

Chantry Centre – New Build

Job No. 600682

Specification

Author: DL
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Status: D2 - Tender

architecture
building surveying
building services
planning
interior design
sustainability
civil and structural
quantity surveying
project management
CDM and H&S services

Vision, form and function

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SECTION 1.00 – PRELIMINARIES AND GENERAL CONDITIONS

Chantry Centre Billericay

Custom Report

11/02/2019 - 13:25



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Project Management

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00-05-10 Project Definition

101 Project description

- **Project reference:** 600682
- **Project title:** Chantry Centre
- **Project description:** New Build

Site information

115 Utilities and services survey

- **Details:** A preliminary Topographic and UGS of the existing with is appended to to the specification.
- **Reference:** UK Land Surveys UKLS659
- **Format:** Hard copy - Electronic Available
- **Provision:** Further investigations may be required and allowed for by Contractor.

Ground information

120 Mechanical and Electrical General Services Requirements

- **Purpose of Specification:** This section of the Specification indicates the general requirements which are required for the Mechanical and associated Electrical Services Installation for this project.
- **Singularity of Documents:** This document and all other documents issued as a part of the Tender shall be read as a single document.
There is no hierarchy and/or precedence and where the Contractor in the preparation of their proposals in response to these requirements identifies a discrepancy whether it is a contradiction, omission, conflict, etc they shall detail the issues for the Contract Administrator who will adjudicate on resolution of the issue. In identifying the discrepancy the Contractor shall provide sufficient detail and suggested solutions to the Contract Administrator to allow an informed basis of determination.

Failure to identify a discrepancy whether it is a contradiction, omission, conflict, etc prior to submission of the Contractor's Proposals shall mean that the Contractor has made provision for all of the required elements to provide a fully integrated, functional and aesthetic solution to the Contract Administrator's determination of interpretation of the required provision related to any subsequently discovered discrepancy.

- **Building Services Manager:** The Contractor shall provide a Building Services Manager and support as required to act as a single point of contact and management for these works. The individual in this position shall have a building services background and have appropriate technical qualifications and experience to manage the procurement, co-ordination, installation, commissioning and handover.

It is anticipated that the individual providing this support will be available from the commencement of the Contractor's preparation for the Project through to the end to ensure a continuity of input and understanding.

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<p>The individual shall be able to demonstrate this experience through membership of CIBSE, IHEEM, IET, IMechE, ASHRAE, IoP, ABE, BIFM or other recognised building services learned body.</p> <p>The Building Services Manager shall ensure that the mechanical and electrical services are fully integrated and that all elements of one discipline are compatible with the provisions and spatial requirements of the other discipline and the Project as a whole and that these arrangements are reciprocated.</p> <p>The Building Services Manager shall ensure all Utility Supplies are included within the Contractor's Proposal; capacity is available, supplies negotiated, available to time for phasing as required, etc and at appropriate milestones in the Project's delivery programme.</p> <p>The Building Services Manager shall be present at all projects and shall take minutes and circulate these where required by the Contract Administrator.</p> <p>The Building Services Manager shall have authority to determine all matters related to the design, installation and handover of the building services.</p> <ul style="list-style-type: none"> • Commissioning Manager: The Contractor shall appoint a Commissioning Specialist to review the design as it develops to ensure all measures necessary for setting to work, balancing and testing are incorporated. They shall supervise/manage the commissioning of transfer of the site to the Client. <p>The Commissioning Specialist shall attend the Contracted Project Team Meetings as necessary to ensure the appropriate measures to allow commissioning are incorporated.</p> <p>The Commissioning Specialist shall attend all meetings where the control system is under discussion.</p> <ul style="list-style-type: none"> • Installation Drawings: The Contractor shall provide four printed sets of the Installation Drawings prior to commencement of works on site for review; these submissions may be phased to suit the works. <p>Any works conducted on-site prior to the review of the relevant drawing may be subject to a requirement to cease works, make good and all associated costs of any remedial works associated with the damage of unauthorised works.</p> <p>Due time allowance shall be made within the Contractor's programme for re-submissions to the Contract Administrator to incorporate corrections, amendments and other requirements so that the calculations and drawings may be further reviewed and issued in good time for the manufacture of elements of the installation and so that the Contract Works may proceed in accordance with the agreed Contract programme.</p> <p>Failure to make allowance in this respect shall not relieve the Contractor from meeting their programme obligations.</p> <p>The drawings shall show:</p> <ul style="list-style-type: none"> a) Fully dimensioned builders work requirements; b) Plantroom details; c) General arrangement of the complete installation; d) Containment and Pipework support details; e) Pipework fabrication details; g) Purpose-made diagrams detailing the electrical circuitry within the installation; h) Manufacturer's shop drawings and 'As Made' drawings where appropriate; 	£	p
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i)Layouts and details of control panels and cubicles.

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All revisions on a drawing shall be clouded, marked with the revision ref and a full description noted in the revision column of the drawing. The previous revision of a drawing shall have all clouding and the revision ref removed.

The Contractor shall identify any revisions to drawings arising from a change of requirement detailed by the Contract Administrator, including any cost or programme implication.

Builders work drawings shall show in full dimension, all foundations, bases, supports, pipe anchors, plinths, sumps, holes, fixings, etc., which shall be required and the overall sizes and mass of the plant concerned. With the agreement of the Contract Administrator, holes, fixings etc. other than in plantrooms, may be marked out on site instead of on drawings.

All Contractor's builderswork and installation/working drawings shall be stamped as such and no work shall be carried out other than on drawings commented on by the Contract Administrator as described hereunder.

The Contractor shall review the calculations and drawings to satisfy himself that they are in general accordance with the Contract and the drawing review and comment procedure, but neither such review nor the Contract Administrator review comments shall relieve the Contractor from responsibility for :-

- i)Any Deficiency or inaccuracy or non-compliance with the Contract or the specification.
- ii)Any error in the proper fixing of the Contract Work.

iii)The necessity of providing any work required by the Contract or the Specifications not indicated on the installation drawing.

Prior to submission of any drawing and/or document to the Contract Administrator for review the Contractor shall review and comment upon the submission to ensure that the submission meets the agreed requirements. The Contractor shall maintain a record of this review process and present it to the Contract Administrator on demand.

The Contractor's calculations and installation drawings will be reviewed by the Contract Administrator and returned with a review code as described below. Upon receipt of such calculations or drawings bearing the Contract Administrator review code and signature, the Contractor shall immediately take such action as detailed by the code.

The Contractor shall allow 12 working days from receipt by the Contract Administrator for each review.

The review codes as referred to herein shall be defined as:

Code Description Date Tick and Initial the Review Box

A - Calculation or drawing of an acceptable standard. Work may proceed in accordance within the Contract, Drawings and Specifications.

NO FURTHER REVIEW NECESSARY

B - Calculation or drawing standard acceptable in principle, work may proceed in accordance with the Contract, Drawings and Specifications, provided that comments annotated on calculations or drawings and/or accompanying schedules are incorporated. Incorporate comments on calculations or drawings and resubmit.

RE-SUBMIT FOR FURTHER REVIEW

C - Calculation or drawing not of acceptable standard. Work may not proceed. Revise and provide adequate detail to allow review and comment. Revise and incorporate adequate detail, provide calculations to support etc and re-submit.

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RE-SUBMIT FOR FURTHER REVIEW

Drawings returned to the Contractor as Code C for amendment shall be re-submitted for further review and comment showing the nature of the amendment in a revision schedule on the calculation or drawing, together with the revision number or letter and the date of the revision.

Due time allowance shall be made within the Contractors programme for re-submissions to the Contract Administrator to incorporate corrections, amendments and other requirements so that the calculations and drawings may be further reviewed and issued in good time for the manufacture of elements of the installation and so that the Contract Works may proceed in accordance with the agreed Contract programme.

The Contractor shall implement a process to ensure that the works on site, the Contract Administrator and other designated consultants are provided with current drawings in electronic and paper format.

The Contract Administrator review and comment will not, in any way invalidate the Contractor's responsibility for ensuring the accuracy and suitability of the information provided by the Contractor.

The Contract Administrator will review and comment upon the overall layout of plant and equipment, ducting, pipework, cabling, trunking, conduit etc. shown on the installation drawings and their general location in addition to the type and size of such items, in so far as they conform to the current drawings and scope of works.

The exact position in the Works of the above items relative to grid lines, floors, beams, ceilings, walls and other structural items and any other services is the Contractor's responsibility and the Contract Administrator review and comment does not absolve the Contractor from the necessity of checking such.

Where agreement is given to the Contractor for the use of alternative goods, plant and equipment for the Contract Work as an alternative to that which has been declared as the basis of the Contract Specification, such agreement shall not invalidate the Contract since the drawings shall be deemed to still illustrate the design intent, requirements and scope of the Contract Works.

In order for alternative equipment to be included in their design, the Contractor is first required to provide a technical submission containing the details outlined elsewhere, for review by the Contract Administrator.

Installation drawings shall be produced by the Contractor, based upon the guidance in BSRIA Building Applications Guide BG1/2009.

- **Omissions:** The Contractor shall make due allowance in his tender for any item or items which although not indicated on the drawings or mentioned in the Specification, are necessary for the proper construction/installation of the works and the correct operation of the systems in accordance with best current practice and in order to comply with the Specification.

Any items shown on the contract drawings but omitted from the Specification, or described in the Specification but omitted from the contract drawings, shall be included.

The Contractor shall not omit any part of the works described in the Specification or shown on the drawings without the consent of the Contract Administrator in writing.

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<p>The Contract Administrator shall be entitled to instruct the omission of any part of the works and to make appropriate adjustments to the Contract Sum.</p> <ul style="list-style-type: none"> • Alternative Manufacturers: Where a Manufacturer's name, trade mark, model references etc are given in the specification and/or on the drawings, they shall be deemed to be "equivalent" and/or "equal and approved" whether stated in the documents or not. <p>The Contractor shall submit a Request to Substitute a Manufacturer to the Contract Administrator for review and shall include the following:</p> <p>"Original and Proposed Manufacturer "Original and Proposed Model Numbers, catalogue details and general technical data "Cost Implications "Programme Implications "Original and Proposed Life Cycle Cost comparison "Original and Proposed spare parts schedule for first five years including current costs "Original and Proposed maintenance schedule "Original and Proposed design life "Training and support with the current costs of available locally for the Original and Proposed.</p> <p>The Contractor shall discuss the proposed alternative with the Contract Administrator and agree the details of the above submission package. The Contractor shall allow within their Programme for the Contract Administrator to undertake a review in accordance with the details elsewhere.</p> <p>The Contract Administrator shall advise the Contractor of the conclusions arising from the review in writing. It should be understood that the agreement of the Contract Administrator to accept submission of an alternative proposal does not require the acceptance of that alternative in place of the originally detailed items.</p> <p>Should the Contractor decide to use manufacturers other than those given in this specification or on the drawings he shall be responsible for any modifications necessary to incorporate his choice into the design.</p> <p>Where manufacturers names are given in the specification, or on the drawings, they are intended to give guidance as to the quality of equipment required and they have been used in sizing plant spaces and designing the systems of which they form part.</p> <p>Where manufacturers quotations are given in the specification, or on the drawings, they are intended to give guidance as to the equipment required and they have been used in estimating pre-tender budgets and designing the systems of which they form part. These quotations shall not alleviate the Contractor's responsibility for the accuracy of the quotations and the details contained therein.</p> <p>Whether or not the above noted manufacturer's are used on the project, the Contractor shall ensure that the models selected are capable of achieving the required duties at the design conditions.</p> <ul style="list-style-type: none"> • Samples: The Contractor shall submit disposable samples to the Contract Administrator for review as detailed here and elsewhere. All samples shall be a fair and realistic indication of the quality of the materials represented and represent the minimum standard to be utilised on the Project. <p>All samples shall be submitted for review as detailed elsewhere and the Contractor shall make appropriate allowances in time to procure and receive comments.</p>		



Where in the opinion of the Contract Administrator are not of the required standard or are unsuitable for use in the proposed circumstances, the Contractor shall obtain alternative materials or equipment.

All samples which have been reviewed and are to be used on the Project shall be retained and stored in a secure Samples Room. The Sample Room shall be as large as necessary to accommodate the project samples and not less than 3m x 3m. The Sample Room shall be provided with shelves and ceiling grids to store and mount samples. Wherever practical samples shall be mounted in a similar fashion to that which they will be installed on the Project.

Luminaires shall be provided with lamps and power to allow them lit and in service. All expenditure in connection with obtaining samples shall be borne by the Contractor.

The Contractor shall provide a printed permanent label fixed to or adjacent to each sample.

The Contractor shall maintain a Samples Register in the Sample Room which shall detail a unique reference number, source, supplier/manufacturer, model reference, purpose and status of each sample.

All elements that are visible shall be provided as a sample including but not limited to the following:

"Cable Containment
"Electrical Accessories
"Luminaires
"Emergency Luminaires
"Final Exit Signage/Luminaires
"Valves
"Taps
"Control Valves and Actuators
"Control Accessories
"Grilles and Diffusers
"Fire Detection Devices
"Fire Warning Devices
"CCTV Devices
"Security Devices
"Visible Insulation and Finishes
"Heat Emitters

- **Statutory Instruments and Bylaws:** The Contractor shall comply with the requirements and make the necessary provisions detailed in all Statutory Instruments, Local Authority Bylaws, Gas, Water and Electricity Supply Authority or Company requirements.
- **Regulations and Standards:** The whole of the works shall, unless otherwise specified, comply with the requirements of all relevant regulations and standards current at the time of tender or an equivalent agreed with the Contract Administrator in writing and any relevant Authority including, but not limited to the following:

"Acts of Parliament
"Government Rules and Building Regulations
"European Regulations
"Local Authority's Byelaws and Regulations
"Appropriate British Standards and Codes of Practice

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"Health and Safety Executive Regulations and Guidance Notes		
"Water Regulations		
"Gas Safety Regulations		
"Electricity Supply Authority's Regulations		
"Electricity at Work Regulations		
"BS 7671 - IEE Wiring Regulations		
"BS 7430 Code of Practice for Earthing		
"British Standard Specifications and Codes of Practice		
"CIBSE Guides, Application Manuals and Technical Memoranda		
"Building Control Officer's Requirements (Building Regulations 2000)		
"Fire Prevention Officer's Requirements (Building Regulations)		
"The Construction Design and Management (CDM) Regulations 2007		
"Insurance Office Concerned with Insurance Against Damage by Fire		
"The Education (School Premises) Regulations 1999		
"Gas Safety (Installation and Use) Regulations 1998		
"National Water Regulations		
"Local Water Regulations		
"Current Building Regulations		
"HSE ACOP/L8 - The Control of Legionella Bacteria in Water Systems		
"TR 10 as published by HVCA		
"CIBSE Commissioning Codes		
"HVCA DW144 plus Amendments		
"HVCA DW172 plus Amendments		
"BS5266 part 1 Code of Practice for Emergency Lighting		
"BS 5839 2002 Code of Practice for system design and installation		
"BS EN 62305 2006 Protection against Lighting		
"BS EN 12464-1 2002 Light and Lighting of Places of work		
"Building for Sure-Start: A Design Guide - Integrated Provision for the Under-Fives		
"BS 7671 Requirements for Electrical Installations		
"Safety and Health at Work Act and Regulations made under this Act		
"Public Health Acts		
"Control of Pollution Acts		
"Local Authority Byelaws and Regulations		
"Control of Substances Hazardous to Health Regulations		
"Asbestos Regulations		
"The Electricity Supply Regulations		
"British Standards		
"Water Supply Authority Regulations and Requirements		
"Gas Supply Authority Requirements and Safety Regulations		
"Electricity Supply Authority Requirements and Regulations		
"Loss Prevention Council rules		
"LDSA Fire, Safety Guide		
"National Telecommunications Regulations		
<p>The Client is required to comply with a number of Acts of Parliament and Regulations, relating to the cleaning and maintenance of buildings including, but not limited to those listed below. These requirements shall be taken into consideration in the design of the building and the engineering services:</p>		
<p>"The Control of Substances Hazardous to Health Regulations Statutory Instrument no 1657.</p>		
<p>"The Offices, Shops and Railway Premises Act 1974.</p>		
<p>"The Health and Safety at Work etc Act 1974.</p>		
<p>"The Electricity at Work Regulations 1989.</p>		
<p>"Health and Safety at Work Regulations Leaflet IND (G) 1241 (re: EC Workplace Directive).</p>		

"The Occupiers Liability Act 1957 and 1984.
"Waste Management Duty of Care Regulations 1992.
"Work at Height Regulation 2005.
"The Health and Safety (Visual Display Terminal) Regulations 1993.

In particular all engineering services components that may require access shall be located and designed to facilitate maintenance without undue difficulty or hazard.

Commodities specified to conform to British Standards shall be clearly and indelibly marked with the reference. Where this is impracticable the relevant advice and delivery notes shall include the BS reference with which they are to comply shall be integrated into the Operating and Maintenance Manuals.

Where commodities are specified as manufactured by a BSI Kitemark Licensee or where commodities/services are specified to be by Registered Firms (under BSI Assessment Schemes) the manufacturer/firm must be a current participant in the relevant scheme.

Where commodities or systems are specified as certified by the British Board of Agreement the commodities or systems supplied shall be the subject of a current BBA Certificate.

Where commodities/services are specified to be by registered/approved firms (under Approved Quality Assurance Schemes) the manufacturer/firm must be a current participant in the relevant scheme.

Materials and fittings for domestic hot water and cold water systems shall be as listed in the Water Research Centre's "Water Fittings and Materials Directory" or, where not listed, shall comply with the requirements of the Statutory Water Undertaker.

Gas fired equipment and appliances shall be certified by Gas Safe.

Note: Before commencement of any works on the domestic water services a statutory ten days notice must be given to the Water authority in compliance with the Water Supply (Water Fittings) (Amendments) Regulations 1999.

- **Standardisation:** It is essential that the minimum number of different components of a similar type shall be used for ease of maintenance and stocking of spares. All components or assemblies deemed to be identical shall be fully interchangeable.

The Contractor shall identify targets for limiting the number of components, e.g. limit the number of lamps to 4 and select luminaires accordingly.

Items, fittings and accessories to be used in quantity shall, where practicable, be the product of one manufacturer and shall be used only for the purpose recommended by that manufacturer.

- **Design Life:** The Contractor shall develop the design on the basis of a 15 year design life as detailed within CIBSE GUIDE M. This design life shall assume continuous operation from handover and shall utilise published manufacturers and institutional literature. To achieve this design life the Contractor shall provide a recommended maintenance regime for the particular installation.
- **Plant Operating Conditions:** The Contractor shall ensure all plant items are suitable for operation in the environment in which they are to be fitted. The Contractor shall determine the conditions in each space relevant in this respect. As a minimum the Contractor shall ensure all plant, motors, starters and ancillary equipment etc. are suitable for operation at full capacity at heights above sea level not exceeding 1000m, with air cooling at an

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<p>average temperature over 24 hours not exceeding 35°C dry bulb with maximum conditions of 40°C dry bulb and 50% relative humidity.</p> <ul style="list-style-type: none"> • Interpretation of Documents: Tender Drawings means drawings listed elsewhere in this Specification prepared by the Contract Administrator (and/or their Consultants). Not all items referred to in the Specification are indicated on the drawings nor are all the items detailed on the drawings described in the Specification. <p>The Consultant's Drawings are detailed design drawings, which show the general arrangement of the Engineering Services to be provided and the inter-relationship of the Works with the work to be installed by others.</p> <p>Due to the Scale of the Drawings issued with this Specification, the locations of outlets, terminal devices, plant and services are approximate only. Exact location shall be determined in the preparation of the Contractor's installation drawings and with reference to all other available published information.</p> <p>The Contractor shall allow for moving service outlets within a 2m radius from the location indicated on the drawings without additional cost to the works.</p> <ul style="list-style-type: none"> • Documents to be provided by the Contractor at Tender Stage: The Contractor shall provide the following documents of review at the Tender Stage: <ul style="list-style-type: none"> "The price as detailed in the Schedules "A Schedule of Rates that are balanced with the above Price "Overhead and profit percentages as detailed in the schedules "Programme "Organisation Chart "CV for the Building Service Manager "CV's for all designers "List of proposed manufacturers/suppliers of all products, equipment and plant, including items for which the choice of manufacture/supplier is discretionary "List of proposed sub-let portion(s) of the Works submit a list defining such portion(s) of the Works to be sub-let, giving, for each, the name and address of the proposed firm. "Schedule of recommended spares to cover a period of five years. "Details of the required Maintenance to cover a period of five years. "Financial and other bona fide documents for all organisations named in the above where their costs amount to 5% or more of the total building services Price. <p>For administration purposes, the final tender sum is to be broken down so as to provide a tender figure for each individual item. Each item shall be priced to include the Contractors' overheads and profit for that particular aspect of the works, so that should it be omitted, it will not have a detrimental effect on the remainder of the tender summary.</p> <p>All items included within this specification are to be included within the tender breakdown. The Contract Administrator reserves the right to omit items from the tender breakdown as is deemed necessary.</p> <p>The Contractor shall submit their tender based upon the equipment and accessories listed within the Tender Specification and as generally indicated on the drawings.</p> <p>If the Contractor declines to tender, they shall return all documentation to the Contract Administrator with all possible haste.</p> <ul style="list-style-type: none"> • Temporary Works: The Contractor shall include in his Tender for any temporary work necessary to maintain the services during construction, whether detailed or not within the specification. 	£	p
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- **Cavity Barriers:** All services which cross cavity barriers shall be supported independently of the cavity barrier.
- **Secondary Steelwork:** All steelwork and structural attachments which are necessary for the support of plant, equipment and distribution systems, and which are additional to the structural steelwork provided for the construction of the buildings, shall be designed, provided and fixed by the Contractor.

Fixings shall be subject to approval by the Contract Administrator and welding to structural steel shall not generally be permitted.

- **Durability and Material:** Suitable protective systems for steelwork and associated fixings and components appropriate to the location to be installed shall be selected in accordance with the relevant standards to enable the required design life to be achieved.

Electro-potential differences between dissimilar metals can lead to corrosion. Insulating spacers between dissimilar metals likely to have high potential differences shall be provided. Where conductivity is required to be retained i.e. cross bonding, then proprietary mixed metal joints shall be used as appropriate to British and/or European Standards.

- **Provision for Expansion:** The Contractor shall check and confirm that the systems as shown on the installation drawings retain adequate provision for expansion and contraction in use.
- **Fan / Pump Duties:** The Contractor shall verify the duties by carrying out check calculations to verify their design for each system using the Contractor's installation drawings and final equipment selections. Check calculations shall be submitted to the Contract Administrator prior to ordering equipment.

Where the calculations result in a change to the fan/pump motor size, the Contractor shall recalculate power supply cable sizes and protection requirements. These calculations shall also be submitted to the Contract Administrator.

- **Sound Attenuators:** The Contractor shall confirm, prior to ordering that the scheduled attenuators permit the specified noise levels to be achieved when incorporated in the Contractor's installation drawings with the final plant and equipment selections.
- **Radio Interference Suppression:** All electrical and electronic apparatus including such items as thyristor controls, sensors, contactors, starters, etc. shall be fitted with means for suppressing the radio interference frequencies caused by it, and shall be immune to interference fields in accordance with the appropriate British and /or European standards.
- **Identification of Services and Units:** Engraved labels, adequately describing the function of the unit to which it is attached shall be secured by not less than four screws to the outside of each item (subject to a minimum dimension of 40mm). Special outlets and equipment shall be fitted with labels in a similar manner. Labels secured by adhesive are not acceptable. They shall be engraved with 5mm high black lettering on white.

Manufacturer's name plates and load plates shall be of an agreed design and shall only be fixed in agreed positions.

All enclosures containing terminals or exposed live parts where a voltage exceeds 30 volts shall have a traffolyte label engraved in 8mm RED characters on a WHITE background indicating the maximum voltage present in the enclosure.

e.g. DANGER - 400 VOLTS

All labels shall be fixed in prominent position clearly visible for normal operation of the apparatus.

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<p>All apparatus and operational risks shall be indicated with appropriate signage using standard pictographs and lettering.</p> <ul style="list-style-type: none"> • Decorative Coatings: In addition to the protective coatings and identification colour banding of mechanical services, required by this Specification, the Contractor shall carry out the final decorative painting of all uninsulated pipes, conduits and vessels whether visible or not where these are not finished at works. As a minimum this shall comprise of an appropriate primer, undercoat and two top coats. • Service Items Located in Tile and Grid Ceilings: Where service items are to be located in tile and grid false ceilings the Contractor shall ensure that these are fixed by the ceiling specialist. All subsequent above ceiling connections 'second fix' items, including plenum boxes and flexible duct connections shall be carried out by the Building Services Specialist. <p>Where the support requirements exceed the capacity of the ceiling, additional support shall be provided by the Building Services Specialists.</p> <ul style="list-style-type: none"> • Silence of the Works: In default of more specific requirements in the Specification, the following shall apply to the whole or parts of the plant, equipment and apparatus. <p>All plant, equipment and apparatus or parts thereof shall be selected and installed with due care, such that it is reasonably silent (reasonably being defined in terms of the space and appropriate CIBSE design criteria) in operation under all conditions under which it may have to operate, having regard to the use of the building and works. In particular, no rattles, vibrations or discrete tones shall be discernible in occupied areas outside the Plantrooms, apparatus rooms or equipment enclosures.</p> <p>If the specified noise criteria, after commissioning and/or adjustment are not achieved to the satisfaction of the Contract Administrator, the Contractor shall, without extra charge, take remedial action to the approval of the Contract Administrator, to achieve and maintain a satisfactory degree of silence.</p> <p>A satisfactory degree of silence shall be judged to be such that noise does not exceed the agreed performance and criteria. The Contract Administrator's decision as to what constitutes a satisfactory degree of silence, within the terms of the Specification, shall be final.</p> <p>The Contractor shall apply his particular attention, during all the stages of the contract proceedings; preparation of builders work details, installation drawings; procurement ordering, manufacture, works test and inspection, installation, workmanship, finishes, site testing and commissioning, to ensure that the specified requirement for the silence of the work and noise criteria shall be strictly enforced, so that the functional requirements of the building are unaffected.</p> <ul style="list-style-type: none"> • Equipment, Workmanship and Materials: Workmanship shall be of the highest standard (as defined by the appropriate institute or trade body) and work shall be carried out by personnel skilled in the appropriate trade. Unskilled persons shall work only under the supervision of, or in conjunction with, appropriately skilled persons within a recognised training programme. <p>All equipment, materials and accessories shall be supplied new, unused and complete with a one year manufacturer's guarantee from Practical Completion and shall be of the best of their respective kind and manufactured and tested to recognised quality control standards, or as defined in the Specifications. The equipment provided shall be of the model in current production at the time of installation, and there shall be no known obsolescence.</p>	£	p
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<p>All equipment, materials, accessories and enclosure shall have the degree of protection necessary to ensure safe and durable operation under the environmental conditions in which they are to be installed and operated, and shall have a reliability not less than the mean time between failure stated by the manufacturer or, in accordance with published standards or, where this is not available comparable information from alternative manufacturers for the type of equipment involved.</p> <p>All materials, equipment and accessories shall be quality control tested at works by the manufacturer prior to delivery and installed in accordance with the manufacturer's recommendations and in accordance with the standards of good practice to be expected of first class tradesmen.</p> <p>Factory built assemblies shall be constructed to properly prepared drawings laying down the method of construction so those items built by different persons shall be identical. This shall include the running of interconnecting wire and cables, as appropriate. All replacement components and all multiple assemblies shall be fully interchangeable. Particular attention shall be paid to the neatness (alignment and close fitting) of plant, ducts, conduit and/or pipe runs as is appropriate.</p> <p>All off-site manufactured plant and equipment shall be constructed or assembled in the appropriate department of the suppliers/manufacturer's works which shall be suitably equipped. Where more than one similar item is constructed all items of equipment shall be interchangeable and to ensure this, site built multiple assemblies shall not be permitted. All replacement components and all multiple assemblies shall be fully interchangeable.</p> <p>Ductwork, pipework, conduit, electrical trunking, false ceilings and fittings shall each be fitted with separate supports and hangers. One run of a similar service shall not be supported from another. All plant involving rotating equipment shall be isolated from the structure, pipework, ductwork and cable connections, by proprietary flexible connections, to the approval of the Contract Administrator. Equipment mountings shall be isolated from the structure by suitably designed vibration isolators and rubber inserts to ensure vibration does not enter the structure.</p> <p>All nuts and bolts used to secure components shall incorporate a locking device of the correct size and shall be tightened by a socket or ring spanner. Alternatively, self locking nuts may be used with plain washers and hank rivet bushes or equivalent may be used where more convenient. 'Self tapping' screws shall not be used where these would need to be removed for routine maintenance. No screw heads (except for labels) shall appear in the faces of instruments and/or control panels.</p> <p>Ease of future maintenance of equipment by others shall be borne in mind during design, assembly and site erection. All components shall be installed in assemblies so that they are easily accessible for replacement purposes and so that terminal screws are also easily accessible. Where assemblies are then mounted in housings the assembly shall be easily replaceable and accessible.</p> <ul style="list-style-type: none"> • Connections to Existing Services: The Contractor shall be responsible for all new connections required to existing services, except where otherwise stated elsewhere and shall include for all work necessitated by such operations. Where the Contractor determines that such connection cannot be satisfactorily made he shall bring the matter to the attention of the Contract Administrator, detailing a solution which is acceptable within their proposal. <p>The Contractor shall be responsible for liaison with the local authorities and/or any</p>	£	p
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specialist contractors/suppliers. All of which shall be deemed to be included within the contractual requirements.

- **Connections to Appliances etc.:** The Contractor shall be responsible for making all final connections to all items of equipment etc., installed as part of the works.
- **Fire Precautions:** The design and arrangement of all plant, apparatus and connection wiring shall be such that the risk of fire sustaining combustion and any damage resulting from fire is minimised. This should also take into consideration welding and other processes encountered as part of the installation process.
- **Safety Precautions:** The Contractor shall ensure that the safety requirements for all systems are satisfied. Any aspect of the existing installation which the Contractor finds does not conform to relevant safety regulations shall be brought to the attention of the Contract Administrator for resolution.

All equipment shall comply with the requirements of the Health and Safety at Work Act and Factories Act.

Comply with all HSE Guidance Notes particular reference being drawn to Control of Substances Hazardous to Health (COSHH) Regulations & HSE Guidance Note GS 7.

- **Valves not shown on the Drawings:** For clarity the drawings do not show all manual and automatic air vents, drain cocks, isolating, regulating and commissioning valves required by the particular work section specifications. The Contractor shall nevertheless be deemed to have allowed for all valves required to comply with the Specification and such valves shall be shown on the Contractor's installation drawings.
- **Cleaning and Repair:** Unless otherwise stated, all equipment shall be delivered to site with the manufacturer's standard finish. The Contractor shall be responsible for preserving the finish of all equipment to be installed. Where equipment is spoilt by cement, plaster, or paint drippings etc., the Contractor will be held responsible for cleaning down and restoring the equipment to its original as new state at no additional cost to the Contract.
- **Schedule of Defects:** The Contractor shall provide a statement of his process and time requirements for managing this project to minimise defects and how they will resolve defects that arise.

