Part 2 A Specification

Project: Terrace Car Park

Electrical refurbishment

Rev: T1

Job Number: 3454

Date: June 2021

Contents

Revision	Issued	Prepared by	Checked by	Comments
T		GM		

1 Preliminaries

A10 PROJECT PARTICULARS

110 THE PROJECT:

The Terrace Car Park

Montpellier Road

Torquay

Devon

TQ1 1DD

120 EMPLOYER:

Torbay Council

Torquay Town Hall

Castle Circus

Torquay

TQ1 3DR

127 PRINCIPAL CONTRACTOR:

The Electrical Contractor

141 CONTRACT ADMINISTRATOR:

TDA

Property Services

Tor Hill House

Union Street

Torquay

TQ2 5QW

Tel: 01803 207558

147 PRINCIPAL DESIGNER:

TDA

Property Services

Tor Hill House

Union Street

Torquay

TQ2 5QW

01803 207558

170 PRICING OF PRELIMINARIES

The Contractor shall insert against the following items such sums as he requires to comply with the items. If any item is unpriced it will be assumed that the Contractor has either charged for that item elsewhere or is not making a charge for that item. No subsequent claim will be considered.

A11 TENDER AND CONTRACT DOCUMENTS

110 The drawings from which the Specification has been prepared are listed below:-

Title/Drawing no:

Terrace car Park 3454.E01

Terrace car Park 3454.E02

Terrace car Park 3454.E03

120 The Contract Drawings will be the same as the tender drawings.

180 Drawings and other documents relating to the Contract but not included in the Tender documents may be seen by appointment during normal office hours at Tor Hill House, Union Street, Torquay, TQ2 5QW.

A12 THE SITE/EXISTING BUILDINGS

110 SITE VISIT:

The Contractor shall visit the site and surroundings to ascertain all particulars as to the nature and extent of the contract work, means of access, site conditions, storage and working space, police regulations and be satisfied generally upon all matters that may in any way affect the tender. No additional payments will be made for costs arising from lack of such knowledge.

120 ACCESS CONTACT:

Please see Part 1 Information for site visit details.

140 EXISTING MAINS/SERVICES:

The location of drains and underground water, electricity, gas, telephone and other services shown on any layout drawings is indicative only. The Contractor is to locate all drains and services before carrying out any excavations. Any damage caused to services shall be made good at the Contractor's own expense.

240 RISKS TO HEALTH AND SAFETY:

The nature and condition of the site/building cannot be fully and certainly ascertained before it is opened up.

The accuracy and sufficiency of this information is not guaranteed by the Employer or the Contract Administrator and the Contractor must ascertain for himself any information he may require to ensure the safety of all persons and the works.

A13 DESCRIPTION / EXTENT OF THE WORK

Electrical refurbishment works to the Terrace Car Park

Part A

The removal of existing switchgear, redundant small power circuits and dispose of in the correct manner.

Replace electrical switchgear/distribution boards, sub main cabling & small power circuits.

Part B

Remove the existing lighting and aluminium MI cabling and dispose of in the correct manner.

Install new surface FP200 cabling cabling surface clipped to new Luminaires with smart presence detection, emergency lighting to lower and middle decks, resupply existing top deck lampposts.

Installation to be as specification and drawings.

Part C

Remove existing lamppost lanterns and replace with new LED lanterns including high level access

Note: the attached specification / Particular Specification of works shall be read in conjunction with the drawings as one document.

A20 FORM OF CONTRACT

110 JCT Minor Works Building contract (MW) 2016 including all amendments applicable at the time of tender.

CONTRACT PARTICULARS

The contract particulars shall be completed as follows:

Clause etc.	Subject	
Fifth Recital and Schedule 2	Base Date	Note: to be 10 days before the date for returns of tender.
Fifth Recital	Construction Industry Scheme (CIS)	Employer at the Base Date * is a 'contractor'/~~ is not a 'contractor'~~ for the purposes of the CIS
Sixth Recital	CDM Regulations	The project * is notifiable/~~is not notifiable~~
Seventh Recital	Framework Agreement	
Eighth Recital and Schedule 3	Supplementary Provisions	
	Collaborative Working	Paragraph 1 *applies/~~does not apply~~

	Health and Safety	Paragraph 2 *applies/~~does not apply~~
	Cost savings and value improvements	Paragraph 3 *applies/~~does not apply~~
	Sustainable development and environmental considerations	Paragraph 4 *~~applies~~/does not apply
	Performance Indicators and monitoring	Paragraph 5 *~~applies~~/does not apply.
	Notification and negotiation of disputes	Paragraph 6 *applies/~~does not apply~~
Article 7	Arbitration	Article 7 and Schedule 1 apply
1.1	CDM Planning Period	Shall mean the period of ___2__ weeks ending on the date of commencement of the works.
2.3	Date for commencement of the works	16th August 2021 (or as agreed)
2.3	Date for completion	With assumed 6 months duration - Key date for lift supply October 21st 2021 (or as agreed)
2.9	Liquidation damages	at the rate of £_Nil____ per week

		or part thereof
2.11	Rectification Period	___12__months from this date of practical completion.
4.3	Percentage of the total value of work etc.	95 per cent.
4.4	Percentage of the total amount to be paid to the contractor.	97.5 per cent.
4.8.1	Supply of documentation for computation of amount to be finally certified.	1 months from the date of practical completion.
4.11 and Schedule 2	Contribution, levy and tax changes.	Schedule 2 (Fluctuations Option) Does not apply
4.11 and Schedule 2	Percentage addition for Fluctuations Option	Does not apply
5.3.2	Contractor's insurance: Injury to person or property Insurance cover (for any one occurrence or series of occurrences arising out of one event)	£ 2,000,000.00
5.4A, 5.4B And 5.4C	Insurance of the works etc alternative provisions.	Clause 5.4A, 5.4B or 5.4C applies
5.4A.1 and	Percentage to cover	15 per cent.

5.4B.1.2	Professional fees	
7.2	Nominating body	The Adjudicator is the President or a vice President Of the Royal Institution of Chartered Surveyors. (delete all others)
Schedule 1 (paragraph 2.1)	Arbitration appointer of Arbitrator	President or a vice President of the Royal Institution of Chartered Surveyors. (delete all others)

A30 TENDERING/SUBLETTING/SUPPLY

110 SCOPE

These conditions are supplementary to those stated in the invitation to tender and on the Form of Tender.

160 EXCLUSIONS

If the Contractor cannot tender for any part(s) of the work as defined in the tender documents he must inform the CA or Quantity Surveyor as soon as possible, defining the relevant part(s) and stating the reason(s) for his inability to tender.

170 ACCEPTANCE OF TENDER

The employer and his representatives offer no guarantee that the lowest or any tender will be recommenced for acceptance or accepted. The TDA will not be responsible for any cost incurred in the preparation of any tender.

