TENDER DOCUMENT

For

Repair of Internal & External Building & Grounds

At

Croyland Abbey

Wellingborough

For and on behalf of

Borough Council of Wellingborough

Dated

April 2020

Prepared by
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CONTENTS

SECTION 1
CONTRACT PRELIMINARIES

MW16 Prelims

April 2020

Table of Contents

A10 PROJECT PARTICULARS

110 The Project
Name: Repair of Internal & External Building & Grounds
Nature: Repair and Redecoration
Location: Croyland Abbey, Tithe Barn Road, Wellingborough, Northamptonshire, NN8 1BJ
Length of contract: TBC

120 Employer (Client)
Name: The Borough Council of Wellingborough
Address: Swanspool House, Doddington Road, Wellingborough, NN8 1BP
Telephone: 01933 229777

130 Principal Contractor (CDM)
Name: TBC
Address: TBC
Telephone: TBC

140 Contract Administrator (herein referred to as 'CA')
Name: Underwoods LLP
Address: Shire House, Pyramid Close, Northampton, NN3 8PH
Contact: Alex Manuel
Telephone: 01604 783005

150 Principal Designer
Name: Underwoods LLP
Address: Shire House, Pyramid Close, Northampton, NN3 8PH
Contact: Alex Manuel
Telephone: 01604 783005

A11 TENDER AND CONTRACT DOCUMENTS

110 Tender drawings
The tender drawings are: unnumbered Ground, First and Second Floor Plans (annotated); included in Appendix 1 of the Tender Document.

120 Contract drawings
The Contract Drawings: The same as the tender drawings.

160 Preconstruction information
Format: The Pre-Construction Information is described in these preliminaries in Section A34. It refers to information given elsewhere in the preliminaries and other tender documents.

A12 THE SITE/ EXISTING BUILDINGS

110 The site
Description: Listed building last used as office accommodation spread over three floors with a basement.

120 Existing buildings on/ adjacent to the site
Description: Croyland Hall adjoins the site and is tenanted by a local college.

140 Existing mains and services
Drawings: (Information shown is indicative only): N/A
Other information: N/A

180 Health and safety file
Availability for inspection: the Health and Safety File for the site/ building has not been provided by the Client and so is not available for review.
Other documents: the last Asbestos Survey Report for the building is provided as part of the Tender Documentation, for reference; an Asbestos R&D Survey has been carried out and the report from this will be provided during the Tender Period.
Arrangements for inspection: to be arranged via Alex Manuel on 07392 869 159.

200 Access to the site
Description: vehicle access is via Tithe Barn Road; pedestrian access is via a number of routes from adjacent areas utilising public footpaths and roadways.

210 Parking
Restrictions on parking of the Contractor's and employees' vehicles: there is no dedicated parking on site but there are a small number of general spaces available along Tithe Barn Road; use of local public parking and on nearby on road parking will be required.

220 Use of the site
General: do not use the site for any purpose other than carrying out the Works.
Limitations: N/A

230 Surrounding land/ building uses
General: Adjacent or nearby uses or activities are as follows: retail and other commercial space.

240 Health and safety hazards
General: The nature and condition of the site/ building cannot be fully and certainly ascertained before it is opened up. However, the following hazards are or may be present:
- Asbestos Containing Materials (ACMs)
- other deleterious materials, such as lead paint

Information: the accuracy and sufficiency of this information is not guaranteed by the Employer or the Employer’s representative. Ascertain if any additional information is required to ensure the safety of all persons and the Works.
Site staff: Draw to the attention of all personnel working on the site the nature of any possible contamination and potential risks associated with the works, as well as the need to take appropriate precautionary measures.

250 Site visit
Before tendering: ascertain the nature of the site, access thereto and all local conditions and restrictions likely to affect the execution of the Works.
Arrangements for visit: via Alex Manuel, 07392 869 159.

A13 DESCRIPTION OF THE WORK

110 Preparatory work by others

Works: Carried out under a separate contract and completed before the start of work on site for this Contract.

Description: none.

120 The works

Description: internal repair and basic refurbishment works; isolated external repairs to roofs, elevations and rainwater goods; internal and external repair of previously painted items.

A20 JCT MINOR WORKS BUILDING CONTRACT (MW)

JCT MINOR WORKS BUILDING CONTRACT
The Contract: JCT Minor Works Building Contract 2016.
Requirement: allow for the obligations, liabilities and services described therein against the headings following:

THE RECITALS

First The Works and the Contract Administrator
The work comprises: Repair of Internal & External Building & Grounds
Architect/ Contract Administrator: See clause A10/140.

Second Contract documents
Contract drawings: as listed in clause A11/120.
Contract documents: the following have been prepared which show and describe the work to be done:
- a Schedule of Work
- annotated drawings (as listed above)

Third Priced documents
Documents to be priced or provided by the Contractor: Schedule of Work.

THE ARTICLES

3 Architect/ Contract Administrator
Architect/ Contract Administrator: See clause A10.

4 and 5 Principal Designer/ Principal Contractor
Principal Designer: See clause A10
Principal Contractor: See clause A10

Fourth Recital and clause 4.2 Construction industry scheme (CIS)
Employer at the Base Date
is not a 'contractor' for the purposes of the CIS.

Fifth Recital CDM Regulations
The project is not notifiable.

Article 7Arbitration
Article 7 and Schedule 1 apply.

Clause 1.1 CDM planning period
Shall mean the period of 2 weeks

Clause 2.2 Commencement and Completion
Date for Commencement of the Works: TBC
Date for Completion: TBC

Clause 2.8 Liquidated damages
At the rate of £250 per week or part thereof.

Clause 2.10 Rectification period
Period: 6 months

Clause 4.3Percentage of the total value of the work etc.
Percentage: 95

Clause 4.5Percentage of the total amount to be paid to the Contractor
Percentage: 97.5

Clause 4.8.1Supply of documentation
Period: 1 month

Clause 5.3.2 Contractor's insurance - injury to persons or property
Insurance cover (for any one occurrence or series of occurrences arising out of one event): not less than £5,000,000.00

Clauses 5.4A, 5.4B and 5.4C Insurance of the works etc. - alternative provisions
Clause 5.4C applies:
- Works: the Contractor is to insure the Works for All Risks Insurance in the Joint Names of the Contractor and the Employer
- Existing structures: the Employer is to insure or maintain their insurance of the Existing Structures and notify their insurer of the works which are to take place

Clauses 5.4A.1 and 5.4B.1.2 Percentage to cover professional fees
Addition: 15 per cent.

Clause 7.2Adjudication
The Adjudicator is: to be appointed by the nominating body
Nominator of Adjudicator: President or a Vice president of the Royal Institution of Chartered Surveyors

Schedule 1 paragraph 2.1Arbitration
Appointor of Arbitrator (and of any replacement): President or a Vice president of the Royal Institution of Chartered Surveyors

THE CONDITIONS

Section 1: Definitions and Interpretation

Section 2: Carrying out the Works

Section 3: Control of the Works

Section 4: Payment

Section 5: Injury, Damage and Insurance

Section 6: Termination

Section 7: Settlement of Disputes

A30 TENDERING/ SUBLETTING/ SUPPLY

110 Scope
General: These conditions are supplementary to those stated in the Invitation to Tender and on the form of tender.

145 Tendering procedure
Arithmetical errors: Alternative 2 of the JCT Tendering Practice Note 2012 is to apply (where correction of the tender price is permitted).

160 Exclusions
Inability to tender: Immediately inform if any parts of the work as defined in the tender documents cannot be tendered.
Relevant parts of the work: Define those parts, stating reasons for the inability to tender.

170 Acceptance of tender
The Employer and Employer's representatives:
- Offer no guarantee that any tender will be recommended for acceptance or be accepted, or that reasons for non-acceptance will be given.
- Will not be responsible for any cost incurred in the preparation of any tender.

190 Period of validity
Period: After submission or lodgment, keep tender open for consideration (unless previously withdrawn) for not less than 13 weeks
Date for possession/ commencement: See section A20.

PRICING/ SUBMISSION OF DOCUMENTS

210 Preliminaries in the specification
The Preliminaries/ General conditions sections (A10-A56 inclusive) must not be relied on as complying with SMM7.

250 Priced schedules of work
Alterations: Do not alter or qualify the priced schedules of work without written consent.
Tenders containing unauthorised alterations or qualifications may be rejected.
Measurements: Where not stated, ascertain from the drawings.
Deemed included: Costs relating to items, which are not priced, will be deemed to have been included elsewhere in the tender.
Submit: with tender.

310 Tender
General: Tenders must include for all work shown or described in the tender documents as a whole or clearly apparent as being necessary for the complete and proper execution of the Works.

500 Tender stage method statements
Method statements: prepare, describing how and when the following is to be carried out: works requiring high level access, including: roofs and gutters externally; windows externally; Room 8, First Floor internal repairs; Entrance Porch, Ground Floor ceiling works.
Statements: submit within one week of request.

530 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 the verification requirements of clause A31/200.

550 Health and safety information
Content: Describe the organisation and resources to safeguard the health and safety of operatives, including those of subcontractors, and of any person whom the Works may affect.
Include:

- A copy of the contractor's health and safety policy document, including risk assessment procedures.
- Accident and sickness records for the past five years.
- Records of previous Health and Safety Executive enforcement action.
- Records of training and training policy.
- The number and type of staff responsible for health and safety on this project with details of their qualifications and duties.

Submit: within one week of request.

570 Outline construction phase health and safety plan

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

599 Freedom of Information

Records: retain, make available for inspection and supply on request information reasonably required to allow response to requests made under the provision of the Freedom of Information Act.
Determination: submit requests received; do not supply information to anyone other than the project participants without express written permission.
Confidentiality: maintain at all times.

SUBLETTING/ SUPPLY

630 Domestic subcontracts

General: Comply with the Construction Industry Board 'Code of Practice for the selection of subcontractors'.

A31 PROVISION, CONTENT AND USE OF DOCUMENTS

DEFINITIONS AND INTERPRETATIONS

110 Definitions
Meaning: Terms, derived terms and synonyms used in the preliminaries/ general conditions and specification are as stated therein or in the appropriate British Standard or British Standard glossary.

120 Communication
Definition: Includes advise, inform, submit, give notice, instruct, agree, confirm, seek or obtain information, consent or instructions, or make arrangements.
Format: In writing to the person named in clause A10/140 unless specified otherwise.
Response: Do not proceed until response has been received.

130 Products
Definition: Materials, both manufactured and naturally occurring, and goods, including components, equipment and accessories, intended for the permanent incorporation in the Works.
Includes: Goods, plant, materials, site materials and things for incorporation into the Works.

135 Site equipment
Definition: All appliances or things of whatsoever nature required in or about the construction for completion of the Works but not materials or other things intended to form or forming part of the Permanent Works.
Includes: Construction appliances, vehicles, consumables, tools, temporary works, scaffolding, cabins and other site facilities.

160 Terms used in specification
Remove: Disconnect, dismantle as necessary and take out the designated products or work and associated accessories, fixings, supports, linings and bedding materials. Dispose of unwanted materials. Excludes taking out and disposing of associated pipework, wiring, ductwork or other services.
Fix: Unload, handle, store, place and fasten in position including all labours and use of site equipment.
Supply and fix: Includes all labour and site equipment for unloading, handling, storing and execution. All products to be supplied and fixed unless stated otherwise.
Keep for reuse: Do not damage designated products or work. Clean off bedding and jointing materials. Stack neatly, adequately protect and store until required by the Employer or for use in the Works as instructed.
Make good: Execute local remedial work to designated work. Make secure, sound and neat. Excludes redecoration and/ or replacement.
Replace: Supply and fix new products matching those removed. Execute work to match original new state of that removed.
Repair: Execute remedial work to designated products. Make secure, sound and neat. Excludes redecoration and/ or replacement.
Refix: Fix removed products.
Ease: Adjust moving parts of designated products or work to achieve free movement and good fit in open and closed positions.
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.
System: Equipment, accessories, controls, supports and ancillary items, including installation, necessary for that section of the work to function.

170 Manufacturer and product reference

Definition: When used in this combination:
- Manufacturer: The firm under whose name the particular product is marketed.
- Product reference: The proprietary brand name and/ or reference by which the particular product is identified.

Currency: References are to the particular product as specified in the manufacturer's technical literature current on the date of the invitation to tender.

200 Substitution of products

Products: If an alternative product to that specified is proposed, obtain approval before ordering the product.
Reasons: Submit reasons for the proposed substitution.
Documentation: Submit relevant information, including:
- 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/ guarantee.

Alterations to adjacent work: If needed, advise scope, nature and cost.
Manufacturers' guarantees: If substitution is accepted, submit before ordering products.

210 Cross references

Accuracy: Check remainder of the annotation or item description against the terminology used in the section or clause referred to.
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 referred to specification section dealing with general matters, ancillary products and execution also apply.
Discrepancy or ambiguity: Before proceeding, obtain clarification or instructions.

220 Referenced documents

Conflicts: Specification prevails over referenced documents.

230 Equivalent products

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

250 Currency of documents

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

260 Sizes

General dimensions: Products are specified by their coordinating sizes.
Timber: Cross section dimensions shown on drawings are:
- Target sizes as defined in BS EN 336 for structural softwood and hardwood sections.
- Finished sizes for non-structural softwood or hardwood sawn and further processed sections.

DOCUMENTS PROVIDED ON BEHALF OF THE EMPLOYER

410 Additional copies of drawings/ documents
Additional copies: Issued free of charge.

440 Dimensions
Scaled dimensions: Do not rely on.

450 Measured quantities
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.

460 The specification
Coordination: All sections must be read in conjunction with Main Contract Preliminaries/ General conditions.

DOCUMENTS PROVIDED BY CONTRACTOR/ SUBCONTRACTORS/ SUPPLIERS

630 Technical literature
Information: Keep on site for reference by all supervisory personnel:
- Manufacturers' current literature relating to all products to be used in the Works.
- Relevant British, EN or ISO Standards.

640 Maintenance instructions and guarantees
Components and equipment: Obtain or retain copies, register with manufacturer and hand over on or before completion of the Works.
Information location:
Emergency call out services: Provide telephone numbers for use after completion.
Extent of cover: office hours only.

A32 MANAGEMENT OF THE WORKS

GENERALLY

110 Supervision
General: Accept responsibility for coordination, supervision and administration of the Works, including subcontracts.
Coordination: Arrange and monitor a programme with each subcontractor, supplier, local authority and statutory undertaker, and obtain and supply information as necessary for coordination of the work.

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

130 Insurance claims
Notice: If any event occurs which may give rise to any 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 named in clause A10/140 and the Insurers.
Failure to notify: Indemnify the Employer against any loss, which may be caused by failure to give such notice.

140 Climatic conditions
Information: Record accurately and retain:
- Daily maximum and minimum air temperatures (including overnight).
- Delays due to adverse weather, including description of the weather, types of work affected and number of hours lost.

150 Ownership
Alteration/ clearance work: Materials arising become the property of the Contractor except where otherwise stated. Remove from site as work proceeds.

210 Programme
Master programme: Immediately when requested and before starting work on site submit in an approved form a master programme for the Works, which must include details of:
- Planning and mobilisation by the Contractor
- Subcontractor's work.
- Running in, adjustment, commissioning and testing of all engineering services and installations.
- Work resulting from instructions issued in regard to the expenditure of provisional sums.
- Work by others concurrent with the Contract.

Submit one copy.

245 Start of work on site
Notice: Before the proposed date for start of work on site give minimum notice of two weeks.

250 Monitoring
Progress: Record on a copy of the programme kept on site.
Avoiding delays: If any circumstances arise which may affect the progress of the Works submit proposals or take other action as appropriate to minimise any delay and to recover any lost time.

260 Site meetings
General: Site meetings will be held to review progress and other matters arising from administration of the Contract.
Frequency: Fortnightly.
Location: Site
Accommodation: Ensure availability at the time of such meetings.
Attendees: attend meetings and inform sub-contractors and suppliers when their presence is required.
Chairperson (who will also take and distribute minutes): Contract Administrator

290 Notice of completion

Requirement: Give notice of the anticipated dates of completion of the whole or parts of the Works.
Associated works: Ensure necessary access, services and facilities are complete.
Period of notice (minimum): two weeks.

310 Extensions of time

Notice: When a notice of the cause of any delay or likely delay in the progress of the works is given under the contract, written notice must also be given of all other causes which apply concurrently.
Details: As soon as possible submit:
- Relevant particulars of the expected effects, if appropriate, related to the concurrent causes.
- An estimate of the extent, if any, of the expected delay in the completion of the Works beyond the date for completion.
- All other relevant information required.

420 Removal/ replacement of existing work

Extent and location: Agree before commencement.
Execution: Carry out in ways that minimise the extent of work.

430 Proposed instructions

Estimates: If a proposed instruction requests an estimate of cost, submit without delay and in any case within seven days.

440 Measurement

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

460 Interim valuations

Applications: Include details of amounts requested under the Contract together with all necessary supporting information.
Submission: At least seven days before established dates.

470 Products not incorporated into the Works

Ownership: At the time of each valuation, supply details of those products not incorporated into the Works which are subject to any 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.

A33 QUALITY STANDARDS/ CONTROL

STANDARDS OF PRODUCTS AND EXECUTIONS

110 Incomplete documentation

General: Where and to the extent that products or work are not fully documented, they are to be:
- Of a kind and standard appropriate to the nature and character of that part of the Works where they will be used.
- 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 any obligations or liabilities under the Contract.

120 Workmanship skills

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

130 Quality of products

Generally: New. (Proposals for recycled products may be considered).
Supply of each product: From the same source or manufacturer.
Whole quantity of each product required to complete the Works: 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.

135 Quality of execution

Generally: Fix, apply, install or lay products securely, accurately, plumb, neatly and in alignment.
Colour batching: Do not use different colour batches where they can be seen together.
Dimensions: Check on-site dimensions.
Finished work: Without defects, e.g. not damaged, disfigured, dirty, faulty, or out of tolerance.
Location and fixing of products: Adjust joints open to view so they are even and regular.

140 Compliance

Compliance with proprietary specifications: Retain on site evidence that the proprietary product specified has been supplied.
Compliance with performance specifications: Submit evidence of compliance, including test reports indicating:
- Properties tested.
- Pass/ fail criteria.
- Test methods and procedures.
- Test results.
- Identity of testing agency.
- Test dates and times.
- Identities of witnesses.
- Analysis of results.

150 Inspections

Products and executions: Inspection or any other action must not be taken as approval unless confirmed in writing referring to:
- Date of inspection.
- Part of the work inspected.
- Respects or characteristics which are approved.
- Extent and purpose of the approval.
- Any associated conditions.

160 Related work

Details: Provide all trades with necessary details of related types of work. Before starting each new type or section of work ensure previous related work is:
- Appropriately complete.
- In accordance with the project documents.
- To a suitable standard.
- In a suitable condition to receive the new work.

Preparatory work: Ensure all necessary preparatory work has been carried out.

170 Manufacturer's recommendations/ instructions

General: Comply with manufacturer's printed recommendations and instructions current on the date of the Invitation to tender.
Changes to recommendations or instructions: Submit details.
Ancillary products and accessories: Use those supplied or recommended by main product manufacturer.
Agrément certified products: Comply with limitations, recommendations and requirements of relevant valid certificates.

180 Water for the works

Mains supply: Contractor is permitted to use the Employer’s supply on site free of charge.

210 Samples

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

220 Approval of products

Submissions, samples, inspections and tests: Undertake or arrange 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.
Complying sample: Retain in good, clean condition on site. Remove when no longer required.

230 Approval of execution

Submissions, samples, inspections and tests: Undertake or arrange 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.
Complying sample: Retain in good, clean condition on site. Remove when no longer required.

ACCURACY/ SETTING OUT GENERALLY

320 Setting out

General: Submit details of methods and equipment to be used in setting out the Works, where required.
Levels and dimensions: Check and record the results on a copy of drawings. Notify discrepancies and obtain instructions before proceeding.
Inform: When complete and before commencing construction.

330 Appearance and fit

Tolerances and dimensions: If likely to be critical to execution or difficult to achieve, as early as possible either:
- Submit proposals; or
- Arrange for inspection of appearance of relevant aspects of partially finished work.

General tolerances (maximum): To BS 5606, tables 1 and 2.

360 Record drawings

Site setting out drawing: Record details of all grid lines, setting-out stations, benchmarks and profiles. Retain on site throughout the contract and hand over on completion.

SERVICES GENERALLY

410 Services regulations
New or existing services: Comply with the Byelaws or Regulations of the relevant Statutory Authority.

420 Water regulations/ byelaws notification
Requirements: Notify Water Undertaker of any work carried out to or which affects new or existing services and submit any 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.

430 Water regulations/ byelaws contractor's certificate
On completion of the work: Submit (copy where also required to the Water Undertaker) a certificate including:
- The address of the premises.
- A brief description of the new installation and/ or work carried out to an existing installation.
- The Contractor's name and address.
- A statement that the installation complies with the relevant Water Regulations or Byelaws.
- The name and signature of the individual responsible for checking compliance.
- The date on which the installation was checked.

435 Electrical installation certificate
Submit: when relevant electrical work is completed.
Original certificate: to be lodged in the Building Manual.

440 Gas, oil and solid fuel appliance installation certificate
Before the completion date stated in the Contract: Submit a certificate stating:
- The address of the premises.
- A brief description of the new installation and/ or work carried out to an existing installation.
- Any special recommendations or instructions for the safe use and operation of appliances and flues.
- The Contractor's name and address.
- A statement that the installation complies with the appropriate safety, installation and use regulations.
- The name, qualification and signature of the competent person responsible for checking compliance.
- The date on which the installation was checked.

Certificate location: Building Manual

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

450 Mechanical and electrical services
Final tests and commissioning: Carry out so that services are left in a safe and suitable condition for a vacant building at completion of the Works.
All works to be in accordance with the specification and associated drawings.
Building Regulations notice: not applicable as the scope of work is for isolated strip out and repair only.

525 Access
Extent: Provide at all reasonable times access to the Works and to other places of the Contractor or subcontractors where work is being prepared for the Contract.

530 Overtime working

Notice: Prior to overtime being worked, submit details of times, types and locations of work to be done.

Concealed work: If executed during overtime for which notice has not been given, it may be required to be opened up for inspection and reinstated at the Contractor's expense.

540 Defects in existing work

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 work; or
- Be rendered abortive by remedial work.

560 Tests and inspections

Timing: Agree and record dates and times of tests and inspections to enable all affected parties to be represented.

Confirmation: One working day prior to each such 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.

610 Defective products/ executions

Proposals: Immediately any work or product is known, or appears, to be not in accordance with the Contract, submit proposals for opening up, inspection, testing, making good, adjustment of the Contract Sum, or removal and re-execution.

Acceptability: Such proposals may be unacceptable and contrary instructions may be issued.

SERVICES GENERALLY

710 Work before completion

General: Make good all damage consequent upon the Works.

Temporary markings, coverings and protective wrappings: Remove unless otherwise instructed.

Cleaning: Clean the Works thoroughly inside and out, including all accessible ducts and voids. Remove all 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 all 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.

720 Security at completion

General: Leave the Works secure with, where appropriate, all accesses closed and locked.

Keys: Account for and adequately label all keys and hand over to Employer with itemised schedule, retaining duplicate schedule signed by Employer as a receipt.

730 Making good defects

Rectification: Give reasonable notice for access to the various parts of the Works.

Completion: Notify when remedial works have been completed.

A34 SECURITY/ SAFETY/ PROTECTION

110 Preconstruction information

Location: Integral with the project Preliminaries, including but not restricted to the following sections:
- Description of project: Sections A10 and A11.
- Client's consideration and management requirements: Sections A12, A13 and A36.
- Environmental restrictions and on-site risks: Section A12, A35 and A34.
- Significant design and construction hazards: Section A34.
- The Health and Safety File: Section A37.

130 Product hazards

Hazardous substances: Site personnel levels must not exceed occupational exposure standards and maximum exposure limits stated in the current version of HSE document EH40: Occupational Exposure Limits.
Common hazards: Not listed. Control by good management and site practice.
Significant hazards: Specified construction materials include the following:

140 Construction phase health and safety plan

Submission: Present to the Principal Designer/ Client no later than one week before works commence.
Confirmation: Do not start construction work until the Principal Designer/Employer has confirmed in writing 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, clause A30/570, and the Pre-Construction Information.

150 Security

Protection: Safeguard the site, the Works, products, materials, and any existing buildings affected by the Works from damage and theft.
Access: Take all reasonable precautions to prevent unauthorised access to the site, the Works and adjoining property.
Special requirements: ensure the property’s alarm is set at the end of each of working day.

160 Stability

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

200 Mobile telephones and portable electronic equipment

Restrictions on use: in designated areas only.

330 Noise control

Standard: Comply generally with the recommendations of BS 5228-1, clause 9.3 to minimise noise levels during the execution of the Works.
Equipment: Fit compressors, percussion tools and vehicles with effective silencers of a type recommended by manufacturers of the compressors, tools or vehicles.
Restrictions: Do not use:
- Radios or other audio equipment or permit employees to use in ways or at times that may cause nuisance.

210 Employer’s representatives site visits

Safety: Submit details in advance, to the Employer or the person identified in clause A10/140, of safety provisions and procedures (including those relating to materials, which may be deleterious), which will require their compliance when visiting the site.
Protective clothing and/ or equipment: Provide and maintain on site for the Employer and the person stated in clause A10/140 and other visitors to site.

340 Pollution

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

350 Pesticides
Use: Not permitted.

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

370 Asbestos containing materials
Duty: Report immediately any suspected materials discovered during execution of the Works.
- Do not disturb.
- Agree methods for safe removal or encapsulation.

375 Antiquities
Duty: Report immediately any 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.

371 Dangerous or hazardous substances
Duty: Report immediately any suspected materials discovered during the execution of the Works.
- Do not disturb.
- Agree methods for safe removal or remediation.

380 Fire prevention
Duty: Prevent personal injury or death, and damage to the Works or other property from fire.
Standard: Comply with Joint Code of Practice 'Fire Prevention on Construction Sites', published by the Construction Confederation and The Fire Protection Association (The 'Joint Fire Code').

390 Smoking on site
Smoking on site: Not permitted.

400 Burning on site
Burning on site: Not permitted.

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

430 Waste
Includes: Rubbish, debris, spoil, containers and surplus material.
Minimise: Keep the site and Works clean and tidy.
Remove: Frequently and dispose off site in a safe and competent manner:
- Non-hazardous material: In a manner approved by the Waste Regulation Authority.
- Hazardous material: As directed by the Waste Regulation Authority and in accordance with relevant regulations.
Voids and cavities in the construction: Remove rubbish, dirt and residues before closing in.
Waste transfer documentation: Retain on site.

440 Electromagnetic interference
Duty: Prevent excessive electromagnetic disturbance to apparatus outside the site.

510 Existing services
Confirmation: Notify all service authorities, statutory undertakers and/ or adjacent owners of proposed works not less than one week before commencing site operations.
Identification: Before starting work, check and mark positions of mains/ 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/ statutory undertaker's recommendations.

- Adequately protect, and prevent damage to services: Do not interfere with their operation without consent of service authorities/ statutory undertakers or other owners.
Identifying services:
- Below ground: Use signboards, giving type and depth;
- Overhead: Use headroom markers.
Damage to services: If any results from execution of the Works:
- Immediately give notice and notify appropriate service authority/ statutory undertaker.
- Make arrangements for the work to be made good without delay to the satisfaction of service authority/ statutory undertaker or other owner as appropriate.
- Any 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/ statutory undertaker's recommendations.

520 Roads and footpaths

Duty: Maintain roads and footpaths within and adjacent to the site and keep clear of mud and debris.
Damage caused by site traffic or otherwise consequent upon the Works: Make good to the satisfaction of the Employer, Local Authority or other owner.

530 Existing topsoil/ subsoil

Duty: N/A

540 Retained trees/ shrubs/ grassed areas

Protection: Preserve and prevent damage, except those not required.
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.

560 Existing features

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.

570 Existing work

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

580 Building interiors

Protection: Prevent damage from exposure to the environment, including weather, flora, fauna, and other causes of material degradation during the course of the work.

625 Adjoining property restrictions

Precautions:
- Prevent trespass of workpeople and take precautions to prevent damage to adjoining property.
- Pay all charges.
- Remove and make good on completion or when directed.
Damage: Bear cost of repairing damage arising from execution of the Works.

630 Existing structures

Duty: Check proposed methods of work for effects on adjacent structures inside and outside the site boundary.
Supports: During execution of the Works:
- Provide and maintain all incidental shoring, strutting, needling and other supports as may be necessary to preserve stability of existing structures on the site or adjoining, that may be endangered or affected by the Works.
- Do not remove until new work is strong enough to support existing structure.
- Prevent overstressing of completed work when removing supports.
Adjacent structures: Monitor and immediately report excessive movement.
Standard: Comply with BS 5975 and BS EN 12812.

640 Materials for recycling/ reuse

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.

A36 FACILITIES/ TEMPORARY WORK/ SERVICES

GENERALLY

110 Spoil heaps, temporary works and services
Location: Give notice of intended siting.
Maintenance: Alter, adapt and move as necessary. Remove when no longer required and make good.

230 Temporary accommodation
Facilities: Contractor is to provide their own sanitary and welfare accommodation for the duration of the Works, owing to the sanitary and kitchen accommodation within the property being non-functional and will be removed as part of the Works; however, use of a designated part of the property can be made for a general rest room, drying room, office and meeting facilities for the Contractor and their operatives.
Contractor is responsible for keeping welfare facilities operable at all times.

340 Name boards/ advertisements
Name boards/ advertisements: Permitted for the duration of the Works in a location to be specified and agreed with the Employer.
A proposed design is to be submitted to the CA prior to works commencing.

420 Lighting and power
Supply: Electricity is available onsite and can be used by the contractor for the Works providing this is not excessive and should be tested prior to use by a qualified electrical engineer. Meter readings are to be taken on commencement of the works and at Practical Completion to confirm the amount used.
Continuity: The Employer will not be responsible for the consequences of failure or restriction in supply.

430 Water
Supply: Water is available onsite and can be used by the contractor for the Works providing this is not excessive and should be tested prior to use by a qualified engineer to ensure it is fit for purpose. Meter readings are to be taken on commencement of the works and at Practical Completion to confirm the amount used.
Continuity: The Employer will not be responsible for the consequences of failure or restriction in supply.

440 Telephones
Direct communication: As soon as practicable after the Date of Possession provide the Contractor's person in charge with a mobile telephone.

570 Personal protective equipment
General: Provide for the sole use of those acting on behalf of the Employer, in sizes to be specified:
- Safety helmets to BS EN 397, neither damaged nor time expired.
- High visibility waistcoats to BS EN 471 Class 2.
- Safety boots with steel insole and toecap to BS EN ISO 20345.
- Disposable respirators to BS EN 149.FFP1S.
- Eye protection to BS EN 166.
- Ear protection – ear muffs to BS EN 352-1, plugs to BS EN 352-2
- Hand protection - to BS EN 388, 407, 420 or 511 as appropriate.

A37 OPERATION/ MAINTENANCE OF THE FINISHED WORKS

110 The building manual

Responsibility: The Contractor
Content: Obtain and provide comprehensive information for owners and users of the completed Works. Include an overview of the Works and describe key components and systems within the finished Works, including all such items to enable efficient and safe operation and maintenance.
Specific requirements: None.
Format: Electronic.
Number of copies: One.
Delivery to: The CA.
Delivery by: No later than two weeks from the date of Practical Completion.

115 The Health and Safety File

Responsibility: The Principal Designer
Content: Obtain and provide the following information:
- A summary of the scope of work
- As built drawings insofar as they are applicable to the scope of work
- Details of any alterations to the services
- Product information for items installed as part of the Works
- Operation and Maintenance instructions for relevant items incorporated in the Works
- Guarantees and warranties where applicable
- Test certificates and reports

Format: Electronic.
Delivery to: The Employer.
Delivery by: No later than four weeks from the date of Practical Completion.

A40 CONTRACTOR'S GENERAL COST ITEMS: MANAGEMENT AND STAFF

110 Management and staff

Details: The Contractor is to provide a full-time working site foreman to ensure smooth running of the Works and regular liaison with the CA.

Cost significant items: None.

A41 CONTRACTOR'S GENERAL COST ITEMS: SITE ACCOMMODATION

110 Site accommodation

Details: Site accommodation required not made available by the Employer, and as such the contractor will need to provide as necessary: refer to clause A36/230.

Cost significant items: sanitary accommodation; kitchen facilities.

A42 CONTRACTOR'S GENERAL COST ITEMS: SERVICES AND FACILITIES

110 Services and facilities

Details: Services or facilities required or made/ not made available by the Employer: and as such the contractor will need to provide as necessary: refer to clauses A36/420 and A36/430.

Cost significant items: None.

SECTION 2
PREAMBLES AND WORKMANSHIP CLAUSE

D1 BRICK/BLOCK WALLING

TYPE(S) OF WALLING

D1.1 CLAY FACING BRICKWORK
- Bricks: To BS 3921.

D1.2 CALCIUM SILICATE FACING BRICKWORK
- Bricks: To BS 187

D1.3 CONCRETE FACING BRICKWORK
- Bricks: To BS 6073:Part 1.

D1.4 SECOND HAND FACING BRICKWORK _
- Bricks: Second hand bricks free from deleterious matter such as mortar, plaster, paint, bituminous materials and organic growths. Bricks to be sound, clean and reasonably free from cracks and chipped arrises.

D1.5 CONCRETE FACING BLOCKWORK
- Blocks: to BS 6073:Part 1.

D1.6 CLAY COMMON BRICKWORK
- Bricks: To BS 3921.

D1.7 CALCIUM SILICATE COMMON BRICKWORK
- Bricks: To BS 187,

D1.8 CONCRETE COMMON BRICKWORK
- Bricks: To BS 6073:Part 1.

D1.9 CONCRETE COMMON BLOCKWORK
- Blocks: to BS 6073:Part 1.

D1.10 ENGINEERING BRICKWORK
- Bricks: To BS 3921,

D1.11 DAMP PROOF COURSE BRICKWORK:
- Bricks: To BS 3921,

WORKMANSHIP GENERALLY

D1.12 RELATED WORK is specified in the following sections:

D1.13 SITE STORAGE: Store bricks/blocks in stable stacks clear of the ground and clearly identified by type, strength, grade, etc. Protect from adverse weather and keep clean and dry.

D1.14 CONDITIONING OF BRICKS:
- Do not use clay bricks or calcium silicate bricks when still warm from the manufacturing process.
- In dry warm weather wet the surfaces of very absorbent bricks slightly to reduce suction. Do not soak.

D1.15 CONDITIONING OF CONCRETE BRICKS/BLOCKS:
- Do not use autoclaved concrete bricks/blocks when still warm from the manufacturing process.
- Do not use nonautoclaved concrete bricks/blocks until at least four weeks after casting.

- Do not wet concrete bricks or blocks before laying; use an approved water retaining admixture in the mortar to counteract suction.

D1.16 LAYING GENERALLY:
- Lay bricks/blocks on a full bed of mortar; do not furrow. Fill all cross joints and collar joints; do not tip and tail.
- Build walls in stretching half lap bond when not specified otherwise.
- Plumb perpends of facework every third or fifth cross joint along a course and even out the joint widths in between.

D1.17 HEIGHT OF LIFTS:
- Rack back when raising quoins and other advance work.
  Do not use toothing.
- Raise no portion of the work more than 1.2 m above another at any time.
- In facework, complete each lift in one period of operation.
- Do not carry up any one leaf more than 1.5 m in one day unless permitted by the CA.

D1.18 LEVELLING OF SEPARATE LEAVES: Bring both leaves of cavity walls to the same level at:
- Every course containing vertical twist type ties or other rigid ties
- Every third tie course for double triangle/butterfly ties
- Courses in which lintels are to be bedded.

D1.19 COURSING: Gauge brick courses four to 300 mm including joints.

D1.20 COURSING: Arrange brick courses to line up with existing work.

D1.21 SUPPORT OF EXISTING WORK: Where new lintels or walling are to support existing structure, completely fill top joint with semidry mortar, hard packed and well rammed to ensure full load transfer after removal of temporary supports.

D1.22 BRICKWORK TO RECEIVE ASPHALT DPC: Finish flush with mortar to give a smooth level bed.

D1.23 BLOCK BOND new walls to existing, by cutting pockets into existing walls, not less than 100 mm deep, the full thickness of the new wall, and vertically as follows:
Brick to brick: 4 courses high at 8 course centres.
Block to block: Every other course.
Bond new walling into pockets with all voids filled solid with mortar.

D1.24 JOINTING: When not specified otherwise, finish joints neatly to the specified profile(s) as the work proceeds.

D1.25 UNEXPOSED JOINTS: As the work proceeds, strike off joints that will not be exposed to view in the finished work.

D1.26 JOINTS IN MASONRY TO BE PLASTERED OR RENDERED: Unless keyed units or metal lathing are used, rake out joints as work proceeds, to a depth of approximately 15 mm.

D1.27 POINTING: Where specified, rake out joints to a depth of 12-15 mm as the work proceeds. Subsequently, remove loose debris from the joints using a dry brush, dampen the work, and neatly point to the specified profile in a continuous operation from the top of the wall downwards as the scaffolding is taken down.

D1.28 FIRE STOPPING: Fill joints around joist ends built into cavity walls with mortar to seal cavities from interior of building.

D1.29 FIRE STOPPING: Ensure a tight fit between brickwork and cavity barriers to prevent fire and smoke penetration.

D1.30 ADVERSE WEATHER:
- Do not use frozen materials.
- Do not lay bricks/blocks when the air temperature is at or below 3 degC unless mortar has a minimum temperature of 4 degC when laid and walling is protected. Do not lay mortar on frozen surfaces.
- Maintain temperature of the work above freezing until mortar has fully hardened.
- Rake out and replace mortar damaged by frost. When instructed, rebuild damaged work.
- Protect newly erected walling against rain and snow by covering when precipitation occurs, and at all times when the work is not proceeding.

ADDITIONAL REQUIREMENTS FOR FACEWORK

D1.31 THE TERM FACEWORK, where used in this specification, applies to all brick/block walls finished fair. Where any facework is to be painted, the only specification requirement to be waived is that relating to colour.

D1.32 REFERENCE PANEL(S): Prepare panel(s) as set out below and, after drying out, obtain approval of appearance before proceeding. Construct panels in an approved location using randomly sampled bricks/blocks but rejecting any that are damaged.

D1.33 COLOUR MIXING:
- Agree with manufacturer and CA methods for ensuring that the supply of facing bricks/blocks is of a consistent, even colour range, batch to batch and within batches.
- Check each delivery for consistency of appearance with previous deliveries and with approved samples or reference panels; do not use if variation is excessive.
- Mix units from different packs and deliveries which vary in colour to avoid patches, horizontal stripes and racking back marks in the finished work.

D1.34 APPEARANCE:
- Select bricks/blocks with unchipped arrises. Cut with a masonry saw where cut edges will be exposed to view.
- Set out and lay bricks to match appearance of relevant approved reference panel(s).
- Keep courses evenly spaced using gauge rods. Set out carefully to ensure satisfactory junctions and joints with adjoining or built-in elements and components.
- Protect facework against damage and disfigurement during the course of the works, particularly arrises of openings and corners.

D1.35 GROUND LEVEL: Facework to start not less than 150 mm below finished level of external paving or soil except where shown otherwise.

D1.36 PUTLOG SCAFFOLDING to facework will not be permitted.

D1.37 TOOTHED BOND: Except where a straight vertical joint is specified, new and existing facework in the same plane to be bonded together at every course to give a continuous appearance.

D1.38 BRICK SILLS/CAPPINGS: Bed solidly in mortar with vertical joints completely filled. Press mortar firmly into exposed joints and finish neatly.

D1.39 CLEANLINESS: Keep facework clean during construction and thereafter until Practical Completion. Turn back scaffold boards at night and during heavy rain. If, despite precautions, mortar marks are deposited on the face of masonry units, leave to dry then remove with a stiff brush. Rubbing to remove marks or stains will not be permitted.

D1.40 CRACKED BRICKS in existing facework to be cut out and replaced with matching bricks bedded incement: lime:sand mortar, before repointing adjacent cracked joints as specified.

D1.41 CRACKED JOINTS in existing facework which is not to be repointed: joints with cracks to be cut out to form a square recess of 15-20 mm depth. Remove dust, lightly wet and neatly point in cement: lime:sand mortar to match existing work.

D1.42 REPOINTING: Where specified carefully rake out existing joints by hand to form a square recess of 15-20 mm depth. Remove dust, lightly wet and neatly point in cement:lime: sand mortar in a continuous operation.