The Contract Administrator shall periodically through construction, issue a Schedule of Defects detailing the location and nature of areas of work that appear defective. The Contractor shall indicate that these are either work in progress (i.e. being addressed), cleared (i.e. remedy agreed) or under review.

The Contractor shall prior to Practical Completion issue to the Contract Administrator his Schedule of Defects for each space, confirming that the space is ready for the Contract Administrator to inspect and prepare a final Schedule of Defects.

In the event of the Contract Administrator inspecting the works and in his opinion identifying excessive residual defects.

The inspection will be terminated and the Contractor shall report the process of his inspection and submission.

Upon receipt of the Final Schedule of Defects the Contractor shall review the details and provide the Contract Administrator with a clearance programme.

The Contractor shall provide all resources and support necessary to clear the defects within 4 weeks of Practical Completion, failure to achieve satisfactory clearance the

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<p>Contract Administrator may employ other parties to clear the defects and deduct the costs from the Contractor's Final Account.</p> <ul style="list-style-type: none"> • Record Documents: The Contractor shall ensure that all record documents correlate so that the terminology and the references used are consistent with those used in the physical identification of the component parts of the installations. <p>The record documents shall comprise:</p> <p>: 'As Installed' drawings : Plantroom and switch room drawings, schedules and schematics : Operating and Maintenance Manuals including test certificates : Building Log Book to TM31</p> <p>Record documents shall:</p> <p>: Clearly record the arrangements of the various sections of the Works as actually installed and identify and locate all component parts. : Make it possible to comprehend the extent and purpose of the Works and the method of operation thereof. : Set out the extent to which maintenance and servicing is required and how, in detail, it should be executed. : Provide sufficient, readily accessible and proper information to enable spares and replacements to be ordered.</p> <p>'As Installed' drawings and schedules shall be prepared, to a scale agreed with the Contract Administrator. The "As Installed Drawings" shall be produced in the latest AutoCAD format and maintained on site as the Works progress. Endorse all such documents "AS INSTALLED". The Contractor shall include for delivering to the Contract Administrator, four weeks prior to the completion of the Contract one hard copy of 'As Installed' drawings together with a set on CD showing the position of all equipment and services for review. Final versions shall be available 2 weeks before the issue of Practical Completion.</p> <p>In the event of these drawings not being made available, it shall be the prerogative of the Contract Administrator to arrange for their production and deduct such costs involved from the Contractor's final account.</p> <p>The Contract Administrator shall retain a special retention of £10,000 or 1.5% of the contract sum, whichever is the greater, until the 'As Installed Drawings' are received in an acceptable format.</p> <p>The Contract Administrator may require the Contractor to produce "As Installed" drawings to a standard other than required above, and if so this will be separately defined elsewhere in this Specification. Where agreed, certain detailed information may be provided in schedule form.</p> <p>As Installed Drawings and Schedules must include, but are not limited to:</p> <p>: Location, including level if buried, of Utility Service connections, indicating points of origin and termination, size and material of service, pressure and/or other information. : Schematic drawings of each system indicating principal items of plant, equipment, zoning, means of isolation, etc., in sufficient detail to make it possible to comprehend the system operation and the inter connections between various systems. : Details of the principles of application of automatic controls and instrumentation. : Diagrammatic dimensioned plans and sections of each system or service showing sizes and locations of all ancillaries, plant, equipment controls, test points, and means of isolation, etc., including any items forming an integral part of the engineering systems but</p>	£	p
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provided under other contracts (such as plenum ceilings, builders' work shafts, louvres, etc.,).

:Details to show inter connections between the Works and equipment or systems provided under other contracts to which connections are carried out as part of the Works.

:Location and identity of each room or space housing plant, machinery or apparatus.

:Dimensioned plans and sections at a scale not less than 1:50 agreed with the Contract Administrator of plantrooms, service subways, trenches, ducts and other congested areas where in the opinion of the Contract Administrator, smaller scale drawings cannot provide an adequate record. Indicate the location, identity, size and details of each piece of apparatus.

:Manufacturers' drawings of equipment indicating

:General arrangement and assembly of component parts which may require servicing.

:Internal wiring diagrams together with sufficient physical arrangement details to locate and identify component parts.

:Schedules as required to locate, reference and provide details of ratings and/or duty of all items incorporated into the Works together with all fixed and variable equipment settings established during commissioning.

For each programmable control item, schedules indicating:

:For each input and output point connected, full data in respect of that point including reference, type of input/output, connected equipment reference, set values of temperature or pressure etc., set values of start/stop/speed change times, alarm priority, control specification reference and any other such parameters as are applicable.

:Each spare input and output point including reference, type of input/output and space for future entry of appropriate parameters as listed above.

:Logic flow diagrams for each individual control or monitoring specification and for each building services engineering system to illustrate the logical basis of the software design.

:Schedules setting out details of all initial values of user defined variables, text statements for alarm messages.

O&M Manuals The Contractor shall produce O&M Manuals and a Building Log Book.

All O & M Manuals must be in accordance with CDM Regulations and the latest edition of the BSRIA guidelines for buildings services, BG1/2007 'Handover, O&M Manuals and project feedback'.

Building Log Books shall be in accordance with the requirements of the building regulations and CIBSE TM31:2006 and shall form a separate document to the O&M Manuals.

O & M Manuals and Building Log Book shall be provided in a paper and electronic format. The electronic format shall be of a searchable format such as PDF.

The manual shall comprise of the following information and sections:-

"User Manual - Simplified single or double sided A4 guidance for the user. This shall be particularised to each different space

"Emergency - Primary actions to shut plant, utilities down in the event of significant failure.

"Maintenance Plan - Plan detailing daily, weekly, monthly, half annual, annual, bi-annual, pent-annual etc together with reference to detailed requirements in the Maintenance Section.

"Maintenance - Details of each individual maintenance activity; including parts, tools, procedures, health and safety points, etc.

"Control - Details including control descriptions, diagrams, component details, fault finding etc for the control scheme.

"Commissioning - Full documentation of all setting to work, balancing and testing

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<p>including all test certificates</p> <p>"Manufacturer's / Suppliers details - A directory of all Manufacturers / Suppliers with telephone, fax, email, web, address contact and elements provided related to the works.</p> <p>"Manufacturers / Suppliers Information - Collection of Manufacturer's / Suppliers technical details for equipment / components used on this project. Generic or non-specific information will be rejected.</p> <p>"Demolition / Removal - Statement of process for demolition / removal of Building Services.</p> <p>The manual shall be prepared in ENGLISH to the standard of a Technical Author.</p> <p>The Contract Administrator shall retain a special retention of £10,000 or 1.5% of the contract sum, whichever is the greater, until the operating and maintenance manual are received in an acceptable format.</p> <p>The Contract Administrator shall retain a special retention of £10,000 or 1.5% of the contract sum, whichever is the greater, until the Building Log Book is received in an acceptable format.</p> <p>Both draft manuals and Building Log Book shall be provided for review by the Contract Administrator 4 weeks prior to Practical Completion. Final versions shall be available 2 weeks before Practical Completion.</p> <p>In the event of these manuals not being made available it shall be the prerogative of the Contract Administrator to arrange for their production and deduct such costs involved from the Contractor's Final Account.</p> <ul style="list-style-type: none"> • Testing and Inspection: The Contractor shall agree in advance with the Contract Administrator a programme and the procedures for inspections and tests including periods of notice. Where a test indicates non-compliance with the specification the Contractor shall submit immediately, details of the non-compliance and proposals for correcting action. <p>Performance testing shall not start, including system demonstration, system proving or environmental and capacity testing, until commissioning of the system is completed to the satisfaction of the Contract Administrator.</p> <p>Any necessary instruments and recorders to monitor systems during performance testing shall be provided by the Contractor.</p> <p>The Contractor shall include within the record documentation all relevant details for inclusion within the Operating & Maintenance Manual and TM31 Building Log Book. These shall include but not be limited to details of the element, item Reference, batch or lot number and date of the inspections and tests.</p> <p>The number and type of deficiencies found, any corrective action taken and other relevant particulars.</p> <p>The Contractor shall submit copies of records within the period agreed with the Contract Administrator. The Contractor shall maintain on site records of all specified inspections and tests performed including third party and works test certificates. On completion of the works, copies shall be included in the operating and maintenance manuals.</p> <ul style="list-style-type: none"> • Types of Test: The tests shall be operated by the Contractor's personnel who shall be properly trained and competent in the use of the instruments. The test shall include but not be limited to the following tests: • Electrical: a) A visual inspection of the whole of the installation, covering equipment and sections in subways, walkways, crawlways and false ceiling where accessible. 	£	p
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- b) The operation of all accessories and items of equipment and a check for proper function, including such items as may have been supplied by others but wired under this Contract. These tests should be made under normal operating conditions and the results noted.
- c) Prior to the commencement of the electrical tests, all calibration certificates shall be offered for inspection and validation by the Contractor.
- d) 1000 Volt insulation tests which shall cover all circuits and shall be made between phases. Phase to neutral and phase to earth. Where central or main distributing Point is 200 mega ohms or above, individual sub circuit tests may be omitted at the discretion of the Contract Administrator.
- e) Loop impedance tests shall cover every socket outlet, spur unit, fixed appliance, switch, all switch/fusegear and exposed metalwork which is specified to be bonded to earth. The line/earth path type for loop impedance tests for circuits rated at 60 amperes and above for circuits below 60 amperes, the engineer will permit the use of neutral/earth path type.
- f) Prospective short circuit test shall be carried out at the origin and at each distribution board. The test shall be carried out for each phase.
- g) A test to ensure a safe measure of earth bonding shall be carried out before any line/earth loop impedance tests undertaken. Where a circuit is shown to be badly or insufficiently earthed all earth continuity connections shall be remade or renewed to the satisfaction of Contract Administrator and the series of tests carried out again at the Contractor's own expense.
- h) Correct polarity of socket outlet, lighting switches and all other items where correctness of polarity is essential.
- **Mechanical:** a) Carry out environmental and capacity tests as specified for each work section. Performance testing shall demonstrate, but not be limited to the following:
"Full, partial and minimum loads
"Response to load change
"Efficiency
"Noise levels
b) Noise level measurements shall be taken in all areas with fully operational plant and in conditions of insignificant background levels (such as night time).
 - **Commissioning:** The Contractor shall allow for the Client and Contract Administrator to witness and verify the commissioning and setting to work of the Engineering Systems.
- All commissioning shall be in accordance with CIBSE Codes of Commissioning Part M and all other relevant codes. Proof of adherence to these Codes shall be required at the start of the Contract and shall be incorporated into the TM31 Building Log Book at project completion and hand over.
- The Contractor shall allow for the following:
- a) Provision of copies of installation drawings for comment by the Contract Administrator on the facilities included for commissioning.
- b) Liaison with the Contract Administrator regarding commissioning activities and programme issues. The Contractor will prepare co-ordinated commissioning programme comprising testing, pre-commissioning, commissioning of performance testing, as-built documentation and Client training. This programme will be agreed between the Contractor, Contract Administrator and Client.
- c) Submission of detailed method statement and pro-forma result sheet for comment/acceptance by the Contract Administrator in accordance with the agreed programme.
- d) Liaison with the Contract Administrator regarding the witnessing of off site tests of major plant items and equipment.
- e) Liaison with the Contract Administrator regarding the witnessing of all site testing and

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<p>the management of the dynamic systems.</p> <p>f)Liaison with the Contract Administrator regarding specialist supplier/manufacturer site commissioning.</p> <p>g)Submission of method statement regarding training session for the staff.</p> <p>h)Liaison with the Contract Administrator regarding the preparation of the record drawings & O & M manuals.</p> <ul style="list-style-type: none"> • Training of Client's Staff: Before practical completion explain and demonstrate to the Employer's maintenance staff the purpose, function and operation of the installations including all items and procedures listed in the Operation and Maintenance Manual. Include for not less than 5 operating days for this purpose. <p>Provide training for the operator of the controls, monitoring or BMS equipment as follows:</p> <p>"Carry out initial training at the controls supplier's works.</p> <p>"Include "hands on" experience of equipment and software similar to the installation.</p> <p>"Include instruction on the procedures for testing and routine inspection of sensors and actuators to enable operator to assess the nature of faults and extent of remedial action required.</p> <p>"Provide all appropriate reference and training manuals.</p> <p>"Complete initial instruction prior to commissioning of the installed system.</p> <p>"Provide site instruction on the installed system.</p> <p>The Contractor shall provide a detailed programme of activity for mechanical and electrical operatives and maintain a register of the training delivered.</p> <ul style="list-style-type: none"> • Maintenance and Spares: All plant shall be designed to facilitate ease of inspection, maintenance and replacement of consumable components with the minimum of disruption to other services. <p>The Contractor shall identify on a Schedule the recommended spares to cover a period of five years operation and wherever feasible assure that the spares will be available for a minimum of five years from handover. The cost of providing the spares shall be included in the Tender return.</p> <p>The Contractor shall provide as part of the proposal a maintenance package for the first year following Practical Completion. This package shall be based on a 4 hour call out 24/7 for breakdowns. The cost of spares and consumables shall be included in the cost. Planned preventative actions as detailed in the Operating and Maintenance Manual and as required by the supplier/manufacturer shall be included.</p> <p>Details of call out facilities and staff shall be detailed in the offer; further details are contained in the schedules.</p> <ul style="list-style-type: none"> • Special Tools: As far as possible the equipment shall be designed so that maintenance can be accomplished using conventional standard tools and other devices. However, where special tools and/or keys are required then they shall be provided by the Contractor. <p>The Contractor shall provide special tools which may be required for operation or routine maintenance.</p> <p>125 Ground investigation report</p> <ul style="list-style-type: none"> • Details: A preliminary Topographic and UGS of the existing with is appended to to the specification. • Reference: UK Land Surveys UKLS659 	£	p
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- **Format:** Hard copy and Electronic.
- **Provision:** Further investigations may be required and allowed for by Contractor.

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Environmental information

135 Ecology survey report

- **Details:** Preliminary Ecology Appraisal
- **Reference:** Essex Ecology Services Ltd.
- **Status:** Preliminary
- **Format:** Hard copy and Electronic.
- **Provision:** Provided.

140 Site waste management plan

- **Details:** To be provided by Principal Contractor.

Hazardous substances information

150 Asbestos survey report

- **Details:** Refer to appended R&D survey, however demolition will remove as necessary.
- **Reference:** Kadec
- **Status:** Information Only
- **Format:** Hard copy and Electronic.
- **Provision:** Available for inspection.

Design information

165 Drawings

- **Details:** Drawings as Document issue register.
- **Reference:** As per appended register.
- **Status:** Tender.
- **Format:** Hard copy.
- **Provision:** Provided.
- **Contract drawings:**
 - **Generally:** The same as the tender drawings.

170 Pre-construction information

- **Scope:** Integral with the project specification, including but not restricted to the following: Description of project. Client's consideration and management requirements. Environmental restrictions and on-site risks. Significant design and construction hazards. The Health and Safety File.



180 Employer's information requirements (EIR)

- **Details:** As detailed within the Specification / Tender Documents

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00-05-15 Works Terminology

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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, marshals 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 quantity, number, extent, 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 person or legal entity under whose name or trademark the particular product, component or system is marketed. Product reference – the proprietary brand name and/ or identifier by which the particular product, component or system is described. 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 wants another to undertake, design and/ or construct.
- **Schedule of rates:** The subdivision of product and execution prices by a pre-determined unit basis.
- **Schedule of Work/ Work Schedule:** 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.

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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 an item excludes removal and disposing of associated pipework, wiring, ductwork or other services.
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 time-frame.
- **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.

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00-05-20 Project Participants

Management and delivery roles

120 Client & Employer

- **Name:** Billericay Town Council
- **Address:** The Loft Crown Yard, High Street, Billericay CM12 9BX
- **Contact:** Deborah Tonkiss
- **Email address:** townclerk@billericaytowncouncil.gov.uk

130 Contract Administrator

- **Name:** Ingleton Wood LLP
- **Address:** 10 Lake Meadows Business Park, Woodbrook Crescent, Billericay, Essex, CM12 0EQ
- **Contact:** Danny Lawson / Debbie Toseland
- **Telephone:** 01277 637800
- **Email address:** danny.lawson@ingletonwood.co.uk / debbie.toseland@ingletonwood.co.uk

145 Structural Engineer

- **Name:** Ingleton Wood LLP
- **Address:** 1 Alie St, London E1 8DE
- **Contact:** Andrew Wright & Adrian Wong
- **Telephone:** 02076804400
- **Email address:** Adrian.wong@ingletonwood.co.uk

Statutory roles

205 Principal Designer

- **Name:** Ingleton Wood LLP
- **Address:** 10 Lake Meadows Business Park, Woodbrook Crescent, Billericay, Essex, CM12 0EQ
- **Telephone:** 01277 637800

210 Principal Contractor

- **Name:** TBC
- **Telephone:** TBC
- **Email address:** TBC

Design roles

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260 Architect <ul style="list-style-type: none"> • Name: Ingleton Wood LLP • Address: 10 Lake Meadows Business Park, Woodbrook Crescent, Billericay, Essex, CM12 0EQ • Contact: Amdandeep Singh • Telephone: 01277 637800 • Email address: amandeep.singh@ingletonwood.co.uk 		
265 Civil engineer <ul style="list-style-type: none"> • Name: Ingleton Wood LLP • Address: 1a, Oakington Business Park, Oakington CB24 3DQ • Contact: Matthew Allitt • Telephone: 01223 965200 • Email address: matthew.allitt@ingletonwood.co.uk 		
270 Mechanical & Electrical services engineer <ul style="list-style-type: none"> • Name: Ingleton Wood LLP • Address: 10 Lake Meadows Business Park, Woodbrook Crescent, Billericay, Essex, CM12 0EQ • Contact: Steve Crooks (Electrical Eng) & Pablo Casuso (Mech Eng). • Telephone: 01277 637800 • Email address: steve.crooks@ingletonwood.co.uk/ pablo.casuso@ingletonwood.co.uk 		
300 Quantity surveyor <ul style="list-style-type: none"> • Name: Ingleton Wood LLP • Address: 10 Lake Meadows Business Park, Woodbrook Crescent, Billericay, Essex, CM12 0EQ 		



00-05-70 Project Location

110 Project location

- **Details:** Chantry Centre
- **Address:**
 - **Street:** Chantry Way
 - **City:** Billericay
 - **Post code:** CM11 2BB

130 Existing buildings on, or adjacent to the site

- **Details:** Residential & Commercial Buildings & Car Parks

150 Surrounding land and building uses

- **Surrounding land uses or activities:** Residential & Commercial Buildings & Car Parks

170 Access

- **Details:** Main Access onto site via High Street & Access Road. Secondary Access via Chantry Way.
- **Limitations:** Restricted Access Width via Busy Town Centre. Contractor must make their own assessment of all limitations.

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00-10-70 Works Contract Content

110 Preparatory work by others

- **Details:** Demolition of superstructure - Please note grubbing up for existing footings and drainage may be required.
- **Timescale:** Prior to commencement of works.

120 The Works

- **Details:** New build of the Chantry Centre including but not limited to Substructure, superstructure, Mechanical and Electrical Services and connection and landscaping.

160 Products provided by, or on behalf of employer

- **General:** Details of products to be fixed by the Contractor are given in the work sections. Use for no other purpose than the Works.
- **Handling:** Accept delivery, check against receipts and take into appropriate storage.
- **Surplus products:** Keep safe and obtain instructions.

190 Work by Local Authority

- **Details:** May be required.
- **General attendance:** Allow for where required.

200 Work by statutory undertakers

- **Details:** All Statutory Undertaker Services.
- **Description of work:** Works to provide temporary connections for works and permanent connections to be allow for and managed by the contractor.
- **General attendance:** Provide.

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00-20-70 Works contract

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JCT Intermediate Building Contract with contractor's design (ICD)

- **The Contract:** JCT Intermediate Building Contract with contractor's design, 2016 Edition.
- **Requirement:** Allow for the obligations, liabilities and services described.

The Recitals

The Works (First Recital)

- **The Works comprise:** The Construction of the Chantry Way, Community Centre
- **Location of the works:** Chantry Centre, Chantry Way, Billericay, Essex, CM11 2BB.

Contractor's designed portion (Second Recital)

- **The Works include the design and construction of:** A) Steel work connection details and fabrication
B) Beam and block floor
C) Fabrication and installation of stairs (including discreet lighting to steps)
D) Discreet design of M&E services and connections / runs.
E) New Gas supply & Meter
F) New Water supply and Meter
G) Underfloor Heating System
H) BMS controls
I) Cooker hood extraction to kitchen
J) General fixings and setting out
K) Specialist Theatre - Audio & Sound Design for Community Use

Contract drawings (Third Recital)

- **Contract drawings:** As per the drawing register appended to the specification.

Other documents supplied by the Employer (Fourth Recital)

- **Documents:** The Specification.
- **Named person:** The whole of the text referring to a named person as a subcontractor will be deleted.

Pricing by the Contractor (Fifth Recital - (A))

- **Pricing by the Contractor:** Option A will apply and option B will be deleted.
- **Priced document:** Specification.
- **Priced Activity Schedule:** The words 'and has provided the Employer with a priced schedule of activities annexed to this Contract (the Activity Schedule)' will be deleted.

Information release schedule (Ninth Recital)

- **The Ninth Recital:** Will be deleted.

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Division of the Works into sections (Eleventh Recital)		
<ul style="list-style-type: none"> The Eleventh Recital: Will be deleted. 		
Articles		
Architect/ Contract Administrator (Article 3)		
<ul style="list-style-type: none"> Architect/ Contract Administrator: Ingleton Wood LLP 		
Quantity Surveyor (Article 4)		
<ul style="list-style-type: none"> Quantity surveyor: Ingleton Wood LLP 		
Principal Designer (Article 5)		
<ul style="list-style-type: none"> Principal Designer: Ingleton Wood LLP 		
Principal Contractor (Article 6)		
<ul style="list-style-type: none"> Principal Contractor: TBC 		
Legal proceedings (Article 9)		
<ul style="list-style-type: none"> Amendments: None. 		
Contract particulars		
Employer's Requirements (Fourth Recital)		
<ul style="list-style-type: none"> Employer's Requirements: As per the specification 		
Contractor's Proposals (Sixth Recital)		
<ul style="list-style-type: none"> Contractor's Proposals: Required - To be completed by Contractor. Specific Requirements: None 		
CDP Analysis (Sixth Recital)		
<ul style="list-style-type: none"> CDP Analysis: Required - To be completed by Contractor. Specific Requirements: None 		
Construction industry scheme (CIS) (Eighth Recital and clause 4.6)		
<ul style="list-style-type: none"> Employer at the Base Date: Is not a 'contractor' for the purposes of the CIS. 		
CDM Regulations (Tenth Recital)		
<ul style="list-style-type: none"> The project: Is notifiable. 		
Framework Agreement (Twelfth Recital)		
<ul style="list-style-type: none"> Framework agreement: Does not apply. 		

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Supplemental provisions (Thirteenth Recital and Schedule 5) <ul style="list-style-type: none"> • Collaborative working: Supplemental provision 1 applies. • Health and safety: Supplemental provision 2 applies. • Cost savings and value improvements: Supplemental provision 3 applies. • Sustainable development and environmental considerations: Supplemental provision 4 applies. • Performance indicators and monitoring: Supplemental provision 5 applies. • Notification and negotiation of disputes: Supplemental provision 6 applies. • Where Supplemental Provision 6 applies: <ul style="list-style-type: none"> – Employer's nominee: TBA – Contractor's nominee: Submit with tender. – Replacement nominees: As each party may notify to the other from time to time. 		
Arbitration (Article 8) <ul style="list-style-type: none"> • Article 8 and clauses 9.3 to 9.8: Apply. 		
Base Date (Clause 1.1) <ul style="list-style-type: none"> • Base date: 10 days before return of tenders. 		
BIM Protocol (Clause 1.1) <ul style="list-style-type: none"> • Protocol: Not applicable 		
Date for completion of the Works (Clause 1.1) <ul style="list-style-type: none"> • Date for completion of the Works: 24/03/2020 (TBC) 		
Addresses for service of notices (Clause 1.7) <ul style="list-style-type: none"> • Employer: <ul style="list-style-type: none"> – Address: The Loft Crown Yard, High Street, Billericay CM12 9BX • Contractor: <ul style="list-style-type: none"> – Address: TBC 		
Date of possession of the site (Clause 2.4) <ul style="list-style-type: none"> • Date of Possession of the site: 03/05/2019 (TBC) 		
Deferment of possession of the site (Clause 2.5) <ul style="list-style-type: none"> • Clause 2.5: Applies. • Period of deferment (maximum): 6 weeks 		
Liquidated Damages (Clause 2.23.2) <ul style="list-style-type: none"> • Damages: <ul style="list-style-type: none"> – Rate: £1,250.00 – Period: per week or part there to. 		



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Rectification period (Clause 2.30)		
<ul style="list-style-type: none"> Period: 12 Months 		
Contractor's designed portion (Clause 2.34.3)		
<ul style="list-style-type: none"> Limit of Contractor's liability for loss of use: Unlimited 		
Fluctuations provision (Clause 4.3 and 4.9)		
<ul style="list-style-type: none"> Fluctuations Provision: No Fluctuations Provision applies. 		
Advance payment and advance payment bond (Clause 4.7)		
<ul style="list-style-type: none"> Advance payment: Clause 4.6 does not apply. 		
Interim payments – Interim valuation dates (Clause 4.8.1)		
<ul style="list-style-type: none"> The first Interim Valuation Date: Four weeks from the date of commencement of works. Subsequent dates: The same date in each month or the nearest Business Day in that month. 		
Interim payments percentages of value (Clause 4.9.1)		
<ul style="list-style-type: none"> Where the Works, or those works in a section, have not achieved practical completion, the percentage of total value in respect of the works that have not achieved practical completion is: 95% Where the Works, or those works in a section, have achieved practical completion, the percentage in respect of the completed works is: 97.5% 		
Listed items – uniquely identified (Clause 4.10.4)		
<ul style="list-style-type: none"> Listed items - uniquely identified: This entry in the Contract Particulars will be deleted. 		
Listed items – not uniquely identified (Clause 4.10.5)		
<ul style="list-style-type: none"> Listed items - not uniquely identified: This entry in the Contract Particulars will be deleted. 		
Contractor's Public Liability insurance – injury to persons or property (Clause 6.4.1)		
<ul style="list-style-type: none"> Insurance cover (for any one occurrence or series of occurrences arising out of one event): £10,000,000.00 		
Insurance - liability of Employer (Clause 6.5.1)		
<ul style="list-style-type: none"> Insurance: May be required. Minimum amount of indemnity for any one occurrence or series of occurrences arising out of one event: £10,000,000.00 		
Works insurance – insurance options (Clause 6.7 and Schedule 1)		
<ul style="list-style-type: none"> Schedule 1: Insurance option A applies. Percentage to cover professional fees: 15% Where Insurance Option A applies and cover is to be provided under the Contractor's annual policy, the annual renewal date: to be advised. 		

<ul style="list-style-type: none"> Where Insurance option C applies, paragraph C.1: 	£	p
Terrorism cover (Clause 6.10 and Schedule 1) <ul style="list-style-type: none"> Details of cover: Pool Re Cover is required. 		
Joint Fire Code (Clause 6.15) <ul style="list-style-type: none"> The Joint Fire Code: Applies. State whether the insurer under Schedule 1, Insurance Option A, B or C (paragraph C.2) has specified that the Works are a 'Large Project': To be obtained from the Contractor. 		
Joint Fire Code – amendments/ revisions (Clause 6.18) <ul style="list-style-type: none"> Joint Fire Code - Amendments/ revisions: <ul style="list-style-type: none"> The cost, if any, of compliance with amendments or revisions to the Joint Fire Code shall be borne by: The Contractor. 		
Contractor's Design Portion – Professional Indemnity Insurance (Clause 6.19) <ul style="list-style-type: none"> Level of cover: <ul style="list-style-type: none"> Indemnity required: Relates to claims or series of claims arising out of one event. Amount: £10,000,000.00 Cover for pollution and contamination claims: Is required. CDP Professional Indemnity Insurance: <ul style="list-style-type: none"> Expiry of required period: 12 years. 		
Performance bond or guarantee (Clause 7.2.1) <ul style="list-style-type: none"> Performance bond or guarantee from bank or other approved surety: N/A Required form: N/A Initial value (percentage of contract sum): N/A Period of validity - expiry date: N/A Reduction in value (percentage reduction in the initial value): N/A 		
Guarantee from contractor's parent company (Clause 7.2.2) <ul style="list-style-type: none"> Guarantee: Is required where the contractor has a parent company Parent company's name and registration number: TBA The required form of guarantee: TBA 		
Collateral warranties (Clause 7.3) <ul style="list-style-type: none"> Details: JCT SCWa/E, Billericay and Basildon Council 		
Period of suspension (termination by Contractor) (Clause 8.9.2) <ul style="list-style-type: none"> Period of suspension: 2 months. 		
Period of suspension (termination by either Party) (Clauses 8.11.1.1 to 8.11.1.5) <ul style="list-style-type: none"> Period of suspension: 2 months. 		



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Adjudication (Clause 9.2.1)		
<ul style="list-style-type: none"> The Adjudicator: TBA Nominating body - where no Adjudicator is named or where the named Adjudicator is unwilling or unable to act (whenever that is established): The Royal Institution of Chartered Surveyors. 		
Arbitration (Clause 9.4.1)		
<ul style="list-style-type: none"> Appointor of Arbitrator (and of any replacement): President or a Vice President of the Royal Institution of Chartered Surveyors. 		
Conditions		
Section 1 (Definitions and Interpretation)		
Reckoning periods of days (Condition 1.5)		
<ul style="list-style-type: none"> Amendments: None 		
Applicable law (Condition 1.12)		
<ul style="list-style-type: none"> Amendments: None 		
Section 2 (Carrying out the Works)		
Section 3 (Control of the Works)		
Section 4 (Payment)		
Section 5 (Variations)		
Section 6 (Injury, Damage and Insurance)		
Section 7 (Assignment and Collateral Warranties)		
Section 8 (Termination)		
Section 9 (Settlement of Disputes)		

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- **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:** The public Contracts Regulations - PQQ

130 Tenders to be invited

- **Number of tenders to be invited (maximum):** Unlimited - Invitation is open via the Council Portal

150 Tender Programme

- **Details:** As per the PQQ
- **Key dates:** Approximate tender dates will be 14/12/2018 - 25/01/2019

160 The Invitation to Tender

- **Form:** Electronic - Via Online Portal
- **Location of Tender documents:** Via Online Portal

165 Tender acceptance

- **Tender acceptance period:** Tenders must remain open for acceptance, unless previously withdrawn, for a minimum of 15 weeks from the date for return of Tender.
- **Assurance:** Nothing contained in this Document or its application should be inferred to guarantee that a Tender will be recommended for acceptance or be accepted, or that reasons for non-acceptance will be given.

170 The Tender documents

- **The Tender documents:** As described in the Project Definition section to be submitted via a Hard and Electronic Copy for analysis.
- **Number of hardcopy documents provided:** 2no. 1 x hardcopy and 1no. x electronic copy.

