

SPECIFICATION

NATIONAL COAL MINING MUSEUM FOR ENGLAND

Small Works Package 2025

WILES & MAGUIRE

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job: NCM:05 date: Nov 2025 by: AW

Revision:

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SECTION 1: PRELIMINARIES AND GENERAL CONDITIONS

INTRODUCTION

1.1 NAMES AND ADDRESSES:

Site Location:	National Coal Mining Museum for England Caphouse Colliery, New Road, Overton, Wakefield, West Yorkshire, WF4 4RH Website: www.ncm.org.uk Client Contact: John Tanner Tel: 01924 848806 (Switchboard) Mob: 07738 475394 E-mail: John.Tanner@ncm.org.uk
Architect:	Wiles & Maguire The Danesmead Wing, 33 Fulford Cross York, YO10 4PB Contact: Andrew Wiles Tel: 01904 655447 Mob. 07753 686185 Email: andrew@wamarchitects.co.uk
CDM co-ordinator for Principal designer	Wiles & Maguire Project is not likely to be notifiable

1.2 DESCRIPTION OF WORK:

The work includes the following:

- a) Roof Slate Repairs
- b) Localized repointing and stone replacement
- c) Replacement of rainwater goods
- d) Replacement of window and door frames
- e) Access scaffold as required

1.3 QUANTITY AND QUALITY:

The Schedule of Works must not be regarded as a complete statement of everything included in the contract. The Contractor will be responsible for all work described or shown on the drawings or contained or implied within the printed or handwritten schedules as being necessary for the complete and proper execution of the Works.

1.4 MATERIALS AND WORKMANSHIP:

All materials shall be of the quality specified in the applicable specification issued by the British Standards Institution current at the date of tender and appropriate to the function required and shall be from approved manufacturers. In the event of articles or materials specified being unobtainable, the Contractor shall submit alternatives for the approval of the Architect before including them in the works.

1.5 TOOLS, PLANT AND ATTENDANCE:

The Contractor shall provide, maintain and remove on completion of the works all temporary works, mechanical hoists, skips, plant, tools, vehicles and everything necessary for the proper execution of the works.

1.6 THE CONTRACT AND CONDITIONS:

The contract shall be the JCT Minor Works Building Contract 2016 (JCT MW 2016). The contract conditions as set out in the appendix will be generally as follows, the contract will be executed under hand:

Contract Particulars:

Fourth Recital: For the purposes of the Construction Industry Scheme (CIS) The employer is NOT a contractor.

Base date – 7 days before tender return date

Fifth Recital: CDM Regulations – The project is notifiable.

Sixth Recital: Framework Agreement – not applicable

Seventh Recital

P'graph 1 – Collaborative Working – applies

P'graph 2 – Health and Safety – applies

P'graph 3 – Cost savings and value improvements – applies

P'graph 4 – Sustainable development and environmental considerations – applies

P'graph 5 – Performance indicators and monitoring – applies

P'graph 6 – Notification and Negotiation of Disputes - applies

Article 7 Arbitration – does not apply

1.1 CDM Planning period – 2 weeks ending on date of possession

2.8 Liquidated damages – At the rate of £500 per week

2.10 Rectification Period – 12 months

5.4A,B&C Insurance Option – Clause 5.4 B (Works to existing structures insurance by employer in joint names) applies

7.2 Nomination of Adjudicator – Royal Institute of British Architects

1.7 CONTRACT DOCUMENTS:

The following drawings and schedules are to be read in conjunction with the specification and will form part of the Contract, copies of which are issued with the tender documents:

Architect's drawings numbers: NCM:05/100 / PS-1 Photo sheets

The Contractor should note that anything mentioned or shown on the aforesaid documents that is not contained in the specification or anything which is in the specification which does not appear in the drawings shall be deemed to be included in the tender figure.

The contractor should fully acquaint himself with the drawings and specification during the tender period and if there should be anything which is ambiguous or otherwise not clear, the Contractor is to obtain clarification from the Architect before submitting his tender.

1.8 TENDERING PROCEDURE:

The Contractor is to provide a fixed price quotation for the works described in the documents to commence on site during as soon as possible. The price is required to remain open for 3 months. The Employer gives no undertaking to accept the contractor's price and will not pay for any tendering costs.

The Contractor is to visit the building and acquaint himself with the site, accessibility, services, local conditions and the full extent and character of the work. He shall be deemed to have satisfied himself as regards existing conditions, the risk of injury or damage to property on or adjacent to the site or the occupiers of such property, and generally to have obtained his own information on all matters affecting the execution of the works.

1.9 CERTIFICATES AND PAYMENT:

The Contractor is to submit to the Architect valuations of the work carried out and materials and plant supplied and delivered to site at regular monthly intervals. After checking, the Architect will issue his certificate for payment within seven days of receipt from the Contractor of the valuation, and payment will be made by the Employer within fourteen days of issue of the Architect's certificate. The Contractor is to include a VAT invoice with the copy of the Architect's signed certificate forwarded to the client.

Any variations shall be calculated on the basis of specification prices where appropriate, and otherwise by means of time sheets and materials invoices at rates agreed at the time of instruction. The contractor is to confirm the price of variations within a week of the work item having been carried out.

1.10 PROGRAMME OF WORK – MAXIMISING THE SPEND THIS FINANCIAL YEAR

The contractor is encouraged to complete as much of the project spend as possible before 31st March 2026. It is suggested that all claims for scaffold hire and materials be submitted in advance of that. By submitting the tender the contractor confirms that he will undertake continual risk assessments on the programme and feedback this information to the Architect on a weekly basis. Factors such as extreme cold weather should be fed into the 'critical path' as they come up.

The Contractor is requested to provide a statement of the expected duration of the works with his price submission. Staffing levels should match the scale of the works to allow completion of the works efficiently with the minimum disruption to the museum visitors.

On request, tenderers will be required to provide a programme for the works and a forecast of the stage payments.

The Contractor will be responsible for arranging a programme with suppliers and sub-contractors to complete the works in the time stated. No claim for delay or interference in these respects will be entertained. At the time of submission of his programme the Contractor should also submit a timetable for any information or instructions required from the Architect.

1.11 INSURANCES:

1.11.1 INSURANCE AGAINST INJURY TO PERSONS AND PROPERTY:

Insurance to cover the liability of the contractor or sub-contractor against injury to persons and property - cover for any one occurrence or series of occurrences arising out of one event, for not less than the sum given below, to be taken out by the contractor. Documentary evidence of insurance cover to be sent to the architect for inspection by the employer before work begins on site.

Insurance cover referred to above to be not less than £10,000,000.