D3 NATURAL STONE RUBBLE WALLING

GENERAL REQUIREMENTS

D3.1 ADVANCE REGISTRATION: Obtain stone registered in advance by the Employer from the supplier(s) specified above. Supersede the Employer's registration and take over responsibility by an order to the supplier covering price, supply and delivery to suit the progress of the work.

D3.2 OPERATIVES: Cutting, dressing, laying and jointing of stone to be carried out by skilled masons. Provide evidence of previous experience and details of work previously carried out.

D3.3 APPEARANCE: Make arrangements for the CA to inspect samples of dressed stone which represent the range of variation in appearance. Obtain approval of appearance before placing orders with suppliers or proceeding with production.

LAYING AND JOINTING

D3.4 REFERENCE PANEL: Prepare a sample panel, and obtain approval of appearance before proceeding.

D3.5 PROTECTION:
- Store stone clear of the ground, protect from inclement weather and keep dry. Prevent soiling, chipping and contamination by salts and other deleterious substances.
- Prevent timber bearers, protective boards, etc. from staining facings in wet conditions by wrapping with polyethylene.
- Prevent damage and disfigurement to stonework during the course of the works. Ensure that arrises and projecting features are protected using securely fixed slats, boards, etc. Remove at Practical Completion.

D3.6 ADVERSE WEATHER:
- Do not use frozen materials and do not lay on frozen surfaces.
- Do not lay stones when air temperature is at or below 3 degC. unless mortar has a minimum temperature of 4 degC when laid and walling is protected.
- Maintain temperature of the work above freezing until mortar has fully set.
- Adequately protect newly erected walling against rain and snow by covering when precipitation occurs and at the completion of each days work.
- Rake out and replace mortar damaged by frost and where instructed, rebuild damaged work.

D3.7 LAYING:
- Lay stones on their natural bed on a full even bed of mortar with all joints filled and between 12-18 mm wide. Evenly distribute different shapes, sizes and colours throughout the face of the wall to give a consistent overall appearance and good bond with no long continuous vertical joints.
- Accurately plumb all wall faces, angles and features. Set out carefully to ensure satisfactory junctions and joints with adjoining or built-in elements and components.
- Keep stonework clean during construction and until Practical Completion. Ensure that no mortar encroaches on face when laying. Turn back scaffolding boards at night and during heavy rain. Rubbing to remove marks or stains will not be permitted.

D3.8 GROUND LEVEL: Facing stonework to start not less than 150 mm below finished level of external paving or soil except where shown otherwise.

D3.9 HEIGHT OF LIFTS: Carry up work with no portion more than 1.2 m above another at any time, racking back between levels. Do not carry up work higher than 1.5 m in one day.

D3.10 PUTLOG SCAFFOLDING will not be permitted.

D3.11 CAVITY WALLS: Dress stones to give a consistent thickness of leaf and ensure that specified width of cavity is maintained throughout.

D3.12 QUOINS AND JAMBS: Select large stones for quoins and jambs and carefully dress to a more regular shape. Set out and build up in advance of main body of rubble walling.

D3.13 BONDERS: In walls which are faced both sides build in bonding stones of a length two thirds the thickness of the wall, one to every square metre of each side of the wall and staggered.

D3.14 COURSED WORK: Keep courses true to line and level.

D3.15 JOINTING: Finish exposed joints neatly and consistently as the work proceeds. After the initial set has taken place, stipple joints with a stiff brush to remove laitence and give a coarse texture.

D6 ACCESSORIES/SUNDRY ITEMS FOR BRICK/BLOCK/STONE WALLING

CAVITIES

D6.1 CONCRETE FILL: Fill cavities with concrete up to 225 mm below ground level dpc. Concrete mix to BS 5328, Designated mix GEN 3 or Standard mix ST4, high workability.

D6.2 CLEANLINESS: Clean off surplus mortar from joints on cavity faces as the work proceeds. Keep cavities, ties and dpcs free from mortar and debris with laths or other suitable means.

D6.3 WEEP HOLES:
- Form with plastics perpend units colour to match brickwork to manufacturer's recommendations at 900 mm centres immediately above base of cavity, external openings and stepped dpcs. Provide not less than two weep holes over openings.

D6.4 FULL FILL CAVITY INSULATION:
- Insulation: Mineral fibre batts to BS 6676:Part 1 or Agrément certified.
  Size to suit wall tie spacing,
- Store, handle and install to BS 6676:Part 2, clauses 4 and 5, ensuring that no gaps are left in the insulation layer. Keep insulation dry and free from mortar droppings, grout and other debris during the course of construction.

D6.5 PARTIAL FILL CAVITY INSULATION:
- Insulation Size to suit wall tie spacings,
- Fix securely to inner leaf, ensuring that:
  - edges are not damaged
  - boards are close butted at horizontal and vertical joints and at closures
  - joints between boards are kept clean and dry and free from mortar droppings, grout and other debris
  - the residual cavity is not blocked or bridged by offcuts of insulation
- Place and secure each course of insulation before building up inner leaf above level of previous course of insulation.

D6.6 AIR BRICKS:
- To BS 493, Class 1, built in as the work proceeds.

D6.7 VENTILATION DUCTS:
- Install across cavity, sloping away from inner leaf, bedding fully in mortar to seal cavity.
- Form a stepped dpc cavity tray above duct, extending 150 mm on each side and with stop ends.

REINFORCING/FIXING ACCESSORIES

D6.8 WALL TIES
To BS 1243,
- Fitted with plastics insulation retaining clips recommended by manufacturer for this type of tie.

D6.9 FIXING TIES IN MASONRY CAVITY WALLS:
- Bed not less than 50 mm into bed joint of each leaf.
- Slope slightly downwards towards outer leaf with drip centred in the cavity and pointing downwards. Do not bend ties to suit coursing.
- Evenly space at 900mm horizontally, staggered in alternate courses, and at 450mm centres vertically, unless specified otherwise.
- Provide additional ties within 225 mm of reveals of unbonded openings

D6.10 FIXING TIES IN MASONRY CAVITY WALLS WITH FULL FILL CAVITY INSULATION:
- Bed not less than 50 mm into bed joint of each leaf.

- Slope downwards towards outer leaf with drip centred in the cavity and pointing downwards. Do not bend ties to suit coursing.
- Evenly space at 900mm centres horizontally, staggered in alternate courses, and at 450mm centres vertically, unless specified otherwise.
- Provide additional ties beneath the lowest row of insulation batts, and within 225 mm of reveals of unbonded openings

D6.11 FIXING TIES IN MASONRY CAVITY WALLS WITH PARTIAL FILL CAVITY INSULATION:
- Bed not less than 50 mm into bed joint of each leaf.
- Slope downwards towards outer leaf with drip centred in the cavity and pointing downwards. Do not bend ties to suit coursing.
- Evenly space in horizontal and vertical rows (i.e. not staggered) at 900mm centres horizontally, and 450mm centres vertically, unless specified otherwise.
- Provide additional ties within 225 mm of reveals of unbonded openings

D6.12 FIXING TIES IN MASONRY CLADDING TO TIMBER FRAMES:
- Fix ties securely to the timber frame with 50 mm x 11 gauge stainless steel annular ringed shank nails, and bed not less than 50 mm into bed joint of the masonry leaf. Do not bend ties to suit coursing.
- Slope downwards away from the timber frame.
- Space horizontally to suit stud centres and at 450 mm centres vertically, unless specified otherwise.
- Provide additional ties within 225 mm of sides of openings, at not more than 300 mm centres vertically.
- Repair any damage to the breather membrane before erecting the masonry skin.

D6.13 JOINT REINFORCEMENT
Width: Approximately 40-50 mm less in width than wall or leaf.
- Lay on an even bed of mortar in a continuous strip with 225 mm laps at joints and full laps at angles. Keep back 20 mm from face of external work, 12 mm back from face of internal work and finish mortar joint to normal thickness.

FLEXIBLE DAMP PROOF COURSES/CAVITY TRAYS

D6.14 DAMP PROOF COURSE:
Bitumen based to BS 6398,

D6.15 DAMP PROOF COURSE:
Polyethylene to BS 6515.

D6.16 FLEXIBLE SHEET CAVITY TRAYS:
Bitumen based dpc material to BS 6398,

D6.17 GAS RESISTANT DPCS/CAVITY TRAYS:
Bitumen based dpc material incorporating an aluminium core.

D6.18 PREFORMED DPC/CAVITY TRAY JUNCTION CLOAKS/STOP ENDS:
Types as shown on drawings.
- Seal all laps with dpcs and/or cavity trays using adhesive/mastic/torching in accordance with manufacturer's recommendations to ensure a fully watertight installation.

D6.19 JUNCTIONS/STOPENDS FORMED IN SITU:
- Where preformed junction cloaks/stop ends are not specified form three dimensional changes of shape in dpcs and/or cavity trays carefully and neatly to ensure a fully watertight installation, using folds wherever possible to achieve the required shape.
- Seal all laps using adhesive/mastic/ torching in accordance with manufacturer's recommendations.
- Preformed junction cloaks/stop ends may be used in lieu, subject to approval.

INSTALLATION OF DPCS/CAVITY TRAYS

D6.20 COLD WEATHER WORKING: In cold weather warm dpc rolls before unrolling, to avoid cracking.

D6.21 HORIZONTAL DPCS:
- Lay in continuous lengths on a full even bed of fresh mortar, with 100 mm laps at joints and full laps at angles.
- Width of dpc to be at least full width of masonry leaf unless otherwise specified. Do not cover edges of dpc with mortar.
- Where there are separate dpcs in each leaf of a cavity wall, ensure that edges do not project into the cavity.
- Immediately lay at least one further course of masonry on a thin even bed of fresh mortar. Keep finished joint thickness as close to normal as practicable.

D6.22 GROUND LEVEL DPCS: Ensure continuity of dpc with damp proof membrane.

D6.23 STEPPED DPCS: Where dpcs are installed in external walls on sloping ground, ensure that they are never less than 150 mm above finished ground level.

D6.24 SILL DPCS to be in one piece and turned up at the back if the sill is in contact with any part of the inner leaf.

D6.25 COPING/CAPPING DPCS:
- Bed dpcs and copings/cappings in one operation to ensure maximum bond between masonry units, mortar and dpc.
- Provide rigid support for dpcs in cavity walls.

D6.26 CAVITY TRAYS FORMED IN SITU: Dpcs which span cavities to prevent the downward ingress of water to be:
- Accurately formed to the profiles shown on drawings, and firmly secured.
- In unjointed lengths wherever possible, otherwise lapped at least 100 mm and sealed using adhesive/mastic/torching in accordance with manufacturer's recommendations to ensure a fully watertight installation.
- Fully supported over the cavity, when horizontal, by a cavity closer.
- Prevented from sagging when stepped up towards the inner leaf.
- Carefully cleaned to remove debris and mortar droppings before they set.
- Carefully protected from perforation and other damage.

D6.27 CAVITY TRAYS OVER OPENINGS AND OTHER CAVITY BRIDGINGS to extend not less than 150 mm beyond ends of lintels/bridgings.

D6.28 GAS RESISTANT DPCS/CAVITY TRAYS:
- Overlap joints in dpc/cavity tray not less than 150 mm and heat seal to form a gas and watertight joint.
- Ensure that dpc/cavity tray overlaps damp proof membrane by not less than 150 mm.

D6.29 FACEWORK: Keep leading edge of dpcs/cavity trays flush with face of wall
Do not bridge with mortar.

D6.30 FACEWORK: Keep leading edge of dpcs/cavity trays 5 mm back from face of wall
Rake back mortar to fully expose edge of dpc/cavity tray.

D6.31 FACEWORK: Leading edge of dpcs/cavity trays to project 5 mm from face of wall

D6.32 VERTICAL DPCS to be in one piece wherever possible; otherwise overlap by not less than 100 mm with upper piece outermost.

D6.33 JAMB DPCS: Ensure that dpcs to jambs of openings:
- Fully lap behind cavity tray/lintel at head and over horizontal dpc at sill.
- Project not less than 25 mm into cavity.

- Are in full contact with frames.

D6.34 JAMB DPCS: Fix to back of timber frames which are to be built in, using galvanized clout nails or staples.

JOINTS

D6.35 MOVEMENT JOINTS WITH SEALANT
Build in as the work proceeds ensuring no projections into cavities and correct depth of joint to receive sealant system. Thickness of filler to match design width of joint.

D6.36 MOVEMENT JOINTS WITHOUT SEALANT
Build in as the work proceeds, completely filing the joint but without projecting into cavities. Thickness of filler to match design width of joint.

D6.37 MOVEMENT JOINTS WITHOUT SEALANT
Compress, insert and slide into place in open joint. Install with accessories or adhesives where recommended by manufacturer.

D6.38 POINTING IN FLASHINGS: Remove dust, lightly wet and neatly point with mortar specified for walling. Ensure joint is completely filled and finish flush.

D6.39 PINNING UP TO SOFFITS: Completely fill joint at top of loadbearing walls with mortar, well rammed into position using temporary shuttering.

D6.40 TOPS OF NONLOADBEARING WALLS:
- Securely fix restraints to soffit and completely fill space between wall and soffit leaving no gaps to ensure compliance with design requirements.

PROPRIETARY SILLS/LINTELS/COPINGS/DRESSINGS

D6.41 SILLS:
- To BS 5642:Part 1.
  Finish, colour and texture to match approved sample.
- Leave bed joints open under one piece sills except under end bearings. On completion point with mortar to match adjacent work.

D6.42 PRECAST CONCRETE LINTELS:
- To BS 5977:Part 2.
  Bed on mortar used for adjacent work with bearing of not less than 150 mm unless specified otherwise. Use slate packing pieces.

D6.43 PREFABRICATED STEEL LINTELS:
- To BS 5977:Part 2.
  Bed on mortar used for adjacent work with bearing of not less than 150 mm unless specified otherwise.

D6.44 COPING UNITS:
- To BS 5642:Part 2.
  Finish, colour and texture to match approved sample.
- Lay on a full bed of mortar, accurately to line and level, with all joints filled and neatly finished flush.

D6.45 CAST STONE DRESSINGS:
- Generally to BS 1217 except that initial surface absorption may be either to BS 1217, grade A, or to the UK Cast Stone Association 'Specification for cast stone,' clause 4.7.2.
  Lay on a full bed ofmortar, colour matched to approval. Fill all joints and neatly finish flush.

MISCELLANEOUS ITEMS

D6.46 TILE SILLS:

- Plain clay tiles to BS 402:Part 1,
  Lay two courses as detailed, to break joint, true to line and level, fully bedded in 1:¼:3 cement:lime:sand mortar, with all joints filled and neatly finished flush.

D6.47 TEMPLATES: Where frames are not to be built in (specified elsewhere) form openings using rigid templates accurately fabricated to the required size.

D6.48 FLUE LINING SYSTEM:

- Linings: Clay to BS 1181,
- Mortar: 1:2:8-9 cement:lime:sand.
- Fully bed linings in mortar with socket or rebate uppermost and neatly finish joints flush, to provide an unrestricted flueway with smooth interior surfaces. Fill void between lining and surrounding work with mortar. Use correct starters, adapters, bends, etc.
- On completion, carry out a core ball test and smoke test in the presence of the CA. If any obstructions or leaks are revealed, submit for approval proposals for making good.

D6.49 FLUE BLOCK SYSTEM:
Mortar: 1:4-5 cement:sand.

- Position blocks accurately and finish joints flush to ensure a smooth, unrestricted flueway. Use correct starter, offset and transfer blocks.
- Seal joints between blocks
- On completion, carry out a core ball test and smoke test in the presence of the CA. If any obstructions or leaks are revealed, submit for approval proposals for making good.

D6.50 FIREPLACE COMPONENTS:
To BS 1251.

D6.51 CHIMNEY POTS:
Bed solid in mortar specified for chimney stack.

E3 CARPENTRY/TIMBER FRAMING/FIRST FIXING

To be read with Preliminaries/General conditions.

TYPE(S) OF TIMBER

E3.1 STRESS GRADING OF TIMBER:
- To be carried out by companies currently registered under a third party quality assurance scheme operated by any of the certification bodies approved by the UK Timber Grading Committee.
- Timber of a basic thickness less than 100 mm and not specified for wet exposure to be stress graded at an average moisture content not exceeding 20% with no reading being in excess of 24% and clearly marked as 'DRY' or 'KD' (kiln dried).
- Timber graded undried (green) and specified for wet exposure conditions to be clearly marked as 'WET' or GRN'.
- Structural timber members cut from large graded section to be regraded to approval and marked accordingly.

E3.2 GRADED SOFTWOOD
- Stress graded to BS 4978 or other national equivalent and so marked.
  Strength class to BS 5268:Part 2:
- Preservative treatment: As section V3 and British Wood Preserving and Damp-proofing Association Commodity Specification C
- Moisture content at time of erection: As clause E3.11.

E3.3 UNGRADED SOFTWOOD
- Free from decay, insect attack (except pinhole borers) and with no knots wider than half the width of the section.
- Preservative treatment: As section V3 and British Wood Preserving and Damp-proofing Association Commodity Specification C
- Moisture content at time of erection: As clause E3.11

E3.4 WROT TIMBER
- Quality of timber and fixing: To BS 1186:Part 3.
  Moisture content at time of fixing: 13 to 19%.
- Preserving treatment: As section V3 and British Wood Preserving and Damp-proofing Association Commodity Specification C5.

E3.5 PLYWOOD
- Manufactured to an approved national standard.
  Bond type: WBP to BS 6566:Part 8 or equivalent.
  Preservative treatment: As section V3 and British Wood Preserving and Damp-proofing Association Commodity Specification C

E3.6 TRUSSED RAFTERS:
- Designed and fabricated to BS 5268:Part 3.
  Manufactured by a firm currently registered under a third party quality assurance scheme.

WORKMANSHIP GENERALLY

E3.7 CROSS SECTION DIMENSIONS OF TIMBER shown on drawings are basic sizes unless stated otherwise.
Maximum permitted deviations from basic sizes to be as stated in BS 4471 for softwoods and BS 5450 for hardwoods.

E3.8 REDUCTION TO FINISHED SIZES of planed/regularized timber to be to BS 4471 for softwoods and BS 5450 for hardwoods.

E3.9 SELECTION AND USE OF TIMBER:
- Do not use timber members which are damaged, crushed or split beyond the limits permitted by their grading.
- Ensure that notches and holes are not so positioned in relation to knots or other defects that the strength of members will be reduced.
- Do not use scarf joints, finger joints or splice plates without approval.

E3.10 PROCESSING TREATED TIMBER:
- Carry out as much cutting and machining as possible before treatment.
- Retreat all treated timber which is sawn along the length, ploughed, thicknessed, planed or otherwise extensively processed.
- Treat timber surfaces exposed by minor cutting and drilling with two flood coats of a solution recommended for the purpose by main treatment solution manufacturer.

E3.11 MOISTURE CONTENT of timber at time of erection to be not more than:
Under cover in generally unheated spaces: 24%
Under cover in generally heated spaces: 20%
Internal in continuously heated spaces: 20%

E3.12 PROTECTION:
- Keep timber dry and do not overstress, distort or disfigure sections or components during transit, storage, lifting, erection or fixing.
- Store timber and components under cover, clear of the ground and with good ventilation. Support on regularly spaced, level bearers on a dry, firm base. Open pile to ensure free movement of air through the stack.
- Arrange sequence of construction and cover timber as necessary during and after erection to ensure that specified moisture content is not exceeded.
- Keep trussed rafters vertical during handling and storage.

E3.13 SEAL exposed end grain

E3.14 PAINTED FINISHES:
Structural timber which is to be painted to be primed as specified before delivery to site.

E3.15 CLEAR FINISHES:
Structural timber which is to be clear finished to be kept clean and first coat of specified finish applied before delivery to site.

E3.16 EXPOSED TIMBER:
Prevent damage to and marking of surfaces and arrises of planed structural timber which will be exposed to view in completed work.

JOINTING TIMBER

E3.17 JOINTING/FIXING GENERALLY:
Where not specified otherwise, select fixing and jointing methods and types, sizes and spacings of fastenings in compliance with section V4. Fastenings to comply with relevant British Standards.

E3.18 FRAMING ANCHORS:
- Fix anchors securely using not less than the number of nails recommended by the anchor manufacturer.
- Nails to be not less than 30 x 3.75 mm galvanized or sherardized square twist unless recommended otherwise.

E3.19 BOLTED JOINTS:

- Locate holes accurately and drill to diameters as close as practical to the nominal bolt diameter and not more than 2 mm larger.
- Place washers under all bolt heads and nuts which bear directly on timber. Use spring washers in locations which will be hidden or inaccessible in the completed building.
- Tighten bolts so that washers just bite the surface of the timber and at least one complete thread protrudes from the nut.
- Check at agreed regular intervals up to Practical Completion and tighten as necessary to prevent slackening of joints.

ERECTION AND INSTALLATION

E3.20 ADDITIONAL SUPPORTS:

- Where not shown on drawings, position and fix additional studs, noggings or battens for appliances, fixtures, edges of sheets, etc., in accordance with manufacturers' recommendations.
- All additional studs, noggings or battens to be of adequate size and have the same treatment, if any, as adjacent timber supports.

E3.21 WALL PLATES:

Ensure that wall plates are:

- Positioned and aligned to give the correct span and level for trusses, joists, etc.
- Fully bedded in fresh mortar.
- In lengths of not less than 3 m with half lap joints.

E3.22 INSTALLING JOISTS GENERALLY:

- Position at equal centres not exceeding designed spacing and true to level.
- Install bowed joists with positive camber.
- Position end joists approximately 50 mm from masonry walls.

E3.23 INSTALLING JOISTS ON HANGERS:

- Bed hangers directly on and hard against supporting construction. Do not use packs or bed on mortar.
- Cut joists to leave not more than 6 mm gap between ends of joists and back of hanger.
- Rebate joists to lie flush with underside of hangers.
- Fix joists to hangers with a nail in every hole.

E3.24 JOIST HANGERS

Size: To suit joist, design load and crushing strength of supporting construction.

E3.25 TRIMMING OPENINGS:

When not specified otherwise, trimmers and trimming joists to be not less than 25 mm wider than general joists.

E3.26 TRUSSED RAFTERS:

- Carefully inspect each truss before erection to ensure compliance with shop drawings and specification, including:
  Grades and sizes of members.
  Types, sizes and positions of nail plates.
  Gaps between ends of members at joints.
  Full penetration of nails.
- Erect trusses plumb, at equal centres not exceeding designed spacing and in accordance with BS 5268:Part 3, clause 30 and Appendix B.
- Do not use damaged trusses and do not modify without approval.
- Fix securely with truss clips ensuring that rafters do not bear on wall plates.
- Do not fix ceiling chords to internal walls until roofing is complete and cisterns installed and filled.

E3.27 TRUSS CLIPS:

- Fix securely with 32 x 3.5 mm galvanized or sherardized square twisted nails in every hole.

E3.28 PERMANENT BRACING OF TRUSSED RAFTERS:

- Set out as shown on drawings unless approved otherwise.
- Fix bracing and binders to every rafter, strut or tie with not less than two 75 x 3.35 mm galvanized round wire nails.
- Any lap joints must be side by side extending over and nailed to at least two truss members.
- Where a binder crosses a brace, interrupt and plate the binder.

E3.29 LATERAL RESTRAINT STRAPS:

Size: Not less than 30 x 5 mm cross section, 150 mm cranked end

- Fix straps to top of joists/rafters/ties
- Ensure that cranked end is in tight contact with cavity face of wall inner leaf and is not pointing upwards.
- Fix noggings and packs beneath straps which span joists/rafters/ties running parallel to wall. Noggings and packs to fit tightly, be not less than three quarters of joist/rafter/tie depth and at least 38 mm thick. Notch joists so that straps fit flush with surface. Do not notch rafters/ties.
- Fix straps to joists/rafters/ties with not less than four 50 mm x 8 gauge sherardized countersunk screws, evenly spread.

E3.30 STRUTTING:

- Unless specified otherwise, securely fix strutting between joists as follows:
  Joist spans of 2.5 to 4.5 m: One row at centre span.
  Joist spans over 4.5 m: Two rows equally spaced.
- Unless specified otherwise strutting to be one of the following:
  Herringbone strutting, at least 38 x 38 mm softwood and located clear of top and bottom edges.
- Solid strutting, at least 38 mm thick softwood and at least three quarters of depth of joist.
- Outer joists to be blocked solidly to perimeter walls.

E3.31 EAVES SOFFIT VENTILATORS:

- Fix ventilators in accordance with manufacturer's recommendations to provide the equivalent of a continuous opening
- Ensure that ventilators are not blocked by insulation at eaves.

E3.32 EAVES SOFFIT VENTILATION:

- Fix soffit board(s) to leave a continuous ventilation opening
- Fix a 3 to 4 mm mesh screen across the opening to prevent large insect entry.
- Ensure that the ventilation path is not blocked by insulation at eaves.

J1 PLASTERBOARD DRY LININGS/PARTITIONS/CEILINGS

To be read with Preliminaries/General conditions.

GENERALLY/PREPARATION

J1.1 ADDITIONAL SUPPORTS FOR PARTITION HEADS: Provide or ensure provision of accurately positioned and securely fixed framing to receive partition heads running parallel with, but offset from main structural supports.

J1.2 ADDITIONAL SUPPORTS FOR FIXTURES AND FITTINGS: Provide or ensure provision of accurately positioned and securely fixed framing to support fixtures, fittings and services. After fixing boards, mark positions of framing for following trades.

J1.3 ADDITIONAL SUPPORTS FOR BOARD EDGES AND PERIMETERS:
Provide or ensure provision of additional framing, accurately positioned and securely fixed, to give full support to board edges and lining perimeters in accordance with board manufacturer's recommendations.

J1.4 NEW WET LAID BASES: Provide or ensure provision of a continuous strip of bituminous felt dpc or other approved material under partitions/freestanding wall linings, cut to the full width of the partition/lining.

J1.5 PLASTERBOARD GENERALLY: To BS 1230:Part 1, types 1 to 5 with exposed surface and edge profiles suitable to receive the specified finish.

FIXING/FINISHING

J1.6 DRY LINING GENERALLY:
- Fixing, jointing and finishing materials and accessories, where not specified otherwise, to be as recommended by the board manufacturer.
- Handle and store materials in accordance with BS 8212, section 5. Do not use damaged boards.
- Use operatives properly trained for dry lining work and who have attended a recognised training scheme.
- Fix boards only in areas which have been made weathertight. Prevent frost damage.
- Cut boards neatly and accurately without damage to core or tearing of paper facing. Keep cut edges to a minimum and position at internal angles wherever possible. Mask with bound edges of adjacent boards at external corners.
- Fix boards securely and firmly to suitably prepared and accurately levelled backgrounds. Set heads of fastenings in a depression; do not break paper or gypsum core. Finish neatly to give flush, smooth, flat surfaces free from bowing and abrupt changes of level.

J1.7 METAL STUD FRAMING:
- Install using components, accessories and methods recommended by the board manufacturer.
- Set out floor/head channels and perimeter studs to give a framework which is accurately aligned with a true vertical plane. Fix securely at all perimeters at not more than 600 mm centres.
- Position studs at equal centres to suit specified linings, maintaining sequence across openings. Provide additional studs as necessary to ensure support to all vertical edges of boards.
- Accurately form openings to receive doorsets using sleeved/ boxed metal studs and/or suitable timber framing as necessary to achieve the strength grade requirements of the framing assembly and adequately support the weight of the door.

J1.8 METAL FURRINGS FOR WALL LININGS:
- Install using components, accessories and methods recommended by the board manufacturer.
- Set out furrings vertically, at specified centres and adjacent to angles, openings, movement joints, etc. Maintain centres of furrings across openings. Bed in 200 mm long dabs of adhesive at each end of furring and thereafter at 450 mm centres. Bed short lengths of furring horizontally to provide continuous support to top and bottom edges of boards.

- Accurately align all furrings to a true, vertical plane.
- Install additional furrings where necessary to accept junctions with partitions. Use a continuous line of adhesive to ensure there are no gaps across the cavity.

J1.9 METAL SUSPENDED CEILING FRAMING:
- Install using components, accessories and methods recommended by the board manufacturer.
- Set out perimeter channels, hangers and sections to give a framework which is accurately aligned and level. Fix securely with additional framing and stiffening at upstands, partition heads, access hatches, etc. to give a stable ceiling.

J1.10 MINERAL WOOL INSULATION TO METAL STUD PARTITIONS/LININGS:
- Fit securely with closely butted joints, leaving no gaps. Unless the insulation is of a self supporting slab type fitted between studs, fix at head of frame using timber battens or proprietary clips.

J1.11 MINERAL WOOL INSULATION ACROSS METAL SUSPENDED CEILING FRAMING:
- Use widest practical widths of insulation. Fit securely with closely butted joints, leaving no gaps.
- Cut and fit neatly around any electrical fittings, etc. Do not cover electrical cables (unless they have been sized accordingly).

J1.12 ACOUSTIC SEALANT:
- Sealant: A type recommended by the board manufacturer.
- Location: To perimeter junctions with walls, floors, ceilings and around openings.
- Before fixing boarding, apply as a continuous bead to clean, dry, dust-free surfaces, leaving no gaps.
- After application of sealant, fill gaps greater than about 6 mm with jointing compound recommended by plasterboard manufacturer.

J1.13 AIR PRESSURE SEALANT
- Sealant: A type recommended by the board manufacturer.
- Location: To perimeter junctions with walls, floors and ceilings, air gaps around openings, and other potential air leakage points including frame members prior to fitting core boards and around fire stops to horizontal joints.
- Apply as a continuous bead leaving no gaps.

J1.14 CAVITY BARRIERS WITHIN CEILING VOIDS:
- Fire resistance to BS 476:Part 20:
- Fix securely at perimeters and joints, ensuring permanent stability and continuity with no gaps, to provide a complete barrier to smoke and flame.

J1.15 FIRE STOPPING: Seal any gaps at junctions of linings and cavity barriers with perimeter abutments, service penetrations, etc. using tightly packed mineral wool or approved intumescent sealant, to prevent penetration of smoke and flame.

J1.16 JOINTS BETWEEN BOARDS:
- Tapered edged plasterboards: Lightly butted. Leave a 3 mm gap where cut/unbound edges occur.
- Square edged plasterboards to be finished with textured plastic compound: 3 mm gap.
- Square edged fibre reinforced gypsum boards: 5 mm gap.

J1.17 VERTICAL JOINTS:
- Centre joints on studs. For partitions, ensure that joints on opposite sides of studs are staggered.
- For two layer boarding, stagger joints between layers.

J1.18 HORIZONTAL JOINTS:
- Horizontal joints will not be permitted in surfaces exposed to view except where the height of partition/lining exceeds the maximum available length of board. Agree positions of joints where not specified.
- For two layer boarding, stagger joints between layers by at least 600 mm.

- Ensure that edges of boards are supported by additional framing. For two layer boarding framing must support the outer layer.

J1.19 FIXING PLASTERBOARD TO METAL SUPPORTS:

- Fix securely to all supports, working from the centre of each board using proprietary drywall screws at the following maximum centres:
- Partition/wall linings: 300 mm centres (reduced to 200 mm at external angles where recommended by the board manufacturer).
- Ceilings: 230 mm centres (reduced to 150 mm at board ends and at lining perimeters where recommended by the board manufacturer).
- Position screws not less than 10 mm from the edge of the board. Set heads in a depression; do not break paper or gypsum core.
- Type and length of screws as recommended in BS 8212, section 2.2.3, unless specified otherwise.

J1.20 FIXING PLASTERBOARD TO TIMBER SUPPORTS:

- Fix securely to all supports working from the centre of each board using the specified method of fixing at the following maximum centres:
  Nails: 150 mm centres.
  Drywall screws: 300 mm centres for partitions/wall linings (reduced to 200 mm at external angles where recommended by the board manufacturer) and 230 mm centres for ceilings.
- Position fixings not less than 10 mm from bound edges, 13 mm from cut/unbound edges and not less than 6 mm from the edge of the timber support.
- Type and length of fixings as recommended in BS 8212, section 2.2.3, unless specified otherwise.

J1.21 FIXING PLASTERBOARD WITH ADHESIVE DABS:

- Apply grid of adhesive dabs to the background for each board as follows:
  Horizontally: One row of dabs along the top edge and one continuous dab along the bottom edge.
  Vertically: One row of dabs along each edge and thereafter at intermediate spacings to suit size of board:

Thickness (mm)	Width (mm)	Dab centres (mm)
9.5	1200	400
9.5/12.5	900	450
12.5	1200	600

- Dabs: About 50 - 75 mm wide x 250 mm long positioned not less than 25 mm from edges/ends of board. Adjust thickness as necessary to ensure boards are accurately aligned to a true vertical plane.
- Press boards firmly against dabs to give a secure fixing. Provide temporary support under bottom edge of each board until dabs have set.

J1.22 FIXING INSULATION BACKED PLASTERBOARD WITH ADHESIVE DABS:

- In addition to the requirements of clause 620, secure boards with proprietary nailable plugs in locations recommended by the board manufacturer.
- Include proprietary metal clips/plates to edges of each board where recommended by the board manufacturer.

J1.23 FIXING INSULATION BACKED PLASTERBOARD WITH ADHESIVE SPOTS:

- Apply adhesive on a 300 mm grid to background or back of boards. Position perimeter spots about 25 mm from edges of boards. Size of spots to be about 25 mm diameter.
- Press boards firmly into position and secure with proprietary nailable plugs in locations recommended by the board manufacturer and to suit the specified finish.

J1.24 TAPED SEAMLESS FINISH TO PLASTERBOARD:

- Lightly sand cut edges of boards to remove paper burrs. Apply PVAC sealer to exposed cut edges of boards and any other plaster surfaces to which tape is to be applied.
- Fill all joints, gaps and internal angles with joint compound and cover with continuous lengths of paper tape, fully bedded. Reinforce external angles, stop ends, etc. with the specified bead/corner tape.
- When set, cover with joint finish, feathered out to give a flush, smooth, seamless surface.

- Spot nail/screw depressions with joint filler to give a flush surface.
- Fill minor indents. After joint, angle and spotting treatments have dried, lightly sand to remove any minor imperfections.
- Apply specified primer/sealer to give a continuous consistent texture to surface of boards.

J1.25 SKIM COAT PLASTER FINISH:
Thickness: 2 - 3 mm.
- Fill and tape all joints except where coincident with metal beads.
- Trowel/float to a tight, matt, smooth surface with no hollows, abrupt changes of level or trowel marks.

J1.26 MINOR DAMAGE IN EXISTING PLASTERBOARD: Where not specified otherwise, repair small areas of broken board by cutting away the paper, removing loose core material and filling with joint filler. Apply PVAC sealer to exposed plaster and cut edge of paper before filling. Finish off to give a flush, smooth surface ready for redecoration.

J1.27 MAJOR DAMAGE IN EXISTING PLASTERBOARD: Where not specified otherwise, repair large damaged areas of board by cutting out and replacing with an identical piece of board. Form a neat hole with sides vertical and horizontal. Fix the patch using the same method as the existing dry lining, ensuring full support to all edges of existing and new board. Fill joints, apply tape and finish off to give a flush, smooth, seamless surface ready for redecoration.

J2 RIGID SHEET FLOORING/SHEATHING/SARKING/LININGS/CASINGS

To be read with Preliminaries/General conditions.

WORKMANSHIP

J2.1 INSTALLATION GENERALLY:
- In the absence of manufacturers recommendations store, prepare and fix sheets in accordance with the recommendations of the relevant trade association.
- Keep sheets dry and do not fix to timber supports which have a moisture content greater than 18%.
- Do not fix sheets internally until the building is weathertight.
- Set out sheets with joints accurately aligned, of constant width and parallel to perimeter edges.
- Methods of fixing and fastenings to be as section V4 unless specified otherwise.
- Protect sheets from dirt, stains and damage until Practical Completion.

J2.2 FLOATING FLOORS: Where to be laid on a new concrete or screed base:
- Ensure that drying aids have been turned off for not less than 4 days, then
- Test for moisture content using an accurately calibrated hygrometer in accordance with BS 8201, Appendix A.
- Take readings in all corners, along edges, and at various points over the area being tested.
- Do not lay flooring until all readings show 75% relative humidity or less.

J2.3 ADDITIONAL SUPPORTS: Where specified ensure that studs, noggings or battens as specified in clause G20/770 and not less than 50 mm wide are provided as follows:
- Tongue and groove jointed rigid sheet areas: To all unsupported perimeter edges.
- Butt jointed rigid sheet areas: To all unsupported sheet edges.

J2.4 CONDITION HARDBOARD sheets by stacking in room in which they are to be fixed with separators between each sheet for not less than 48 hours before fixing.

J2.5 CONDITION STANDARD HARDBOARD sheets by sponging mesh side of each 1200 x 2400 mm sheet with 0.25 litre of water, then stack horizontally mesh side to mesh side for 24-48 hours before fixing.

J2.6 CONDITION TEMPERED HARDBOARD sheets by sponging mesh side of each 1200 x 2400 mm sheet with 0.25 litre of water per 3 mm of thickness, then stack horizontally mesh side to mesh side for 48-72 hours before fixing.

J2.7 FIXING GENERALLY:
- Securely fix sheets to each support without distortion and true to line and level.
- Fastenings to be evenly spaced in straight lines, in pairs across joints and sufficient distance from edge of sheet to prevent damage.
- Remove surplus adhesive as the work proceeds.

J2.8 OPEN JOINTS: Keep perimeter joints, expansion joints and joints between boards free from plaster, mortar droppings and other debris. Remove all temporary wedges and packings on completion of fixing.

J2.9 FIXING HARDBOARD/MEDIUM BOARD/INSULATING BOARD:
- Do not tack corners first.
- Fix one long edge, working outwards from centre.
- Fix to intermediate supports working downward and outward.
- Finally fix remaining three edges.

J2.10 ACCESS PANELS: Agree size and position with CA before sheets are fixed. Provide additional noggings, battens, etc., as necessary.

J5 TIMBER BOARD FLOORING/SARKING/LININGS/CASINGS

To be read with Preliminaries/General conditions.

WORKMANSHIP

J5.1 WORKMANSHIP GENERALLY:
- Keep boards dry and do not fix to timber supports which have a moisture content greater than 18%.
- Do not fix boards internally until the building is weathertight.
- Methods of fixing and fastenings to be as section Z20 unless specified otherwise.
- Protect boards from dirt, stains and damage until Practical Completion.

J5.2 MOISTURE CONTENT OF BASE: Where floating floors are to be laid on a new concrete or screed base:
- Ensure that drying aids have been turned off for not less than 4 days, then
- Test for moisture content using an accurately calibrated hygrometer in accordance with BS 8201, Appendix A.
- Take readings in all corners, along edges, and at various points over the area being tested.
- Do not lay flooring until all readings show 75% relative humidity or less.

J5.3 MOISTURE CONTENT OF TIMBER: During delivery, storage, fixing and thereafter to Practical Completion maintain conditions of temperature and humidity to suit specified moisture content(s). When instructed by CA, test timber with an approved moisture meter to manufacturer's recommendations.

J5.4 VAPOUR CHECK MEMBRANE: Fix carefully and neatly with taped joints to provide a fully sealed barrier free from tears and punctures.

J5.5 TREATED TIMBER: Treat surfaces exposed by minor cutting and drilling with two flood coats of a solution recommended for the purpose by main treatment solution manufacturer.

J5.6 ACCESS PANELS: Agree size and position with CA before boards are fixed. Provide additional noggings, battens, etc. as necessary.

J5.7 FIXING BOARDS:
- Fix each board securely to each support to give flat, true surfaces free from undulations, lipping, splits and protruding fastenings.
- Allow for movement of timber when positioning boards and fastenings to prevent cupping, springing, excessive opening of joints or other defects.
- Heading joints to be tightly butted and positioned centrally over supports, not less than two board widths apart on any one support.
- Neatly punch all exposed nail heads below surface and plane off any proud edges.

J6 TIMBER STRIP/BOARD FINE FLOORING/LININGS

To be read with Preliminaries/General Conditions.

GENERALLY/PREPARATION

J6.1 WORKMANSHIP GENERALLY:
- Keep strips/boards dry and do not fix to timber supports which have a moisture content greater than 18%.
- Methods of fixing and fastenings to be as section V4 unless specified otherwise.
- Protect from dirt, stains and damage until Practical Completion. Lay protective coverings and boards as the work proceeds.

J6.2 ENVIRONMENT:
- Do not start work specified in this section before building is weathertight, wet trades have finished their work and the building is well dried out.
- Before, during and after laying, temperature and humidity must be maintained at levels approximating to those which will prevail after building is occupied.

