attention is to be given to the removal of all surface cabling and conduits and the rationalisation of existing cables and containment. Any redundant brackets and fixings are to be handed to the client for re-use, otherwise all equipment, packing and other waste is to be removed and disposed of in accordance with local authority requirements and the WEEE directive.

4.7. Test and Report

The contractor shall include a price for testing and inspecting all non-redundant externally wired services. A condition report with a cost for any recommended remedial works shall be provided to the CA within two weeks of the start date of the contract.

4.8. Prelims Including Protections and CDM compliance

The contractor shall provide a fixed price for Pre-lims to include the provision of all necessary protections to the works and the building as well as all CDM and other statutory compliances.

4.9. Standards

The contractor shall ensure that all works are carried out in accordance with the guidelines and standards set out in the Design Statement [3882DSp4v2] and other quality statements contained elsewhere in this documentation set.

4.10. Manuals and Training

The contractor shall provide a fixed price for the provision of all appropriate training and a comprehensive O&M manual which is to be provided (both in hard copy and digitally) to the client at the completion of the works. It should be noted that Practical Completion will not be granted until the manuals have been approved by the CA.

4.11. Provision of Access Equipment

The contractor shall include a fixed price for the provision of all access equipment required for the works including suitable provision for the focusing and commissioning works.

4.12. Builders' Works in Connection

A schedule of the anticipated builders' works is to be provided by the electrical contractor. This should include all hole drilling and chasing with rough finish making good for surface finish and redecoration by others. Allowance should be made for a suitable restoration grade materials to be used. Allowance should also be made for the cosmetic painting of cables as set out elsewhere in this specification. This item should exclude works to the Undercroft which should be included elsewhere. Allowance should be made for any removal and re-instatement of the internal timber panelling to the chapel.

4.13. Contractor's Other Items

The contractor may use this item to add costs of any items required for the works but not listed above. A breakdown of all such items should be included separately.

SCHEDULE OF RATES – EXCLUDING THE UNDERCROFT

4.14. Labour Rates, Overhead & Profit

The contractor shall provide a schedule of labour rates and mark-ups on the tender schedule at section 7.5.

NOTE : The total number of man hours allowed in the tender should also be declared.

SCHEDULES REQUIRED AS PART OF THIS TENDER SUBMISSION – EXCLUDING THE UNDERCROFT

4.15. SCHEDULE: Builders' Works in Connection

A schedule of the anticipated builders' works is to be provided by the electrical contractor.

4.16. SCHEDULE: Provision of Access Equipment

The tendering electrical contractor shall provide a schedule of access equipment that is to be used in the completion of the works.

ALL WORKS ASSOCIATED WITH THE UNDERCROFT LIGHTING

4.17. Connection of Lighting Circuits to the Lighting to the Undercroft from link in WC/Disabled Lift Area

The contractor shall include a separate price to provide a connection for future connection of all undercroft lighting to a junction box in the WC/Lift Area such that this element can be omitted and instructed as a separate project.

4.18. Lighting to the Undercroft – Lighting

The contractor shall include a separate price for the supply and installation of the lighting in the undercroft complete with all wiring and containment such that this element can be omitted and instructed as a separate project.

4.19. Lighting to the Undercroft – Pre-Lims and Commissioning

The contractor shall include a separate price for all commissioning works and general pre-lims associated with the undercroft lighting such that this element can be omitted and instructed as a separate project.

4.20. Lighting to the Undercroft – PS for BWIC

The contractor shall include a separate Provisional Sum for all BWIC associated with the undercroft lighting such that this element can be omitted and instructed as a separate project. The BWIC shall include lifting the slabs, drilling out for the miniature uprights, excavations, trenching (all by hand), shingle drainage, backfilling and re-laying slabs.

SCHEDULE OF RATES – UNDERCROFT

4.21. Labour Rates, Overhead & Profit

The contractor shall provide a schedule of labour rates and mark-ups on the tender schedule at section 7.5.

NOTE : The total number of man hours allowed in the tender should also be declared.

SCHEDULES REQUIRED AS PART OF THIS TENDER SUBMISSION –UNDERCROFT

4.22. SCHEDULE: Builders' Works in Connection

A schedule of the anticipated builders' works is to be provided by the electrical contractor.

4.23. SCHEDULE: Provision of Access Equipment

The tendering electrical contractor shall provide a schedule of access equipment that is to be used in the completion of the works.

5. The Extent of the Works

The full details of the scope of works are contained within this specification document. The tendering electrical contractors should note that they shall be responsible for all of the works detailed and implied within this document except where expressed to the contrary.

