

China's First Emperor and the Terracotta Army

Project Management Document

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Project Management

00-05-10 Project definition

101 The Project

- **Project title:** Security for China's First Emperor and the Terracotta Army Exhibition
- **Project description:** Production and Installation of Graphics to the Exhibition at the World Museum, Liverpool.

110 Project documents

- **Document type:** Drawings
- **Details:** See Drawing Issue Sheet
- **Status:** Tender
- **Format:** Electronic
- **Provision:** Provided.

00-05-15 Works terminology

110 Terminology

- **Meaning:** Terms, derived terms and synonyms used are as defined in this section or in the appropriate referenced document.

210 Description terminology

- **Attendance:** Includes
The use of the Main Contractor's temporary roads, pavings and paths, standing scaffolding, standing power operated hoisting plant,
The provision of temporary lighting of an equivalent brightness to the finished lighting brightness,
The provision of water,
The clearing away of rubbish and paying all charges in connection with its disposal, the provision of secure hard standing space for the sub-contractor's own offices, plant and material storage,
The use of standing mess rooms, sanitary accommodation and welfare facilities and
The provision of all Health and Safety facilities and all Fire Safety precautions, services, equipment, signage, facilities, Marshalls and the like necessary to comply with the relevant parts of the Joint Fire Code.
Additional requirements should be described as 'Special attendance'.
- **Building Manual:** A document containing information of use to subsequent building owners, occupiers and users about the requirements and procedures for effective operation, maintenance, decommissioning and demolition of the building.
- **Construction Work:** Permanent work together with temporary work.
- **Contractor:** The party who undertakes to perform the services, supply goods or carry out work defined in a contract. Includes Main Contractor, Prime Contractor, Supplier, Service provider, Builder, Subcontractor, etc. as the context dictates, which may be defined terms in certain standard contract forms.
- **Contractor's choice:** Selection delegated to the Contractor, but liability to remain with the specifier.
- **Contractor's design:** Design to be carried out or completed by the Contractor, supported by appropriate contractual arrangements, to correspond with specified requirements.
- **Cost:** The amount paid or given by one party to another in exchange for goods, work or services.
- **Designer:** A person carrying out design on a project.
- **Deviation:** Difference between a specified dimension or position and the actual dimension or position.
- **Employer:** The party to the Contract for whom the goods, work or services are provided. Includes Client (in consultancy contracts and CDM Regulations), the Employer, Building owner or Purchaser (in construction contracts), the Developer (in development agreements and funding agreements), or the 'Main' contractor in contractor/ subcontractor agreements - which may be defined terms in certain standard contract forms
- **Estimate:** An approximate evaluation of either time or cost of part or the whole of a project.
- **Execute:** To complete a task fully and put into effect. To fix, apply, install or lay products securely, accurately, plumb and in alignment.
- **Existing:** Items retained in place to receive new work.
- **Fastener:** Device for mechanically attaching something to something else.
- **Manufacturer and Product reference:** Manufacturer - the body under whose name the particular product, component or system is marketed.
Product reference - the proprietary brand name and/ or reference by which the particular product, component or system is identified.

References are as specified in the manufacturer's technical literature current on the date specified.

- **Manufacturer's standard:** Where used in conjunction with a specified proprietary product, accessories to be those recommended by the product manufacturer.
- **Permanent Work:** Work to be constructed and completed in accordance with the Contract.
- **Price:** An indication of the amount required to be paid by one party to another in exchange for goods, work or services.
- **Product:** Material, both manufactured and naturally occurring, goods and accessories for permanent incorporation into the Works.
- **Requirements:** A description in outline or detailed form of the development, or a part of it, which one party requires another to design and/or build.
- **Schedule of rates:** The subdivision of product and execution prices by a pre-determined unit basis.
- **Schedule of Work:** The subdivision of work items by a pre-determined classification. Can form the basis of a pricing document where Bills of Quantities are not used.
- **Schematic:** A drawing of a system showing components, products, systems and their interconnections.
- **Site equipment:** The Contractor's apparatus, appliances, machinery, vehicles or things of whatsoever nature required in or about the construction for the execution and completion of the Works and the remedying of defects.
Includes Appliances, vehicles, consumables, tools, temporary work, scaffolding, cabins and other site facilities.
Excludes: Temporary work, Employer's products and equipment or anything intended to form or forming part of the permanent Works.
- **Specification:** Written description of requirements.
- **System:** Products, components, equipment, accessories, controls, supports and ancillary items, including installation, necessary for that section of the work to function.
- **Temporary work:** Incidental work to undertaken during construction but not intended to form part of the completed work.

310 Activity terminology

- **Advise:** See 'Communicate'.
- **Agree:** See 'Communicate'.
- **Approve:** Record conformance of work to specified criteria by giving formal or official sanction.
- **Communicate:** Includes advise, inform, agree, confirm, notify, seek or obtain information, consent or instructions, or make arrangements.
- **Confirm:** See 'Communicate'.
- **Ease:** Adjust moving parts of designated products, systems or work to achieve free movement and good fit in open and closed positions.
- **Fix:** Receive, unload, handle, store, protect, place and fasten in position; dispose of waste and surplus packaging; to include labour, materials and site equipment for that purpose.
- **Give notice:** Communicate in writing to the person administering the Contract at the address listed therein.
- **Inform:** See 'Communicate'.
- **Keep for recycling:** As 'keep for use' but relates to a naturally occurring material rather than a manufactured product.
- **Keep for reuse:** Do not damage designated products, systems or work. Clean off bedding and jointing materials. Stack neatly, adequately protect and store until required by the Employer or Purchaser, or for use in the Works as instructed.