J6.3 MOISTURE CONTENT OF BASE: Where flooring is to be laid on a new concrete or screed base:
- Ensure that drying aids have been turned off for not less than 4 days, then
- Test for moisture content using an accurately calibrated hygrometer in accordance with BS 8201, Appendix A.
- Take readings in all corners, along edges, and at various points over the area being tested.
- Do not lay flooring until all readings show 75% relative humidity or less.

FIXING/FINISHING

J6.4 VAPOUR CHECK MEMBRANE: Fix carefully and neatly with taped joints to provide a fully sealed barrier free from tears and punctures.

J6.5 TREATED TIMBER: Treat surfaces exposed by minor cutting and drilling with two flood coats of a solution recommended for the purpose by main treatment solution manufacturer.

J6.6 FIXING BATTENS: Space evenly and securely fix, packing or adjusting as necessary to give a true level finished surface.

J6.7 ACCESS PANELS: Agree size and position with CA before boards are fixed. Provide additional noggings, battens, etc. as necessary.

J6.8 FIXING STRIPS/BOARDS:
- Fix each strip/board securely to each support to give flat, true surfaces free from undulations, splits, hammer marks, scratches and protruding fastenings.
- Allow for movement of timber when positioning boards and fastenings to prevent cupping, springing, opening of joints or other defects.
- Heading joints, where permitted, to be end matched, tightly butted and positioned centrally over supports, not less than two board widths apart on any one support.

J6.9 EXPANSION: Provide a 10 mm wide gap at floor edges running parallel to the lie of the strips/boards. Remove any spacer blocks and debris before fixing skirtings/ cover fillets.

J6.10 FINISHING FLOORING:
- Punch any exposed nail heads below surface and fill with stopping to match timber.
- Sand strip flooring with an electric surfacing machine to give a clean, smooth surface free from lipping and score marks.

J6.11 FINISHING LININGS:

- Punch any exposed nail heads below surface and fill with stopping to match timber.
- Carefully sand to give a clean smooth surface free from lipping and score marks.

J7 PANEL PARTITIONS

To be read with Preliminaries/General conditions.

GENERALLY

J7.1 SAMPLE(S): Before placing orders submit representative sample(s)
Ensure that delivered materials match samples.

J7.2 ENVIRONMENTAL CONDITIONS:
- Do not install partitions until the building is weathertight and wet trades in adjacent areas have finished their work. Before, during and after installing, ensure that temperature and humidity are maintained at levels similar to those which will prevail after building is occupied.
- Notwithstanding the above, delivery of materials and installation of the partitions will be taken as joint acceptance by the Main Contractor and Partition Contractor of the suitability of the environmental conditions.

J7.3 NEW WET LAID BASES: Provide or ensure provision of a continuous strip of bituminous felt dpc or other approved material under partitioning, cut to the full width of the partition.

INSTALLATION

J7.4 WORKMANSHIP GENERALLY:
- Handle, store, assemble and fix partition components and accessories in accordance with manufacturers recommendations, ensuring compliance with design and performance requirements.
- Set out accurately with all frames/panels plumb, true to line and level and free from bowing, undulations and other planar distortions.
- Align all joints accurately with no lipping.
- Fix securely, ensuring provision of additional supports where necessary at perimeters, to give a stable partition resistant to specified design loads.
- Make adequate allowance for moisture and thermal movement of boards/panels.

J7.5 INSTALLING RELOCATABLE PARTITIONS:
- Check dimensions on site well in advance of fabrication/installation. Report any discrepancies and problems of fit to the CA and obtain instruction before proceeding.
- Protect all floor finishes during installation of partitions using a suitable nonslip covering.
- Deviations at perimeter abutments must be accommodated whilst maintaining the performance of the partition system.
- Form make up/closer pieces accurately around any projections and features. Do not cut or otherwise alter panels except where shown on drawings or otherwise agreed with the CA.
- Keep intermediate joints in exposed frame members and trims to a minimum by using the longest unjointed lengths available from the manufacturer.
- Ensure that all substantial conductive parts of the partition are electrically continuous and fully earth bonded in accordance with BS 7671 (The IEE Wiring Regulations).
- Provide and maintain protection to all components in vulnerable positions (doorsets, ironmongery, panels, corner posts, etc.) until Practical Completion.

J7.6 INSTALLING PLASTERBOARD PANEL PARTITIONS:
- Use timber or metal frame inserts as recommended by the panel manufacturer, sized to give a firm press fit into the panel cavity. Provide additional timber inserts/plugs as necessary to support fixtures and fittings and mark positions for following trades.
- Securely fix continuous timber sole plate to floor at 600 mm centres. Secure panels to sole plate, adjacent walls, ceiling and each other with frame inserts. Line all openings with frame inserts.
- Securely fix perimeter frame inserts to backgrounds at 600 mm centres. Fix panels to frame inserts at 300 mm centres for screws and 230 mm centres for nails.

- Rebate panels at right angle junctions.

J7.7 ADDITIONAL LINING TO PLASTERBOARD PANEL PARTITIONS
- Bond to both sides of partition using the recommended adhesive. Stagger joints between layers by not less than 150 mm.

J7.8 INSTALLING PLASTERBOARD LAMINATED PARTITIONS:
- Use timber battens to sizes recommended by the plasterboard manufacturer.
- Securely fix continuous timber battens at 600 mm centres to floor, walls and ceiling. Fix full height battens adjacent to door openings and angle junctions. Trim door heads and all sides of other large openings with battens.
- Bond all plasterboard layers together with 60 mm wide, 5 mm thick continuous bands of adhesive at 300 mm centres and centred on all joints.
  In addition, nail first and third layers to the battens at 300 mm centres.
- Stagger joints between layers by not less than 150 mm.
- Protect partitioning against all movement for at least 4 hours after erection.

J7.9 FIRE RESISTING PLASTERBOARD LAMINATED PARTITIONS
- In addition to clause J7.8, skew nail outer layers to second (core) layer on each side of partition with nails recommended by plasterboard manufacturer, staggered each side of joints at 150 mm centres, 25 mm from board edge.

J7.10 TAPED SEAMLESS FINISH TO PLASTERBOARD PARTITIONS:
- Lightly sand cut edges of boards to remove paper burrs. Apply PVAC sealer to exposed cut edges of boards and any other plaster surfaces to which tape is to be applied.
- Fill all joints, gaps and internal angles with joint compound and cover with continuous lengths of paper tape, fully bedded. Reinforce external angles/stop ends with the specified bead/corner tape.
- When set, cover with joint finish, feathered out to give a flush, smooth, seamless surface.
- Spot nail/screw depressions with joint filler to give a flush surface.
- Fill minor indents. After joint, angle and spotting treatments have dried, lightly sand to remove any minor imperfections.
- Apply specified primer/sealer to give a continuous consistent texture to surface of boards.

J7.11 PERIMETER SEALS:
- Sealant material: A type recommended by the partition/panel manufacturer.
- Apply continuously to clean, dry, dust-free surfaces, leaving no gaps.

J7.12 FIRE STOPPING: Seal any gaps at junctions of partitions with perimeter abutments, services, etc. using tightly packed mineral wool or approved intumescent sealant, to prevent penetration of smoke and flame.

J7.13 GLAZING FOR RELOCATABLE PARTITIONS:
- Glass: To BS 952 and the relevant part(s) of BS EN 572, free from scratches, bubbles, cracks, rippling, dimples and other defects.
- Glazing generally: To BS 6262.
- Preglazed panes are to be capable of being reglazed in situ.

J7.14 IRONMONGERY FOR RELOCATABLE PARTITIONS:
- Prepare frames and doors accurately to accept locks, strike plates, hinges, etc. and associated fixings.
- Assemble and fix carefully and accurately using fastenings with matching finish supplied by partition/ironmongery manufacturer. Prevent damage to ironmongery and adjacent surfaces. At completion check, adjust and lubricate as necessary to ensure correct functioning.

J9 FRAMED PANEL CUBICLE PARTITIONS

J9.1 SAMPLES: Before placing orders submit representative sample(s)
Ensure that delivered materials match sample(s).

J9.2 PROTECTION:
- Do not remove protective packaging/coverings until just before components are required for fixing.
- Stack doors and panels flat on bearers and separated by spacers where necessary to prevent damage to or from projections.
- Keep completed cubicles clean, dry and adequately protected from damage until Practical Completion.

J9.3 INSTALLATION:
- Do not install cubicle partitions before building is weathertight, wet trades have finished their work, wall tiling and floor finishes are completed, and the building is well dried out.
- Set out accurately to ensure frames, panels, fascias and doors are plumb, level and accurately aligned.
- Do not cut, plane or sand prefinished surfaces except where shown on drawings or otherwise agreed with CA.
- Fix securely, using manufacturer's fixing components without causing distortions to frames, panels and doors.
- Adjust hinges so that doors hang closed

K1 WINDOWS/ROOFLIGHTS/SCREENS/LOUVRES

To be read with Preliminaries/General conditions.

PRELIMINARY INFORMATION/REQUIREMENTS

K1.1 EVIDENCE OF PERFORMANCE: Provide independently certified evidence that all specified variants of components comply with specified performance requirements.

INSTALLATION

K1.2 PROTECTION OF COMPONENTS: Do not deliver to site components which cannot be put immediately into suitable clean, dry, floored and covered storage. Stack near vertical on level bearers, separated with spacers to prevent damage by and to projecting ironmongery, beads, etc.

K1.3 MOISTURE CONTENT OF TIMBER COMPONENTS: During delivery, storage, fixing and thereafter to Practical Completion maintain conditions of temperature and humidity to suit specified moisture content(s) of components. When instructed by CA, test components with an approved electrical moisture meter used in accordance with manufacturer's recommendations.

K1.4 PRIMING/SEALING: Before fixing components ensure that surfaces of timber which will be inaccessible after installation are primed or sealed as specified.

K1.5 BUILDING IN will not be permitted except where specifically stated on the drawings.

K1.6 INSTALL PVC-U WINDOWS in accordance with clause K1.11 and the British Plastics Federation window installation guide, reference COP2.

K1.7 WINDOW INSTALLATION:
- Install windows into prepared openings, maintaining a maximum gap of 10mm between the frame edge and the surrounding construction.
- Install windows without twist or diagonal racking.

K1.8 FIXING OF TIMBER FRAMES:
- When not predrilled or specified otherwise, position fixings not more than 150 mm from each end of jamb, adjacent to each hanging point of opening lights, and at maximum 450 mm centres.

K1.9 FIXING OF STEEL FRAMES:
- When not predrilled or specified otherwise, position fixings not less than 50 mm and not more than 190 mm from each end of jamb, adjacent to each hanging point of opening lights, and at maximum 900 mm centres.

K1.10 FIXING OF ALUMINIUM FRAMES:
- When not predrilled or specified otherwise, position fixings not more than 250 mm from each end of jamb, adjacent to each hanging point of opening lights, and at maximum 600 mm centres.

K1.11 FIXING OF PVC-U FRAMES:
- When not predrilled or specified otherwise, position fixings 150-250 mm from each end of jamb, adjacent to each hanging point of opening lights, but no closer than 150 mm to a transom or mullion centre line, and at maximum 600 mm centres.

K1.12 FIXING OF COMPOSITE FRAMES:
- Fix vertical jambs of frames
- When not predrilled or specified otherwise, position fixings not more than 150 mm from each end of jamb, adjacent to each hanging point of opening lights, and at maximum 600 mm centres.

K1.13 BACKFILLING OF STEEL FRAME SECTIONS: After fixing, fill the back of steel frame sections with a waterproof cement fillet.

K1.14 SEALANT JOINTS:
- Prepare joints and apply sealant as section V6.

K1.15 IRONMONGERY: Assemble and fix carefully and accurately using fastenings with matching finish supplied by ironmongery manufacturer. Prevent damage to ironmongery and adjacent surfaces. At completion check, adjust and lubricate as necessary to ensure correct functioning.

K2 DOORS/SHUTTERS/HATCHES

To be read with Preliminaries/General conditions.

PRELIMINARY INFORMATION/REQUIREMENTS

K2.1 EVIDENCE OF PERFORMANCE: Provide independently certified evidence that all specified variants of components comply with specified performance requirements.

K2.2 FIRE RESISTANCE: The specified performance is to be the minimum period attained when tested for integrity in accordance with BS 476:Part 8 or BS 476:Part 22.

INSTALLATION

K2.3 PROTECTION OF COMPONENTS: Do not deliver to site components which cannot be put immediately into suitable dry, floored and covered storage. Stack on bearers, separated with spacers to prevent damage by and to projecting ironmongery, beads, etc.

K2.4 MOISTURE CONTENT: During delivery, storage, fixing and thereafter to Practical Completion maintain conditions of temperature and humidity to suit specified moisture content(s) of timber components. When instructed by CA, test components with an approved electrical moisture meter used in accordance with manufacturer's recommendations.

K2.5 PRIMING/SEALING: Before fixing components ensure that surfaces of timber which will be inaccessible after installation are primed or sealed as specified.

K2.6 CORROSION PROTECTION: Before fixing, apply two coats of bitumen solution to BS 6949 or an approved mastic impregnated tape

K2.7 BUILDING IN will not be permitted except where specifically stated.

K2.8 BUILDING IN TIMBER FRAMES: Fix dpcs with galvanized clout nails to backs of frames which are to be built into external openings.

K2.9 FIXING CENTRES FOR TIMBER FRAMES: When not predrilled or specified otherwise, position fixings 150 mm from each end of jamb, adjacent to each hanging point and at 600 mm maximum centres.

K2.10 SEALANT JOINTS:
- Prepare joints and apply sealant as section V6.

K2.11 IRONMONGERY: Assemble and fix carefully and accurately using fastenings with matching finish supplied by ironmongery manufacturer. Prevent damage to ironmongery and adjacent surfaces. At completion check, adjust and lubricate as necessary to ensure correct functioning.

K4 GENERAL GLAZING

To be read with Preliminaries/General conditions.

K4.1 REMOVAL OF GLAZING FOR REUSE:
- Carefully remove existing glazing and glazing compound, beads, etc., avoiding damage to the frame, to leave clean smooth rebates free from obstructions and debris.
- Report to CA any signs of deterioration of the surround revealed by removal of glazing, compounds, etc. Do not reglaze affected surrounds until instructed.
- Clean glazing, beads and other components that are to be reused.

K4.2 WORKMANSHIP GENERALLY:
- Glazing generally: to BS 6262.
- The glazing must be wind and watertight under all conditions with full allowance made for deflections and other movements.
- Panes/sheets to be accurately sized, with clean, undisfigured surfaces and undamaged edges.
- Avoid contact between glazing panes/units and alkaline materials such as cement and lime.
- Keep materials dry until fixed. Keep insulating glass units and plastics glazing sheets protected from the sun and away from heat sources.
- Ensure that glass/plastics, surround materials, sealers primers and paints/clear finishes to be used together are compatible. Comply with glazing and sealant manufacturers' recommendations.

K4.3 PREPARATION: Clean surrounds, rebates, grooves and beads, and prepare as specified before installing glazing.

K4.4 GLASS: Generally to BS 952 and the relevant part(s) of BS EN 572, free from scratches, bubbles, cracks, rippling, dimples and other defects.

K4.5 HEAT TOUGHENED GLASS to be fixed in the following locations must be subjected to a heat soaking regime. All panes must be heat soaked. Provide certified evidence of treatment.

K4.6 EDGE TAPES TO INSULATING UNITS: Report to CA any damage to edge tapes. Obtain approval of proposed method of repair.

K4.7 BEAD FIXING WITH PINS: Space pins evenly at not more that 150 mm centres, and within 50 mm of each corner. Punch pins just below the timber surface.

K4.8 BEAD FIXING WITH SCREWS: Space screws evenly at not more that 225 mm centres, and within 75 mm of each corner.

L4 PLASTERED/RENDERED/ROUGHCAST COATINGS

To be read with Preliminaries/General conditions.

GENERAL REQUIREMENTS FOR WORKMANSHIP

L4.1 BASIC WORKMANSHIP: Comply with the clauses of BS 8000:Part 10 which are relevant to this section.

L4.2 MIX PROPORTIONS: Except where stated otherwise, mix proportions for rendering and cement based plaster undercoats are to be in accordance with the following designations:

Mix type	Mix designation				
	1	2	3	4	5
Cement:lime: sand	1:¼:3	1:½:4 to 1:½:4½	1:1:5 to 1:1:6	1:2:8 to 1:2:9	1:3:10 to 1:3:12
Cement: premixed lime & sand (proportion of lime to sand given in brackets)	1:3 (1:12)	1:4 to 1:4½ (1:9)	1:5 to 1:6 (1:6)	1:8 to 1:9 (1:4½)	1:10 to 1:12 (1:4)
Cement:sand (using plasticizer)	-	1:3 to 1:4	1:5 to 1:6	1:7 to 1:8	-
Masonry cement:sand	-	1:2½ to 1:3½	1:4 to 1:5	1:5½ to 1:6½	-

L4.3 CEMENT: As specified in the type of coating clause(s).
- Where Portland cement is specified Portland blastfurnace cement or Portland pulverized-fuel ash cement may be used as an alternative.
- Where Portland cement, Portland blastfurnace cement, Portland pulverized-fuel ash cement or Sulfate-resisting Portland cement is specified use Class 42.5 or 52.5 material as defined by the appropriate British Standard.
- All cements must comply with the appropriate British Standard and be licensed under the BSI Kitemark scheme for cement.

L4.4 ADMIXTURES: Do not use, other than air-entraining and water- retaining admixtures, unless specified or approved.

L4.5 MIXING:
- Proportions of specified mixes are by volume and for damp sand. Adjust proportions if dry or saturated sand is used.
- Do not use mortar-mill type mixers for mixing gypsum plasters.

PREPARING BACKGROUNDS

L4.6 KEYING/BONDING: Prepare backgrounds as specified for the type of coating to be applied. Where not specified, comply with BS 8000:Part 10, clause 2.2.2.2. Methods other than those specified may be submitted for approval.

L4.7 REPAIRING EXISTING RENDER/STUCCO:
- Cut out all loose, hollow, soft, friable, badly cracked or otherwise damaged areas to form rectangular patches with straight horizontal and vertical edges, square cut or slightly undercut.
- Cut back to imitation joint lines where they occur.
- Cut out cracks other than hairline cracks to a width of not less than 75 mm, undercutting all edges but the bottom.
- Wash and brush exposed backgrounds and edges to remove dust and loose material.

L4.8 REPAIRING EXISTING PLASTER:
- Remove plaster which is loose, soft, friable, badly cracked or affected by efflorescence. Gently tap all remaining intact surfaces and remove hollow sounding areas of plaster. Remove stained plaster to 300 mm beyond last point of visible staining.
- Cut back to straight horizontal and vertical edges.
- Advise CA if any built-in timbers, structural deficiencies or sources of damp are revealed.
- Thoroughly dry brush the background and edges to remove dust, loose material and efflorescence before applying plaster.

L4.9 REPAIRING EXISTING PLASTER:
- Remove plaster on walls affected by rising damp up to a height of 300 mm above the highest point reached by the damp or 1 m above the dpc, whichever is higher.
- Rake out perished and salt contaminated mortar joints and cut out and renew any heavily salt contaminated bricks or blocks in the background.
- Advise CA if any built-in timbers, structural deficiencies or additional sources of damp are revealed.
- Provide the maximum ventilation possible and leave walls to dry for as long as possible before applying new plaster.
- Thoroughly dry brush background to remove dust, loose material and efflorescence before applying plaster.

L4.10 ZINC OXYCHLORIDE PLASTER:
- Agree with CA extent of area to be covered. Apply not less than 6 mm thick, extending beyond infected area by not less than 300 mm. Do not penetrate coating when cross scratching for key.

BACKINGS/BEADS/JOINTS/FEATURES

L4.11 Plasterboard to BS 1230:Part 1, nail fixed, with grey paper face exposed.
- Ensure that noggings, bearers, etc. to support fixtures, fittings and services are accurately and securely fixed.
- In addition to the requirements of BS 8000:Part 10, ensure that all edges of vapour check and fire resisting backings are fully supported.

L4.12 EXPANDED POLYSTYRENE BACKINGS:
- Boards: To BS 3837.
- Ensure that background is clean, dry and free from dust, efflorescence and mould.
- Bed boards in a continuous coating of adhesive to give a flat surface, true to line and level and free from ridges, leaving a 3 mm gap between boards.
- Protect from damage and apply coatings as soon as practicable.

L4.13 WATERPROOF LATHING:

- Fix securely to wall surfaces, with no holes or gaps, to provide a continuous firm base for coatings. Overlap all joints by not less than 100 mm.

- Seal around perimeter of service holes, windows, architraves, etc. with mastic recommended for the purpose by the lathing manufacturer.
- Fix sheets along all edges at staggered centres
- Ensure free movement of air behind lathing by following the drawn details or, in their absence, obtaining instructions.

L4.14 BEADS/STOPS GENERALLY:
- Provide beads/stops at all external angles and stop ends except where specified otherwise.
- Cut neatly, form mitres at return angles and remove sharp edges, swarf and other potentially dangerous projections.
- Fix securely, using the longest possible lengths, plumb, square and true to line and level, ensuring full contact of wings with background. Use mechanical fixings for external beads/stops.
- After coatings have been applied, remove coating material while still wet from surfaces of beads/stops which are to be exposed to view.

L4.15 DISSIMILAR SOLID BACKGROUNDS: Where not shown otherwise on drawings, continue coatings without break across joints between dissimilar solid backgrounds which are in the same plane, reinforcing with lathing as BS 8000: Part 10, clause 2.2.2.3.

L4.16 CONDUITS bedded in undercoat to be covered with 90 mm wide jute scrim bedded in finishing coat mix, pressed flat and trowelled in. Do not lap ends of scrim.

L4.17 SCRIMMING: Notwithstanding BS 8000:Part 10, fill and scrim the following joints between boards (except where coincident with a metal bead):

L4.18 JOINTS BETWEEN BOARDS AND SOLID BACKGROUNDS which are both to be plastered: Fill and scrim unless specified otherwise.

L4.19 PLASTIC COMPOUND FINISH: Where boarded ceilings are to be coated with plastic compound finish, brush apply a 40 mm wide band of sealer recommended by plastic compound manufacturer to perimeter edges of ceilings. Allow to dry before applying wall plaster.

PLASTERING

L4.20 APPLICATION GENERALLY:
- Apply each coating firmly to achieve good adhesion and in one continuous operation between angles and joints.
- All coatings to be not less than the thickness specified, firmly bonded, of even and consistent appearance, free from rippling, hollows, ridges, cracks and crazing.
- Finish surfaces to a true plane, to correct line and level, with all angles and corners to a right angle unless specified otherwise, and with walls and reveals plumb and square.
- Prevent excessively rapid or localised drying out.

L4.21 DUBBING OUT: If necessary to correct inaccuracies, dub out in thicknesses of not more than 10 mm in same mix as first coat. Allow each coat to set before the next is applied. Cross scratch surface of each dubbing out coat immediately after set.

L4.22 DISSIMILAR BACKGROUNDS: Where scrim or lathing or beads are not specified, cut through plaster with a fine blade in a neat, straight line at junctions of:
- Plastered rigid sheet and plastered solid backgrounds
- Dissimilar solid backgrounds.

L4.23 SMOOTH FINISH: Trowel or float to produce a tight, matt, smooth surface with no hollows, abrupt changes of level or trowel marks. Do not use water brush and avoid excessive trowelling and over polishing.

L4.24 WOOD FLOAT FINISH: Finish with a dry wood float as soon as wet sheen has disappeared from surface to give an even overall texture.

RENDERING

L4.25 APPLICATION GENERALLY:
- Apply each coating firmly to achieve good adhesion and in one continuous operation between angles and joints.
- All coatings to be not less than the thickness specified, firmly bonded, of even and consistent appearance, free from rippling, hollows and ridges.
- Finish surfaces to a true plane, to correct line and level, with all angles and corners to a right angle unless specified otherwise, and with walls and reveals plumb and square.
- Prevent excessively rapid or localised drying out.

L4.26 KEYING as specified in BS 8000:Part 10, clause 3.3.2.4 is to be carried out with a suitable comb to produce evenly spaced wavy horizontal lines, approximately 20 mm apart and 5 mm deep to provide a key for following coat. Do not penetrate through the coat. Do not use cross scratching.

L4.27 DRYING: Keep each undercoat and final coat damp for the first 3 days by covering with polyethylene sheet and/or spraying with water. Thereafter prevent from drying out too rapidly. Work in shade whenever possible. Allow each coat to dry out thoroughly to ensure that drying shrinkage is substantially complete before applying next coat.

L4.28 PROTECTION: Adequately protect newly applied external coatings against frost and rain for the first 48 hours using polyethylene sheet hung clear of the face, or other approved method.

WATERPROOF RENDERING

L4.29 BACKGROUND to be soaked thoroughly immediately before applying coatings. Remove puddles and other standing water.

L4.30 LEAKS: Cut out cracks, porous patches and other defective areas in backgrounds subject to water pressure and liable to admit water. Fill cracks, holes and hollows using materials and methods recommended by waterproofing compound manufacturer to stop all leaks.

L4.31 FIXING POINTS: Holes for fastenings to be formed and sealed in accordance with waterproofing compound manufacturers' recommendations before coatings are applied. Do not make any holes after coatings have been applied.

L4.32 COATINGS:
- Prepare and apply in accordance with waterproofing compound manufacturer's recommendations.
- Apply each coat in one continuous operation wherever possible to avoid joints. Where joints cannot be avoided agree positions with CA before starting work.
- Ensure that joints in successive coats do not occur at angles, and are staggered by at least 100 mm. Splay the edges and overlap adjacent coatings by at least 100 mm.
- Check each coating for continuity. Patch pinholes, other breaks and thin areas before applying next coat.
- Do not cross scratch coatings to form a key.

L4.33 INTERNAL ANGLES: Form fillets of waterproof coating mix after first coat has been applied. Form smooth round coves after final coat has been applied.

L4.34 FINISH with a wood or other suitably faced float to give an even texture. Do not apply water to final coat while working up. Do not draw excessive laitance to surface (either by overworking or by use of steel trowel).

L5 METAL MESH LATHING/ANCHORED REINFORCEMENT FOR PLASTERED COATINGS

To be read with Preliminaries/General conditions.

INSTALLATION

L5.1 SPIRAL WRAPPING FOR CASINGS: Form from 3 mm galvanized steel wire to BS 1052 wrapped tightly in a spiral at 300 mm pitch.

L5.2 STIRRUPS FOR CASINGS: Form from 6 mm galvanized steel wire to BS 1052 or 19 x 10 mm galvanized steel channel. Space stirrups away from flanges with continuous 19 mm steel channels. Fix stirrups to channels with 1.2 mm wire ties.

L5.3 FURRINGS: Timber supports more than 75 mm wide to have 22 x 6 mm hardwood furrings fixed before fixing plain expanded metal lathing.

L5.4 BUILDING PAPER:
- Water resistant breather type to BS 4016.
- Starting from the bottom, fix with clout nails or staples in horizontal lengths, with 100 mm laps.

L5.5 PLAIN EXPANDED METAL LATHING:
- Stretch lathing and fix securely as specified to give a taut, firm base for plaster/rendering.
- Fix with the long way of the mesh at right angles to supports and with all strands sloping in the same direction.
- Fix vertical lathing with strands sloping downwards away from outer face.
- Lap side edges not less than 25 mm. Lap ends 50 mm at supports and 75 mm between supports. Laps must not occur within 100 mm of angles or bends.
- Tie all edges and ends together with 1.2 mm wire ties at not more than 150 mm centres.

L5.6 RIBBED LATHING:
- Fix securely as specified to give a taut, firm base for plaster/ rendering.
- Fix with all strands sloping in the same direction, with ribs at right angles to supports and apexes bearing on the supports.
- Lap side ribs of adjacent sheets, press well together and secure with 1.2 mm wire ties or punch fix together at not more than 150 mm centres.
- Lap ends of sheets at supports wherever possible and not less than 50 mm. Where unavoidable between supports, lap ends 100 mm. Laps must not occur within 100 mm of angles or bends.
- Tie all edges and ends together with 1.2 mm wire ties at not more than 150 mm centres along edges and at each rib along ends. Tie end laps between supports with two rows of ties at not more than 100 mm centres.

L5.7 WELDED MESH AND PAPER LATHING:
- Stretch lathing and fix securely as specified to give a taut, firm base for plaster/rendering.
- Fix with long dimension of sheets at right angles to supports and cross joints staggered.
- Commence fixing to walls at bottom right hand corner, working upwards and from right to left.
- Lap edges and ends a minimum of one full mesh. Laps must not occur between supports, at angles, or in line with edges of openings.

L5.8 LATHING ON SOLID BACKINGS: Fix securely as specified, with increased length and frequency of fastenings as necessary in weak areas. Inform CA before applying plaster/rendering.

L11 PAINTING/CLEAR FINISHING

To be read with Preliminaries/General conditions.

GENERALLY

L11.1 COATING MATERIALS Inform CA of selected manufacturer at an early date if using approved alternative other than manufacturer specified.

PREPARATION

L11.2 PREPARATION GENERALLY:
- Comply with BS 8000:Part 12, Section 2 and additional requirements in this specification.
- When removing or partially removing coatings, use methods which will not damage the substrate or adjacent surfaces or adversely affect subsequent coatings.
- Materials used in preparation to be types recommended by their manufacturers and the coating manufacturer for the situation and surfaces being prepared.
- Apply oil based stoppers/fillers after priming. Apply water based stoppers/fillers before priming unless recommended otherwise by manufacturer. Patch prime water based stoppers/fillers when applied after priming.
- Ensure that doors and opening windows, etc., are 'eased' as necessary before coating. Prime any resulting bare areas.

L11.3 SUITABILITY OF SURFACES AND CONDITIONS: Application of coatings will be taken as joint acceptance by the Main Contractor and Subcontractor of the suitability of surfaces and conditions within any given area to receive the specified coatings.

L11.4 FIXTURES: Before commencing work, remove fixtures and fittings, set aside and replace on completion:

L11.5 IRONMONGERY: Remove all old paint and varnish marks from existing ironmongery. Thoroughly clean and polish before refixing.

L11.6 STEEL - MANUAL CLEANING: In addition to general preparation and at an appropriate stage, remove residual rust with suitable chemical treatment, applying primer or patch primer as soon as it has cured.

L11.7 GALVANIZED SURFACES to receive lead free primer: Pretreat with mordant solution. Retreat nonblackened areas to achieve blackening of whole of surface.

L11.8 NEW PLASTERBOARD - TO RECEIVE TEXTURED COATING: Joints to be filled, taped and feathered out using materials recommended by textured coating manufacturer.

L11.9 ALKALI AFFECTED COATINGS: Completely remove from affected surfaces. The extent of such treatment to be as instructed or approved.

L11.10 EXISTING PAINTED WINDOWS:
- Remove existing paint to the extent specified or instructed.
- Thoroughly clean junctions between previously painted surfaces and glass.
- Remove old paint splashes and old paint encroaching beyond the sight line.
- Remove loose and defective putty.
- When dry, patch prime, reputty and paint as soon as sufficiently hard.

L11.11 POINTING TO EXISTING FRAMES:
- Remove defective sealant pointing.

- Thoroughly clean the joint recess, remove all dust and seal joint surfaces as recommended by sealant manufacturer.
- Check that depth of joint is approximately half its width, and adjust using recommended backing strip if necessary.
- Repoint neatly using mastic gun during dry conditions when the ambient temperature is above 5 degC.
- Sealant manufacturer and reference: to be approved

L11.12 EXISTING GUTTERS: Clean all dirt and debris from inside of gutters before preparing and painting. Clean out defective joints and seal with approved jointing material.

APPLICATION

L11.13 PAINTING GENERALLY: Comply with BS 8000:Part 12, Section 3.2 and additional requirements in this specification.

L11.14 CONCEALED JOINERY SURFACES: Where one or more additional coats are specified to be applied in the factory, they must be applied to all surfaces, including those which will be concealed when incorporated into the building.

L11.15 VARNISHING: Thin first coat with white spirit in accordance with manufacturer's recommendations. Brush well in avoiding aeration and lay off. Apply further coats of varnish, rubbing down lightly between coats along the grain.

L11.16 EXTERNAL DOORS: Prime and paint bottom edges before hanging.

L11.17 BEAD GLAZING: Joinery which is to be stained must have the first two coats of the staining system applied to rebates and beads before glazing.

L11.18 BEAD GLAZING: Joinery which is to be varnished must have the first two coats of varnish applied to rebates and beads before glazing.

L11.19 BEAD GLAZING: Joinery which is to be painted must have the primer and one undercoat applied to rebates and beads before glazing.

L11.20 PUTTY GLAZING: Allow putty to set for 7 days then, within a further 14 days, seal with an oil based primer. Ensure that putty is fully protected by coating system as soon as it is sufficiently hard.

L11.21 COMPLETION: Ensure that opening lights and other moving parts move freely. Remove all masking tape and temporary coverings.

M1 GENERAL FIXTURES/FURNISHINGS/EQUIPMENT

To be read with Preliminaries/General conditions.

INSTALLATION

M1.1 INSTALLATION GENERALLY: Methods of fixing and fastenings to be as section V4 unless specified otherwise.

M1.2 SEALANT POINTING:
- Sealant: Silicone based to BS 5889, Type B with fungicide.

M1.3 TRIMS: Wherever possible to be in unjointed lengths between angles or ends of runs. Where running joints are unavoidable obtain approval of location and method of jointing. Mitre angle joints unless otherwise specified.

M1.4 COMPLETION:
- Ensure that doors and drawers are accurately aligned and do not bind. Adjust as necessary to ensure smooth operation.
- Check, adjust and lubricate ironmongery as necessary to ensure correct functioning.

M2 SANITARY APPLIANCES/FITTING

To be read with Preliminaries/General conditions.

WORKMANSHIP

M2.1 INSTALLATION GENERALLY:
- Assemble and fix appliances and accessories so that surfaces designed to falls, drain as intended.
- Use nonferrous or stainless steel fastenings unless specified otherwise.
- When not specified otherwise, use jointing and bedding compounds recommended by the manufacturers of the appliances, accessories and pipes being jointed or bedded.
- Prevent use of appliances for any purpose until Practical Completion.
- On completion, check for damage and defects and test for satisfactory operation. Replace damaged or defective components and accessories. Clean thoroughly.

M2.2 NOGGINGS/BEARERS: Ensure that noggings, bearers, etc. required to support sanitary appliances and fittings are accurately positioned and securely fixed.

M2.3 TILED BACKGROUNDS (other than splashbacks): Ensure that:
- Tiling is complete before fixing appliances.
- Fixings do not overstress tiles.

M2.4 SLAB URINALS:
- Ensure that walls and floor slab are fully waterproofed, as specified elsewhere, before fixing urinal components.
- Assemble channels and slabs dry in correct sequence and check fit. Report any discrepancies to CA.
- Fix components with a 3 mm gap between.
- Completely fill space behind channels and slabs with 1:5 cement:sand grout.
- Rake out all joints to a depth of 10 mm and point flush with waterproof jointing compound recommended by urinal manufacturer.

M2.5 CISTERNS:
- Unless specified otherwise obtain cistern operating components from cistern manufacturer. Ensure that ballvalve matches pressure of water supply.
- Fix at the height recommended by manufacturer unless otherwise specified or shown on drawings.
- Ensure that overflow pipe is fixed to falls, and located to give visible warning of discharge. Agree position with CA where not shown on drawings.

M2.6 TAPS: Fix securely, making a watertight seal with the appliance. Place hot tap to left of cold tap as viewed by user of appliance.

M2.7 WASTES/OVERFLOWS: Bed in waterproof jointing compound and fix with resilient washer between appliance and backnut.

M2.8 SEALANT POINTING:
- Sealant: silicone based to BS 5889, Type B with fungicide.
  Application: As section V6.

N3 UNFRAMED ISOLATED TRIMS/SKIRTINGS/SUNDRY ITEMS

To be read with Preliminaries/General conditions.

N3.1 Quality of timber and fixing: To BS 1186:Part 3.
Preservative treatment: Organic solvent as section Z12 and British Wood Preservation and Damp-proofing Commodity Specification C5.

N3.2 MEDIUM DENSITY FIBRE BOARD to BS 1142.

N3.3 PLYWOOD
- Appearance class to BS EN 635:
- Bond quality to BS EN 314:Part 2:

N3.4 WOOD CHIPBOARD
- To BS 5669:Part 2

N3.5 INSTALLATION GENERALLY:
- Joinery workmanship to be as section V1unless specified otherwise.
- Methods of fixing and fastenings to be as section V4 unless specified otherwise.
- Straight runs to be formed in single lengths wherever possible. Location and method of forming running joints to be approved by the CA where not detailed.
- All joints at angles to be mitred unless specified otherwise.
- Moisture content of timber and wood based boards to be maintained during storage and installation within the range specified for the component.

N4 IRONMONGERY

To be read with Preliminaries/General conditions.

GENERALLY

N4.1 IRONMONGERY RANGES:
- Unless specified otherwise, select ironmongery from one coordinated range so far as possible. Where particular items are unavailable within the range, alternatives compatible in performance, design, style, material, colour and finish may be submitted for approval.
- Inform CA of selected range, manufacturer and/or supplier.

N4.2 IRONMONGERY FOR FIRE DOORS: Unless specified otherwise, select ironmongery to comply with the recommendations of the Association of Builders' Hardware Manufacturers Code of practice 'Hardware essential to the optimum performance of fire resisting doorsets'.

N4.3 DURABILITY: Unless specified otherwise, select ironmongery components to suit the following level(s) of use as defined in BS 7352

N4.4 DOOR PARAMETERS: When selecting ironmongery, the following values may be assumed for tendering purposes. Check suitability of ironmongery when actual values are known and before fixing.

HANGING DEVICES

N4.5 HINGES:
- To BS 7352 and marked accordingly. Unless specified otherwise, select strength class to suit door weight, duty, number of hinges and other factors as recommended in BS 7352, Appendix C.
- Corrosion protection: Unless specified otherwise:
  CP 24 for internal use
  CP 48 for damp internal and unpolluted external use
  CP 96 for polluted atmospheres.

N4.6 NUMBER OF HINGES: Provide three butt hinges to fire doors, external doors and doors with closers, unless specified otherwise.

N4.7 TRACK AND RUNNING GEAR
Designed to operate smoothly, quietly and safely. Door(s) must not be able to come off track when in use.

OPERATING DEVICES

N4.8 OVERHEAD CLOSERS GENERALLY:
- To BS 6459:Part 1,
- Closers must:
  - Be matched to the sizes and weights of doors
  - Override latches and/or door seals when fitted
  - Hold unlatched doors shut under normal working conditions.

N4.9 OVERHEAD CLOSERS FOR FIRE DOORS: In addition to the general requirements for closers, overhead closers for fire resisting doors must:
- Be types included in successful tests to BS 476:Part 22 of door assemblies similar to those for which the closers are proposed. Submit evidence of testing by an approved laboratory.
- Be fixed on the opening face of the door unless specified otherwise.
- Have no mechanical hold open facility.

- Close positively against smoke seals where fitted.
- Have arms of iron, steel or other metal with melting point not less than 800 degC.

N4.10 OVERHEAD CLOSERS FOR FIRE DOORS: In addition to the general requirements for closers, overhead closers for fire resisting doors must:
- Hold a current Certifire certificate.
- Be fixed on the opening face of the door unless specified otherwise.
- Have no mechanical hold open facility.
- Close positively against smoke seals where fitted.
- Have arms of iron, steel or other metal with melting point not less than 800 degC.

N4.11 FLOOR SPRINGS GENERALLY:
- Must comply with the mechanical performance requirements of BS 6459:Part 1.
- Floor springs must:
  - Be matched to the sizes and weights of doors
  - Override latches and/or door seals when fitted
  - Hold unlatched doors shut under normal working conditions.

N4.12 FLOOR SPRINGS FOR FIRE DOORS: In addition to the general requirements for floor springs, floor springs for fire resisting doors must:
- Be types included in successful tests to BS 476:Part 22 of door assemblies similar to those for which the floor springs are proposed. Submit evidence of testing by an approved laboratory.
- Have no mechanical hold open facility.
- Close positively against smoke seals where fitted.

N4.13 FLOOR SPRINGS FOR FIRE DOORS: In addition to the general requirements for floor springs, floor springs for fire resisting doors must:
- Hold a current Certifire certificate.
- Have no mechanical hold open facility.
- Close positively against smoke seals where fitted.

N4.14 ELECTROMAGNETIC HOLD OPEN DEVICES:
- The device must be activated by the alarm system and/or failure of the power supply to release the door and allow it to close.
- A test switch must be located in a convenient position adjacent to the door.