5.1. Specification of Accessories

The specification document includes details of the manufacturers and ranges of switches, sockets and other wiring accessories which will be allowed in the installation. No alternatives will be accepted without prior approval of samples and scale of price adjustments.

5.2. General Electrical Work

There may be additional electrical works which will be determined as variations.

5.3. Cabling

All final circuit cabling, other than final tails to fittings is to be installed in black served MICC cable and in accordance with current British Standards BS7671 regulations (to include the latest amendments).

SWA and FP or FIRETUF cables may only be used in floor ducts and roof voids and must not be used on the brickwork elevations unless specifically agreed in advance by the CA.

5.4. Location

The location and route of all cables and the final location of all luminaires is to be agreed by the CA prior to installation.

6. Terms of Tender & Notes to the Tenderer

IT SHOULD BE NOTED THAT WHILST SOME OF THE FOLLOWING CLAUSES WILL BE SUPERSEDED BY MAIN CONTRACTOR TERMS AND CONDITIONS. ALL QUALITY AND PERFORMANCE CLAUSES WILL STILL APPLY.

6.1. The Works

The works detailed herein will be the subject of a contract between the EC and the main contractor. Where a reference is made to the EMPLOYER, authority will be delegated to the Contract Administrator or Lighting Consultant.

6.2. Contract

REFER TO MAIN CONTRACTORS INFORMATION.

6.3. Extent

The works to be priced include the provision of all equipment set out or implied in this specification. The contract shall include for all supply, installation, commissioning and testing as described herein. The EC shall be responsible for the electrical design of the installation which shall be in accordance with BS 7671.

6.4. Sequence of Work

Notwithstanding obligations under CDM or other Regulations the [EC] shall programme their works to be commenced and proceeded with as expeditiously as possible. All necessary precautions shall be taken to ensure that all persons using the premises are protected from the risk of injury. The works shall be carried out with due diligence.

6.5. Programme

REFER TO MAIN CONTRACTORS INFORMATION.

6.6. Applications for Payment

REFER TO MAIN CONTRACTORS INFORMATION.

6.7. Liquidated and Ascertained Damages

REFER TO MAIN CONTRACTORS INFORMATION.

6.8. Defects Liability

The defects liability period will be 12 months from the date of practical completion. Thus, the EC will be responsible for the rectification of any defects. This shall be at no cost to the EMPLOYER unless such defects have been caused by misuse.

6.9. Retention

REFER TO MAIN CONTRACTORS INFORMATION.

6.10. Practical Completion

The Practical Completion Certificate will not normally be issued until the Operation and Maintenance manuals have been ACCEPTED by the CA.

6.11. Insurances

REFER TO MAIN CONTRACTORS INFORMATION.

6.12. Fire Precautions

The EMPLOYER is particularly concerned about the risk of fire and the EC shall be required to take special precautions to minimise the risk of fire during the works. No works involving sparking or naked flames shall be carried out on site without submitting a method statement to the CA and securing the written approval of the CA prior to any such works being carried out.

6.13. Security

The EC will not be responsible for the opening-up and locking-up of the building and therefore will not be held liable for the security of the building and the contents therein. Nonetheless the EC is to note that the building contains a number of historic fixtures and fittings that could be vulnerable to theft and should make every effort to protect their own property and that of the EMPLOYER. The [EC] will be required to follow the EMPLOYER'S access protocol as outlined in the main contractor's information.

6.14. Visit to Site

The EC shall be deemed to have visited and inspected the site and surroundings and examined the documentation provided and made himself thoroughly acquainted previous to tendering with all details not specifically mentioned herein or shown in the documentation. The EC shall be deemed to have made sufficient visits to site to be satisfied as to all relevant site factors and other conditions so that the tender price submitted will have taken into account all factors affecting the necessary execution of the works. No claims for additional costs in this respect will be considered.

6.15. Standards & Craftsmanship

The quality of all materials, equipment and working practices will be of a suitable high standard for the nature of the works and the listed status and significance of the building. All materials shall comply with appropriate British Standards and may be subject to inspection by the CA prior to installation.

The EC will be responsible for the specified performance of all of the equipment and fittings installed and therefore should ensure that all such equipment is of the appropriate standard. Where deemed necessary suitable guarantees should be obtained from manufacturers or wholesalers. All equipment supplied must be demonstrably new and free from any failure, fault, deterioration, or damage of any kind.