180 Tender queries

- **Notification requirements:** Give Notice in writing to the Contract Administrator/Architect as soon as possible and not less than twelve working days before the date for return of Tenders.

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.

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<p>210 Pricing</p> <ul style="list-style-type: none"> • Pricing: Price and extend each item individually as instructed. Do not group items together. • Currency: £.00 Pound Sterling 		
<p>220 Site visit</p> <ul style="list-style-type: none"> • 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: Via Billericay Town Council - Tender Site Visits to be arranged and organised for 1 day only which all tenderers may attend, date to be confirmed upon notice of site visit required. 		
<p>230 Return of Tender</p> <ul style="list-style-type: none"> • Return of Tender: <ul style="list-style-type: none"> – Destination: Via online Portal – Time and date: Mid-day 22/03/19 (Portal time and date will take precedence) – Format: Electronic & Hardcopy – Special procedures: Via only portal only • Documents to be returned with the Tender: All pricing documents, PQQ, specification and programme required. • Inability to tender: Advise immediately if the work as defined in the Tender documents cannot be tendered. Define those parts, stating reasons for the inability to tender. 		
<p>310 Assessment</p> <ul style="list-style-type: none"> • Assessment of Tenders: <ul style="list-style-type: none"> – Number to be assessed in detail: Three. – Assessment criteria: Most economically advantageous and those which fullfill with PQQ requirements. • Alternative Tenders: <ul style="list-style-type: none"> – Submission: Permitted in conjunction with compliant tender. – Basis: Time based alternatives and Method based alternatives. 		
<p>320 Error resolution</p> <ul style="list-style-type: none"> • Arithmetical errors: Tender price will prevail. An opportunity will be given to confirm the Tender or withdraw. • Technical errors: The Tender is deemed to meet or exceed the requirements of the Tender documents. Amendment of the Tender to reflect this will not constitute a variation and no claim for additional costs will be accepted. • Corrections: An endorsement will be added to the priced documents indicating that rates or prices (excluding preliminaries, contingencies, Prime cost and Provisional sums) inserted therein will be adjusted in the same proportion as the corrected total differs from that stated incorrectly. 		

<p>340 Post-Tender negotiations</p> <ul style="list-style-type: none"> • Negotiations: May be required. • Details: Where all the Tenders received exceed the Employer's budget for the Works. <p>410 Notification to Tenderers</p> <ul style="list-style-type: none"> • Notification method: Formal letter to all Contractors who are unsuccessful. 	£	p
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00-40-70 Works Contract Establishment

ACCESS

110 Access to the site

- **Details:** Via the High Street
- **Limitations:** Limited access via the High Street, No access onto site via Chantry Way.

120 Use of the site

- **General:** Do not use the site for any purpose other than carrying out the contract work.
- **Limitations:** Surrounding properties and uses.

145 Traffic and vehicles

- **Limitations:** Restricted access and likely weight limitations.

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.

180 Site Waste Management Plan

- **Development:** The person responsible for developing the plan will be the Contractor.
- **Content:** Identity of proposed Principal Contractor.
 Location of the site.
 Description of the project.
 Estimated project cost.
 Types and quantities of waste that will be generated.
 Resource management options for these wastes including proposals for minimization, reuse and/or recycling.
 The use of appropriate and licensed waste management contractors.
 Record keeping procedures.
 Waste auditing protocols.
- **Submittal date:** Within one week of request.

190 Environmental policy

- **Employer's Environmental Policy:**

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<ul style="list-style-type: none"> • Project Environmental Management System: <ul style="list-style-type: none"> – General: Develop a system compatible with the Employer's policy and requirements of the Planning Permission. • Submittal date: Upon request 	£	p
<p>210 Considerate Constructors Scheme</p> <ul style="list-style-type: none"> • Registration: Before starting work, register with the Considerate Constructors Scheme and pay the appropriate fee. • Address: Considerate Constructors Scheme Office, PO Box 75, Great Amwell, Ware, Hertfordshire, SG12 0YX. <ul style="list-style-type: none"> - Tel. 01920 485959. - Fax. 01920 485958. - Free phone 0800 7831423 - Web. www.ccscheme.org.uk - E mail. enquiries@ccscheme.org.uk • Standard: <ul style="list-style-type: none"> – Minimum compliance level: Excellent. 		
<p>220 Constructing Better Health Scheme</p> <ul style="list-style-type: none"> • Membership: Register and provide evidence of registration • Address: Constructing Better Health, B&CE Building, Manor Royal Crawley, West Sussex RH10 9QP Tel: 0845 873 7726 Email: info@cbhscheme.co.uk Website: www.cbhscheme.co.uk • Submittal date: Upon request 		
<p>225 Freight Vehicle safety requirements</p> <ul style="list-style-type: none"> • 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 Fleet Operator Recognition Scheme (FORS). • Level of accreditation: Gold. • Submittal date: Before starting work. 		
<p>PROGRAMME</p>		

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<p>250 Programme</p> <ul style="list-style-type: none"> • Master programme: When requested and before starting work on site, submit in an approved form a master programme for the Works. • Include: <ul style="list-style-type: none"> – Information: Design, production information and proposals provided by the Contractor, subcontractors or suppliers, including inspection and checking. • Planning: Planning and mobilization by the Contractor. • Dates: Earliest start and finish dates for each activity and identification of critical activities. • Engineering services: Running in, adjustment, commissioning and testing of engineering services and installations. <ul style="list-style-type: none"> – 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. • Exclusions: Work that is not well defined: where and to the extent that the programme implications for this are impossible to assess, the Contractor should exclude it and confirm this when submitting the programme. • Number of copies: Two copies. • Submittal date: With tender and during works, to be regularly updated at each site meeting by the contractor. 		
<p>280 Commencement of work</p> <ul style="list-style-type: none"> • Notice: Before the proposed date for commencement of work on site give minimum notice of one month. 		
<p>HEALTH AND SAFETY INFORMATION</p>		
<p>300 Health and Safety information</p> <ul style="list-style-type: none"> • 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. • Policy document: A copy of the Contractor's health and safety policy documents, including risk assessment procedures. <ul style="list-style-type: none"> – 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 & prior to commencing works. 		
<p>320 Outline Construction Phase Health and Safety Plan</p> <ul style="list-style-type: none"> • Content: <ul style="list-style-type: none"> – Risk assessment: Method statements on how risk from hazards identified in the pre-construction information and other hazards identified by the Contractor will be 		

<p>addressed. Procedures for carrying out risk assessment and for managing and controlling the risk.</p> <ul style="list-style-type: none"> - 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. <ul style="list-style-type: none"> • Submittal date: Within one week of request & prior to commencing works. 	£	p
<p>330 Health and safety hazards</p>		
<ul style="list-style-type: none"> • Hazards: Contaminated Ground & asbestos, Underground services & access routes off the main high street. • Limitations: The nature and condition of the site and/ or buildings cannot be fully ascertained before they are opened up. • Information: The accuracy and sufficiency of this information provided about existing hazards is not guaranteed by the Employer/Purchaser or their representative. Ascertain if additional information is required to ensure the safety of persons and the Works. • Training: Ensure that all relevant personnel are aware of the hazards listed and have received appropriate training to deal with them. 		
<p>340 Pre-construction information</p>		
<ul style="list-style-type: none"> • Availability: Integral with the project specification, including but not restricted to the following: Description of project. Client's consideration and management requirements. Environmental restrictions and on-site risks. Significant design and construction hazards. The Health and Safety File. 		
<p>360 Product hazards</p>		
<ul style="list-style-type: none"> • Hazardous substances: Site personnel levels must not exceed occupational exposure standards and maximum exposure limits stated in the current version of HSE document EH40: Guidance Notes: Environmental Hygiene (EH): Workplace exposure limits. Containing the list of workplace exposure limits for use with the Control of Substances Hazardous to Health Regulations 2002 (as amended). 		

<ul style="list-style-type: none"> • Common hazards: Not listed. Control by good management and site practice. 	£	p
370 Construction phase health and safety plan <ul style="list-style-type: none"> • Delivery to the Client: No later than two weeks 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 Pre-construction information. 		
MANAGEMENT AND STAFF		
400 Management and staff – Contract minimum requirement <ul style="list-style-type: none"> • Details: Allow for compliance with contract obligations. 		
410 Management and Staff – Additional requirement <ul style="list-style-type: none"> • Dedicated staff role: Allow for compliance with contract obligations. 		
TEMPORARY ACCOMMODATION		
430 Temporary accommodation – Contract minimum requirement <ul style="list-style-type: none"> • Details: Allow for compliance with the Contract obligations. 		
480 Parking <ul style="list-style-type: none"> • Requirement: Provide and maintain exclusively for use by Employer/ Purchaser and their representatives and consultants. • Details: Limited parking available to surrounding area / on-site. 		
TEMPORARY SERVICES		
500 Temporary Services – contract minimum requirement <ul style="list-style-type: none"> • Details: Allow for compliance with Contract obligations. • Cost significant items: Allow for temporary connections and liaison and management of Statutory Undertakers. 		
510 Water <ul style="list-style-type: none"> • Supply: The Employer's mains may be used for the Works as follows: • Metering: Free of charge. • Source: To be determined and arranged by Contractor. • Point of supply: To be determined and arranged by Contractor. • Continuity: No liability will be accepted for the consequences of failure or restriction in supply. 		

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<p>520 Water restrictions</p> <ul style="list-style-type: none"> • Emergency legislation: If the water supply is or is likely to be restricted, inform without delay and ascertain the availability of water from alternative sources. • Suitability: Check pH value of water from a proposed new source and ensure that it is suitable for the plants, soil and turf being watered. • Cost: To be allowed, determined and arranged by Contractor. 		
<p>530 Gas</p> <ul style="list-style-type: none"> • Supply: The Employer's mains may be used for the Works as follows: • Source: To be determined and arranged by Contractor. • Point of supply: To be determined and arranged by Contractor. • Continuity: No liability will be accepted for the consequences of failure or restriction in supply. 		
<p>540 Lighting and power</p> <ul style="list-style-type: none"> • Supply: Electric power from the Employer's mains may be used for the Works as follows: • Point of supply: To be determined and arranged by Contractor. • Available capacity: To be determined and arranged by Contractor. • Frequency: 50 Hz, Alternating. • Continuity: No liability will be accepted for the consequences of failure or restriction in supply. 		
<p>590 Meter readings</p> <ul style="list-style-type: none"> • Charges for service supplies: Where to be apportioned ensure that: Meter readings are taken by relevant authority at possession and/ or completion as appropriate. Copies of readings are supplied to interested parties. 		
TEMPORARY SECURITY		
<p>600 Security – contract minimum requirement</p> <ul style="list-style-type: none"> • Details: Allow for compliance with Contract obligations. 		
TEMPORARY SAFETY AND CONTROL		
<p>630 Safety and environmental protection – contract minimum requirement</p> <ul style="list-style-type: none"> • Details: Allow for compliance with Contract obligations. 		
<p>650 Temporary protection to existing trees and vegetation</p> <ul style="list-style-type: none"> • Trees and vegetation: <ul style="list-style-type: none"> – Requirement: Provide protection before starting work. – Positions: Remaining trees in close proximity to site. 		

<ul style="list-style-type: none"> – Protective barriers and physical protection: Relevant measures to BS 5837. • Areas of structural landscaping to be protected from construction operations: <ul style="list-style-type: none"> – Requirement: Protect from effects of construction operations. – Positions: All areas. • Integrity of protection: Maintain for the duration of the Works. • Completion: Remove on completion of the Works and make good disturbed areas. 	£	p
670 Control and protection – contract minimum requirement		
<ul style="list-style-type: none"> • Details: Allow for compliance with Contract obligations. 		
730 Mechanical plant – contract minimum requirement		
<ul style="list-style-type: none"> • Details: Allow for compliance with Contract obligations. 		
TEMPORARY WORKS		
760 Temporary works – contract minimum requirement		
<ul style="list-style-type: none"> • Details: Allow for compliance with Contract obligations. 		
780 Roads		
<ul style="list-style-type: none"> • Use of permanent hard surface provision: Existing access routes • Restrictions on use: Limitations to size and weight <ul style="list-style-type: none"> – Protective or remedial measures: Contractor to ensure all protective measures undertaken and make good any damage. 		
790 Name boards and advertisements		
<ul style="list-style-type: none"> • General: Obtain approval, including statutory consents, and provide a temporary name board displaying: Title of Project. Name of Employer/ Purchaser. Names of Consultants. Names of Contractor and Subcontractors. 		
840 Personal protective equipment		
<ul style="list-style-type: none"> • General: Provide for the sole use of those acting on behalf of the Employer, in sizes to be specified, the following: • Safety helmets: Provide. <ul style="list-style-type: none"> – Standard: To BS EN 397, neither damaged nor time expired. – Number required: 2 (Two). • High visibility waistcoats: Provide. <ul style="list-style-type: none"> – Standard: To BS EN ISO 20471, Class 2. – Number required: 2 (Two). • Safety boots: Provide. <ul style="list-style-type: none"> – Standard: To BS EN ISO 20345, with steel insole and toecap. – Number of pairs required: 2 (Two). 		

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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:** Submit, including details of the person proposed; their relevant skills, training and knowledge; practical experience; qualifications; membership or registration with professional bodies; employment history; work related assessments and management structure.
- **Submittal date:** One week before start on site.
- **Replacement of supervisory personnel:** Give maximum possible notice before changing supervisory personnel.

140 Coordination of engineering services

- **Suitability:** Site organization staff must include one or more persons with appropriate knowledge and experience of mechanical and electrical engineering services to ensure compatibility between engineering and the Works generally.
- **Evidence:** Submit on request, including details of the person proposed; their relevant skills, training and knowledge; practical experience; qualifications; membership or registration with professional bodies; employment history; work related assessments and management structure.

PROGRESS

150 Monitoring

- **Progress:**
 - **Records:** Record on a copy of the programme kept on site.
 - **Delays:** Minimize. Take appropriate action to recover lost time.
 - **Corrective action:** Where progress falls below target, Submit proposals.
 - **Submittal date:** As soon as possible.
 - **Completion forecast:** Submit on the last working day of each week.
- **Key Performance Indicators:**
 - **Performance:** Record performance against each KPI.
 - **Corrective action:** Where performance falls below target, Submit proposals.
 - **Submittal date:** As soon as possible.

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160 Progress meetings <ul style="list-style-type: none"> • General: Meetings will be held to review progress and other matters arising from administration of the Contract. • Frequency: Every two weeks or as deemed necessary. • Venue: On site • Accommodation: Ensure availability at the time of such meetings. • Attendees: As required. • Chairperson: Architect and Contract Administrator. 		
170 Progress report <ul style="list-style-type: none"> • Submittal date: At least three business days before the site meeting. • Requirement: Notwithstanding the Contractor's obligations under the Contract the report must include the following. • Content: Technical and Overview of Cost, Programme, Quality and Risk • Progress statement: Detailing matters materially affecting the regular progress of the Works with reference to the master programme. • Progress reports: Subcontractors and suppliers. <ul style="list-style-type: none"> – Information: Requirements for further drawings or details or instructions to fulfil obligations under the Conditions of Contract. 		
180 Contractor's progress meetings <ul style="list-style-type: none"> • General: Hold meetings with appropriate subcontractors and suppliers shortly before main site meetings to facilitate accurate reporting of progress. 		
OPERATION		
200 Employer's representatives inspections <ul style="list-style-type: none"> • 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. 		
220 Ownership of materials <ul style="list-style-type: none"> • Alteration or clearance work: Materials arising become the property of the Contractor except where otherwise stated. Remove from site as work proceeds. 		
230 Measurement <ul style="list-style-type: none"> • Covered work: Give notice before covering work required to be measured. 		

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<p>240 Service runs</p> <ul style="list-style-type: none"> • 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. 		
<p>260 Security</p> <ul style="list-style-type: none"> • 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. 		
<p>280 Stability</p> <ul style="list-style-type: none"> • 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. 		
<p>290 Occupied premises</p> <ul style="list-style-type: none"> • Extent: Existing buildings will be occupied and/ or used during the Contract. • Works: Carry out without undue inconvenience and nuisance and without danger to occupants and users. • Overtime: If compliance with this clause requires certain operations to be carried out during overtime, and such overtime is not required for any other reason, the extra cost will be paid to the Contractor, provided that such overtime is authorized in advance. 		
<p>390 Noise and vibration</p> <ul style="list-style-type: none"> • Noise control: In accordance with BS: Code of practice for noise and vibration control on construction and open sites. Noise, • Noise levels from the Works: Restricted due to residential area. • Measurement area: At Site Boundary • 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. 		
<p>400 Pollution</p> <ul style="list-style-type: none"> • 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. 		
<p>430 Nuisance</p> <ul style="list-style-type: none"> • Duty: Prevent nuisance from smoke, dust, rubbish, vermin and other causes. 		

<ul style="list-style-type: none"> • Surface water: Prevent hazardous build-up on site, in excavations and to surrounding areas and roads. 	£	p
440 Asbestos containing materials <ul style="list-style-type: none"> • Requirement: Report immediately suspected materials discovered during execution of the Works. Do not disturb and agree methods for safe removal or encapsulation. 		
445 Antiquities <ul style="list-style-type: none"> • Requirement: Report immediately fossils, antiquities and other objects of interest or value discovered during execution of the Works. • Preservation: Keep objects in the exact position and condition in which they were found. 		
450 Fire prevention <ul style="list-style-type: none"> • 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 <ul style="list-style-type: none"> • Smoking on site: Not permitted. 		
470 Burning on site <ul style="list-style-type: none"> • Burning on site: Not permitted. 		
480 Moisture <ul style="list-style-type: none"> • 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. 		
510 Waste <ul style="list-style-type: none"> • 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 <ul style="list-style-type: none"> • Duty: Prevent excessive electromagnetic disturbance to apparatus outside the site. 		
540 Powder actuated fixing systems <ul style="list-style-type: none"> • Use: Not permitted. 		



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580 Existing services <ul style="list-style-type: none"> • 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: <ul style="list-style-type: none"> – Below ground: Use signboards, giving type and depth. • Overhead: Use headroom markers. • Damage to services: <ul style="list-style-type: none"> – 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. 		
590 Roads and footpaths <ul style="list-style-type: none"> • Duty: Maintain roads and footpaths within and adjacent to the site and keep clear of mud and debris. • Damage: Make good if caused by site traffic, or otherwise consequent upon the Works, to the satisfaction of the Employer, Local Authority or other owner. 		
600 Existing topsoil and subsoil <ul style="list-style-type: none"> • Duty: Prevent over compaction of existing topsoil and subsoil in those areas which may be damaged by construction traffic, parking of vehicles, temporary site accommodation or storage of materials and which will require reinstatement prior to completion of the Works. • Protection: Submit proposals. • Submittal date: Before starting work. 		
610 Retained trees, shrubs and grassed areas <ul style="list-style-type: none"> • Protection: Preserve and prevent damage. • Replacement: Mature trees and shrubs if uprooted, destroyed, or damaged beyond reasonable chance of survival in their original shape, as a consequence of the Contractor's negligence, must be replaced with those of a similar type and age at the Contractor's expense. 		

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<p>620 Retained trees</p> <ul style="list-style-type: none"> • Protected area: Unless agreed otherwise, do not dump spoil or rubbish, excavate or disturb topsoil, park vehicles or plant, store materials or place temporary accommodation within an area which is the larger of the branch spread of the tree or an area with a radius of half the tree's height, measured from the trunk. • Roots: Do not sever if exceeding 25mm in diameter. If unintentionally severed give notice and seek advice. • Ground levels: Do not change within an area 3m beyond branch spread. 		
<p>630 Existing features</p> <ul style="list-style-type: none"> • Protection: Prevent damage to existing buildings, fences, gates, walls, roads, paved areas and other site features, which are to remain in position during execution of the Works. 		
<p>640 Existing work</p> <ul style="list-style-type: none"> • 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. 		
<p>650 Building interiors</p> <ul style="list-style-type: none"> • Protection: Prevent damage from exposure to the environment, including weather, flora, fauna, and other causes of material degradation during the execution of the Works. 		
<p>660 Existing furniture, fittings and equipment</p> <ul style="list-style-type: none"> • Protection: Prevent damage or move as necessary to enable the Works to be executed. Reinstall in original positions. • Removal by Employer: <ul style="list-style-type: none"> – Timing: Before work starts in relevant areas. 		
<p>680 Especially valuable or vulnerable items</p> <ul style="list-style-type: none"> • Protection: Ensure provision and maintenance of special protective measures to prevent damage. • Method statement: Submit within one week of request describing special protection to be provided. 		
METHOD AND SEQUENCE		
<p>730 Adjoining property</p> <ul style="list-style-type: none"> • Agreement: Access to and/ or use of areas that do not belong to the council are to be agreed with adjacent owner. • Permission: Obtain as necessary from other owners if required to erect scaffolding on, or otherwise use, adjoining property. 		

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740 Adjoining property restrictions <ul style="list-style-type: none"> • Precautions: Prevent trespass of work-people and take precautions to prevent damage to adjoining property. Pay charges. Remove temporary protection and make good on completion or when directed. • Damage: Bear cost of repairing damage arising from execution of the Works. 		
750 Existing structures <ul style="list-style-type: none"> • Duty: Check proposed methods of work for effects on adjacent structures inside and outside the site boundary. • Supports: <ul style="list-style-type: none"> – Standards: In accordance with BS 5975 and BS EN 12812. – Requirements: Provide and maintain incidental shoring, strutting, needling and other supports as may be necessary to preserve stability of existing structures on the site or adjoining, which may be endangered or affected by the Works. Do not remove until new work is strong enough to support existing structure. Prevent over-stressing of completed work when removing supports. • Adjacent structures: Monitor and immediately report excessive movement. 		
760 Materials for recycling or reuse <ul style="list-style-type: none"> • Duty: Sort and prevent damage to stated products or materials, clean off bedding and jointing materials and other contaminants. • Storage: Stack neatly and protect until required by the Employer or for use in the Works as instructed. 		
790 Working hours <ul style="list-style-type: none"> • Specific limitations: 08:30 - 17:30 		

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

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<p>150 Currency of documents</p> <ul style="list-style-type: none"> • Currency: References to published documents are to the editions, including amendments and revisions, current on the date of the Invitation to Tender. 		
<p>160 Incomplete documentation</p> <ul style="list-style-type: none"> • Products and executions: Where and to the extent that products or executions are not fully documented, they are to be as follows. • Requirements: <ul style="list-style-type: none"> – 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. 		
<p>220 Technical information</p> <ul style="list-style-type: none"> • 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. 		
<p>230 Compliance</p> <ul style="list-style-type: none"> • 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		
<p>240 Workmanship skills</p> <ul style="list-style-type: none"> • 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. 		
<p>250 Quality of products</p> <ul style="list-style-type: none"> • Generally: New. • Supply: Each product from the same source or manufacturer. • Quantity: Whole quantity of each product required to complete the Works of a 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. 		

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<p>260 Quality of execution</p> <ul style="list-style-type: none"> • 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. 		
<p>270 Inspections</p> <ul style="list-style-type: none"> • 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. 		
<p>280 Related work</p> <ul style="list-style-type: none"> • 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. 		
<p>290 Manufacturer's recommendations and instructions</p> <ul style="list-style-type: none"> • 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. 		
<p>300 Water for the Works</p> <ul style="list-style-type: none"> • Mains supply: Clean and uncontaminated. • Suitability: Do not use until evidence is provided. 		
<p>SAMPLES AND APPROVALS</p>		
<p>330 Samples</p> <ul style="list-style-type: none"> • 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. 		

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<p>340 Approval of products</p> <ul style="list-style-type: none"> • 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. 		
<p>350 Approval of execution</p> <ul style="list-style-type: none"> • 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		
<p>370 Accuracy of instruments</p> <ul style="list-style-type: none"> • Measurement: Use instruments and methods described in BS 5606, Appendix A. • Accuracy: Maintain 		
<p>380 Setting out</p> <ul style="list-style-type: none"> • 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. 		
<p>400 Critical dimensions</p> <ul style="list-style-type: none"> • Critical dimensions: Set out and construct the Works in accordance with the critical dimensions and tolerances stated. 		
<p>410 Setting out records</p> <ul style="list-style-type: none"> • Record drawings: Include details of grid lines, setting-out stations, benchmarks and profiles. Retain on site throughout the Contract and hand over on completion. 		
SERVICES GENERALLY		
<p>430 Services regulations</p> <ul style="list-style-type: none"> • Services: New and existing services must comply with the Byelaws or Regulations of the relevant Statutory Authority. 		

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<p>440 Water regulations and byelaws notification</p> <ul style="list-style-type: none"> • 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. 		
<p>450 Water regulations and byelaws Contractor's certificate</p> <ul style="list-style-type: none"> • Content: <ul style="list-style-type: none"> – 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. <ul style="list-style-type: none"> – 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. 		
<p>460 Electrical installation certificate</p> <ul style="list-style-type: none"> • Certification: The original certificate is to be lodged in the Building Manual at the completion of relevant electrical work. 		
<p>470 Gas, oil and solid fuel appliance installation certificate</p> <ul style="list-style-type: none"> • Content: <ul style="list-style-type: none"> – Installation: Describe the new installation and/ or the work carried out to an existing installation including the address. – Safety: Include special recommendations or instructions for the safe use and operation of appliances and flues. • Statement: Confirm that the installation complies with the appropriate safety, installation and use regulations. <ul style="list-style-type: none"> – Inspection: Provide the Contractor's name and address, the date on which the installation was checked and the name, qualifications and signature of the competent person responsible for checking compliance. • Submit: Before the completion date stated in the contract. • Certificate location: Building Manual and Health and Safety File. 		
<p>480 Mechanical and electrical services</p> <ul style="list-style-type: none"> • 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. 		
<p>500 Continuity of thermal insulation</p> <ul style="list-style-type: none"> • Record and report: Confirm that work to new, renovated or upgraded thermal elements has been carried out to conform to the Specification. 		

<ul style="list-style-type: none"> – Content: Address of premises, the Contractor's name and address, the name, qualification and signature of a competent person responsible for checking compliance and the date on which the installation was checked. • Submit: Before completion of the Works. • Copy: Include in the Building Manual. 	£	p
<p>520 Energy performance certificate</p> <ul style="list-style-type: none"> • Assessment: Undertaken by a member of an approved accreditation scheme. Submit details of scheme name and evidence of qualifications when requested. • Building type: Non-dwelling. • Method: Standard Assessment Procedure for dwellings (SAP); Simplified Building Energy Model (SBEM); and Dynamic System Modelling (DSM). • Certificate: Include in the Building Manual. • Submittal date: Prior to issue of practical completion. 		
QUALITY CONTROL		
<p>540 Proposals for rectification of non-compliant products and executions</p> <ul style="list-style-type: none"> • Non-compliant items: <ul style="list-style-type: none"> – Opening up, inspection, testing, making good, adjustment of the Contract Sum, or removal and re-execution: Submit proposals – Submittal date: So soon as possible after discovery of items which are or appear to be non-compliant. • Acceptability: Such proposals may be unacceptable and contrary instructions may be issued. 		
<p>550 Measures to establish acceptability</p> <ul style="list-style-type: none"> • General: Wherever inspection or testing shows that the work, materials or goods are not in accordance with the Contract and measures (e.g. testing, opening up, experimental making good) are taken to help in establishing whether or not the work is acceptable, such measures will be at the expense of the Contractor and will not be considered as grounds for revision of the completion date. 		
<p>560 Quality control</p> <ul style="list-style-type: none"> • Procedures: Establish and maintain to ensure that the Works, including the work of subcontractors, comply with specified requirements. • Records: Maintain full records, keep copies on site for inspection, and submit copies on request. • Content of records: <ul style="list-style-type: none"> – Identification: Of each element, item, batch or lot including location in the Works. • Inspections, tests and approvals: Purpose and dates. <ul style="list-style-type: none"> – Description: Nature and extent of nonconforming work found. – Corrective action: Details of work carried out. 		

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.

150 Rules of measurement

- **Method of measurement:** NRM

160 Measured quantities

- **Measured quantities:** When ordering products and constructing the Works, the accuracy and sufficiency of the measured quantities is not guaranteed.
- **Precedence:** The Specification and drawings shall override the measured quantities.

DOCUMENT AND DATA INTERCHANGE

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<p>280 Contract Sum Analysis</p> <ul style="list-style-type: none"> • Content: A breakdown of the contract sum into the following categories. • Categories: • Form: • Fully priced copy - submittal date: 		
<p>350 Programme</p> <ul style="list-style-type: none"> • Programme of work: Prepare a summary showing the sequence and timing of the principal parts of the Works and periods for planning and design. Itemize any work which is excluded. • Submittal date: With the tender and Within one week of request. 		
<p>370 Information Release Schedule</p> <ul style="list-style-type: none"> • Compatibility with programme: When submitting programme, confirm that it is compatible with the Information Release Schedule. • Alternative information release times: Submit proposals. • Submittal date: With the programme. 		
<p>380 Method statements</p> <ul style="list-style-type: none"> • Method statements: Prepare describing how and when the following procedures are to be carried out. 		
<p>400 Alternative method proposals</p> <ul style="list-style-type: none"> • General: In addition to and at the same time as tendering for the Works as defined in the tender documents, alternative methods of construction and installation may be submitted for consideration. Alternatives, which would involve significant changes to other work, may not be considered. • Alternative method proposals: Include a complete and precise statement of the effects on cost and programme. • Safety method statement: Carry out a health and safety risk assessment for each alternative and where appropriate provide a safety method statement suitable for incorporation in the Health and Safety Plan. • Full technical data: Submit for each alternative together with details of any consequential amendments to the design and/ or construction of other parts of the Works. • Submittal date: Within one week of request. 		
<p>410 Alternative time proposals</p> <ul style="list-style-type: none"> • General: In addition to and at the same time as undertaking to complete the contract work by the date for completion or period specified in the Contract, an alternative proposal based upon a different date or period may be submitted. • Date for Completion: If any such proposal is accepted, the date for completion or period inserted in the Contract will be the date stated in or determined from the alternative proposal. 		