1.11.2 INSURANCE OF EXISTING BUILDINGS ETC BY EMPLOYER AGAINST SPECIFIED PERILS AND AGAINST ALL RISKS:

Refer to Schedule 1, Insurance Option B of the contract. It is the Employer's responsibility to arrange adequate 'joint names' cover for the insurance of existing structure against specified perils for the full cost of reinstatement, repair or replacement and the insurance of new works in existing structures or extensions for full reinstatement value.

Terrorism cover is to be specifically excluded.

1.12 INSPECTION BY THE ARCHITECT:

The whole of the work is to be carried out and completed to the entire satisfaction of the Architect. Work which is sub-standard in the Architect's opinion shall be done again. Time and materials used in repeated work shall not be chargeable. Where the Contractor is not certain of the Architect's opinion, a trial section should be laid out first for approval before proceeding. All programme and prices are to include allowance for the Architect's approval on site, at visits which will be agreed in advance.

In the specification or schedule which follows, 'agreed' means agreed with Architect and 'as described' means as described or as required by the Architect.

1.13 CONTRACTOR'S REPRESENTATIVE:

The Contractor shall at all times, keep upon the works a competent person in charge. The person in charge must keep an up-to-date record of all personnel and vehicles, etc., entering and leaving the site as part of the security of the site.

The person in charge is to be named by the contractor and agreed by the architect before work begins on site, the named person should remain the person in charge throughout the duration of the works unless the architect gives written instruction otherwise.

1.14 CONTRACTORS AND SUB-CONTRACTORS:

The whole of the work including specialist sub-contract work, is to be undertaken as the responsibility of the main Contractor. The names of the sub-contract personnel shall be submitted to the Architect at or before the pre-contract site meeting.

The Contractor will be responsible for keeping all persons under his control, including staff employed by sub-contractors and all unauthorised persons within bounds, and will be liable for damage to adjoining premises, property, access roads, planting and vegetation by lorries, workmen or any cause; any damage so occasioned shall be made good at the Contractor's own cost.

The work shall be so arranged as to allow the minimum of nuisance to the local residents and visitors.

1.15 HEALTH AND SAFETY:CDM REGULATIONS

The successful contractor must accept the position of Principal Contractor, and comply with the requirements of the Construction (Design and Management) Regulations 2015. In any event the contractor must also comply with current Health and Safety legislation.

In general:

- a) Safety helmets must be worn in accordance with the Construction (Head Protection) Regulations 1989. Other forms of protective clothing must be worn as necessary.
- b) Notices indicating hard hat areas must be displayed and a stock of 5 no. Helmets must be available for approved visitors to use when on site.
- c) The Contractor must comply at all times with the Electricity at Work Regulations 1989.
- d) All electrical equipment should be operated at 110V or protected by a circuit breaker, 39mA or less (RCDs).
- e) All electrical connections are to be through correctly fused plugs, sockets and extension leads which must be unplugged at the end of each working day.

All measures shall be taken by the contractor to ensure that The Health and Safety at Work Act 1974, the control of substances Hazardous to Health regulations 1988 and all other regulations relating to Health and Safety on site can be adhered to by all site operatives including sub-contractors and permitted site visitors.

Working in close proximity to a visitor attraction and a working mineshaft creates additional safety risks that the contractor should be aware of. When working in these environments the contractor will be expected to liaise with the specialist Health and Safety officers in post at the Museum and involve them in generating appropriate method statements and risk assessments as needed. In particular keeping designated access routes clear for emergency vehicles.

1.16 PROVISIONAL SUMS AND CONTINGENCIES:

The expression 'Provisional Sum' and 'Contingencies' used in this specification do not imply work necessarily to be executed by the Contractor, sub-contractor or supplier, but are used in cases where the actual nature or quantity of work could not be ascertained at the time of preparation of this specification and programme, and the Contractor shall be deemed to have allowed in his pricing and in his charges for Site Establishment Overheads and Profit, for work to the values as shown in the 'Provisional Sum' and to be executed by himself or sub-contractors.

A figure for contingencies as set out in the Schedule of works.

SITE AND WORKS

1.17 SITE AND ACCESS:

See site plan on drawing NCM:03/100.

The museum is open to the public for free every day except Tuesdays and specific arrangements to visit site do not have to be made. It is suggested that as a courtesy you may want to let the Museum contact know of your visit by emailing John.Tanner@ncm.org.uk.

The work areas are located in a cluster of buildings around the historic wheel head. This is all part of the open area accessed by the public and school parties so it is essential at that contractors remain mindful of the risks associated with this planning how materials are brought to the work areas. This will mean loading in at early mornings before the site opens and having additional staff on hand to act as banksmen.

The works may be happening at a time when other larger building works are happening on the coal gantries and so the contractor will be allocated a distinct separate space in the car park area close to the modern entrance building.

There is a WC (with hot water) close to the work areas. The facilities are shared with the public and are to be kept clean if the contractor chooses to use them.

Supplies of power or Water can be arranged from the adjacent buildings.

The work areas are not secure and the contractor will need to enclose the bottom of any scaffold or compound with temporary "Heras" type fencing.

All vehicle access into the site from the public road will be via the unused east roadway by the Bath House or for larger vehicles the main visitor entrance may be needed. Ideally such deliveries should happen first thing in the morning and be cleared by 10am. They should be guided by a banksman in all cases observing a max 5mph speed limit.

The contractor will be required to review the best method to gain safe access for cabins, scaffolding or any larger plant onto the site during his pre tender visits. His price will be deemed to accommodate all of the inconveniences described above.

The work areas and routes must be strictly adhered to, kept safe, secure and tidy during the works and thoroughly cleaned upon completion. Any damage to roadways will need to be made good at the contractors expense.

1.18 PROTECTION OF PEOPLE, BUILDINGS AND TREES:

This building and its surroundings are of great architectural importance. It is essential, therefore, that the greatest possible care be taken throughout the repair works to eliminate every possibility of damage to the fabric, and its surroundings from any cause whatsoever.

The Contractor shall ensure the proper protection and storage of all materials, be they new, second hand or reused, to eliminate any deterioration or damage.

The Contractor shall also protect and preserve all access roads, grassed areas, existing features and property adjacent to loading and parking areas and make good any damage on completion. This particularly applies to mixing areas for mortar.

1.19 SERVICES: WATER AND POWER:

Electricity and Water is available in the adjacent buildings. The contractor should allow for making temporary connections and for making good on completion. At the commencement of the works water and power are not available in the gatehouse.

1.20 SITE SECURITY:

The site is in a location with a **low** likelihood of criminal activity and sensible measures are therefore to be taken to protect the security of the building. All permanent scaffolded areas are (as a minimum) to be enclosed in a locked compound of heras fence panels.