The EC shall undertake work by or under the direct supervision of operatives with suitable training, experience, and competence. Craftsmen shall undertake work requiring special skill. Apprentices shall not be permitted to work unsupervised.

The EC shall be responsible for ensuring that all switchgear and cables will be adequate for the loads to be applied. Furthermore, the EC will be responsible for ensuring that all works are carried out to the requirements of all appropriate current standards including, but not limited to, those of The Electricity Supply Authority, BS7671 as well as those under current Health & Safety law and Local Authority regulations. Visual quality of finish is of paramount importance and all works are required to be finished to the reasonable satisfaction of the CA.

6.16. Supervision

The EC is to provide a named and competent supervisor who is to be permanently available on site whilst work is in hand. The supervisor is to manage all directly employed and subcontract labour on behalf of the EC and retain, to be available on site, copies of all relevant documentation so that the works will be completed expeditiously and not be delayed through lack of appropriate information. A properly documented and dated job diary should be maintained and made available for inspection by the CA when so requested.

The EC shall undertake all work with skill and care in order to produce work fit for the purpose and of good quality. Competent supervision must be provided for all stages of the work and site activities including handling and storage.

6.17. Construction (Design And Management) Regulations 2015

These works will be notifiable under the ACT. A Principal Designer will be appointed.

The MAIN CONTRACTOR will be required to produce a Health & Safety Plan and a comprehensive Method Statement and Risk Assessments for all identifiable risks.

The MAIN CONTRACTOR shall be required to ensure that all visitors, staff and subcontractors are adequately protected and provided for whilst on the site.

6.18. Working Hours

REFER TO MAIN CONTRACTORS INFORMATION.

6.19. Disturbance

At all times the EC should take precautions so that residents and users of neighbouring buildings are not inconvenienced or interrupted by the EC, his suppliers or any subcontractors. This responsibility includes, but is not limited to, the removal of rubbish, control of noise and parking and manoeuvring of vehicles.

6.20. Notices and Fees

The EC shall give all requisite notice to local and other authorities including the Building Inspector obtain all licences and pay all fees legally demandable in connection with these. The EMPLOYER shall reimburse the EC for any Building Regulation fees incurred.

6.21. Site Cleanliness

The EC will be required to maintain the cleanliness of the local areas of work and remove all rubbish and redundant equipment as and when necessary.

6.22. Builders Works

A schedule of builder's works is required as part of this tender process and shall therefore form part of the tender return and the contract documents. Builder's works may be executed by others – subject to agreement of the CA.

6.23. Protection of the Work

Throughout the period when the EC is on site – until final completion the EC shall supply and maintain all protections and precautions necessary to protect his own works. This should include the sealing of open ends, as is customary, to maintain all materials and works in good condition. Any loss or damage in these respects caused by the neglect of these responsibilities shall be made good by the EC at their own expense.

6.24. Protection of the Building

REFER TO MAIN CONTRACTORS INFORMATION.

6.25. Access Equipment and Scaffolding

REFER TO MAIN CONTRACTORS INFORMATION.

6.26. Location of Luminaires

The general location of luminaires and equipment specified in the Specification will appropriate for tendering purposes. It should be noted that all final positions shall be confirmed on site to the EC by the CA. The EC shall include within their price for the taking of site measurements for the setting out and for such access equipment and builders works as necessary for the effective completion of the works in the contract. Where necessary the CA will provide further annotated photographs and/or drawings or sketches confirming detailed positions of all luminaires and equipment.

6.27. Driver Enclosures & Cable Junction Boxes

All remote drivers are to be housed in suitable metal enclosures (SAREL or similar) alternative may be suggested but may only be accepted at the discretion of the CA.

The location of all driver enclosures, switchgear, distribution, cable junction boxes, adaptable boxes or other cable jointing enclosures shall be agreed on site by the CA. All such enclosures shall be painted or dressed in to the installed surface where they lie but shall not be visible from key viewpoints.

6.28. Focus of Luminaires

All luminaires are to be installed so that they may be focussed or directed to the intended area. The EC shall ensure that sufficient play is available for the full rotation, pan and tilt of the luminaire so that it can be effectively focussed.

6.29. Grouped Fittings

Where light fittings are adjacent or grouped together they are to be installed such that each luminaire can be focussed independently and shall also be installed such that they may be focussed without the body or its beam of light interfering with or being interfered with by other luminaires.

6.30. Existing Lighting Circuits

All lighting circuits specified herein for the Hall area are to be controlled by the new lighting control system. Lighting circuits in other areas and any other non-redundant lighting circuits are to be retained and controlled by a local switching system.