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450 Health and safety information <ul style="list-style-type: none"> • 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: <ul style="list-style-type: none"> – 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. 		
470 Outline construction phase health and safety plan <ul style="list-style-type: none"> • Content: <ul style="list-style-type: none"> – 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 <ul style="list-style-type: none"> • Information: Provide as required by Principal Contractor. 		
INFORMATION		

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<p>740 Proposed instructions</p> <ul style="list-style-type: none"> • Estimates: If a proposed instruction requests an estimate of cost, submit without delay and in any case within seven days. • Include: <ul style="list-style-type: none"> – Cost breakdown: A detailed breakdown of cost, including allowance for direct loss and expense. – Resources: Details of additional resources required. – Programme: Details of adjustments to be made to the programme for the Works. – Other: Other information as is reasonably necessary to fully assess the implications of issuing such an instruction. • Inability to comply: Inform immediately if it is not possible to comply with any of the above requirements. 		
<p>750 Design and production information</p> <ul style="list-style-type: none"> • Master programme: Make reasonable allowance for completing design and production information, submission (including for CDM purposes), comment, inspection, amendment, resubmission and reinspection. • Design and production information: Submit two copies, one could be returned with comments and this will be deemed to be a direction, notice or instruction under the Contract. Ensure that necessary amendments are made without delay and resubmit unless it is confirmed that it is not required. • Contractor's changes: Support request for substitution or variation to the Employer's requirements with relevant information. • Final version of design and production information: <ul style="list-style-type: none"> – Submittal date: Within one week of request. • Employer's amendments: If considered to involve a variation to the Employer's requirements, which has not already been acknowledged as a variation, notify without delay (maximum period 7 days), and do not proceed until instructed. Claims for extra cost, if made after it has been carried out, may not be allowed. 		
<p>760 Named subcontractors: Design and production information</p> <ul style="list-style-type: none"> • General: Certain Subcontractors are or will be required to provide design and production information during the Contract. • Master programme: Make reasonable allowance for completing design and production information, checking, submission (including for CDM purposes), comment, inspection, amendment, resubmission and reinspection. • Information from Subcontractors: <ul style="list-style-type: none"> – Programme: Obtain in time to meet the programme and in accordance with NAM/T where applicable. • Examination: Check dimensions are correct, account is taken of related work, and construction is practicable. Note comments on copies of the design and production information then submit to CA and subcontractor. Such checking will not relieve the CA or the subcontractors of their respective responsibilities for design, co-ordination and documentation. Ensure that necessary amendments are made without delay and resubmit unless it is confirmed that it is not required. • Final version of information: Distribute copies to affected subcontractors and others and keep one copy on site. 		

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<p>780 Contractor's design information</p> <ul style="list-style-type: none"> • General: Complete the design and detailing of parts of the Works as specified. • Provide: <ul style="list-style-type: none"> – Production information: Based on the drawings, specification and other information. – Liaison: Ensure coordination of the work with related building elements and services. • Master programme: Make reasonable allowance for completing design and production information, submission (including for CDM purposes), comment, inspection, amendment, resubmission and reinspection. • Format: Electronic Copy • Submittal date: Within one week of request. 		
<p>800 Insurance</p> <ul style="list-style-type: none"> • Documentary evidence: Before starting work on site submit details and/ or policies and receipts for the insurances required by the Conditions of Contract. 		
<p>820 Insurance claims</p> <ul style="list-style-type: none"> • 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. 		
<p>830 Climatic conditions - records</p> <ul style="list-style-type: none"> • Climatic conditions: Record accurately and retain. • Information: <ul style="list-style-type: none"> – Air temperatures: Daily maximum and minimum, including overnight. – Delay records: Due to adverse weather, include description of the weather, types of work affected and number of hours lost. 		
<p>840 Ownership of products</p> <ul style="list-style-type: none"> • Ownership: At the time of each valuation, supply details of those products not incorporated into the Works which are subject to reservation of title inconsistent with passing of property as required by the Conditions of Contract, together with their respective values. • Evidence: When requested, provide evidence of freedom of reservation of title. 		
<p>850 Listed products stored off site</p> <ul style="list-style-type: none"> • Evidence of title: Submit reasonable proof that the property in 'listed items' is vested in the Contractor • Supplier: For products purchased from a supplier include a copy of the contract of sale and a written statement from the supplier that conditions of the sale relating to the passing of property have been fulfilled and the products are not subject to encumbrance or charge. 		

<ul style="list-style-type: none"> • Subcontractor: For products purchased from a supplier by a subcontractor or manufactured or assembled by a subcontractor, copies of the subcontract with the Subcontractor and a written statement from the Subcontractor confirming that conditions relating to the passing property have been fulfilled and the products are not subject to encumbrance or charge. 	£	p
<p>860 Labour and equipment returns</p> <ul style="list-style-type: none"> • Records: Provide for verification at the beginning of each week in respect of each of the previous seven days. • Include: <ul style="list-style-type: none"> – Labour: The number and description of craftsmen, labourers and other persons directly or indirectly employed on or in connection with the Works or services, including those employed by subcontractors. – Equipment: The number, type and capacity of mechanical, electrical and power operated equipment employed in connection with the Works or service. 		
<p>880 Defects in existing work report</p> <ul style="list-style-type: none"> • Undocumented defects: When discovered, immediately give notice. Do not proceed with affected related work until response has been received. • Documented remedial work: Do not execute work which may hinder access to defective products or executions, or be rendered abortive by the remedial work. 		
<p>890 Tests and inspection schedule</p> <ul style="list-style-type: none"> • Timing: Agree and record dates and times of tests and inspections to enable affected parties to be represented. • Confirmation: Provide one working day prior to each test or inspection. If sample or test is not ready, agree a new date and time. • Records: Submit a copy of test certificates and retain copies on site. 		
<p>900 Commissioning programme</p> <ul style="list-style-type: none"> • Submittal date: Four weeks (minimum) before commissioning commences. 		
<p>920 Maintenance instructions and guarantees</p> <ul style="list-style-type: none"> • Components and equipment: Obtain or retain copies, register with manufacturer and hand over on or before completion of the Works. • Information location: In Building Manual. • Emergency call out services: <ul style="list-style-type: none"> – Telephone numbers: Provide for use after completion. 		



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.
- **Period of notice (minimum):** One month.

140 Partial possession by Employer

- **General:** If clauses 2.25 to 2.29 of the Condition of Contract are applied ensure necessary access, services and other associated facilities are also complete.

150 Completion in sections or in parts

- **General:** Where it is proposed to take possession of a Section or part of the Works and such Section or part will, after its practical completion, depend for its adequate functioning on work located elsewhere on the site, complete that other work in time to permit such possession to take place.
- **Remainder of the Works:** During execution, ensure that completed Sections or parts of the Works have continuous and adequate provision of services, fire precautions, means of escape and safe access.

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

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with an itemized schedule. Retain a duplicate schedule signed by that person as a receipt.

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190 Rectification and defects

- **Notice:** Give reasonable notice for access to the various parts of the Works.
- **Access arrangements:** Via CA & Billericay Council
- **Completion:** Give notice when remedial works have been completed.

200 Highway and sewer adoption

- **Adoption:** Work to be adopted under the Highways Act, Section 38 and Work to be adopted under Water Industry Act, Section 104. Section 278 will be required.
- **Completion:** To the satisfaction of the Relevant Authority before the certificate stating the Works are complete is issued.
- **Defects liability and rectification period:** 12 Months
- **Maintenance:** Undertake during the Defects Liability or Rectification Period to the satisfaction of the relevant Authority, including:
Making good of damage due to reasonable wear and tear occurring during the Period.
Clean at the end of the Period.

INFORMATION

240 The Building Manual

- **Purpose:** The Building Manual is to be a comprehensive information source and guide for owners and users of the completed Works. It must provide 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.
- **Scope:**
 - **Part 1:** General.
 - **Part 2:** Fabric.
 - **Part 3:** Services.
 - **Part 4:** The Health and Safety File
 - **Part 5:** Building User Guide.
- **Responsibility for production:** Principal Contractor
- **Date required:** Prior to Practical Completion
- **Information provided by others:** Prepare as required.
- **Compilation:** Prepare all information for Contractor designed or performance specified work including as-built drawings. Obtain or prepare all other information to be included in the Manual.
- **Reviewing the Manual:** Prepare and circulate a complete draft. Amend in the light of any comments and recirculate. Do not proceed with production of the final copies until authorized.
- **As-built/ record drawings and schedules:**
 - **Number of copies:** 2 No.
 - **Format:** Electronic & Hardcopy

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<p>260 Content of the Building Manual part 1: General</p> <ul style="list-style-type: none"> • Content: Obtain and provide the following, including all relevant details not included in other parts of the Manual: • Index: List the constituent parts of the Manual, together with their location in the document. • The Works: Description of the buildings and facilities. Ownership and tenancy, where relevant. Health and Safety information – other than that specifically required by the Construction (design and management) regulations • The Contract: Names and addresses and contact details of all significant consultants, contractors, subcontractors, suppliers and manufacturers. Overall design criteria. Environmental performance requirements. Relevant authorities, consents and approvals. Third party certification, such as those made by 'competent' persons in accordance with the Building Regulations. • Operational requirements and constraints of a general nature: Maintenance contracts and contractors. Fire safety strategy for the buildings and the site. Include drawings showing emergency escape and fire appliance routes, fire resisting doors, location of emergency alarm and fire fighting systems, services, shut off valves switches, etc. Emergency procedures and contact details in case of emergency. Other specific requirements. • Timescale for completion: Prior to practical completion 		
<p>270 Content of the Building Manual Part 2: Building fabric</p> <ul style="list-style-type: none"> • Content: Obtain and Provide the following, including all relevant details not included in other parts of the Manual: <ul style="list-style-type: none"> – Detailed design criteria: Including: Floor and roof loadings Durability of individual components and elements Loading restrictions Insulation values Fire ratings Other relevant performance requirements – Construction of the building: A detailed description of methods and materials used. As-built drawings recording the construction, together with an index. Information and guidance concerning repair, renovation or demolition/ deconstruction. – Periodic building maintenance guide chart: Provide for all significant items of work – Inspection reports: As undertaken – Manufacturer's instructions index: Include relevant COSHH data sheets and recommendations for cleaning, repair and maintenance of components. – Fixtures, fittings and components schedule and index: Required. – Guarantees, warranties and maintenance agreements – obtain from manufacturers, suppliers and subcontractors: Obtain from manufacturers, suppliers and subcontractors. 		

- **Test certificates and reports required in the specification:** Obtain, including:
Air permeability.
Resistance to passage of sound.
Continuity of insulation.
Electricity and Gas safety.
- **Timescale for completion:** Prior to practical completion.

280 Content of the Building Manual Part 3: Building services

- **Content:** Obtain and Provide the following, including all relevant details not included in other parts of the Manual:
 - **Detailed design criteria and description of the systems, including:** Including:
Services capacity, loadings and restrictions.
Services instructions.
Services log sheets.
Manufacturers' instruction manuals and leaflets index.
Fixtures, fittings and component schedule index.
 - **As-built/ record drawings:** For each system recording the construction, together with an index, including:
Diagrammatic drawings indicating principal items of plant, equipment and fittings.
Record drawings showing overall installation.
Schedules of plant, equipment, valves, etc. describing location, design performance and unique identification cross referenced to the record drawings.
Identification of services – a legend for colour coded services.
 - **Product details:** Including for each item of plant and equipment:
Name, address and contact details of the manufacturer.
Catalogue number or reference.
Manufacturer's technical literature, including detailed operating and maintenance instructions.
Information and guidance concerning dismantling, repair, renovation or decommissioning.
 - **Operation:** A description of the operation of each system, including:
Starting up, operation and shutting down.
Control sequences.
Procedures for seasonal changeover.
Procedures for diagnostics, troubleshooting and fault-finding.
 - **Guarantees, warranties and maintenance agreements – obtain from manufacturers, suppliers and subcontractors:** Obtain from manufacturers, suppliers and subcontractors.
 - **Commissioning records and test certificates list for each item of plant, equipment, valves, etc. used in the installations – including:** List for each item of plant, equipment, valves, etc. used in the installations, including:
Electrical circuit tests.
Corrosion tests.
Type tests.
Work tests.
Start and commissioning tests.
 - **Equipment settings:** Schedules of fixed and variable equipment settings established during commissioning.
 - **Preventative maintenance:** Recommendations for frequency and procedures to be adopted to ensure efficient operation of the systems.
 - **Lubrication:** Schedules of all lubricated items.

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<ul style="list-style-type: none"> - Consumables: A list of all consumable items and their source. - Spares: A list of recommended spares to be kept in stock, being those items subject to wear and tear or deterioration and which may involve an extended delivery time when replacements are required. - Emergency procedures: For all systems, significant items of plant and equipment. • Timescale for completion: Prior to practical completion. 	£	p
<p>290 Content of the Building Manual Part 4: the Health and Safety File</p> <ul style="list-style-type: none"> • Content: Obtain and provide the following, including all relevant details not included in other parts of the Manual, including: Residual hazards and how they have been dealt with. Hazardous materials used. Information regarding the removal or dismantling of installed plant and equipment. Health and safety information about equipment provided for cleaning or maintaining the structure. The nature, location and markings of significant services. Information and as-built drawings of the structure, its plant and equipment. • Timescale for completion: Prior to practical completion. 		
<p>300 Content of the Building Manual Part 5: the Building User Guide</p> <ul style="list-style-type: none"> • Content: Obtain and provide the following: Building services information. Emergency information. Energy and environmental strategy. Water use. Transport facilities. Materials and waste policy. Re-fit/ re-arrangement considerations. Reporting provision. Training. Links and references. • Timescale for completion: Prior to practical completion. 		
<p>320 Presentation of Building Manual</p> <ul style="list-style-type: none"> • 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. 		
<p>340 Information for commissioning of services</p> <ul style="list-style-type: none"> • 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. 		
<p>350 Training</p> <ul style="list-style-type: none"> • 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.

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390 Maintenance service

- **Scope;** Provide a comprehensive maintenance service. Include all planned preventative maintenance, as set out within the maintenance schedule and replacement of all consumable items.
- **Duration:** 15 years.

400 Schedule for spare parts

- **General:** Before Completion, submit a priced schedule of spare parts that the Contractor recommends should be obtained and kept in stock for maintenance of the services installations.
- **Content:** Include in the priced schedule for:
Manufacturers' current prices, including packaging and delivery to site.
Checking receipts, marking and numbering in accordance with the schedule of spare parts.
Referencing to the plant and equipment list in Part 3 of the Building Manual.
Painting, greasing, etc. and packing to prevent deterioration during storage.
- **Latest date for submission:** Prior to practical completion.

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:** Prior to practical completion.

Outline Specification

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Specification

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Schedules

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Financial Summary

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Financial Summary

Financial Summary	£
Total £	

Signed _____

For and on behalf of _____

Date _____

SECTION 2.00 – MATERIALS AND WORKMANSHIP

2.01 TERMS, DEFINITIONS AND INTERPRETATION

A Dimensions

Do not scale from drawings. Obtain from C.A. any dimensions required but not given in figures on the drawings nor calculable. Check all dimensions and particulars against the actual work and notify the C.A. of any discrepancies.

B To Match Existing

To match existing means use products, materials and methods to closely match all visual characteristics and features of the existing work, with joints between existing and new work as inconspicuous as possible to approval and to any additional specified requirements.

C Remove

Remove means remove existing work as described and all associated accessories, fastenings, linings and bedding materials without damaging adjacent work to be retained, and make good. "Form" or "cut" openings, etc., means remove as necessary.

D Re-fix

Re-fix means:-

1. Carefully remove existing work required to be re-fixed.
2. Remove fastenings and bedding materials from products/materials and clean and repair as necessary.
3. Set aside and adequately protect until required.
4. Re-locate accurately and fix securely using fixing and jointing materials to match existing, or approved alternatives, and make good.
5. Comply with any additional specified requirements.

E Make Good

Make good means carry out local remedial work including the following as appropriate and necessary to leave the work sound and neat to approval: -

- (1) Remove defective parts of existing finishes and components and around any stated features.
- (2) Fill, dress down, piece-in, patch, extend existing finishes, make minor repairs and adjustments.
- (3) Re-fix or re-stick for redecoration.

Make good consequent upon alteration, extension and maintenance work is deemed to be included in such items.

F Fix Only

Fix only means all labours in unloading, handling, storing and fixing in position, including use of all plant.

G Supply and Fix

Supply and fix, unless otherwise stated, all items given in the schedule of works and/or on the drawings.

H Included Elsewhere/as Previously Specified

The term "included elsewhere" or "as previously specified" qualify in any part of a description means that provision is made elsewhere in the specification for the part so qualified.

I Plug

The term "plug" means the provision and fixing of approved proprietary plugs or, at the C.A.'s discretion, fixing by approved mechanical means.

2.02 MATERIALS AND WORK GENERALLY

A Unspecified Items

Where, and to the extent that materials, goods and workmanship are not fully specified, they are to be:-

- (1) Suitable for the purpose of the Works stated in or reasonably to be inferred from the Contract documents and

- (2) In accordance with good building practice including the relevant provisions of B.S.I. documents.

B British Standards

Where products and materials are specified to the British Standard and/or British Standard Code of Practice, this is deemed to mean the latest issue of the referred to document. Certificates of Compliance are to be obtained from the manufacturers if so requested by the C.A.

C Manufacturers Recommendations

- (1) Handle, store, prepare and use or fix each product in accordance with manufacturers printed or written recommendations/instructions. Inform the C.A. if these conflict with any other specified requirements.
- (2) The recommendations/instructions are those which are current ten working days before the date of tender. If they change between tender and construction, inform the C.A. and obtain instructions before ordering materials or starting work.
- (3) Submit copies to C.A. if requested.
- (4) The Contractor is to allow manufacturers the facility of inspecting the work during progress in order to ascertain that their products are being used correctly and is to allow them to take samples of materials from the sites if so desired.

D Sources of Supply

Where choice of manufacturer or source of supply is allowed for any particular product or materials, the whole quantity required to complete the work must be of the same type, manufacture and/or source.

E Workmanship Supervision

Provide competent supervision of all workmanship by experienced tradesmen familiar with and skilled in the particular type of work.

F	<p><u>Tolerances</u></p> <p>Work within dimensional limits recommended by BS.5606 "Accuracy in Building" and subject to the following: -</p> <ol style="list-style-type: none"> (1) Arrange the setting out, erection, juxta position of components and application of finishes (working within the practical limits of the design and the specification) to ensure that there is satisfactory fit at junctions and that the finished work has a well aligned, true and regular appearance. (2) Wherever satisfactory accuracy, fit and/or appearance of the work are likely to be critical of difficult to achieve, obtain approval of proposal for the appearance of the relevant aspects of the partially finished work as early as possible
G	<p><u>Preparation of Surfaces</u></p> <p>Description of finishings applied to new surfaces, are deemed to include the preparation of these surfaces to receive the finishing.</p>
H	<p><u>Moving Parts</u></p> <p>Adjust, ease and lubricate moving parts of new work as necessary to ensure easy and efficient operation, including all window controls, doors and ironmongery.</p>
2.03	<u>EXCAVATIONS AND EARTHWORKS</u>
A	<p><u>GENERAL REQUIREMENTS</u></p> <p>All workmanship shall be carried out strictly in accordance with BS 6031 Earthworks and BS 8004 Foundations.</p>
B	<u>WORKMANSHIP</u>
B.1	<p><u>Site Investigations</u></p> <p>Site investigations have not been undertaken unless otherwise stated.</p>
B.2	<p><u>Services</u></p> <p>Make all necessary enquiries with local authorities and statutory undertakers concerning the possible existence of live services on the site. Report findings to the specifier and agree procedures.</p>

B.3 Materials to be Removed from Site

Removal includes all unwanted material such as debris, tree roots, surplus soil, old drains and foundations, etc. Remove all such material to a tip authorised by the local authority and pay all charges.

B.4 Preservation of Turf

Carefully cut and lift turf to provide evenly sized turves of consistent thickness not less than 20 mm and stack on site in approved locations. Protect until required for re-use.

B.5 Safety of Excavations

Adopt the following procedures :

- (a) Take whatever precautions necessary to eliminate any risk of collapse of the sides of the excavations.
- (b) Ensure that excavations cause no risks to adjacent roads, paths or buildings, etc.
- (c) Keep raised soil well back from edges of excavations.
- (d) Prevent, by barriers or other means, vehicles, plant, spoil or anything approaching the area adjacent to the edge of excavations.

In all other respects comply with Section 1.4 of BS 6031 and Section 11 of BS 8004.

B.6 Excavations for Trenchfill

Procedures for normal trench fill excavations may be waived in that :

- (a) The trench is opened by a machine that produces a clean sided trench of the correct foundation width.
- (b) The trench is unsupported, the bottoms are scraped level and clean and the concrete is immediately placed to fill the trench.
- (c) Give adequate notice of when the work is to be undertaken in order that inspections can be made.

This assumes that no operatives will enter the trenches. The contractor is still responsible for any collapse that may occur.

B.7 Surface and Ground Water

Keep the site generally and the excavation in particular, free from water arising from any cause. No water shall be discharged into any water course or drain without approval of the relevant authority.

B.8 Bottom Excavations

Adopt the following procedures :

- (a) Report if a firm bearing is encountered before the specified foundation depth is reached.
- (b) Report if a firm bearing cannot be established at the specified foundation depth.
- (c) Probe the bearing surfaces for soft spots. Report on findings.
- (d) Obtain approval for excavations prior to placing foundations.
- (e) Remove the final 75 mm of soil, level and compact excavations immediately before placing foundations. Alternatively, blind base with 75 mm leanmix concrete.
- (f) Record and agree any levels that differ from those specified or declared provisional.

B.9 Excess Excavations

Excess excavations to be backfilled with leanmix concrete unless otherwise specified.

B.10 Filling

Obtain approval from the C.A. prior to backfilling. Backfill with excavated material, unless otherwise specified in layers not exceeding 250 mm. Level or grade to slopes as necessary.

2.04 CONCRETE WORKS

A GENERAL REQUIREMENTS

Comply with BS 8110: Part 1 - the structural use of concrete.

B MATERIALS

B.1 Cement

The cement shall be from an approved source and shall comply in all respects with either BS 12: 1978 for ordinary Portland cement or BS 4027: 1980 for sulphate resisting cement. It shall be stored in a dry place free of condensation and shall be fresh when used. The manufacturer's certificate of compliance with BS is to be supplied if requested.

B.2 Fine Aggregate

The fine aggregate shall comply in all respects with BS 882 Table 2 and shall consist of well graded coarse river or pit sand mainly passing a 5 mm test sieve as defined therein.

B.3 Coarse Aggregate

Coarse aggregate is to comply with BS 882 Table 1 natural gravel, crushed gravel or crushed stone free from impurities. It shall be well graded from the nominal maximum sizes referred to hereafter.

B.4 Water

Mains water only shall be used for mixing concrete.

B.5 Concrete

The following nominal mixes of concrete for all mass concrete are as follows :

<u>Mix</u>	<u>Nominal Mix</u>	<u>Volume of Aggregate</u>	<u>Nom. Max. Size</u>
		<u>50kg. Cement</u>	<u>Aggregate</u>
		<u>Fine</u>	<u>Coarse</u>
A	1:2:4	0.070 cu.m	0.140 cu.m.19mm
B	1:3:6	0.106 cu.m.	0.212 cu.m 38mm
C	1:1:5:3	0.050 cu.m	0.100 cu.m 19mm
D	1:12 all in	0.42 cu.m 38mm	

B.6 Prescribed Mixes

The table below gives the proportions of the mixes required. The N-values stated in the mix/grade references indicate the characteristic 28 day compressive strength defined in BS 5328. Compliance shall be established in accordance with Section 2: Part 10 of BS 5328. Retain records of the batch for inspection and checking.

B.7 Proportions of Mixes

<u>Mix</u> <u>5348 Grade</u>	<u>Equivalent</u> <u>Weight for use</u>	<u>Total Dry Aggregate</u> <u>with Aggregate</u>	<u>Max SizeSlump</u> <u>Range</u>
7N/20mmC75P	900	20	25-75
10N/20mmC10P	770	20	25-75
15N/20mmC15P	680	20	25-75
15N/40mmC15P	790	40	50-100
20N/20mmC20P	600	20	25-75
25N/20mmC25	510	20	25-75
25N/10mmC25	450	10	0-45
30N/20mmC30P	460	20	25-75

B.8 Ready Mix Concrete

Ready mix concrete may be used provided it is obtained from an approved depot with quality control procedures as defined by the B.R.M.C.A. Authorisation Scheme. Supporting documentation of compliance with mix requirements is to be submitted.

C WORKMANSHIP

C.1 Reinforcement

All steel to be hot rolled mild steel bars to BS 4449 unless otherwise stated. Ensure that steel is free of any contamination, loose rust or scale, etc.

Fabricate all steelwork in accordance with the bending schedules, bent and cut to comply with BS 4456. Check bending schedules prior to fabrication.

Obtain written approval prior to re-bending, splicing or lengthening by welding of any steelwork.

Securely fix and maintain reinforcement in position by means of approved spacers, tying wire, etc. Bend ends of wire away from concrete surface and ensure minimum concrete cover to all steelwork of 25 mm unless otherwise specified.

Supports to be left in shall comprise concrete blocks of similar mix to main concrete. No steelwork shall be inserted, lifted or otherwise moved after placing of concrete.

Where steel fabric reinforcement is used, sheets must overlap by at least 1 full mesh.

C.2 Formwork

Design and manufacture all formwork in accordance with clause 6.9.1 of BS 8110 to give required concrete profiles and finishes.

Inspect concrete on removal of formwork and make good.

C.3 Mixing and Placing Site Mixed Concrete

The proportions specified shall be accurately gauged and mixed with sufficient water to give even consistency and reasonable workability.

The mixing shall be carried out in a mechanical batch mixer and shall continue until there is a uniform distribution of materials and the mass is uniform in colour and consistency.

All concrete shall be placed as quickly as possible after mixing, with work proceeding continuously. Concrete which has commenced to set shall not be used or re-worked.

C.4 Curing

Keep concrete protected from frost or too rapid drying by covering with sacking or polythene sheeting.

C.5 Frosty Weather

No concrete is to be placed when the temperature is below 2°C Centigrade (36°F Fahrenheit) without the permission of the C.A.

2.05 BRICKWORK AND BLOCKWORK

A GENERAL REQUIREMENT

Comply in all respects with BS 5628: Part 3: use of masonry.

All brickwork/blockwork shall be set out and built to the respective dimensions, thicknesses and heights shown on the drawings, where applicable. All bricks shall be well soaked before being laid and tops of walls shall be wetted before work is recommenced. Concrete blocks shall not be wetted.

Brickwork shall be carried up at a uniform rate, no portion being raised more than 900 mm above any other at any time. All perpendes, quoins, etc. shall be kept true and plumb. Brickwork is to be set out to gauge to match height of existing brick courses, where applicable.

All bricks shall be stacked on dry level surfaces in a manner that permits free air circulation.

Lay bricks, frog uppermost in gauged mortar with 10 mm joint width and minimum quarter unit bond unless otherwise specified. Keep perpendes and quoins plumb.

Do not undertake overhand work without approval.

All joints to be well buttered and filled solid with mortar. All external brickwork to be pointed as the work proceeds, unless otherwise specified, and shall match existing where present.

B MATERIALS

B.1 Brick Samples

Deliver samples of each facing brick to the contract administrator before any bricks are laid.

B.2 Common Bricks

Bricks for internal use (where required) and for work below d.p.c. level, to be hard, sound, well burnt common fletton with sharp, well defined arises to comply with BS 3921: 1985.

B.3 Facing Bricks

Facing bricks for external work shall match existing as closely as possible, where applicable.

B.4 Calcium Silicate Bricks

Calcium silicate bricks to comply with BS 187 Class 3.

B.5 Engineering Bricks

Engineering bricks to comply with BS 3921 Class B.

B.6 Concrete Bricks

Concrete bricks shall comply with BS 6073 with minimum compressive strength of 7N/mm² unless otherwise specified.

- | | | |
|------|----------------------------------|---|
| B.7 | <u>Concrete Blocks</u> | All concrete blocks shall be 'Celcon' or 'Thermalite' in accordance with BS 6073: 1981. |
| B.8 | <u>Cement</u> | Cement shall be as specified under "Concrete Work". |
| B.9 | <u>Lime</u> | Lime shall be hydrated non-hydraulic lime complying in all respects with BS 890: 1972. |
| B.10 | <u>Sand</u> | Sand shall be clean, sharp, river or pit sand free from all impurities and complying with BS 1200: 1972 and be graded from 5 mm down. |
| B.11 | <u>Water</u> | Water shall be as described in "Concrete Work". |
| B.12 | <u>Cement Mortar</u> | Mortar for brickwork below d.p.c. level and where otherwise specified shall be cement and sand in the proportions 1:3 unless otherwise specified. |
| B.13 | <u>Gauged Mortar</u> | Mortar for brickwork above d.p.c. level to be cement:lime:sand in the proportions 1:1:6. All mortar is to be properly gauged and mixed and is not to be re-tempered for use after the initial set has commenced. |
| B.14 | <u>Wall Ties</u> | Wall ties to be galvanised butterfly ties in accordance with BS 1243: Type 1 with minimum 50 mm bedding at each end and placed at 450 mm vertical and 900 mm horizontal centres, doubled up around openings unless otherwise specified. |
| B.15 | <u>Pre-cast Concrete Lintols</u> | These shall be factory produced with steel bar hooked reinforcement to BS 449. Crushing strength 25N/mm ² at 28 days and marked "Top". |
| B.16 | <u>Steel Lintols</u> | Pressed steel lintols shall be designed in accordance with BS 5977: Part 1. |

C. WORKMANSHIP

C.1 Cavity Walls

Exclude mortar or debris by efficient means. Ensure there are no ledges etc. which could permit mortar accumulation.

C.2 Partial Cavity Fill Insulation

Supply and install insulation of type specified, discarding any warped material. Unless otherwise specified insulation shall overlap any ground slab insulation by a minimum of 150 mm and shall be fixed tightly against inner face with proprietary ties. Tightly butt the boards with staggered vertical joints ensuring no gaps are left in insulation. Protect insulation as work proceeds to prevent saturation and collection of mortar droppings.

C.3 Complete Cavity Fill Insulation

Supply and install insulation of type specified, ensuring batts are the correct thickness for the cavity width.

Unless otherwise specified commence insulation below d.p.c. level to overlap ground slab insulation by at least 150 mm.

Space wall ties such that each batt is supported by at least two ties.

Fix the batts one row at a time resting on the ties and pushed below ties along top edge.

Protect insulation as work proceeds to prevent saturation and collection of mortar droppings.

C.4 Openings

Seal openings through cavities with masonry and d.p.c.

C.5 Fill Cavities

Fill cavities below ground level with fine concrete mix, unless otherwise specified.

C.6 Damp Proof Course

The damp proof course is to be of glass fibre based bituminous felt to BS 743: 1970, or other approved, set a minimum of 150 mm above ground level and lapped 150 mm at joints.

C.7 Re-pointing

Where specified, rake out all brickwork joints to a minimum depth of 15 mm and ensure faces of brickwork within the new chase are clean.

Re-point brickwork with cement mortar 1:1:6 as described above finished with a joint to match existing. Where no existing joints are present, finish with a struck joint unless otherwise specified.

Allow for preparing 1 m² test area for approval of Contract Administrator.

2.06 CARPENTRY AND JOINERY

A GENERAL REQUIREMENTS

All work to comply with BS 5268: Parts 2 & 3 - The structural use of timber, and BS 1186 - Timber for and workmanship in joinery.

B MATERIALS

B.1 Timber

Timber for carpentry and joinery work generally is to be softwood of species selected from Group S2 in accordance with BS 5268, e.g. Redwood, European Larch.

Timber to be graded :

1. GS or MGS in accordance with BS 4978: 1973 for structural timbers.
2. Grade 40 in accordance with BS 5268 for studs, plates, battens, etc.

Timber for special joinery to be of species as hereafter specified.

B.2 Moisture Content

Timber is to be seasoned to a moisture content suitable for use in a centrally heated house.

Timber for carpenters work shall have a moisture content of 18% ± 2%.

Joinery timber shall have a moisture content :

External joinery 15%)
 Internal joinery 15%) ± 2%.