- **Make good:** Execute local remedial work to designated work. Make secure, sound and neat.
- **Match existing:** Provide products and work of the same appearance and features as the original, excluding ageing and weathering. Make joints between existing and new work as inconspicuous as possible.
- **Notify:** See 'Communicate'.
- **Quote:** Use 'Estimate'.
- **Recycle:** Collect, sort, process and convert discarded or recovered components into raw materials for use in the creation of new products.
- **Refix:** Fix previously removed products.
- **Remove:** Disconnect, dismantle as necessary and take out the designated products or work, together with associated accessories, fixings, supports, linings and bedding materials. Dispose of unwanted materials.
Removal of a system includes this work.
- **Remediate:** Action or measures taken to lessen, clean-up, remove or mitigate the existence of hazardous materials existing on a property; in accordance with standards, specifications or requirements as may be required by statutes, rules, regulations or specification.
- **Repair:** Execute remedial work to designated products. Make secure, sound and neat. Excludes redecoration and replacement.
- **Replace:** Supply and fix new products matching those removed. Execute work to match the original new state of that removed.
- **Reuse:** Recover components to be fixed or used in the project or other buildings without the requirement for recycling.
- **Submit:** Deliver an item in a specified format to a specified person within a specified timeframe.
- **Submit proposals:** Submit information in response to specified requirements.
- **Supply and fix:** Supply of products, components or systems to be fixed, together with their fixing.

00-05-20 Project participants

110 Project participants

- **Company:**
 - **Name:** Board of Trustees of the National Museums and Galleries on Merseyside
 - **Address:** World Museum, William Brown Street, Liverpool, L3 8EN

110 A Project participants

- **Company:**
 - **Title:** Contract Administrator
 - **Company:** Cunliffes
 - **Address:** Claire Court, Oriel Road, Bootle, Liverpool, L20 7AD.
 - **Telephone number:** 0151 944 2030.

110 B Project participants

- **Company:**
 - **Title:** Principial Contractor
 - **Name:** To be confirmed
 - **Company:** To be confirmed
 - **Address:** To be confirmed
 - **Telephone number:** To be confirmed
 - **Email address:** To be confirmed

00-05-70 Project location

110 Project location

- **Details:** World Museum Liverpool
- **Address:**
 - **Street:** William Brown Street
 - **City:** Liverpool
 - **Post code:** L3 8EN

130 Existing buildings on, or adjacent to the site

- **Details:** The building is a large national museum open to the public 7 days per week between 10.00am and 5.00pm.

150 Surrounding land and building uses

- **Surrounding land uses or activities:** A large public library adjoins the building. The Walker Art Gallery, County Sessions House and St George's Hall are also situated on William Brown Street.

170 Access

- **Details:** The rear Car Park is accessible off Byrom Street. Personal and materials via staff entrance using the goods lift for deliveries.
- **Limitations:** Material deliveries before 10.00am or after 5.00pm.
Working Hours are available between 8.00am - 8.00pm (Mon - Fri) and 10.00am - 4.00pm (Sat & Sun)

00-10-70 Works Contract Content

120 The Works

- **Details:** Production and Installation of Graphics to the Exhibition at the World Museum, Liverpool.

130 Work by others concurrent with the Contract

- **Details:** There will be other work packages on site during the project. Base Build fit will begin, with Exhibition Fit Out works to commence whilst the Base Build works are ongoing.
- **Timescale:** Please refer to latest revision of the Master Programme issued within Addendum.

00-20-70 Works contract

JCT Minor Works Building Contract (MW)

- **The Contract:** JCT Minor Works Building Contract 2011 Edition
- **Requirement:** Allow for the obligations, liabilities and services described
- **Ammednments:** The following is to be read in conjunction with the 'Schedule of Amendments to JCT 2011 Minor Works' which is attached within the Tender Package.

THE RECITALS

First The Works and the Contract Administrator

- **The work comprises:** Production and Installation of Graphics to the Exhibition at the World Museum, Liverpool.
- **Architect/ Contract Administrator:** Cunliffes.

Second Contract documents

- **Contract drawings:** See section 00-05-10.

Third Priced documents

- **Documents to be priced or provided by the Contractor:** Schedule of Work.

THE ARTICLES

3 Architect/ Contract Administrator

- **Architect/ Contract Administrator:** Cunliffes.

4 and 5 Principal Designer/ Principal Contractor

- **Principal Designer:** NML
- **Principal Contractor:** Appointed Contractor for the Base Build, to be handed over to the Appointed contractor for the Fit Out Exhibition Works.

CONTRACT PARTICULARS

Fourth Recital and Schedule 2 Base date

- **Base date:** 5 Days before the Tender Return Date.