190 PERIOD OF VALIDITY

Tenders must remain open for consideration (unless previously withdrawn) for not less than 3 calendar months from the date fixed for the submission or lodgement of tenders. Information on the date of commencement is given in clause A20 of this document.

320 PRICING OF THE SPECIFICATION

Alterations and qualifications to the Specification must not be made without the written consent of the Contract Administer. Tenders containing unauthorised alterations or qualifications may be rejected.

480 PROGRAMME OF WORKS

The Contractor shall submit a programme of works in the form of a bar chart detailing the sequence and timing of the principal parts of the works within one week of request.

A31 PROVISION, CONTENT AND USE OF DOCUMENTS

110 DEFINITIONS

The meaning of terms, derived terms and synonyms used in the preliminaries/general conditions and specification is as defined below or in the appropriate British Standard or British Standard glossary.

120 CA

Means the person nominated in the Contract as Architect or Contract administrator or his authorised representative.

130 IN WRITING

When required to notify, inform, instruct, agree, confirm, obtain information, obtain approval or obtain instructions do so in writing.

140 APPROVAL (and words derived therefrom) means the approval in writing of the CA unless specified otherwise.

150 PRODUCTS

Means materials (including naturally occurring materials) and goods (including components, equipment and accessories) intended for permanent incorporation in the Works.

201 EQUIVALENT PRODUCTS:

Where the Schedule of Works permit substitution of a product or different manufacturer to that specified and such substitution is desired, before ordering the product notify the CA and, when requested, submit for verification documentary evidence that the alternative product is equivalent in respect of material, safety, reliability, function, compatibility with adjacent construction, availability of compatible accessories and, where relevant, appearance. Submit certified English translations of any foreign language documents.

Any proposal for use of an alternative product must also include proposals for substitution of compatible accessory products and variation of details as necessary, with evidence of equivalent durability, function and appearance of the structure as a whole. If such substitution is sanctioned, and before ordering products, provide revised drawings, specification and manufacturer's guarantees as required by CA.

A32 MANAGEMENT OF THE WORKS

110 SUPERVISION

Accept responsibility for co-ordination, supervision and administration of the Works, including all subcontracts.

Arrange and monitor a programme with each subcontractor, supplier, Local Authority and statutory undertaker, and obtain and supply information as necessary for co-ordination of the work.

The Contractor shall arrange for a competent representative to be in attendance on site for the duration of the contract.

120 INSURANCE

Before starting work on site submit documentary evidence and/or policies and receipts for the insurance required by the Conditions of Contract.

125 RESOURCES

The Contractor shall supply all labour, materials, goods, tools, plant, vehicles and everything else necessary for the complete performance of the contract in a good and workmanlike manner.

250 MONITORING

Record progress on a copy of the programme kept on site. If any circumstances arise which may affect the progress of the works put forward proposals or take other action as appropriate to minimise any delay and to recover any lost time.

300 ADVERSE WEATHER

Use all reasonable and suitable building aids and methods to prevent or minimise delays during adverse weather conditions.

305 SITE MEETING(S)

The Contract Administrator should hold regular site meetings to review progress and other matters arising from the administration of the Contract.

310 SITE INSPECTIONS

The CA shall have access to the site at all reasonable times. Agree dates and times of inspections with the CA several days in advance, to enable the CA and other affected parties to be present.

430 ESTIMATED COST OF VARIATIONS

If the CA issues details of a proposed instruction with a request for an estimate of cost, submit such an estimate without delay and in any case within 7 days.

451 DAYWORKS

No work is to be executed on a daywork basis without due prior notice to and approval of the CA/Quantity Surveyor.

Before being delivered each daywork voucher must be referenced to the instruction under which the work is authorised and signed by the person in charge as evidence that the workman's names, the time spent by each, the plant and materials shown are correct. Worked up to show the full financial implications of the work described.

Vouchers must be submitted to the CA for verification.

460 INTERIM VALUATIONS

At least 3 days before the end of each established period of interim valuations submit to the CA or Quantity Surveyor details of amounts due under the contract together with all necessary supporting information.

A33 QUALITY STANDARDS/CONTROL

110 GOOD PRACTICE

Where and to the extent that materials, products and workmanship are not fully detailed or specified they are to be of a standard appropriate to the works and suitable for the functions stated in or reasonably to be inferred from the project documents, and in accordance with good building practice.

120 MATERIALS

Shall conform to the appropriate current British Standard.

130 PROPRIETARY PRODUCTS

Where proprietary articles, fittings, or materials are specified they are to be stored, assembled, fixed or used in strict accordance with the manufacturers instructions and recommendations.

185 INTER-TRADE ATTENDANCE

The Contractor shall provide attendance of trade upon trade as may be required to complete the works.

A34 SECURITY/SAFETY/PROTECTION

111 CONSTRUCTION (DESIGN AND MANAGEMENT) REGULATIONS 2015

All construction projects fall under the requirements of the Construction (Design & Management) Regulations 2015, however additional duties apply where a project is notifiable to the HSE - this is where construction work where it lasts longer than 30 days AND has more than 20 workers, working simultaneously at any one point OR exceeds 500 person days.

The successful contractor will be appointed as Principal Contractor and will be expected to carry out all associated duties to comply with the Regulations.

The Principal Contractor shall refer to and take consideration of the Pre Construction Information when preparing their Construction Stage Health and Safety Plan.

The Principal Contractor will not commence any works on site until his Construction Stage Health and Safety Plan has been accepted in writing by the Client (who will take advice on its content from the Principal designer).

The Principal Contractor shall submit his Construction Stage Health and Safety Plan to the Principal designer at least 7 working days before commencement of works.

The Principal Contractor will provide the Contract Administrator with all design work carried out by all sub-contractors as and when it occurs.

At Practical Completion the Principal Contractor shall provide copies of the As- Built drawings to the Principal designer.

The Principal Contractor is to inform the Contract Administrator of all notifiable accidents or near misses that occur on site during the contract.

All works and costs arising out of the specific items listed on the Construction Stage Health and Safety Plan shall be deemed to be included in your tender sum.

125 STATUTORY REGULATIONS AND H.S.E. APPROVED CODES OF PRACTICE:

Comply with the following:

- The Health and Safety at Work etc, Act 1974
- Construction (Design & Management) Regulations 2015 (now incorporating the old Construction (Health, Safety & Welfare) Regulations 1996)
- The Work at Height Regulations 2005

- The Control of Asbestos Regulations 2006
- The Control of Noise at Work Regulations 2005
- The Management of Health & Safety at Work Regulation 1999
- The Workplace (Health, Safety & Welfare) Regulations 1992
- The Provision and Use of Work Equipment Regulations 1998
- Personal Protection Equipment at Work Regulations 1992
- Manual Handling Operation Regulations 1992
- Electricity at Work Regulations 1989
- The Gas Safety (Installation and Use) Regulations 1998
- COSHH Regulations 2002
- R.I.D.D.O.R. Regulations 1995
- The Health and Safety (Safety Signs and Signals) Regulations 1996
- Health & Safety (Consultation with Employees) Regulations 1996
- Also work to accord with the dictate of HSE Workplace Transport Safety
- Also relevant are the demands of the common law duty of care, which embraces visitors to site both official and uninvited

130 SECURITY:

Adequately safeguard the site, the Works, products, materials, plant, and any existing buildings affected by the works from damage and theft. Take all reasonable precautions to prevent unauthorised access to the site, the works and adjoining property. Make good any damage or deficiencies arising therefrom.