B.3 Preservative Treatment

All structural timber is to be pressure-impregnated in accordance with BS 5268 with Hicksons Tanalith C with a net retention of 4 kg/cu.m. of timber or other waterborne preservative to BS 4072. The supplier's certificates of compliance with this requirement are to be provided.

External s.w. joinery timber is to be treated with Hicksons Vascol or similar organic solvent type preservative by vacuum impregnation or similar approved process.

Surfaces cross cut or bored after treatment to be swabbed with preservative.

All treated timber is to be dry before incorporation in the works.

B.4 Non Structural Timber

Natural defects which will not affect the durability or performance of the timber in use are acceptable.

Regularise if necessary to provide true flat backgrounds for supporting other materials.

B.5 Painting Quality External Timbers (fascias, etc.)

Such timber shall comply with BS 1186: Part 1 selected for suitability from Appendix A and free from pith, arris knots and plugs.

B.6 Timber Sizes

Unless otherwise specified all quoted sizes are nominal. The prefix 'ex' denotes planed timber from nominal size stated with suffix 'par' or 'fin' denoting finished planed sizes.

All finished sizes shall be within 2 mm of stated sizes.

B.7 Nails

Round wire or annular to BS 1202: Part 1.

B.8 Washers

To BS 4320.

B.9 Screws

To BS 1210.

B.10	<p><u>Timber Connectors</u></p> <p>Galvanised tooth plate type to BS 1579.</p>
B.11	<p><u>Straps</u></p> <p>Galvanised, pre-drilled, factory made steel straps not less than 2.5 x 30 mm section.</p>
B.12	<p><u>Joist Hangers</u></p> <p>Standard proprietary galvanised steel of 2.5 mm minimum thickness to suit timber sizes and pre-drilled for nailing.</p>
B.13	<p><u>Adhesives</u></p> <p>Cold setting synthetic resin to BS 1204, Type MR for internal work and WBP for external work and areas of high humidity. Ensure adhesive is unaffected by any timber treatment used.</p>
C	<p><u>WORKMANSHIP</u></p>
C.1	<p><u>Plywood Roof Decking</u></p> <p>Lay plain edge plywood decking as follows :</p> <ol style="list-style-type: none"> Before commencing ensure that joists or other supports are correctly spaced and aligned level or to falls. Provide any firrings required. Lay with long edges at right angles to the supports with staggered cross joints centred over supports. Leave movement gaps between boards based on 3 mm at edges and 1.5 mm at ends (based on nominal 2400 x 1400 mm boards). Fix with flat headed galvanised nails (length 2½ times board thickness) at 100 mm centres to each support. Hammer the heads flush. Provide noggings under all edges without tongues. On completion sand any edges which are not flush.
C.2	<p><u>Fascias and Other External Woodwork</u></p> <p>Fix with rustproofed fixings and fix in a manner that sheds water naturally. Provide water check grooves where necessary. Do not fix directly to structure; provide sawn preservative treated grounds where necessary and leave air gaps at edges.</p>

C.3 General Framing and Sundry Non-structural Carpentry Work

Provide grounds, battens, bearers, packings, bracketing, cradling, skeleton frameworks and support work of every description for fixings and joinery work, etc. as detailed and in accordance with the following general requirements :

- (a) Fix with nails, screws and halved joints, etc. as necessary to achieve secure fixings.
- (b) Where necessary wedge into steelwork and provide additional fixings.
- (c) Fix at spacings to suit the linings and components, etc. being fixed.
- (d) Provide additional supports around access doors and the like.
- (e) If necessary use regularised timber when truly flat backgrounds are required.

C.4 Building in Frames, etc.

Temporarily fix frames and build in as follows :

- (a) Remove horns as necessary and brush with preservative.
- (b) Position truly plumb, check the diagonals and fix temporary bracing and cross bracing to hold secure.
- (c) Provide and fix dowels, cramps and waterbars as necessary. Fix cramps at 600 mm max. centres and not more than 150 mm from top and bottom.
- (d) Ensure that no construction loads (e.g. lintols) are transferred to the frames.
- (e) Ensure that two general finishing coats of paint (as specified for decorations) are applied all-round the backs of untreated frames.
- (f) Ensure that d.p.c's are fixed to external frames in correct position with clout nails.
- (g) Ensure that mortar or other specified material is packed between frames and structures.

2.07 NON STRUCTURAL METALWORK

A GENERAL REQUIREMENTS

Comply with BS 5950: Part 2 in respect of fabricating steel sections and comply with all relevant British Standards in respect of fabricating and finishing all other metalwork.

B MATERIALS

B.1 Mild Steel

The terms 'steel' or 'mild steel', means steel to BS 4: Part 1: 1449: Part 1 or BS 4848. Hollow sections to BS 4848: Part 2.

B.2 Aluminium

Wrought aluminium alloys for general engineering purposes in accordance with BS. 1470 to 1475 series.

B.3 Brass and Copper

To BS 2870 and BS 2874.

B.4 Mechanical Fastenings

All mechanical fastenings to be in the same metal and finish as the work being fixed unless otherwise specified.

B.5 Bolts, Screws and Nuts

To BS 4190 for general purposes. To BS 3692 when a great degree of precision is required. Unless otherwise stated, steel grade 4.6 with matching grade nuts.

B.6 Self-Tapping Screws

Steel thread forming or thread cutting screws to BS 4174 with rustproof finish.

B.7 Chromium Plating

To BS 1224.

C WORKMANSHIP

C.1 Generally

Undertake metalwork in accordance with sound engineering and 'Smithy' practice as follows:

- (a) Undertake as much metalwork as possible in properly equipped workshops.
- (b) Restrict site work to fixings and other operations that cannot be undertaken as last stated.
- (c) Remove burrs, sharp edges and angles, coarse file marks, excess weld metal and similar imperfections from all classes of work.
- (d) Do not permit work to rust or otherwise deteriorate between fabrication and final treatment.
- (e) Prevent damage due to incorrect temperatures when carrying out works requiring heat. If necessary, undertake heat treatment to provide stress relief.
- (f) Fix in the works in a manner that prevents corrosion due to contact with incompatible metals and other materials.

C.2 Cutting and Holing

Undertake in a manner that does not deform or damage the material. Generally, cut by shearing or sawing, form holes by drilling or punching. Do not cut by hand-held flame. Do not use the same mechanical cutting tools for incompatible metals.

C.3 Welding

Undertake welding as follows:

- (a) In accordance with the appropriate British Standard for the type of metal beam joined.
- (b) By welders, who have recently passed the British Standard welding test appropriate to the metals being joined.
- (c) Form continuous welds suited to the type of work. Finish welds to match the surface; on surfaces unseen in the finished work the welds may be left as laid.
- (d) Spot welds are not permitted unless specified or used to assist assembly.

- (e) Clean off all welds and remove flux residues.
- (f) Apply Quality Control procedures with a suitable inspection and testing regime for welds serving stressed or critical duties.
- (g) Provide sheltered draught-free conditions for the welding of aluminium.

C.4 Bending Metal

Machine-bend, press, cold-roll, forge or otherwise shape metal without weakening or damaging. Complex bending or bending alloys for special purposes shall be undertaken under competent metallurgical supervision.

C.5 Joint Spacers

Form to fit accurately in full contact. Use a suitable joint coating for bolted or screws connections.

C.6 Protective Finishes Generally

Apply after fabrication as stated above. Before treatments, mechanically and chemically clean the metal.

C.7 Priming

Prime the concealed parts of joints as the joints are made. Use the specified primer and apply by brush.

C.8 Galvanising

Apply by the hot dip process to BS 729 to provide a weight coating in accordance with 2 coats Table 1. Re-coat unavoidable damage by applying at least of zinc rich primer to BS 4652.

C.9 Sheradizing

Zinc coat all small articles associated with galvanised work in accordance with BS 4921, Class 1/Class 2.

C.10 Anodising

To BS 1615 with grade and colour to be agreed.

- C.11 Aluminium Abutting Masonry
- Apply two coats of bitumen to aluminium in contact with mortar, concrete or other alkaline surfaces.
- C.12 Surface Protection
- In addition to specified surfaces, treat or seal the permanently hidden parts of the metalwork from deterioration and corrosion.
- C.13 Self-Finished Fabrications and Components
- Wrap, tape or otherwise protect any self-finished work with non-absorbent coverings; deliver to a programme to reduce or eliminate site storage; remove covering sufficiently for jointing and assembly purposes and afterwards replace.
- 2.08 STRUCTURAL METALWORK**
- A GENERAL REQUIREMENTS
- Comply in all respects with BS 5950: Part 2 - Structural use of steel in buildings.
- B MATERIALS
- B.1 Steel Grade
- All steel to be as BS 4360, Grade 43.
- B.2 Hot Rolled Sections
- 'I' sections and channels to BS 4: Part 1.
 Angles to BS 4848: Part 4.
 Hollow sections to BS 4848: Part 2.
- B.3 Washers
- Black washers to BS 4320.
- B.4 Holding Down Bolts
- Indented bolts and nuts to BS 1494: Part 2 - Grade 4.6.

C WORKMANSHIP

C.1 Fabrication

Fabricate at properly equipped workshops with welded joints in accordance with BS 5950: Part 2, Section 3, with tolerances as specified in Section 7. Carry out any necessary straightening or forming in a manner which will not weaken the material. Mark all steel to facilitate erection by durable method which will not damage the steel.

C.2 Cutting

Cut by sawing, shearing, cropping or by machine flame. Hand flame cutting may only be used where it is impracticable to cut by other methods. Dress or otherwise ensure cut edges are true to profile with burrs removed.

C.3 Holing

- (a) Drill or punch round holes.
- (b) Twice drill and cut to form slots or punch in one operation.
- (c) Align matching holes so that fasteners can pass through at right angles to faces in contact.
- (d) Holes for bolts may be punched providing the holes are at least 2 mm less in diameter than the required size and reamed to correct diameter.
- (e) Remove burrs from holes before assembly.
- (f) Holes for bolts shall not exceed the bolt diameter by more than 2mm.

C.4 Welding

All arc welding to comply with BS 5135.

C.5 Bolting

- (a) Where necessary, draw the parts for connection together before bolting and provide steel packings to ensure that the total remaining gap between the surfaces being joined does not exceed 2 mm. Insert bolts and tighten.
- (b) Bolt lengths shall be such that one clear thread shows after the nut is tightened and one clear thread is left between the nut and the unthreaded shank.

- (c) Provide suitable washers where oversize or slot holes are specified.
- (d) Ensure movement connections are free to move within slotted holes.

C.6

Erection

Erect steelwork as follows:

- (a) Provide temporary bracing and restraints until the structure is self-supporting. Make such connections in a manner that causes no harm to the permanent structure. Take safety precautions as recommended in BS 5531: Erecting steel frames.
- (b) Do not make permanent connections or grout the foundation bolts until the members being connected have been aligned, levelled and plumbed.
- (c) Use drills with care. Do not damage or enlarge bolt holes.
- (d) Seal bolts through hollow sections.
- (e) Bed surfaces of beams, etc., on well prepared bearings. Provide levelling wedges and bed on strong dry mixed cement mortar for the full bearing. Do not load until the mortar has hardened.
- (f) Pack column bases to correct levels with steel wedges and group as specified. Ensure base plates are drilled to facilitate grouting.

C.7

Protective Treatment

Prime and decorate exposed steelwork in accordance with the painting and decorating section of this specification unless otherwise specified, all steelwork shall be prepared, primed and coated with one coat red oxide paint.

Seal hollow members to prevent access of moisture.

2.09

FINISHINGS - GENERALLY

A

GENERAL REQUIREMENTS

Comply with all relevant Codes of Practice and British Standards as detailed later.

B	<u>MATERIALS</u>	
B.1	<u>Cement</u>	
	Unless otherwise stated to be ordinary Portland cement to BS 12.	
B.2	<u>Masonry Cement</u>	
	To comply with BS 5224.	
B.3	<u>Sulphate Resisting Portland Cement</u>	
	To comply with BS 4072.	
B.4	<u>All Cements</u>	
	Only one type and manufacturer to be used in any one mix. Do not change source of supply without approval.	
B.5	<u>Water</u>	
	Clean mains water, free from impurities.	
B.6	<u>Lime</u>	
	To be hydrated lime powder to BS 890.	
B.7	<u>Plasticiser</u>	
	Plasticisers only to be used where approved and to comply with BS 4887.	
B.8	<u>Pigments</u>	
	Pigments for sand and cement products to comply with BS 1014.	
B.9	<u>Expanded Metal Lathing</u>	
	Galvanised lathing to BS 1369 weighing not less than 1.2 kg/m ² for lightweight plastering; 1.6 kg/m ² for sanded plastering and internal render; 1.9 kg/m ² for external rendering.	
	Proprietary lath to be used as specified.	
B.10	<u>Galvanised Steel Beads</u>	
	To BS 6452. For internal plastering and dry lining to suit thickness.	

B.11 Bonding Agent

A proprietary emulsion of PVA to BS 5270.

C WORKMANSHIP

C.1 Preparation

Ensure that backgrounds will enable the required finished levels, flatness and tolerances to be attained. If necessary cut away, dub out or re-construct the backgrounds.

Regardless of the type of preparation specified, undertake everything necessary to obtain a satisfactory bond between backgrounds, backings, finishings and layers of finishings including

- (a) Withhold application until curing, and drying shrinkage of structural backgrounds achieved.
- (b) Prepare as specified by material manufacturer.
- (c) Remove any organic growth by fungicidal wash.
- (d) Remove grease by scrubbing with water and detergent.
- (e) Brush to remove loose material.

C.2 Conditioning

Ensure finishings such as sheet and tile materials are properly conditioned at suitable temperature and humidity levels for an adequate time period prior to fixing.

C.3 Rules and Formwork, etc.

Battens and fillets etc. and any necessary formwork are deemed included with all finishings.

C.4 Programming

Whenever possible do not commence finishing work until all other work completed.

C.5 Handling of Materials

Store all materials in dry conditions in manufacturer's wrappings and cartons where applicable.

- C.6 Delivery of Cement, etc.
- Reject bagged cement, lime or plaster if bags torn or subject to damp.
- Stack each type separately to prevent mixing.
- C.7 Handling of Plasterboards
- Carry on edge. Do not separate paired boards until time for use. Stack flat on clean level surfaces and protect from damp. Maximum stack height to be 1.0 m.
- 2.10 FINISHINGS - PLASTERWORK**
- A GENERAL REQUIREMENTS
- Refer to "Finishings - Generally". Comply with BS 5492: Internal Plastering.
- B MATERIALS
- B.1 Gypsum Plaster
- To comply with BS 1191 Part 1.
- B.2 Lightweight Plaster
- To comply with BS 1191 Part 2.
- B.3 Fibrous Plaster
- Casting plaster to be hemi-hydrate gypsum Class A to BS 1191 Part 1.
- B.4 Sand for Plastering and Rendering
- To comply with BS 1199 Table 1.
- B.5 Galvanised Wire Netting Reinforcement
- To comply with BS 1485 wire 0.71 mm 50 mm maximum mesh.
- B.6 Coving and Other Mouldings
- Unless otherwise stated, to be fibrous gypsum plaster to standard profiles. Do not use foamed plastic mouldings.

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B.7 Plasterboard Jointing Materials

Compounds and jointing tape to BS 6214.

B.8 Plastering Mixes

Unless specified, select a suitable plastering system from Table 2 of BS 5492 and apply 2 coat plastering to all solid backgrounds (three coat on expanded metal lathing) to finished thickness of 13 mm. Apply a single coat board finish to plasterboard to 5 mm thickness.

Sand/gypsum undercoats to be in accordance with the following schedule. Undercoats to be retarded hemi-hydrate to BS 1191: Part 1 Class B type A gauged with sand.

<u>Background</u>	<u>No.of coats</u>	<u>Undercoat</u>	<u>Plaster:sand</u>
Brickwork and Blockwork	2	Browning	1:3
Concrete	2	Browning	1:1½
Expanded metal	3	Metal lathing	1st - 1:1½ 2nd - 1:2

Cement sand undercoats to be in accordance with the following schedule. Undercoats to be ready mixed lime:sand site gauged with cement or site mixed cement:lime putty:sand. All undercoats to be in the ratio of 1:1:6.

Spatterdash to be in the ratio of 1:2 cement and coarse sand, forcibly thrown and left as thrown to provide a key.

C WORKMANSHIP

C.1 Plastering Generally

Ensure backgrounds are suitable and plaster as follows :

- Apply undercoat initially as a thin coat worked on to background and then bring to full thickness.
- Scratch undercoats to form a mechanical key.
- Allow drying shrinkage to finish before applying another coat.

- (d) Apply finish coat and bring to a smooth, flat eggshell surface that does not deviate more than 3 mm from a 1800 mm straight edge. Do not wet or trowel over.
- (e) Slightly round external angles.
- (f) Do not permit wall plaster to contact floor screeds.

C.2 Plastering on Plasterboards

Fill all joints with neat board finish plaster. Reinforce all angles with jute scrim not less than 90 mm wide embedded in neat board finish plaster. Plaster as soon as filling work has set.

C.3 Plastering on Metal Lathing

Ensure lathing is taut and fixed with key facing upwards. Ensure any tying wire ends are bent inwards and that cut edges, staples and nail heads are painted with bitumen.

C.4 Plastering Across Different Backgrounds

When timber or concrete occurs in a brick or block background allow for differential movement as follows :

- (a) Bridge the timber/concrete with a strip of building paper to BS 1521 Class A1F and lap 25 mm each side on to walls.
- (b) Fix expanded metal lathing over the paper fixed to walls on each side.
- (c) Apply first coat to lathing and cut through on both sides.
- (d) Before first coat is set, apply second coat.
- (e) If the timber/concrete is over 300 mm wide or is along the edge of the infill then fix to timber/concrete as necessary.
- (f) Alternatively use Twil lath paper backed metal lathing as manufactured by Tinsley Building Products Ltd.

C.5 Plastering Across Open Chases

Bridge with expanded metal lathing securely fixed on both sides.

C.6	<p><u>Fixing Metal Beads</u></p> <p>Securely fix with plaster dabs and galvanised nails. Coat nails and cut ends with bitumen.</p>
C.7	<p><u>Internal Rendering</u></p> <p>Two coats of cement/lime/sand 1:1:6 applied as stated for plastering to a total thickness of 20 mm.</p>
C.8	<p><u>Movement Joints</u></p> <p>Fix rules or make other provision to discontinue plastering where any movement joints for wall tiling etc. are required to extend through the plaster. Provide proprietary beads unless otherwise specified.</p>
C.9	<p><u>Fixing Plasterboards</u></p> <p>Ensure that supporting members are spaced at centres no greater than recommended in BS 5492, Table 6 and that support is provided to all perimeters. Provide additional support to all board joints using noggings.</p> <p>Fix boards with galvanised nails or staples as follows :</p> <ul style="list-style-type: none"> (a) With printed or reflective foil face towards supports. (b) Stagger the end joints. Locate joints so they do not coincide with door or window frames. (c) Commence fixing at centre and work outwards. (d) Use nails of length at least three times board thickness. (e) Do not fix closer than 12 mm to edges. (f) Centre board edges over supports and leave 3 mm between cut edges.
C.10	<p><u>Fixing Metal Lathing</u></p> <p>Ensure that supporting members are adequate so that the lathing is rigid when fixed. Fix with galvanised nails or staples as follows :</p> <ul style="list-style-type: none"> (a) Provide distance pieces at supports to ensure continuity of plaster at the back of the lathing. (b) Fix with long way of mesh across supports with strands all in one direction.

- (c) Fit taut and nail/staple at 100 mm centres commencing from the centre of each sheet.
- (d) Locate laps over supports if possible. Do not lap at angles.
- (e) Lap by 25 mm over supports and 50 mm between supports.
- (f) Tie all unsupported laps with galvanised tying wire and turn cut ends inwards.
- (g) Coat cut edges, nails and staples with bitumen.

2.11 FINISHINGS - DRY LINING

A GENERAL REQUIREMENTS

Refer to "Finishes - Generally" and comply with BS 8212 - dry lining.

B MATERIALS

B.1 Plasterboards

Gypsum plasterboards to comply with BS 1230: Part 1.

B.2 Plasterboard Nails

Galvanised or otherwise zinc-coated steel with 2.5 mm minimum shank diameter and 7 mm minimum head diameter. Length as BS 8212 Clause 6.3 but minimum 3 times thickness of board.

B.3 Jointing Compounds

To comply with the following:

- (a) Jointing compounds for bedding and finishing joints to comply with BS 6214.
- (b) Joint reinforcing tape to comply with BS 6214.
- (c) Edge and corner beads to be galvanised steel to BS 6452: Part 1.

C WORKMANSHIP

C.1 Preliminary Checks

Ensure that the following conditions apply:

- (a) Areas to be dry lined are weathertight and reasonably dry.
- (b) The adequate lighting as defined in Appendix A of BS 8212 is available.
- (c) See backgrounds are sufficiently level and true.

C.2 Cutting Wallboard

Score with a sharp knife, break and cut paper on other side or saw, working from the face. Smooth all cut edges to obtain well fitted joints.

C.3 Sequence

Do not commence wall linings until non-suspended ceilings are completed.

C.4 Fixings Generally

Fixing of plasterboards to be as follows:

- (a) Lightly butt all edges (maximum gap 3mm).
- (b) Where possible, locate cut edges around openings and at internal angles.
- (c) Stagger the end joints and support all edges over centres of supports.
- (d) Stagger joints in multi-layer work.

C.5 Nailing Boards

Proceed with nailing of boards as follows:

- (a) Commence from the centre of each board and work outwards.
- (b) Located nails 10 mm minimum from paper bound edges, 13 mm minimum from cut edges.
- (c) Use nails of adequate length driven straight.
- (d) Do not damage the plasterboard.

C.6 Fixing Vertically with Adhesive

Proceed with fixing as follows and in accordance with manufacturer's recommendations:

- (a) Ensure backgrounds are sound, dry, clean and dust free.
- (b) Apply 50-75mm wide adhesive dabs approximately 250 mm long to a pattern as Clause 9.3 of BS 8212, so that the area of contact is a minimum of 20% of the board area.
- (c) Fit board tightly to ceiling where applicable and temporarily support bottom edge.
- (d) If necessary, temporarily secure with double-headed removable nails.
- (e) Boards to be fixed true, plumb and level.

C.7 Jointing Generally

Carry out jointing in the following sequence:

- (a) Internal angles.
- (b) Tapered edge joints.
- (c) Cut edge joints.
- (d) External area.

C.8 Tapered Edge Joints

Finish joints as follows:

- (a) Apply jointing compound to the depression between the boards.
- (b) Firmly imbed tape without air bubbles.
- (c) Cover tape with jointing compound and strike off flush.
- (d) Apply finishing compound and feather out approximately 50 mm; repeat this process feathered 50 mm beyond the first application.
- (e) Finish flush and smooth.

C.9 Cut Edge Joints

These shall be kept to a minimum. Lightly sand paper edges and joint as above.

C.10 External Angles

Form using 1 cut edge to mask the other. Reinforce with corner tape imbedded in compound and finished as above. Metal corner beads to be used where specified.

C.11 Surface Preparation

Proceed as follows:

- (a) Seal nails and screws with compound and strike off flush.
- (b) Lightly sand where necessary to remove any imperfections.
- (c) Remove all dust and apply an approved pigmented primer.

2.12 FINISHINGS - DENSE SCREEDS

A GENERAL REQUIREMENTS

Refer to Finishings - Generally and comply with BS 8000 Pt. 9 - in situ floor finishes.

B MATERIALS

B.1 Aggregate

To BS 882, fine aggregate to Table 2, zones 1, 2 or 3, coarse aggregate Table 1, maximum 10 mm.

B.2 Mixed Proportions

Screed mix to be cement:sand 1:3, using sand to BS 882: Table 2, unless otherwise specified.

C WORKMANSHIP

C.1 Preparing for Bonded Screeds

Ensure backgrounds are suitable and undertake specific preparation as follows:

- (a) Screeds over 40 mm - thoroughly clean the base and soak with water approximately 12 hours before laying. Shortly before laying, remove any water and scrub in neat cement, grout mix to creamy consistency.
- (b) Screeds under 40mm - mechanically hack base to remove laitence and to expose tips of large aggregate. Clean, soak and apply grout as above.

C.2 Laying Screed

Lay screeds as follows:

- (a) In one layer when 40 mm or less.
- (b) In two layers when over 40 mm, the lower layer thicker than the upper and neither less than 20 mm. Place upper layer as soon as lower layer is fully compacted.
- (c) Cover any pipes, etc., cast in with a strip of heavy gauge expanded metal lathing or light gauge steel reinforcing fabric 500 mm wider than the imbedded item.
- (d) Thoroughly compact without bringing laitence to the surface.

C.3 Floating or Unbonded Screed

Lay as generally specified herein. Ensure that any insulation or membranes are correctly laid and ready for screeding. If screeding battens are required, temporarily fix in a manner that enables them to be rigid yet easily removable without damaging or penetrating or otherwise disturbing insulation or membranes, etc.

C.4 Surface Finishes

Unless otherwise specified, finish screeds with tamped surface.

C. Curing

Maintain screeds in damp conditions for at least 7 days by means of waterproof sheeting well lapped and kept in close contact; or by other means achieving the same effect. Ensure that screed dries out slowly to reduce risk of shrinkage cracks.

2.13 FINISHINGS - THIN SHEET AND TILE FLOORING

A GENERAL REQUIREMENTS

Refer to Finishings - Generally and comply with BS 8203 - Sheet and Tile Flooring.

B MATERIALS

B.1 Linoleum Sheet/Tiles

Linoleum to comply with BS 6826 or as specified.

B.2 Unbacked Flexible PVC Sheet/Tiles

To BS 3261.

B.3 Backed Flexible PVC Sheet

To BS 5085.

B.4 Adhesives, Sealers and Polishers

All to be as recommended by floor finish manufacturer unless otherwise specified.

WORKMANSHIP

C.1 Setting Out

Agree patterns, joint patterns and locations and treatment of any movement joints in the base before commencing. Ensure cut tiles present a balanced appearance when laid and are kept as large as possible.

C.2 Working with Adhesives.

Comply with the following when laying sheets and tiles in adhesive:

- (a) Clean the base and prime if necessary; allow primer to dry thoroughly.
- (b) Ensure there is adequate ventilation.
- (c) Spread adhesive to an even coverage with trowel ridges.
- (d) Remove any spilt adhesive with solvent immediately.

C.3 Laying of Floor Coverings

Lay all floor coverings in accordance with manufacturer's recommendations. Seal all joints and perimeters as specified in a manner suitable for the material.

C.4 Finishing the Surface

Remove any adhesive, ensure joints are truly flush, clean and polish as recommended by manufacturer.

2.14 FINISHINGS - SUSPENDED CEILINGS

A GENERAL REQUIREMENTS

Refer to Finishings - Generally and comply with BS 8290 suspended ceilings.

B MATERIALS

Suspended ceiling components to comprise proprietary system as specified and designed in accordance with BS 8290.

C WORKMANSHIP

C.1 Preparation

Ensure the soffits and other backgrounds are clean and fit to receive suspension system and perimeter work. Check that any cast-in or otherwise prefit suspension points are secure and correctly positioned.

C.2 Setting Out

Set out the work with the following objectives:

- (a) To establish the correct ceiling level.
- (b) To establish panel centres and joint lines, etc., including the layout at obstructions and in irregular areas.
- (c) To avoid or minimise cutting of ceiling panels.
- (d) To agree the positions of access panels, luminaires, grilles and other service equipment, fire checks and everything else that effects setting out.
- (e) To establish the location of all battens and other fixing points.

C.3

Installation

Install the ceiling system complete and securely fix all components, comply with the following:

- (a) Erect the suspension system complete with hangers, primary grid and ceiling grid.
- (b) Provide additional suspension for luminaires, grilles, ducts and other equipment to be supported, including adaptation and span bars, etc., where necessary.
- (c) Adapt the system for obstructions, bulkheads, and sloping sections.
- (d) Fix fire stopping and insulation.
- (e) Fix all perimeter supports.
- (f) Fix the ceiling panels, including access panels, luminaires and other equipment, including that provided by others.
- (g) Fix bulkhead panels.
- (h) Fix perimeter and other trim.
- (j) Check and just as necessary, leave truly level.

2.15

GLAZING

A

GENERAL REQUIREMENTS

All glazing to comply with BS 6262: Glazing for Buildings.

B

MATERIALS

B.1

Glass

All glass to be of type and thickness specified and to comply with BS 952. Where no thickness is stated this shall be in accordance with BS 6262. Where edges of glazing are exposed these shall be polished smooth.

All safety glass to be etched in accordance with BS 6206 classification.

B.2

Double Glazing Units

Hermetically sealed flush edge spacer type to BS 5713 comprising 4 mm clear float glass panes unless otherwise specified.

B.3 Putties

Putties to be as recommended by their manufacturers. Linseed oil putty shall comply with BS 544.

C WORKMANSHIP

C.1 Measuring and Cutting

Cut all glass and perform all edge and surface treatment at glass works. Allow 3 mm edge clearance unless panes exceed 12 mm thick or 2 m in length when edge clearance to be 5 mm.

C.2 Preparing Metal Surrounds

Clean, dry and coat rebates as required by frame manufacturer or glazing compound manufacturer.

C.3 Beads

Treat bedding surfaces of timber or metal beads as specified for surrounds.

C.4 Preparing Concrete and Masonry Surrounds

Clean, dry and apply an alkali resisting primer unless the glass is to be fixed in mortar.

C.5 Checking Safety Glass

Ensure that every pane is marked as required by BS 6206 with permanent markings visible after glazing. No unmarked glass to be fitted.

C.6 Location of Glass in Surrounds

Use 25 mm long spacers where panes exceed 0.2 m² to prevent movement of glass. Setting blocks of appropriate size to be used along lower edge and in addition, along vertical edges where located in opening windows or doors.

Include distance pieces, used in pairs on both sides of bead fixed panes at positions of bead fixing points but to a maximum of 300 mm centres.

C.7 Glazing with Beads

Carry out preparatory work and bed glazing as described above. Apply putty or sealant to glazed face to form adequate bedding and fix beads with screws or pins set 75 mm from each corner and elsewhere at centres not exceeding 200 mm. Trim excess putty/sealant.

C.8	<p><u>Protection</u></p> <p>Provide protection against mechanical damage, clean and polish both sides of glazing on completion.</p>
2.16	<p><u>PAINTING AND DECORATING - (MAJOR WORKS)</u></p>
A	<p><u>GENERAL REQUIREMENTS</u></p> <p>Comply in all respects with BS 6150: Painting of Buildings.</p>
B	<p><u>MATERIALS</u></p> <p>All paints, varnishes and other materials to be supplied by approved manufacturers comprising:</p> <p>Johnstons Trade Akzo Coatings - Permoglaze Sigma Decorative Coatings.</p> <p>unless otherwise specified. Where products are specified, similar alternatives will be allowed subject to prior approval by the Supervising Officer.</p> <p>All materials to be delivered in manufacturer's containers.</p> <p>All paint layers on any surface to be from same manufacturers.</p>
B.1	<p><u>Materials for the Cleaning of Existing Surfaces</u></p> <p>For paintwork in good condition or heavily grimed a solution of "sugar soap".</p> <p>For removal of oil and grease on painted surfaces "white spirit".</p> <p>Paint remover for stripping off paint shall comply with BS 3761 (water rinseable) and shall be applied, used and neutralised in accordance with manufacturer's instructions and thoroughly rinsed off with clean water.</p>
B.2	<p><u>Knotting</u></p> <p>Knotting shall comply with BS 1336.</p>
B.3	<p><u>Stopping and/or Filler</u></p> <p>(i) Plasterwork shall be plaster based filler;</p> <p>(ii) Concrete, rendering or brickwork shall be of a similar material to the background and shall be finished with a similar texture;</p>

- (iii) Asbestos cement and asbestos based insulating board shall be either a plaster based filler for internal work or a cementitious based filler for external work;
- (iv) Internal woodwork, hardboard, fibreboard and plywood shall be putty complying with BS 544 and shall be tinted to match the colour of the undercoat;
- (v) External woodwork shall be white lead paste with or without the addition of red lead complying with BS 217, Type 2 and gold size complying with BS 311 and shall be tinted to match the colour of the undercoat.
- (vi) Clear finished woodwork shall be a stopping tinted to match the surrounding woodwork.