N4.15 DOOR SELECTORS must be fitted to all single swing double doors with rebated meeting stiles fitted with self closers. Provide types that:
- Require the minimum amount of material to be removed from the door and frame
- Are suitable for the size of rebates
- Are from the same range as the closers and are of matching finish and colour.

N4.16 MIDDLE RAIL CLOSERS must:
- Suit the size and weight of doors to which they are fitted.
- Hold unlatched doors closed under normal conditions.

SECURING

N4.17 LOCKS
- To BS 3621 and Kitemarked.

N4.18 LATCHES:
- To BS 5872.
- Latch springs must be strong enough to prevent unsprung lever handles drooping.

N4.19 LOCKS/LATCHES FOR FIRE RESISTING DOORS:

- Must not compromise the fire performance of the door and must be approved for the purpose by the door leaf manufacturer.
- Components critical to the retention of the door in a closed position must not have a melting point lower than 800 degC.

N4.20 ESCAPE LOCKS: Locks specified for security purposes on escape routes must be fitted with a means of withdrawing the bolt without use of a key.

N4.21 EMERGENCY EXIT DEVICES:
- Unless specified otherwise, to be panic bolts/latches to BS 5725:Part 1.

N4.22 EMERGENCY EXIT DEVICES FOR FIRE DOORS:
Type included in successful tests to BS 476:Part 22 of door assemblies similar to those for which the closers are proposed. Submit evidence of testing by an approved laboratory.

N4.23 BOLTS GENERALLY: Unless specified otherwise, provide bolts:
- To match door furniture and sized to suit height, weight and function of door.
- To secure the first closing leaf on double doors.

N4.24 PRIVACY BOLTS must incorporate an external emergency release facility.

FURNITURE

N4.25 LEVER HANDLES:
- To BS 4951.

N4.26 DOOR KNOBS:
- To BS 4951.

N4.27 KNOBSETS: To the performance requirements of BS 4951 and BS 5872.

N4.28 ESCUTCHEONS: Provide separate escutcheons to keyholes where not part of a back plate.

N4.29 STOPS: Unless specified otherwise, are required for doors opening against walls other than those fitted with closers with a back check facility.

N4.30 LETTER PLATE(S):
- To BS 2911,

N4.31 INTERNAL LETTER FLAP(S): To match material, finish and size of letter plate.

N6 HOLES/CHASES/COVERS/SUPPORTS FOR SERVICES

To be read with Preliminaries/General conditions.

N6.1 HOLES AND CHASES IN IN SITU CONCRETE to be cast in. Do not cut hardened concrete or drill holes larger than 10 mm diameter without permission.

N6.2 HOLES IN STRUCTURAL STEELWORK: Do not cut or drill structural steelwork without permission.

N6.3 HOLES, RECESSES AND CHASES IN MASONRY:

- Holes, recesses and chases to be in locations which will least affect the strength, stability and sound resistance of the construction, and to be of the smallest practicable size.
- Holes must not exceed 300 mm square.
- Do not cut chases in walls of hollow or cellular blocks without approval.
- In walls of other materials:
  - Vertical chases must be not deeper than one third of the single leaf thickness.
  - Horizontal or raking chases must be not longer than 1 m and not deeper than one sixth of the single leaf thickness.
- Do not set chases or recesses back to back; offset by a clear distance not less than the wall thickness. Where sockets, etc. are shown on drawings as nominally back to back, obtain instructions.
- Do not cut until mortar is fully set. Cut carefully and neatly, avoiding spalling, cracking or other damage to surrounding structure. Do not cut chases with mechanical or hand impact tools.

N6.4 NOTCHES AND HOLES IN STRUCTURAL TIMBER:

- To be avoided wherever possible and to be the minimum sizes needed to accommodate services.
- Do not position near knots or other defects in the same cross section which would significantly affect strength of timber.
- Notches and holes in the same joist to be at least 100 mm apart horizontally.
- Notches in joists to be at the top, located between 0.07 and 0.25 of span from support, not deeper than 0.125 x depth of joist and to be formed by sawing down to a drilled hole.
- Holes in joists to be on the neutral axis, with diameter not more than 0.25 x depth of joist, spaced at centres not less than 3 x diameter of largest hole and located between 0.25 and 0.4 of span from support.
- Notches in roof rafters, struts and columns will not be permitted.
- Holes in struts and columns to be on the neutral axis, with diameters not exceeding 0.25 x minimum width of member, located between 0.25 and 0.4 of length from end and spaced at centres not less than 3 x diameter of largest hole.

N6.5 PIPE SLEEVES

- Sleeves to extend through full thickness of wall/floor and be accurately positioned to give a minimum clearance around service of 20 mm or diameter of service, whichever is the least.
- Sleeves, whether built in or installed in preformed holes, to be bedded solid.
- Seal annular space between service and sleeve
- Where exposed to view, finish bedding and sealing neatly to approval.

Q1 RAINWATER PIPEWORK/GUTTERS

To be read with Preliminaries/General conditions.

TYPE(S) OF PIPEWORK

Q1.1 CAST IRON PIPEWORK FOR EXTERNAL USE:
- Pipes, fittings and accessories: To BS 460.

Q1.2 ALUMINIUM PIPEWORK FOR EXTERNAL USE:
- Pipes, fittings and accessories: To BS 2997.

Q1.3 PVC-U PIPEWORK FOR EXTERNAL USE:
- Pipes, fittings and accessories: To BS 45142.

INSTALLATION

Q1.4 BEFORE COMMENCING WORK specified in this section, ensure that:
- Below ground drainage is ready to receive rainwater or that the discharge can be dispersed by approved means to prevent damage or disfigurement of the building fabric.
- Any specified painting of surfaces which will be concealed or inaccessible is completed.

Q1.5 INSTALLATION GENERALLY:
- Install pipework/gutters to ensure the complete discharge of rainwater from the building without leaking.
- Obtain all components for each type of pipework/guttering from the same manufacturer unless specified otherwise.
- Provide access fittings and rodding eyes as necessary in convenient locations to permit adequate cleaning and testing of pipework.
- Avoid contact between dissimilar metals and other materials which would result in electrolytic corrosion.
- Do not bend plastics or galvanized steel pipes.
- Adequately protect pipework/gutters from damage and distortion during construction. Fit purpose made temporary caps to prevent ingress of debris. Fit all access covers, cleaning eyes and blanking plates as the work proceeds.
- Where not specified otherwise use plated, sherardized, galvanized or nonferrous fastenings, suitable for the purpose and background, and compatible with the material being fixed.

Q1.6 FIXING GUTTERS:
- Set out to a true line and even gradient to ensure no ponding or backfall. Position high points of gutters as close as practical to the roof and low points not more than 50 mm below the roof.
- Position outlets to align with connections to below ground drainage, unless shown otherwise on drawings.
- Provide for thermal and building movement when fixing and jointing, and ensure that clearances are not reduced as fixing proceeds.
- Seal as specified to make watertight.
- Ensure that roofing underlay is dressed into gutter.

Q1.7 RAINWATER OUTLETS: Ensure that:
- Outlets are securely fixed before connecting pipework.
- Junctions between outlets and pipework can accommodate all movement in the structure and pipework.

Q1.8 FIXING PIPEWORK:
- Fix securely at specified centres plumb and/or true to line.
- Make changes in direction of pipe runs only where shown on drawings unless otherwise approved.
- Fix branches and low gradient sections with uniform and adequate falls to drain efficiently.
- Fix externally socketed pipes/fittings with sockets facing upstream.

- Provide additional supports as necessary to support junctions and changes in direction.
- Fix every length of pipe at or close below the socket collar or coupling.
- Provide a load bearing support for vertical pipes at not less than every storey level. Tighten fixings as the work proceeds so that every storey is self supporting and undue weight is not imposed on fixings at the base of the pipe.
- Isolate from structure where passing through walls or floors and sleeve pipes as specified in Section N6.
- Provide for thermal and building movement when fixing and jointing, and ensure that clearances are not reduced as fixing proceeds.
- Fix expansion joint pipe sockets rigidly to the building and elsewhere use fixings that allow the pipe to slide.

Q1.9 JOINTING PIPEWORK/GUTTERS:
- Joint using materials, fittings and techniques which will make effective and durable connections.
- Joint differing pipework/gutter systems with adaptors recommended by manufacturer(s).
- Cut ends of pipes to be clean and square with burrs and swarf removed. Chamfer pipe ends before inserting into ring seal sockets.
- Ensure that jointing or mating surfaces are clean, and where necessary lubricated, immediately before assembly.
- Form junctions using fittings intended for the purpose ensuring that jointing material does not project into bore of pipes, fittings and appliances.
- Remove surplus flux/solvent/cement/sealant from joints.

Q1.10 ELECTRICAL CONTINUITY: Use clips or suitable standard couplings supplied for the purpose by pipework manufacturer to ensure electrical continuity at all joints in metal pipes with flexible couplings and which are to be earth bonded.

Q1.11 INTERNAL PIPEWORK TEST:
- Temporarily seal open ends of pipework with plugs.
- Connect a U tube water gauge and air pump to the pipework via a plug.
- Pump air into pipework until gauge registers 38 mm.
- Allow a period for temperature stabilization, after which the pressure of 38 mm is to be maintained without loss for not less than 3 minutes.

Q1.12 INTERNAL PIPEWORK TEST:
- Temporarily seal open ends of pipework with plugs.
- Connect a U tube water gauge and air pump via a plug.
- Pump air into pipework until gauge registers 50 mm.
- Allow a period for temperature stabilization, after which the pressure of 50 mm is to be maintained without loss for not less than 5 minutes.

Q1.13 GUTTER TEST: Block all outlets, fill gutters to overflow level and after 5 minutes closely inspect for leakage.

Q2 FOUL DRAINAGE ABOVE GROUND

To be read with Preliminaries/General conditions.

TYPE(S) OF PIPEWORK

Q2.1 PVC-U PIPEWORK
- Pipes, fittings and accessories: PVC-U to BS 4514, Kitemark certified.

Q2.2 PLASTICS PIPEWORK
- Pipes, fittings and accessories to BS 5255, Kitemark certified.

Q2.3 CAST IRON PIPEWORK
- Pipes and fittings: To BS 416:Part 1 with sockets.

Q2.4 CAST IRON PIPEWORK
- Pipes and fittings: To BS 416:Part 2 with flexible joint couplings to BS 6087.

Q2.5 CAST IRON PIPEWORK
- Pipes, fittings and accessories: To ISO 6594 with flexible joint couplings, Agrement certified.

INSTALLATION

Q2.6 INSTALLATION GENERALLY:
- Before commencing work specified in this section, ensure that any specified painting of surfaces which will be concealed or inaccessible is completed.
- Install pipes, fittings and accessories in accordance with BS 5572.
- Obtain all components for each type of pipework from the same manufacturer unless specified otherwise.
- Provide access fittings and rodding eyes as necessary in convenient locations to permit adequate cleaning and testing of pipework.
- Avoid contact between dissimilar metals and other materials which would result in electrolytic corrosion.
- Do not bend plastics or galvanized steel pipes.
- Adequately protect pipework from damage and distortion during construction. Fit purpose made temporary caps to prevent ingress of debris. Fit all access covers, cleaning eyes and blanking plates as the work proceeds.
- Where not specified otherwise use plated, sherardized, galvanized or nonferrous fastenings, suitable for the purpose and background, and compatible with the material being fixed.

Q2.7 BUILDERS WORK: Restrictions on the cutting of holes, chases,notches, etc., installation of pipe sleeves and stopping are specified in section N6.

Q2.8 PIPE ROUTES to be the shortest practical, with as few bends as possible and no bends in wet portion of soil stacks, unless specified otherwise. Pipe routes not shown on drawings to be approved before commencing work.

Q2.9 FIXING PIPEWORK:
- Fix securely at specified centres plumb and/or true to line.
- Make changes in direction of pipe runs only where shown on drawings unless otherwise approved.
- Fix branches and low gradient sections with uniform and adequate falls to drain efficiently.
- Fix externally socketed pipes/fittings with sockets facing upstream.
- Provide additional supports as necessary to support junctions and changes in direction.
- Fix every length of pipe at or close below the socket collar or coupling.

- Provide a load bearing support for vertical pipes at not less than every storey level. Tighten fixings as the work proceeds so that every storey is self supporting and undue weight is not imposed on fixings at the base of the pipe.
- Isolate from structure where passing through walls or floors and sleeve pipes as specified in section N6.
- Provide for thermal and building movement when fixing and jointing, and ensure that clearances are not reduced as fixing proceeds.
- Fix expansion joint pipe sockets rigidly to the building; elsewhere use fixings that allow the pipe to slide.

Q2.10 JOINTING PIPEWORK:
- Joint using materials, fittings and techniques that will make effective and durable connections.
- Joint differing pipework systems with adaptors recommended by manufacturer(s).
- Cut ends of pipes to be clean and square with burrs and swarf removed. Chamfer pipe ends before inserting into ring seal sockets.
- Ensure that jointing or mating surfaces are clean, and where necessary lubricated, immediately before assembly.
- Form junctions using fittings intended for the purpose ensuring that jointing material does not project into bore of pipes, fittings and appliances.
- Remove surplus flux/solvent/cement/sealant from joints.

Q2.11 ELECTRICAL CONTINUITY: Use clips supplied for the purpose by pipework manufacturer to ensure electrical continuity at all joints in metal pipes with flexible couplings and which are to be earth bonded.

Q2.12 AIR ADMITTANCE VALVES: Agrement certified.
- Install in a vertical position, above the flood level of the highest appliance served, and so that insulation materials (other than the manufacturers insulating cover) are kept clear of the valve body.
- Fit using a ring seal connection, or in such a way that the valve can easily be removed to allow the discharge stack to be rodded.
- Fit the manufacturers insulating cover in roof spaces and other unheated locations.

Q2.13 PIPEWORK TEST:
- Temporarily seal open ends of pipework with plugs.
- Connect a U tube water gauge and air pump to the pipework via a plug or through the trap of an appliance.
- Pump air into pipework until gauge registers 38 mm.
- Allow a period for temperature stabilisation, after which the pressure of 38 mm is to be maintained without loss for not less than 3 minutes.

Q3 DRAINAGE BELOW GROUND

To be read with Preliminaries/General conditions.

GENERALLY

Q3.1 EXISTING DRAINS:
- Before starting work, check invert levels and positions of existing drains, sewers, inspection chambers and manholes against information shown on drawings and report any discrepancies to CA.
- Adequately protect existing drains and maintain normal operation during construction.

Q3.2 IN SITU CONCRETE:
- Unless specified otherwise, in situ concrete for use in drainage below ground to be to BS 5328, or an equivalent or better mix subject to approval.
- Different mixes may be used for different parts of the drainage work.

TYPE(S) OF PIPELINE

Q3.3 CLAY PIPELINES
- Pipes, bends and junctions: Vitrified clay to BS EN 2951, with flexible joints, Kitemark certified.

Q3.4 PLASTICS PIPELINES
- Pipes, bends and junctions: PVC-U to BS 4660 or BS 5481, with flexible joints, Kitemark certified.

Q3.5 PLASTICS PIPELINES
- Pipes: Concentric rib reinforced PVC-U to WIS 4-31-05, with flexible joints, Water Industry certified.

EXCAVATING/BACKFILLING

Q3.6 EXCAVATED MATERIAL: Unless otherwise specified, set aside turf, topsoil, hardcore, etc. for use in reinstatement.

Q3.7 LOWER PART OF TRENCH: From bottom up to 300 mm above crown of pipe the trench must have vertical sides and be of a width as small as practicable but not less than external diameter of pipe plus 300 mm or larger dimension if specified.

Q3.8 ASSUMED TYPE OF SUBSOIL: Where the type of subsoil at the level of the crown of the pipe differs from that stated for the type of pipeline, obtain instructions before proceeding.

Q3.9 FORMATION FOR BEDS GENERALLY:
- Excavate to formation immediately before laying beds or pipes.
- Remove mud, rock projections, boulders and hard spots and replace with consolidated bedding material.
- Harden local soft spots by tamping in bedding material.
- Inform CA in advance to give him reasonable opportunity to inspect excavated formation for each section of the work.

Q3.10 BACKFILLING TO PIPELINES GENERALLY: Unless specified otherwise, backfill from top of specified surround or protective cushion with material excavated from the trench, compacted in layers not exceeding 300 mm thick. Do not use heavy compactors before there is 600 mm of material over pipes.

Q3.11 BACKFILLING UNDER ROADS AND PAVINGS: Backfill from top of specified surround or protective cushion up to formation level with Granular Subbase Material Type 1 to DOT Specification for Highway Works, Clause 803, laid and compacted in 150 mm layers.

Q3.12 WARNING MARKER TAPES:
- Lay during backfilling in a continuous line over pipelines, 300 to 400 mm below the level of the finished surface.

BEDDING/JOINTING

Q3.13 INSTALLATION GENERALLY:

- Obtain pipes and fittings for each pipeline from the same manufacturer unless otherwise specified. Joint differing pipes and fittings with adaptors recommended by pipe manufacturer.
- Lay pipes to true line and regular gradient on an even bed for the full length of the barrel with sockets (if any) facing up the gradient.
- Joint using recommended lubricants, leaving recommended gaps at ends of spigots to allow for movement.
- Adequately protect pipelines from damage and ingress of debris. Seal all exposed ends during construction.
- Arrange the work to minimise time between laying and testing. Backfill after successful testing.

Q3.14 CLASS D NATURAL BED:

- Excavate trench slightly shallower than the final levels.
- Hand trim to accurate gradients, replacing any overdig with compacted spoil. Where hand trimming is impracticable obtain instructions before proceeding.
- Cut holes in trench bottom for couplings/sockets and lay pipes resting uniformly on their barrels, adjusting to line and gradient. Do not use hard packings under pipes.
- After initial testing, backfill to 150 mm (250 mm for adoptable sewers) above crown of pipe with a protective cushion of selected fill, free from vegetable matter, rubbish, frozen soil and material retained on a 40 mm sieve. Compact by hand in 100 mm layers.

Q3.15 CLASS F GRANULAR BED:

- Granular material: To BS 882:

Pipe size (DN)	Nominal single size (mm)
100 & 150	10
225 & 300	10 or 20

- Lay and compact to a thickness not less than 50 mm for sleeve jointed pipes, 100 mm for socket jointed pipes, over full width of trench. Where trench bottom is uneven due to hard spots or other reason, increase depth by 100 mm. Scoop out locally at couplings/sockets and lay pipes digging slightly into bed and resting uniformly on their barrels. Adjust to line and gradient.
- After initial testing, backfill to 150 mm (250 mm for adoptable sewers) above crown of pipe with a protective cushion of selected fill, free from vegetable matter, rubbish, frozen soil and material retained on a 40 mm sieve. Compact by hand in 100 mm layers.

Q3.16 CLASS N AS-DUG MATERIAL BED:

- Material: As-dug material with a compaction fraction of not more than 0.3, or all-in aggregate, nominal size 10 mm, or fine aggregate to BS 882.
- Lay and compact to a thickness not less than 50 mm for sleeve jointed pipes, 100 mm for socket jointed pipes, over full width of trench. Where trench bottom is uneven due to hard spots or other reason, increase depth by 100 mm. Scoop out locally at couplings/sockets and lay pipes digging slightly into bed and resting uniformly on their barrels. Adjust to line and gradient.
- After initial testing, backfill to 150 mm (250 mm for adoptable sewers) above crown of pipe with a protective cushion of selected fill, free from vegetable matter, rubbish, frozen soil and material retained on a 40 mm sieve. Compact by hand in 100 mm layers.

Q3.17 CLASS O FULL DEPTH GRANULAR SUPPORT:

- Granular material: To BS 882:

Pipe size (DN)	Nominal single size (mm)
100 & 150	10
225 & 300	10 or 20

- Lay and compact to a thickness not less than 100 mm over full width of trench. Scoop out locally at couplings/sockets and lay pipes digging slightly into bed and resting uniformly on their barrels. Adjust to line and gradient.

- After initial testing, lay and compact by hand more granular material to slightly above crown of pipe.
- Backfill with a protective cushion of selected fill, free from vegetable matter, rubbish, frozen soil and material retained on a 40 mm sieve. Compact by hand in 100 mm layers to 300 mm above crown of pipe. (100 mm of granular material may be used in lieu).

Q3.18 CLASS P FULL DEPTH GRANULAR SUPPORT:

- Granular material: To BS 882:

Pipe size (DN)	Nominal single size (mm)	Graded size (mm)
100 & 150	10	Not permitted
225 & 300	10 or 20	20 to 5

- Lay and compact to a thickness not less than 100 mm over full width of trench. Scoop out locally at couplings/sockets and lay pipes digging slightly into bed and resting uniformly on their barrels. Adjust to line and gradient.
- After initial testing, lay and compact by hand more granular material to slightly above crown of pipe.
- Backfill with a protective cushion of selected fill, free from vegetable matter, rubbish, frozen soil and material retained on a 40 mm sieve. Compact by hand in 100 mm layers to 300 mm above crown of pipe. (100 mm of granular material may be used in lieu).

Q3.19 CLASS Q GRANULAR SURROUND WITH PROTECTION:

- Granular material: As for Class P bedding, clause 390.
- Lay pipes as for Class P bedding.
- After initial testing, lay and compact by hand more granular material to 75 mm above crown of pipe. Rake out to form an even bed and lay precast concrete paving flags to BS 7263, 450 mm wide and butted together (if necessary increasing the width of the upper part of the trench). Backfill with soil or topsoil as appropriate.

Q3.20 CLASS W GRANULAR SURROUND:

- Excavate trench after hardcore has been laid and compacted.
- Granular material: To BS 882:

Pipe size (DN)	Nominal single size (mm)
100 & 150	10
225 & 300	10 or 20

- Lay and compact to a thickness not less than 100 mm over full width of trench. Scoop out locally at couplings/sockets and lay pipes digging slightly into bed and resting uniformly on their barrels. Adjust to line and gradient.
- After initial testing, lay and compact by hand more granular material to 100 mm above crown of pipe.
- Backfill with hardcore or granular material compacted in layers not exceeding 300 mm thick up to slab formation.

Q3.21 CLASS X GRANULAR SURROUND FOR GROUND WATER:

- Lay 75 mm deep bed, at least 100 mm wider than pipe, with 10 mm single size material to BS 882.
- Lay pipes and adjust to line and gradient.
- Complete surround with single size material compacted to 150 mm above crown of pipe.

Q3.22 CLASS Y CONCRETE SURROUND FOR SHALLOW PIPES UNDER BUILDINGS:

- Where crown of pipe is less than 300 mm below underside of slab, encase pipe in concrete of same mix as slab and cast integrally with the slab. Extend length of concrete surround to within 150 mm of next nearest flexible joint.
- Excavate trench after hardcore has been laid and compacted.
- Lay concrete blinding, 25 mm thick over full width of trench and allow to set.
- Lay pipes on blinding on folding wedges of compressible board not less than 100 mm above blinding. Anchor the pipeline or fill with water, if necessary, to prevent flotation.

Q3.23 CLASS Z CONCRETE SURROUND:

- Concrete mix as specified under Generally.

- Lay concrete blinding, 25 mm thick over full width of trench and allow to set.
- Lay pipes on blinding on folding wedges of compressible board to give a minimum 150 mm clearance under the pipe. Anchor the pipeline or fill with water, if necessary, to prevent flotation.
- Form vertical construction joints in surround at face of flexible pipe joints using 18 mm thick compressible board precut to profile of pipe. Fill any gap between spigot and socket with resilient material to prevent entry of concrete.
- After initial testing, place and compact more concrete for full width of trench to encase pipe to 150 mm above crown or to other height as specified or shown on drawings.

Q3.24 TRENCHES LESS THAN ONE METRE FROM FOUNDATIONS: Where bottom of trench is lower than bottom of foundation, use Class Z concrete surround as clause 461. Top of concrete to be not lower than bottom of foundation.

Q3.25 TRENCHES MORE THAN ONE METRE FROM FOUNDATIONS:
- Where bottom of drainage trench is below a critical level, (defined below) Class Z concrete surround as clause 461 is to be used, the top of the concrete being not lower than the critical level.
- For the purpose of this clause the critical level is D mm lower than level of foundation bottom, D mm being equal to the horizontal distance of the near side of the trench from the foundation, minus 150 mm.

Q3.26 PIPELINES PASSING THROUGH STRUCTURES:
- Where pipelines must be cast in or fixed to structures (including manholes, catchpits and inspection chambers) provide short length or rocker pipes near each external face, with flexible joint at each end:

Pipe size (DN)	Distance to first joint from structure (mm)	Short length (mm)
100 & 150	150	600
225	225	600

- Where pipelines need not be cast in or fixed to structures (e.g. walls to footings) provide either:
  - short length or rocker pipes as specified above, or
  - openings in the structures to give 50 mm minimum clearance around the pipeline and closely fit a rigid sheet to each side of opening to prevent ingress of fill or vermin.

Q3.27 BENDS AT BASE OF SOIL STACKS:
- Unless specified otherwise, use a 90 degrees nominal rest bend with a minimum radius of 200 mm to centreline of the pipe.
- Invert of horizontal drain at base of stack to be not less than 450 mm below centreline of lowest branch pipe.
- Stabilize bend(s) by bedding in concrete without impairing the flexibility of couplings.

Q3.28 BENDS AT BASE OF SOIL STACKS:
- Unless specified otherwise, form with two 45 degrees bends
- Invert of horizontal drain at base of stack to be not be below centreline of lowest branch pipe.
- Stabilize bend(s) by bedding in concrete without impairing the flexibility of couplings.

Q3.29 DIRECT CONNECTION OF GROUND FLOOR WCS TO DRAINS:
- Drop from crown of WC trap to invert of drain must not exceed 1.5 m.
- Horizontal distance from the drop to a ventilated drain must not exceed 6 m.

Q3.30 RIGID BACKDROP PIPES outside the manhole wall: Encase with not less than 150 mm of concrete as specified under Generally. All excavation beneath the backdrop pipe and its surround must be replaced with concrete.

Q3.31 FLEXIBLE COUPLINGS:
- To BS EN 295-4, WIS 4-41-01, or Agrement certified.
  Ensure that the ends of pipes to be joined are cleanly cut and square.
- Ensure that outer surfaces of pipes to be joined are clean and smooth. Where necessary, e.g. on concrete or iron pipes, smooth out mould lines and/or apply a cement grout over the sealing area.

TERMINAL/ACCESS FITTINGS

Q3.32 MANUFACTURE: Obtain each complete assembly of fittings, traps, etc., including appropriate couplings, from the same manufacturer, and check compatibility of components with each other and with the pipe system.

Q3.33 INSTALLATION OF FITTINGS:
- Set fittings square with and tightly jointed to adjacent construction as appropriate. If open to doubt obtain instructions.
- Bed and surround fittings, traps, etc. in concrete, 150 mm thick, mix as specified under Generally.
- Permissible deviation in level of gully gratings to be +0 to - 10 mm,
- Fit purpose made temporary caps over exposed openings in fittings and protect from site traffic.

MANHOLES/CHAMBERS/SOAKAWAYS/TANKS

Q3.34 BRICK MANHOLES/INSPECTION CHAMBERS:
- Bases: 150 mm thick plain concrete, mix as specified under Generally.
- Steps: to BS 1247.
  Bed in joints to all chambers over 900 mm deep at 300 mm vertical centres staggered 300 mm horizontally, with lowest step not more than 300 mm above benching and top step not more than 450 mm below top of cover.
- Cover slabs: precast or in situ concrete at Contractors discretion. If precast, bed solid in 1:3 cement:sand mortar to brickwork.
  Openings to suit required access covers.
  Concrete mix as specified under Generally.
  Reinforcement: Steel fabric to BS 4483

Q3.35 GRANULAR FILL SOAKAWAY(S):
Granular material: Clean broken bricks, crushed rock or gravel, size range 150 mm to 50 mm.
- Line bottom and sides of pit with geotextile membrane. Insert vertical inspection/distributor pipe(s) and horizontal distributor pipe(s) if required. Fill up to invert level of inlet pipe with granular material. Cover top with geotextile membrane before connecting inlet pipe to inspection/ distribution pipe. Backfill with as-dug material.

Q3.36 CONVENTIONAL CHANNEL(S), BRANCHES AND BENCHING:
- Bed main channel solid in 1:3 cement:sand mortar. Connect branches to channel, preferably at half pipe level, so that discharge flows smoothly in direction of main flow. Connect branches greater than nominal size 150 mm with the soffit level with that of the main drain. Where the connecting angle is more than 45 degrees to direction of flow use three-quarter section channel bends.
- Use clips or ensure adequate mechanical key when bedding plastics channels on to mortar.
- Form benching in concrete, mix as specified under Generally, to rise vertically from top of main channel to a level not lower than soffit of outlet pipe, then slope upwards at 10% to walls. Within 3 hours float with coat of 1:3 cement:sand mortar and finish smooth with steel trowel.

Q3.37 PREFORMED PLASTICS CHANNEL(S), BRANCHES AND BENCHING:
Sizes and integral branches to suit each manhole.
- Remove temporary caps as necessary and make pipework connections. Bed component on base in 1:3 cement:sand mortar. Form concrete benching, mix as specified under Generally, with 10% fall from manhole walls to component rim. Within 3 hours float with coat of 1:3 cement:sand mortar and finish smooth with steel trowel.

Q3.38 SEALED ACCESS FITTING(S), BRANCHES AND BENCHING:
Sizes and integral branches to suit each manhole.
- Make pipework connections and fit caps to unused branches. Lay component on base and bed in 1:3 cement:sand mortar. Form concrete benching, mix as specified under Generally, with 10% fall from

manhole walls to component rim. Within 3 hours float with coat of 1:3 cement:sand mortar and finish smooth with steel trowel.

Q3.39 PETROL INTERCEPTOR UNIT(S):
- In situ concrete base: 150 mm thick plain concrete, mix as specified under Generally.
- Concrete surround: Fill tank with water then encase tank and access shafts with mass concrete to fully support tank and not less than 150 mm thick, mix as specified under Generally.
- In situ concrete base: 150 mm thick plain concrete, mix as specified under Generally.
- Concrete surround: Fill tank with water then encase tank and access shafts with mass concrete to fully support tank and not less than 150 mm thick, mix as specified under Generally.

Q3.40 CAST IRON ACCESS COVERS AND SEATING:
- Covers: Grey iron or ductile iron to BS EN 124.
  Seating: Make up in engineering bricks to BS 3921,
  Class B, laid in 1:3 cement:sand mortar, or precast concrete cover frame units, Type 1 or Type 2 to suit cover shape.
- Bed and haunch frame solidly in 1:3 cement:sand mortar over its whole area, centrally over opening, top level and square with joints in surrounding finishes. Cut back top of haunching to 30 mm below top of surface material.

Q3.41 STEEL ACCESS COVERS AND SEATING:
- Covers: Steel to BS EN 124
- Seating: Make up in engineering bricks to BS 3921,
  Class B, laid in 1:3 cement:sand mortar or precast concrete cover frame units, Type 1 or Type 2 to suit cover shape.
- Bed and haunch frame solidly in 1:3 cement:sand mortar over its whole base area, centrally over opening, top level and square with joints in surrounding finishes. Cut back top of haunching to 30 mm below top of surface material.

Q3.42 CONNECTIONS TO SEWERS: Connect new pipework to existing adopted sewer(s) to the requirements of the Sewerage Authority or its agent.

CLEANING/TESTING/INSPECTION

Q3.43 CLEANING:
- Flush out the whole of the installation with water to remove all silt and debris before final testing, before CCTV inspection if specified and immediately before handover.
- Safely dispose of washings and any detritus without discharging them into sewers or watercourses.

Q3.44 TESTING/INSPECTION GENERALLY:
- Give CA advance notice to allow the opportunity to attend all tests and inspections.
- Give the Statutory Authority appropriate notice to enable pipelines to be inspected and tested as required.
- Provide water, assistance and apparatus as required.
- All lengths of drain, manholes and inspection chambers must pass the tests specified. If permitted test loss or infiltration is exceeded, remedy defect(s) before retesting after an appropriate period.

Q3.45 WATER/AIR TESTING OF GRAVITY DRAINS AND PRIVATE SEWERS UP TO DN 300:
- To ensure that pipelines are sound and properly installed, air test short lengths to BS 8301, paragraph 25.6.3 immediately after completion of bedding/surround.
- For final checking and statutory authority approval, water test to BS 8301, paragraph 25.6.2 all lengths of pipeline from terminals and connections to manholes/chambers and between manholes/chambers.

Q3.46 WATER TESTING OF MANHOLES/INSPECTION CHAMBERS: Before backfilling test each manhole or chamber in accordance with BS 8301, paragraph 25.7 for:
- Exfiltration: Drop in water level to be not more than relevant dimension in Table 9.
- Infiltration: Inflow to be not more than 5 litres per hour per manhole.

INTERNAL & EXTERNAL REPAIR PROJECT
CROYLAND ABBEY, WELLINGBOROUGH
TRADE PREAMBLES

R1 HOT AND COLD WATER

To be read with Preliminaries/General conditions.

GENERAL INFORMATION/REQUIREMENTS

R1.2 ELECTRICAL WORK in connection with the installation is not included, and will be carried out by the Electrical Contractor. Provide all information necessary for the completion of such work.

R1.3 ELECTRICAL WORK in connection with the installation will be included in the plumbing contractor's work and must be in accordance with BS 7671 'Requirements for Electrical Installations' (The IEE Wiring Regulations).

R1.4 SERVICE CONNECTIONS are covered elsewhere by a Provisional Sum.

R1.5 FUEL FOR TESTING: Costs incurred in the provision of fuel for testing and commissioning the installation are covered elsewhere by a Provisional Sum.

GENERAL TECHNICAL REQUIREMENTS

R1.6 CENTRALISED HOT WATER STORAGE: Design the system to meet the following requirements:
- Storage capacity, where not specified, to be sufficient to meet the assessed needs of the building and its occupants.
- Primary heat source, where not specified, to be capable of raising temperature of water from 10 degC to 60 degC within 1 hour.

R1.7 PIPELINE SIZES: Calculate sizes to suit the probable simultaneous demand for the building and to ensure:
- A water velocity of not more than 1.3 m/s for hot water and 2.0 m/s for cold water.
- Suitable discharge rates at draw off points.

R1.8 INSTALLATION GENERALLY:
- Install, test and commission the hot and cold water systems so that they comply with BS 6700, water supply byelaws, and the requirements of this section to provide a system free from leaks and the audible effects of expansion, vibration and water hammer.
- All installation work to be carried out by qualified operatives.
- Store all equipment, pipework components and accessories in original packaging in dry conditions. Protect plastics pipework from prolonged exposure to sunlight. Wherever practicable retain protective wrappings until Practical Completion.
- Securely fix equipment, components and accessories in specified/approved locations, parallel or perpendicular to the structure of the building unless specified otherwise, using fixing brackets/mountings, etc. recommended for the purpose by the equipment manufacturer.
- In locations where moisture is present or may occur, use corrosion resistant fittings/fixings and avoid contact between dissimilar metals by use of suitable washers, gaskets, etc.
- All equipment, pipework, components, valves, etc. forming the installation to be fully accessible for maintenance, repair or replacement unless specified or shown otherwise.
- Installation to be fitted with vents at high points and draining taps at low points to facilitate purging and draining.

R1.9 BUILDER'S WORK: Comply with restrictions on the cutting of holes, chases, notches, etc. and methods of attachment to the building fabric specified in section P31.

R1.10 DEZINCIFICATION: All brass fittings used below ground to be DZR alloy CZ 132 and so marked, or gunmetal.

R1.11 DEZINCIFICATION: All brass fittings which are in contact with water to be DZR alloy CZ 132 and so marked, or gunmetal.

EQUIPMENT

R1.12 HOT WATER BOILER/CIRCULATOR:
- Gas fired to BS 5258:Part 1 and BS 6332:Part 1.

R1.13 INSTANTANEOUS WATER HEATER(S):
- Gas fired to BS 5386.

R1.14 INSTANTANEOUS WATER HEATER(S):
- Electric, BEAB approved.

R1.15 INSTANTANEOUS SHOWER UNIT(S):
- Electric, BEAB approved.

R1.16 STORAGE WATER HEATER(S):
- Gas fired to BS 5258:Part 7.

R1.17 STORAGE WATER HEATER(S):
- Electric to BS 3456:Part 102:Section 102.21.

R1.18 FLUE PIPE:
- size to suit appliance, with all fittings necessary to provide a complete installation.
  Set out with the minimum number of joints and bends and a slope not more than 30 degrees from the vertical. Do not locate joints within the depth of floors.
- Install with sockets uppermost, fully supported and fixed securely with brackets supplied for the purpose at locations and centres recommended by pipe manufacturer.
- Seal joints, completely filling with approved jointing materials, to give a gas tight installation.
- Ensure that joints and supports adequately accommodate thermal movement.
- Ensure that flue pipe is not less than the required minimum distance from combustible materials.
- Fit terminal and flashings, collars, etc. to weatherproof junction at roof.

R1.19 BALANCED FLUE TERMINAL: Agree position with CA before forming any openings in external wall.

R1.20 AIR SUPPLY TO APPLIANCE: Inform CA of air supply requirements and agree/confirm size(s) and location(s) of vent(s).

R1.21 CISTERN(S):
- Moulded plastics to BS 4213, Kitemark certified, with removable cover.
  Valve: Float operated diaphragm type to BS 1212 with plastics float to BS 2456, size to suit water pressure.
- Lowest point of outlet(s) to be not less than 30 mm above bottom of cistern.
  Fix securely to sides and top of cistern(s) using tape/ adhesive recommended by the insulation manufacturer, leaving no gaps but allowing removal of access cover with minimum disturbance to insulation. Insulate underside of cistern where exposed in unheated spaces.

R1.22 CISTERN(S):
- Moulded plastics to BS 4213, Kitemark certified, and complying with the additional requirements of BS 7181 unless specified otherwise.
  Valve: Float operated diaphragm type to BS 1212 with plastics float to BS 2456, size to suit water pressure.
- Lowest point of outlet(s) to be not less than 30 mm above bottom of cistern.

R1.23 HOT WATER STORAGE CYLINDER:
- Direct type to BS 699, Kitemark certified.

R1.24 HOT WATER STORAGE CYLINDER:
- Double feed indirect type to BS 1566:Part 1, Kitemark certified.

R1.25 HOT WATER STORAGE CYLINDER:
- Single feed indirect type to BS 1566:Part 2, Kitemark certified.

R1.26 INSULATED COMBINATION UNIT:
- Direct type to BS 3198, Kitemark certified.

R1.27 INSULATED COMBINATION UNIT:
- Double feed indirect type to BS 3198, Kitemark certified.

R1.28 INSULATED COMBINATION UNIT:
- Single feed indirect type to BS 3198, Kitemark certified.

R1.29 UNVENTED HOT WATER STORAGE:
- To BS 7206.
  Installation: To be carried out by a Registered Installer/ Operative.
- Discharge pipe:To be sized to suit the outlet on the safety device and the length and configuration of the pipe, laid to a fall not less than 1 in 80 and to discharge via an air break and tundish

R1.30 IMMERSION HEATER(S)
- To BS 3456:Section 2.21, BEAB Approved:

R1.31 WATER SOFTENER:
- Provide unsoftened supply
- Fit bypass pipe and stop valves to ensure continuity of water supply if softener is inoperable or removed.
- Connect overflow/drain line(s) to trap and waste specified in section R11.
- Ensure that there is provision to prevent back siphonage of brine during regeneration process.

PIPELINES

R1.32 COPPER PIPELINES
- Tube: To BS 2871:Part 1, Kitemark certified.
- Jointing generally: Integral lead free solder ring capillary fittings to BS 864:Part 2, Kitemark certified.
- Connections to equipment and fittings: Compression fittings to BS 864:Part 2, Kitemark certified.

R1.33 PLASTICS COATED COPPER PIPELINES
- Tube: To BS 2871:Part 1, Kitemark certified, with seamless polyethylene coating to BS 3412.
  Jointing generally: Integral lead free solder ring capillary fittings to BS 864:Part 2, Kitemark certified.
- Connections to equipment and fittings: Compression fittings to BS 864:Part 2, Kitemark certified.

R1.34 CHROMIUM PLATED COPPER PIPELINES.
- Tube: To BS 2871:Part 1, Kitemark certified, with chromium plated finish to BS 1224, service condition 2.
- Jointing: Type A compression fittings to BS 864:Part 2, Kitemark certified, with chromium plated finish to BS 1224, service condition 3.

R1.35 STAINLESS STEEL PIPELINES
- Tube: To BS 4127, Kitemark certified.
- Jointing:Do not use fluxes containing chlorides or borides.