Article 7 Arbitration

- **Article 7 and Schedule 1:** Apply.

Clause 2.2 Commencement and Completion

- **Works commencement date:** Production work to begin off site to ensure that the works are completed to meet the agreed programme.
- **Date for Completion:** To be confirmed at the Pre-Contract Meeting

Clause 2.8 Liquidated damages

- **Damages:**
 - **Rate:** 5% of the contract sum for the first day; and 1% of the contract sum per day thereafter; subject to the maximum amount of liquidated damages being capped at the sum of 10% of the contract sum.

Clause 2.10 Rectification period

- **Period:** 12 months from the date of practical completion.

Clause 4.3 Interim payments

- **Interim Valuation Dates:**
 - **Thereafter at intervals of:** One Month
 - **The first Interim Valuation Date:** One Month after the commencement of the works.
- **Payments due prior to practical completion:**
 - **Percentage of the total value of the work, etc.:** 95 per cent
- **Payments becoming due on or after practical completion:**
 - **Percentage of the total amount to be paid:** 97½ per cent

Clause 4.8.1 Supply of documentation for computation of amount to be finally certified

- **Period:** Three months from the date of practical completion.

Clause 7.2 Adjudication

- **The Adjudicator is:** To be appointed by nominating body.
- **Nominating body:** R.I.C.S.

Schedule 1 paragraph 2.1 Arbitration

- **Appointor of Arbitrator (and of any replacement):** President or a Vice president of the: The Royal Institution of Chartered Surveyors.

THE CONDITIONS

Section 1: Definitions and Interpretation

Section 2: Carrying out the Works

Section 3: Control of the Works

Section 4: Payment

Section 5: Injury, Damage and Insurance

Section 6: Termination

Section 7: Settlement of Disputes

EXECUTION

- **The Contract:** Will be executed as a deed.

00-30-70 Works Contract Procurement

110 Compliance with Tender rules

- **Compliance:** Failure to comply may result in Tenders being rejected at the sole discretion of the Employer.
- **Costs:** No liability is accepted for costs incurred in the preparation of a Tender.

120 Preliminary Enquiry

- **Details:** To be appointed by nominating body.

170 The Tender documents

- **The Tender documents:** The Specification document as outlined in "Part 1 - Documents" within the Letter of Intent. The design information to be produced over the course of the works with final information bound into a contract document following agreement of the contract sum.

190 Tender instructions

- **Qualifications:** Do not amend or alter documents without written instruction.
- **Confidentiality:** Do not reveal details of parts of the Tender or supporting documents (except for the necessary purposes of preparing that Tender) without the Employer's express written permission.

210 Pricing

- **Pricing:** Price and extend each item individually as instructed. Do not group items together.
- **Currency:** Pounds sterling.

220 Site visit

- **Nature of the site:** Ascertain before Tendering, including access thereto and local conditions and restrictions likely to affect the execution of the Work.
- **Arrangements for visit:** shall be made at the Contractors own convenience; Please contact NML to arrange this.
Note - no access to the Site will be permitted without a prior appointment being made.

320 Error resolution

- **Arithmetic and technical errors:** The Tenderer will be given an opportunity to confirm an offer or amend it to correct genuine errors. If correction means that the Tender is no longer eligible for acceptance under the selected assessment criteria, then it will be disqualified from that process.

340 Post-Tender negotiations

- **Negotiations:** All works to be negotiated with NML

00-40-70 Works Contract Establishment

ACCESS

110 Access to the site

- **Details:** The Contractor shall maintain access through the site at all times from all access points to the highway. Vehicular access for Deliveries, Skip Access/ Egress Route must be via the goods lift. Access to the lift will need to be managed by the Principal Contractor.
- **Limitations:** No other access routes are to be used and all to be considered as blue light routes and kept clear at all times.

120 Use of the site

- **General:** Do not use the site for any purpose other than carrying out the contract work.
- **Limitations:** The Contractor shall ensure all workmen stay within the boundaries of the site, except subject to a permit to work procedure.
- **Working Hours:** Monday to Friday 8am - 8pm, Saturday and Sundays 10am - 4pm

145 Traffic and vehicles

- **Limitations:** All roads are to be left unobstructed at all times.

150 Storage, accommodation, mechanical plant, temporary works and services

- **Position:** Submit proposed details of intended siting.
- **Maintenance:** Alter, adapt and move as necessary. Remove when no longer required and make good.

GENERAL INFORMATION

160 Cash flow forecast

- **Submission:** Before starting work on site, submit a forecast showing the gross valuation of the Works at the date of each Interim Certificate throughout the Contract period and based on the programme for the Works.

225 Freight Vehicle safety requirements

- **Vehicle equipment (minimum):** Audible alert to other road users to the planned movement of the vehicle when the vehicle's indicators are in operation. Prominent signage at the rear of the vehicle to warn cyclists of the dangers of passing the vehicle on the inside. Properly adjusted class VI mirror/s or Fresnel lens to eliminate the near side blind spot. Side under run guards.
- **Drivers:** Trained on vulnerable road user safety through an approved course. Hold a current valid Certificate of Competence. Have a valid driving licence and be legally able to drive the vehicle.
- **Registration Scheme membership:** Submit evidence of registration with and accreditation to the Freight Operator Registration Scheme (FORS).