1.21 STATUTORY OBLIGATIONS:

The Contractor shall comply with all statutory obligations and regulations of the local authority, public services or statutory undertaking relating to the execution of the works. The Contractor shall also comply with all legislation and regulations relating to safety, pollution, noise control, etc.

1.22 PUBLICITY AND SIGNS:

Name boards or advertisements of any description to be erected on site by either the Contractor or individual contractors or sub-contractors only with the previous approval of the Architect. Small direction signs may be permitted to assist with delivery only.

The contractor may wish to deploy speed restriction signs alongside the roadways to remind delivery contractors to maintain a reduced speed.

1.23 NO HOT WORKS:

Hot works will need to be specifically approved by the Mine engineers given that they may be a residual risk of coal dust. This prohibition includes the use of blowtorches, halogen lamps, disc-cutters and other spark producing equipment.

Should the contractor demonstrate that on-site welding or cutting can not be avoided then the instigation of a 'Hot works certificate' procedure may be instigated. The approval of the architect and mine engineer must be obtained.

1.24 HOURS OF WORK AND RESTRICTIONS:

Normal working hours of 7.00am to 5pm, Monday to Friday are expected. Work at week ends or out of hours may be possible by arrangement with the client. This may be required to arrange for some large materials deliveries or to keep up on the tight programme.

1.25 ACCIDENTS:

In the case of any accident occurring Contractors must notify the Architect. The Contractor will be asked to produce a copy of his firm's safety policy for the pre-contract site meeting.

1.26 DANGEROUS SUBSTANCES:

Contractors must comply at all times with current legislation in particular the Control of Substances Hazardous to Health in the construction industry Regulations, Control of Asbestos at Work Regulations and control of Lead at Work Regulations.

The museum site has a rolling programme of asbestos surveys and maintains an asbestos register. While the work areas are generally considered to be free of risks this can never be ruled out. Please refer to the CDM health and safety plan.

1.27 NOISE:

Any compressors or percussion tools used must be fitted with effective silencers of a type recommended by the manufacture of the appliance.

1.28 FIRE PRECAUTIONS/NO SMOKING:

Although insurance can cover financial loss, it cannot replace an historic building. Fully adequate fire protection is therefore to be maintained on site, in the compound and throughout the work areas by the provision of multiple fire extinguishers and other equipment sufficient in quantity and type for any emergency which might arise.

No smoking whatever shall be allowed within the site or compound. This rule will be strictly upheld, any operatives found smoking will be asked to leave site. The use of an appliance with a naked flame is forbidden.

1.29 WELFARE FACILITIES:

The Contractor is to include for complying with all current codes, Regulations relating to the Building Industry and in particular for the provision of the following:

- a) shelter from inclement weather
- b) accommodation for clothing
- c) accommodation for the provision of meals
- d) drinking water
- e) washing facilities
- f) first aid
- g) contractor's own WC

1.30 RUBBISH AND CLEANING DOWN:

Every effort is to be made to keep mess and disturbance to a minimum. All materials and equipment are to be inconspicuously stored and all rubbish cleared away at least daily, the buildings and environs being kept as clean and tidy as possible. Do not allow rubbish to accumulate, cause obstruction or be a fire risk. The provision of and position of any skip is to be agreed with the Architect and client.

Ensure that no waste or rubbish is allowed to be blown, dumped or otherwise deposited in farm land or adjoining areas. On completion, thoroughly clean the whole of the works, including removing temporary markings, coverings and protective wrappings. Leave the works and site in a clean and tidy condition.

1.31 SALVAGE:

No salvaged materials whatsoever shall be taken from the site without written consent. Where agreed with the Architect, appropriate credits are to be allowed for all reusable or saleable materials and fittings removed from the site.

1.32 SAMPLES:

Samples of materials and finishes are to be provided for the architects approval to suit the critical path for delivery to site. A minimum of two weeks is required typically for approval by all parties. Required samples include:

- a) Stone slates
- b) Profiles of rainwater goods
- c) Paint colours

1.33 DAYWORKS:

Work under dayworks basis should be strictly avoided in favour of an Architects Instruction base on an agreed cost or working method. Emergency works performed as dayworks will only be admitted in accordance with the provisions the Conditions of JCT Contract.

No payment in respect of non- productive overtime will be admitted in dayworks except in cases of emergency subsequently approved by the Architect or where the Architect has directed the Contractor to work hours in excess of the normal working hours. Such payments where agreed will be strictly nett.

In all instances where the works are performed as dayworks the Contractor shall submit to the Architect not later than the end of the week following that in which the works were performed, full particulars, in duplicate, of the nature of the work, the amount of time worked, the materials used and the mechanical plant employed, together with such corroborative detail such as timesheets, invoices of other documents as will enable the Architect to satisfy himself as to the factual accuracy of the submitted particulars so far as hours of labour worked in respect of each

class of workmen employed, quantities and qualities of each type of materials used and hours of each kind of mechanical plant employed are concerned.

When the Architect has satisfied himself as to the factual accuracy of the particulars submitted to him he shall sign them as a record of fact and return to the Contractor one copy of the signed particulars.

The Contractor shall have the right to submit any matter to the Architect for signature as a factual record and the Architect shall not withhold signature if the facts shown as correct.

Any signature of the Architect shall not establish any right of payment (as dayworks or in any other manner), the rates to be paid or any matter whatsoever, except the factual record referred to.

1.34 BATS:

No assessment of the structure has been made into the presence of bats. There are though plenty of locations where a bat could get into the buildings and the contractor should remain vigilant for evidence of bat activity and report any findings to the architect immediately. There are significant financial fines issued out for disturbance of bats and should they be found work will have to stand down in that area (only) while a registered bat handler is contacted to relocate the animals.

1.35 CONSERVATION PRINCIPLES:

The works are to be undertaken by contractors skilled in the conservation of Historic Buildings. We consider that such projects are require not only a high level of craft skill but also a respect for and an understanding of the importance of the building being repaired. The following list records some of the Arcihitect's key expectations of the contractors attitude and performance.