131 PUBLIC SAFETY: (See also scaffolding/separation of work areas)

Protect the public and occupiers of the property by erection of temporary fences, fully sheeted scaffolding, hoardings, fans, footpaths, warning lights, etc. before starting work.

Ensure that means of escape from the property in the event of fire are maintained for the duration of the Works.

135 THE HEALTH AND SAFETY FILE:

The CDM Coordinator shall prepare and deliver the project Health and Safety File. The Contractor shall allow for all costs incurred in providing all relevant information throughout the contract period to the CDM Coordinator for the preparation of the Health and Safety File as defined in the Pre Construction Information.

136 DATA PROTECTION, FREEDOM OF INFORMATION, HUMAN RIGHTS, DISABILITY DISCRIMINATION, AND RACE RELATIONS.

"The Contractor will note the Authority's current and future obligations under the Data Protection Act 1998, Freedom of Information Act 2000, Human Rights Act 1998, Disability Discrimination Act 1995 and Race Relations Act 1976 (all as amended from time to time) and any codes of practice and best practice guidance issues by the Government and the appropriate enforcement agencies.

The Contractor will comply with the above legislation in so far as it places obligations upon the Contractor in the performance of its obligations under this contract.

The Contractor will facilitate the Authority's compliance with the Authority's obligations under these provisions and comply with any reasonable request from the Authority for that purpose.

The Contractor will act in respect of any person who receives or request service under this Contract as if the Contractor were a public authority for the purpose of the Human Rights Act 1998.

The Contractor notes particularly that the Authority may be required to provide information relating to this Contract or the Contractor to a person in order to comply with its obligations under these provisions."

WARNING

It is a criminal offence, punishable by imprisonment to give or offer any gift or consideration whatsoever as an inducement or reward to any member of staff of The TDA. Such action will negate all current and future contracts.

145 DELIVERIES

Refer to pre-tender safety plan for any specific restrictions.

Generally deliveries should be co-ordinated to ensure the minimum of inconvenience/disruption.

150 OCCUPIED PREMISES

Carry out the works without undue inconvenience and nuisance and without danger to occupants and users.

160 SECURITY BADGES

The Contractor shall supply all personal and operatives, including those of all sub-Contractors, with security badges, which contain a passport size photograph. Badges should clearly display the name of the Company, the name of the Operative, an issue date and an expiry date. Badges must be worn so that they are clearly visible at all times. Personnel not wearing badges will not be allowed access to the site, and if found on the site will be evicted without prior notice. At the discretion of the CA, individuals who are found to repeatedly disregard this requirement will be subject to a permanent ban.

No claims for abortive costs or return visits will be entertained if this is as a result of the enforcement of this policy.

199 NOISE

For the purposes of Section 60(5) of the Control of Pollution Act 1974 the contractor is responsible for and has control over the carrying out of the works. The contractor shall comply with the requirements of Section 60 and 61 of this Act.

200 EXISTING SERVICES

The Contractor shall allow for all the work necessary in verifying the position of existing services defined where possible on survey drawings which are defined.

PROTECT AGAINST THE FOLLOWING

210 EXPLOSIVES

The use of explosives is not permitted.

221 NOISE

Comply generally with BS 5228.

Fit all compressors, percussion tools and vehicles with effective silencers of a type recommended by manufacturers of the compressors, tools or vehicles.

Do not use pneumatic drills and other noisy appliances without consent of the CA.

No portable radio/cassette players are to be used by work people within existing buildings, nor used on the remainder of the site that will annoy adjoining users/owners.

230 POLLUTION

Take all reasonable precautions to prevent pollution of the site, the Works and the general environment including streams and waterways. If pollution occurs, inform the appropriate authorities and the CA without delay and provide them with all relevant information.

240 NUISANCE

Take all necessary precautions to prevent nuisance from smoke, dust, rubbish, seagulls, vermin and other causes.

260 FIRE

Take all necessary precautions to prevent personal injury, death, and damage to the Works or other property from fire. Comply with joint Code of Practice >Fire Prevention on Construction Sites published by the Building Employers Confederation, the loss Prevention Council and the National Contractors Group.

Smoking will not be permitted on the site except in mess rooms which must be carefully controlled and inspected to guard against risk of fire.

270 FLOOD

Ensure that there is no hazardous build up of water. Provide for temporary conveyance and disposal of rainwater from existing structures and the site during the course of the Works.

280 MOISTURE

Prevent the work from becoming wet or damp where this may cause damage. Dry out the works thoroughly. Control the drying out and humidity of the works and the application of heat to prevent:

- Blistering and failure of adhesion
- Damage due to trapped moisture
- Excessive movement

285 BURNING ON SITE

Burning of materials arising from the work will not be permitted.

290 WASTE

Remove rubbish, debris, surplus material and spoil regularly and keep the site and Works clean and tidy.

Remove all rubbish, dirt and residues from voids and cavities in the construction before closing in.

Ensure that non-hazardous material is disposed of at a tip approved by a Waste Regulation Authority.

Remove all surplus hazardous materials and their containers regularly for disposal off site in a safe and competent manner as approved by a Waste Regulation Authority and in accordance with relevant regulations. Retain waste transfer documentation on site.

PROTECT THE FOLLOWING

410 WORK IN ALL SECTIONS

Adequately protect all types of work and all parts of the works, including work carried out by others, throughout the Contract.

420 EXISTING SERVICES:

Notify all service authorities and/or adjacent owners of the proposed works not less than one week before commencing site operations.

Before starting work check positions of existing services. Where positions are not shown on drawings obtain relevant details from service authorities or other owners.

Observe service authority's recommendations for work adjacent to existing services.

Adequately protect, and prevent damage to all services. Do not interfere with their operation without consent of the service authorities or other owners.

If any damage to services results from the Works notify CA and appropriate service authority without delay. Make arrangements for making good without delay to the satisfaction of the service authority or other owner as appropriate.

Replace any marker tapes or protective covers disturbed during site operations to the service authority's recommendations

428 ROADS AND FOOTPATHS

Adequately maintain roads and footpaths within and adjacent to the site and keep clear of mud and debris. Any damage to roads and footpaths caused by site traffic or otherwise consequent upon the works must be made good to the satisfaction of the Local Authority or other owner. Bear any costs arising.