R1.36 THERMOPLASTICS PIPELINES
- Pipes and fittings: to BS 7291:Parts 1 Agrement certified.
-

R1.37 POLYETHYLENE PIPELINES FOR USE BELOW GROUND:
- Tube: Blue polyethylene to BS 6572, Kitemark certified.
- Jointing: Compression fittings to BS 864:Part 5, Kitemark certified.

R1.38 PIPE SIZES: As shown on drawings.

R1.39 PIPE RUNS:

- Where not shown accurately on drawings, obtain approval of routes before commencing work.
- Runs to be straight and parallel or perpendicular to walls, floors, ceilings, etc. as appropriate.
- Locate runs to facilitate installation of equipment, accessories and insulation and allow access for maintenance.
- Run hot pipes above cold where routed together horizontally; space well away from pipes containing drinking water.
- Do not run pipes through electrical enclosures or above switch gear distribution boards or the like.
- Allow sufficient space around pipes to fit insulation without compression.

R1.40 PIPE FIXING:

- Fix pipes securely and neatly with the minimum number of joints, bends and offsets.
- Allow for thermal movement of pipelines and isolate from structure where necessary to prevent noise or abrasion of pipe caused by movement. Pipes passing through walls to be sleeved as specified in section P31.
- Temporarily seal open ends of pipes with purpose made plugs or blanking caps to prevent ingress of dirt during installation.
- Completed pipelines to be of smooth, consistent bore, clean and free from external scratching, toolmarks, distortion, wrinkling, cracks, and other defects.

R1.41 SUPPORTS FOR COPPER/STAINLESS STEEL PIPELINES: Fix securely and true to line at not more than the following centres:

Pipe o.d. (mm)	Horizontal (mm)	Vertical (mm)
15 and 22	1200	1800
28 and 35	1800	2400
42 and 54	2400	3000

Provide additional supports as necessary within 150 mm of connections, junctions and changes of direction.

R1.42 SUPPORTS FOR EXPOSED THERMOPLASTICS PIPELINES: Fix securely and true to line at not more than the following centres:

Pipe o.d. (mm)	Horizontal (mm)	Vertical (mm)
Up to 16	300	500
17 to 25	500	800
26 to 32	800	1000

Provide additional supports as necessary within 150 mm of connections, junctions and changes of direction.

R1.43 BENDS IN THERMOPLASTICS PIPELINES:

- All bends to be cold formed.
- Support large radius bends at the maximum centres specified in clause 580.
- Minimum unsupported cold bend radii for 90 degree bends to comply with manufacturer's recommendations. Fix pipe clips either side of bend.
- Use cold form bend fixtures to fully support small radius 90 degree bends.
- Do not use 90 degree elbow fittings as substitutes for bends.

R1.44 PIPE SPACING: Minimum clearance to face of wall-fixed pipes or pipe insulation:

From floor:	150 mm
From ceiling:	50 mm
From wall:	15 mm
Between pipes:	25 mm
From electrical conduit, cables, etc:	150 mm

R1.45 JOINTS IN COPPER/STAINLESS STEEL PIPELINES:

- Cut pipes square using a wheel cutter, remove burrs and make neat, clean, fully sealed joints, ensuring that pipe ends enter joint fittings to full depth.

- Do not use formed bends on exposed pipework except for small offsets. Form changes of direction with radius fittings unless otherwise approved.
- Use purpose designed adaptors for connecting dissimilar materials: do not improvise.
- Protect background and plastics pipes and fittings from heat damage when forming soldered joints. Clean off all flux residue. Do not use 'self-cleaning' fluxes.

R1.46 CAPILLARY JOINTS IN PLASTICS COATED PIPES: Follow manufacturer's recommendations to avoid damage to plastics coating from direct or indirect heat. Wrap completed joint when cool with PVC tape of matching colour, half lapped.

R1.47 JOINTS IN THERMOPLASTICS PIPELINES:
- Use purpose designed fittings and accessories for all joints, do not improvise.
- Cut pipes square using cutter recommended by the manufacturer. Do not use hacksaws.
- Remove burrs and make neat, clean, fully sealed joints, ensuring that pipe ends enter joint fittings to full depth.
- Do not overtighten compression fittings.

R1.48 GAS PIPELINES:
- Install in accordance with BS 6891 and the requirements of British Gas.
- Ensure that gas supply meter and distribution pipelines are adequate for the maximum anticipated demand.
- Fit service cocks to permit removal of appliances.

R1.49 WARNING PIPES TO CISTERNS:
Bore to be twice that of inlet pipe but not less than 32 mm.
- Difference between normal water level and overflow level to be:
For cold water storage cisterns - not less than 32 mm or equal to the bore of the warning pipe if greater.
For feed and expansion cisterns - sufficient to allow 20% increase in the volume of water in the tank plus 25 mm.
- Vertical distance of water supply inlet above overflow level to be not less than the bore of the warning pipe.
- Fall to be not less than 1 in 10 with sufficient supports to prevent sagging, discharging separately in approved prominent positions with turned down ends.
- Turn down within the cistern, terminating 50 mm below normal water level.
- Fit with insulation within the building where the pipe is in an uninsulated space and subject to freezing.

R1.50 VENT PIPES to be open with no restrictions or valves and to rise continuously from system connection to discharge over cistern. Internal diameter not less than 20 mm.

R1.51 PIPELINES ENTERING BUILDINGS:
- To be laid not less than 750 mm below finished ground level.
- If rising into building within 750 mm of the external face of the external wall or if passing through a ventilated void below floor level, fit insulation extending from finished floor level to 600 mm beyond external face of building.
- Seal both ends of pipeducts with an approved nonhardening, noncracking, water resistant compound to a depth of not less than 150 mm.

R1.52 EXTERNAL SUPPLY PIPELINES to be insulated where exposed to air and where less than 750 mm below ground level.

R1.53 INSULATION TO PIPELINES:
- Material: Preformed flexible closed cell or mineral fibre split tube with thermal conductivity not exceeding 0.045 W/mK.
Thicknesses:
Hot water pipelines: Equal to the outside diameter of the pipe up to a maximum of 40 mm.
Cold water pipelines:
Internal: 25 mm

Roof space: 32 mm
External: 38 mm.
Fire performance: Class 1 spread of flame when tested to BS 476: Part 7.

- Fit insulation to cold water pipelines in uninsulated spaces.
- Notwithstanding the requirements of BS 6700, clause 2.3, fit insulation to hot water pipelines in all locations other than short lengths in prominent positions adjacent to appliances.
- Fix securely and neatly in accordance with manufacturer's recommendations, ensuring continuity over fittings and at supports, leaving no gaps and with the split on 'blind' side of pipeline.
- Do not fit insulation until completion of testing.

CONTROLS

R1.54 TIMER:
To the relevant parts of BS 3955, BS EN 60730 and BS EN 61058, BEAB approved.

R1.55 THERMOSTAT(S):
To the relevant parts of BS 3955, BS EN 60730 and BS EN 61058, strap-on type.

R1.56 VALVES GENERALLY:

- Types approved for the purpose by the local water company and of the appropriate pressure/temperature ratings.
- Provided for isolation and regulation of all equipment and subcircuits.
- Located where they can be readily operated and maintained and adjacent to equipment which is to be isolated.
- Fitted with joints to suit the pipe material.
- Fitted with handwheels where required for control purposes and lockshields where required for isolation or regulation of circuits or equipment.

R1.57 STOP VALVES AND DRAW-OFF TAPS for above ground use:
Copper alloy to BS 1010:Part 2, Kitemark certified.

R1.58 STOP VALVES for below ground use:
DZR Copper alloy CZ 132 to BS 5433.

R1.59 GATE VALVES:
Copper alloy to BS 5154, Series B, Kitemark certified.

R1.60 DOUBLE CHECK VALVE ASSEMBLIES:
Copper alloy check valves to BS 6282:Part 1 with intervening test cock to BS 2879.

R1.61 FLOW REDUCING VALVES:
Ball type, screw operated.

R1.62 DRAINING TAPS:
Copper alloy to BS 2879, Type 1, hose connection pattern, Kitemark certified.

R1.63 GAS PLUG COCK(S)
To BS 1552 and Gas Company approval.

COMPLETION

R1.64 TESTING:

- Give at least 3 days notice to CA of intention to commence testing.
- Carry out before fixing pipework insulation. Ensure that all pipework and equipment is secure and clean and cistern/ tank covers are fitted.
- Thoroughly flush out all parts of the system, fill with water, remove all air and check for leaks.

- Start boiler and run the system until all parts are at normal operating temperatures and then allow to cool to cold condition for a period of three hours. At both hot and cold conditions all joints, fittings and components must be free from leaks and signs of physical distress when tested for at least one hour as follows:
  Systems fed directly from the mains - Apply a test pressure equal to either the full mains water pressure or, where fitted, the pressure control valve setting.
  Systems fed from storage - Apply a test pressure equal to the pressure produced when the storage cistern is filled to its normal maximum operating level.
  Inaccessible or buried pipelines - Carry out hydraulic pressure test to twice the working pressure.
  If leaks are evident, repair and repeat test.
- Check and adjust operation of all equipment, controls and safety devices.
- Check operation of all outlets for satisfactory rate of flow and temperature.

R1.65 TESTING SERVICE PIPELINE: Disconnect from the mains, fill with potable water, excluding all air, and test by applying at least twice the working pressure for one hour, during which there must be no leakage.

R1.66 DISINFECTION:
- Disinfect the installation within the building after completion of testing for leaks and after ensuring that the mains water system has been cleaned and disinfected.
- Fill water storage cistern(s), tank(s) and pipework with clean fresh water and thoroughly flush out. Refill and close off supply.
- Add sodium hypochlorite to cistern(s) to give a free residual chlorine content of 50 mg/litre.
- Leave for one hour, then open each outlet in sequence commencing with the closest to the cistern(s). Close each outlet as soon as the run off smells of chlorine. Do not allow the cistern to empty; top up and rechlorinate as necessary.
- Leave system charged for at least one hour, then test for residual chlorine. If less than 30 mg/litre, repeat disinfection.
- Leave the installation charged with chlorinated water for at least 16 hours, then drain and thoroughly flush out before final filling.

R1.67 GAS SUPPLY PIPELINES: Test and purge to BS 6891 and the requirements of British Gas.

R1.68 DOCUMENTATION: Hand over to the CA before Practical Completion:
- Copies of manufacturers' operating and maintenance instructions for all equipment and controls.
- Operating instructions for the system as a whole giving optimum settings for all controls (operating instructions for boilers/circulators must be permanently attached to the casing).
- As installed drawings showing the location of all circuits and operating controls.

R1.69 OPERATING TOOLS: Provide all necessary tools for operation, maintenance and cleaning purposes, including keys for valves and vents. Hand over to CA on completion.

R1.70 LABEL all isolating and regulating valves on primary circuits, stating their function.

S1 LOW TEMPERATURE HOT WATER HEATING

To be read with Preliminaries/General conditions.

GENERAL INFORMATION/REQUIREMENTS

S1.1 ELECTRICAL WORK in connection with the installation is not included, and will be carried out by the Electrical Contractor. Provide all information necessary for the completion of such work.

S1.2 ELECTRICAL WORK in connection with the installation will be included in the heating contractors work and must be in accordance with BS 7671 Requirements for Electrical Installations (The IEE Wiring Regulations).

S1.3 SERVICE CONNECTIONS are covered elsewhere by a Provisional Sum.

S1.4 FUEL FOR TESTING: Costs incurred in the provision of fuel for testing and commissioning the installation are covered elsewhere by a Provisional Sum.

GENERAL TECHNICAL REQUIREMENTS

S1.5 THERMAL INSULATION OF BUILDING FABRIC: Base heat loss calculations on the construction of the building fabric shown on the tender drawings.

S1.6 SYSTEM CAPACITY:
- Output of total heating surface area in any space to be as near to, but not less than, the design heat loss for that space.
- Boiler output to be not less than the total calculated heat loss, including emission from the system pipelines.

S1.7 SYSTEM CAPACITY:
Output of total heating surface area in any space to be as near to, but not less than, the design heat loss for that space.
Boiler output to be not less than the total calculated heat loss, including emission from the system pipelines, and at the same time capable of meeting the hot water supply requirements specified in section R1.

S1.8 SYSTEM CONTROL: Provide fully automatic and independent temperature and time control of the system. Ensure that all controls are compatible with each other and with the central heating boiler.

S1.9 GRAVITY CIRCULATION must not occur in the heating circuit. Design the system accordingly or fit an antigravity valve.

S1.10 BYPASS AND PUMP OVERRUN to be fitted if recommended by the boiler manufacturer.

S1.11 INSTALLATION GENERALLY:
- Install, balance, test and commission the heating system so that it complies with water supply byelaws and the requirements of this section and is safe, efficient, free from leaks and the audible effects of expansion, vibration and water hammer.
- All installation work to be carried out by qualified operatives.
- Store all equipment, pipework components and accessories in original packaging in dry conditions. Protect plastics pipework from prolonged exposure to sunlight. Wherever practicable retain protective wrappings until Practical Completion.
- Securely fix equipment, components and accessories in specified/approved locations, parallel or perpendicular to the structure of the building unless specified otherwise, using fixings/brackets/mountings, etc. recommended for the purpose by the equipment manufacturer.

- In locations where moisture is present or may occur, use corrosion resistant fittings/fixings and avoid contact between dissimilar metals by use of suitable washers, gaskets, etc.
- All equipment, pipework, components, valves etc. forming the installation to be fully accessible for maintenance, repair or replacement unless specified or shown otherwise.
- Installation to be fitted with vents at high points and draining taps at low points to facilitate purging and draining.

S1.12 BUILDERS WORK: Comply with restrictions on the cutting of holes, chases, notches, etc. and methods of attachment to the building fabric specified in section P31.

S1.13 DECORATION: Drop radiators when required to permit decoration and other work.

EQUIPMENT

S1.14 CENTRAL HEATING BOILER:
- Gas fired to BS 5258:Part 1 and BS 6332:Part 1.

S1.15 CENTRAL HEATING BOILER:
- Gas fired to BS 5258:Part 15 and BS 6332:Part 1.

S1.16 CENTRAL HEATING BOILER:
- Solid fuel fired to BS 4433.

S1.17 CENTRAL HEATING BOILER:
- Oil fired to BS 4876.

S1.18 CENTRAL HEATING BOILER:
Electric off peak, to BS 3456:Part 101.

S1.19 GAS FIRE WITH BACK BOILER:
To BS 5258:Part 8 and BS 6332:Part 3, installed to BS 5871:Part 1.

S1.20 ROOMHEATER WITH BACK BOILER:
Solid fuel fired to BS 3378.

S1.21 ROOMHEATER:
Solid fuel fired to BS 3378.

S1.22 SOLID FUEL COOKER WITH BOILER:
To BS 1252.

S1.23 GAS FIRE:
To BS 5258:Part 5 and BS 6332:Part 2, installed to BS 5871:Part 1.

S1.24 FUEL EFFECT GAS FIRE:
To BS 5258:Part 12 and BS 6332: Part 2, installed to BS 5871:Part 3.

S1.25 FUEL EFFECT GAS FIRE:
To BS 5258:Part 16 and BS 6332:Part 2, installed to BS 5871:Part 2.

S1.26 SOLID FUEL FIRE WITH BACK BOILER:
To BS 4834.

S1.27 CONVECTING SOLID FUEL FIRE WITH BACK BOILER:
To BS 3376.

S1.28 FLUE PIPE:
size to suit appliance, with all fittings necessary to provide a complete installation.
Set out with the minimum number of joints and bends and a slope not more than 30 degrees from the vertical. Do not locate joints within the depth of floors.
- Install with sockets uppermost, fully supported and fixed securely with brackets supplied for the purpose at locations and centres recommended by pipe manufacturer.
- Seal joints, completely filling with approved jointing materials, to give a gas tight installation.
- Ensure that joints and supports adequately accommodate thermal movement.
- Ensure that flue pipe is not less than the required minimum distance from combustible materials.
- Fit terminal and flashings, collars, etc. to weatherproof junction at roof.

S1.29 INSULATED CHIMNEY:
To BS 4543, type and size to suit boiler, with all fittings necessary to provide a complete, secure, gas tight installation.

S1.30 FLUE LINER:
- Flexible, spirally wound, austenitic stainless steel tube, size to suit boiler, with all fittings necessary to provide a complete installation.
- Ensure that flue is unobstructed and clean. Install liner in one piece, fixing securely at top of stack and to boiler with clamps supplied for the purpose by liner manufacturer.
- Seal joint at boiler, completely filling with approved jointing material, to give a gas tight installation.

S1.31 FLUE LINING SYSTEM: Cast in situ lightweight insulating concrete installed by manufacturer or an approved installer.

S1.32 EXISTING CHIMNEY: Thoroughly clean and check to ensure that there are no obstructions or blockages. Carry out a core ball test and smoke test in the presence of the CA. If any obstructions or leaks are revealed, submit proposals for making good and obtain approval.

S1.33 BALANCED FLUE TERMINAL: Agree position with CA before forming any openings in external wall.

S1.34 AIR SUPPLY TO APPLIANCE: Inform CA of air supply requirements and agree/confirm size(s) and location(s) of vent(s).

S1.35 OIL STORAGE TANK:
- Designed and installed to BS 799:Part 5 and BS 5410: Part 1, complete with cradles, drain valve, vent pipe, filling line, filling point, overflow warning device, outlet valve, filter, fire valve, draw off line and manhole cover with provision for dipstick.

S1.36 LPG STORAGE TANK AND SERVICE PIPE: A provisional sum is included elsewhere for the supply and installation of the storage tank, service pipe and regulator assemblies.

S1.37 FEED AND EXPANSION CISTERN:
- Moulded plastics to BS 4213, Kitemark certified with removable cover.
Valve: Float operated diaphragm type to BS 1212 with plastics float to BS 2456, size to suit water pressure.
Fix securely to sides and top of cistern using tape/ adhesive recommended by the insulation manufacturer, leaving no gaps but allowing removal of access cover with minimum disturbance to insulation. Insulate underside of cistern where exposed in unheated spaces.

S1.38 FEED AND EXPANSION CISTERN: Included in combination unit specified in section R1.

S1.39 CIRCULATING PUMP(S):
- To BS 1394:Part 2, Kitemark certified.
differential between flow and return and with a facility for venting.
- Duty sufficient to circulate maximum boiler output against the system resistance and to meet the heating requirements.

- Install in readily accessible position(s) and in the manner recommended by the pump manufacturer with isolating valves to allow removal without draining the system.

S1.40 RADIATORS:
To BS 3528.

S1.41 TOWEL WARMER RADIATORS:
- Install on primary hot water circuit.

S1.42 REFLECTIVE ALUMINIUM FOIL:
- Cut neatly to size 25 mm smaller than radiator dimensions and fix in accordance with foil manufacturers recommendations behind radiators

S1.43 NATURAL CONVECTOR HEATERS:
To BS 3528.

S1.44 FAN CONVECTOR HEATERS:
To BS 3528 and BS 4856.

S1.45 UNDERFLOOR HEATING SYSTEM:
- Installation: In accordance with the manufacturers recommendations by an installer approved by the manufacturer.

PIPELINES

S1.46 COPPER PIPELINES
- Tube: To BS 2871:Part 1, Kitemark certified.
- Jointing generally: Integral lead-free solder ring capillary fittings to BS 864:Part 2, Kitemark certified.
- Connections to equipment and fittings: Compression fittings to BS 864:Part 2, Kitemark certified.

S1.47 PLASTICS COATED COPPER PIPELINES
- Tube: To BS 2871:Part 1, Kitemark certified, with seamless polyethylene coating to BS 3412.
  Jointing generally: Integral lead-free solder ring capillary fittings to BS 864:Part 2, Kitemark certified.
- Connections to equipment and fittings: Compression fittings to BS 864:Part 2, Kitemark certified.

S1.48 THERMOPLASTICS PIPELINES
- Pipes and fittings: to BS 7291:Parts 1 Agrement certified.

S1.49 PIPE RUNS:
- Where not shown accurately on drawings, obtain approval of routes before commencing work.
- Runs to be straight and parallel or perpendicular to walls, floors, ceilings, etc. as appropriate.
- Locate runs to facilitate installation of equipment, accessories and insulation and allow access for maintenance.
- Run hot pipes above cold where routed together horizontally; space well away from pipes containing drinking water.
- Do not run pipes through electrical enclosures or above switch gear, distribution boards or the like.
- Allow sufficient space around pipes to fit insulation without compression.

S1.50 PIPE FIXING:
- Fix pipes securely and neatly with the minimum number of joints, bends and offsets.
- Allow for thermal movement of pipelines and isolate from structure where necessary to prevent noise or abrasion of pipe caused by movement. Pipes passing through walls to be sleeved as specified in section N10.
- Temporarily seal open ends of pipes with purpose made plugs or blanking caps to prevent ingress of dirt during installation.

- Completed pipelines to be of smooth, consistent bore, clean and free from external scratching, toolmarks, distortion, wrinkling, cracks and other defects.

S1.51 SUPPORTS FOR COPPER/STAINLESS STEEL PIPELINES: Fix securely and true to line at not more than the following centres:

Pipe o.d. (mm)	Horizontal (mm)	Vertical (mm)
15 and 22	1200	1800
28 and 35	1800	2400
42 and 54	2400	3000

Provide additional supports as necessary within 150 mm of connections, junctions and changes of direction.

S1.52 SUPPORTS FOR EXPOSED THERMOPLASTICS PIPELINES: Fix securely and true to line at not more than the following centres:

Pipe o.d. (mm)	Horizontal (mm)	Vertical (mm)
Up to 16	300	500
17 to 25	500	800
26 to 32	800	1000

Provide additional supports as necessary within 150 mm of connections, junctions and changes of direction.

S1.53 BENDS IN THERMOPLASTICS PIPELINES:

- All bends to be cold formed.
- Support large radius bends at the maximum centres specified in clause 680.
- Minimum unsupported cold bend radii for 90 degree bends to comply with manufacturers recommendations. Fix pipe clips either side of bend.
- Use cold form bend fixtures to fully support small radius 90 degree bends.
- Do not use 90 degree elbow fittings as substitutes for bends.

S1.54 PIPE SPACING: Minimum clearance to face of wall fixed pipes or pipe insulation:

- From floor: 150 mm
- From ceiling: 50 mm
- From wall: 15 mm
- Between pipes: 25 mm
- From electrical conduit, cables, etc: 150 mm

S1.55 JOINTS IN COPPER/STAINLESS STEEL PIPELINES:

- Cut pipes square using a wheel cutter, remove burrs and make neat, clean, fully sealed joints, ensuring that pipe ends enter joint fittings to full depth.
- Do not use formed bends on exposed pipework except for small offsets. Form changes of direction with radius fittings unless otherwise approved.
- Use purpose designed adaptors for connecting dissimilar materials: do not improvise.
- Protect background and plastics pipes and fittings from heat damage when forming soldered joints. Clean off all flux residue. Do not use self cleaning fluxes.

S1.56 CAPILLARY JOINTS IN PLASTICS COATED PIPES: Follow manufacturers recommendations to avoid damage to plastics coating from direct or indirect heat. Wrap completed joint when cool with PVC tape of matching colour, half lapped.

S1.57 JOINTS IN THERMOPLASTICS PIPELINES:

- Use purpose designed fittings and accessories for all joints, do not improvise.
- Cut pipes square using cutter recommended by the manufacturer. Do not use hacksaws.
- Remove burrs and make neat, clean, fully sealed joints, ensuring that pipe ends enter joint fittings to full depth.
- Do not overtighten compression fittings.

S1.58 GAS PIPELINES:
- Install in accordance with BS 6891 and the requirements of British Gas.
- Ensure that gas supply meter and distribution pipelines are adequate for the maximum anticipated demand.
- Fit service cocks to permit removal of appliances.

S1.59 WARNING PIPE TO FEED AND EXPANSION CISTERN:
Bore to be twice that of inlet pipe but not less than 32 mm.
- Difference between normal water level and overflow level to be sufficient to allow 20% increase in the volume of water in the tank plus 25 mm.
- Vertical distance of water supply inlet above overflow level to be not less than the bore of the warning pipe.
- Fall to be not less than 1 in 10 with sufficient supports to prevent sagging, discharging separately in an approved prominent position with turned down end.
- Turn down within the cistern, terminating 50 mm below normal water level.
- Fit with insulation within the building where the pipe is in an uninsulated space and subject to freezing.

S1.60 VENT PIPES to be open with no restrictions or valves and to rise continuously from system connection to discharge over feed and expansion cistern. Internal diameter not less than 20 mm.

S1.61 INSULATION TO PIPELINES:
- Material: Preformed flexible closed cell or mineral fibre split tube with thermal conductivity not exceeding 0.045 W/mK.
  Thicknesses:
  Heating and primary pipelines: equal to the outside diameter of the pipe up to a maximum of 40 mm.
  Cold water pipelines:
  Internal: 25 mm
  Roof Space: 32 mm
  External: 38 mm
  Fire performance: Class 1 spread of flame when tested to BS 476:Part 7.
- Fit insulation to heating pipelines in all locations other than short lengths in prominent positions adjacent to equipment.
- Fit insulation to cold water pipelines in uninsulated spaces.
- Fix securely and neatly in accordance with manufacturers recommendations, ensuring continuity over fittings and at supports, leaving no gaps and with the split on blind side of pipeline.
- Do not fit insulation until completion of testing.

CONTROLS

S1.62 PROGRAMMER:
To the relevant parts of BS 3955, BS EN 60730 and BS EN 61058, BEAB approved.

S1.63 TIMER:
To the relevant parts of BS 3955, BS EN 60730 and BS EN 61058, BEAB approved.

S1.64 THERMOSTAT(S):
To the relevant parts of BS 3955, BS EN 60730 and BS EN 61058, BEAB approved.

S1.65 VALVES GENERALLY:
- Types approved for the purpose by the local water company and of the appropriate pressure/temperature ratings.
- Provided for isolation and regulation of all equipment, heat emitters and subcircuits.
- Located where they can be readily operated and maintained and adjacent to equipment which is to be isolated.
- Fitted with joints to suit the pipe material.

- Fitted with handwheels where required for control purposes and lockshields where required for isolation, balancing, or regulation of circuits or equipment.

S1.66 STOP VALVES:
Copper alloy to BS 1010:Part 2, Kitemark certified.

S1.67 GATE VALVES:
Copper alloy to BS 5154, Series B, Kitemark certified.

S1.68 DRAINING TAPS:
Copper alloy to BS 2879, Type 1, hose connection pattern, Kitemark certified.

S1.69 MOTORIZED VALVES:
To the relevant parts of BS 3955, BS EN 60730 and BS EN 61058, BEAB Approved.

S1.70 MANUAL RADIATOR VALVES:
- Copper alloy to BS 2767.
  Fit handwheel on flow side of radiator and lockshield on return side.

S1.71 THERMOSTATIC RADIATOR VALVES:
- To BS EN 215-1 and capable of providing isolation.
  Fit lockshield valve to BS 2767 with matching finish to return side of radiator.

S1.72 GAS PLUG COCK(S) FOR ISOLATION
To BS 1552 and Gas Company approval.

COMPLETION

S1.73 TESTING AND BALANCING:
- Give at least 3 days notice to CA of intention to commence testing and balancing.
- Carry out all pressure testing before fixing pipework insulation.
- Thoroughly flush out all parts of the system without contaminating circulating pump. Remove pump if necessary.
- Completely fill system, remove all air and check for leaks.
- Start boiler and run the system until all parts are at normal operating temperatures and then allow to cool to cold condition for a period of three hours. At both hot and cold conditions all joints, fittings and components must be free from leaks and signs of physical distress when tested for at lest one hour as follows:
  Systems fed directly from the mains - Apply a test pressure equal to either the full mains water pressure or, where fitted, the pressure control valve setting.
  Systems fed from storage - Apply a test pressure equal to the pressure produced when the storage cistern is filled to its normal maximum operating level.
  Inaccessible or buried pipelines - Carry out hydraulic pressure test to twice working pressure.
  If leaks are evident, repair and repeat tests.
- When boiler is operating check and adjust operation of all equipment, controls and safety devices. Balance system to achieve satisfactory temperature at each heat emitter and in the domestic hot water system.

S1.74 GAS SUPPLY PIPELINES: Test and purge to BS 6891 and the requirements of British Gas.

S1.75 DOCUMENTATION: Hand over to the CA before Practical Completion:
- Copies of manufacturers operating and maintenance instructions for all equipment and controls.
- Operating instructions for the system as a whole giving optimum settings for all controls (operating instructions for boilers must be permanently attached to the casing).
- As installed drawings showing the location of all circuits and operating controls.

S1.76 OPERATING TOOLS: Provide all necessary tools for operation, maintenance and cleaning purposes, including keys for valves and vents. Hand over to CA on completion.

S1.77 LABEL all isolating and regulating valves on primary circuits, stating their function.

T1 GENERAL LIGHTING AND POWER

To be read with Preliminaries/General conditions.

T1.1 **GENERAL INFORMATION/REQUIREMENTS**

T1.2 REGULATIONS: Comply with:
- BS 7671 'Requirements for Electrical Installations', (The IEE Wiring Regulations).
- Requirements of the Electricity Supply Company.

T1.3 ELECTRICITY SUPPLY:
- Liaise with the Electricity Supply Company as necessary to confirm or determine:
- The maximum demand of the installation.
- The nature of the supply, its suitability for the installation and the type of earthing arrangement
- The location of the incoming supply.
- Space requirements for the Company's switches, fuses and meters.
- A provisional sum for connection of a supply and earthing by the Electricity Supply Company is included elsewhere. Make all necessary arrangements at the earliest opportunity to ensure connection when required.

T1.4 ARRANGEMENT OF CIRCUITS: Divide the installation into separately controlled circuits as described below, further subdividing where necessary to ensure compliance with BS 7671 (The IEE Wiring Regulations):

T1.5 EQUIPOTENTIAL BONDING: Install main and supplementary bonding conductors in accordance with the requirements of BS 7671 (The IEE Wiring Regulations).

T1.6 INSTALLATION GENERALLY:
- Install, test and commission the electrical work in accordance with BS 7671 (The IEE Wiring Regulations), ensuring compliance with design and performance requirements, to provide a safe, well insulated, earth protected system capable of supplying the anticipated maximum demand.
- Installation work to be carried out by qualified electricians fully conversant with BS 7671 (The IEE Wiring Regulations).
- Fastenings, bushes, glands, terminals, connectors, clips, clamps and all other minor accessories necessary to complete the installation to be types recommended for the purpose by relevant equipment, accessories, etc. manufacturer.
- In locations where moisture is present or may occur, use corrosion resisting fastenings and avoid contact between dissimilar metals.

T1.7 BUILDER'S WORK: Comply with restrictions on the cutting of holes, chases, notches, etc. and methods of attachment to the building fabric specified in section P31.

CONDUIT/TRUNKING/DUCTING

T1.8 STEEL CONDUIT AND FITTINGS:
- To BS 4568:Parts 1 and 2.
  Type: Seam welded with plain threadable ends.
  Size: In accordance with BS 7671 (The IEE Wiring Regulations).
  Use maximum practical lengths to minimise number of joints. Form bends by machine and remove burrs from cut ends.
- Use bends and/or junction boxes at changes of direction. Do not use elbows or tees of any sort without approval.
- Fix securely with boxes fixed independently of conduit.
- Tightly screw all joints to ensure electrical continuity, with no thread showing. Use expansion couplings where conduit crosses movement joints in structure.
- Make secure connections to boxes, trunking, etc. with screwed couplings and provide rubber bushes at open ends.

T1.9 PVC CONDUIT AND FITTINGS:
- To BS 6099:Part 1, BS 6099:Part 2, Section 2.2 and BS 4607:Parts 1 and 5:
  Use maximum practical straight lengths to minimise number of joints.
- Use proprietary bends and/or junction boxes at changes of direction. Do not use elbows, tees or site formed bends without approval.
- Fix securely with boxes fixed independently of conduit.
- Form secure joints, using expansion couplings where recommended by manufacturer, and connectors at equipment, terminal fittings, etc.

T1.10 INSTALLING CONDUIT IN CONCRETE: Fix securely to reinforcement and fix boxes to formwork to prevent displacement. Depth of concrete cover to be not less than specified for reinforcement.

T1.11 DRAINAGE OF CONDUIT: Provide drainage outlets at lowest points in conduit installed externally and in locations where condensation may occur.

T1.12 STEEL SURFACE TRUNKING SYSTEM:
- To BS 4678:Part 1.
  Size: In accordance with BS 7671 (The IEE Wiring Regulations).
  Use proprietary units to form junctions and changes of direction wherever possible.
- Use mechanical fastenings/fixings; do not weld.
- Fit a copper link at each joint to ensure electrical continuity.
- Fit grommets, bushes or liners to holes through which cables pass.

T1.13 PVC SURFACE TRUNKING SYSTEM:
- To BS 4678:Part 4.
  Use proprietary units to form junctions and changes of direction wherever possible.

T1.14 FLUSH FLOOR TRUNKING SYSTEM:
- Size: In accordance with BS 7671 (the IEE Wiring Regulations).
  Fix securely to prevent displacement during screeding.
- Accurately position trunking and outlet units in plan and in relation to finished floor level.
- Fit temporary blanking plates at service outlet locations and ensure that trunking and outlet units are adequately protected to prevent damage and ingress of screed and other extraneous materials.

T1.15 STEEL UNDERFLOOR DUCTING SYSTEM:
To BS 4678:Part 2.
Size: In accordance with BS 7671 (The IEE Wiring Regulations).
Fix securely to prevent displacement during screeding.
- Accurately position outlet units in plan and in relation to finished floor level.

- Fit temporary blanking plates at service outlet locations and ensure that ducting is adequately protected to prevent damage and ingress of screed and other extraneous materials.
- Fit service outlet units when cables are installed.

T1.16 PVC UNDERFLOOR DUCTING SYSTEM:
Size: In accordance with BS 7671 (The IEE Wiring Regulations).
Fix securely to prevent displacement during screeding.
- Accurately position outlet units in plan and in relation to finished floor level.
- Fit temporary blanking plates at service outlet locations and ensure that ducting is adequately protected to prevent damage and ingress of screed and other extraneous materials.
- Fit service outlet units when cables are installed.

T1.17 FIRE STOPPING OF TRUNKING/DUCTING: Seal internally where they pass through fire resisting floors, ceilings, cavity barriers and the like.

CABLING

T1.18 CABLES to be BASEC certified. Select types and sizes to suit operating conditions, ensuring compliance with BS 7671 (The IEE Wiring Regulations). Obtain approval before proceeding with installation.

T1.19 CABLES to be BASEC certified and of the types listed below. Where not specified, select types and sizes to suit operating conditions, ensuring compliance with BS 7671 (The IEE Wiring Regulations). Obtain approval before proceeding with installation.

T1.20 CABLE ROUTES to be:
- Straight, vertical or horizontal and parallel to walls unless shown otherwise.
- In approved locations where exposed to view. When not specified otherwise, conceal cables wherever possible.
- Positioned at least 150 mm clear of other services. Cables running parallel and adjacent to heating pipes to be located below the pipes.
- Concealed horizontal runs in walls, if unavoidable, to be located within 150 mm of ceiling or between 150 and 300 mm of floor.
- Concealed cable runs to wall switches and outlets to be vertically in line with the accessory.

T1.21 INSTALLING CABLES GENERALLY:
- Do not commence internal cabling until the building is sufficiently enclosed to ensure permanently dry conditions.
- Install cables neatly and securely, adequately protected against accidental damage, adverse environmental conditions, mechanical stress and deleterious substances.
- Install cables without joints other than at equipment and terminal fittings. Do not use junction boxes without approval.
- Sleeve cables passing through masonry walls with conduit bushed at both ends.
- Do not run cables in spaces where they will be surrounded or covered by insulation. Where this is not practical, size cables accordingly and inform CA.

T1.22 PROTECTIVE CONDUCTORS: Use cable conductors throughout; do not use conduit or trunking as protective conductors.

T1.23 ARMOURED CABLE:
- Handle and install carefully to prevent damage to sheath and armouring.
- Do not install if cable and ambient temperature are, or have been for the previous 24 hours, below 0 deg C.
- Fit galvanized steel guards where cables are liable to mechanical damage.
- Bond armour to equipment and main earthing system.
- Make moisture proof connections to apparatus using sealed glands and PVC shrouds.

T1.24 PVC SHEATHED CABLES:
- Do not install cables when the temperature is near or below freezing.
- Do not install in cavities of external walls.
- Fit insulating cable glands at entries to equipment.
- Terminate cable sheaths within boxes.

T1.25 MICC CABLES:
- Neatly and carefully dress cable into position using tools recommended by cable manufacturer. Avoid corrugating sheath when bending.
- Connect to equipment and boxes with PVC shrouded glands.
- Fix cables with clips recommended by manufacturer ensuring that cable is fixed within 150 mm of bends and connections.
- As soon as a length of cable has been installed, fit permanent seals and immediately carry out an insulation test between conductors or between any conductor and cable sheath. Repeat test between 24 and 48 hours later. Only infinity readings will be accepted. Replace any cable which fails and repeat tests.

T1.26 CABLES LAID DIRECTLY IN THE GROUND:
- Before laying cables, ensure that bottom of trench is even and free from sharp stones, roots, etc.
- Lay cables on a 75 mm bed of sand.
- Where two or more cables are laid in the same trench, set 150 mm apart.
- Cover each cable with 75 mm of sand overlaid with cable covers to BS 2484.
- Mark each change in direction of cables with a precast concrete slab, size 300 x 300 x 150 mm thick, impressed with 'LV CABLE' and laid level with finished ground level.

T1.27 CABLES ENTERING BUILDING(S) FROM BELOW GROUND: Seal both ends of pipeduct to a depth of not less than 150 mm, with an approved nonhardening, noncracking, water resistant compound. Alternatively, fit a proprietary moulded pipeduct seal.

T1.28 CABLES IN PLASTER: Cover with galvanized steel channel nailed to background.

T1.29 CABLES IN VERTICAL TRUNKING/DUCTS:
- Support with pin racks or cleats at each floor level or at 5 m vertical centres, whichever is less.
- Provide and fix heat barriers at not more than 5 m centres where fire resisting barriers are not specified.

T1.30 CABLES IN ACCESSIBLE ROOF SPACES: Cables running across ceiling joists to be fixed to timber battens nailed to joists.

EQUIPMENT/ACCESSORIES

T1.31 CONSUMER CONTROL UNIT(S):
- To BS 5486:Part 13.
  Rating: To suit maximum demand.
  Each way to be permanently labelled to identify circuit and rating.
- Circuit protection:
  Miniature circuit breakers to BS EN 60898.

T1.32 DISTRIBUTION BOARDS:
- To BS 5486:Part 12.
  Rating: To suit maximum demand.
  Each way to be permanently labelled to identify circuit and rating.
- Circuit protection:
  Miniature circuit breakers to BS EN 60898.

T1.33 ELECTRICAL ACCESSORIES: Types shown on drawings, complete with mounting boxes and, unless specified otherwise,

T1.34 ELECTRICAL ACCESSORIES: Types shown on drawings, complete with mounting boxes and, unless specified otherwise,

T1.35 THERMAL STORAGE HEATERS:
To BS 3456:Part 2:Section 2.26. BEAB approved.

T1.36 ROOM HEATER(S):
To BS 3456:Part 102:Section 102.30. BEAB approved.

T1.37 WARM AIR HEATING UNIT(S):
To BS 3456:Part 102:Section 102.30. BEAB approved.

T1.38 ROOM AIR CONDITIONER(S):
To BS 3456:Part 2:Section 2.34. BEAB approved.

T1.39 ROOM HUMIDIFIER(S):
To BS 3456:Part 2:Section 2.39.

T1.40 FAN(S):
To BS 3456:Part 102:Section 102.342.

T1.41 VENTILATING FAN(S):
To BS 3456:Part 102:Section 102.342. BEAB approved.

T1.42 CLOCK(S):
To BS EN 60335-2-26.

T1.43 HEATING PROGRAMMER:
To BS 3955, BEAB approved.

T1.44 TIMER:
To BS 3955, BEAB approved.

T1.45 THERMOSTAT(S):
To BS 3955, BEAB approved.

T1.46 FIXING ELECTRICAL ACCESSORIES/EQUIPMENT:
- Position accurately and square to vertical and horizontal axes.
- Where not shown otherwise, align adjacent accessories on the same vertical or horizontal axis as appropriate.

T1.47 MULTIGANG SWITCHES: Connect switches so that there is a logical relationship with luminaires. Fit blanks to unused switch spaces.