6.31. Identification and Removal of Redundant Circuits

The EC shall include for the stripping out or stripping back and making safe all redundant wiring, containment, switches and luminaires within the working areas of the Hall. No redundant wiring or conduits shall be left visible without the written permission of the CA.

6.32. Cabling Generally

All conduit and cable runs shall be agreed with the CA prior to the commencement of works on site. Except where agreed to the contrary all luminaire load circuit cabling is to be MICC. Cables run in the agreed cable routes must comply with the following.

- i) All MICC cable must be black or white pvc sheathed and also painted to match the surface finish.
- ii) If conduit is to be used then it should be steel with black enamel finish and then over painted as necessary. Plastic conduit or plastic trunking is not to be used except where specifically agreed with the CA.
- iii) Generally PVC insulated PVC sheath cables shall not be used unless specifically agreed for the purposes of the installation of new switchgear.
- iv) All circuits shall be properly earthed using appropriate earth terminals at every termination point, in accordance with BS 7671.
- v) In all cases where surface cabling may be seen by anyone standing on the Hall floor it should be PVC sleeved MICC and painted appropriate to the surfaces.
- vi) All MICC cabling shall comply with the following:
 - o Only manufacturers approved cable termination accessories shall be used. Compression glands must be used throughout.
 - o All seals must be tested within 24 hours of completion using an insulation tester at a voltage not less than 500V.
 - o Nothing less than an infinity reading must be obtained between conductors or any conductor and the cable sheath, all conductors being disconnected from the apparatus at the time of the test.
 - o All intermediate joints to be made into metal adaptable boxes or circular conduit boxes complying with BS4568 including latest amendments.
- vii) The importance of cable routes and integrity cannot be overstressed. Once approved, routes and chasing lines may not be changed without further approval.

6.33. Delivery and Storage

The EC shall be responsible for ensuring the safe delivery, offloading, and storage of all plant, equipment and materials required for the execution of the works. The EC shall provide reasonable notice to the CA of all deliveries and storage requirements to ensure that sufficient storage space is available on site. Otherwise the EC shall arrange, at his own expense, for any additional storage requirements.

6.34. Continuation of Supply

Lighting and power is to be maintained in the Chapel during the execution of the contract. Adequate, safe temporary site lighting and power supplies shall be made available if necessary.

6.35. CONTRACTOR Behaviour

It is strictly forbidden for the EC to permit any employees or subcontractors to smoke or use electronic smoking materials within any part of the buildings.

The playing of portable radios or sound systems is also forbidden within the hall buildings. Personal headset radios or personal sound systems with headsets of any kind are NOT permitted as their use may constitute a health and safety risk.

EMPLOYERS furnishings are not to be used as working surfaces, desks, cutting benches or leaning posts.

6.36. Employment of Subcontractors

The EC may not employ subcontractors or subcontract any part of these works without the prior written permission of the CA.

6.37. Welfare and Use of Facilities

REFER TO MAIN CONTRACTORS INFORMATION.

6.38. Testing and Commissioning

Testing and commissioning of the system shall be in accordance with the manufacturers' instructions. All test certificates shall be provided in accordance with manufacturers' instructions and BS 7671.

6.39. Notices

Notice boards and advertising shall not be exhibited on the site without the prior written consent of the CA. Unauthorised notices must be removed immediately.

7. Price Schedule & Tender Return Sheet

7.1. The Equipment

The tenderer shall price his tender against the identical equipment detailed herein. Substitutions are not to be made unless the specified equipment proves to be unavailable. Any such substitutions will require samples to be provided to the CA prior to agreement for substitution.

7.2. The Total

The total of the priced schedule will be the contract sum and equal the tender figure.

7.3. Commissioning of Light Fittings

The EC should include within the schedule a provision for commissioning sessions at which the Lighting Consultant will direct the EC to focus the spotlight fittings to their intended locations. Such sessions will be scheduled to occur between 16:00 and 20:00.

Adequate numbers of staff are to be provided by the EC at these sessions such that sufficient access equipment may be safely moved or modified to ensure that the direction of the lighting is not delayed whilst the equipment is moved or modified. The EC in pricing of these sessions should assume any necessary overtime rates.

Adequate provision for spare lamps and other replacement items shall be made such that the commissioning is not delayed due to lack of materials or resources.

At the discretion of the Lighting Consultant direction may be given to the EC for them to carry out further commissioning works during normal working hours such that the out of hours commissioning time is minimised.