PROGRAMME

250 Programme

- **Master programme:** When requested and before starting work on site, submit in an approved form a master programme for the Works.
- **Include:** Site Set up details.
- **Planning:** Planning and mobilization by the Contractor including subcontractor's work.
- **Engineering services:** Running in, adjustment, commissioning and testing of engineering services and installations.
 - **Instructions:** Work resulting from instructions issued in regard to the expenditure of provisional sums.
- **Concurrent work:** Work by or on behalf of the Employer and concurrent with the contract. The nature and scope of which, the relationship with preceding and following work and relevant limitations are suitably defined in the Contract Documents.
- **Number of copies:** One copy.

280 Commencement of work

- **Notice:** Before the proposed date for commencement of work on site give minimum notice of one week.

HEALTH AND SAFETY INFORMATION

300 Health and Safety information

- **Submitted:** All Health and Safety Information is to be submitted to the Principal Contractor on Site.
- **Content:** Describe the proposed organization and resources to safeguard the health and safety of operatives, including those of subcontractors, and of any person whom the Works may affect.
- **Include:** Construction Phase Health & Safety Plan.
- **Policy document:** A copy of the Contractor's health and safety policy documents, including risk assessment procedures.
 - **Records:** Accident and sickness records for the past five years and of any previous Health and Safety Executive enforcement action.
 - **Training:** Records of training and training policy.
 - **Personnel:** The proposed number and type of staff responsible for health and safety on this project with details of their qualifications and duties.
- **Submittal date:** Within one week of request.

320 Outline Construction Phase Health and Safety Plan

- **Content:**
 - **Risk assessment:** Method statements on how risk from hazards identified in the pre-construction information and other hazards identified by the Contractor will be addressed. Procedures for carrying out risk assessment and for managing and controlling the risk.
 - **Management system:** Details of the proposed management structure, responsibilities and arrangements for issuing health and safety directions. Include procedures for informing other contractors and employees of health and safety hazards.
 - **Selection:** Proposed procedure for ensuring competency of other contractors, the self employed and designers.
 - **Communication:** Procedures for communications between the project team, other

contractors and site operatives. Include arrangements for cooperation and coordination between contractors.

- **Emergency:** Procedures including those for fire prevention and escape.
 - **Records:** Arrangements for ensuring that accidents, illness and dangerous occurrences are recorded.
 - **Personnel:** Procedures for ensuring that persons on site have received relevant health and safety information and training. Include arrangements for consulting with and taking the views of people on site, for preparing site rules and drawing them to the attention of those affected and ensuring compliance.
 - **Monitoring:** Monitoring procedures to ensure compliance with site rules, selection and management procedures, health and safety standards and statutory requirements. Review procedures to obtain feedback.
- **Submittal date:** Within one week of request.

370 Construction phase health and safety plan

- **Delivery to the Client:** No later than one week before commencement on site.
- **Confirmation:** Do not start construction work until written confirmation is received that the Construction Phase Health and Safety Plan includes the procedures and arrangements required by the CDM Regulations.
- **Content:** Develop the plan from and draw on the Outline Construction Phase Health and Safety Plan and the Preconstruction information.

TEMPORARY SERVICES

510 Water

- **Supply:** The Employer's mains may be used for the Works as follows:
- **Metering:** Free of charge.

530 Gas

- **Supply:** The Employer's mains may be used for the Works as follows:
- **Metering:** Free of charge.
- **Continuity:** No liability will be accepted for the consequences of failure or restriction in supply.

540 Lighting and power

- **Supply:** Electric power from the Employer's mains may be used for the Works as follows:
- **Metering:** Free of charge.

710 Beneficial use of installed systems

- **Permanent systems:** Do not use for any purpose other than running in, testing and commissioning.
- **Other uses:** If permission is given for any other use of a system before the Works are accepted as complete, enter into a separate written agreement recording details of the terms and conditions of use.

00-50-70 Works Contract Management

GENERALLY

SUPERVISION, COOPERATION AND COORDINATION

130 Supervision

- **Requirement:** The whole of the contract work and any significant parts must be under the close control of competent trade supervisors to ensure maintenance of satisfactory quality, progress and coordination.
- **Evidence:** Provide names, CV's, qualifications and any other documentary evidence.
- **Submittal date:** One week before start on site.
- **Replacement of supervisory personnel:** Give maximum possible notice before changing supervisory personnel.

PROGRESS

160 Progress meetings

- **General:** Meetings will be held to review progress and other matters arising from administration of the Contract.
- **Frequency:** Every two weeks.
- **Venue:** Site
- **Accommodation:** Ensure availability at the time of such meetings.
- **Attendees:** Project Manager / Principal Designer / Client / Contractor.
- **Chairperson:** Contract Administrator.
 - **Name:** Contract Administrator.
 - **Duties:** The Chairperson will send invitations, receive apologies, distribute agendas, take and distribute minutes.