SPECIAL SYSTEMS

T1.48 EMERGENCY LIGHTING SYSTEM:
To BS 5266:Part 1.

T1.49 FIRE DETECTION AND ALARM SYSTEM:
To BS 5839.

T1.50 SMOKE ALARMS:
Self-contained type to BS 5446:Part 1, Kitemark certified.
Operation: Mains with D.C. battery back-up.

COMPLETION

T1.51 INSPECTION AND TESTING:
- To BS 7671 (The IEE Wiring Regulations:Part 7).
- Give not less than 24 hours notice before commencing tests.
- In addition to items required to be inspected or tested, ensure that labels and signs required by the Regulations are securely fixed in the correct locations.
- After satisfactory completion of tests submit two copies of inspection and completion certificates to CA.

T1.52 INSPECTION AND TESTING OF EMERGENCY LIGHTING SYSTEM:
- To BS 5266:Part 1.
- Give not less than 24 hours notice before commencing tests.
- After satisfactory completion of tests submit two copies of certificate to CA. Certificate to be as BS 5266: Part 1, Appendix B.

T1.53 INSPECTION, INITIAL TESTING, COMMISSIONING AND CERTIFICATION OF FIRE ALARM SYSTEM:
- To BS 5839:Part 1, clause 26.
- Give not less than 24 hours notice before commencing tests.
- After satisfactory completion of tests submit two copies of certificates to CA. Certificates to be as BS 5839:Part 1, Appendices B and C.

T1.54 DOCUMENTATION: Hand over to the CA at Practical Completion:
- Copies of manufacturers' operating and maintenance instructions for all fittings and apparatus.
- As-installed drawings showing all circuits and their ratings and the locations of all fittings and apparatus.

V5 MORTARS

To be read with Preliminaries/General conditions.

V5.1 MORTAR MIX PROPORTIONS and other particular requirements are specified elsewhere.

V5.2 SAND FOR MORTAR:
- To BS 1200 unless specified otherwise.
- Sand for facework mortar to be from one source, different loads to be mixed if necessary to ensure consistency of colour and texture.
- When a range is specified (e.g. 1:1:5-6) use lower proportion of sand for Grade G sands and higher proportion for Grade S.

V5.3 READY-MIXED LIME:SAND:
- Unless specified otherwise, use ready-mixed lime:sand to BS 4721.
- Coloured mortar, where required, to be made using a proprietary coloured ready-mixed lime:sand, colour to approval where not specified.

V5.4 SITE PREPARED LIME:SAND MIX:
- Use lime putty to BS 890, either ready prepared from quicklime or site prepared Thoroughly mix lime putty with sand, store in airtight bins and prevent from drying out.
- Before gauging with other constituents, thoroughly ram, beat and chop the mix.

V5.5 PUTTY PREPARED FROM SLAKED QUICKLIME:
- Ensure that operatives are experienced in the safe handling and slaking of quicklime and are thoroughly protected against contact with it.
- Use fresh quicklime to BS 890 and store in cool, dry and secure noncombustible containers.
- Slake quicklime in suitable sound metal tanks. Add quicklime to clean water whilst stirring and raking continuously. Do not add water to quicklime.
- Sieve putty to remove any lumps and run into a suitable storage tank or lined pit. Cover the putty with water and store for at least six weeks. Prevent access with a strong, well secured cover over the tank or pit.

V5.6 PUTTY PREPARED FROM HYDRATED LIME:
- Mix fresh hydrated lime to BS 890 with clean water to form a putty of creamy consistency.
- Store putty in airtight containers for not less than 24 hours before using.

V5.7 HYDRAULIC LIME:SAND MORTAR:
- Thoroughly mix eminently hydraulic hydrated lime powder with sand, first in the dry state and then with water. Add only sufficient water to produce a workable mix.
- Do not use mortar which has begun to stiffen.

V5.8 CEMENT FOR MORTAR: When not specified otherwise, to be Portland cement or Portland blastfurnace cement, to class 42.5 or 52.5, manufactured and supplied under the BSI Kitemark scheme for cement. All cements must comply with the appropriate British Standard.

V5.9 ADMIXTURES: Do not use in mortar unless specified or approved. Do not use calcium chloride or any admixtures containing calcium chloride. Admixtures, if specified, to be to BS 4887.

V5.10 SITE STORAGE:
- Store different sands and aggregates in different stockpiles on hard clean bases which allow free drainage.
- Store factory produced premixed lime:sand for mortars and ready-to-use retarded mortars in covered containers to prevent excessive drying out or wetting.
- Store bags of cement and hydrated lime in dry conditions, raised off the ground and not touching damp surfaces. Do not use cement or hydrated lime affected by damp.

- Avoid intermixing and contamination between stored materials and other building materials, debris or other deleterious matter.

V5.11 MAKING MORTAR:

- Keep plant and banker boards clean at all times.
- Measure materials accurately by volume using clean gauge boxes. Proportions of mixes are for dry sand; allow for bulking if sand is damp.
- Mix ingredients thoroughly to a consistence suitable for the work and free from lumps. Mortars containing air entraining admixtures must be mixed by machine, but do not overmix.
- Do not mix mortar when the air temperature is at or below 3 degC and falling or below 1degC and rising.
- Use mortar within about two hours of mixing at normal temperatures. Use retarded mortar within the time and site temperatures recommended by the manufacturer. Mortar may be retempered to restore workability, but only within these time limits.

SECTION 3
SCHEDULE OF WORKS

Item	Description	Quantity	Cost
1.0	**Stripping Out**		
1.1	Strip out all built-in cupboards, shelving, framing, pin boards and the like.	Item	
1.2	Strip out cubicle systems, vanity units and panelling in Male and Female Toilets on First Floor, including all backboards and framing.	Item	
1.3	Disconnect water supplies and strip out all sanitaryware in these rooms including wc pans and cisterns, wash basins, taps, and all other fixtures and fittings. Ensure water supply pipework is fully drained down and capped off. Ensure all waste outlets are sealed / capped off within each toilet at floor level. Ensure electrical connections to items such as hand driers are made safe, terminated appropriately and left ready for future re-connection.	Item	
1.4	Strip out kitchenette facility on First Floor (Room 6) including all kitchen uints, worktops, supports and the like. Disconnect sink and strip out. Ensure water supply pipework is fully drained down and capped off. Ensure all waste outlets are sealed / capped off within each toilet at floor level.	Item	
1.5	Strip out kitchenette-type facility on Ground Floor (Room 8) including all units / housing, worktops and framework. Disconnect sink and strip out. Ensure water supplies are taken back to source and capped off in such a way as to enable extension / reconnection in the future. Ensure the waste pipework is taken back to the soil stack and the connection point sealed / capped off.	Item	
1.6	Disconnect, fully drain down and cap off any other remaining hot and cold water supply pipework.	Item	
1.7	Strip out all loose furniture, shelving and the like.	Item	
1.8	Remove all old signage to walls (other than fire exit signage, which is to remain).	Item	
1.9	Take up all damaged items loose within the property and dispose of off site.	Item	
1.10	Decommission and strip out redundant isolated convector heaters. Ensure any remaining pipework (ie. that which cannot be removed from floor / ceiling / wall voids due to inaccessibility) is fully drained down.	Item	

Item	Description	Quantity	Cost
1.11	Strip out all redundant services relating to previous use / occupancy, including server equipment, phone lines and the like. Take back to suitable point, cap off / terminate and leave safe.	Item	
1.12	Take up existing carpet floor coverings to all rooms, corridors and the like where this is installed. Include for removing gripper rods and any underlays that may be present.	Item	
1.13	Take up / remove such sections of ply sheet linings to floors in the following rooms (as identified on the tender drawings) where this is known to be damaged:-		
	- Ground Floor: 1; 2; and 4.	Item	
	- First Floor: 1; 3; 4 (in bay); Corridor to these rooms; 5; Corridor leading to toilets; 8; and 10.	Item	
	- Second Floor: 1; 2; 3; and 4.	Item	
	Any ply linings which are undamaged are to be left in-situ.		
1.14	Dispose of all waste materials off site.	Item	
1.15	Provide protective coverings to the reception desk within the entrance area and ensure that this is not damaged during the course of the works (this desk is to be retained).	Item	
	Stripping Out Sub-Total		

Item	Description	Quantity	Cost
2.0	**Repair & Refurbishment Works**		
2.1	General Works		
2.1.1	Allow to make good all redundant fixing holes from previously removed items. This applies to floors, walls and ceilings. Repair to match existing finishes or substrate as applicable (ie. plaster repair to walls; wood filler to doors; etc.). Ensure finished lines and levels are flush with adjacent areas and left ready to receive decoration.	Item	
2.1.2	Renew finishes to all areas of opening up previously undertaken, with work done to match the materials of the respective element. This is to cover work done to expose lintels, floor structures, ceiling structures, and the like.	Item	
	- exposed masonry walls are to receive a two coat renovating plaster to match depth of surrounding area; expamet metal lathing is to be installed as a key, or brick joints raked out for this purpose; include for trimming back any loose material at the edges to sound plaster	Item	
	- lath and plaster linings are to receive new treated softwood laths and a two coat renovating plaster to match depth of surrounding area	Item	
	- plasterboard linings are to be cut back to the nearest studs so that new Gyproc WallBoard of appropriate thickness can be installed; plaster finish to be applied to match thickness of surrounding area	Item	
	- artex linings are to be cut back to the nearest studs so that new Gyproc WallBoard of appropriate thickness can be installed; new artex finish to be applied, with pattern formed to match that of surrounding area	Item	
2.1.3	Allow to cut out and fill fine cracks in plastered surfaces generally using decorator's caulk. Where cracks exceed 2mm wide, these are to be fully raked out and renovating plaster used.	Item	
2.1.4	Allow to hack off areas of blown or damaged plaster to rooms generally, cutting back to areas of sound plaster; form key for new finish in brick joints or install Expamet metal lathing, and apply two coat renovating plaster to required thickness; ensure finished line and level matches surrounding area. Allow the Provisional Quantity of $20m^2$ in areas not exceeding $3m^2$. Include for disposal of waste material off site.	$20m^2$	
2.1.5	Piece in section of new skirting where currently missing outside Room 7, Ground Floor. New skirting to match profile and size of existing skirting. Leave ready for redecoration.	Item	

Item	Description	Quantity	Cost
2.1.6	Allow to clean glue from pinboards off walls and/or treat with sealer; walls to be left ready to receive new decoration.	Item	
2.1.7	Patch repair floor where pipework to convector heaters has been removed using ply deck of thickness to match the adjacent area, cutting and fitting to enable piece to be installed; include for fixing noggins to side of floor joists to provide support and fixing for infilled sections.	Item	
2.2	<u>First Floor Toilets</u>		
2.2.1	Hack off wall tiling in Male and Female Toilets (First Floor, Rooms 7 and 9). Hack off all damp affected and blown plaster in these rooms, taking back to sound dry material. Re-plaster affected areas using a two coat renovating plaster to match the thickness of surrounding areas, ensuring finished line and level of new work matches adjacent plasterwork. Include for disposal of waste material off site.	Item	
2.2.2	Allow to supply and install a dehumidifer in each toilet and operate these for a period of two weeks to dry out the brick substrate prior to replastering.	Item	
2.2.3	Provide extra over cost for dehumidifers in the toilets for an additional week. *Note: this cost is not to be included in the tender price.*	EO	
2.3	<u>Room 8 & Store, Ground Floor</u>		
2.3.1	Hack off damp affected and blown plaster to rear (external) wall and internal wall dividing Room 8 and the Store, taking back to sound dry material. Re-plaster affected areas using a two coat renovating plaster to match the thickness of surrounding areas, ensuring finished line and level of new work matches adjacent plasterwork. Include for disposal of waste material off site.	Item	
2.3.2	Allow to supply and install a dehumidifer in Room 8 and the Store and operate these for a period of two weeks to dry out the brick substrate prior to replastering.	Item	
2.3.3	Provide extra over cost for dehumidifers in these rooms for an additional week. *Note: this cost is not to be included in the tender price.*	EO	

Item	Description	Quantity	Cost
2.3.4	Allow to thoroughly clean with an anti-fungicidal wash any retained sections of plasterwork (walls and ceilings) which have mould growth on them.	Item	
2.4	First Floor Corridor		
2.4.1	Temporarily disconnect light fitting and emergency light and set aside; making safe the wiring above the ceiling.	Item	
2.4.2	Take down plasterboard ceiling; lift damp affected ply floor decking; dispose of waste materials off site.	Item	
2.4.3	Supply and install new ply decking of thickness to match existing, cutting to fit the area required, ensuring this is securely fixed to the floor joists and flush with surrounding areas.	Item	
2.4.4	Supply and install new 12.5mm thick plasterboard to ceiling, fixing to the existing joists in accordance with manufacturer's instructions. Finish with a skim coat of plaster.	Item	
2.4.5	Apply two coat renovating plaster where finishes are missing from external wall, with overall thickness to match adjacent areas, ensuring finished line and level is flush with surroundings.	Item	
2.4.6	Reinstate light fitting and emergency light on completion of the works, re-connecting to existing supplies.	Item	
2.5	Room 8 (Main Hall), First Floor		
2.5.1	Allow to provide access tower to facilitate the following works.	Item	
2.5.2	Apply flexible filler / caulk to nail pops on ceiling; inlclude for sanding down to leave ready for redecoration.	Item	
2.5.3	Allow to thoroughly clean the sections of ceiling and upper part of chimney breast which are damp stained and showing signs of mould growth, using an acti-bacterial cleaning agent; include for applying proproetary Stainblock to these areas prior to redecoration.	Item	
2.5.4	Cut out and fill cracking at junction of far end wall and ceiling, including along the top of the chimney breast. Decorator's caulk to be used where cracks are fine; renovating plaster to be used on cracks exceeding 2mm wide.	Item	

Item	Description	Quantity	Cost
2.6	Entrance Porch		
2.6.1	Allow to provide access tower to facilitate the following work.	Item	
2.6.2	Disconnect existing light fitting and set aside for re-use.	Item	
2.6.3	Carefully take down existing boarding and trim / battens at wall / ceiling junctions and apex; thoroughly clean of damp staining and mould; set aside for re-use.	Item	
2.6.4	Supply and install 100mm thick Kingspan Thermapitch TP10 between rafters,on the assumption that this fully fills the depth of the rafters.	Item	
2.6.5	Supply and install 57.5mm thick Kingspan Kooltherm K118 insulated plasterboard to the underside of the rafters.	Item	
2.6.6	Re-fix boarding previously set aside, ensuring fixings go through to rafters; original pattern to be replicated when re-installing. Include for re-fixing trim / battens at wall / ceiling junctions and apex as before.	Item	
2.6.7	Allow to thoroughly prepare the boarding prior to redecoration (decoration included elsewhere).	Item	
2.6.8	Reinstate light fitting on completion, allowing to extend wiring as necessary due to thicker ceiling finish.	Item	
2.6.9	Supply and install wall-mounted Dimplex PLXE Panel Heater (or similar to be approved), sized to heat the space, complete with fixing brackets. Include for taking a temporary supply from within the adjacent reception area and wiring the heater in to the Entrance Porch; all cabling to be run in surface mounted trunking and be compliant with the current NICEIC Wiring Regulations. All work also to be in accordance with the heater manufacturer's requirements and instructions. Heater to have a minimum of time and temperature controls.	Item	
2.7	Internal Doors		
	Generally		
2.7.1	Remove all existing room signage / labelling from doors (except for emergency signage which is to remain); include for making good any fixing holes using wood filler; allow to clean off any glue residue from signs adhered to the doors.	Item	
2.7.2	Allow to ease and adjust all existing retained doors to leave in full working order.	Item	

Item	Description	Quantity	Cost
	Ground Floor		
2.7.3	Door 1: remove nightlatch and infill / make good; care to be taken to avoid disturbing ACM panel in centre of door.	Item	
2.7.4	Door 2: remove nightlatch and infill / make good, including to face and leading edge of door.	Item	
2.7.5	Door 3: infill hole in door.	Item	
2.7.6	Door 4: supply and apply saftey glazing film; remove remainder of latch / lock including keep in frame; remove cylinder lock to lower part of door; infill all holes and make good to face of door and side of frame.	Item	
2.7.7	Door 5: supply and fit D-type pull handle to Lobby side of door; supply and apply safety glazing film.	Item	
2.7.7	Door 6: supply and apply safety glazing film; remove nightlatch and infill / make good.	Item	
2.7.8	Door 7: infill hole in door; piece in side of frame where latch was previously removed with new section to match profile and size of existing; include for removing cabling and taking back to suitable location so this can be safely terminated.	Item	
2.7.9	Door 8: replace with fire rated doorset; include for making good adjacent surfaces disturbed by the works in materials and finishes to match the existing.	Item	
2.7.10	Door 9: replace with fire rated doorset; include for making good adjacent surfaces disturbed by the works in materials and finishes to match the existing.	Item	
2.7.11	Door 10: replace with fire rated doorset; include for making good adjacent surfaces disturbed by the works in materials and finishes to match the existing.	Item	
2.7.12	Door 11: infill hole in door.	Item	
2.7.13	Door 12: remove nightlatch and infill / make good, including to face and leading edge of door; supply and fit D-type pull handle to hallway side of door.	Item	
2.7.14	Door 13: make good head of frame and top of door where closer previously removed.	Item	
2.7.15	Door 14: no repair required.		

Item	Description	Quantity	Cost
2.7.16	Door 15: remove nightlatch and infill / make good.	Item	
2.7.17	Door 16: remove deadlock and infill hole; supply and fit 1no push plate and 1no D-type handle.	Item	
	First Floor		
2.7.18	Door 1: no repair required.		
2.7.19	Door 2: no repair required.		
2.7.20	Door 3: no repair required.		
2.7.21	Door 4: no repair required.		
2.7.22	Door 5: remove nightlatch and infill / make good.	Item	
2.7.23	Door 6: replace with fire rated doorset; include for making good adjacent surfaces disturbed by the works in materials and finishes to match the existing; dispose of existing via licenced process due to door having an ACM fixed to the panels.	Item	
2.7.24	Door 7: replace with fire rated doorset; include for making good adjacent surfaces disturbed by the works in materials and finishes to match the existing.	Item	
2.7.25	Door 8: remove nightlatch and infill / make good; renew handles including latch and keep; care to be taken to avoid disturbing ACM fitted to panels.	Item	
2.7.26	Door 9: supply and fit D-type pull handle.	Item	
2.7.27	Door 10: replace with fire rated doorset, complete with side panelling, all to match style and colour of existing; include for making good adjacent surfaces disturbed by the works in materials and finishes to match the existing.	Item	
2.7.28	Door 11: no repair required.		
2.7.29	Door 12: no repair required.		
2.7.30	Door 13: no repair required.		
2.7.31	Door 14: remove handle, spindle and latch from inside; infill door and frame; supply and fit D-type pull handle to inside face of door.	Item	

Item	Description	Quantity	Cost
2.7.32	Door 15: no access; assume no repair required.		
2.7.33	Door 16: remove nightlatch and infill / make good; make good to leading edge of door where damaged; replace door stop which leading edge closes against.	Item	
2.7.34	Door 17: no repair required.		
	<u>Second Floor</u>		
2.7.35	Door 1: no repair required.		
2.7.36	Door 2: no repair required.		
2.7.37	Door 3: supply and apply safety glazing film.	Item	
2.7.38	Door 4: repair split in 1no panel of door; remove deadlock and infill / make good.	Item	
2.7.39	Door 5: no repair required.		
2.7.40	Door 6: no repair required.		
2.7.41	Door 7: replace with fire rated doorset; include for making good adjacent surfaces disturbed by the works in materials and finishes to match the existing; dispose of existing via licenced process due to door having an ACM fixed to the panels.	Item	
2.8	<u>Windows</u>		
2.8.1	Allow to ease and adjust all opening lights in metal casements to leave in good working order and able to be fully secured.	Item	
2.8.2	Replace defective ironmongery to metal casements with new to match existing. Allow for the following:-		
	- casement stays; Provisional Quantity of 5no	5no	
	- window fasteners; Provisional Quantity of 5no	5no	
	- lockable window fasteners; Provisional Quantity of 5no	5no	
2.8.3	Allow to ease, adjust and overhaul all timber sash windows to leave in good working order and able to be secured. Include for removing excess paint where required.	Item	
2.8.4	Replace defective ironmongery with new to match existing on timber sash windows. Allow to the following:-		
	- sash window fitch set; Provisional Quantity of 10no	10no	

Item	Description	Quantity	Cost
2.8.5	Renew defective / broken sash cords; include for removing existing cords, supplying and fitting new, and all necessary work to facilitate this. Allow to undertake this to the Provisional Quantity of 5no windows.	5no	
2.8.6	Allow to ease and adjust all opening lights in timber casements to leave in good working order and able to be fully secured.	Item	
2.8.7	Replace defective ironmongery to timber casements with new to match existing on metal casements. Allow to the following:-		
	- casement stays; Provisional Quantity of 5no	5no	
	- window fasteners; Provisional Quantity of 5no	5no	
	- lockable window fasteners; Provisional Quantity of 5no	5no	
	Repair & Refurbishment Works Sub-Total		

Item	Description	Quantity	Cost
3.0	**External Works**		
3.1	General Works		
3.1.1	Carefully clean moss from all affected roof slopes, including from stone copings and other adjacent areas.	Item	
3.1.2	Allow to cut back ivy growth and all other overgrown vegetation on each elevation. Include for gently washing exposed surfaces and rubbing with a stiff brush to remove any remnants of ivy root growth / attachments. Surfaces to be left clean and clear on completion.	Item	
3.1.3	Re-point eroded or otherwise damaged areas of pointing in lime mix to match existing mortar in terms of mix and colour, struck to match the existing style. Allow the Provisional Quantity of $5m^2$ in areas not exceeding $1.5m^2$.	$5m^2$	
3.1.4	Include for providing 3no samples of mortar mix for approval by the Conservation Officer prior to any re-pointing work being undertaken.	Item	
3.1.5	Thoroughly clean stonework to north-west facing elevation where affected by moss / lichen and general staining from historic damp issues.	Item	
3.1.6	To bottom of main roof slope over entrance porch: hack off cement fillet; carefully lift stone slates and set aside; supply and install Code 4 lead soaker and flashing; reinstate stone slates. All work to be in accordance with Lead Sheet Association guidelines and industry good practice.	Item	
3.1.7	Lead flat roof over two-storey bay: rake out pointing to course where lead flashing is dressed in; re-wedge central section of lead to ensure properly bedded; seal joint with lead pointing sealant.	Item	
3.1.8	Thoroughly clean out all guttering to leave clear and free flowing. Include for flushing through on completion to check and test operation of gutters and downpipes.	Item	
3.1.9	Remake joints in guttering where leaking / aged / failed. Allow the Provisional Quantity of 20no joints.	20no	
3.1.10	Remake joints in downpipes where leaking / aged / failed. Allow the Provisional Quantity of 10no joints.	10no	
3.1.11	Remove existing downpipe at left-hand end of north-west facing elevation; supply and install new aluminium downpipe (such as Marley Alutec, or similar to be approved), complete with joints and brackets, re-connecting to existing gutter and gulley.	Item	

Item	Description	Quantity	Cost
3.1.12	Allow to renew leadwork dressed into hopper at right-hand end of north-west facing elevation; lead to be Code 4. All work to be in accordance with Lead Sheet Association guidelines and industry good practice.	Item	
3.1.13	Repair waste pipe connecting to hopper on elevation of Croyland Hall facing the Abbey building; waste pipe to be removed and refitted (including extended as necessary) to ensure this connects / discharges properly into the hopper.	Item	
3.1.14	Thoroughly clean paving adjacent to north-west facing elevation to remove all moss, lichen and the like.	Item	
3.1.15	Remove existing manhole cover and frame in same area of paving; clean substrate; supply and install new galvanised steel manhole cover and frame, sized to match existing, bedding in cement mortar, with top surface left flush with surrounding paving. Cover and frame to have a load capacity of 5 tonnes.	Item	
3.2	Small Flat Roof over First Floor Corridor		
3.2.1	Remove existing lead 'chute' sitting over hopper; supply and install new Code 4 lead dressed into hopper to ensure water from roof discharges into the hopper and downpipe without any overspill. Include for lifting and re-dressing lead sheet to roof coverings and flashings around parapet outlet to facilitate replacement of the lead 'chute', reinstating all leadwork on completion. All work to be carried out in accordance with Lead Sheet Association guidelines and industry good practice.	Item	
3.2.2	Include the Provisional Sum of £5,000 for remedial works to the flat roof following previous water ingress to corridor below, with this sum to be expended as directed by the CA once access is gained to inspect the roof.	PS	£5,000.00
3.3	Valley Gutter Outlet		
3.3.1	Remove existing lead 'chute' sitting on top of downpipe.	Item	
3.3.2	Supply and install new aluminium hopper (such as Marley Alutec, or similar to be approved), suitably sized, connecting to the existing downpipe; complete with fixings and brackets.	Item	

Item	Description	Quantity	Cost
3.3.3	Allow to lift and re-dress the existing valley leadwork where this passes through the parapet to ensure this discharges the rainwater into the hopper and downpipe without any overspill. Include for extending valley leadwork as necessary to achieve this, with any new lead to be Code 4. All work to be carried out in accordance with Lead Sheet Association guidelines and industry good practice.	Item	
3.3.4	Include the Provisional Sum of £2,000 for remedial works to the valley gutter, with this sum to be expended as directed by the CA once access is gained to inspect the valley.	PS	£2,000.00
3.4	Outlet Adjacent to Flat Roof		
3.4.1	Allow to renew leadwork dressed into hopper at right-hand end of north-west facing elevation; lead to be Code 4. All work to be in accordance with Lead Sheet Association guidelines and industry good practice. This is to ensure rainwater is discharged into the hopper without overflowing or otherwise saturating surrounding masonry.	Item	
3.4.2	Take off existing hopper and dispose of off site. Supply and install new larger hopper, to match style and finish of existing, to ensure that outfall from flat roof is accommodated.	Item	
3.4.3	Include the Provisional Sum of £500 for additional repairs to leadwork and masonry, with this sum to be expended as directed by the CA once access is gained to inspect this area.	PS	£500.00
3.5	Windows		
3.5.1	Renew glazing putty to timber windows, including hacking off existing, cleaning and preparing the glass and timber, and applying new putty. Putty to be applied with an angled finish. Allow the Provisional Quantity of 40m in short lengths.	40m	
3.5.2	Renew glazing putty to metal windows, including hacking off existing, cleaning and preparing the glass and timber, and applying new putty. Putty to be applied with an angled finish. Allow the Provisional Quantity of 40m in short lengths.	40m	
3.5.3	Renew fixed light to dormer casement in Room 1, Second Floor. New timber window to match size and style of existing, including glazing bars. Include for removing and reinstating all existing ironmongery as necessary to faciltate the work.	Item	

Item	Description	Quantity	Cost
3.5.4	Renew fixed light to dormer casement in Room 2, Second Floor. New timber window to match size and style of existing, including glazing bars. Include for removing and reinstating all existing ironmongery as necessary to faciltate the work.	Item	
3.5.5	Remove putty and take out cracked pane of glass to centre casement in Room 3, Second Floor; supply and fit new piece of glass, sized to fit opening; apply new putty.	Item	
3.5.6	Undertake repair to rotten timber window frames and cills: cut out rotten or damp affected timber; supply and apply two-part epoxy repair resin / putty (such as Rotafix TM3 Moulding Mortar, or similar to be approved); repair resin / putty to be shaped to match the profile of the timber section being repaired. All work to be in accordance with the manufacturer's instructions. Repairs to be no larger than 300mm long and 200mm girth. Allow the Provisional Quantity of 10no such repairs.	10no	
3.5.7	Undertake repair to rotten timber window frames and cills: cut out rotten or damp affected timber; supply and apply two-part epoxy repair resin / putty (such as Rotafix TM3 Moulding Mortar, or similar to be approved); repair resin / putty to shaped to match the profile of the timber section being repaired. All work to be in accordance with the manufacturer's instructions. Repairs to be no larger than 600mm long and 200mm girth. Allow the Provisional Quantity of 10no such repairs.	10no	
3.5.8	Undertake repair to rotten timber window frames and cills: cut out rotten or damp affected timber; supply and apply two-part epoxy repair resin / putty (such as Rotafix TM3 Moulding Mortar, or similar to be approved); repair resin / putty to shaped to match the profile of the timber section being repaired. All work to be in accordance with the manufacturer's instructions. Repairs to be no larger than 1000mm long and 200mm girth. Allow the Provisional Quantity of 10no such repairs.	10no	
	External Works Sub-Total		

Item	Description	Quantity	Cost
4.0	**Decoration & Internal Finishes**		
4.1	Allow to thoroughly clean all tiled floors.	Item	
4.2	Allow to thoroughly clean all exposed wooden floors.	Item	
4.3	Redecorate all previously painted timber skirtings, architraves, mouldings and the like as follows: fill any holes and the like; rub down; apply 1no coat Dulux Trade Undercoat; apply 2no full coats Dulux Trade High Gloss, rubbing down between coats. Colour to be white. Any new or bare areas of timber are to be treated with Dulux Trade Wood Primer.	Item	
4.4	Redecorate all previously painted walls as follows: clean using sugar soap or similar solution; prepare surfaces ready to receive decoration; rub down to leave a smooth surface; apply 1no undercoat and 2no full coats Dulux Trade Vinyl Matt emulsion. Colour to be confirmed.	Item	
4.5	Allow to treat any newly repaired areas of wall and ceiling which has been dry-lined and skimmed or plastered with Dulux Drywall Primer Sealer prior to redecorating as described above.	Item	
4.6	Redecorate metal windows internally and externally as follows: thoroughly rub down and clean all surfaces, ensuring dry and free from defect; apply 1no coat Dulux Trade Metalshield Primer; apply 2no full coats Dulux Trade Metalshield Gloss; colour to be white.	Item	
4.7	Where any rust spots are present, include for treating with Dulux Kurust for small / isolated areas, and Hammerite No 1 Rustbeater for larger areas, prior to redecoration.	Item	
4.8	Redecorate timber windows externally as follows: thoroughly rub down to remove all loose material; ensure surfaces are clean and dry; any bare wood is to be primed with 1no coat Dulux Weathershield Preservative Primer; apply 2no coats of appropriately coloured Dulux Weathershield Undercoat; apply 1no coat Dulux Weathershield Exterior High Gloss; colour to be white.	Item	
4.9	Redecorate timber windows internally as follows: thoroughly rub down to remove all loose material; ensure surfaces are clean and dry; any bare wood is to be primed with 1no coat Dulux Trade Primer; apply 1no coat of appropriately coloured Dulux Trade Undercoat; apply 2no full coats Dulux Trade High Gloss; colour to be white.	Item	

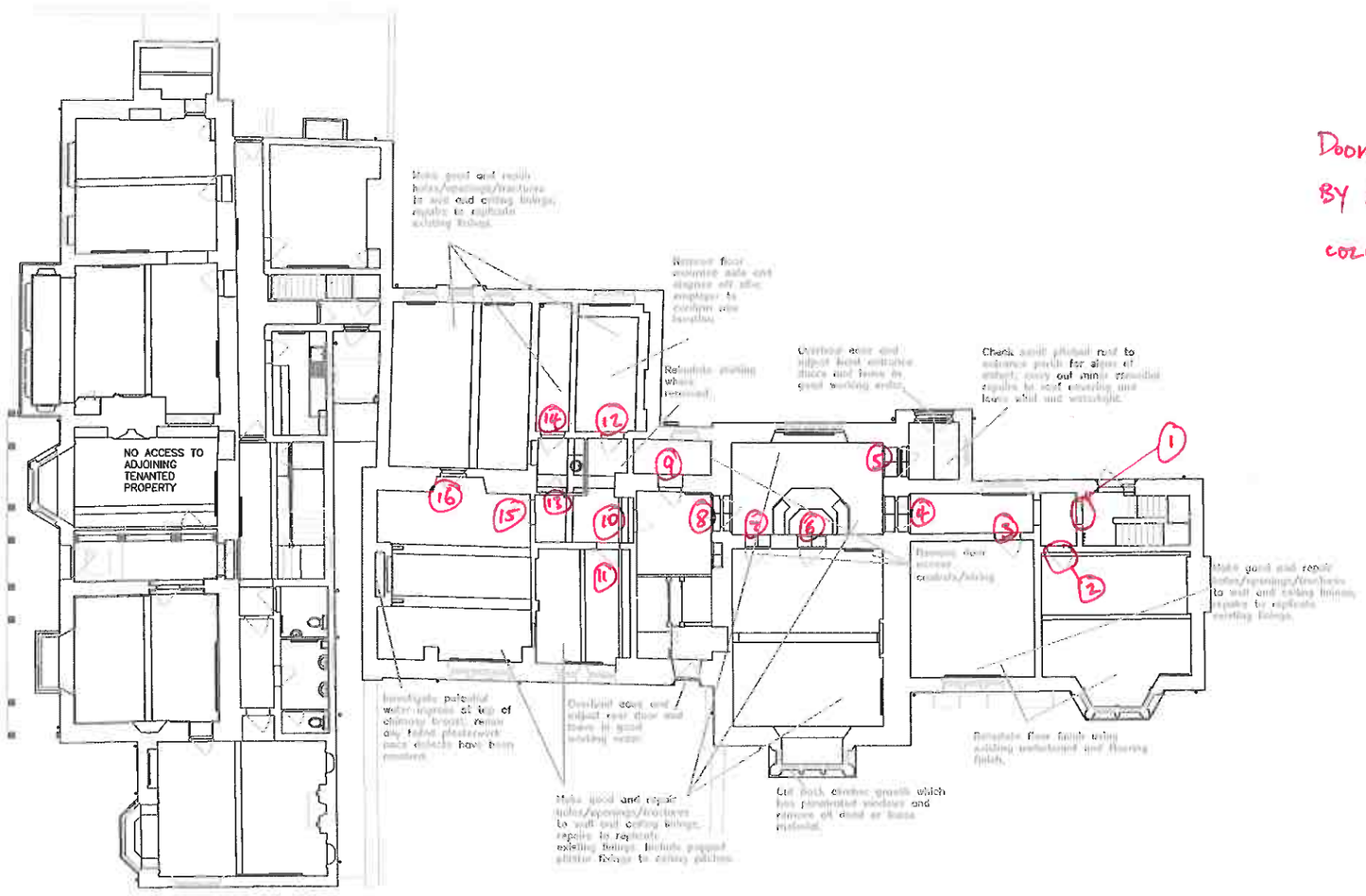
Item	Description	Quantity	Cost
4.10	Include for filling any minor holes and defects (internally and externally) to provide a flat, smooth surface, ready to receive decoration.	Item	
4.11	Alternative paint systems will be considered; if the Contractor proposes to use an alternative from that specified above, full details of the proposed system must be submitted with the tender to demonstrates that it is at least of equal quality and will perform as required.	Item	
4.12	All redecoration work to be in accordance with manufacturer's instructions and recommendations.	Item	
	Decoration & Internal Finishes Sub-Total		

SECTION 4
TENDER SUMMARY

Croyland Abbey, Wellingborough
Repair and Refurbishment Project
Tender Summary

Item	Description	Cost
1.0	Stripping Out	
2.0	Repair & Refurbishment Works	
2.1	General Works	
2.2	First Floor Toilets	
2.3	Room 8 & Store, Ground Floor	
2.4	First Floor Corridor	
2.5	Room 8 (Main Hall), First Floor	
2.6	Entrance Porch	
2.7	Internal Doors	
2.8	Windows	
3.0	External Works	
3.1	General Works	
3.2	Small Flat Roof over First Floor Corridor	
3.3	Valley Gutter Outlet	
3.4	Outlet Adjacent to Flat Roof	
3.5	Windows	
4.0	Decorations & Internal Finishes	
	Total Cost of the Works	
	Prelims	
	OH&P	
	Tender Sum	

APPENDIX 1
ANNOTATED FLOOR PLANS



DOOR REFERENCE NUMBERS INDICATED BY A NUMBER WITHIN A CIRCLE, COLOURED RED.

Rev	Date	Amendment

Chartered Surveyors
Shire House
Pyramid Close
Northampton NN3 8PH
Telephone 01604 404060
E Mail bc@underwoods.co.uk
www.underwoods.co.uk

Client: Borough Council of Wellingborough

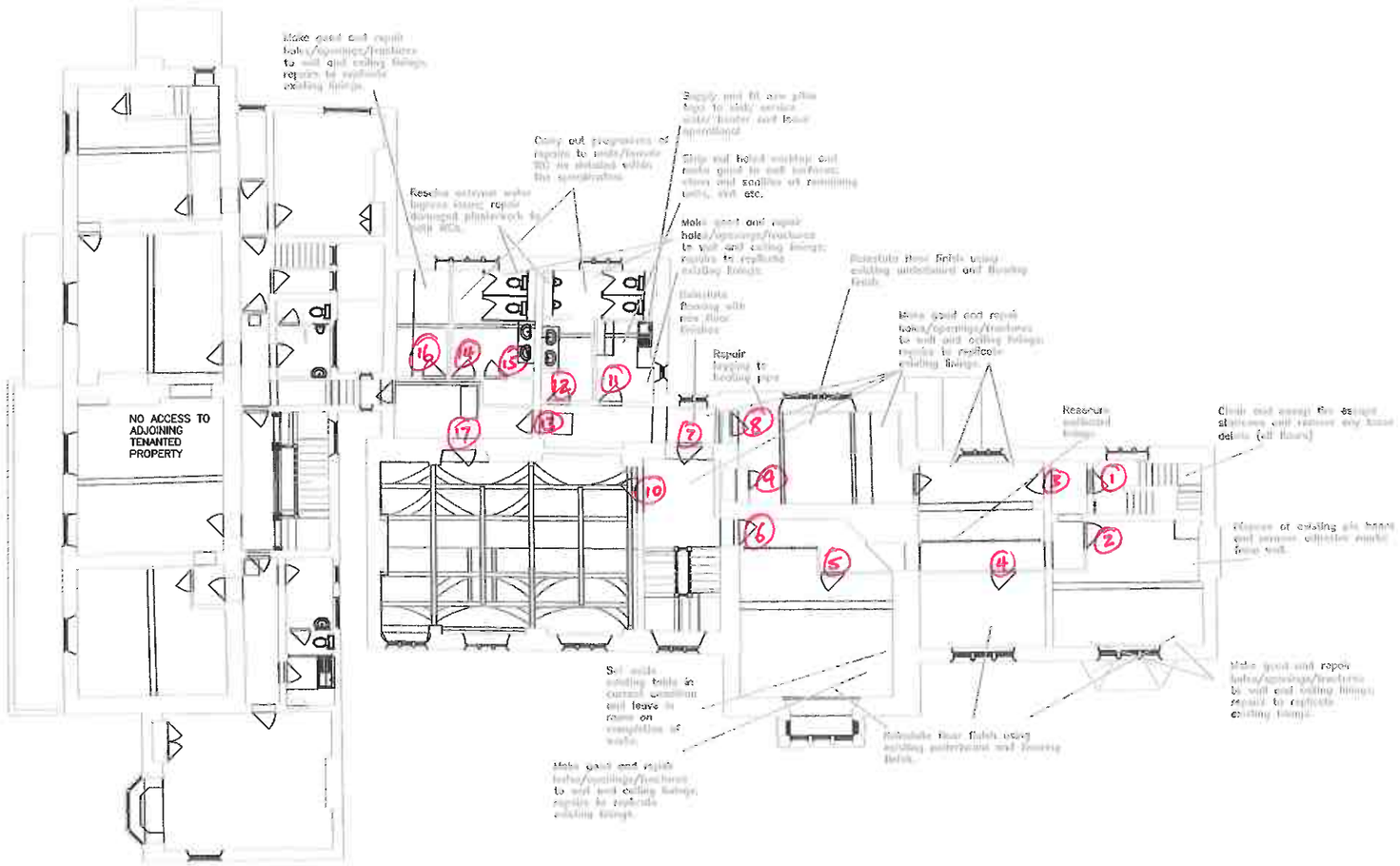
Project: Internal and External Repairs

Location: Croyland Abbey, Tithe Barn Road, Wellingborough

Title: Ground Floor Repair Drawing

Drawn	Checked	Scale	Sheet Size	Date
DS	BC	1-200	A3	August 2019

Drawing No.: AAA — Rev: -



DOOR REFERENCE NUMBERS INDICATED BY A NUMBER WITHIN A CIRCLE, COLOURED RED.