- a) The objective of the project is not to 'restore' the building but to repair (and consolidate) the building fabric in such a way as to prolong its working life.
- b) The work shown on the drawings is the closest estimate of the required works that was possible before the project started. Referring to item a) above the aim is not to over repair the building and so we will be expecting to re-schedule all work items with the relevant trade foremen once the project commences. The contractor is to identify times for such reviews within the critical path of the programme. If at any time in the programme the contractor considers that sound material is being scheduled for replacement the items should be referred to the Architect for direction. If in doubt. Ask.
- c) The contractor must take his own record of the matters agreed during any rescheduling process so that he can proceed with materials orders without waiting on the issue of revised drawings. Stonework for replacement can be wax crayoned in-situ. The architect is willing to sign site notes sheets to confirm agreements.
- d) We will encourage the contractor to demonstrate his highest levels of craft skill. Best practice demonstrated by heritage training establishments across the country are considered a base line for standards.
- e) If the contractor feels that the work requirements arising during the project exceed the contractors level of skill please let us know. We may be able to help with additional advice and expertise. The project is not a test bed for 'having a go' at something new.
- f) Please ensure that all operatives (especially subcontractors)s have the appropriate trade memberships or training as laid down in the works specification. Heritage CSCS cards are considered a minimum qualification.
- g) The project is to be used wherever possible to improve the wider training of the workforce and the public through discussion and the sharing of knowledge between all parties.
- h) If in doubt. Ask

TOTAL FOR SECTION 1 (carry forward to summary)

£

CONTENTS FOR SECTION 2:

MATERIALS AND WORKMANSHIP

This section details standards and methods to be read in conjunction with the Schedule of Works.

- 2.1 General Requirements
- 2.2 Scaffolding
- 2.3 Brickwork
- 2.4 Concrete Repairs
- 2.5 Structural steelwork
- 2.6 Roofing
- 2.7 Joinery work
- 2.8 Painting and Decorating

SECTION 2: MATERIALS AND WORKMANSHIP SPECIFICATION

2.1 MATERIALS AND WORKMANSHIP

GENERAL:

- 2.1.1 All materials are to be of best quality and unless otherwise stated are to be new. The whole of the works are to be carried out in strict accordance with the instructions given by the Architect from time to time during the progress of the Works, and to his/her entire satisfaction. Samples of materials are to be submitted to the Architect for approval as and when required without extra charge.
- 2.1.2 All goods, materials and workmanship used in the Works shall, so far as is practicable and unless otherwise specified, have been produced in the European Union.
- 2.1.3 Where a Standard or Code of Practice issued by the British Standards Institution current at the date of tender is appropriate, goods, materials and workmanship used in the Works, unless otherwise described, shall be in accordance with that standard.
- 2.1.4 The letters BS followed by a number refer to particular British Standards published by the British Standards Institution. The relevant items must comply with the quoted BS, together with all amendments current at the date of tender.
- 2.1.5 In addition to the compliance with the provision of the British Standards and Codes of Practice, the installation(s) shall comply with all relevant statutory instruments and regulations current at the date of tender (unless stated otherwise in this Specification or in any Contract Drawing), and in particular with the following:-
- a) Any special regulations issued by the local electricity, gas or water undertakings;
 - b) Regulations under the Factories Act;
 - c) Regulations under the Electricity Acts;
 - d) The IEE Regulations for the Electrical Equipment of Buildings;
 - e) The International Standards Organisation (ISO) Publications where they are complementary to the British Standards.
 - f) Printed directions issued by the manufacturers of proprietary materials and components used (whether specified or not).
 - g) The Construction (Design and Management) Regulations 2015
- 2.1.6 Where the name of a particular manufacturer or supplier is referred to and followed by words "or other approved", the Contractor must include in his tender for the product of the specified manufacturer or supplier, but is at liberty to put forward and quote for alternatives in a covering letter, if he so desires.
- 2.1.7 Charges for works by public bodies will be reimbursed Net

DETAILED ITEMS

- 2.1.8 **PRICING:**
- The cost of compliance with this section should be deemed to be included generally in the price for the work or with the price for related requirements in the preliminaries
- 2.1.9 **DESCRIPTIONS:**
- Unless otherwise indicated, any description of work to be undertaken shall be deemed to include:
- a) Materials and components as specified and all labour in fitting and fixing in position, including cutting and wastage.
 - b) Use of plant, tools and temporary works of every description.
 - c) All matters of general application as set forth in Sections 1 and 2
- 2.1.10 **CURRENCY OF DOCUMENTS:**
- The Contractor shall check the currency of documents and their amendments.
- 2.1.11 **SETTING OUT:**
- Accurately set out the Works in accordance with Section 6 of BS.5606:1990 Code of Practice for accuracy in buildings. Protect any existing bench marks unless otherwise instructed. Ensure that all critical co-ordinate

points are marked in a manner that cannot be removed or in a manner that makes any subsequent movement immediately apparent. Check and seek approval for the setting out before commencing work.

2.1.12 BEFORE COMMENCING WORK:

Liaise with all parties concerned and arrange liaison between trades. Do not start or continue any part of the work until:

- a) Environmental conditions are suitable for the type of work involved.
- b) Supervisors are satisfied that operatives understand what is required.
- c) Related preceding work is fully completed and if necessary, tested and approved.

MATERIALS GENERALLY:

2.1.13 DELIVERY PROCEDURE:

Arrange and programme deliveries to the site so that materials:

- a) Are dispatched wrapped if liable to damage.
- b) are transported under cover if intended to be kept dry (i.e.; if there is a risk of rain).
- c) Arrive in a sequence suited to incorporation into the Works.
- d) Arrive in quantities that minimise site storage but do not delay the Works.
- e) Can be used within stated shelf life.

2.1.14 STANDARD OF ACCEPTANCE:

Do not accept delivery of any materials that:

- a) Do not comply with specification.
- b) Do not match any approved samples.
- c) Are not new (unless otherwise specified) and in clean, new condition.
- d) Are damaged or contaminated in any way.
- e) Cannot be used within stated storage life.
- f) Are in any way suspect if in doubt, contact supplier, and if necessary seek approval.

2.1.15 SELECTION:

Unless specific requirements are indicated, self-finished and decorative materials and components shall be subject to selection and approval.

2.1.16 CONTRACTOR'S OPTIONS:

Specification of proprietary materials and components is not necessarily binding. The Contractor is invited to suggest alternatives of equal quality, performance and appearance.

WORKMANSHIP

2.1.17 GENERALLY:

Undertake all work with skill and care in order to produce work fit for its intended purpose and of good quality.

2.1.18 SUPERVISION:

Provide competent supervision by experienced personnel familiar with the CP's and other requirements of this specification for all stages of the Works and all site activities, including material handling and storage.

2.1.19 SAFETY:

The safety of personnel on site is beyond the scope of this specification, and the Contractor should refer to the separate Health and Safety Plan.

2.1.20 CRAFTSMANSHIP:

Undertake work by or under the direct supervision of operatives with suitable training, experience and competence. Craftsmen shall undertake work requiring special skill. Do not permit apprentices to work unsupervised.

2.1.21 STANDARD OF WORKMANSHIP:

The standard of workmanship is to be of a very high standard and all work shall be subject to approval by the Architect. Any work deemed to be of an unsatisfactory standard shall be redone at the Contractor's own expense.