OPERATION

200 Employer's representatives inspections

- **Access:** Provide at reasonable times.
- **Inspections:** Agree dates and times several days in advance, to enable affected parties to be present.
- **Safety:** Submit details in advance of safety provisions and procedures (including those relating to materials, which may be deleterious), which will require compliance of the Employer and Employer's representatives when visiting the site.
- **Provide:** Protective clothing and/ or equipment site for the Employer, the Employer's representatives and other visitors to the site.

210 Removal or replacement of existing work

- **Extent and location:** Agree before commencement.

- **Execution:** Carry out in ways that minimize the extent of work.

220 Ownership of materials

- **Alteration or clearance work:** Materials arising become the property of the Contractor except where otherwise stated. Remove from site as work proceeds.

230 Measurement

- **Covered work:** Give notice before covering work required to be measured.

240 Service runs

- **General:** Provide adequate space and support for services, including unobstructed routes and fixings.
- **Ducts, chases and holes:** Form during construction rather than cut in situ.
- **Coordination with other works:** Submit details of locations, types and methods of fixing of services to fabric and identification of runs and fittings.

250 Access

- **Extent:** Provide at reasonable times access to the Works; also to other places where the Contractor or subcontractors are preparing work for the Contract.

260 Security

- **Protection:** Safeguard the site, the Works, products, materials, and existing buildings affected by the Works from damage and theft.
- **Access:** Take reasonable precautions to prevent unauthorized access to the site, the Works and adjoining property.

280 Stability

- **Responsibility:** Maintain the stability and structural integrity of the Works and adjacent structures during the Contract.
- **Design loads:** Obtain details, support as necessary and prevent overloading.

290 Occupied premises

- **Extent:** Existing buildings will be occupied and/ or used during the Contract.
- **Details:** Arrangements to be made with the school regarding decanting of classroom areas to enable roofing works to be completed.
- **Works:** Carry out without undue inconvenience and nuisance and without danger to occupants and users.

PROTECTION FROM

390 Noise and vibration

- **Noise control:** In accordance with BS: Code of practice for noise and vibration control on construction and open sites. Noise,
- **Equipment:** Fit compressors, percussion tools and vehicles with effective silencers of a type recommended by manufacturers of the compressors, tools or vehicles.
- **Restrictions:** Obtain consent before using percussion tools and other noisy appliances. Do not use radios or other audio equipment or permit employees to use in ways or at times that may cause nuisance.

400 Pollution

- **Prevention:** Protect the site, the Works and the general environment including the atmosphere, land, and water courses against pollution.
- **Contamination:** If pollution occurs inform immediately, including to the appropriate Authorities and provide relevant information.

430 Nuisance

- **Duty:** Prevent nuisance from smoke, dust, rubbish, vermin and other causes.
- **Surface water:** Prevent hazardous build-up on site, in excavations and to surrounding areas and roads.

440 Asbestos containing materials

- **Requirement:** Report immediately suspected materials discovered during execution of the Works. Do not disturb and agree methods for safe removal or encapsulation.

450 Fire prevention

- **Requirement:** Prevent personal injury or death, and damage to the Works or other property from fire.
- **Standard:** Comply with 'Fire prevention on construction sites' - the joint code of practice on the protection from fire of construction sites and buildings undergoing renovation.

460 Smoking on site

- **Smoking on site:** Not permitted.

470 Burning on site

- **Burning on site:** Not permitted.

480 Moisture

- **Wetness or dampness:** Prevent, where this may cause damage to the Works.
- **Drying out:** Control humidity and the application of heat to prevent:
Blistering and failure of adhesion.
Damage due to trapped moisture.
Excessive movement.

500 Infected timber and contaminated materials

- **Removal:** Where instructed to remove material affected by fungal and/or insect attack from the building, minimize the risk of infecting other parts of the building.
- **Testing:** Carry out and keep records of appropriate tests to demonstrate that hazards presented by concentrations of airborne particles, toxins and other micro-organisms are within acceptable levels.

510 Waste

- **Includes:** Rubbish, debris, spoil, containers and surplus material.
- **Requirement:** Keep the site and Works clean and tidy. Remove rubbish, dirt and residues before closing voids and cavities in the construction.
- **Waste:** Remove frequently and dispose off site in a safe and competent manner as approved and directed by the Waste Regulation Authority.

- **Recyclable material:** Sort and dispose at a Materials Recycling Facility approved by the Waste Regulation Authority.
- **Documentation:** Retain waste transfer documentation on site.

520 Electromagnetic interference

- **Duty:** Prevent excessive electromagnetic disturbance to apparatus outside the site.

540 Power actuated fixing systems

- **Use:** Not permitted.

580 Existing services

- **Confirmation:** Notify service authorities, statutory undertakers and/ or adjacent owners of proposed work not less than one week before commencing site operations.
- **Identification:** Before starting work, check and mark positions of mains and services. Where positions are not shown on drawings obtain relevant details from service authorities, statutory undertakers or other owners.
- **Work adjacent to services:** Comply with service authority's or statutory undertaker's recommendations.
Adequately protect, and prevent damage to services.
Do not interfere with their operation without consent of service authorities, statutory undertakers or other owners.
- **Identifying services:**
 - **Below ground:** Use signboards, giving type and depth.
- **Overhead:** Use headroom markers.
- **Damage to services:**
 - **Action:** Immediately give notice and notify appropriate service authority or statutory undertaker.
 - **Repair:** Make arrangements for making good without delay to the satisfaction of service authority, statutory undertaker or other owner as appropriate.
- **Liability:** Measures taken to deal with an emergency will not affect the extent of the Contractor's liability.
- **Marker tapes or protective covers:** Replace, if disturbed during site operations, to service authority's or statutory undertakers recommendations.