Rev	Date	Amendment

Underwoods
www.underwoods.co.uk

Chartered Surveyors
Shire House
Pyramid Close
Northampton NN3 8PH
Telephone 01604 404060
E Mail bc@underwoods.co.uk

Client: Borough Council of Wellingborough

Project: Internal and External Repairs

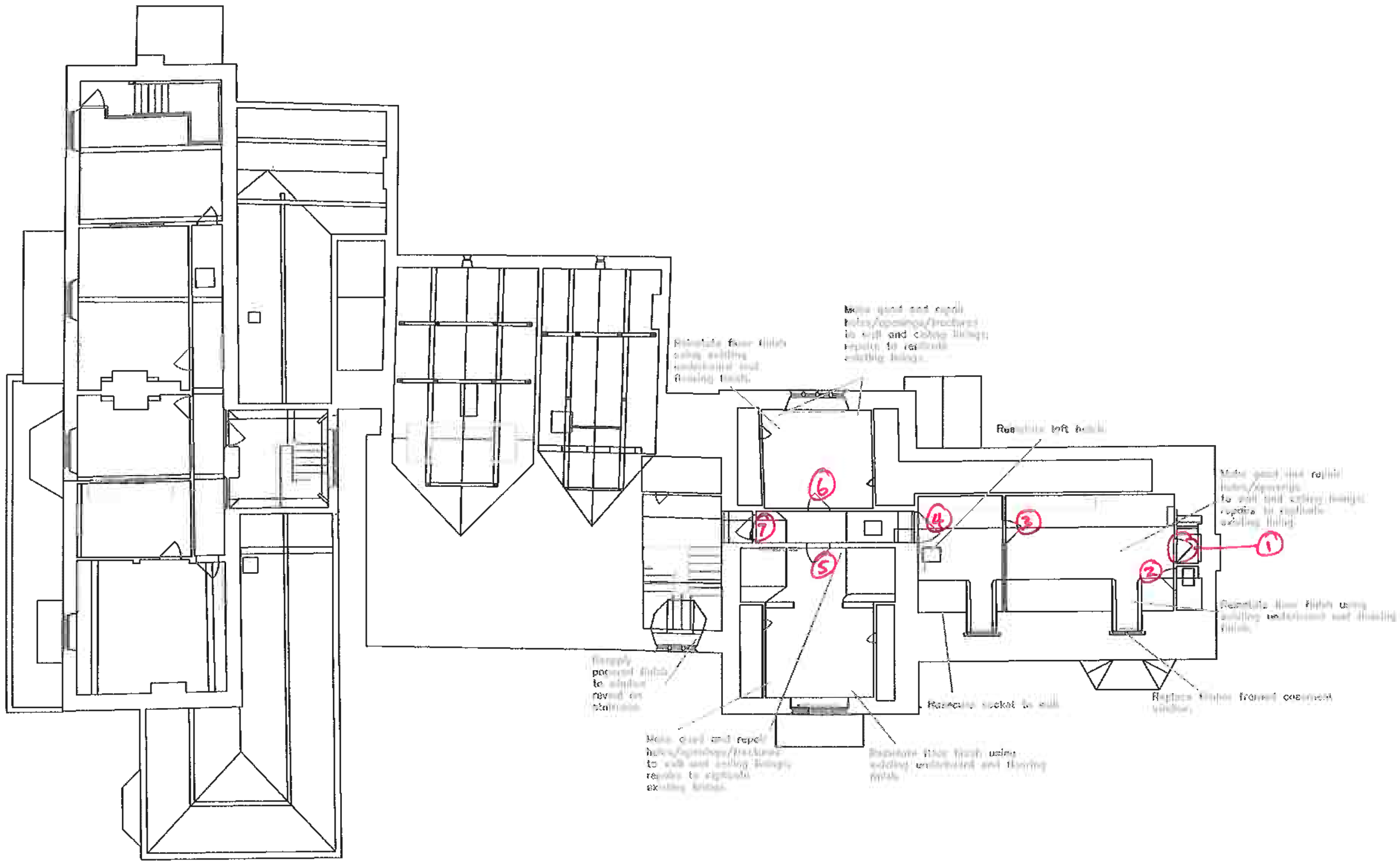
Location: Croyland Abbey, Tithe Barn Road, Wellingborough

Title: 1st Floor Repair Drawing

RICS

Drawn	Checked	Scale	Sheet Size	Date
DS	BC	1-200	A3	August 2019

Drawing No. AAA Rev



DOOR REFERENCE NUMBERS INDICATED BY A NUMBER WITHIN A CIRCLE, COLOURED RED.

Rev	Date	Amendment

Underwoods

www.underwoods.co.uk

Chartered Surveyors

Shire House
Pyramid Close
Northampton NN3 8PH
Telephone 01604 404060
E Mail bc@underwoods.co.uk

Client
Borough Council of Wellingborough

Project
Internal and External Repairs

Location
Croyland Abbey, Tithe Barn Road, Wellingborough

Title
2nd Floor Repair Drawing

RICS

Drawn	Checked	Scale	Sheet Size	Date
DS	BC	1-200	A3	August 2019

Drawing No. AAA

Rev -

APPENDIX 2
ORACLE R&D ASBESTOS REPORT

ORACLE SOLUTIONS

UKAS INSPECTION 4600

Asbestos Survey Report & Register

Survey Type:	**Asbestos Refurbishment Survey**
Site:	Croyland Abbey, Tithe Barn Road, Wellingborough, NN8 1BJ
Surveyor:	David Bond
Contract:	S-12619
Survey Date:	30 March 2020
Report Date:	09 April 2020
Re-Inspection Due:	30 March 2021
Client:	Underwoods LLP Shire House, Pyramid Close, Northampton, NN3 8PH

Oracle Solutions
13 Henson Way,
Telford Way Industrial Estate,
Kettering, Northamptonshire, NN16 8PX

Tel: 0844 800 0801
Email: mail@oracleasbestos.com
Web: www.oracleasbestos.com
Company Reg: 7798275

Contents

1.0 Introduction

1.1 This report provides detailed information and results following an Asbestos Refurbishment Survey. The survey was carried out in full accordance with the 'Control of Asbestos Regulations 2012', HSG264 Asbestos: The Survey Guide, which is specific guidance for 'Surveying, sampling and assessment of asbestos containing materials' and HSG248 'Asbestos: The Analysts guide for sampling analysis and clearance procedures'.

1.2 This survey is an Asbestos Refurbishment Survey and is **not** adequate for demolition works. Prior to demolition works a full Asbestos Demolition Survey is required, as detailed within 'The Control of Asbestos Regulations 2012', relevant approved codes of practice and health & safety guidance notes.

1.3 It should be noted that although works such as wall, roof and part building removal etc, may be categorised within the building and construction industry as demolition, for the purposes of asbestos reporting demolition is only indicative of whole building demolition complete to foundation. This is due to specific descriptions of demolition work as contained within asbestos guidance HSG264 where all work no matter how intrusive which is less than complete demolition and levelling of a structure is classed as refurbishment. Therefore only complete levelling of entire buildings should be reported under a demolition survey in accordance with current legislation.

1.4 A refurbishment survey is needed before any refurbishment work is carried out. This type of survey is used to locate and describe, as far as reasonably practicable, all ACMs (Asbestos Containing Materials) in the area where the refurbishment work will take place. The survey will be fully intrusive and involve destructive inspection as necessary, to gain access to all areas, including those that may be difficult to reach. A refurbishment survey may also be required in other circumstances, e.g. when more intrusive maintenance and repair work will be carried out or for plant removal or dismantling.

1.5 There is a specific requirement in CAR 2012 (regulation 7) for all ACMs to be removed as far as reasonably practicable before refurbishment or final demolition. Removing of ACMs is also appropriate in other smaller refurbishment situations which involve structural or layout changes to buildings (e.g. removal of partitions, walls, units etc). Under CDM, the survey information should be used to help in the tendering process for removal of ACMs from the building before work starts. The survey report should be supplied by the client to designers and contractors who may be bidding for the work, so that the asbestos risks can be addressed.

1.6 In this type of survey, where the asbestos is identified so that it can be removed (rather than to 'manage' it), the survey does not normally assess the condition of the asbestos, other than to indicate areas of damage or where additional asbestos debris may be present. However as the asbestos removal may not take place for some time, the ACMs condition has been assessed so that materials can be managed.

1.7 Where sampling was carried out as part of the refurbishment survey, samples from each type of suspect ACM were collected and analysed. If the material sampled was found to contain asbestos they were considered to be representative of other similar materials used in the same way in the building. Representative samples are detailed within the survey results section of this report. Less homogeneous materials (e.g. different surfaces/coating, evidence of repair etc) required a greater number of samples to be collected.

1.8 Refurbishment surveys are intended to locate all the asbestos in the building (or the relevant part), as far as reasonably practicable. It is a disruptive and fully intrusive survey which may need to penetrate all parts of the building structure. Aggressive inspection techniques are usually needed to lift carpets and tiles, break through walls, ceilings, cladding and partitions, and open up floors.

2.0 Site Risk Assessment

2.1 Following an Asbestos Refurbishment Survey an overall assessment of asbestos containing material risk at this site has been calculated. The overall risk is based on the highest material risk as identified during the survey.

Colour:	Risk: Potential to release fibre if disturbed / Score	Site Assessment:
Red	High / 10+	
Yellow	Medium / 7–9	This site
Light Green	Low / 5-6	
Dark Green	Very Low / 1-4	
Grey	No ACMs Detected / 0	

2.2 If they are required, based on the material risk, then recommended actions to place asbestos containing materials in to a safe and manageable condition are contained within the 'Asbestos Register' section of this report. Or

2.3 Any recommendations are based on minimum requirements under 'The Control of Asbestos Regulations 2012'.

2.4 The current site assessment is **'Medium'**. This assessment could be reasonably reduced following recommended asbestos remedial works. On completion of the recommended actions the current assessment would be reduced to a site assessment of **'Low'**.

3.0 Executive Summary

3.1 The following table is an executive summary of asbestos containing materials which were identified during the survey. The 'Asbestos Register' section contains photographs, detailed comments and recommendations for each item. Generally, all sites should show **'low'** or **'very low'** assessments, for identified asbestos products, in order for such materials to be considered safe and manageable.

Survey Overview

Current Material Risk	High	Medium	Low	Very Low

Croyland Abbey					
ID No/ Sample Ref	**Risk:**	**Room / Area:**	**Product Type:**	**Asbestos Type:**	**Extent:**
220125/S02	Very Low	1st Floor / Stairwell 001	Cement Collars to Floor Penetration - Cement Product	Chrysotile	0.5lm
220101/S04	Low	2nd Floor / Central Stairwell 008	Insulating Board Door Panels - Insulating Board	Amosite, Chrysotile	2m²
220119/S05	Low	1st Floor / Rooms 011, 014, 016, Central Stairwell 009	Insulating Board Infill Panels to Doors - Insulating Board	Amosite	8m²
220115/SR05	Low	Ground Floor / Stairwell 024	Insulating Board Infill Panels to Doors - Insulating Board	Amosite	4m²
220106/SR02	Very Low	Ground Floor / Stairwell 024	Cement Collars to Floor Penetration - Cement Product	Chrysotile	0.5lm
220124/S09	Low	Ground Floor / Room 029	Insulating Board Infill Panel - Insulating Board	Amosite, Chrysotile	2m²
220111/S10	Very Low	Ground Floor / Room 035	Vinyl Tiles to Floors - Vinyl Products	Chrysotile	20m²
220104/SR10	Very Low	Ground Floor / Rooms 039 & 034	Vinyl Tiles to Floors - Vinyl Products	Chrysotile	10m²
220110/SR10	Very Low	Ground Floor / Room 038	Vinyl Tiles to Floors - Vinyl Products	Chrysotile	8m²
220118/SR10	Very Low	Ground Floor / Room 037	Vinyl Tiles to Floors - Vinyl Products	Chrysotile	40m²
220109/SR10	Very Low	Ground Floor / Room 036	Vinyl Tiles to Floors - Vinyl Products	Chrysotile	40m²
220126/S11	Medium	Basement / Rooms 041, 042, 043, 044, 045 & 046	Insulating Board Ceiling Panels - Insulating Board	Amosite, Chrysotile	Approximately 240m²
220102/S13	Medium	Basement / Room 044	Woven Textile Wrap to Pipe - Woven Textiles	Chrysotile	1lm
220116/SR02	Very Low	Basement / Room 044	Cement Flue Pipe - Cement Product	Chrysotile	1lm
220114/S14	Very Low	1st Floor / Room 011	Textured Coating to Ceilings - Textured Coating	Chrysotile	25m²

4.0 Material Risk Assessments

4.1 The risk categories detailed within this report are part of the material assessment algorithm as detailed within HSG264 Asbestos: The Survey Guide. Materials with assessment scores of 10 or more are regarded as having a high potential to release fibres, if disturbed. Scores of between 7 and 9 are regarded as having a medium potential, and between 5 and 6 a low potential. Scores of 4 or less have a very low potential to release fibres. Non asbestos materials are not scored.

4.2 The following algorithm is a material assessment which identifies high risk materials, that is those which will most readily release airborne fibres if disturbed. It does not automatically follow that those materials assigned the highest score in the material assessment will be the materials that should be given priority for a remedial action.

4.3 Under 'Regulation 4' (The duty to manage), of 'The Control of Asbestos Regulations 2012', the duty holder is required to carry out additional assessments using this report together with their detailed knowledge of additional factors such as, i) use to which the location is put, ii) the occupancy of the area, iii) the activities carried on in the area; and iv) the likelihood / frequency with which maintenance activities are likely to take place. This additional assessment will form the basis of the required asbestos management plan.

4.4 The following tables contains examples of scores which are added together to calculate a total score of between 2 and 12. This total score forms the material assessment score.

Material Assessment Algorithm

Sample Variable	Score	Examples of scores
Product type: (or product debris)	1	Asbestos reinforced composites (plastics, resins, mastics, roofing, felts, vinyl floor tiles, semi rigid paints or decorative finishes asbestos cement etc).
	2	Asbestos insulating board, mill boards, other low density insulation boards, asbestos textiles, gaskets, ropes and woven textiles, asbestos paper and felt.
	3	Thermal insulation (e.g. pipe and boiler lagging), sprayed asbestos, loose asbestos, asbestos mattresses and packing.

Sample Variable	Score	Examples of scores
Damage extent: (or deterioration)	0	Good condition: no visible damage.
	1	Low damage: a few scratches or surface marks; broken edges on boards, tiles etc.
	2	Medium damage: significant breakage of materials or several small areas where material has been damaged revealing loose fibres.
	3	High damage or delamination of materials, sprays and thermal insulation. Visible asbestos debris.

Sample Variable	Score	Examples of scores
Surface treatment:	0	Composite materials containing asbestos: reinforced plastics, resins, vinyl tiles.
	1	Enclosed sprays and lagging, AIB (with exposed face painted or encapsulated), asbestos cement sheets etc.
	2	Unsealed AIB, or encapsulated lagging and sprays.
	3	Unsealed lagging and sprays.

Sample Variable	Score	Examples of scores
Asbestos type:	1	Chrysotile.
	2	Amphibole asbestos excluding crocidolite.
	3	Crocidolite.

5.0 No Access Areas and Restrictions

5.1 Due to the destructive nature of an Asbestos Refurbishment Survey, all areas should (as far as is reasonably practicable) be accessed during this type of inspection. However there are instances where areas cannot be accessed due to practicability and safety. The following section details areas which are not considered reasonable or practicable to access during this type of survey unless specifically detailed within the client's instruction and or survey quotation (i.e. breaking out of concrete, soft strip, part demolition etc.).

5.2 Further to the above it should be noted that where large areas of uniform materials are present, such as fixed ceilings, wall panelling and coverings (floor coverings, smoke screens, insulation, large areas of general debris or rubbish / waste etc.), it is not practicable to remove such materials completely for the purposes of inspection. Such removal would require a soft strip or major removal project and as such is outside the scope of an Asbestos Refurbishment Survey unless indicated as required (at the quotation stage) by the client. As such during the survey strategic areas are inspected within a suitable and reasonable number of areas for surveying purposes.

5.3 Therefore due consideration should be given to areas where 'rogue' asbestos materials may be hidden and potentially disturbed during any planned refurbishment works. In accordance with HSG264 Asbestos: The Survey Guide, it is recommended that all refurbishment works are assessed against the asbestos survey information and where deemed necessary additional inspections to identify asbestos containing materials are undertaken at the time of the works.

5.4 It is due to these normal access restrictions that under the 'Control of Asbestos Regulations 2012', all those undertaking work on or within areas where they could potentially come into contact with asbestos bearing materials, must have undergone sufficient asbestos awareness training. All work within such areas must proceed with caution and should any material be suspected of containing asbestos, all work must be stopped until required confirmation testing is carried out.

5.5 General access restrictions in accordance with the client's instruction:

- Electrical, water and gas installations
- Operational and non operational equipment, machinery & Plant
- Shuttering inside precast concrete floors
- Under or behind solid concrete or other structural solid construction requiring specialist equipment or tradesman
- Wall, Floor, ceiling and other sealed / hidden risers / voids and rooms
- Additional buildings or structures outside the scope of the contracted survey
- Contaminated land, top soil or other surfaces to the external of the building outside the scope of the contracted survey
- Items within the property which do not form part of the fabric or structure
- Behind or beneath existing asbestos containing materials

5.6 The following table details specific areas which were not accessed at the site and the reasons why the inspection could not be conducted.

No Access and Restrictions

Croyland Abbey		
No:	Room / Area:	No access and restriction details:
1.	1st Floor / Store Room 020	The store room was locked, Underwoods confirmed that a key was not held on site to open the door.

5.7 The client and or duty holder must presume that asbestos containing materials are present within all restricted or non accessed areas until proven otherwise and take appropriate precautionary asbestos management measures.

6.0 General Site & Survey Information / Asbestos Register

6.1 The 'General Site & Survey Information' section contains all relevant information with regards to the site and general conditions at the time of the survey. This section also contains any additional and relevant information ('Special Notes') which may help the client when considering future management or removal of any identified asbestos containing materials.

6.2 The 'Asbestos Register' section contains all data collected during the survey. Each element is fully detailed with a material assessment, photograph, relevant comments and recommendations.

6.3 Each asbestos register sheet has been given a unique location reference number which can be identified with a prefix of 'ID:' followed be a unique identifier e.g. 'ID: 001'. Each location can be referenced to the site plans which are contained within 'Appendix B'.

6.4 All elements have been assessed as follows:

Colour:	Risk: Potential to Release Fibre if Disturbed / Score
Red	High / 10+
Yellow	Medium / 7–9
Light Green	Low / 5-6
Dark Green	Very Low / 1-4
Grey	No ACMs Detected / 0

General Site & Survey Information

Contract No:	Client:	Quantity/Size:
S-12619	Underwoods LLP	Total: 1000 Sqm
Site: Croyland Abbey, Tithe Barn Road, Wellingborough, NN8 1BJ		**Survey Date:** 30/03/2020

Introduction:

Even where an Asbestos Refurbishment Survey returns results of 'No Asbestos Detected' all those undertaking works within areas to which this report refers, should confirm (which should be recorded by the client or 'duty holder') that they have read and understand the contents of the asbestos register sheets (and other associated sections of this report) and have made suitable assessments for any potential risks which may be pertinent to their work.

This asbestos register sheets should be read and used in conjunction with the 'No Access' and the 'Plans' sections of this report. Where no access areas are recorded or detailed it must be presumed that such areas contain asbestos bearing materials until proven otherwise. Prior to accessing or working within these areas, confirmation must be obtained through further detailed assessments or by carrying out Asbestos Refurbishment / Demolition Surveys.

Special Notes:

Special notes are to be read in conjunction with asbestos register sheets and provide further detailed information with regards to asbestos containing materials which were identified at the site during the survey.

Site Overview:

The site comprised of a listed abbey building. The site was not occupied at time of survey.

Survey Scope:

The survey was an asbestos refurbishment survey. The survey was carried out in full accordance with HSG264: Asbestos: The Survey Guide. The survey included areas that were going to be disturbed by the proposed refurbishment works, to include:

- Minor repairs throughout to plaster, internal doors, windows, water ingress/damp to rooms, isolated roof repairs, existing strip out of cubicles and sanitary ware, rainwater goods and full redecoration internally and externally.

General Descriptions:

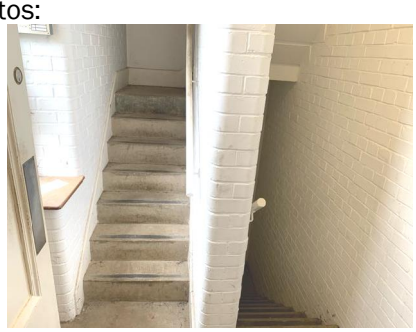
This document is an asbestos survey and is intended to provide the reader with specific detailed information on asbestos containing materials identified at the site.

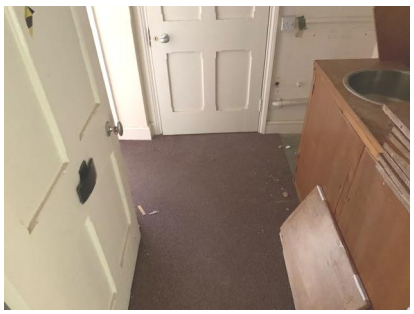
Detailed asbestos information is located within the specific asbestos register sheets, which are located at the end of this section. The general descriptions have been compiled, and are intended, to aid in a general understanding of the locations and use of identified asbestos containing materials. The descriptions contain a basic site layout and general build information. The general descriptions are not intended to be utilised as, and do not constitute, a general building or construction material survey.

Building Description

Area:	Croyland Abbey - Areas Within Scope of Works
Floors:	The floors comprised of decorative quarry tile, vinyl floor tiles and bitumen applied to concrete, timber floor boards, carpet and modern linoleum finishes.
Walls:	The walls comprised of plaster finished plasterboard partitions, lath and plaster, exposed masonry.
Ceilings:	The ceilings comprised of lath and plaster, plaster finished plasterboard with textured coating finishes, insulating board to the basement areas and concrete.
Other:	Other items included insulating board infill panels to fire doors, insulating board panel to the fire place on the ground floor, modern manmade mineral fibre notice boards throughout, foil heat proofing behind the wall mounted metal radiators, metal warm air blowers with no suspect items insulating the internal components, hard set foam insulated metal pipe work.
External:	The building was stone built, it had stone coping, lead rain water goods, a pitched stone tiled roof, metal and timber windows with putty jointing.

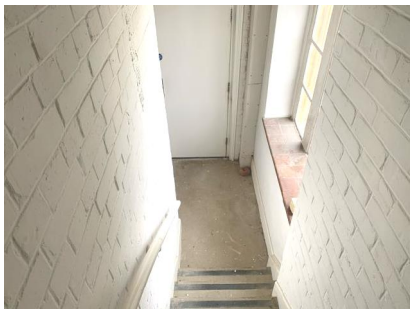
Photos:









Asbestos Register Sheet

Contract No:	Client:	ID Number:
S-12619	Underwoods LLP	220122
Site: Croyland Abbey, Tithe Barn Road, Wellingborough, NN8 1BJ		**Survey Date:** 30 March 2020

Building:	Croyland Abbey		
Floor:	1st Floor		
Room Area:	001 Stairwell		
Description:	Insulating Board Boxing		
Quantity:	2.5 lm		
Accessibility:	Easy		
Product Type:	2 - Insulating Board		
Damage Extent:	1 - Low Damage		
Surface Treatment:	2 - Part-sealed	**Re-inspection Due:**	N/A
Asbestos Type:	No Asbestos Detected	**Sample Ref:**	S01
Material Assessment:		**No Asbestos Detected**	

Comments: -

The boxing was Supalux adjacent to the fire exit door.

Recommendations:

No action required

Asbestos Register Sheet

Contract No:	Client:	ID Number:
S-12619	Underwoods LLP	220125
Site: Croyland Abbey, Tithe Barn Road, Wellingborough, NN8 1BJ		**Survey Date:** 30 March 2020

Building:	Croyland Abbey		
Floor:	1st Floor		
Room Area:	001 Stairwell		
Description:	Cement Collars to Floor Penetration		
Quantity:	0.5lm		
Accessibility:	Medium		
Product Type:	1 - Cement Product		
Damage Extent:	1 - Low Damage		
Surface Treatment:	1 - Unsealed	**Re-inspection Due:**	30/03/2021
Asbestos Type:	1 - Chrysotile	**Sample Ref:**	S02
Material Assessment:		**Risk Score = 4 Very Low**	

Comments: -

The cement collars were insulating the floor where the hot pipe work was penetrating.

Recommendations:

Encapsulate and Manage

If the identified asbestos containing material is likely to be disturbed during refurbishment works, it should be removed and disposed of in full accordance with current and relevant legislation.

If refurbishment works are not likely to impact upon the identified asbestos containing material then it should be managed in accordance with current legislation. For adequate management asbestos materials must be in a good condition and products other than cement and composite materials should be sealed and or protected. As such should the identified asbestos containing material be damaged then it will require repair and for materials other than cement and composites it will require encapsulation and or protection. Where asbestos materials are beyond repair they should be removed. Although labelling and or signage is not a legal requirement it should be considered to avoid accidental damage.

Asbestos Register Sheet

Contract No:	Client:	ID Number:
S-12619	Underwoods LLP	220113
Site: Croyland Abbey, Tithe Barn Road, Wellingborough, NN8 1BJ		**Survey Date:** 30 March 2020

Building:	Croyland Abbey		
Floor:	1st Floor		
Room Area:	001 Stairwell		
Description:	Textured Coating to Ceilings		
Quantity:	4m²		
Accessibility:	Easy		
Product Type:	1 - Textured Coating		
Damage Extent:	1 - Low Damage		
Surface Treatment:	0 - Composite	**Re-inspection Due:**	N/A
Asbestos Type:	No Asbestos Detected	**Sample Ref:**	S03
Material Assessment:		**No Asbestos Detected**	

Comments: -

The textured coating was applied to the concrete ceiling of the stairwell.

Recommendations:

No action required

Asbestos Register Sheet

Contract No:	Client:	ID Number:
S-12619	Underwoods LLP	220101
Site: Croyland Abbey, Tithe Barn Road, Wellingborough, NN8 1BJ		**Survey Date:** 30 March 2020

Building:	Croyland Abbey		
Floor:	2nd Floor		
Room Area:	008 Central Stairwell		
Description:	Insulating Board Door Panels		
Quantity:	2m²		
Accessibility:	Easy		
Product Type:	2 - Insulating Board		
Damage Extent:	1 - Low Damage		
Surface Treatment:	1 - Sealed	**Re-inspection Due:**	30/03/2021
Asbestos Type:	2 - Amosite, Chrysotile	**Sample Ref:**	S04
Material Assessment:		**Risk Score = 6 Low**	

Comments: -

The insulating board infills were to both sides of the door.

Recommendations:

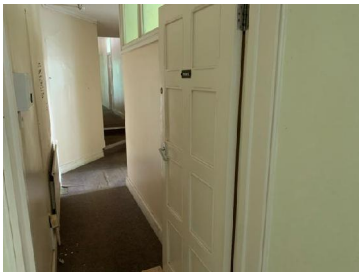
Manage and Label

If the identified asbestos containing material is likely to be disturbed during refurbishment works, it should be removed and disposed of in full accordance with current and relevant legislation.

If refurbishment works are not likely to impact upon the identified asbestos containing material then it should be managed in accordance with current legislation. For adequate management asbestos materials must be in a good condition and products other than cement and composite materials should be sealed and or protected. As such should the identified asbestos containing material be damaged then it will require repair and for materials other than cement and composites it will require encapsulation and or protection. Where asbestos materials are beyond repair they should be removed. Although labelling and or signage is not a legal requirement it should be considered to avoid accidental damage.

Asbestos Register Sheet

Contract No:	Client:	ID Number:
S-12619	Underwoods LLP	220119
Site: Croyland Abbey, Tithe Barn Road, Wellingborough, NN8 1BJ		**Survey Date:** 30 March 2020

Building:	Croyland Abbey		
Floor:	1st Floor		
Room Area:	Rooms 011, 014, 016, Central Stairwell 009		
Description:	Insulating Board Infill Panels to Doors		
Quantity:	8m²		
Accessibility:	Easy		
Product Type:	2 - Insulating Board		
Damage Extent:	1 - Low Damage		
Surface Treatment:	1 - Sealed	**Re-inspection Due:**	30/03/2021
Asbestos Type:	2 - Amosite	**Sample Ref:**	S05
Material Assessment:		**Risk Score = 6 Low**	

Comments: -

The insulating board panels were to both sides of the doors, there are differing styles, the doors to room 14 were timber to one side and insulating board to the other.

Recommendations:

Manage and Label

If the identified asbestos containing material is likely to be disturbed during refurbishment works, it should be removed and disposed of in full accordance with current and relevant legislation.

If refurbishment works are not likely to impact upon the identified asbestos containing material then it should be managed in accordance with current legislation. For adequate management asbestos materials must be in a good condition and products other than cement and composite materials should be sealed and or protected. As such should the identified asbestos containing material be damaged then it will require repair and for materials other than cement and composites it will require encapsulation and or protection. Where asbestos materials are beyond repair they should be removed. Although labelling and or signage is not a legal requirement it should be considered to avoid accidental damage.

Asbestos Register Sheet

Contract No:	Client:	ID Number:
S-12619	Underwoods LLP	220120
Site: Croyland Abbey, Tithe Barn Road, Wellingborough, NN8 1BJ		**Survey Date:** 30 March 2020

Building:	Croyland Abbey		
Floor:	1st Floor		
Room Area:	023 Room		
Description:	Textured Coating to Walls		
Quantity:	60m²		
Accessibility:	Easy		
Product Type:	1 - Textured Coating		
Damage Extent:	1 - Low Damage		
Surface Treatment:	0 - Composite	**Re-inspection Due:**	N/A
Asbestos Type:	No Asbestos Detected	**Sample Ref:**	S06
Material Assessment:		**No Asbestos Detected**	

Comments: -

The coating was applied to the plaster walls, a composite sample has been taken from multiple locations.

Recommendations:

No action required

Asbestos Register Sheet

Contract No:	Client:	ID Number:
S-12619	Underwoods LLP	220105
Site: Croyland Abbey, Tithe Barn Road, Wellingborough, NN8 1BJ		**Survey Date:** 30 March 2020

Building:	Croyland Abbey		
Floor:	1st Floor		
Room Area:	017 Room		
Description:	Bitumen Sink Pads		
Quantity:	2unit(s)		
Accessibility:	Easy		
Product Type:	1 - Bituminous Product		
Damage Extent:	1 - Low Damage		
Surface Treatment:	0 - Composite	**Re-inspection Due:**	N/A
Asbestos Type:	No Asbestos Detected	**Sample Ref:**	S07
Material Assessment:		**No Asbestos Detected**	

Comments: -

The sink pads were applied to the sink and drainer.

Recommendations:

No action required

Asbestos Register Sheet

Contract No:	Client:	ID Number:
S-12619	Underwoods LLP	220123
Site: Croyland Abbey, Tithe Barn Road, Wellingborough, NN8 1BJ		**Survey Date:** 30 March 2020

Building:	Croyland Abbey		
Floor:	1st Floor		
Room Area:	(Above 019) Loft Void		
Description:	Insulation to Pipe Work		
Quantity:	3lm		
Accessibility:	Medium		
Product Type:	3 - Insulation		
Damage Extent:	3 - High		
Surface Treatment:	3 - Unsealed	**Re-inspection Due:**	N/A
Asbestos Type:	No Asbestos Detected	**Sample Ref:**	S08
Material Assessment:		**No Asbestos Detected**	

Comments: -

The insulation was to the pipe work between the two redundant water tanks within the void.

Recommendations:

No action required

Asbestos Register Sheet

Contract No:	Client:	ID Number:
S-12619	Underwoods LLP	220103
Site: Croyland Abbey, Tithe Barn Road, Wellingborough, NN8 1BJ		**Survey Date:** 30 March 2020

Building:	Croyland Abbey		
Floor:	Ground Floor		
Room Area:	024 Stairwell		
Description:	Insulating Board Boxing		
Quantity:	2.5 lm		
Accessibility:	Easy		
Product Type:	2 - Insulating Board		
Damage Extent:	1 - Low Damage		
Surface Treatment:	2 - Part-sealed	**Re-inspection Due:**	N/A
Asbestos Type:	No Asbestos Detected	**Sample Ref:**	Sample Reference 01
Material Assessment:		**No Asbestos Detected**	

Comments: -

The boxing was Supalux adjacent to the fire exit door.

Recommendations:

No action required

Asbestos Register Sheet

Contract No:	Client:	ID Number:
S-12619	Underwoods LLP	220115
Site: Croyland Abbey, Tithe Barn Road, Wellingborough, NN8 1BJ		**Survey Date:** 30 March 2020

Building:	Croyland Abbey		
Floor:	Ground Floor		
Room Area:	024 Stairwell		
Description:	Insulating Board Infill Panels to Doors		
Quantity:	4m²		
Accessibility:	Easy		
Product Type:	2 - Insulating Board		
Damage Extent:	1 - Low Damage		
Surface Treatment:	1 - Sealed	**Re-inspection Due:**	30/03/2021
Asbestos Type:	2 - Amosite	**Sample Ref:**	Sample Reference 05
Material Assessment:		**Risk Score = 6 Low**	

Comments: -

The insulating board panels were to one side of the door of each.

Recommendations:

Manage and Label

If the identified asbestos containing material is likely to be disturbed during refurbishment works, it should be removed and disposed of in full accordance with current and relevant legislation.

If refurbishment works are not likely to impact upon the identified asbestos containing material then it should be managed in accordance with current legislation. For adequate management asbestos materials must be in a good condition and products other than cement and composite materials should be sealed and or protected. As such should the identified asbestos containing material be damaged then it will require repair and for materials other than cement and composites it will require encapsulation and or protection. Where asbestos materials are beyond repair they should be removed. Although labelling and or signage is not a legal requirement it should be considered to avoid accidental damage.

Asbestos Register Sheet

Contract No:	Client:	ID Number:
S-12619	Underwoods LLP	220106
Site: Croyland Abbey, Tithe Barn Road, Wellingborough, NN8 1BJ		**Survey Date:** 30 March 2020

Building:	Croyland Abbey		
Floor:	Ground Floor		
Room Area:	024 Stairwell		
Description:	Cement Collars to Floor Penetration		
Quantity:	0.5lm		
Accessibility:	Medium		
Product Type:	1 - Cement Product		
Damage Extent:	1 - Low Damage		
Surface Treatment:	1 - Unsealed	**Re-inspection Due:**	30/03/2021
Asbestos Type:	1 - Chrysotile	**Sample Ref:**	Sample Reference 02
Material Assessment:		**Risk Score = 4 Very Low**	

Comments: -

The cement collars were insulating the floor where the hot pipe work was penetrating.

Recommendations:

Encapsulate and Manage

If the identified asbestos containing material is likely to be disturbed during refurbishment works, it should be removed and disposed of in full accordance with current and relevant legislation.

If refurbishment works are not likely to impact upon the identified asbestos containing material then it should be managed in accordance with current legislation. For adequate management asbestos materials must be in a good condition and products other than cement and composite materials should be sealed and or protected. As such should the identified asbestos containing material be damaged then it will require repair and for materials other than cement and composites it will require encapsulation and or protection. Where asbestos materials are beyond repair they should be removed. Although labelling and or signage is not a legal requirement it should be considered to avoid accidental damage.

Asbestos Register Sheet

Contract No:	Client:	ID Number:
S-12619	Underwoods LLP	220124
Site: Croyland Abbey, Tithe Barn Road, Wellingborough, NN8 1BJ		**Survey Date:** 30 March 2020

Building:	Croyland Abbey		
Floor:	Ground Floor		
Room Area:	029 Room		
Description:	Insulating Board Infill Panel		
Quantity:	2m²		
Accessibility:	Easy		
Product Type:	2 - Insulating Board		
Damage Extent:	1 - Low Damage		
Surface Treatment:	1 - Sealed	**Re-inspection Due:**	30/03/2021
Asbestos Type:	2 - Amosite, Chrysotile	**Sample Ref:**	S09
Material Assessment:		**Risk Score = 6 Low**	

Comments: -

The panel was covering the void of the fire place.

Recommendations:

Manage and Label

If the identified asbestos containing material is likely to be disturbed during refurbishment works, it should be removed and disposed of in full accordance with current and relevant legislation.

If refurbishment works are not likely to impact upon the identified asbestos containing material then it should be managed in accordance with current legislation. For adequate management asbestos materials must be in a good condition and products other than cement and composite materials should be sealed and or protected. As such should the identified asbestos containing material be damaged then it will require repair and for materials other than cement and composites it will require encapsulation and or protection. Where asbestos materials are beyond repair they should be removed. Although labelling and or signage is not a legal requirement it should be considered to avoid accidental damage.

Asbestos Register Sheet

Contract No:	Client:	ID Number:
S-12619	Underwoods LLP	220111
Site: Croyland Abbey, Tithe Barn Road, Wellingborough, NN8 1BJ		**Survey Date:** 30 March 2020

Building:	Croyland Abbey		
Floor:	Ground Floor		
Room Area:	035 Room		
Description:	Vinyl Tiles to Floors		
Quantity:	20m²		
Accessibility:	Easy		
Product Type:	1 - Vinyl Products		
Damage Extent:	1 - Low Damage		
Surface Treatment:	0 - Composite	**Re-inspection Due:**	30/03/2021
Asbestos Type:	1 - Chrysotile	**Sample Ref:**	S10
Material Assessment:		**Risk Score = 3 Very Low**	

Comments: -

The floor tiles were green in colour located beneath the carpet finishes, there was bitumen adhesive to the underside.

Recommendations:

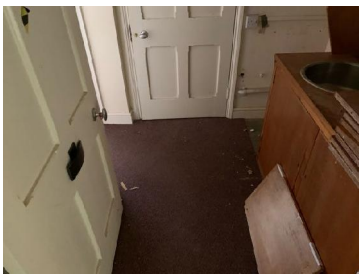
Manage and Label

If the identified asbestos containing material is likely to be disturbed during refurbishment works, it should be removed and disposed of in full accordance with current and relevant legislation.

If refurbishment works are not likely to impact upon the identified asbestos containing material then it should be managed in accordance with current legislation. For adequate management asbestos materials must be in a good condition and products other than cement and composite materials should be sealed and or protected. As such should the identified asbestos containing material be damaged then it will require repair and for materials other than cement and composites it will require encapsulation and or protection. Where asbestos materials are beyond repair they should be removed. Although labelling and or signage is not a legal requirement it should be considered to avoid accidental damage.

Asbestos Register Sheet

Contract No:	Client:	ID Number:
S-12619	Underwoods LLP	220104
Site: Croyland Abbey, Tithe Barn Road, Wellingborough, NN8 1BJ		**Survey Date:** 30 March 2020

Building:	Croyland Abbey		
Floor:	Ground Floor		
Room Area:	Rooms 039 & 034		
Description:	Vinyl Tiles to Floors		
Quantity:	10m²		
Accessibility:	Easy		
Product Type:	1 - Vinyl Products		
Damage Extent:	1 - Low Damage		
Surface Treatment:	0 - Composite	**Re-inspection Due:**	30/03/2021
Asbestos Type:	1 - Chrysotile	**Sample Ref:**	Sample Reference 10
Material Assessment:		**Risk Score = 3 Very Low**	

Comments: -

The floor tiles were green in colour located beneath the carpet finishes, there was bitumen adhesive to the underside.

Recommendations:

Manage and Label

If the identified asbestos containing material is likely to be disturbed during refurbishment works, it should be removed and disposed of in full accordance with current and relevant legislation.

If refurbishment works are not likely to impact upon the identified asbestos containing material then it should be managed in accordance with current legislation. For adequate management asbestos materials must be in a good condition and products other than cement and composite materials should be sealed and or protected. As such should the identified asbestos containing material be damaged then it will require repair and for materials other than cement and composites it will require encapsulation and or protection. Where asbestos materials are beyond repair they should be removed. Although labelling and or signage is not a legal requirement it should be considered to avoid accidental damage.

Asbestos Register Sheet

Contract No:	Client:	ID Number:
S-12619	Underwoods LLP	220110
Site: Croyland Abbey, Tithe Barn Road, Wellingborough, NN8 1BJ		**Survey Date:** 30 March 2020

Building:	Croyland Abbey		
Floor:	Ground Floor		
Room Area:	038 Room		
Description:	Vinyl Tiles to Floors		
Quantity:	8m²		
Accessibility:	Easy		
Product Type:	1 - Vinyl Products		
Damage Extent:	1 - Low Damage		
Surface Treatment:	0 - Composite	**Re-inspection Due:**	30/03/2021
Asbestos Type:	1 - Chrysotile	**Sample Ref:**	Sample Reference 10
Material Assessment:		**Risk Score = 3 Very Low**	

Comments: -

The floor tiles were green in colour, there was bitumen adhesive to the underside.