435 REINSTATEMENT

The site area used by the Contractor and sub-contractors for the storage of materials, huts, offices etc., and the access to these areas are to be reinstated by the Contractor to a standard equal to that before the commencement of construction operations and approved by CA.

470 EXISTING FURNITURE, FITTINGS AND EQUIPMENT

Prevent damage to any furniture, fittings or equipment left in the existing property.

483 TRESPASS AND NUISANCE

The Contractor is to confine all employees to the area of the works and not permit them to trespass into the surrounding properties, rooms or areas, without the permission of the property owners, the person in charge, or the CA and shall indemnify the Employer against any claim or action for damages on account of any trespass or other misconduct of the Contractor of any sub-contractor, and of all or any of their employees.

484 SCAFFOLDING ETC.

The Contractor shall provide all scaffolding, trestles, ladders, plant and equipment required for the proper execution of the works, all in accordance with the Health and Safety at Work Act.

485 CLEANING

The Contractor at commencement shall adequately screen the area of work internally and/or externally to prevent the spread of dust and debris to internal areas of the school and protect all furniture and fittings, and adjacent roof areas.

(a) The area of the works.

(b) Any areas affected by the transmission of dust etc from the works.

(c) Any areas affected by the movement of operatives, etc. in and around the building.

All areas to be cleaned to a standard equivalent to that existing immediately prior to the commencement of the works, this is to be agreed at the pre-contract meeting. Contractors are to allow due time during the contract for the cleaning operation to be completed within the contract period.

A35 SPECIFIC LIMITATIONS ON METHOD/SEQUENCE/TIMING

110 SCOPE

The limitations described in this section are supplementary to limitations described or implicit in information given in other sections or on the drawings.

130 METHOD/SEQUENCE OF WORK

Refer to main work schedule for details.

161 WORKING AREA

The Contractor will be confined to the areas indicated on the drawings.

190 WORKING HOURS

Generally Mon-Fri 8.00 am - 5.00 pm

No Weekend working without permission of CA.

No payment will be made under this contract for any extra costs incurred by the Contractor in working overtime to enable him to complete the works by the agreed completion date.

A36 FACILITIES/TEMPORARY WORK/SERVICES

110 LOCATIONS

Inform Contract Administrator of the intended siting of all spoil heaps, temporary works and services.

120 MAINTAIN

Alter, adapt and move temporary works and services as necessary. Clear away when no longer required and make good.

320 FENCING

Refer to separation of work areas section A34.

421 LIGHTING AND POWER:

The Contractor can make use of the existing building supplies,

sources to be agreed at pre-contract meeting.

431 WATER

The contractor can make use of the existing building supplies,

sources to be agreed at pre-contract meeting.

A37 OPERATION/MAINTENANCE OF THE FINISHED BUILDING

150 Co-ordinate and ensure the handing over the relevant number of copies of all manuals as required under the relevant sub-contract specifications.

Provide copies of all test/commissioning certificates as required within the specification.

Provide copies of all as fitted drawings to support the requirements of the specification and the CDM Safety File.

A40 CONTRACTOR'S GENERAL COST ITEMS:

MANAGEMENT AND STAFF

110 MANAGEMENT AND STAFF

A41 CONTRACTOR'S GENERAL COST ITEMS: SITE ACCOMMODATION

110 SITE ACCOMMODATION

A42 CONTRACTOR'S GENERAL COST ITEMS:

SERVICES AND FACILITIES

For details of services and facilities required or made/not made available by the Employer see Section A36.

110 POWER

120 LIGHTING

130 FUELS (including fuels for testing and commissioning).

140 WATER

150 TELEPHONE AND ADMINISTRATION

160 SAFETY, HEALTH AND WELFARE:

170 STORAGE OF MATERIALS

180 RUBBISH DISPOSAL

190 CLEANING

200 DRYING OUT

210 PROTECTION OF WORK IN ALL SECTIONS

220 SECURITY

230 MAINTAIN PUBLIC AND PRIVATE ROADS

240 SMALL PLANT AND TOOLS

310 ADDITIONAL SERVICES AND FACILITIES ITEMS:

(Insert below further cost items as may be required, with fixed charges and time related charges as appropriate.)

A43 CONTRACTOR'S GENERAL COST ITEMS:

MECHANICAL PLANT

110 CRANES

120 HOISTS

130 PERSONNEL TRANSPORT.

140 TRANSPORT

150 EARTHMOVING PLANT

160 CONCRETE PLANT

170 PILING PLANT

180 PAVING AND SURFACING PLANT

250 ADDITIONAL MECHANICAL PLANT ITEMS:

(Insert below further cost items as may be required, with fixed charges and time related charges as required:)

A44 CONTRACTOR'S GENERAL COST ITEMS:

TEMPORARY WORKS

For details of temporary works required or made/not made available by the Employer see Section A36.

110 TEMPORARY ROADS

120 TEMPORARY WALKWAYS

130 ACCESS SCAFFOLDING

140 SUPPORT SCAFFOLDING AND PROPPING

150 HOARDINGS, FANS, FENCING, ETC.

160 HARDSTANDING

170 TRAFFIC REGULATIONS

250 ADDITIONAL TEMPORARY WORKS ITEMS:

(Insert below further cost items as may be required, with fixed charges and time related charges as required.)

2 Electrical Building Services

To include the designs for all the electrical services that include the distribution system, lighting, emergency lighting, external lighting, small power, the scope of works should also follow but not be limited to:

Mains electrical distribution system

Small power installation

Lighting & Emergency lighting system

Earthing and bonding

Testing, commissioning, training and documentation

Building Services Operating and Maintenance manuals

The electrical installation will fully comply with BS7671:2018 AMD1

The electrical contractor (installer) will be a member of the ECA (Electrical Contractors Association) or the NICEIC (Approved Contractor) or NAPIT (National Association of Professional Inspectors and Testers).

The works shall include for the alterations of the existing electrical services, install new electrical installation, testing and commissioning and leaving in complete working order to the satisfaction of both the main contractor and the contract administrator.

The electrical contractor should allow for demonstration of the electrical services on competition and to the satisfaction of the project manager.

All work is to comply with the relevant British Standards.

The contractor shall be responsible for undertaking full intrusive surveys and testing to verify the design prior to commencing work. The contractor will be responsible for ensuring that the services outside of the zone of work during a particular phase continue to be operational as far as is reasonably practical and shall be responsible for minimising service disruptions.

Any planned outages shall be kept to a minimum, shall be as short in duration as is practical, and shall be out of hours where possible. The Contractor shall coordinate and agree these in advance with the main contractor, the contact administrator and the school.

2.01 Builders Work in Connection (BWIC)

The electrical contractor shall allow to carry out all builder's work requirements in connection with plant, this to include:

• Plant bases/plinths.

• Cutting holes for ductwork/pipework and electrical/controls containment.

• Wall chases for cabling to sensors and switches/spurs/socket outlets.