2.1.22 CLEANLINESS:

Keep the Works and the equipment used for its construction clean. Accumulate debris in suitable predetermined areas and promptly remove from site. Remove any graffiti as soon as applied, including that applied to hoardings and temporary works. Do not permit smoking in finished areas of the Work (e.g.; decorated and carpeted areas).

2.1.23 UNFAVOURABLE WEATHER:

Obtain local weather forecasts and take precautions against adverse weather conditions.

2.1.24 FIRE PRECAUTIONS:

In addition to the requirements of the relevant Acts and Regulations, take special precautions to avoid the outbreak of fire within existing buildings. Discuss proposals with the Employer to ensure that the fire hazards are known. Do not permit an accumulation of inflammable debris. Do not permit smoking in the existing buildings. Do not carry out any work involving naked flames, sparking or hot air. Do not take any flammable liquids or gases into the building.

SUPERVISION

2.1.25 EVENTS TO BE RECORDED:

Record all events relevant to the construction of the Works which shall include (but is not limited to) those mentioned below:

- a) All drawings and other documents issued or requested.
- b) All instructions issued to the Contractor and the action taken; this shall include verbal instructions and the date of written confirmation.
- c) Adequate details of daywork.
- d) Weather conditions including temperatures, rain, wind and other conditions which are abnormal.
- e) Records of tests if not recorded elsewhere.
- f) Any poor workmanship observed or reported; and condemned work stating the reasons.
- g) Delays and their causes.
- h) Details of labour and plant.
- i) Details of work originally classified as provisional.
- j) Details in support of any claims for extra payment.
- k) Measurements and cost information to support valuations and the final account.
- l) Commencement and completion dates of significant stages of work, with particular reference to work that requires time to cure / dry out.
- m) Adequate photographs.
- n) The names of personnel involved with critical activities.

2.1.26 RECORDING EQUIPMENT:

Provide the following:

- a) Adequate thermometers of various types, carefully sited to give representative readings.
- b) Tell-tales if necessary, affixed as directed.
- c) A camera, if photographs are considered the best method of obtaining a record.

2.1.27 CHECKING DRAWINGS:

Check all drawings issued after the commencement of the Works to ensure that they do not conflict in any respect with those previously supplied, or with actual dimensions measured on site. Notify the Architect of any discrepancies.

2.1.28 GIVING NOTICE:

Give notices in respect of any work that must be inspected before covering up. Such work includes:

- a) Any work of structural importance (e.g.; foundations).
- b) Functional work such as drains and other pipework.
- c) Work treated as provisional at time of tendering.

2.1.29 INSPECTIONS:

Do not cover up any work of the type referred to above until inspected and approved by the Architect or any other duly authorised inspector.

2.1.30 DEFECTIVE WORK:

Make good any and all defective work to an approved standard.

2.2 **SCAFFOLDING**

GENERAL

This section is to be read in conjunction with all preliminary items in Section 1 of this document

2.2.1 GENERAL REQUIREMENTS FOR SCAFFOLDING:

The Contractor is to provide and maintain scaffolding to provide access for the execution of the works described in the schedule of works.

2.2.2 STANDARDS:

The scaffolding is to be constructed in a neat and workman like appearance, in accordance with the following minimum Standards:

TG 20:15 and SG 4:10

BS.1139:1995 Parts 1-5 Scaffold Specification Design and Loading;

BS2482:2009 Specification for Timber Scaffold Boards;

BS EN 12811-1:2003: Temporary works equipment. Scaffolds. Performance requirements and general design

BS.5974:1990 Code of Practice Temporarily Installed Suspended Scaffolds and Access Equipment.

BS.CP3 Chapter 5 1972 Part 2 Design for Wind Loads.

2.2.3 DRAWINGS AND CALCULATIONS:

Full design and loading calculations of scaffolding and full schematic elevations shall be produced by the contractor prior to work beginning on site. The approval of such drawings and calculations should be co-ordinated with the architect to suit critical path of the scaffold erection. Calculations should be produced to prove both the frame load, both vertically and longitudinally.

2.2.4 TEMPORARY ROOFING SYSTEM:

The Contractor is to submit details of any proposed temporary roofing system to the architect and engineer for approval prior to the start of site works. Any temporary roof is to remain fully weather tight throughout the duration of the works.

The use of the 'HAKI' or 'LAYHER' system of flexible pvc roof sheeting is considered to be the *PREFERRED* specification.

2.2.5 SNOW LOAD:

The scaffold is to be designed to withstand the full snow load as required to comply with BS EN 12810-1:2003.

2.2.6 APPROACH TO FIXINGS:

Drilling of masonry for wind load restraints will not be possible. The scaffold will use for restraint buttresses and ground anchors only.

MATERIALS

2.2.7 METAL SCAFFOLDING:

Metal scaffolding shall be in accordance with BS EN 12810-1:2003, including tubes and clips to be the hot dipped galvanised type to avoid rust staining of the finished wall. All tube ends capped with plastic, where they abut the structure.

2.2.8 TIMBER SCAFFOLD BOARDS:

To BS.2482:2009 Scaffold boards 35 x 225mm are to be clean, sound and fit for the purpose for which they are intended. Scaffold boards are to be edge banded and clipped firmly in place to prevent wind lift or danger to those working on the scaffolding.

2.2.9 LADDERS:

All ladders are to be of timber to BS1129:1990 fully secured to the scaffold structure. All ladders giving access to the scaffolding from ground level are to be chained and locked within the site storage cabin (adjacent to the site) at weekends, at night and at all other times when the site is unoccupied.

2.2.10 ROOF ACCESS:

The scaffold is to include external ladder access units and hoists for principal access to the work areas. The safety of these access routes is to be augmented by the addition of plywood or mesh cladding.

2.2.11 SCAFFOLD SHEETING AND NETTING:

Provide and secure in place tough fire-retarding PVC sheeting to protect vertical scaffold lifts and work areas from weather. Provide and secure open nylon netting (fire retarding) as required to protect the building fabric, workers and the public from falling debris.

The use of 'Shrink Wrap' enclosure sheeting is encouraged.

2.2.12 WORKING PLATFORM:

Allow a clear height of 1.9m minimum between each scaffold lift. The width of boarding on each lift is to be no less than 1.3m to allow room for workmen and their materials and space to dress and shape stone. All boarding is to be clipped firmly in place. The scaffolding is to be built to withstand the following load:

1. Environmental loads - ice loading - wind loading - snow loading.
2. Imposed loadings - workforce.
3. Dead loads - self-weight of the scaffold and the temporary roof.
4. The weight of equipment and materials.