7.4. The Tender Return

The tender return shall contain

- i. A general Statement of experience and competence
- ii. Details of three references for this type of work
- iii. A schedule of builder's works and making good included within the builders' works allowance
- iv. The completed Tender Return Schedule at section 7.5
- v. A schedule of costs of any items implied under this specification not detailed above

7.5. HSLI The Chapel (Excluding the Undercroft): External Lighting Project : Tender Return Schedule.

Fixed Price – Lighting Elements

4.1	Rationalise Lighting Controls and Distribution	£
4.2	Commissioning the Lighting Controls and all Luminaires	£
4.3	Supply and Install all Luminaires on the West End Flat Roof Area	£
4.4	Supply and Install all East Elevation Floodlights	£
4.5	Supply and Install all Lantern Brackets and Integrated Floodlights and Fitting Ref AB05	£
4.6	Stripping out of Redundant Services	£
4.7	Test and Report	£
4.8	Prelims Including Protections and CDM compliance	£
4.9	Standards	£
4.10	Manuals and Training	£
4.11	Provision of Access Equipment	£
4.12	Builders' Works in Connection	£
4.13	Contractor's Other Items	£

Schedule Of Rates – Excluding the Undercroft

4.14	Labour Rates, Overhead & Profit	
a)	Hourly rate for variations per Approved Electrician or Supervisor	£
b)	Hourly rate for variations per Apprentice or Labourer	£
c)	Allowance for overhead and profit for variations	%

Labour Estimate

Typical number of operatives including supervisors, expected to be on site during the contract	_____
Total number of man weeks labour estimated	_____
Total number of man hours labour estimated	_____
Total number of weeks on site (total programme length)	_____

The cost of any other items implied in the specification but not itemised should be priced separately

Contractor's Name _____ **Date** _____

7.6. HSLI The Chapel (Undercroft): External Lighting Project : Tender Return Schedule.

Fixed Price – Lighting Elements

4.17 Connection of Lighting Circuits to the Lighting to the Undercroft	£
4.18 Lighting to the Undercroft – Lighting	£
4.19 Lighting to the Undercroft – Pre-Lims and Commissioning	£
4.20 Lighting to the Undercroft – PS for BWIC	£

Schedule Of Rates – Undercroft

4.21 Labour Rates, Overhead & Profit	
a) Hourly rate for variations per Approved Electrician or Supervisor	£
b) Hourly rate for variations per Apprentice or Labourer	£
c) Allowance for overhead and profit for variations	%

Labour Estimate

Typical number of operatives including supervisors, expected to be on site during the contract	_____
Total number of man weeks labour estimated	_____
Total number of man hours labour estimated	_____
Total number of weeks on site (total programme length)	_____

The cost of any other items implied in the specification but not itemised should be priced separately

Contractor's Name _____ **Date** _____

8. Design Risk Assessment

Construction (Design and Management) Regulations 2015 will apply to this installation. The CA will act as Principal Designer. In preparation, this document includes this preliminary Designer's Risk Assessment which would form the basis of the lighting element of the Tender Stage Health & Safety Plan.

The identified risks are:

ACTIVITY: Working at Height
ASSOCIATED RISKS: Operative falling from height
ACTION: Contractor to use appropriate scaffold or access towers properly erected with all handrails and toe boards and in accordance with all manufacturer's instructions. To be erected and used only by qualified operatives.
Do not over reach, No lone working.

ACTIVITY: Working at Height
ASSOCIATED RISKS: Falling objects
ACTION: Contractor to ensure toe boards are fitted to all platforms and scaffolds.
Hard hats to be used by all working under or near high level working.
All equipment and materials to be carefully handled at high level with secondary or safety lines if necessary – including all lifting operations.
Do not over reach, No lone working.

ACTIVITY: Site Visits
ASSOCIATED RISKS: Falling objects, Trip Hazards
ACTION: Principal Contractor to ensure that all contractors and visitors are Equipped with PPE and undertake suitable site induction.
All areas below Working at Height areas are to be cordoned off
EMPLOYER to actively support the Health and Safety Policy and Site Rules.

Additional Information: Refer to drawings and schedules for detailed location of fittings

Detailed Design Stage: The successful contractor is required to produce a pre-construction Health and Safety Plan irrespective of the project's status under CDM.

EMPLOYER'S Obligations: Guidance Notes regarding EMPLOYER obligations under CDM Regulations are available from the Health and Safety Executive 08701 544501 and at <http://www.hse.gov.uk>.