B.4 Linseed Oil

Refined linseed oil shall comply with BS 6900.
 Raw linseed oil shall comply with BS 6900.
 Boiled linseed oil shall comply with BS 6900.

B.5 White Spirit

White spirit shall comply with BS 245.

B.6 Hard Gloss and Undercoat Paints

Hard gloss finishing coats and their respective undercoats shall be oil modified alkyd based.

B.7 Eggshell Paints

Eggshell paint shall be oil modified alkyd based.

B.8 Emulsion Paint

Emulsion paint shall be vinyl matt finish unless otherwise specified.

B.9 Alkyd Varnish

Alkyd varnish shall be of oil modified quality.

B.10 Bituminous Paints

Bituminous paints shall comply with BS 3416 Type 1 1965.

B.11 Flame Retardant Paint

Flame retardant paint shall be obtained from an approved manufacturer and used strictly in accordance with his recommendations.

C WORKMANSHIP

C.1 Paint Coatings

All coats of paint must be thoroughly dry before subsequent coats are applied and rubbed with fine abrasive where necessary between coats. The tints of undercoats are to approximate those of finishing colour. Application by brush is preferred and recommended. Cleanliness in handling and application is essential.

New material fitted under this specification which are exposed are to be finished as approved by the C.A. and decorated to match existing.

C.2 Brushwork

Unless otherwise described, all coatings shall be applied by brush.

Written permission must be obtained from the Contract Administrator for the application of coatings by spray or roller where not so described and if permission is granted, such application shall not result in extra cost to the Employer.

C.3 Priming of Glazing Rebates and Glazing Beads

The priming and painting of glazing rebates and glazing beads in softwood frames shall be carried out at the same time as the priming and painting of the backs of the frames.

C.4 Condition of Priming

If, by the time that the work is to receive the succeeding coat, the priming coat has in any way deteriorated or has been damaged, the affected portions, or the whole is necessary, shall be rubbed down and re-primed. In the case of articles primed at works, the priming shall be touched up where required with a similar primer.

C.5 Rubbing Down

All undercoats for oil paints and clear finishes shall be rubbed down to a smooth surface with abrasive paper and all dust removed before the succeeding coat is applied.

C.6 Differing Colours of Undercoats

Each succeeding coat of priming and undercoating paint shall be sufficiently different in colour as to be readily distinguishable.

C.7 Painting in Unsuitable Conditions

No coatings shall be applied to surfaces affected by wet, damp, foggy or frosty weather or other unsuitable conditions, or to any surface damp with moisture. If it is desired to proceed with painting when the temperature is below 5°C the permission of the Contract Administrator must be obtained.

C.8 Protection of Wet Surface

Adequate care must be taken to protect surfaces while still wet, by the use of screens and "wet paint" signs where necessary.

C.9 Damage to Adjoining Surfaces

Care must be taken when storing materials, preparing surfaces or painting, etc., not to damage or stain other work. The Contractor shall remove all such stains, make good and touch up.

C.10 Cleanliness

All brushes, tools and equipment shall be kept in a clean condition and surfaces shall be clean and free from dust during painting. Painting shall not be carried out in the vicinity of other operations which might cause dust.

The Contractor shall provide a suitable moveable receptacle into which are to be placed all of the liquids, slop washings etc., which are on no account to be thrown down any of the gullies, manholes, sinks, lavatories, w.c.'s or any other sanitary fittings.

C.11 Testing and Use of Materials

The materials as delivered and as used from the painter's kettles may be analysed and tested periodically as and when directed by the Contract Administrator and sampling tins will be provided for this purpose. The materials are to be used exactly as received from the maker in accordance with the maker's instructions and the addition of thinners, driers or other materials will only be permitted when specially required by the maker and the procedure approved by the Contract Administrator.

C.12

Malpractices

In order to eradicate any malpractice by way of unauthorised addition of thinners or driers, or other adulteration of paint, the attention of the Contractor is specially drawn to the following:

- (i) Adequate supervision during the painting work must be given by the Contractor to ensure that the paint is not adulterated.
- (ii) If cases of unauthorised or excessive thinning or other adulteration are discovered, the Contract Administrator will exercise the power contained in this Contract to require the removal from the site of the workman or workmen concerned.
- (iii) The Contractor shall exhibit or cause to be exhibited a notice drawing the attention of the workmen to the Employer's requirements to use paint as supplied by the manufacturer and the penalty of a breach of this requirement.
- (iv) If the Employer approved the sub-letting of the work, such approval will not relieve the Contractor of his responsibility for observance of the above requirements.

Sub-contractors should be warned, however, that if any malpractice is discovered, the approval will be withdrawn and the Sub-contractor will be required to leave the site.

C.13

Remedying Defects due to Defective Materials

All unsatisfactory materials shall be immediately removed from the site, and any work executed with such defective materials shall be made good by the Contractor at his own expense.

C.14

Manufacturer's Instructions

All materials shall be used strictly in accordance with the instructions issued by the manufacturers concerned.

C.15

Storage

All materials to be stored in dry conditions as directed by the C.A. Protect all paints containing volatile solvents from heat and paints containing water from frost. No materials to be stored within the exchange buildings at any time.

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| C.16 | <u>Fittings</u> | All removable fittings, fastenings, signs and labels to be removed, cleaned and re-used upon completion. |
| C.17 | <u>Dust</u> | Ingress of dust into the building must be kept to a minimum and avoided if possible. |
| C.18 | <u>Colours</u> | The Contractor shall allow for a reasonable number of different colours. |
| C.19 | <u>Windows and Doors</u> | <p>The finishing coat of gloss paint to opening lights, doors and windows shall be applied in sufficient time to permit these items to dry in the open position.</p> <p>On completion of an area of work, ensure that all doors and windows open and close freely and are not obstructed by paint.</p> <p>Remove all new and existing paint splashes from glass. Clean glass on completion.</p> |
| C.20 | <u>Windows</u> | <p>Window casements which open externally shall be treated with the specified paint finish on the three opening edges and on all four frame rebates as part of the external redecoration. The remaining edge is to be part of the internal redecoration.</p> <p>In the case of pivot or hopper type windows, all casement edges which present themselves internally (i.e. top edge and both sides or half sides in the case of pivots), together with the matching rebates shall be treated with the specified finish as part of the internal redecoration, the remaining edges and rebates as part of the external redecoration.</p> |
| C.21 | <u>Doors</u> | The external face, top and side edges of external doors shall be included in the external redecoration. |

C.22 Defective Putties

The Contractor will be held responsible for all glass broken by his operatives during the works and should therefore notify the Contract Administrator of any existing broken glass before commencement.

Carefully hack out all defective, cracked, loose or disfigured putties, prime rebates with an appropriate primer for substrata (including replacing all missing or defective glazing pins or sprigs).

Re-putty with putty appropriate for substrata and finish smooth.

C.23 Protective Grilles to Windows, etc

On the commencement of the redecoration works, carefully remove all protective grilles, temporarily store, clean and re-fix on completion, including renewing all missing or defective screws.

C.24 Ironmongery

On the commencement of the redecoration works, remove and temporarily store all ironmongery to doors and windows and all coat hooks etc. Remove all previous coatings from self finished metal. Re-fix on completion, including renewing all missing or defective screws to match the metal.

Oil, ease and adjust all locks, hinges, etc., and leave functioning correctly.

C.25 Draught Excluders and Intumescent Fire Strips

On commencement of the redecoration works, carefully remove, temporarily store and re-fix on completion all surface fixed draught excluders, including replacing all missing and defective fixings to match existing.

Allow for carefully protecting all mastic type draught excluders and intumescent strips during the redecoration of all doors and windows.

C.26 Portable and Loose Furniture

The Contractor is to carefully remove all portable equipment, furniture and fittings, including unfixed cupboards, light fittings, shades, etc., necessary to carry out the works to the specified areas; and to return and position same on completion. Alternatively, they are to be covered with clean stout dust sheets during the progress of the works and dusted on completion. Small items and equipment will be packed into boxes by others.

C.27	<u>Blinds</u>	Allow for removal, safe storage and re-hanging of all blinds.
C.28	<u>Curtains</u>	Removal, storage and re-hanging of curtains will be carried out by others unless otherwise mentioned.
C.29	<u>Interior of Cupboards</u>	The Contractor is to include for the interior redecoration of all fixed cupboards; stock to be removed by others. Free standing cupboards are not to be included unless otherwise mentioned.
C.30	<u>Minor Repairs</u>	<p>Doors, opening lights, sashes and the like will be required to open easily on completion of painting. In order to achieve this it may be necessary, due to the thickness of previous redecoration to remove the opening casement, door or sash, work edges to the required depth and re-fix the item in its original position. All timber work treated in such a manner shall receive an application of knotting on the bared edges and both timber and metal work shall be given one coat of suitable primer ready to receive the normal specified decoration.</p> <p>All minor defects, plasterwork and other wall/ceiling finishes shall be cut out and/or made good to match existing surfaces, all joints flushed and the whole made perfectly smooth, level and primed before the specified decoration is commenced.</p>
C.31	Note	All items of joinery requiring renewal and areas of plaster or rendering in excess of 1/10 sq.m and other major repair items will be dealt with separately in the specification of works, or by the issue of contract instructions.
D	<u>PREPARATION</u>	<p>Standards of workmanship generally to comply with BS 6150.</p> <p>All surfaces to be painted shall be properly prepared according to approved practice.</p> <p>All loose and defective putties shall be hacked out, rebates primed and made good with sound putty before repainting.</p> <p>Alkaline paint removers must not be used, except under exceptional circumstances and with the approval of the Contract Administrator.</p>

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- D.1 Inspection
- The preparation of all surfaces must be inspected by the Contract Administrator before any coatings are applied.
- D.2 Preparation of Plasterwork
- Thoroughly wash down plastered walls and ceilings, strip off wallpapers, scrape and pumice to remove whiting and roughness and wash off, seal stains to prevent future staining, fill cracks and surface defects with patent stopper and prime new plaster with universal/alkali resistant primer in accordance with the manufacturer's instructions. Rub down gloss finishes and bring forward low areas.
- D.3 Preparation of Existing Woodwork - Painted
- Remove unwanted nails and screws, stop in holes and cracks, rub down with glasspaper to smooth finish, wash down with sugar soap and clean water. For external joinery, allow for burning off 10% of existing paint finishes back to bare timber unless otherwise specified.
- Paint bare timber one coat pink primer and stop in imperfections and bring forward low areas, ready to receive following coats of paint.
- D.4 New and Previously Varnished Surfaces
- Carefully remove all peeled, blistered and deteriorated coatings by rubbing down to a smooth even surface or with the use of chemical strippers, used all in strict accordance with manufacturer's instructions.
- Remove all traces of stripping agent as recommended by manufacturer.
- Punch home all nails fill and rub down to a flush smooth surface all nail holes, open joints, splits or other imperfections with plastic wood to match colour of wood.
- Carefully rub down with fine abrasive paper all previously prepared surfaces, clean off all dirt and dust with white spirit, remove surplus with a clean cloth and allow to dry thoroughly before applying new varnish.
- D.5 Preparation of Existing Woodwork - Surface Stained
- Remove all existing surface finish, unless generally sound to Contract Administrator's approval, thoroughly sand down, wash with mild detergent solution, rinse thoroughly and allow to dry.

D.6 Preparation of New Woodwork

Sand down to smooth surface, knot, prime with pink primer and stop in imperfections ready to receive following coats of paint.

D.7 Preparation of Metalwork

Wire brush, scrape and clean off loose and defective paint and rust, apply one coat of appropriate primer to new metalwork and to bare patches on existing metalwork ready to receive oil paint. Prime bare areas and bring forward with a minimum of one undercoat.

Galvanised surfaces shall be thoroughly de-greased, treated with a mordant solution washed off after it has dried before priming.

D.8 Preparation of Stucco, Rendering and Stonework

Scrape down, brush and pumice to remove unsound paint and wash off with sugar soap and water. Stop in small holes and cracks with patent external filler. Cut out larger cracks and make good with 1:1:6 cement/lime/sand filler incorporating bonding agent. Prime new work and bring forward.

D.9 Knots

All knots in woodwork to be treated to prevent bleeding. Large or loose knots to be cut out and replaced with sound wood or cut back and the surface made good with stopper. Smaller knots to be treated with two thin coats of knotting. The knotting used to be of approved make, free from resin.

D.10 New and Previously Bituminous Painted Surfaces

Thoroughly wash down all previously painted surfaces prior to commencement of any preparatory work.

Remove all scale, peeling, blistered and deteriorated coatings by mechanical or chemical means.

Wash down all new and bare areas with white spirit to remove all oil, grease, dirt and stains and allow to dry thoroughly.

D.11 New and Previously Painted Woodwool Surfaces

Brush off and vacuum clean all surfaces of woodwool slabs to remove all dirt and loose dust.

Apply one coat of Alkali Resistant Primer to all new and bare surfaces.

D.12 Unpainted or Previously Painted Fibreboard or Flaxboard
Wall Cladding or Display Boards

Remove all self-adhesive tape, staples, pins, etc., fill all holes with an approved filler and finish smooth and level with existing surface, brush and lightly sponge off to remove dirt from fibre and flaxboard wall cladding, remove grease or oil with white spirit, make good any abrasions or damaged surfaces.

E PRIMING

All new woodwork to be thoroughly primed before being fixed in position, with a suitable primer. All woodwork not previously painted, or from which defective paint has been removed to be given a coat of primer, well brushed.

E.1 Primers

Softwood Non lead oil based primer with pink finish unless otherwise stated.

Iron and steel Zinc phosphate or calcium plumbate.

Galvanised surfaces, One etching primer if specified and aluminium copper and zinc.

Painted hardwood, Aluminium primer.
plywood and blockboard.

Hardboard, fibreboard, Primer sealer
flaxboard and other boards.
Asbestos cement, plaster Alkali resisting primer.
woodwool.

Bituminous surfaces Non bleed primer/sealer.

F FINISHES

F.1 New and Previously Unpainted Metalwork

Prepare and apply two undercoats and one coat gloss finishing paint.

F.2 Previously Painted Metalwork

Prepare and apply one undercoat and one coat gloss finishing paint.

- F.3 Existing Woodwork - Painted
- Prepare and apply one undercoat and one coat gloss finishing paint.
- F.4 New Woodwork - Painted
- Prepare and apply two undercoats and one coat gloss finishing paint.
 Include for decoration of both sides of new joinery.
- F.5 Varnished Surfaces
- Prepare and apply two coats clear polyurethane varnish.
- F.6 Stained Surfaces
- Prepare and apply two coats Cuprinol preservative woodstain unless otherwise specified.
- F.7 Internal Surfaces of Metal Gutters
- Thoroughly clear out and treat internal surfaces of gutters with two coats bituminous paint.
- F.8 Bitumen Coated Metalwork
- Prepare and apply two coats bituminous paint.
- F.9 Self Finished Surfaces
- Thoroughly wash down all self finished surfaces, including glazed panels and unpainted frames and leather off.
- F.10 Car Park Surfaces
- Prepare surfaces and apply two coats Dulux "Roadline" paint or similar approved.
- 2.17 RAINWATER PLUMBING**
- GENERAL REQUIREMENTS**
- Comply with BS 6367 - Drainage of Roofs.

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B MATERIALS

B.1 Rainwater Goods

Supply and fix rainwater gutters and downpipes of specified size and materials, as supplied by a single approved manufacturer. Obtain all materials from this manufacturer and undertake the installations in accordance with the Code of Practice and the manufacturer's printed instructions.

B.2 Materials Generally

All materials to comply with the following dependent upon the type of material to be used.

Cast iron to BS 460.
 Pressed steel to BS 1091
 Asbestos cement to BS 569
 Aluminium to BS 2997
 Copper or zinc to BS 1431
 Plastic to BS 4576

C WORKMANSHIP

C.1 Fixing Gutters

Subject to gutter type and specific requirements, fix as soon as possible after roof coverings completed as follows:

- (a) With centre line vertically below edge of roof covering and close beneath it. Dress any underfelt into the gutter.
- (b) To fall evenly to outlets at 10 mm in 3 m where possible.
- (c) With adequate supports to prevent sagging and ponding, in accordance with manufacturer's recommendations.
- (d) Provide additional support at outlets and changes in direction.
- (e) Allow adequate thermal movement in plastic gutters.
- (f) Wherever possible, locate outlets vertically above drain connections/gullies.
- (g) When fixing flat back gutters direct to backgrounds, ensure front overspill level is below level of any fixings through gutter back.

C.2 Gutter Jointing Generally

Where mastic joints required, spread the compound evenly in the joint surface and remove surplus after tightening bolts. Place a thin washer under each nut. If bolts occur in the gutter sole, tighten these first.

C.3 Jointing Cast Iron and Steel Gutters

Paint the joint contact surfaces and cut ends before fixing. Seal joints as recommended by manufacturer and bolt with rustproofed bolts and nuts.

C.4 Jointing Aluminium Gutters

Joint with gutter manufacturer's mastic or compressible strip. Bolt with aluminium bolts and nuts.

C.5 Jointing Plastic Gutters

Joint with manufacturer's compressible strip. If strips are ready fixed to the sockets, do not dislodge or damage. Allow for thermal movement in accordance with manufacturer's recommendations.

2.18 DRAINAGE

A GENERAL REQUIREMENTS

Comply with: BS 8301(as amended) - Building Drainage
 The Building Regulations Approved Documents
 BS EN 752-1:1996
 BS EN 752-2:1997
 BS EN 752-3:1997
 BS EN 752-4:1996

B MATERIALS

B.1 Proprietary System

Execute the entire drainage system with materials of specified type, all obtained from a single manufacturer, and undertake the work in accordance with BS 8301.

B.2 Grade of Concrete

Concrete mix to be Twenty Newton concrete with 20 mm aggregate and sulphate resisting cement for beds, manholes and other reinforced concrete in the ground.

- B.3 Lean-mix concrete
- Mix to be 1:18.
- B.4 Bricks
- Clay bricks to be BS 3921 Class B.
- B.5 Mortar
- Cement:lime mortar to be in the ratio 1:¼:3.
- B.6 Granular Bedding and Surround
- Nominal single sized aggregates to BS 882 Table 4 as follows :
- (a) 100 mm pipes : 10mm size
- (b) 150 mm pipes : 10 or 14 mm size.
- (c) 200 mm pipes and above : 10, 14 or 20 mm size.
- B.7 Cast Iron Drainpipes
- Socketed pipes and fittings to BS 437 or as manufacturer's materials specified.
- B.8 Vitrified Clay Pipes
- Socketed pipes and fittings with flexible joints to BS 65.
- B.9 Proprietary Clay Pipes
- Manufacturer's materials to be used as specified.
- B.10 Concrete Pipes and Fittings
- To BS 5911 Part 100.
- B.11 Plastic Pipes and Fittings
- To BS 4660 or BS 5481 with ring seal joints.
- B.12 GRP Pipes
- To BS 5480

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- B.13 Field Drains
- To BS 8301
- B.14 Gullies and Other End Fittings
- Cast iron to BS 437; vitrified clayware to BS 65.
- B.15 Circular Concrete Manholes
- To BS 5911 made from ordinary Portland cement with interlocking joints and covers as specified.
- B.16 Cast Iron Manhole Covers
- To BS 497.
- B.17 Manhole Step Irons
- To BS 1247: Fig.1 for brickwork; Fig.2 or 3 for pre-cast concrete.
- B.18 Vitrified Clay Channels
- To BS 65.
- B.19 Plastic Channels
- To BS 4660.
- C WORKMANSHIP
- C.1 Preliminary Procedures
- Carry out site investigations concerning the existing services in the ground. Establish levels as necessary.
- C.2 Drain Trenches
- Excavate drain trenches as follows :
- (a) Clear the site of the excavations.
 - (b) Preserve turf and topsoil.
 - (c) Break up and remove the surface pavings. If such surfaces are to be reinstated, cut back to a neat edge to facilitate reinstatement.

- (d) Programme the excavations so that there is always the shortest time period possible between trenching and pipe laying. If unavoidable delays occur, protect the trench bottoms or leave a final layer for hand removal.
- (e) Excavate the trenches to the minimum practicable width but not less than 450 mm or 1½ times pipe diameter plus 250 mm, whichever is the greater. Excavate by open cut method unless otherwise approved.
- (f) Remove obstructions and report any voids or live services. Plug any disused drains.
- (g) Form a firm evenly graded trench bottom, remove any soft or hard spots and replace with compacted granular material to produce a consistent bearing.
- (h) Protect the bottom or lay pipes immediately.
- (i) Enlarge the trench excavations for manhole construction and keep excavations free from water.
- (j) Provide all necessary trench support and remove as compaction proceeds.

C.3

Pipe Laying

All beds under pipes including any specified surrounds shall be laid the full width of the trench in accordance with BS 8301. Lay pipes as follows :

- (a) Lay pipes to correct line and level. Do not lay more than one pipe in same trench without approval, including those at different levels.
- (b) Make change of direction at inspection chambers or manholes unless otherwise specified.
- (c) Support pipes evenly along the full length of the barrels.
- (d) Lay pipes from lowest part of drain run with sockets facing up the fall. Do not cover until tested and approved in convenient sections.

C.4

Laying Rigid Pipes on Granular Beds

- (a) Lay granular bed as previously specified and lay and joint pipes as clause above. Backfill with granular material to 100 mm above crown of pipe and complete backfilling with excavated material.

C.5 Laying Rigidly Jointed Pipes with Concrete Beds

- (a) Lay pipes supported at least 100 mm above the base of the excavation supported on blocks.
- (b) Joint the pipes and place concrete bed at least 100 mm each side of pipe.
- (c) Place concrete haunching.
- (d) Surround pipe with minimum 100 mm concrete on all sides and backfill with excavated material.

C.6 Laying Flexibly Jointed Pipes with Concrete Beds

- (a) Lay pipes supported at least 100 mm above the foundation base supported upon blocks and joint pipes.
- (b) Provide movement joints for the concrete formed at each pipe joint with compressible material for the full cross section of all concrete in trench.
- (c) Place concrete bed at least 100 mm each side of pipe.
- (d) Place concrete haunching.
- (e) Surround pipe with minimum 100 mm concrete on all sides with movement joints as above.

C.7 Gullies

Encase all gullies and other specified terminal fittings including bends where permitted in concrete minimum 150 mm thick. Similarly encase any pipework rising at a steep angle to the fittings. Provide raising pieces or brickwork to enable gratings to be fixed at the correct level with the surfacings.

C.8 Cutting Pipes

Cut pipes square with sharp tools. Re-chamfer spigots if necessary.

C.9 Rigid Joints in Socketed Cast Iron Drains

Make traditional caulked lead joints as follows ;

- (a) Ensure the joint surfaces are clean and dry. Form a gaskin of dry jute yarn and caulk into the bottom of the socket to centralise the spigot and seal the bore.

- (b) Fill the remainder of the joint space with molten lead.
- (c) Thoroughly caulk and consolidate the lead with 1.5 Kg (minimum) hand hammer or powered hammer of equivalent force.
- (d) Finish the joint 3 mm inside the socket.

C.10 Rigid Joints in Socketed Clayware Drains

Make traditional mortar joints as follows :

- (a) Form a gaskin of tarred yard and caulk into the bottom of the socket to centralise the spigot and seal the bore.
- (b) Clean and wet the joint surfaces and fill with cement:sand (1:2.5) finished splayed back 45° from the outer edge of the socket.
- (c) Core out to ensure there is no mortar in the pipe bore.

C.11 Push Fit Flexible Joints

Form in accordance with manufacturer's recommendations using lubricants. Push spigots fully home and slightly withdraw (approximately 5 mm).

C.12 Taper Joints in Pitch Fibre Drains

Support the last pipe laid, ensure the mating surfaces are perfectly clean and carefully drive the next pipe into full contact.

C.13 Brick Inspection Chambers

Construct chambers as follows :

- (a) Commence as soon as connecting drains are tested and approved and construct in one continuous operation until completed. Do not construct any chambers smaller than the minimum sizes given in Table 8 of BS 8301.
- (b) Lay specified bricks in English bond to modular brick sizes. Build the sides directly off the 150 mm concrete base. Flush up all joints to ensure chambers are watertight.
- (c) Build in pipes flush with internal face and provide lintols or relieving arches over pipes 225 mm diameter or larger.
- (d) Point the joints with a neat flush joint as work proceeds. If corbelling is required do not project any one corbel further than one quarter thickness of the chamber side.

- (e) Build in step irons as work proceeds. Bed the inspection cover frame and cement mortar (1:3) with the cover in position to prevent distortion. Bed the cover in grease manufactured for this purpose.

C.14 Pre-cast Concrete Inspection Chambers

Construct chambers with pre-cast sections as follows, using cement mortar (1:6) throughout :

- (a) Commence as soon as connecting drains are tested and approved and construct in one continuous operation until completed.
- (b) Commence with a base wall and benching laid on the base slab and taken to 100 mm above the pipes. Do not place the first unit until this concrete has set.
- (c) Joint sections in mortar and point flush internally.
- (d) Cast in step irons where required.
- (e) Bed cover slabs and frames in mortar and bed the cover in grease. Surround the completed manhole with 150 mm thick concrete.

C.15 Step Irons

Build in or cast in two rows of step irons spaced 300 mm apart horizontally, one every 150 mm of height. Locate the first step iron at no more than 600 mm below the cover.

C.16 Manhole Keys

Provide one set for every type of inspection cover specified. Hand to the employer on completion.

C.17 Backfilling Generally

Do not cover any drainage work until tested and approved. On completion of the initial filling or concreting to specified levels above the drains, backfill with excavated material placed in 150 mm layers, each layer compacted with mechanical equipment.

C.18 Backfilling Around Pipes with Excavated Material

Using excavated material as previously specified, backfill as follows :

- (a) Select the best soil for initial compaction around pipes.

- (b) Carefully fill in equal layers on both sides of the pipe and continue to approximately 300 mm above the crown. Carefully and thoroughly compact all this filling in 100 mm layers.

C.19 Granular Bedding and Filling

Using material specified above, undertake the work as follows :

- (a) Lay the bedding to specified thickness under the pipes.
- (b) After pipes are tested, carefully fill and compact in equal layers on both sides.
- (c) If necessary maintain flexible pipes in position with timber stakes driven on both sides and withdrawn as soon as pipes are covered.
- (d) Complete the granular fill and compaction to specified thickness.
- (e) Backfill with excavated material as above.

C.20 Work to Existing Drain

Carefully excavate and locate existing drains scheduled for new connections. Inspect drains as uncovered and report the condition if other than satisfactory. Provide suitable diversions or shut off periods before cutting into any live drains.

Carefully cut into existing pipework and disinfect as necessary. Provide all necessary new pipe lengths, saddles, double sockets or other means of making connections, joint and test as specified.

C.21 Connections to Existing Manholes

Carefully cut into existing side, taking care not to cause damage beyond the area being cut. Cut away benching, insert channels as required, connect the new pipes and make good all work disturbed.

C.22 Testing

Ensure all pipes are unobstructed and block all pipes and manholes as necessary with expanding rubber or other suitable

stoppers forming airtight seals. Provide all necessary testing equipment and test as follows :

Ensure the pipes are securely buttressed against movement and test when jointing completed. Test again on completion of the installation. Fill drains



with water and test with 1.25 m head above the invert of the highest terminal fitting.

Allow time for absorption and air escape and test for 30 minutes. A test will be satisfactory if the water lost does not exceed 1 litre per hour per metre of drain of 1 metre nominal diameter.