All lifts are to have handrails at 950mm high with intermediate rails as appropriate. Each platform is to have toe rails in accordance with the British Standards and to the approval of the relevant authorities.

WORKMANSHIP AND SITE ARRANGEMENTS

2.2.13 SUPERVISION AND WORKMANSHIP:

The Contractor is to be responsible for all aspects relating to the structural stability of the scaffold. The scaffolding is to be designed and constructed to comply with the current safety regulations and is to be constructed in such a way that no damage is caused to the existing building.

A scaffold must not be used unless:

1. It has been inspected by a competent person within the preceding seven days.
2. A record has been made of every section inspection in a proper scaffold register and signed by the person making the inspection.
3. It has been adequately earthed against lightning strikes.

2.2.14 ERECTION AND DISMANTLING:

See preliminary comments for details of site access routes. Erect and dismantle in accordance with the relevant British Standards and Statutory Regulations and to the satisfaction of the Architect. Any change to the Contractors previously issued details must be agreed with the Architect.

All scaffolds must be erected by a competent experienced scaffolder. Temporary protection of the building fabric must be in place during erection and striking operations.

All materials stacked for use shall be isolated from paved or grassed areas with a layer of stout plywood or temporary trackway.

Transfer of scaffold components is to be by hand, pulley or hoist; dropping or throwing any components is forbidden

2.2.15 ROUTES FOR DELIVERY OF SCAFFOLDING:

Routes for the delivery of scaffolding onto the site should be agreed with the architect at the outset of the works and adhered to throughout the contract. Dates for delivery and dismantling are also to be agreed, with consideration given to normal access to the church for services, funerals etc

2.2.16 PROTECTION OF BUILDINGS AND LANDSCAPE:

This building and its surroundings are of great architectural importance. It is essential; therefore, that the greatest possible care be taken throughout the repair works to eliminate every possibility of damage to the fabric, and its surroundings from any cause whatsoever.

The locations of any ground anchors or scaffold standards must be agreed in detail with the architect before erection so as to minimize impact upon the fabric.

2.2.17 FOUNDATIONS:

The contractor must be able to satisfy himself, the Architect and the Engineer, that the permissible bearing pressure of the ground below the scaffolding is not exceeded.

Where scaffold is founded on soil, cobbles, and timber railway sleepers or similar sized treated timbers are to be used as sole plates.

Where the scaffold bears on the building the Contractor must present designs and calculations to show that the scaffolding is adequately supported and there is no danger of damage to the building

2.2.18 PROTECTION:

Adequate precautions are to be taken to protect workmen and fabric from any material which may fall from the scaffolding or building during works. Precautions are to be taken to prevent personal injury where scaffolding is erected on or near area where the public have access. The Contractor is to address issues in his risk assessment

Ensure that all loose items, i.e. scaffold tubes, fixing poles, boards etc are cleared away from the scaffolding as it is constructed and on completion. No loose fittings or poles are to be left on the boards.

Damage to the completed building and to the immediate surrounding area around and below the scaffolding must be avoided. Any damage caused to the building or the adjacent sculptures is to be made good at the Contractor's expense

2.2.19 LIGHTNING PROTECTION TO SCAFFOLD:

The scaffold shall be continuously and effectively bonded to earth against lightning.

2.3 **MASONRY WORK**

2.3.1 **GENERALLY:**

Masonry work must be carried out to BS5628:2005 and the highest standard in a manner that maintains the regulated construction of the original historic planes. To these ends full size patterns and scale drawings must be made by the foreman mason before any demolition, to ensure course heights and variations are maintained in the reconstruction. New work not considered to follow the existing pattern exactly is to be removed and reinstated at the Contractor's expense.

2.3.2 **MATERIALS: NATURAL STONE:**

Stone to match existing petrology, colour, and proposed location. Stone is typically a pinkish toned red sandstone that has traditionally been quarried in the areas. Sources of newly quarried Buff-Pink Sandstone from the Triassic period are limited, although there are suppliers of reclaimed ashlar pieces.

Suggested suppliers for replacement stone are:

"Crossland Hill" by Johnsons Wellfield Quarry, Huddersfield

<https://www.johnsons-wellfield.co.uk/crosland-hill/>

Samples are to be approved prior to order.

Samples will be required of stone type and tooling. Generally walling stone will have a split face coarsely tooled back to square in a 'medieval' axed style to match existing. The 'square-ness' of the edges and corners will be knocked off if required.

The contractor should liaise closely with the quarry and sawmill to ensure accurate programme information for order periods and delivery.

- a) Properly seasoned as recommended by the quarry and brought to the proper condition for use.
- b) Similar stones for similar applications seasoned for approximately equal time periods.
- c) Free from any defects that could adversely affect the integrity of the stone in use.
- d) Free from any defects on the faces visible in the completed works that could mar the appearance of the stonework.
- e) Each worked stone marked with natural or quarry bed.
- f) Supplied to the works with all shaping and machining completed at the masonry yard.
- g) The Contractor may suggest stone from any other quarry for approval by the Architect during the tender period if he considers the stone to be a better match to the existing.
- h) Face of finished stones to be evenly tooled to match examples of existing.

2.3.3 **ASHLAR AND CARVED STONE:**

All new worked ashlar stone shall be supplied as follows:

- a) Feature stones marked for identification with drawings.
- b) Exposed faces of new ashlar stones are to be tooled by working over the sawn surface in a single pass and shall be closely spaced to break up the sawn finish of the stone and should match unweathered examples exactly.
- c) Worked truly square from all face lines for the full width and thickness.
- d) Provide with all necessary chases for stainless steel fixings (i.e. fishtail cramps) necessary to tie in new areas of stonework replacement).
- e) Detailed carving where required in new work shall be undertaken by a professional stone carver.

2.3.5 **MORTAR MATERIALS:**

Material for mortar shall be as follows:

HYDRAULIC LIME:

All hydraulic lime shall be natural hydraulic lime to BS ENV 459: Part 1: 2015. White or cream in colour it should be of a grade NHL 2 or 3.5 depending on location

PUTTY LIME:

To be high quality non-hydraulic pure putty lime which is the product of slaked quick lime and complies with BS.890:1995. Freshly slaked lime putty must be left at least 14 days before use. Soaked hydrated lime is not an acceptable alternative. Lime putty to be from an approved source.

SAND:

Sand is to be clean, well graded and accurately batched and to be to the approval of the Architect. Sand is to be obtained from inland pits or quarries. Aggregates for mortars generally to be in accordance with BS BS.1199. and EN 13139:2002.