640 Existing work

- **Protection:** Prevent damage to existing work, structures or other property during the execution of the Works.
- **Removal:** Minimum amount necessary.
- **Replacement work:** To match existing.

650 Building interiors

- **Protection:** Prevent damage from exposure to the environment, including weather, flora, fauna, and other causes of material degradation during the execution of the Works.

METHOD AND SEQUENCE

790 Working hours

- **Specific limitations:** Working Hours are available between 8.00am - 8.00pm (Mon - Fri) and 10.00am - 4.00pm (Sat & Sun)

00-60-70 Works Contract Verification

STANDARDS OF PRODUCTS AND EXECUTIONS

110 Substitute products

- **Details:** If products of different manufacture to those specified are proposed, submit details with the tender giving reasons for each proposed substitution. Substitutions which have not been notified at tender stage may not be considered.
- **Compliance:** Substitutions accepted will be subject to verification requirements detailed in the specification.

120 Substitution of products

- **Products:** If an alternative product to that specified is proposed, obtain approval before ordering the product.
- **Reasons:** Submit reasons and relevant information for the proposed substitution.
- **Information to be submitted:** Manufacturer and product reference.
Cost.
Availability.
Relevant standards.
Performance.
Function.
Compatibility of accessories.
Proposed revisions to drawings and specification.
Compatibility with adjacent work.
Appearance.
Copy of warranty or guarantee.
- **Alterations to adjacent work:** If needed, advise scope, nature and cost.
- **Manufacturers' guarantees:** If substitution is accepted, submit before ordering products.

130 Equivalent products

- **Inadvertent omission:** Wherever products are specified by proprietary name the phrase 'or equivalent' is to be deemed included.

140 Substitution of standards

- **Specification:** To British Standard or European Standard.
- **Substitution:** May be proposed complying with a grade or category within a national standard of another Member State of the European Community or an international standard recognized in the UK.
- **Ordering:** Submit notification of all such substitutions before ordering.
- **Documentary evidence:** Submit for verification when requested. Submitted foreign language documents must be accompanied by certified translations into English.

DOCUMENTS AND INFORMATION

150 Currency of documents

- **Currency:** References to published documents are to the editions, including amendments and revisions, current on the date of the Invitation to Tender.

160 Incomplete documentation

- **Products and executions:** Where and to the extent that products or executions are not fully documented, they are to be as follows.
- **Requirements:**
 - **Standard:** Of a kind and quality appropriate to the nature and character of that part of the Works where they will be used.
 - **Suitability:** Suitable for the purposes stated or reasonably to be inferred from the project documents.
- **Contract documents:** Omissions or errors in description and/ or quantity shall not vitiate the Contract nor release the Contractor from obligations or liabilities under the Contract.

220 Technical information

- **Retain:** Available on site for reference by supervisory personnel.
- **Information:** Manufacturer's current information and relevant British Standards, relating to products to be used in the Works.

230 Compliance

- **Compliance:** Retain on site evidence that the proprietary product specified has been supplied.
- **Submit:** Evidence of compliance with performance specifications, including test reports indicating properties tested, pass or fail criteria, test methods and procedures, test results, identity of testing agency, test dates and times, identities of witnesses and analysis of results.

PRODUCTS AND EXECUTION

240 Workmanship skills

- **Operatives:** Appropriately skilled and experienced for the type and quality of work.
- **Registration:** With Construction Skills Certification Scheme.
- **Evidence:** Operatives must produce evidence of skills and qualifications when requested.

250 Quality of products

- **Generally:** New.
- **Supply:** Each product from the same source or manufacturer.
- **Quantity:** Whole quantity of each product required to complete the Works of consistent kind, size, quality and overall appearance.
- **Tolerances:** Where critical, measure a sufficient quantity to determine compliance.
- **Deterioration:** Prevent. Order in suitable quantities to a programme and use in appropriate sequence.
- **Recycling:** Proposals for recycled products may be considered.

260 Quality of execution

- **Generally:** Fix, apply, install or lay products securely, accurately, plumb, neatly and in alignment.
- **Colour batching:** Do not use different colour batches where they can be seen together.

- **Dimensions:** Check on-site.
- **Finished work:** Not defective, damaged, disfigured, dirty, faulty, or out of tolerance.
- **Appearance:** Adjust joints open to view so they are even and regular.

270 Inspections

- **Standard:** Inspection, or other action, of products or executions must not be taken as approval unless confirmed in writing including the following:
Date of inspection.
Part of the work inspected.
Respects or characteristics which are approved.
Extent and purpose of the approval.
Associated conditions.

280 Related work

- **Details:** Provide trades with necessary details of related types of work. Before starting each new type or section of work ensure previous related work is approximately complete, in accordance with the project documents, to a suitable standard and in a suitable condition to receive new work.
- **Preparatory work:** Ensure necessary preparatory work has been carried out.