• Fire stopping requirements in connection with service routing.

• Support bracketry / patressing for services.

• Weatherproofing around internal/external services penetrations.

• Installation/testing of floor boxes.

• Final connection of power supplies and communication cabling to equipment.

2.02 Applicable Legislation, Guidance and External References

The building engineering services installations shall, as far as is practicable, be designed to meet the requirements and recommendations outlined in the following briefing documentation, standards and legislation current at the time of contract.

• All current British and European Standards (BS EN).

• All current British Standard Codes of Practice (CoP).

• Building Regulations and approved documents

• Institute of Electrical Engineers (IET) Wiring Regulations for Electrical Installations Latest Edition, including all current amendments (BS 7671).

- Electricity Supply Acts.
- Local Bye-Laws.
- The Factories Act.
- The Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations
- The Clean Air Acts
- The Confined Spaces Regulations
- The Construction (Design and Management) Regulations
- The Electromagnetic Compatibility Regulations
- The Fire Precautions Act
- The Manual Handling Operations Regulations
- The Provision and Use of Work Equipment Regulations
- The Reporting of Injuries, Diseases and Dangerous Occurrences Regulations
- The Walkways Regulations
- The Waste Management Regulations
- The Work at Height Regulations
- Workplace (Health, Safety and Welfare) Regulations
- Health and Safety at Work Act (HSWA).
- Acts of Parliament relating to the works.
- Current Construction (Design and Management) Regulations (CDM).
- Chartered Institute of Building Services Engineers (CIBSE) Publications.
- Institute of Refrigeration Engineers.
- Control of Substances Hazardous to Health (COSHH) Regulations.
- Environmental Pollution Act (EPA)
- The Control of Pollution (Special Waste) Regulation.
- The Noise at Work Regulations.
- The Electricity at Work Regulations.
- Requirements of Local Authorities Environmental Health Officer (EHO) and Building Control Officer (BCO).
- Requirements of insurance companies concerned.
- Requirements of Fire Employer and Loss Prevention Council (LCA).
- Building Services Research and Information Association (BSRIA) Technical Memoranda, Manuals and Application Guides
- The Institute of Plumbing (IoP) Guide.
- Heating and Ventilating Contractors Association (TR and DW Series) publications.

External/3rd Party References

• National Design Consultancy Employers Requirements (as referenced elsewhere within this specification)

• Architectural Design Documentation

• Structural Engineering Design Documentation

• Civil Engineering Design Documentation

• Fixed Furniture and Equipment (FF&E) Design Documentation

• Fire Engineering Design Documentation

• Acoustic Design Documentation

• ICT Consultant Design Documentation

2.03 Design of Bracketry

Mechanical and Electrical services Contractor/s shall be responsible for the design of bracketry and supports for the M&E systems. Reference should be made to the Structural Engineer's drawings and specifications, which define the extent of secondary steelwork etc. being provided by the Main Contractor to support the services. All remaining support is to be designed and installed by M&E Sub- Contractor.

2.04 Concealed Services

Conduit bends which are inaccessible shall be pulled bends in continuous lengths of conduit to eliminate inaccessible joints.

2.05 External Environmental Protection

Special measures shall be taken to protect exposed metal parts and other materials susceptible to chemical reactions. Chemically inert parts, proper surface preparation and paint application shall be used for equipment subjected to corrosive atmosphere.

The Contractor shall ensure all equipment selections are appropriate for the Environmental

Classification of the site in accordance with BS EN ISO 12944. This shall include plant (including air handling units and condensers), equipment, distribution, containment, bracketry and fixings where these items are located externally.

All outdoor screws, bolts and nuts with a diameter less than 12 mm shall be made from acid proof stainless steel.

All external services shall be UV stabilised.

2.06 Paintwork and Protection from Damage

The Contractor shall be responsible for protecting all M&E equipment that has been installed from damage, and shall thoroughly clean all equipment before it is handed over. Any damaged paintwork shall be made good in a colour and type of paint to match the original. The Contractor shall ensure that all external equipment is protected against sea water corrosion.

Mild steel or iron brackets or other items to be built in are to be painted before building in. In the case of materials or plant which is delivered to the site already primed, the Installer shall ensure that the primer is suitable for the type of paint to be subsequently applied, and shall make good any damage to the primer before further coats are applied. All items that are to be painted shall have an under-coating and a finishing coat in addition to a primer appropriate to the material being painted, the finishing coat shall be to a colour to be approved by the Employer.

All paints, including priming, undercoats and finishing coats shall be of the best quality, and shall be obtained from a manufacturer approved by the Employer, and are to be used in accordance with the Maker's instructions. Painting shall be done in accordance with the best practices in the Trade, all surfaces to be painted, must be thoroughly prepared, including removal of dust, grease and protective coatings, and in the case of iron and steel, the removal of rust and scale by abrasion, followed by the application of an anti-rust solution to remove pitted rust.

2.07 Exposed Services

Where building services are exposed the Contractor shall ensure that services, supports, fixings etc. comply with the following general requirements:

All services shall:

• Be arranged to align with primary building elements,

• Be installed straight and level,

• Make use of gripple wire, or equivalent, suspensions where loading and stability restraints allow.

All support components, where unistrut and threaded rod is used, shall:

• Be machine cut,

• Be cut perpendicular,

• Have cut ends treated with appropriate sealing and protection paint typically with a zinc based paint such as “galvafroid”,

• Be provided with end caps, including all unistrut and threaded rod,

• Be arranged in a uniform pattern between building elements and across the floor plate.

Exposed services shall be neat in their appearance and free from pen marks etc.

2.08 Fixings to Building Fabric

All fixings to building fabric and structure shall be in accordance with structural engineers’ requirements.

2.09 External and Rooftop Plant

Roof and wall penetrations shall be appropriately weathered to the roofing or cladding sub-contractor’s and/or architect's specifications. Step overs shall be provided so as to maintain safe access routes through plant areas.

2.10 Fire Stopping

Where tray, Basket trunking enclosures, conduits and any other type of electrical penetrations or containment pass through fire-resisting elements of construction, any gap should be adequately fire-stopped for the full thickness of the enclosure, so that the level of fire resistance of the joint is not less than that of the fire-resisting element. Automatic fire and smoke dampers linked to the fire detection system shall be provided where ductwork passes through fire and smoke resisting elements to or from protected escape routes. These shall be in accordance with Building Regulations. Fire stopping shall include the provision of putty pads in electrical back-boxes within partitions where these partitions are fire rated. The choice of fire-stopping method and material should take into account longitudinal movement of the ductwork caused by the effects of the fire.

2.11 Maintenance

The designer shall include for minimum 12 months' warranty for all M&E installations provided under this contract except where explicitly stated elsewhere.