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SECTION 3.00 – SCHEDULE OF BUILDING WORKS



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3.00	BUILDING WORKS		
3.1	<u>GENERAL REQUIREMENTS</u>		
3.1.1	<u>The Site and Surroundings</u>		
3.1.1.1	Where a manufacturer is specified herein, this is to be the preferred manufacturer selected for that item. The Contractor may propose an alternative manufacturer, in accordance with the specification, for approval by the Contract Administrator (C.A).		
3.1.1.2	Unless approved by the C.A, the specification is to be followed in all instances. The use of asbestos containing materials is strictly prohibited.		
3.1.1.3	All items, without exception, are to be installed in accordance with the manufacturer's recommendations, unless otherwise advised in writing to the C.A. Material samples are to be provided indicated herein.		
3.1.1.4	All timber is to be sourced from a Forest Stewardship Council compliant source and evidence of same is to be provided by the Contractor when requested.		
3.1.1.5	All works are deemed to include for the provision and maintenance of scaffolding and access equipment throughout the duration of the works and fully in accordance with current health and safety legislation. Cover up and protect all remaining equipment, furniture, fittings and fixtures where remaining in the areas.		
3.1.1.6	Works are deemed to include for disposal of all redundant and surplus waste materials throughout the duration of the works and fully in accordance with current health and safety legislation.		
3.1.1.7	The Contractor shall comply in all regard with the site requirements as included herein and as shown upon the contract drawings.		
3.1.1.8	The Contractor is deemed to have visited the building and provided proposed access areas/ routes on site. Due allowance is to be made in the tender for construction plant and delivery vehicles to be suitably sized as appropriate, considering the width and location of access routes and existing ground and overhead obstructions. The contractor must note the proximity of listed buildings and site access which is restricted, this must be taken into account at tender stage.		
3.1.1.9	The Contractors compound will be clearly defined and confirmed with the CA, before works commence and no further areas will be made available for the Contractor.		
To collection:			

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3.1.1.10	Parking for Contractors vehicles shall be restricted to the dedicated areas as shown on the IW drawings.		
3.1.1.11	All external areas made available for the Contractor shall be reinstated at the Contractors expense. Grassed areas shall be protected and shall be re-seeded upon completion.		
3.1.1.12	The Contractor shall undertake a photographic and written survey to identify the condition of the areas identified for the compound/ access roads, and this shall be submitted to the Contract Administrator prior to works commencing (see clause 1.1.1.10).		
3.1.1.13	A skip will be permitted within the Contractors compound in a position to be agreed with the CA.		
3.1.1.14	A site visit prior to completion of the tender shall be carried out. It will be deemed that all aspects of the site conditions and proposed works are as shown within this document and on the drawings, which will have been assessed and included within the tender.		
3.1.1.15	Technical enquiries shall be referred to: Mr. A. Singh: Architectural Assistant - Ingleton Wood LLP- tel. 01277 637800 Mr. S. Crooks: Electrical Engineer- Ingleton Wood LLP- tel. 01277 637800 Mr. P. Casuso: Mechanical Engineer- Ingleton Wood LLP- tel. 01277 637800 Mr. D. Lawson: Contract Administrator / Specifier – tel. 01277 637800 Ms. D. Toseland: Contract Administrator / Specifier – tel. 01277 637800 Mr A. Wong: Structural Engineer-Ingleton Wood LLP- tel. 02076 804400 Mr M. Alitt: Civil Engineer – Ingleton Wood LLP – tel. 01223 965200		
3.1.1.16	This specification is to be read in conjunction with all drawings as scheduled within the Preliminaries and General Conditions of this specification along with the Building Services specification.		
3.1.1.17	In the event that discrepancies arise between the specification / schedule of works and the contract drawings, the C.A. is to be notified immediately.		
3.1.1.18	However, it is to be deemed that the Contractors tender is to include all works specified herein and / or shown upon the drawings without exception.		
3.1.1.19	The Contractor must, prior to taking possession of any part of the site, take a photographic schedule of condition of the whole of the site. This schedule must be produced upon the request of the Employer to clarify the condition of the property prior to the date of possession.		
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3.1.1.20	Failure by the Contractor to produce the photographic schedule of condition will mean that the Contractor must make good any disputed areas to the complete satisfaction of the C.A.		
3.1.1.21	The successful Contractor will be expected to submit a fully detailed contract programme to the Contract Administrator within 7 working days of order. This shall show all critical programme dates and activities.		
3.1.1.22	Security of the site areas both during the works and when unoccupied shall be the responsibility of the Contractor and any loss shall be the Contractors responsibility.		
3.1.2	<u>Scaffolding and Access Equipment</u>		
3.1.2.1	The Contractor is responsible for and shall design all temporary works and access arrangements as stated in the preliminaries section of this document.		
3.1.2.2	The Contractor must carry out his own assessment for the provision of safe access to carry out the works specified required by the Employer and confirm his intentions at tender stage and in the construction phase Health and Safety plan. The Contractor must note that at no stage can any emergency escape routes be blocked or obstructed.		
3.1.2.3	The Contractor must visit the site and consider these issues whilst pricing this specification. In the event that the Contractor is of the opinion that additional or alternative measures are required he must clearly identify these measures in his tender submission. No applications for additional monies will be considered as a result of a failure to appreciate the access implications once the contract has been let.		
3.1.2.4	Scaffolding and towers if required shall be fully boarded and netted at all times. The design of all scaffolding is to be checked and certified by an independent qualified engineer and a copy of this certification provided to the contract administrator.		
3.1.2.5	All scaffolding installed must be passed as safe, prior to use, by a qualified safety officer and a certificate to this effect issued, a copy of this to be kept on site for inspection.		
3.1.2.6	The scaffolding is to be erected and struck during normal working hours. Refer to the guidelines and restrictions of the local authority departments.		
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3.1.3	<u>Hours of Work / Noisy Works</u>		
3.1.3.1	Unless otherwise specified, all work is to be undertaken and completed during normal working hours, 8.30am – 5.30pm Mondays to Saturday. No work shall be completed outside of these hours without the permission of the Council's Project Manager unless stated below:		
3.1.3.2	Extended working hours to accelerate the programme may be considered, at the Contractors own expense, but this is to be with prior agreement with the Council.		
3.1.3.3	In all phases, the Contractor will be expected to liaise and give advance warning to Council with regard unavoidable noisy works.		
3.1.3.4	The use of radios is strictly prohibited on or near the site.		
3.1.3.5	Smoking is strictly prohibited on or near the site.		
3.1.4	<u>Access to the Working Area</u>		
3.1.4.1	Contractor's access to the site will be restricted to the areas as identified upon the contract drawings.		
3.1.4.2	The adjacent buildings of the site will be occupied by commercial and residential users during the course of the works.		
3.1.4.3	The contractor must note the proximity of listed buildings and site access which is restricted, it is envisaged alternative methods for the supply and installation of material i.e length of steel works must be taken into account at tender stage. No applications for additional monies will be considered as a result of a failure to appreciate the access implications once the contract has been let.		
3.1.4.4	The compound shall be agreed at the pre-contract meeting prior to commencement of the works. All surfaces disturbed during placement of the compound shall be made good at the Contractor's expense.		
3.1.4.5	Access routes including public roads are to be kept clear at all times and are not to be obstructed by vehicles or plant at any time. No other areas will be available for the storage of plant, materials or vehicles other than those shown upon the drawing unless otherwise agreed by the Client / C.A.		
3.1.4.6	Where heavy plant and deliveries from large vehicles are expected, a banksman / marshalling supervisor shall be present for its duration to the site itself.		
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3.1.4.7	Keep all access routes clean and free from dirt, mud and debris etc for the duration of the contract until completion. As part of the works the Contractor will be expected to monitor existing routes daily, sweep and clean each day to the satisfaction of the Contract Administrator.		
3.1.4.8	Ongoing monitoring of the existing access routes will be undertaken by the Contract Administrator and Billericay Town Council.		
3.1.4.9	The Contractor will be expected to undertake and keep a photographic record of the existing access route condition for the duration of the contract until completion.		
3.1.4.10	Damage, where of the Contractors making, to hard or soft landscaped surfaces, building fittings or fixtures is to be made good immediately at the Contractor's own expense.		
3.1.4.11	Note limited car parking is available on site / within the town centre, the Contractor is to make themselves aware of the parking arrangements required and make full allowance for this within the tender. No parking is being made available for the contractor.		
3.1.4.12	<p><u>Temporary Hoardings</u></p> <p>Temporary solid timber hoarding and gates are being provided by the Council. The hoarding may require amending, re-fixing and the like as part of the works which the contractor is to allow for to enable the works to be complete.</p> <p>On completion of the works, dismantle hoarding and clear from site. Make good all disturbed surfaces.</p>		
3.1.4.13	<p><u>CCTV of construction</u></p> <p>Supply install and service high quality CCTV to provide project over view and time-lapse recordings. Provide time lapse recording upon completion.</p> <p>Allow for CCTV to be linked to secure IP address & linked to Councils IP address.</p> <p>No Wi-Fi available - Secure Transmission of video over mobile via 4G / 3G fall back.</p> <p>Provide telegraph pole/ suitable mounting, wiring and connection as required.</p>		
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3.1.5	<u>Handover and Practical Completion</u>		
3.1.5.1	Fully developed handover / Operating and Maintenance (O&M) manual information shall be submitted to the Contract Administrator on or prior to practical completion with commissioning information included when issued. Details of specific requirements are contained within the Preliminaries and Appendix of this specification.		
3.1.5.2	All O&M information shall be coordinated by the Main Contractor and submitted in the form required (i.e. individual sub-contractors files will not be permitted) as described elsewhere. Draft information shall be submitted no later than one week prior to practical completion. <u>Failure to undertake the above handover requirements will result in the delay of Practical Completion to the construction contract.</u>		
3.1.6	<u>General Notes</u>		
3.1.6.1	Please refer to Basildon Council & Billericay Town Council- 'Specification of works' for details regarding build requirements, site setup, existing building conditions etc.		
3.1.6.2	Should any discrepancies arise between the specification and the structural engineer's drawings, the CA should be informed, and issues discussed, before an instruction obtained prior to works being undertaken.		
3.1.6.3	The Contractor is to programme the contract accordingly to allow for all necessary drying times of works including but not limited to foundations, screeds and the like. The moisture content needs to be acceptable to such finish manufacturer.		
3.1.6.4	The existing building line is along a car park boundary, all consents are to be undertaken by the contractor to allow works to proceed as noted above.		
3.1.6.5	Access is generally restricted via the town centre.		
3.1.6.6	Contractor to make early consultation with Building Control to ensure all items are allowed for / taken account of prior to commencement of works.		
3.1.6.7	The use of the schedules / quotes should be used as a reference / guide. The contractor is liable for ensuring accuracy when pricing/ tender.		
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3.2	FACILITATING WORKS AND BUILDING WORKS		
3.2.1	<u>Toxic/Hazardous/Contaminated Material Removal</u>		
3.2.1.1	<u>Asbestos: Removal</u>		
	The Employer has already removed all known internally/ externally located asbestos based materials prior to the demolition works preceding within the Chantry Centre.		
3.2.2	<u>Demolitions and Stripping Out</u>		
3.2.2.1	Carefully break out existing tarmacadam external hardstanding and soft ground to allow construction of the new building as shown on the contract drawings.		
3.2.2.2	Grub up and remove from site existing drainage runs and residual items which remain from the demolition.		
3.2.2.3	Grub up and remove from site existing foundations which remain from the superstructure demolition.		
3.2.2.4	Pollard all existing trees that overhang the boundary on all sides which are the property of the adjoining owner, the contractor must make due allowance to liaise with the adjoining owner. Once confirmed by the Council and Adjoining Owner the contractor is to remove and cart away all debris.		
3.2.2.5	Dismantle and remove from site brick boundary wall, adapt and supply further fencing to secure the area. Fence to match existing solid timber hoarding.		
3.2.2.6	Allow to liaise with statutory undertakers are remove and re-direct existing telegraph pole from site.		
3.3	SUB STRUCTURE- BUILDING WORKS		
3.3.1	Remove existing vegetation and / or paving across the areas of the site of the new extension. Backfill voids.		
3.3.2	Prepare the site area for reduction of levels and construction		
3.3.3	Excavate as necessary and reduce levels over site of new extension, break out existing items and set aside excavated material in spoil heaps and on site for future re-use if required.		
To collection:			

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3.3.35.3	The pre-cast unit manufacturer shall supply the Engineer with 2 copies of all design calculations, drawings etc. (including reinforcement drawings for R.C. elements) and shall not proceed with manufacture until comments are received from the engineer. Allow 5 working days for comments and programme works to comply with main contractors programme.		
3.3.35.4	Design loadings/calculations to be submitted to the SE and Building Control for approval. Floor construction to be in accordance with all relevant British Standards and Building Regulations, and to achieve a minimum U value of 0.22W/m2K.		
3.4	SUPER-STRUCTURE		
3.4.1	<u>Frame</u>		
3.4.1.1	Supply, erect and build into position all structural steelwork including but not limited to framework wind-posts, column connections, hangars steelwork beams and all details as required and as shown upon the structural engineer's drawings.		
3.4.1.2	Construct all details shown upon structural engineering drawings without exception.		
3.4.1.3	The Contractor /Steel work Contractor is to design all steel connections which will be subject to comment by the Structural Engineer. Note the site has limited access provisions thus steel work will need to be designed to suite transport/ access requirements. Site cutting / welding will not be accepted.		
3.4.1.4	The steel works Contractor to co-ordinate with the principal contractor and Cladding Contractor & Window Contractor to provide all necessary secondary steel work, trimming etc. as required around all doors, windows and the like.		
3.4.1.5	Intumescent coatings for fire protection of steelwork off site coating with a two-pack epoxy zinc phosphate primer and thin film intumescent and sheen top coat.		
3.4.1.6	Use/location: All internal steelwork.		
3.4.1.7	Shop preparation: All structural steelwork shall be blast cleaned to B.S.7079 : Part A1, preparation grade Sa21/2 and, except where specified as galvanised, shall be painted with a suitable good quality high build epoxy zinc phosphate primer to provide a dry film thickness of not less than 75 microns. A pre-fabrication primer may be used at the fabricator's discretion. The contractor shall ensure that the primer used is compatible with subsequent coatings.		
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3.4.1.8	Steelwork specified as galvanised shall be blast cleaned as above and hot dip galvanised to B.S.729, minimum coating thickness 85 microns.		
3.4.1.9	All steelwork below DPC level or built within the masonry wall cavity shall be site painted with a compatible high build epoxy zinc phosphate primer to provide a dry film thickness of not less than 125 microns, to achieve an overall primer coating of 200 microns. i.e. LEIGHS PAINTS EPIGRIP C400 zinc phosphate primer/buildcoat or equal. Steelwork below DPC shall also be encased in not less than 100mm of concrete not weaker than specified on the drawings.		
3.4.1.10	Shop primer: Epigrip C400V3 Zinc Phosphate Primer / Buildcoat - Dry film thickness: 75 microns nominal as defined in BS EN ISO 12944-5 - Colour: Limited range of primer shades.		
3.4.1.11	Intumescent Coat: Firetex FX2003 Intumescent Coating - Fire Resistance: 60 minutes - Colour: White - Finish: 460 high decorative finish - Special requirements:		
3.4.1.12	Loading thicknesses can be obtained from Sherwin Williams Firetex customer services department.		
3.4.1.13	Top Coat: Firetex M71V2 Sheen Finish - Dry film thickness: 50 microns nominal as defined in BS EN ISO12944-5. - Colour : As required by the architect		
3.4.1.14	Sherwin Williams Paints - 0845 8382225		
3.4.1.15	All installed structural items must be checked on site by the Structural Engineer prior to covering over.		
3.4.1.16	Build into position prefabricated and insulated steel lintels supplied by IG Lintels, manufactured to BS 5977: Part 2 with corrosion protection, all as identified with references upon the structural engineer's drawing to internal and external walls. Lintels to be as referenced upon the Structural Engineers drawings.		
3.4.1.17	All lintels are to be the profiles, material gauges and overall lengths as annotated on the drawings and are to be installed in strict accordance with the manufacturer's recommendations, laid on a mortar bed, allowing nominal 150mm bearing at each end onto sound bearing material. Inner and outer leaves of masonry are to be raised together		
3.4.1.18	All structural steelwork that is external or in the outer leaf of cavity walls to be		
To collection:			

	hot-dipped galvanised to BS EN ISO 1461 and painted with 2 coats of bituminous paint.	£	p
3.4.1.19	Supply and fix into position new industrial plant stair step-overs as shown on the structural engineering drawings.		
3.4.1.20	Handrailing / Balustrading – tubular galvanised to entire perimeter of working platform. Incorporate galvanised access steps with handrailing.		
3.4.1.21	Manufacturer: Stelway, Queensgate Works, Bilston Road, Wolverhampton, West Midlands, WV2 2NJ, tel. 01902 451733.		
3.4.2	<u>Stairs</u>		
3.4.2.1	Contractor to design, supply and install steel stairs to the shape and design as shown on the drawings and in alignment with the structural engineer's design. The stairs are to be of suitable design to accommodate evacuation from first floor. Loading calculations to allow and accommodate for maximum number of people that could be evacuating from the building.		
3.4.2.2	<ul style="list-style-type: none"> The stairs are to be steel with a powder coated finish – Black - Colour to be confirmed. Treads to be infilled with screed and a timber floor finish to match the main lobby and first floor landing as per the finishing schedule. An allowance is to be made in the design to counter sink the LED lights to be set in the under sides of the treads. Risers are to be toughened safety glass. Handrail and balustrade to be stainless steel with toughened glass infill panels between uprights. 		
3.4.3	<u>Lift & Lift Shaft</u>		
3.4.3.1	Supply and install Lift as per the lift specification incorporated within Appendix F.		
3.4.3.2	Form lift shaft as detailed in tender drawings with 140mm high density block with 12.5mm plasterboard on dabs externally, taped and skimmed. 13mm thick 2 coat premixed lightweight plaster to each face of blockwork.		
3.4.3.3	All blockwork to be bedded and pointed in mortar 1:1:6 as work proceeds. All external walls to be built off damp proof course as previously described. Include for formation of expansion joints as manufacturer's recommendations and formation of lintels and structural framing as manufacturer's details, as specified elsewhere.		
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3.4.3.4	Incorporate vertical movement control joints to structural engineer's requirements formed with 15mm hydrocell flush with blockwork internal face and pointed with Expandite silicone sealant in positions to be agreed to manufacturers' recommendations. Colour of sealant to be white.		
3.5	ROOF		
3.5.1	Allow for all necessary temporary protection between commencement of the works and completion.		
3.5.2	Supply, install and construct flat roof as shown and as detailed upon the drawings to be as follows: Manufacturer: Kingspan Greenfield Business Park 2, Greenfield Holywell, Flintshire, CH8 7GJ, United Kingdom, Tel: +44 (0) 1352 716100, Email: info@kingspanpanels.com Substructure Product: Kinspan Multideck Insulation: Kinspan Thermapitch Roof Finish Product: Kingspan Standing Seam System: KS500/1000 ZIP IP Gutters: Kingspan High Line Gutters U-Value to achieve: 0.15 Rooflights: 3no. Velux Central Pivotal - Grey – U- value 1.3. Automation: Rooflight windows and blinds to be fully automated and linked to control switch as per the appended drawings. Sizes as per drawings 1.3m x 1.6m with Ritec Clearshield glass coating glass to be 6.4mm laminated, and 4mm toughened outer with low e-coating. Allow for chamfered plaster detail and deep reveal to rooflights where large service voids and rooflights noted.		
3.5.3	Supply and install automated blinds to roof lights (roof light to be manually operated) required to be provided by Velux.		
3.5.4	Safety Devices: Supply & Install anchored Access Line System Required: Kingspan SafePro 2 or equal approved to be tested and certified prior to practical completion. Drawings / Details: Refer to appended roof details. Contractor to ensure all works are undertaken in accordance with manufacturers recommendations.		
3.5.5	All work to be in accordance with structural engineers' details and calculations as included within the Appendix.		
3.5.6	The following specification is to be covered by the Kingspan independently-insured workmanship and materials guarantee for a period of 20 years from the date of practical completion.		
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	external walls to be built off damp proof course as previously described. Include for formation of expansion joints as manufacturer's recommendations and formation of lintels and structural framing as manufacturer's details, as specified elsewhere.	£	p
3.6.11	Incorporate vertical movement control joints to structural engineer's requirements formed with 15mm hydrocell flush with blockwork internal face and pointed with Expandite silicone sealant in positions to be agreed to manufacturers' recommendations. Colour of sealant to be brown externally and white internally.		
3.6.12	The Contractor will be expected to undertake and will be solely responsible for undertaking all detailing and sealing of the complete structure to meet air-testing requirements as required under the Building Regulations Approved Documents.		
3.6.13	Allow for and chase in all services conduits and drops as required within the mechanical and electrical specifications.		
3.6.14	Costs for meeting air test requirements are deemed included within the tender.		
3.6.15	The Contractor is expected to fully liaise with the mechanical and electrical services specialists and, where required within mechanical and electrical specification, allow to chase in all new services to new walls.		
3.6.16	All services and other penetrations through fire-rated partition to be suitably sealed with the required fire-resistant materials i.e. intumescent mastic to provide a resistance not less than 30 / 60 minutes standard.		
3.6.17	Provide Ancon Staifix wall starters (O.S.A.) to each skin at all new masonry wall junctions, unless noted otherwise.		
3.6.18	Build into walls patent Ancon Staifix stainless steel wall ties at 900mm horizontal and 450mm vertical centres. Allow for forming openings for all windows and doors in external walls and close cavities at all reveals with RMC Thermabate insulated cavity closer, flanges of closer to be fixed to inner leaf as work proceeds.		
3.6.19	Wall ties to be doubled at all openings to 225mm vertical centres. All cavities to be closed and fire sealed at top of wall with blockwork, installing vertical dpc.		
3.6.20	Provide and fit Ancon Staifix stainless steel wall profiles where required for new work. Plug and screw fix with stainless steel screws. Joints to be formed with 15mm hydro cell set back 15mm from external face brickwork but flush with blockwork internal face and pointed with Expandite silicone sealant.		
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3.6.21	Provide and install insulated vertical dpc to all reveals with block cavity closures, cavity trays and weep holes above all new openings.		
3.6.22	All structural openings to be made in readiness for structural elements/ doors/ windows to be installed.		
3.6.23	All steelwork to S.E drawings.		
3.7	INTERNAL WALLS, PARTITIONS AND CEILINGS		
3.7.1	Construct new 100mm high density blockwork walls to form new separation walls as indicated on the contract drawings. Build new blockwork off existing floor slab and laid in 1:1:6 cement: lime: sand (or equivalent group 3 mortar to match existing walls) with bucket handle pointing externally.		
3.7.2	Construct new stud partition, plaster and skim to form separation walls as indicated on the contract drawings. All to achieve U Value of 0.18m ² K.		
3.7.3	Form new metal stud partitions as shown on the drawings and as detailed below: A) 167mm walls to be Metal Stud Partitions to be British Gypsum Gypframe 92S 50C studs at max 600mm centres with voids packed with ISOVER acoustic partition roll (APR 1200) acoustic insulation. Internal partitions to have both sides of new partitions to be finished with 2 layers each of 12.5mm British Gypsum SoundBloc over 18mm of WPB ply to allow fixing points. Head of partitions to be fixed to the underside of the wall above with all gaps and openings filled with intumescent sealant. B) 304mm walls to be Metal Stud Partitions to be British Gypsum Gypframe 48 S 50 'C' Stud x 2 at max 600mm centres with voids packed with ISOVER acoustic partition roll (APR 1200) acoustic insulation. Internal partitions to have both sides of new partitions to be finished with 2 layers each of 15mm British Gypsum SoundBloc over 18mm of WPB ply to allow fixing points. Head of partitions to be fixed to the underside of the wall above with all gaps and openings filled with intumescent sealant.		
3.7.4	Decorate upon completion as noted elsewhere.		
3.7.5	All joints to be staggered and taped and left ready to receive new plaster finishes as described elsewhere.		
3.7.6	Provide and fix 120 x 25mm thick chamfered moulded, pencil round MDF skirting to all new walls with the exception of areas with vinyl flooring.		
3.7.7	All skirtings to have neat, tight mitred corners and to be taken into all reveals		
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	and recesses.		
3.7.8	Prime backs and bottom edges of skirtings prior to fixing. Prepare ready for decoration as described elsewhere.		
3.7.9	The skirting to floors in all toilet facilities are is to be capped and coved. See Vinyl detail described elsewhere.		
3.7.10	Supply and install through the wall mail box (in front and out back) Product: Fire Rated 3 Mail Box Manufacturer: The Safety Letter Box Co. The Safety Letterbox Company Ltd. Unit 1B Milland Road Industrial Estate, Milland Road Neath, United Kingdom. SA11 1NJ - contact@safetyletterbox.com ; Contact: 01639 633525 Location: Front Reception Fire Rating: 60 Minute Required Colour: White (TBC prior to ordering) Quantity: 1no. Dimension: To suite wall thickness Position: Approximate locations shown on appended drawings, situated above desks. To be confirmed by client prior to ordering & installation. SBD: Additional Security Bridge required to comply with SBD		
3.7.11	<u>Glazed Partition</u>		
3.7.11.1	Supply and install glazed screen to office as shown on drawings. Install as per manufacturers recommendations. Manufacturer: Optima Courtyard House t +44 (0) 1494 492 725 West End Road www.optimasystems.com High Wycombe Buckinghamshire HP11 2QB Product: Technishield 50 Fire Screen & Optima Fire Rated Glazing System Door: Single Fully Glazed Door E60 Glass Door Additional Framing: Required above glazing system to secure glazing system in place. 30-minute fire batting required above system Fire Rating: E30 - 30 / 30: 30 Min		
3.7.12	<u>Internal Wall Glazing</u> Supply and install internal wall glazing within solid white oak frame and beading to match internal door sets. Location: Council chamber Size: 2000mm (w) x 1200mm (h) Glazing- Pilkington Pyroshield clear laminated flush fit installed by manufacturer fire-resistant glass, providing enhanced integrity, compliant to EN 12600, 1(B)1. Minimum 7mm to achieve a minimum rating to be or 60 /60. Glazing is to be permanently marked/etched and to be visible when glass fitted. Frame & Beading Finish: Solid White Oak		
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- Product reference: Kitemark License Number KM593756 - BS 4873/PAS24:2012, Secured By Design License Holder.
- Door leaf: Extruded Aluminium Alloy 6063 T5,T6 BS EN 755-1 2008.
-Finish as delivered: Polyester powder coated to RAL 7012 – Grey to 60 microns in accordance with BS EN 12206-1: 2004 to a Qualicoat standard, by Comar Barley Chalu Ltd Tel 01953 602771
- Frame and architraves: Extruded aluminium profiles of aluminium alloy 6063 T5, T6 to BS EN 755-1: 2008.
-Finish as delivered: Polyester powder coated to RAL 7012 60 microns in accordance with BS EN 12206-1: 2004 to a Qualicoat standard, by Comar Barley Chalu Ltd Tel 01953 602771.
- Glazing details: 28.4mm Insulating glass units comprising of Outer Pane 6mm toughened,
16mm argon filled cavity, Inner Pane 6.4mm laminated glass.
-Beading: Internal.
- Ironmongery: Axim Concealed Transom Closer TC8800 series,
- Axim Flush Bolts FB6501-F18 series, Flush Bolt guide block FB-62-041,
- Axim Hook Locks LK1800-30 series, LK-1801-OR/OF Cover plate, LK1800-51-F
- Flat strike plate, LK-062 Escutcheon, LK744XSLF Cylinder, IN073XSLF Lock fixing plate , Axim Pad Handles HD90 series .
Perimeter seals: Comar Brush Seals.
- Other requirements: If Fire Exit doors are required use PR7100 with CS 771 door style for concealed rods.
- Fixing: As per Comar Technical Manual
- Installation of Emergency Exit Devices standard: Unless specified otherwise, install panic bolts/ latches in accordance with BS EN 1125.
- Hinges as shown on architect's drawings to allow 180 degrees opening.

3.10 INTERNAL DOORS

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		£	p
	& installation.		
3.10.2.8	Size – See schedule, to be re-measured on site prior to manufacturing. Contractor to provide shop / manufacture drawings allowing sufficient time for CA/ Employer reviewal.		
3.10.2.9	Fire Rating – FD30S /30S & FD60S/60S – refer to schedule.		
3.10.2.10	Vision Panels / Glazing - All new glazing to door vision panels and surrounding glazing is to be of Pilkington Pyroshield clear laminated flush fit installed by manufacturer fire-resistant glass, providing enhanced integrity, compliant to EN 12600, 1(B)1. Minimum 7mm to achieve a minimum rating to be 30 /30 or 60 /60 where location/door rating requires. Glazing is to be permanently marked/etched and to be visible when glass fitted.		
3.10.2.11	Infill Panels – Allow to install fire resistant infill panels as part of the door set / glazing (fire rated to match door set), where penetrations are required for the installation of services allow to adapt and repair, ensuring fire resistance is not compromised and is undertaken as per the certification. Colour / finish to match door set.		
3.10.2.12	Leading Edge Protection / Intumescent Seals – Leading Door Edge Protection to both door leaf's 46mm for FD30s & 63mm for FD60s. To be fitted to double door sets only Finish: to match door leaf with integrated smoke seals.		
3.10.2.13	Intumescent Strips & Cold Smoke Seals – To be supplied and installed and manufacturer as a complete door assembly. Norsound or Pyroplex Brush Type- Brush type only- 30 minutes fire resistance 15mm x 4mm and 60 minutes 20mm x 4mm, smoke seals. To be fitted to door frames header and both sides of frame & leading edges. Brushes must seal all gaps around the frame and door no matter how small (if light can be seen through, the door will be deemed unacceptable).		
3.10.2.14	Hinges - SSS High Performance Hinges. CE and or C.E Certified approved and with etched markings. ensure opens 110 degrees. Minimum ball bearing fire rated hinges. 3no. for FD30s & 4no. for FD60s.		
3.10.2.15	Locks – Euro Cylinder, thumb turn to internal / egress side.		
3.10.2.16	Door Closers - All door sets are to have overhead door closers and door closer linked to the fire alarm system where required (refer to door schedule and M&E specification), this will require new electrical supplies and links to the fire alarm system, full allowance for such is required, all new wiring is to be		
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<p>3.10.3 <u>Ironmongery</u></p>		
<p>3.10.3.1 Supply and install ironmongery as per specification and appended ironmongery schedules, the contractor is to ensure accuracy when tendering. All new ironmongery required for a complete installation as shown on the contract drawing door types and noted within the specification. All doors are to be suited where required, liaison with the Trust for coding etc. is required. Upon completion, all ironmongery is to be fully working.</p>		
<p>3.10.3.2 Contractor is to ensure accuracy and ironmongery works in unison, ensuring compliance with the fire rated door set.</p>		
<p>3.10.3.3 The electrical sub-contractor shall co-ordinate with the specialist fire alarm contractor to design, supply for local supplies, cable routing, connections and interfaces as required to complete the installation</p>		
<p>3.10.3.4 Provide and install ironmongery as detailed within the standard door detail, refer to door schedules, drawings & appended ironmongery schedule (Roberstons Technical).</p> <ul style="list-style-type: none"> • Hinges – Grade 14 SSS High Performance Hinges. 3 No. FD30 – 4no. FD60 Hinges • Stainless Steel Kick & Push Plate (Both Sides) • Door Closers - (linked to fire alarm) – Dorma TS73 EMF (powered & linked to fire alarm) where identified on the schedules. • Door Closers – Dorma TS72 or equal approved (Speed Control & Latch Action). Allow to install to all door sets. • Lever furniture, on back plate — Hoppe Dura Plus – Paris Rose Handles • Euro spec MP15 Maximum Security Euro Cylinder – Thumb turn required located to egress side only (consult fire action plan) to all doors. • Lock & Latch – Hoppe Arrone - Thumb Turn required. • Finger Guards – Fabric ‘Roller Blind’ type - Astro Finger Protecta – Astroflame or similar. • Stainless Steel – D pull handle – Hoppe Arrone – AR223 or similar <p>Astro intumescent fire grille to BS EN 1634-2</p>		
<p>3.10.3.5 Mastic seal – to the perimeter of all door sets (around frame and architraves) and abutting the vinyl finishes.</p>		
<p>3.11 INTERNAL FINISHES</p>		
<p>3.11.1 <u>Wall Finishes</u></p>		