290 Manufacturer's recommendations and instructions

- **General:** Comply with manufacturer's printed recommendations and instructions current on the date of the Invitation to Tender.
- **Submit:** Details of changes to recommendations or instructions.
- **Execution:** Use ancillary products and accessories supplied or recommended by main product manufacturer.
- **Products:** Comply with limitations, recommendations and requirements of relevant valid certificates.

SAMPLES AND APPROVALS

330 Samples

- **Products or executions:** Comply with specification requirements and in respect of the stated or implied characteristics:
To an express approval.
To match a sample expressly approved as a standard for the purpose.

340 Approval of products

- **Programme:** Undertake or arrange submissions, samples, inspections and tests to suit the Works programme.
- **Approval:** Relates to a sample of the product and not to the product as used in the Works. Do not confirm orders or use the product until approval of the sample has been obtained.
- **Retain:** Complying sample in good, clean condition on site. Remove when no longer required.

350 Approval of execution

- **Programme:** Undertake or arrange submissions, samples, inspections and tests to suit the Works programme.
- **Approval:** Relates to the stated characteristics of the sample. (If approval of the finished work as

a whole is required this is specified separately). Do not conceal, or proceed with affected work until compliance with requirements is confirmed.

- **Retain:** Complying sample in good, clean condition on site. Remove when no longer required.

ACCURACY AND SETTING OUT GENERALLY

380 Setting out

- **General:** Submit details of methods and equipment to be used in setting out the Works.
- **Levels and dimensions:** Check and record the results on a copy of drawings. Notify discrepancies and obtain instructions before proceeding.
- **Completion of setting out:** Give notice before commencing construction.

SERVICES GENERALLY

430 Services regulations

- **Services:** New and existing services must comply with the Byelaws or Regulations of the relevant Statutory Authority.

440 Water regulations and byelaws notification

- **Requirements:** Notify Water Undertaker of work carried out to or which affects new or existing services. Submit required plans, diagrams and details.
- **Consent:** Allow adequate time to receive Undertaker's consent before starting work. Inform immediately if consent is withheld or is granted subject to significant conditions.

450 Water regulations and byelaws Contractor's certificate

- **Content:**
 - **Installation:** Describe the new installation and/ or the work carried out to an existing installation, including the address.
- **Statement:** Confirm that the installation complies with the relevant Water Regulations or Bylaws.
 - **Inspection:** Provide the Contractor's name and address, the name and signature of the individual responsible for checking compliance and the date on which the installation was checked.
- **Submit:** Certificate on completion of the work, include a copy to the Water Undertaker.

460 Electrical installation certificate

- **Certification:** The original certificate is to be lodged in the Building Manual at the completion of relevant electrical work.

480 Mechanical and electrical services

- **Final tests and commissioning:** Carry out so that services are in full working order at completion of the Works.
- **Confirmation:** Provide a Building Regulations notice, signed by a suitably qualified person, to Building Control that systems have been commissioned in accordance with approved procedures.
- **Records:** A copy to be lodged in the Building Manual.

00-70-70 Works Contract Administration

USE OF DOCUMENTS

100 Freedom of information

- **Records:** Retain, make available for inspection and supply on request information reasonably required to allow response to requests made under the provisions of the Freedom of Information Act.
- **Received requests:** Obtain instruction before proceeding.
Do not supply information to those who are not project participants without express written permission.
- **Confidentiality:** Maintain at all times.

110 Drawings

- **Definitions:** Building Applications Guide: Design framework for building services. 4th edition A design framework for building services. Design activities and drawing definitions.
- **CAD data:** In accordance with BS 1192.

120 Cross references

- **Accuracy:** Check remainder of the annotation or item description against the terminology used in the cited section or clause.
- **Related terminology:** Where a numerical cross-reference is not given the relevant sections and clauses of the Specification will apply.
- **Relevant clauses:** Clauses in the cited specification section dealing with general matters, ancillary products and execution also apply.
- **Discrepancy or ambiguity:** Before proceeding, obtain clarification or instructions.

130 Referenced documents - conflicts

- **Precedence:** Specification prevails over referenced documents.

140 Dimensions

- **Dimensions:** Do not scale.

DOCUMENTS PROVIDED ON BEHALF OF THE EMPLOYER

230 Additional copies of drawings and documents

- **Additional copies:** Issued free of charge.

DOCUMENTS PROVIDED BY CONTRACTOR, SUBCONTRACTORS AND SUPPLIERS

280 Schedule of Rates

- **Schedule of rates (unpriced):** Provided. The Contractor may insert additional items. Fully price all items.
- **Fully priced copy - submittal date:** Within one week of request.