- Coarse brown grit sand with small pebbles or black and cream stone fragments, Eg 'Nosterfield' (available from Womersley tel: 01924 400 561)
- Yellow sharp sand, eg: Leighton Buzzard sand (available from Womersleys tel: 01924 400 561)
- Yellow-beige soft sand (300 micron)
- Silver Sand / fine plastering sand

WATER:

Clean and free from harmful matter in such quantities as would adversely affect the properties of the mortar.

READY-PREPARED INERT LIME FRAGMENTS:

White/cream, inert lime fragments needed to replicate a crude 'hot lime' mix to be created in advance by casting a thin layer of wet NHL 2 hydraulic lime on a flexible plastic tray, drying it out and then breaking the 'cake' into suitably sized fragments that can be added to the mortar mix as required.

METAL FIXINGS:

Do not fix iron (coated or otherwise) into or against masonry. Fabricated dowels, cramps, ties and other metal fixings associated with masonry shall be from 316 grade stainless steel sheet, strip or plate to BS.1449:Part 2.

2.3.6 MORTAR MIXES: COARSE WORK:

Mortar for pointing and bedding for general use shall be 1:2.5 mix of hydraulic lime : sand/aggregate. Target colour light buff-yellow with exposed gritty aggregates.

The sand aggregate shall be a good grading of sharp grit and soft sand mixed to achieve high durability and the best possible match to the existing cleaned mortar joints. Add fragments of Inert lime if needed to replicate the hot lime mix.

Mortar for heavily weathered areas to be a 1:2.5 mix of hydraulic lime (NHL3.5):sand/aggregate

2.3.7 SAMPLES:

Supply the Architect with the following samples:

- 2no areas of sample pointing in 400mm x 400mm areas for comparison with existing.
- Provide samples of 2no possible Stone sources.

WORKMANSHIP: STONEMASONRY

2.3.8 GENERAL REQUIREMENTS:

The work shall be carried out in accordance with BS1996:2005 and with reference to the now withdrawn BS5390 stone masonry.

The mason should check the Architects drawings and schedules thoroughly to verify all dimensions and block lengths before placing stone orders. The mason shall also take individual templates for each profile and not assume patterns are repeated in adjacent stonework.

2.3.9 CHECKING ASHLAR AND CARVED STONES:

Check the stone delivered to site to ensure that:

- a) Stones are undamaged.
- b) Dimensions, tooling and profile are correct.
- c) Stones are marked in accordance with the fixing schedules.
- d) Stones are worked so that the natural bed is normal to the load.
- e) Stones are marked so that joints are at right angles to the pressures exerted on them when built (e.g. no mitres are permitted).

2.3.10 DISPLACED MASONRY:

Displaced masonry shall be taken down where directed after adequate records and numbering have been made to ensure accurate reassembly. The stones are to be reused and re-bedded in their original positions. Any dowels or cramps used in the rebuilding are to be austenitic stainless steel.

2.3.11 CUTTING OUT OF DEFECTIVE STONE:

Cutting out of perimeter joints around identified defective stones must be carried out by hand by a skilled operative, taking extreme care not to damage the arises of the surrounding stones. (NO POWER TOOLS WILL BE ALLOWED).

Following the cutting of the perimeter joint to the required depth, the stone can be carefully broken down with a hammer and chiselled back to a sufficient depth. Minimum 100mm into the sound face of the core wall. If the remaining thickness of the backing stone is less than 30mm thick the whole stone should be cut out.

Wash out the cavity so formed until free of dust etc.

Where necessary temporary supports (e.g. wooden plates, struts) shall be provided to support surround stonework.

2.3.12 DOWELS:

Where dowelling is required, the dowel holes should be drilled out to a minimum 10mm wider than the diameter of the dowel and bedded with mortar flush pointed.

2.3.13 PIECING IN:

The new identified stone must match the original stone as closely as possible, including all visible tooling and must bed into the core wall to min. 100mm thickness. Stones must receive their final tooled finish before setting in place.

The stone shall be raised into position by winch or hoist depending on their weight and location in the building. The cavity or open bed to receive them will have been carefully cleaned out and a mortar bed will have been spread onto the wetted old stone. The new replacement stone must be dampened, and eased into the correct alignment with the aid of the lubrication provided by wet mortar, small pieces of slate may be used to level the stone and hold it in position until the mortar has achieved its set.

The individual replacement stones are generally of the same size and shape as the original stones would have been prior to being damaged or eroded.

All grouted bedding joints must be set back a minimum of twice the width of the joint.

The pointing of the replacement stone shall be undertaken where possible in one operation to specified day work areas when the stones have “settled in” using a single batch of pointing mortar.

Where a number of adjoining stones or adjacent supporting stones are identified to be removed, each stone must be individually cut out and replaced before cutting out the next stone.

2.3.14 TOOLING BACK OR RE-DRESSING:

Defective stones indicated to be redressed shall be carefully tooled back on all exposed faces to remove the defective faces, and redressed to match the original tooling.

2.3.15 ADHESIVES AND PINNING:

Where requested by the Architect, laminated stone may be repaired by adhesives pinning techniques as follows in the following sequence:

- a) Number and location of pinning to be confirmed on site with the Architect and marked.
- b) Where pinning indicated stone plugs shall be taken out very carefully with a diamond carving tool, each plug shall be referenced for relocating in original location.
- c) Where pinning indicated holes or appropriate diameter and depth shall be drilled across the fracture.
- d) Holes shall be flushed clean of dust with volatile solvent.
- e) Holes shall be filled 3/4 full under pressure from gun or a hypodermic syringe, whichever is appropriate. Protect surrounding stone with clay plugs and film to each hole and exposed cracks to prevent seepage.
- f) Carefully insert threaded Austenitic 316 grade stainless steel threaded pins cut to appropriate length and turned at the end to provide a good key.
- g) Replace all stone plugs to their original locations and fix with an epoxy spot to the back face and lime mortar bedding.

2.3.16 MORTAR REPAIR AND GALLETING:

Defective stones and mouldings indicated to be repaired with mortar repair techniques on Architects drawings and schedule of works shall be repaired in the following sequence:

- a) Prepare samples of the approved mortar to match the various conditions of weathering on the building and mix sufficient quantities to undertake the day work in a single batch.
- b) Carefully cut out the decayed areas and cut back to form a sufficient cavity to allow the repair to bond (min. 12mm).
- c) Wash and sterilise the cavity with water and formalin.
- d) Saturate the cavity with water using hand sprays to prevent de-watering of the repair mortar.
- e) Place the approved repair mortar, compacting in layers not exceeding 10mm in thickness in any one application. Allow each layer to dry out before re-wetting and placing the next.
- f) In cavities exceeding 50mm in depth and extending over 50mm² surface area, drill and fix non ferrous or stainless steel (316 grade) pin or armature reinforcement. After drilling to receive the reinforcement the holes are flushed out with white spirit and fill with an epoxy mortar before embedding the wire. 20mm of cover should be allowed for any reinforcement.
- g) The repair shall be finished directly to the required profile using a wood or felt covered float, or with a damp sponge or coarse cloth. Unsuitable tools to be avoided are steel trowels or dry absorbent pads. Alternatively the repair may be built up proud of the required profile and then worked back after an initial set has commenced on the surface with a fine saw blade or purpose made scraper.