All new engineering services and associated equipment shall be arranged to facilitate easy and safe operation and maintenance clearances shall be provided in accordance with manufacturer's recommendations and industry good practice guidance. Systems shall be designed so that any component that may become faulty can be removed for repair or replacement without the need for dismantling or removal of unrelated components. Electrical supply systems shall be designed so that individual items of equipment can be isolated and maintained without switching off other unrelated systems, or switching off major parts or all of the systems of which the equipment forms a part. The contractor shall consider all the criteria for clear access into the building, manoeuvring, weight constraints and other key aspects of the safe use of such equipment in the building having sufficient reach to gain access to all areas of the building Control systems shall be designed and installed such that failure of a single central component such as a transformer or control circuit fuse does not cause failure of entire systems or major parts thereof.

2.11 Design of Maintenance Access

The Mechanical and Electrical services Contractor/s shall be responsible for the co-ordination, design, location and provision of access hatches as indicated by manufacturer's recommendations and necessary to facilitate commissioning, planned preventative maintenance and repair of mechanical and electrical services and planned preventative maintenance, repair or replacement of items of mechanical and electrical plant.

2.12 Design Life

The design life of engineering services systems shall be as defined in CIBSE Guide M and BS 7543 and as follows below:

The start of the life cycle shall be assumed to be the date of Practical Completion of the Contract.

Component parts of ductwork system, electrical switchboards and switchgear, electrical control panels, fire alarm systems, cabling and cabling containment systems shall be suitable for a service life of not less than 25 years before their replacement is necessary.

Luminaires and component parts thereof (excluding lamps) shall be suitable for a service life of not less than 15 years, before their replacement is necessary.

Adequate protection shall be provided against corrosion to all components that may be subject to the external air and such components shall be designed to require no maintenance against corrosion for the first five years after Practical Completion.

2.13 Future Provision for Expansion and Adaptability

The designer shall allow for spare capacity of 25% on all distribution boards, cable containment and BMS outstations for future alterations/expansions.

2.14 Building Log Book

There shall be production of the Building Log Book.

2.15 Operating and Maintenance Manuals

There is a requirement to provide 3 No. printed copies and 3 no USB Memory Sticks of all O&M manuals (each set to include one electronic copy) at least 2 weeks prior to practical completion. Confirmation of the format of the building user guide with the CA prior to commencement of the works.

The operating and maintenance manuals must include:

• A full description of each of the systems installed, written to ensure that the Employer's staff fully understand the scope and facilities provided.

• A description of the mode of operation of all systems including services capacity and restrictions.

• Diagrammatic drawings of each system indicating principal items of plant, equipment, valves etc.

• Legend of all colour coded services.

• Schedules (system by system of plant, equipment, valves, etc., stating their locations, duties and performance figures. Each item must have a unique number cross-referenced to the record and diagrammatic drawings and schedules.

• The name, address and telephone number of the manufacturer of every item of plant and equipment together with catalogue list numbers.

• Manufacturer's technical literature for all items of plant and equipment, assembled specifically for the project, excluding irrelevant matter and including detailed drawings, electrical circuit details and operating and maintenance instructions.

• A copy of all Test Certificates, Inspection and Test Records, Commissioning and Performance Test Records (including, but not limited to, electrical circuit tests, corrosion tests, type tests, start and commissioning tests) for the installations and plant, equipment, valves, etc., used in the installations.

• A copy of all manufacturers' guarantees or warranties, together with maintenance agreements offered by contractors and manufacturers.

• Copies of Insurance & Inspecting Authority Certificates and Reports

• Starting up, operating and shutting down instructions for all equipment and systems installed.

• Control sequences for all systems installed.

• Schedules of all fixed and variable equipment settings established during commissioning.

• Procedures for seasonal change overs and/or precautions necessary for the care of apparatus subject to seasonal disuse.

• Detailed recommendations for the preventative maintenance frequency and procedures which should be adopted by the Employer to ensure the most efficient operation of the systems.

• Details of lubrication systems and lubrication schedules for all lubricated items.

• Details of regular tests to be carried out.

• Details of procedures to maintain plant in safe working conditions.

• Details of the disposal requirements for all items in the works.

• A list of normal consumable items.

• A list of recommended spares to be kept in stock by the Employer, being those items subject to wear or deterioration and which may involve the Employer in extended deliveries when replacements are required at some future date. The list shall include a column noting the price of each item as at the time of practical completion.

• A list of any special tools needed for maintenance cross-referenced to the particular item for which required.

• Procedures for fault finding.

• Emergency procedures, including telephone numbers for emergency services.

• Documentation of the procedures for updating and/or modifying software operating systems and control programs.

• Instructions for the creation of control procedure routines and graphic diagrams.

• Details of the software revision for all programs provided.

• Two back-up copies of all software items, as commissioned.

• Copies of relevant HSE/CIBSE/IET Guidance notes etc.

• Register of all new fire stops.

• Existing fire stop register to be updated as affected during construction.

• Contractual and legal information including but not limited to: details of local and public authority consents; details of design team, consultants, installation Contractors and associated Sub Contractors; start date for installation, date of practical completion and expiry date for the defects liability period; details of warranties for plant and systems including expiry dates, addresses and telephone numbers in accordance with the requirements of the Building/Operating clauses in this performance specification.

2.16 Testing/Commissioning

The project requirements shall include testing, setting to work, commissioning and witnessing in accordance with the BSRIA Commissioning Guides, CIBSE, BS7671, BS5266, and BS5839 requirements.

The Electrical Contractor's shall ensure that the installation and testing/setting to work/commissioning of all systems including the controls is completed at least two weeks prior to handover.

A power failure test shall be completed after all systems have been commissioned and signed off by the Contract administrator but before the proving period. The contractor shall provide a detailed proposal for the failure test as part of the commissioning method statements for the works. The purpose of the failure test will be to testing the operation of all systems under system failures occur. Examples of scenarios to be tested are:

• Fail the main incoming power supplies and make sure all systems react in accordance with the design,

• Set off the fire alarm system when the power has failed,

• Set off security system when the power has failed.

All electrical and mechanical systems that have programmable controls of any nature shall be fully open protocol. The contractor shall provide all set-up/maintenance anufacturer/user details and passwords that have been used set up or configure the systems.

2.17 Requirements Just Prior to/at Hand-Over

Electrical Contractor/s shall ensure that the installation and testing / commissioning of all systems including the controls are completed at least one week prior to handover. The specialist shall adjust the parameters should the system operation be found not to be acceptable.

The Electrical Contractor/s shall provide to the Employer 3 No. sets of all equipment keys, consumables / spares & special tools, including control panel keys and access door keys, at handover.

2.18 Training and Demonstrations

The client will appoint and/or nominate an appropriate candidate(s) to receive training by the Contractor on the building services engineering systems. The Contractor shall ensure that all building services engineering systems, controls adjustment procedures, optimum settings and maintenance procedures are demonstrated to the Employer's appointed representative/s. The functioning/calibration of the installed energy sub-metering shall be demonstrated.