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3.11.1.1	Prepare suitable for existing background, bond and apply 3mm Thistle Multi-finish, to <u>All</u> new internal studwork / plasterboard walls and linings, making good and boxings in.		
3.11.1.2	Provide and fix Expamet external angle and stop beads to all reveals and abutments to door openings and changes in wall direction.		
3.11.1.3	Prepare and apply 11mm Thistle Hardwall plaster and 2mm Thistle Multi-finish, suitable for background, to: <ul style="list-style-type: none"> All new internal masonry walls, infills and making good. 		
3.11.1.4	Provide and fix Expamet external angle and stop beads to all reveals and abutments to door openings and changes in wall direction.		
3.11.1.5	Thoroughly prepare and redecorate all internal areas without exception and as shown upon the finishes schedule, strictly in accordance with the manufacturer's instructions.		
3.11.1.6	Thoroughly prepare and redecorate all internal areas of the building without exception where shown upon the drawings, strictly in accordance with the manufacturer's instructions.		
3.11.1.7	Apply wood preservative and prime all new joinery prior to fixing.		
3.11.1.8	Decorate all new work and all previously or normally decorated surfaces and those affected by or during the course of the works <u>without exception</u> , unless otherwise agreed by the CA.		
3.11.1.9	Apply Dulux Internal use Protective wood preservative and prime all new joinery prior to fixing.		
3.11.1.10	<p><u>New Wall Surfaces (painted)</u></p> <p>Cut out and make good any minor defects and surface hairline cracking in all new wall surfaces, flush joints and make perfectly level throughout.</p> <p>Prepare surfaces to be decorated in accordance with the manufacturer's instructions, wash down, removing all dirt and grease and prime all new surfaces with 1no. thinned coat of Dulux Trade Sterishield Quick Drying Eggshell (new surfaces only) and apply to all surfaces 2no. full coats of Dulux Trade Sterishield and Quick Drying Eggshell. Colour: White to be agreed.</p>		
3.11.1.11	<p><u>New Joinery Surfaces (painted)</u></p> <p>Prepare knot, prime and stop all new joinery strictly in accordance with section apply two undercoats and one finishing coat of Johnstone's Aqua Water Base</p>		
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Gloss Colour – as finishes schedule.		£	p
3.11.1.12	<u>New Metalwork</u>		
	Prepare and apply two undercoats (one undercoat to existing surfaces) and one 1 coat of Aqua Water Based Gloss. Colour – as finishes schedule.		
3.11.1.13	<u>Self-finished Surfaces</u>		
	Prepare new self-finished surfaces without exception including low surface temp radiator covers, doors and screens etc. Wipe clean with warm water and remove and grease marks upon completion.		
3.11.2	<u>Floor Finishes</u>		
3.11.2.1	<u>Screeding</u>		
	Provide thin bed levelling latex screed as necessary to all floor areas receiving and prior to laying new vinyl floor coverings.		
	Screed to be low odour Ardex or equivalent and approved strictly in accordance with the manufacturer's instructions. Ensure room is well ventilated prior to laying floor screeds. Allow for making up differences in levels where partitioning is removed to provide a level surface across entire rooms.		
3.11.2.2	<u>Vinyl Flooring (Smooth)</u>		
3.11.2.2.1	Type – Provide Polyflor Vinyl Flooring		
3.11.2.2.2	Acoustic Properties: Fit new Polyflor Acoustifoam Matting PVC foam (minimum 2mm) backing sheet to all areas beneath polyflor vinyl.		
	Colours – All colours to be confirmed prior to order.		
3.11.2.2.3	Main Hall- Polysafe Wood FX Acosutix PUR - Finish TBC Community Hub - Polysafe Wood FX Acosutix PUR - Finish TBC Corridors, Lobbies & Stairs - Polysafe Wood FX Acosutix PUR - Finish TBC Toilets (all)- Polysafe Arena PUR – Finish Grey TBC Kitchen 1 & 2 - Polysafe Ultima PUR – Aurora Grey – TBC Secure Store- Polysafe Standard PUR – Twilight – TBC Cleaners Store – Polysafe Standard PUR – Twilight – TBC Stores - Polysafe Standard PUR – Twilight – TBC Plant Room – Watco Spectrum Concrete Floor Paint – TBC		
3.11.2.2.4	Requirements - Vinyl flooring to have hot welded seams to match floor colour specified and to be of type to be as specified above, 2.0mm vinyl sheet, unless advised above.		
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3.11.4.3	717.397.0611	£	p
	<ul style="list-style-type: none"> • Main Hall – TECHZONE – Prelude XL Square Lay in Grid – 1200 x 600 Tegula Optima Ultima Tile • Meeting Rooms 1, 2 & 3 – TECHZONE – Prelude XL Square Lay in Grid – 1200 x 600 Tegula Optima Ultima Tile • Community Hub, Upstairs Lobby & Stair / Lift Area- OPTIMA Oxaganol CANOPIES (Note specialist installation, Ceilings and M&E to be painted black above canopies) • Corridors – TECHZONE Tegula 1200 x 600 • Kitchens - PARAFON HYGIEN • Toilet and Offices – DUNE eVo 		
3.11.4.4	<p>Installation: Strictly in accordance with the manufacturer's instructions and to incorporate all runners, hangars perimeter Trulock trim and supports necessary for a complete installation. Incorporate additional hangars adjacent to light fittings and other building services items, grilles etc. All tiles to be clipped. Optima Oxagonal Canopies to be securely fitted with metal rods instead of wire to resist horizontal movement.</p>		
3.11.4.5	<p>Insulation: provide 100mm acoustic laid insulation above all ceiling tiles to be Isover Acoustic Insulation.</p>		
3.11.4.6	<p>Form ceilings and bulkhead detail as identified upon the finishes schedule in complete Gyproc suspended MF system complete with all metal ceiling sections, framing and hangers necessary for a complete installation. 50 x 50mm softwood framing members may also be used in lieu of Gyproc MF hanger system, of Contractors choosing.</p>		
3.11.4.7	<p>Line with 12.5mm Gyproc Plasterboard. All joints to be screw fixed staggered, scrim taped, and exposed edges sealed. Recess screw heads, fill and prepare ready to receive decorations as described elsewhere.</p>		
3.11.4.8	<p>To all areas professionally apply white Dow Corning mastic sealant without exception to all open joints at all junctions / crevices and perimeters between walls, floors and fittings and fixtures (e.g. sanitaryware) without exception.</p> <p>Lighting to Optima hexagonal to be fitted by suspended ceiling fitter. Furthermore, the ceiling and M&E above this area is to be painted black.</p>		
3.12	FITTINGS FURNISHINGS AND EQUIPMENT		
3.12.1	<p>The contractor is to allow to supply and fix all fixtures and fittings as per the specification and fixtures and fittings schedules.</p>		
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3.12.2	<p>Supply and fix Group 1 fittings as specified upon the Fittings and Fixtures Schedule and in exact positions as directed on site, also refer to drawings for approximate locations.</p> <p>Group 1 is to be supplied and fixed by Contractor Group 2 is to be supplied by Employer and fixed by Contractor Group 3 is to be supplied and fixed by Employer</p>		
3.12.3	<p><u>Mirrors</u> Supply and install glass silver mirrors Glass Thickness: 6mm Safety Back Film: Required to BS EN 12600 Size, Quantity & Location – refer to fixtures & fittings schedules.</p>		
3.12.4	<p><u>Splashback</u> Supply and install hygienic wall cladding / splashbacks above all sinks (sizes as per fixtures & fittings schedules). Manufacturer: Altro Whiterock Colour: TBC prior to order Joints: Welded Joints Mastic: Required to finish to match colour of cladding Size, Quantity & Location – refer to fixtures & fittings schedules.</p>		
3.12.5	<p>Supply and install stainless steel wall cladding above kitchen hobs (as per fixtures & fittings schedules). Fixing: Adhesively fixed. Size, Quantity & Location – refer to fixtures & fittings schedules.</p>		
3.12.6	<p><u>Hand & Soap and Paper Towel Dispensers</u> Supply and install hand soap and paper towel dispensers Manufacturer: PHS Group Product: Push Soap Dispenser – 1litre capacity & Paper Towel Dispenser (Standard). Material – ABS Plastic Size, Quantity & Location – refer to fixtures & fittings schedules.</p>		
3.12.7	<p><u>Hand dryers</u> Supply and install electric hand dryers – Refer to Manufacturer: Dyson Product: V-Blade Finish: Nickel (TBC prior to order) Size, Quantity & Location – refer to fixtures & fittings schedules. Hygienic wall cladding – Allow for whiterock wall cladding below all electric hand dryers</p>		
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3.12.8	<u>Desk, Seating & Ancillary</u>		
	The contractor is to supply and install desking and seating for the Council chamber and reception to include OHP, supply and installation.		
3.12.8.1	<u>Council Chamber Tables & Seating</u>		
	The desking within the Council chamber is to be as per the attached quote and include OHP. Manufacture: Talis Projects. Unit 7, Oban Court , Hurricane Way , Wickford , Essex SS11 8YB Tel 01268 572227, E-mail sales@talisprojects.co.uk , Web www.talisprojects.co.uk Type: Modular U-Shaped System with rectangular modular tables and radius end quadrants – Fixed System Connections: Linking plates / table connectors required. Power & USB Ports: Double Power Sockets & USB sockets to be moulded onto modular desk in white oak veneer. Finish: White Oak Veneer top, White Oak Veneer legs (TBC prior to order) Modesty Panel: Required; Finish – White Oak Veneer Seating: F3 Conference seating to be included (TBC prior to order)		
3.12.9	<u>Kitchens</u>		
3.12.9.1	Supply and install Howdens Universal Glendevon Gloss Kitchen Range or equivalent to match existing design on Contract Drawings. Design TBC prior to order.		
3.12.9.2	Contractor to refer to the appended Howdens Glendevon Gloss specification/quote for further details and complete design. Please note revisions as per specification as noted below: Colour TBC. Manufacturer: Howdens Joinery Co., 43 Tallon road, Brentwood, Essex, CM13 1TG. Contact: Sales Consultant: Dean Mizzen; Contact No. 01277 263 847		
3.12.9.3	The Contractor is to undertake all measurement and checking of dimensions prior to final decision. The contractor is also set out prior to order ensuring sufficient space and movement around sanitaryware and within cubicles is essential. No responsibly will be taken by the client or CA for inaccurate measurements and drawings are purely indicative and should not be scaled.		
3.12.9.4	Supply and install suitable domestic type cooker hood over hob. Hood to extract to outside and have a stainless-steel finish.		
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3.12.9.5	The client will be providing some white goods, contractor is to provide the necessary connections for the appliances as per the M&E specification and drawings this is to include but not limited to 1no. 4 burner electrical Hob, double height electrical ovens, 1no. under counter fridge & Tea Urn).		
3.12.10	<p><u>Sliding Glass Reception Hatch & Through Desk</u></p> <p>Supply and install desk through reception hatch to be undertaken by carpenter. Drawings: Refer to Reception Hatch detail Glazing of hatch: Sliding glass split 50/50 with S/S trims. Glass to be Pilkington Security to meet BS EN 356: 1999 Minimum Classification: P4A. Size: Refer to drawings Lock: Key lock required Handle: Stainless Steel D-Handle Desk: Works to be designed to suite opening and layout as per the attached drawing to be undertaken by carpenter onsite – to have a full box frame around the window. Box Frame: To perimeter of window built into structural wall. Finish: Fire Rated (60mins) Trespa SGL board – Colour - Blue TBC. Size: Refer to reception hatch detail drawing Microphone: Not required Automated Fire Closer – Required 1hour resistance, specified elsewhere.</p>		
3.12.11	<p><u>Roller Shutters</u></p> <p>Provide and install automatic electric controlled linked to fire alarm system with manual override roller shutters. Roller Shutters must be one-hour fire rated to the reception and kitchen. Shutters to be Cetra security specification.</p> <p>Quantity: 2no. Finish / Colour – Powder Coated / TBC Metal: Galvanised Steel Cetra Security- Electrically controlled roller Security shutters linked to fire alarm with manual override to Manufacturer design and Specification. Website- www.cetrasecurity.co.uk Email- info@cetrasecurity.co.uk Telephone - 08001337044</p>		
To collection:			

		£	p
3.12.12	<u>Theatre, Audio & Visual System (Contractors Design Portion)</u>		
3.12.12.1	<p>Complete Setup for stage and sound system - Audio, Visual & Lighting within a Community Centre</p> <p>Project Location: Billericay</p> <p>Usage – Various / Community Use (Presentations, Sports/ Movie showings, Small community / school shows and the like). Party / wedding celebrations, Church groups, Scouts / Guides / Cubs and Brownies.</p> <p>Area 157m2, Seating for 162 people See attached floorplans</p> <p>Lighting – Via ceiling mounted lighting pole which can be winched / lowered for maintenance – Lighting to be included</p> <p>Audio – Required</p> <p>Computer connection / input: Required</p> <p>Screen – Drop down/ system (Screen size minimum Screen 3mx2.5m and projector unit</p> <p>Integration / Lighting & Audio Mixer desks</p> <p>PA System & Radio Microphone</p> <p>Allow for all cabling and connectors as required for a complete installation.</p>		
3.12.13	<p><u>CCTV, Screens and Monitors</u></p> <p>Supply and fit all necessary bracketry, fixings to support screens where these are to be supplied and fitted by the contractor.</p>		
3.13	SERVICES		
3.13.1	<p>Provide and fix complete all sanitary fittings as scheduled upon the sanitaryware schedule enclosed in the Appendix and as shown upon the drawings and all in accordance with manufacturer's recommendations and in positions as shown upon the drawing.</p> <p>The following sanitaryware manufacturers are to be used without exception:</p> <p>1) Armitage Shanks, Armitage, Rugely, Staffordshire, WS15 4BT, tel. 01543 490253.</p>		
3.13.2	<p>Supply and fit a baby change unit to each accessible WC. Baby change units to be Recessed Horizontal Baby Changing Station from Washware essentials. Product code: WWE-BCSHR.</p>		
3.13.3	<u>Sanitary Installations</u>		
3.13.3.1	<p>Supply and install Bushboard Full Height or equivalent to match existing design on Contract Drawings.</p>		
To collection:			

Vision, form and function

		£	p
3.13.3.5	Cubicles, toilets and sink units are placed in indicative positions as indicated on the Contract Drawings. Contractor to undertake setting out prior to order.		
3.13.3.6	Contractor to allow for all connections and fittings as required.		
3.13.3.7	Provide and fix complete all sanitary fittings in accordance with manufacturer's recommendations and in positions as shown upon the drawing.		
3.13.3.8	Provide and professionally apply (Clear finish TBC) Dow Corning one-part low modulus silicone sealant to all junctions on sanitaryware and finish to a neat fillet.		
3.13.4	<u>IPS / Preplumbed Panel Lining System</u>		
3.13.4.1	Provide and install new purpose-built IPS panels to conceal toilet cisterns to be full height.		
3.13.4.2	All details are to be as shown upon the drawings for boxed-out units, complete with all fittings and fixtures necessary for a complete installation. Also refer to Bushboard specification within the appendix.		
	Type – Bush board or equivalent modular encapsulated IPS unit		
	Finish – To be confirmed.		
	Colour – Panels to be European Oak - BB311 – TBC. HPL Frame to be Welsh Slate – BB275 TBC.		
	Height – To suit ceiling height in room. To finish above suspended ceiling level.		
	Width – To be set out and confirmed on site. Also refer to Contract drawings.		
	Skirting Detail – Standard rebated detail as appropriate for a coved vinyl floor.		
	Sanitary appliances as described elsewhere.		
	Joint Treatment - Seal all joints with Dow Corning sealant as specified elsewhere.		
To collection:			

		£	p
3.13.5	<u>Disposal Installations</u>		
3.13.5.1	Refer to the Civil and Structural Engineer's drawings for drainage underground.		
3.13.5.2	Provide and fix complete Geberit Terrain (01622 717811) uPVC waste pipes to all new sanitaryware as scheduled in accordance with BS EN 12056:2 and Building Regulation Approved Document H. It is the intention that all new wash hand basins shall be connected to the new soil stack as per the Civil Engineers drawings.		
3.13.5.3	All drainage in areas (i.e. all areas with the exception of WC areas) is to be solvent-welded complete with expansion rings installed strictly in accordance with the manufacturer's instructions and recommendations		
3.13.5.4	Allow for all 75mm anti-siphonic trapped wastes, bends, connectors, rodding access caps, etc. 110mm diameter soil pipe system for WC's c/w stub-stacks, s&v pipes, access pipe connector and air admittance valves set above flood level of basins.		
3.13.5.5	32mm diameter waste pipes serving wash hand basins in solvent welded 200-system with swept bends only.		
3.13.5.6	The Contractor shall supply and install intumescent fire collars to all pipework 50mm diameter and above where it penetrates fire rated floors and walls.		
3.13.5.7	All above ground drainage is to be concealed within boxing in / IPS panels and ceiling voids without exception.		
3.13.5.8	Securely fix all pipework plugged and screwed to masonry / metal stud wall with manufacturers recommended retaining clips.		
3.14	BELOW GROUND DRAINAGE		
3.14.1	Before commencing any drainage works check all levels and the positions of the existing drainage runs, inspection chambers and soil and vent pipes. Lift all inspection chamber covers and prepare ready to receive new as specified elsewhere. Report any discrepancies found to the C.A.		
3.14.2	Undertake all modifications to the foul and surface water drainage systems as shown upon the drawings.		
3.14.3	Remove existing manhole covers and frames where required, reduce levels as shown and re-construct with new covers as described elsewhere.		
To collection:			

		£	p
3.14.4	Provide and lay new 100mm diameter Hepworth Building Products Ltd. (tel: 01226 370110) vitrified clay SupaSleve drainage pipes and fittings including easy sweep bends, junctions, bends, connectors, adapters, rest bends etc. all as indicated upon the drawings and all in accordance with the manufacturer instructions.		
3.14.5	Bed and surround all pipework in 150mm pea shingle. Where passing under the building, bed and surround in 150mm pea shingle with bridging details to structural engineer's requirements. Where drain trench is less than 1000mm from the outside edge of the foundation and below the foundation invert level, drainage to be surrounded in concrete to level of underside of foundation.		
3.14.6	Protective sleeves and bridging lintels are to be provided where passing through foundations / walls and in accordance with the structural engineer's drawings. Backfill from top of specified surround of protective material with DOT type 1 fill, laid and compacted inlays not exceeding 300mm thick		
3.14.7	Break into existing manholes and reform benching as required including making good benching in 1:2 cement mortar trowelled smooth.		
3.14.8	Fill all former connections with concrete and make good benching as specified.		
3.14.9	Form new inspection chambers / manholes as indicated upon the drawings constructed from precast concrete units by Marshalls or equivalent and approved complete with step irons and heavy duty cast iron cover. Provide connections to new manholes in ¾ section channel branch bends. Set all bends and channels in 1:2:4 mix concrete benching and finish with 1:2 cement mortar trowelled finish.		
3.14.10	Sizes and depths of manholes to be as stated upon the drawings.		
3.14.11	Provide and bed into position Grade B cast iron covers and frames sized to suit as shown upon the drawings: Marshalls, Landscape House, Premier Way, Lowfields Business Park, Ellend, HX5 9HT		
3.14.12	<u>Testing</u> Carry out testing of all new pipework and inspection chambers in accordance with the following: -		
To collection:			

To collection:

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		£	p
3.16.9	Undertake fire sealing to all compartments as shown upon the drawings. Fire resistance – rating to BS476-20 60/60 and 30/30 as identified. Rating – to BS EN 13501-2 EI60 and EI30. Surface spread of flame to BS476-7 Class O Smoke resistance: air leakage rate (maximum) 10m ³ /hr.		
3.16.10	Products – of contractors choosing: – intumescent foam – intumescent / fire resistant silicone – one-part fire resistant acrylic – two-part fire-resistant polysulphide – intumescent mortars / putties – mineral wool intumescent coated batts		
3.16.11	Supply and install 12mm WBP plywood pattresses at all locations of plant and equipment, behind suspended ceiling tiles etc. to allow safe, secure fixing.		
3.17	EXTERNAL WORKS		
3.17.1	Form all details as shown on external works drawing.		
3.17.2	Set out for and form pathways and paved areas as shown upon the drawings. Edge in brick edgings as shown, haunched in 1:3 cement/sand.		
3.17.3	Ensure that DPC level is maintained at 150mm from external ground level, compact sub-grade and provide and lay 100mm well compacted DOT type 1 sub-base course laid evenly to suit new levels of pathway.		
3.17.4	Allow for trench to perimeter of the building (except to doorways) 75mm wide and filled with smooth pea-shingle.		
3.17.5	Form permeable paved areas to be in a herringbone style with parking denoted in different colours as shown upon the drawings in Tobermore paving as noted below: <ul style="list-style-type: none"> • Pathway to front of building – Hydropave Standard Flag Smooth - Colour TBC • Car Parking – Hydropave 240 (120 x 240mm block) – Colours TBC 		
3.17.6	600 x 600mm PCC paving slabs to paths towards rear of building, as show on drawings. Colour to match that of the paving used to the front of the building.		
To collection:			

To collection:

		£	p
3.17.10	<p><u>Bollards</u></p> <p>Supply and fit in strict accordance with manufacturer's instructions 8No bollards as shown in drawings. Bollards to be Titan Reinforced Stainless Steel Bollard manufactured by Street Furniture Direct. www.streetfurnituredirect.co.uk Tel: 01782 818184 Diameter: 114mm x 1200mm High</p> <p>Titan Reinforced Stainless Steel 114mm diameter bollards to be grade 316 with a semi domed top.</p>		
3.17.11	<p><u>Removable Bollards</u></p> <p>Supply and fit in strict accordance with manufacturer's instructions 3No. removable bollards as shown in drawings. Removable security bollards- 114mm Flat top stainless-steel bollard. https://www.shelterstore.co.uk Tel: 03300574455 Locations: As noted on the drawings, to car park spaces. Diameter: 140mm x 1000mm High Bollards to be grade 316 with a semi domed top.</p>		
3.17.12	<p><u>Corner Protection</u></p> <p>Supply and fit in strict accordance with manufacturer's instructions 1No stainless steel corner guard to exposed edge of glazing to stairwell as shown in drawings. Manufacture Pawling Systems www.pawlingsystems.com Tel: 0845 3556666 Product code: CG50 with 90o corner and satin finish.</p>		
3.17.13	<p><u>Bike Shelter</u></p> <p>Supply and fit in strict accordance with manufacturer's instructions Manufacturer: Bike Dock Solutions - UK Aggregates Ltd, The Factory, 8 Portland Commercial Estate, Ripple Road, Barking, IG11 0TW; info@bikedocksolutions.com, Phone: 0800 612 6113 Product: New York Bike Shelter – 10 Bike Space Stand Size: 2900mm (h) x 4100mm (l) x 2770 (w) Colour: Powder Coated – 6005 Moss Green (TBC prior to order) Roof Finish: 3mm Polycarbonate Panels</p>		
To collection:			

		£	p
3.17.14	<p><u>Entrance Canopy</u></p> <p>Supply and install in strict accordance with manufacturer instructions front entrance canopy – Chemical anchor (Chemfix) Manufacturer: Able Canopies 9 - 11 Faraday Close, Gorse Lane Ind. Estate, Clacton on Sea, Essex CO15 4TR, Tel: 0800 389 9072 Type: Tenby Entrance Canopy: Aluminium Glazed infill panels Colour: Grey - To match windows</p>		
3.17.15	<p><u>Telegraph Pole</u></p> <p>Contractor to liaise with statutory authorities and remove Telegraph pole as indicated on the drawings and make good disturbed surfaces.</p>		
3.17.16	<p><u>External Post Box</u></p> <p>Supply and install wall mounted external fire rated mailbox – In front / OutFront Fire Rating: 60 Minute Required Manufacturer: The safety letterbox company Ltd. The Safety Letterbox Company Ltd. Unit 1B Milland Road Industrial Estate, Milland Road Neath, United Kingdom. SA11 1NJ. contact@safetyletterbox.com Product: Fire Rated 1 Mailbox: In Front / Out Front Vertical Colour: Black (TBC prior to ordering) Quantity: 1no. Dimensions: As standard – 276w x 380h x 120d Position: Approximate locations shown on appended drawings. To be confirmed by client on site. Additional Security Bridge required to comply with Secure by Design.</p>		
3.17.17	<p><u>Flag Poles</u></p> <p>The contractor is to supply and install 2no. external flag poles & flags with suitable foundations. Locations: As per drawings, to be approved by client prior to installation. Manufacture: Flagpole Express Ltd. Heron Court, Quarry Hill Industrial Estate. Merlin Way, Ilkeston, Derbyshire, DE7 4RA Pole Design: 2no. 10m flagpoles with hinged baseplate cover' Colour Silver Grey, with silver finial. Flag Design: 3 no.</p>		
To collection:			

		£	p
3.17.18	<u>External Lighting to Neighbouring Car Park</u>		
	Supply & Install 2No galvanised standard duty 3m lighting columns (75mm diameter shaft x 140mm base), root mount, complete with LED floodlight mounting brackets for 2No LED floodlights per column. LED floodlights on adjustable brackets with backlight shielding as 230V Luceco Slimline 38W 5000K LED Floodlight black die cast aluminium. Existing electrical supply from Harry's Bar to be retained and 'daisy chained' to second column. Existing lighting control to be retained. Electrical installation and final testing to comply with latest revision of BS7671. Position to be as per the appended drawing (approx. 8m apart).		
3.18	SIGNAGE		
3.18.1	Supply and erect aluminium road signs in positions as indicated on drawing.		
3.18.2	Posts: 3.0m grey polyester powder coated 76mm diameter steel posts with proprietary post caps. Posts to be bedded and surrounded in concrete (1:3) 450x450x450mm - 600mm below ground level. Make good surfacing around to match existing.		
3.18.3	Fixing: Stainless steel strap clips secured to proprietary runners fixed to back of signs. Signs to be affixed to posts statutory highway standard heights		
3.18.4	Supply and fix following external signage to comply with the HSE guidance of safety signs: <ul style="list-style-type: none"> - Emergency Escape Route - Fire Assembly Point 		
3.18.5	Supply and erect 4mm Frosted Lucite With High Polished Edge Detail, Reverse Digitally Printed @ Minimum 1800dpi Resolution. Supplied On 3M VHB Tape Fixing Typeface: Euphemia UCAS (Client to confirm prior to manufacture) Colours: PANTONE No. for BTC - Blue #0b2872 and Yellow #ffff0a - as indicated on drawing. (TBC - Client to confirm prior to manufacture)		
3.18.6	Supply and fix following internal and external signage to comply with the HSE guidance of safety signs: <ul style="list-style-type: none"> - Door signage - Toilet signage - Projecting toilet sign - Directional signage - Lift navigation - Fire exit signs - Illuminated Logo sign to main entrance hall <p>Manufacturer: dlinexsign ltd, Unit A Shires Road, Brackley, Northamptonshire, NN13 7EZ, UK email: sales@xsign.com Tel: 01280 841 200.</p> <p style="text-align: right;">To collection:</p>		

		£	p
3.19	SOFT LANDSCAPING AND SHRUBBERY		
3.19.1	The external ground level is to be cut back and filled as necessary to create a level ground to the entire site.		
3.19.2	<p>The contractor is to plant hedging and trees as per the appended Proposed Landscape and External Works Plan which includes the following:</p> <ul style="list-style-type: none"> • 4no. Hawthorne (Crataegus Monogyna) Tree (Size Premium Standard 4.5m) • Field Maple Hedges (Size 150cm + / 2-3year) – Length – full width of site as per drawings 		
3.19.3	<p>Supply and install Marshalls Escofet Icaria tree surround / Tree grille to Hawthorne Tree. Size 1600 x 1200mm Quantity: 4no. Colour: Standard - Silver Manufacturer: Marshalls plc. www.marshalls.co.uk. 44 (0)330 0574472.</p>		
3.19.4	Break out raised kerbs & remove remaining tree roots (2no.) allow to temporarily remove fencing and posts, make good adjoining land where disturbance is caused by removing the roots, reinstate kerbs to fence line and reinstated fencing.		
3.20	SURFACE WATER CONNECTION		
3.20.1	The contractor is to note the surface water connection location and works that will be required to the highway & pedestrian walkway. Allow for all making good to the satisfaction of the highway's authority.		
3.21	HANDOVER & PRACTICAL COMPLETION		
3.21.1	<p><u>Commissioning</u></p> <p>A programme for commissioning of all building services and specialist items is to be prepared by the Main Contractor and approved by the Contract Administrator. The programme shall identify all key dates for commissioning of the building services.</p>		
3.21.2	<p>Energy performance certificate and display energy certificate</p> <p>Provide display energy certificate with valid recommendation report and separate energy performance certificate.</p>		
To collection:			



		£	p
3.21.3	Secured By Design		
	Provide certification for Secured by Design compliance to include certification of manufacture and installation.		
3.21.4	<u>Handover / O&M Manuals</u>		
	Fully developed handover / Operating and Maintenance (O&M) manual information shall be submitted to the Contract Administrator on completion.		
	All O&M information shall be coordinated by the Main Contractor and submitted in the form required (i.e. individual sub-contractors files will not be permitted) as described elsewhere.		
	<u>Failure to undertake the above handover requirements will result in the delay of Practical Completion to the construction contract.</u>		
To collection:			

To General Summary:

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SECTION 4.00 – SCHEDULE OF MECHANICAL & ELECTRICAL WORKS
REFER TO M&E FOLDER

SECTION 5.00 – DAYWORKS



5.0 DAYWORKS:

- 5.1 Where extra work or variations ordered under the relevant clause of the Conditions of Contract cannot in the opinion of the Contract Administrator properly be valued by measurement the Valuation shall be on a daywork basis as defined below.
- 5.2 The Prime Cost of such daywork shall be calculated in accordance with the various sections of 'The Definition of Prime Cost of Daywork Carried Out under a Building Contract' last before issued by the Royal Institution of Chartered Surveyors and the Building Employers Confederation.
- 5.3 The Contractor is to state the labour rates he requires calculated as described and insert the percentage additions for overheads and profit he requires on the prime cost sums for materials and plant.
- 5.4 Vouchers specifying the times daily spent upon the work, showing the workmen's names and trades, work carried out, plant and materials used shall be delivered for verification to the Contract Administrator not later than the end of the week following that in which the work was executed.
- 5.5 *Daywork executed after the Date for Possession and before the date named in the Certificate of Practical Completion for the whole of the works.*
- 5.6 Provide the following prime cost sums for:

Tradesmen – Per hour @	£	x 20 hrs:	
Labourer – Per hour @	£	x 20 hrs:	
Approved Electrician – Per hour @	£	x	20 hrs:
Advanced Plumber/Fitter – Per hour @	£	x 20 hrs:	
MATERIALS as defined in Schedule Section 4 Item			500.00
Overheads and profit %			
PLANT as defined in Schedule Section 5 Item			500.00
Overheads and profit %			

To collection: _____

SECTION 6.00 – PROVISIONAL & PC SUMS

Vision, form and function

SECTION 7.00 - GENERAL SUMMARY



7.00 General Summary to Form of Tender

1.00	Preliminaries and General Conditions	£
2.00	Materials and Workmanship	£
3.00	Schedule of Building Works	£
4.00	Schedule of Mechanical & Electrical Works	£
5.00	Day Works	£
6.00	Provisional & PC Sums	£

TOTAL TO FORM OF TENDER £

Contractor's
Name

Contractor's
Address
.....

Signed

Designation

Date



FORM OF TENDER

Form of Tender

Re: Chantry Centre New Build

To: Billericay Town Council
The Loft, Crown Yard, High Street, Billericay CM12 9BX

Dear Sir,

We have read the Specifications/Schedule of Works supplied and examined the drawings, and having visited the site and being familiar with the contract conditions, do hereby offer to execute and complete the whole of the works specified for the sum of

.....
.....
(£ :)
.....

We confirm that our Daywork rates are as follows: -

Labour
Materials and goods
Plant

In the event of acceptance of this tender we undertake to commence work on and to complete in weeks

We agree to this tender remaining open for acceptance for a period of weeks

Dated this day of 2019

Signed:
Address:
.....
.....

APPENDIX A: DRAWINGS & DOCUMENT REGISTER

APPENDIX B: PRE-CONSTRUCTION INFORMATION

APPENDIX C: COMAR WINDOWS & EXTERNAL DOORS

APPENDIX D: DOOR, FITTINGS, FINISHES & SANITARYWARE SCHEDULES

APPENDIX E: SUB CONSULTANT DESIGNS

APPENDIX F: LIFT SPECIFICATION



APPENDIX G: REPORTS

APPENDIX H: MANUFACTURERS' LITERATURE