470 Outline construction phase health and safety plan

- **Content:**
 - **Risk assessment:** Method statements on how risk from hazards identified in the pre-construction information and other hazards identified by the Contractor will be addressed. Procedures for carrying out risk assessment and for managing and controlling the risk.
 - **Management system:** Details of the proposed management structure, responsibilities and arrangements for issuing health and safety directions. Include procedures for informing other contractors and employees of health and safety hazards.
 - **Selection:** Proposed procedure for ensuring competency of other contractors, the self employed and designers.
 - **Communication:** Procedures for communications between the project team, other contractors and site operatives. Include arrangements for cooperation and coordination between contractors.
 - **Emergency:** Procedures including those for fire prevention and escape.
 - **Records:** Arrangements for ensuring that accidents, illness and dangerous occurrences are recorded.
 - **Personnel:** Procedures for ensuring that persons on site have received relevant health and safety information and training. Include arrangements for consulting with and taking the views of people on site, for preparing site rules and drawing them to the attention of those affected and ensuring compliance.
 - **Monitoring:** Monitoring procedures to ensure compliance with site rules, selection and management procedures, health and safety standards and statutory requirements. Review procedures to obtain feedback.
- **Submittal date:** Within one week of request.

480 Health and safety file information

- **Information:** Provide as required by Principal Designer.

INFORMATION

800 Insurance

- **Documentary evidence:** Before starting work on site submit details and/ or policies and receipts for the insurances required by the Conditions of Contract.

820 Insurance claims

- **Notice:** If an event occurs which may give rise to a claim or proceeding in respect of loss or damage to the Works or injury or damage to persons or property arising out of the Works, immediately give notice to the Employer, the person administering the contract on behalf of the Employer and the Insurers.
- **Failure to notify:** Indemnify the Employer against loss, which may be caused by failure to give such notice.

00-80-70 Works Contract Completion

NOTIFICATION

100 Notice of completion

- **Requirement:** Give notice of the anticipated dates of completion of the whole or parts of the Works.
- **Associated work:** Ensure necessary access, services and facilities are complete.

COMPLETION WORK

170 Work before completion

- **General:** Make good damage consequent upon the Works. Remove temporary markings, coverings and protective wrappings unless otherwise instructed.
- **Cleaning:** Clean the Works thoroughly inside and out, including accessible ducts and voids. Remove splashes, deposits, efflorescence, rubbish and surplus materials.
- **Cleaning materials and methods:** As recommended by manufacturers of products being cleaned, and must not damage or disfigure other materials or construction.
- **COSHH dated data sheets:** Obtain for materials used for cleaning and ensure they are used only as recommended by their manufacturers.
- **Minor faults:** Touch up in newly painted work, carefully matching colour and brushing out edges. Repaint badly marked areas back to suitable breaks or junctions.
- **Moving parts of new work:** Adjust, ease and lubricate as necessary to ensure easy and efficient operation, including doors, windows, drawers, ironmongery, appliances, valves and controls.

180 Security at completion

- **General:** Leave the Works secure with, where appropriate, accesses closed and locked.
- **Keys:** Account for and adequately label keys. Hand over to the duly authorized person with an itemized schedule. Retain a duplicate schedule signed by that person as a receipt.

190 Rectification and defects

- **Notice:** Give reasonable notice for access to the various parts of the Works.
- **Access arrangements:** Arrange with School Office.
- **Completion:** Give notice when remedial works have been completed.

INFORMATION

240 The Building Manual

- **Responsibility for production:** The Contractor.
- **General:** Obtain and provide comprehensive information for owners and users of the completed Works. Include an overview of the main design principles and describe key components and systems within the finished Works to enable proper understanding, efficient and safe operation and maintenance.
- **Number of copies:** 2.

- **Delivery to:** Principal Designer / Contract Administrator.

250 The Health and Safety File

- **Responsibility for production:** The Contractor.
- **Content:** Refer to the Pre Construction Information Pack.
- **Format:** Electronic (PDF).
- **Delivery to:** The Principal Designer.

310 Content of the Building Manual

- **General:** Details of the property, the parties, fire safety strategy, operational requirements and constraints of a general nature.
- **Building fabric:** Design criteria, maintenance details, product details, and environmental and trafficking conditions.
- **Building services:** Description and operation of systems, diagrammatic drawings, record drawings, identification of services, product details, equipment settings, maintenance schedules, consumable items, spares and emergency procedures.
- **Documentation:** Guarantees, warranties, maintenance agreements, test certificates and reports.

320 Presentation of Building Manual

- **Format:** A4 size, plastics covered, loose leaf, four ring binders with hard covers, each indexed, divided and appropriately cover titled
- **Selected drawings:** Where these are needed to illustrate or locate items mentioned in the Manual: if larger than A4, to be folded and accommodated in the binders so that they may be unfolded without being detached from the rings.
- **As-built/ record drawings:** The main sets may form annexes to the Manual.

340 Information for commissioning of services

- **General:** Submit relevant drawings and preliminary performance data to enable the building user's staff to familiarise themselves with the installation.
- **Submittal date:** At commencement of commissioning.

350 Training

- **Objective:** Before completion, explain and demonstrate to designated maintenance staff the purpose, function and operation of the installations including items and procedures listed in the Building Manual.

410 Tools and consumables

- **General:** Provide tools and portable indicating instruments for the operation and maintenance of all services plant and equipment (except any installed under Named Subcontracts) together with suitable means of identifying, storing and securing.
- **Quantity:** Two complete sets.
- **Consumables:** Supply a complete list of all consumables necessary for the operation.
- **Submittal date:** At completion.