Recommendations:

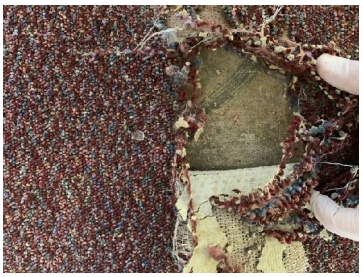
Manage and Label

If the identified asbestos containing material is likely to be disturbed during refurbishment works, it should be removed and disposed of in full accordance with current and relevant legislation.

If refurbishment works are not likely to impact upon the identified asbestos containing material then it should be managed in accordance with current legislation. For adequate management asbestos materials must be in a good condition and products other than cement and composite materials should be sealed and or protected. As such should the identified asbestos containing material be damaged then it will require repair and for materials other than cement and composites it will require encapsulation and or protection. Where asbestos materials are beyond repair they should be removed. Although labelling and or signage is not a legal requirement it should be considered to avoid accidental damage.

Asbestos Register Sheet

Contract No:	Client:	ID Number:
S-12619	Underwoods LLP	220118
Site: Croyland Abbey, Tithe Barn Road, Wellingborough, NN8 1BJ		**Survey Date:** 30 March 2020

Building:	Croyland Abbey		
Floor:	Ground Floor		
Room Area:	037 Room		
Description:	Vinyl Tiles to Floors		
Quantity:	40m²		
Accessibility:	Easy		
Product Type:	1 - Vinyl Products		
Damage Extent:	1 - Low Damage		
Surface Treatment:	0 - Composite	**Re-inspection Due:**	30/03/2021
Asbestos Type:	1 - Chrysotile	**Sample Ref:**	Sample Reference 10
Material Assessment:		**Risk Score = 3 Very Low**	

Comments: -

The floor tiles were green in colour, they were located beneath the carpet finishes, there was bitumen adhesive to the underside.

Recommendations:

Manage and Label

If the identified asbestos containing material is likely to be disturbed during refurbishment works, it should be removed and disposed of in full accordance with current and relevant legislation.

If refurbishment works are not likely to impact upon the identified asbestos containing material then it should be managed in accordance with current legislation. For adequate management asbestos materials must be in a good condition and products other than cement and composite materials should be sealed and or protected. As such should the identified asbestos containing material be damaged then it will require repair and for materials other than cement and composites it will require encapsulation and or protection. Where asbestos materials are beyond repair they should be removed. Although labelling and or signage is not a legal requirement it should be considered to avoid accidental damage.

Asbestos Register Sheet

Contract No:	Client:	ID Number:
S-12619	Underwoods LLP	220109
Site: Croyland Abbey, Tithe Barn Road, Wellingborough, NN8 1BJ		**Survey Date:** 30 March 2020

Building:	Croyland Abbey		
Floor:	Ground Floor		
Room Area:	036 Room		
Description:	Vinyl Tiles to Floors		
Quantity:	40m²		
Accessibility:	Easy		
Product Type:	1 - Vinyl Products		
Damage Extent:	1 - Low Damage		
Surface Treatment:	0 - Composite	**Re-inspection Due:**	30/03/2021
Asbestos Type:	1 - Chrysotile	**Sample Ref:**	Sample Reference 10
Material Assessment:		**Risk Score = 3 Very Low**	

Comments: -

The floor tiles were green in colour, they were located beneath the carpet finishes, there was bitumen adhesive to the underside.

Recommendations:

Manage and Label

If the identified asbestos containing material is likely to be disturbed during refurbishment works, it should be removed and disposed of in full accordance with current and relevant legislation.

If refurbishment works are not likely to impact upon the identified asbestos containing material then it should be managed in accordance with current legislation. For adequate management asbestos materials must be in a good condition and products other than cement and composite materials should be sealed and or protected. As such should the identified asbestos containing material be damaged then it will require repair and for materials other than cement and composites it will require encapsulation and or protection. Where asbestos materials are beyond repair they should be removed. Although labelling and or signage is not a legal requirement it should be considered to avoid accidental damage.

Asbestos Register Sheet

Contract No:	Client:	ID Number:
S-12619	Underwoods LLP	220126
Site: Croyland Abbey, Tithe Barn Road, Wellingborough, NN8 1BJ		**Survey Date:** 30 March 2020

Building:	Croyland Abbey		
Floor:	Basement		
Room Area:	Rooms 041, 042, 043, 044, 045 & 046		
Description:	Insulating Board Ceiling Panels		
Quantity:	Approximately 240m²		
Accessibility:	Easy		
Product Type:	2 - Insulating Board		
Damage Extent:	1 - Low Damage		
Surface Treatment:	2 - Part-sealed	**Re-inspection Due:**	30/03/2021
Asbestos Type:	2 - Amosite, Chrysotile	**Sample Ref:**	S11
Material Assessment:		**Risk Score = 7 Medium**	

Comments: -

The insulating board panels ran throughout the entire basement, with the exception of the rear stairwell. The beading fixing the panels are also insulating board.

Recommendations:

Encapsulate and Manage

If the identified asbestos containing material is likely to be disturbed during refurbishment works, it should be removed and disposed of in full accordance with current and relevant legislation.

If refurbishment works are not likely to impact upon the identified asbestos containing material then it should be managed in accordance with current legislation. For adequate management asbestos materials must be in a good condition and products other than cement and composite materials should be sealed and or protected. As such should the identified asbestos containing material be damaged then it will require repair and for materials other than cement and composites it will require encapsulation and or protection. Where asbestos materials are beyond repair they should be removed. Although labelling and or signage is not a legal requirement it should be considered to avoid accidental damage.

Asbestos Register Sheet

Contract No:	Client:	ID Number:
S-12619	Underwoods LLP	220108
Site: Croyland Abbey, Tithe Barn Road, Wellingborough, NN8 1BJ		**Survey Date:** 30 March 2020

Building:	Croyland Abbey		
Floor:	Basement		
Room Area:	Rooms 041, 042, 043 & 044		
Description:	Insulation Residue to Walls		
Quantity:	300m²		
Accessibility:	Difficult		
Product Type:	3 - Insulation		
Damage Extent:	3 - High		
Surface Treatment:	3 - Unsealed	**Re-inspection Due:**	N/A
Asbestos Type:	No Asbestos Detected	**Sample Ref:**	S12
Material Assessment:		**No Asbestos Detected**	

Comments: -

The insulation was sampled in multiple locations.

Recommendations:

No action required

Asbestos Register Sheet

Contract No:	Client:	ID Number:
S-12619	Underwoods LLP	220102
Site: Croyland Abbey, Tithe Barn Road, Wellingborough, NN8 1BJ		**Survey Date:** 30 March 2020

Building:	Croyland Abbey		
Floor:	Basement		
Room Area:	044 Room		
Description:	Woven Textile Wrap to Pipe		
Quantity:	1lm		
Accessibility:	Medium		
Product Type:	2 - Woven Textiles		
Damage Extent:	2 - Medium		
Surface Treatment:	2 - Part-sealed	**Re-inspection Due:**	30/03/2021
Asbestos Type:	1 - Chrysotile	**Sample Ref:**	S13
Material Assessment:		**Risk Score = 7 Medium**	

Comments: -

The textile was exposed to the rear of the cement flue pipe.

Recommendations:

Encapsulate and Manage

If the identified asbestos containing material is likely to be disturbed during refurbishment works, it should be removed and disposed of in full accordance with current and relevant legislation.

If refurbishment works are not likely to impact upon the identified asbestos containing material then it should be managed in accordance with current legislation. For adequate management asbestos materials must be in a good condition and products other than cement and composite materials should be sealed and or protected. As such should the identified asbestos containing material be damaged then it will require repair and for materials other than cement and composites it will require encapsulation and or protection. Where asbestos materials are beyond repair they should be removed. Although labelling and or signage is not a legal requirement it should be considered to avoid accidental damage.

Asbestos Register Sheet

Contract No:	Client:	ID Number:
S-12619	Underwoods LLP	220116
Site: Croyland Abbey, Tithe Barn Road, Wellingborough, NN8 1BJ		**Survey Date:** 30 March 2020

Building:	Croyland Abbey		
Floor:	Basement		
Room Area:	044 Room		
Description:	Cement Flue Pipe		
Quantity:	1lm		
Accessibility:	Medium		
Product Type:	1 - Cement Product		
Damage Extent:	1 - Low Damage		
Surface Treatment:	1 - Unsealed	**Re-inspection Due:**	30/03/2021
Asbestos Type:	1 - Chrysotile	**Sample Ref:**	Sample Reference 02
Material Assessment:		**Risk Score = 4 Very Low**	

Comments: -

The cement flue ran into the void from the metal flue. It cannot be traced further than what is visible.

Recommendations:

Encapsulate and Manage

If the identified asbestos containing material is likely to be disturbed during refurbishment works, it should be removed and disposed of in full accordance with current and relevant legislation.

If refurbishment works are not likely to impact upon the identified asbestos containing material then it should be managed in accordance with current legislation. For adequate management asbestos materials must be in a good condition and products other than cement and composite materials should be sealed and or protected. As such should the identified asbestos containing material be damaged then it will require repair and for materials other than cement and composites it will require encapsulation and or protection. Where asbestos materials are beyond repair they should be removed. Although labelling and or signage is not a legal requirement it should be considered to avoid accidental damage.

Asbestos Register Sheet

Contract No:	Client:	ID Number:
S-12619	Underwoods LLP	220114
Site: Croyland Abbey, Tithe Barn Road, Wellingborough, NN8 1BJ		**Survey Date:** 30 March 2020

Building:	Croyland Abbey		
Floor:	1st Floor		
Room Area:	011 Room		
Description:	Textured Coating to Ceilings		
Quantity:	25m²		
Accessibility:	Medium		
Product Type:	1 - Textured Coating		
Damage Extent:	1 - Low Damage		
Surface Treatment:	0 - Composite	**Re-inspection Due:**	30/03/2021
Asbestos Type:	1 - Chrysotile	**Sample Ref:**	S14
Material Assessment:		**Risk Score = 3 Very Low**	

Comments: -

The coating was applied to plasterboard.

Recommendations:

Manage and Label

If the identified asbestos containing material is likely to be disturbed during refurbishment works, it should be removed and disposed of in full accordance with current and relevant legislation.

If refurbishment works are not likely to impact upon the identified asbestos containing material then it should be managed in accordance with current legislation. For adequate management asbestos materials must be in a good condition and products other than cement and composite materials should be sealed and or protected. As such should the identified asbestos containing material be damaged then it will require repair and for materials other than cement and composites it will require encapsulation and or protection. Where asbestos materials are beyond repair they should be removed. Although labelling and or signage is not a legal requirement it should be considered to avoid accidental damage.

Asbestos Register Sheet

Contract No:	Client:	ID Number:
S-12619	Underwoods LLP	220121
Site: Croyland Abbey, Tithe Barn Road, Wellingborough, NN8 1BJ		**Survey Date:** 30 March 2020

Building:	Croyland Abbey		
Floor:	Ground Floor		
Room Area:	External Down Pipes		
Description:	Putty Seals to Down Pipe Joints		
Quantity:	Approximately 20unit(s)		
Accessibility:	Difficult		
Product Type:	1 - Putty		
Damage Extent:	1 - Low Damage		
Surface Treatment:	0 - Composite	**Re-inspection Due:**	N/A
Asbestos Type:	No Asbestos Detected	**Sample Ref:**	S15
Material Assessment:		**No Asbestos Detected**	

Comments: -

The putty was packed into the joints where the lead pipes joined.

Recommendations:

No action required

Asbestos Register Sheet

Contract No:	Client:	ID Number:
S-12619	Underwoods LLP	220117
Site: Croyland Abbey, Tithe Barn Road, Wellingborough, NN8 1BJ		**Survey Date:** 30 March 2020

Building:	Croyland Abbey		
Floor:	Ground Floor		
Room Area:	External Windows		
Description:	Putty Seals to Window Joints		
Quantity:	Approximately 40unit(s)		
Accessibility:	Difficult		
Product Type:	1 - Putty		
Damage Extent:	1 - Low Damage		
Surface Treatment:	0 - Composite	**Re-inspection Due:**	N/A
Asbestos Type:	No Asbestos Detected	**Sample Ref:**	S16
Material Assessment:		**No Asbestos Detected**	

Comments: -

The putty was the jointing to the glazing.

Recommendations:

No action required

6.5 Where recommended, asbestos remedial works should be undertaken utilising the correct controls and in accordance with the Control of Asbestos Regulations 2012. All works should only be carried out by a competent asbestos contractor who holds suitable asbestos insurance. Additionally, prior to any work commencing on any asbestos containing material, an assessment should be made to determine the appropriate contractor required for the works. The assessment should identify if the works are licensed, notifiable non licensed or non licensed. If the works are deemed as licensed, then a HSE licensed contractor will be required and the works will be subject to a 14 day notification period to the local enforcing authority. If the assessment determines that the works are not licensed, then a suitable non licensed contractor may undertake the works. However the assessment must also identified if the non licensed works are notifiable. Notifiable non licensed works will be subject to notification to the local enforcing authority prior to works commencing. Should you require further advice regarding the licensed asbestos containing materials, notifiable non – licensed and non licensed please contact our office for clarification.

6.6 It should be noted that although every effort has been made with regards to the accuracy of measurements recorded within this report, they should not be relied upon for the purposes of tendering. This report is an asbestos survey and is designed for asbestos management purposes only. As such this report should not be utilised for tendering and relied upon as a specification. All required works at this site should have a detailed specification compiled, during which extent and location should be detailed by participating contractors so as to avoid tender information disputes.

6.7 Prior to refurbishment or general maintenance / repair works commencing all contractors should review the asbestos register and confirm that they understand and are aware of any potentials risks.

6.8 If works shall, or are likely too, disturb either identified asbestos containing materials or areas listed as previously being no access, then specialist advice should be sought before proceeding.

6.9 Irrespective of the Asbestos Refurbishment Survey results, should any person encounter material they suspect may contain asbestos or discover damage to previously identified asbestos containing materials in any area, specialist advice should be sought immediately.

6.10 If this report and or register is being consulted prior to a planned major refurbishment, alterations or demolition it must be noted that an Asbestos Refurbishment or Demolition Survey is legally required and specialist advice should be sought prior to proceeding.

6.11 Any inspections, remediation or changes to identified asbestos containing materials should be recorded within the client's asbestos management plan. An asbestos management plan with 'priority' risk assessments and detailed action plan is a requirement in addition to this asbestos survey for all duty holders to be compliant under current approved codes of practice. Oracle Solutions can provide these additional requirements and should be contacted for further details and advice if not in place.

Report Produced By:

Charli Cook
Administration

Quality Checked By:

David Bond
Contracts Manager

Appendix A
Certificate of Bulk Analysis for Asbestiform Materials
Analysis was carried out utilising a UKAS accredited laboratory, accredited for testing in accordance with the ISO 17025 standard.

Ground Floor
Sycamore Court
North Leigh Business Park
North Leigh
Oxfordshire OX29 6SW

Tel: 01993 868636
www.asbestoslabs.co.uk

Asbestos Laboratory Services

UKAS TESTING
4668

CERTIFICATE OF ANALYSIS FOR ASBESTOS FIBRES

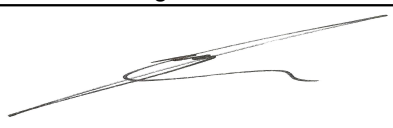
Report Number: ALS/J043745

Client	Oracle Solutions Asbestos Ltd	**Attention**	Mark Carter
Client Address	Unit 13, Henson Way, Telford Way Industrial Estate, Kettering, Northamptonshire, NN16 8PX		
Site Address	Croyland Abbey, Tithe Barn Road, Wellingborough, Northamptonshire, NN8 1BJ		
Site Ref	S-12619	**No. of Samples**	16

Date Received	02/04/2020	**Date of Analysis**	03/04/2020	**Report Issue Date**	03/04/2020

Samples of material(s) [detailed below] have been examined to determine the presence of asbestos fibres, using Polarised Light Microscopy together with dispersion staining based on the HSE's guidance document HSG248 and Asbestos Laboratory Services' documented method. If samples have been delivered to the laboratory, the site address and sample location is reported as provided by the client. Reported results apply to samples as received. Asbestos Laboratory Services are not responsible for the accuracy or competence of the sampling by third parties. Under these circumstances, Asbestos Laboratory Services cannot be held responsible for the interpretation of the results shown. Opinions and interpretations are outside the scope of the
UKAS accreditation.
All entries under 'Fibre Type Detected' that contain (*) indicate that the sample was found to be deviating from policies defined in document TPS63 (UKAS Policy on Deviating Samples). As a result, the test result(s) may be invalid. The Determination of Asbestos Content Report shall not be reproduced except in full, without written approval of the laboratory. V2, or subsequent "V" numbers, after the report number signifies that the original certificate (or previous amended certificate) has been replaced. All samples will be retained for a minimum of six months.

Lab Ref.	Client Sample Number	Sample Location	Sample Description	Fibre Type Detected
BS191638	S01	Main - First - 001	Insulating Board Boxing to Stairwell	N.A.D.I.S
BS191639	S02	Main - First - 001	Cement Collars	Chrysotile
BS191640	S03	Main - First - 001	Textured Coating to Ceilings	N.A.D.I.S
BS191641	S04	Main - Second - 008	Insulating Board Infill to Doors	Chrysotile + Amosite
BS191642	S05	Main - First - 010, 011, 014 & 016	Insulating Board Infill to Doors	Chrysotile + Amosite
BS191643	S06	Main - First - 023	Textured Coating to Walls	N.A.D.I.S
BS191644	S07	Main - First - 017	Bitumen Sink Pads	N.A.D.I.S
BS191645	S08	Main - First - Loft Void	Insulation to Pipework	N.A.D.I.S
BS191646	S09	Main - Ground - 029	Insulating Board Infill Panel	Chrysotile + Amosite
BS191647	S10	Main - Ground - 035	Vinyl Floor Tiles & Bitumen	Chrysotile
BS191648	S11	Main - Basement - Throughout	Insulating Board Ceiling Panels	Chrysotile + Amosite

Analysed By	Roy Pearce	Approved By	Craig Morrish
Analyst Signatory		Approver Signatory	

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CERTIFICATE OF ANALYSIS FOR ASBESTOS FIBRES

Report Number: ALS/J043745

Client	Oracle Solutions Asbestos Ltd	**Attention**	Mark Carter
Client Address	Unit 13, Henson Way, Telford Way Industrial Estate, Kettering, Northamptonshire, NN16 8PX		
Site Address	Croyland Abbey, Tithe Barn Road, Wellingborough, Northamptonshire, NN8 1BJ		
Site Ref	S-12619	**No. of Samples**	16

Date Received	02/04/2020	**Date of Analysis**	03/04/2020	**Report Issue Date**	03/04/2020

Samples of material(s) [detailed below] have been examined to determine the presence of asbestos fibres, using Polarised Light Microscopy together with dispersion staining based on the HSE's guidance document HSG248 and Asbestos Laboratory Services' documented method. If samples have been delivered to the laboratory, the site address and sample location is reported as provided by the client. Reported results apply to samples as received. Asbestos Laboratory Services are not responsible for the accuracy or competence of the sampling by third parties. Under these circumstances, Asbestos Laboratory Services cannot be held responsible for the interpretation of the results shown. Opinions and interpretations are outside the scope of the
UKAS accreditation.
All entries under 'Fibre Type Detected' that contain (*) indicate that the sample was found to be deviating from policies defined in document TPS63 (UKAS Policy on Deviating Samples). As a result, the test result(s) may be invalid. The Determination of Asbestos Content Report shall not be reproduced except in full, without written approval of the laboratory. V2, or subsequent "V" numbers, after the report number signifies that the original certificate (or previous amended certificate) has been replaced. All samples will be retained for a minimum of six months.

Lab Ref.	Client Sample Number	Sample Location	Sample Description	Fibre Type Detected
BS191649	S12	Main - Basement - Throughout	Insulation to Walls	N.A.D.I.S
BS191650	S13	Main - Basement - 044	Woven Textile to Flue	Chrysotile
BS191651	S14	Main - First - 024	Textured Coating to Ceiling	Chrysotile
BS191652	S15	Main - External - 099	Putty to Downpipes	N.A.D.I.S
BS191653	S16	Main - External - 099	Putty to Windows	N.A.D.I.S

Fibre Type Detected Key

N.A.D.I.S = No Asbestos Detected in Sample

Chrysotile = White Asbestos; **Amosite** = Brown Asbestos: **Crocidolite** = Blue Asbestos; **Actinolite, Anthophyllite & Tremolite** = Rare Asbestos Types

Details of Amendment(s) to Previous Certificate:

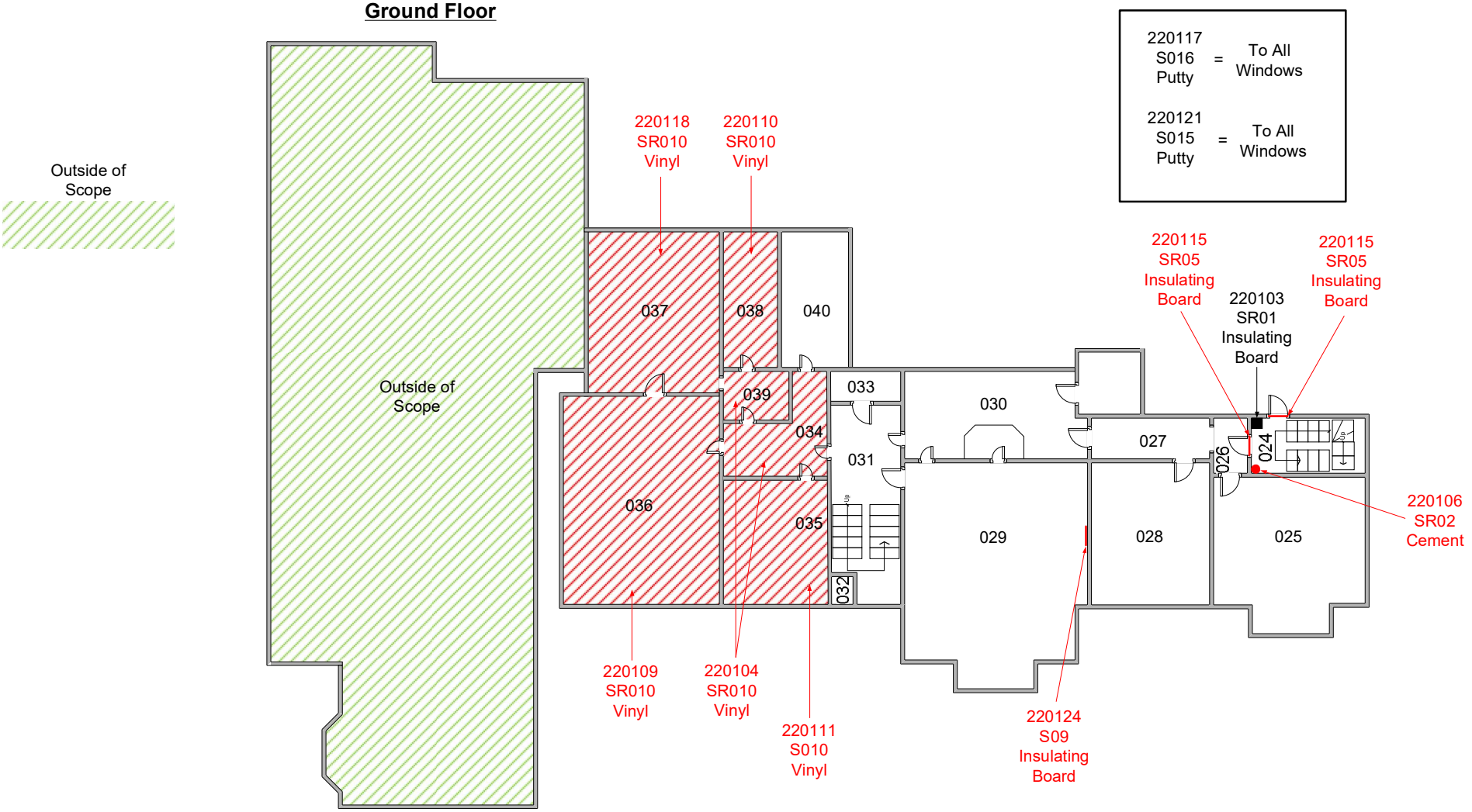
Details of Deviating Samples:

Analysed By	Roy Pearce	Approved By	Craig Morrish
Analyst Signatory		Approver Signatory	

Appendix B
Site Plans

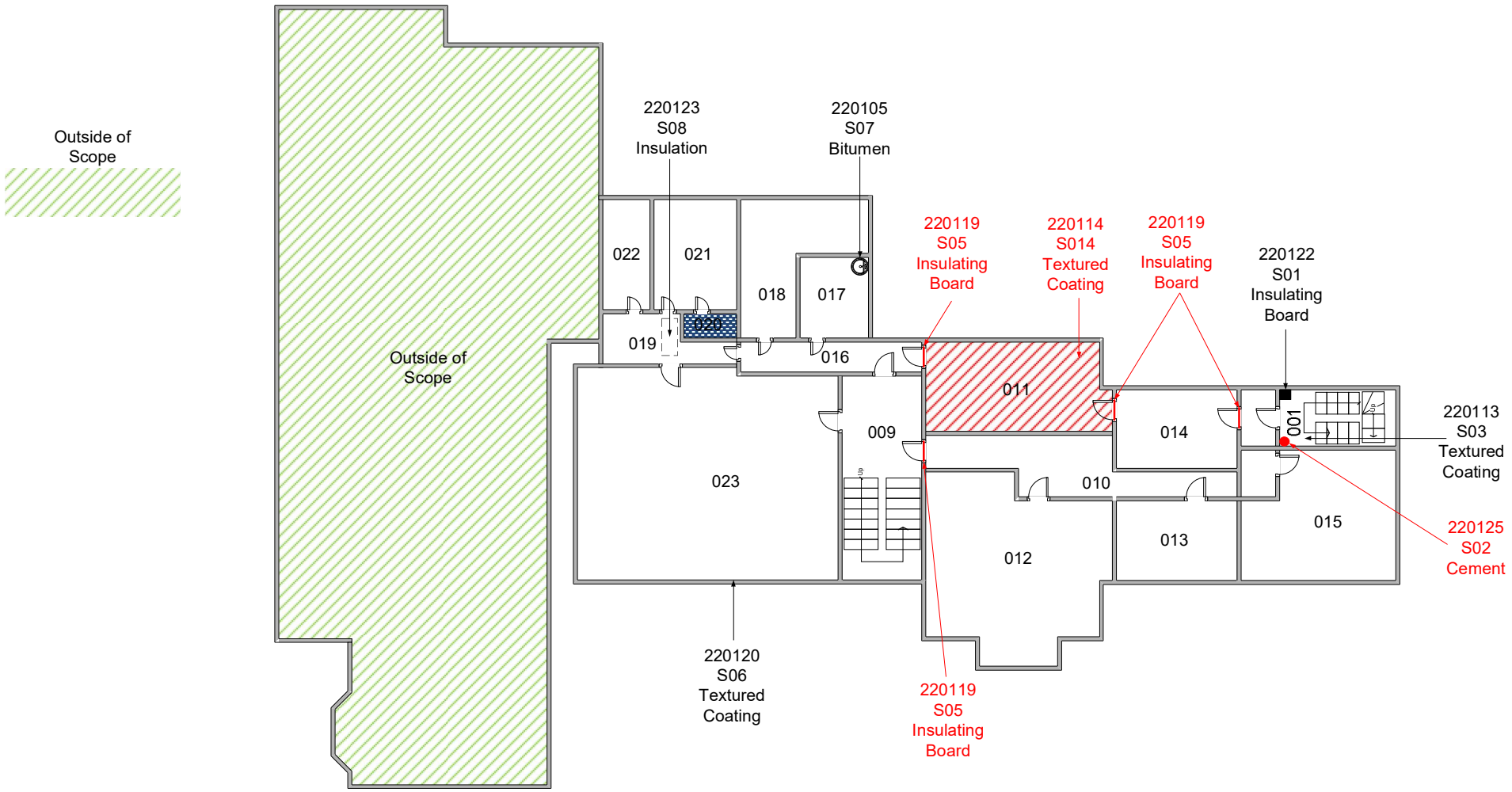
ORACLE SOLUTIONS	**Client:** Borough Council Of Wellingborough **Site:** Croyland Abbey, Tithe Barn Road, Wellingborough, NN8 1BJ	**Key:** Contains asbestos Not Accessed, presumed to contain asbestos	**Additional Information:** No access areas: Only specific room areas will be highlighted within the plan. For more detailed information with regards to no access areas and restrictions please see the relevant section within the main body of the asbestos survey report. Each sampling point has a unique identifier (e.g. 12345) which can be used to refer back to the individual asbestos register sheet for that location.
Contract No: S-12619	**Scale:** Not to Scale		

Ground Floor



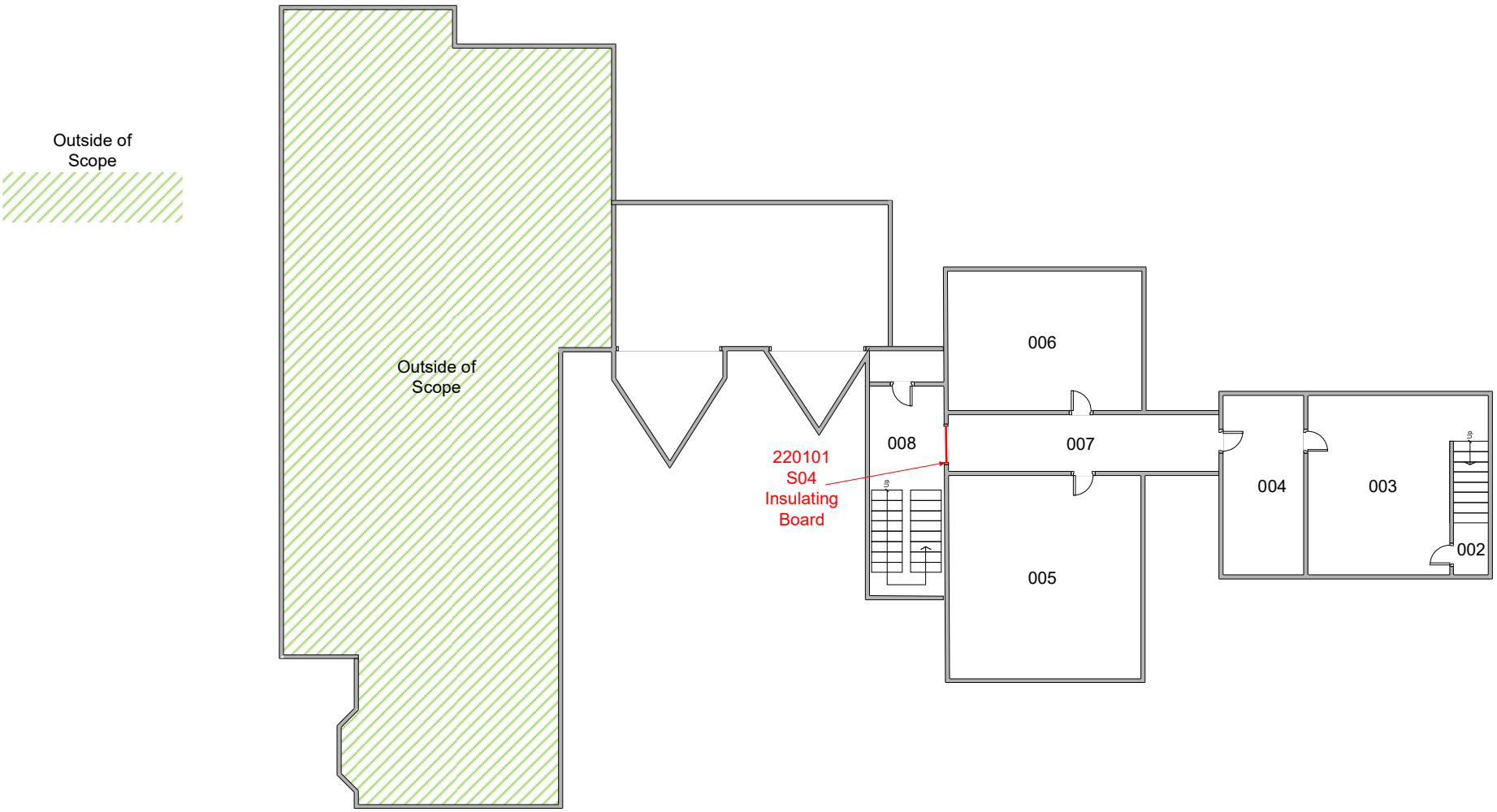
ORACLE SOLUTIONS	**Client:** Borough Council Of Wellingborough **Site:** Croyland Abbey Tithe Barn Road Wellingborough NN8 1BJ	**Key:** Contains asbestos Not Accessed, presumed to contain asbestos	**Additional Information:** No access areas: Only specific room areas will be highlighted within the plan. For more detailed information with regards to no access areas and restrictions please see the relevant section within the main body of the asbestos survey report. Each sampling point has a unique identifier (e.g. 12345) which can be used to refer back to the individual asbestos register sheet for that location.
Contract No: S-12619	**Scale:** Not to Scale		

First Floor



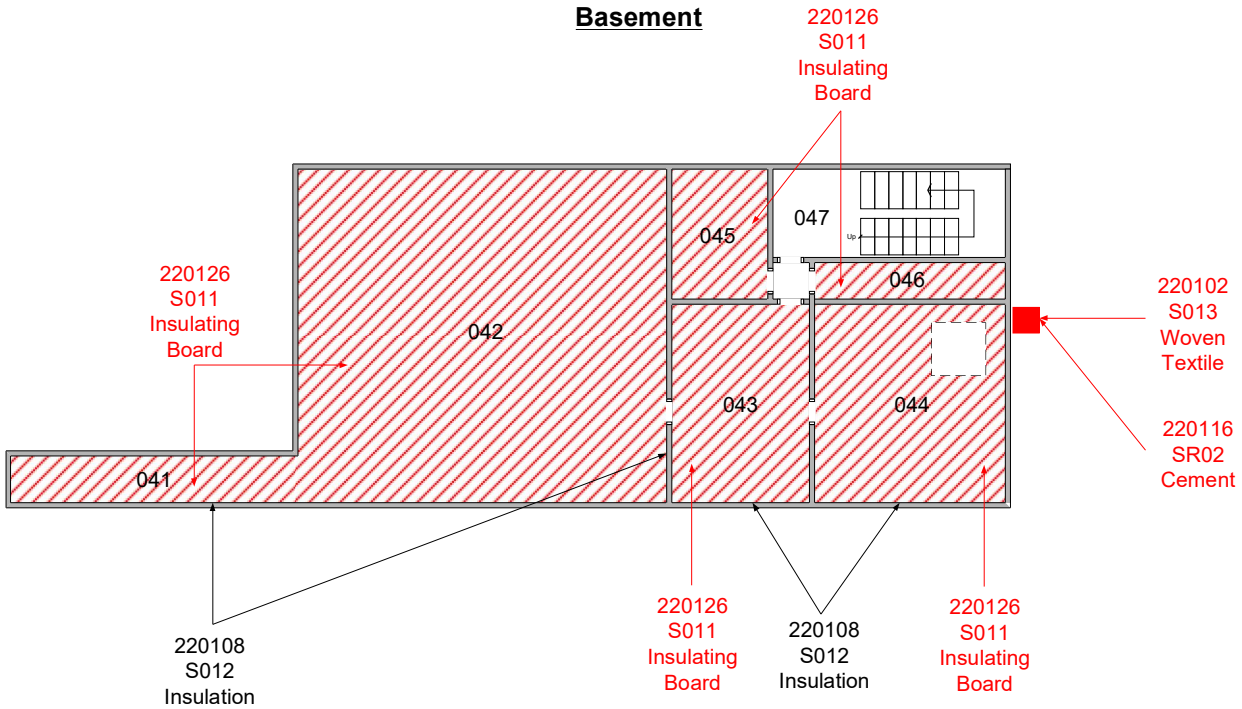
ORACLE SOLUTIONS	**Client:** Borough Council Of Wellingborough **Site:** Croyland Abbey Tithe Barn Road Wellingborough NN8 1BJ	**Key:** Contains asbestos Not Accessed, presumed to contain asbestos	**Additional Information:** No access areas: Only specific room areas will be highlighted within the plan. For more detailed information with regards to no access areas and restrictions please see the relevant section within the main body of the asbestos survey report. Each sampling point has a unique identifier (e.g. 12345) which can be used to refer back to the individual asbestos register sheet for that location.
Contract No: S-12619	**Scale:** Not to Scale		

Second Floor



ORACLE SOLUTIONS	**Client:** Borough Council Of Wellingborough **Site:** Croyland Abbey Tithe Barn Road Wellingborough NN8 1BJ	**Key:** Contains asbestos Not Accessed, presumed to contain asbestos	**Additional Information:** No access areas: Only specific room areas will be highlighted within the plan. For more detailed information with regards to no access areas and restrictions please see the relevant section within the main body of the asbestos survey report. Each sampling point has a unique identifier (e.g. 12345) which can be used to refer back to the individual asbestos register sheet for that location.
Contract No: S-12619	**Scale:** Not to Scale		

Basement



APPENDIX 3
ROTAFIX TM3 MOULDING MORTAR DATA SHEET

Search …

Rotafix TM3 Moulding Mortar is a 2-part moulding mortar specifically designed for repairing wood and stone. Rotafix TM3 Moulding Mortar is an epoxy repair putty that can be used to replace damaged wood in window frames or ornate carvings. It will not shrink once it has cured. Once cured the material can be shaped, sanded, stained, painted or varnished to blend invisibly with the parent substrate. Rotafix TM3 Moulding Mortar can be a cost effective method of repairing shaped wood and stone carvings and profiles, ensuring that as much of the original feature is retained.

Telephone: +44 (0) 1609 780444
Email: sales@rotafix.co.uk

Online Store

This product is available to purchase from our online store.

Buy it now

Data Sheet

Download

COSHH Sheet

Download

Rotafix Product Catalogue

This product is in our online catalogue.

View

Additional Information:

Supplied with:

N/A

Search …

- 4 x 2 litre (*Product code: 3425*)

Telephone: +44 (0)1639 730481
Email: sales@rotafix.co.uk

Privacy & Cookies Policy

APPENDIX 4
FORM OF TENDER

FORM OF TENDER

for the

Repair of Internal & External Building & Grounds

at

Croyland Abbey, Tithe Barn Road, Wellingborough

To: Borough Council of Wellingborough

I/We the undersigned hereby offer our Fixed Price Tender in accordance with the Tender Documents prepared by Underwoods LLP with a date for possession of the site a date for completion of the works as set out below, in the sum of:-

.....

..... (£ . p)

Duration of Works: ……..

Lead In period required: ……..

I/We enclose completed Contract Sum Analysis (priced pages of Works Section 3 of Specification), Preliminary Programme and Method Statements upon which our Tender is based.

I/We agree that this tender shall remain open to acceptance for a period of three months from "the date of tender".

Signed .....

For and on behalf of ……

in the capacity of .....

Date 2020

Notes: (1) The Employer does not bind himself to accept the lowest or any tender and will not be responsible for any costs incurred by the Contractor in preparing same.

(2) The Tender should be strictly in accordance with the invitation document; any tender which is qualified will be rejected.

(3) The Form of Tender together with Summary is to be signed and submitted to Underwoods LLP via the Borough Council of Wellingborough's tender portal (Contracts Finder) by no later than **5pm on Monday 11th May 2020.**

NOTICE TO TENDERERS

1. The Tender Documents must be completed in **Black Ink.**

2. It is important that the Summary to the Tender Document should be signed and bear the Contractor's name, address and date of tender.

3. The Tender must be submitted on a VAT exclusive basis and in accordance with the Conditions of Contract.

INSTRUCTIONS TO TENDERERS

A	**Tender**	The Contractor's Tender is to be based on the Enquiry Document provided, the conceptual drawings issued with the invitation and any further drawings issued for the specific purpose of preparing the Tender.
B	**Form of Tender**	The Employer does not guarantee to accept the lowest or any Tender and Contractor's tendering do so at their own expense. The Contractor will be required to submit with the Form of Tender a programme upon which his tender is based.
C	**Tender**	The Contractor is to submit with his Tender a fully priced copy of the Tender Document. This analysis, which will become a Contract Document, is to show how the Tender price is built up and is to include for all required profit, overheads, fees, charges, preliminaries and the like.