The Contractor shall ensure that the operation and maintenance manuals are available during the training and demonstration to ensure that the appropriate and correct documentation has been included.

2.19 Energy Strategy

The building has been designed to comply with Approved Document L2A (ADL2A) & L2B (ADL2B) as appropriate. Specifically, the new electrical services should be designed to comply with the Non-Domestic Building Services Compliance Guide. The contractor shall ensure that any changes or design development complies with these requirements, and shall verify changes with the Building Control officer.

2.20 Particular Electrical Specification

2.21 Site Visits & Drawings

The electrical contractor must allow to visit site and will be deemed to have satisfied himself as to the accessibility thereof, of all local conditions, the full extent and nature of the operations, the supply and conditions affecting labour and materials and generally to have obtained all the information necessary to execute the works.

The Contract Drawings are intended to show the general arrangements of the various items of the Works as described in the Specification to be supplied and installed under the Contract. They do not necessarily show exact runs or full details of all accessories, fitting etc, required and in some instances are merely diagrammatic. However, the Specification and Drawings must be understood to cover everything required to make a first class installation and the Electrical Services Installer should include for all items necessary for the proper execution of the Works in his Tender.

Anything shown on the Drawings which is not included in the Specification, or anything herein and not shown on the Drawings shall be deemed to be required as part of the Contract.

Any anomalies, which arise between Drawings or between Drawings and the Specification, should be reported to the Contract Administrator before the Tender is submitted. Such discrepancies must be pointed out at the time of tendering and will not be accepted as a basis for extra claims and work during the progress of the installation.

No claim for additional payment will be approved due to non-compliance with these conditions.

2.22 Programme of Works

A programme of works for the whole of the works shall be provided by the Contractor for agreement of the Project Manager.

The contractor shall make due allowance for providing all the required labour and working hours necessary to achieve the required programme, all of which shall be included in this tender. No additional payments will be made for any costs associated with out of hours working etc. The Electrical Contractor shall include for ensuring that the existing electrical systems are maintained in the areas not affected by the works.

2.23 Other Trades

The contractor must make allowance for the fact that his works will be carried out alongside other activities, the site is within Midas Construction site area and cooperation with site agent and adhere to Midas Construction H&S as well as Torbay Council requirements.

2.24 Wiring General

Cabling to new sockets, lighting and any other current using equipment will carried out using 6242B, white Pirelli FP200 Gold cables or SWA XLPE LSZF. The cables to be supported by metal plastic coated P clips, cable basket, cable tray or similar metal support system. Within plant room cabling to be contained within galvanised steel conduit/trunking for lighting and power where surface installation is required.

Cable size to be 2.5mm for 13A sockets, minimum 1.5mm for lighting circuits.

Type of cable, csa & protection devices will be shown in circuit chart information.

It will however be the contractor responsibility to carry out design calculations to determine the size of the cables taking into account load, length of cable run ambient temperatures and grouping.

All cables shall be supported to comply with regulation 521.10.202, 522-08

The contractor must allow sealing of all cable routes that pass through floors and walls with an appropriate fire stopping sealant.

Wiring accessories to be as MK Logic or Metalclad plus range, or equal and approved

New circuits will be indicated on the drawings and are to be connected to the new distribution board as the proposed circuit designation charts detailed later in specification.

Install circuit chart at the distribution board within protective sleeve and all accessories are to be labelled to identify the circuit items are connected to.

Any isolators that control equipment that is not instantly obvious must be labelled as to the equipment it controls.

Any CCTV conduits or associated power supplies within the car park are to remain as existing.

Electrical installation is to be compliance with IET wiring regulations BS7671:2018 AMD

2.25 Electrical Specification Part A – Electrical distribution and small power

Removal of existing electrical distribution boards, bus bar chamber and switch fuses. Remove existing emergency lighting charger unit and dispose as required in the correct manor.

From the existing WPD 100A TPN supply install new supply tails to new designated DB1 split metered Eaton EBMSL1082 (10+8) complete with RCBO & circuit breakers as required or equal and approved. New tails are to installed within galvanised steel trunking.

From DB1 install sub main cabling to new designated DB4, 7 way Eaton EAM7 with 125 main switch located in electrical room complete with RCBO & circuit breakers as required or equal and approved, for existing approach road lighting cable (posts etc. under Hotel contract) other outgoing ways to existing top deck lampposts. All circuits to be via 4 pole 20A normally open contactor controlled by time clock and manual on-off-auto switch.

From DB1 install sub main cabling to new designated DB6, 7 way Eaton EAM7 with 125 main switch located in electrical room, complete with RCBO & circuit breakers as required or equal and approved. Reconnect existing office and toilet circuits.

At DB1 Reconnect DB5 warden's office sub main cable, existing distribution board in the office to remain.

From DB1 reconnect existing 4core SWA XLPE sub main cable from DB2 via check meter.

Remove existing distribution board and replace with new split metered Eaton EBMSL862MPMB (8+6) complete with RCBO & circuit breakers as required or equal and approved. Install a metal wall mounted IP65 enclosure to house the distribution board and associated equipment to prevent vandalism.

From DB1 install new 5core SWA XLPE LSZF sub main cable via check meter to new DB3 located on the lower ground deck.

Install a new split metered Eaton EBMSL862MPMB (8+6) complete with RCBO & circuit breakers as required or equal and approved. Install a metal wall mounted IP65 enclosure to house the distribution board and associated equipment to prevent vandalism.

From DB1 install 63A TP circuit breaker and install type 1+2+3 surge arrestor (SPD) adjacent to the distribution board.

Distribution boards will be provided throughout the building as required within the electrical design. All distribution equipment will be from the Eaton Memshield 3 range or similar.

All distribution boards will typically have a fault rating of 25kA for 1 second and ingress protection of IP31 using same manufacturer accessories complete with combined termination/metering units.

All distribution boards will be surface mount, of mild steel construction with epoxy powder coating.

All spare ways will be provided with a suitable blank plate and each board will be provided with a circuit schedule/chart. The boards will be sized to supply the dedicated load with an allowance of 25% spare load capacity.

Each outgoing circuit will be provided with a dedicated MCB or RCBO to BS EN 60898 having fault breaking capacity of 10kA, with the following characteristics:

• General power circuits - type B/type C

• Lighting circuits - type C

• Circuits protecting a motors - type D

Where necessary MCB's and RCBO's may be chosen with a higher fault breaking capacity, but this must be coordinated with the fault rating of the distribution board and reviewed through the power systems analysis model. These will typically be according to BS EN 60947-2.

Care will be taken in the selection and routing of all power distribution including cabling and sub-mains to ensure that the possible effects of Electro Magnetic Interference (EMF) are eliminated.

The new building distribution board to be Eaton Memsheild 3 or equilivent complete with dual metering.

All final circuits to be protected by RCBO or circuit breaker devices BS EN 61009 or BSEN 60898 as required all installed in compliance with BS7671:2018 AMD1.

The small power outlets will generally be wired on 20A radial circuits using 20A MCB/RCBO units as required.

Small power circuits serving socket outlets will additionally be provided with Residual Current Circuit Protection (RCCD). Each circuit will be provided with combined MCB/RCD units, which will have a 30mA tripping characteristic. Socket outlets will be standard 13A type to BS1363.

All power supplies to fixed equipment will be by means of dedicated radial circuits which will be protected by 30mA rated RCBO units from distribution boards. All outlets will be supplied via a local suitably rated and mounted switched and fused connection unit or a switched socket outlet as required. Accessories will be of the type suitable for their location including weatherproof rated ones as required by the location and installation method.

In addition to the small power outlets, fused spurs and single/three-phase isolators for fixed equipment, allowance for the provision of 13A fused connection units will be made, suitably fused down to provide power to all:

The contractor shall provide and install a 13A twin metal clad socket in the main electrical switch room and adjacent DB2 & DB3

Install 5 core SWA XLPE LSZF cable surface clipped to supply new lift located within new staircase as indicated on the drawings, terminate within 32A TPN rotary isolator and within an IP65 metal wall mounted enclosure to prevent vandalism. All works from this isolator to be carried out by others under the Hotel contract.

Lower ground floor Install from DB3 a 5 core SWA XLPE LSZF surface clipped to supply shutter system, terminate within 32A TPN rotary isolator and within an IP65 metal wall mounted enclosure to prevent vandalism as indicated on drawings. All works from this point to be carried out by others under the Hotel contract.

Lower ground floor Install from DB3 a 3 core SWA XLPE LSZF cable surface clipped to supply Traffic light system, terminate within 32A TPN rotary isolator and within an IP65 metal wall mounted enclosure to prevent vandalism as indicated on drawings. All works from this point to be carried out by others under the Hotel contract.

Middle deck install from DB2 a 3 core SWA XLPE LSZF cable surface clipped to supply barriers on the top deck, terminate within a metal enclosure as indicated on drawings. All works from this point to be carried out by others under the Hotel contract.

Middle deck install from DB2 an 3 core SWA XLPE LSZF cable surface clipped to supply EV charging point on the top deck, terminate within a metal enclosure as indicated on drawings. All works from this point to be carried out by others under the Hotel contract.

Install power supplies for Pay & display machines, allow to drop from high level in galvanised steel conduit to a entry point on the machine and to connect to existing internal metalclad switched fused spur as indicated on the drawings.

2.26 Electrical Specification Part B – Interior lighting and controls

Within the internal areas of the car park allow to remove the existing mainly aluminium MI cabling and dispose of the correct manor.

Remove the existing lighting controls system enclosures complete with internal equipment, these are located near electrical switch room and adjacent DB2, remove old Ex-Or PIR detectors associated with the system and dispose of all in the correct manor.

Install Dextra ECO Impervia LED IP65 with Reacta-Wave wireless controls luminaires to enable a adaptable control of groups of fittings, locations as shown on the drawings. Programming/commissioning of light fittings is achieved with an interface App downloaded to an infered enabled android mobile device, grouping and functions of fittings to be finalised. Allow to engage Dextra to fully commission system.

Middle deck install from DB1 a FP200 Gold cable surface clipped to supply stair case lighting, terminate within a metal enclosure as indicated on drawings. All works from this point to be carried out by others under the Hotel contract.

Cabling to be surface clipped white 3 core & E Pirelli FP200 Gold (core one - main supply, core 2 - emergency switched supply, core 3 - Neutral). Mainly following the existing cable runs and utilising existing holes through the concrete beams. At each luminaire terminate supply cables within heavy duty PVC adaptable box and extend link to luminaire for final connections, complete with termination glands to ensure cables cannot be pulled out and installed as manufacturer's recommendations.

Fire exit boxes to be Dextra EXI LED M3 luminaires to be on permanently as indicated on the drawings.

Escape stairs to be Dexta Amenity plus Metal white circular M3 with photocell controls as indicated on the drawings.

Install emergency lighting test key switches as MK K4898EL WHI installed in gangs for each circuit adjacent to the relevant distribution board.

All emergency lighting as shown on drawings and in compliance with BS5266:1 as amended.

2.27 Electrical Specification Part C – Exterior top deck lamppost lanterns

Gain high level access and remove the existing lanterns and dispose of in the correct manor.

Replace lanterns with new Holophane Small Factor FTS.LA083.AY.C6.TSZA.FF10S LED lanterns allow for new 42mm double arm outreach brackets/single bracket and associated reducers to fit the existing lampposts, rewire to existing cut out at the post base as indicated on the drawing.

Please not that it is possible that this element of works maybe omitted from the overall scheme.

2.28 Earthing and Bonding

The contractor shall provide a complete system of earthing and bonding generally in accordance with the requirements of BS7671 – 18th edition, BS 7430 – Electricity, safety, quality and continuity regulations and local electricity supply authority requirement, BS EN 50310.

Cables shall be green and yellow LSF insulated single core (multi-strand) copper and bonding connections to extraneous conductive parts shall be labelled and accessible.

Where bonding lugs are not available on extraneous conductive parts, allowance shall be made for purpose made clamps or clips, drilling or utilising fixings or connecting bolts with permission of the relevant body.

All joints, bonds and clamps shall be with compatible materials and shall be treated to ensure freedom from corrosion and electrolytic action.

The contractor shall provide as a minimum an earth bond to the incoming water service and gas service pipes & lift guide routes & steel structural elements.

2.29 Position of Equipment

The position of accessories and outlets shall, as far as possible, be as detailed in this specification, but all final positions are to be agreed with the Electrical Engineer before installation.

2.30 Testing

Testing and Certification

Upon completion of the works out all the necessary testing to comply with BS7671:2018 and BS 5266:2005. BS 5839:2017 BS EN 50131, BS 6662:2004 & BS EN 62305:2006.

Two copies of the Operating and Maintenance manual shall be issued.

The manuals shall contain the following information:

- As fitted drawings
- Manufacturer's data
- Operating instructions

- Servicing and maintenance instructions
- Test certificates and reports
- Wiring diagrams
- Commissioning certificates

Warranties

2.31 Drawings

The following drawings are issued with this specification and shall be read in conjunction with the same:

Electrical Installation

3454.E01 Lighting ground floor

3454.E02 Lighting first floor

3454.E03 Power & data ground floor

2.32 Light fittings

A - Dextra EMPL45 R25W PC 5S

AE - Dextra EMPL45 R25W E3 PC 5S

BE – Dextra AMEC L20 WO MET PH LE3

Exit – EXI LED M3 with EXI UL legend

C – Holophane Small Factor FTS LA083.AY.C6.TSZA.FF10S LED Lantern with bracket and reduces as required

2.33 Additional Document's

Circuit charts

Asbestos report