- h) Individual stones must be repaired separately and if necessary pointing between repairs must be carried out separately. Areas should never be repaired as a render and joint scored.
- i) All mortar layers must be protected from direct sun or other rapid drying conditions with damp sacks or damp cotton wool for small areas.
- j) Mortar repairs must only be undertaken by a skilled operative with particular experience in mortar repair techniques.
- k) Where galletting is required, stones should be selected to match adjacent stone type and inserted to ensure maximum joints to match adjacent work (target 4mm). Where reinstating gallets, they should be pushed in after pointing and exposed by bristle brushing.

2.3.17 EXISTING METAL FIXINGS:

Where rusted wrought iron or steel bolt fixings, cramps, dowels, or ties etc are present and have affected the integrity of the stone/brick or caused spalling, they must be cut out, discarded and the holes re-pointed. Cramps to be replaced with new stainless steel 316 grade) cramps or ties.

WORKMANSHIP:

2.3.18 GENERAL REQUIREMENTS:

The work shall be carried out in accordance with BS5628:2005 stone masonry.

The mason should check the Architects drawings and schedules thoroughly to verify all dimensions and block lengths before placing stone orders. The mason shall also take individual templates for each profile and not assume patterns are repeated in adjacent stonework.

2.3.19 CUTTING OUT MASONRY:

Cutting out of perimeter joints around identified defective bricks must be carried out by hand using a masonry saw by a skilled operative, taking extreme care not to damage the arises of the surrounding bricks. (NO POWER TOOLS WILL BE ALLOWED).

Following the cutting of the perimeter joint to the required depth, the brick or stone can be carefully broken down with a hammer and chiselled back to a sufficient depth. Minimum 100mm into the sound face of the core wall.

Wash out the cavity so formed until free of dust etc.

Where necessary temporary supports (e.g. wooden plates, struts) shall be provided to support surround the wall.

2.3.20 PIECING IN:

The new identified block must match the original as closely as possible.

The brick shall be raised into position by winch or hoist depending on their weight and location in the building. The cavity or open bed to receive them will have been carefully cleaned out and a mortar bed will have been spread onto the wetted old brick. The new replacement brick must be dampened, and eased into the correct alignment with the aid of the lubrication provided by wet mortar, small pieces of slate may be used to level the brick and hold it in position until the mortar has achieved its set.

All grouted bedding joints must be set back a minimum of twice the width of the joint. The pointing of the replacement stone shall be undertaken where possible in one operation to specified day work areas when the stones have "settled in" using a single batch of pointing mortar.

Where a number of adjoining brick or adjacent supporting bricks are identified to be removed,

each brick must be individually cut out and replaced before cutting out the next brick.

POINTING:

2.3.21 RAKING OUT:

Loose friable mortar joints shall be raked, hooked, sawn or cut out with pugging chisels as deeply as necessary to reach sound mortar behind to a minimum depth of 35mm or at least twice the joint thickness. Extreme care should be taken to ensure that no damage occurs to the arises of the surrounding stones or bricks.

The raked joints should be to a square profile and well flushed out with clean water.

In the event of any bricks or blocks becoming unstable during the preparation of joints, wedging and levelling must be carried out with temporary slate packs which are to be removed after re-grouting.

2.3.22 TAMPING:

All raked out deep mortar joints shall be grouted and tamped to within 35mm of the surface using the approved mortar mix. Tamping tools are to be used to thoroughly consolidate and pack the mortar back to ensure that no voids are left. Any spillage or mortar is to be cleaned off the face immediately.

2.3.23 POINTING:

Mortar must be used within one hour of mixing. No “knocking up” of the gauged mortar left standing longer will be allowed. The “raked out” joints must be thoroughly wetted with clean water using a hand spray just prior to repointing and the mortar firmly pressed into the joints with a pointing iron and finished flush with the brick face but following any irregularities present.

The works are to be protected against excessive drying or frost by the use of mist spray, sacking and plastic sheeting. No work is to be carried out if there is any danger of temperatures lower than 3°C. The Contractor’s programme is to reflect the likelihood of poor weather being encountered at the point of tender.

In warm conditions the speed of the mortar set should be retarded by the draping of wetted Hessian over the face of recently repointed work. The Hessian should be kept damp with a light water mist spray until it is clear cracking or other defects have been avoided.

Depending on the weather conditions, after the initial set, wider joints shall be tamped with a stiff long bristled mason’s brush to remove all tool marks, expose the aggregate and remove all traces of mortar from the surrounding stonework. No lime bristle marks should be left on the mortar face.

The contractor should allow for the architect to instruct 10 no random re-pointed joints to be opened up to inspect quality of workmanship. Make good after.

2.3.24 CO-ORDINATION WITH COMPANION TRADES:

In all cases where mortar or masonry work is required by other trades, e.g. pointing lead flashings or valley gutters, these should all be carried out by the same specialist masons working on the brick and stone pointing. The contractor should allow in his price for this specification.

2.4 ROOFING: NATURAL SLATE ROOFING

2.4.1 MATERIALS GENERALLY – SANDSTONE SLATES

- Type: Sandstone slates of random widths and diminishing courses. Target length sizes Large: 800mm (36inch) thickness 25-30mm, diminishing to 400mm (16inch) thickness 20-25mm.
- Holing: 2no countersunk holes per slate, centre of slate and more than 50mm from the edge.
- Colour: brown/buff, to be approved following production of samples.
- Batten Gauge: To suit diminishing courses and headlap.
- Fixing: Fix using aluminium pegs, 2no per slate, to hang above the batten, minimum head and side lap 100mm.

2.4.2 RE-USING EXISTING SLATES:

Carefully remove existing slates and ridges from roof, brush down and assess for possible re-use. Stack re-usable slates on scaffolding in courses, setting aside cut slates for re-use in the same situations.

Small quantities of second hand slates may be sourced from reputable suppliers on the Salvo register – www.salvo.co.uk

2.4.3 NEW STONE SLATES:

Replacement slates to be manufactured and tested in accordance with BS EN 12326-1:2004. Slates are to match the existing as close as possible in colour, gauge, thickness and character. Samples are to be agreed with the architect following submission of samples.

Any supplier should be a member of the 'Stone Roofing Association' 01286 650 402.

2.4.4 UNDERLAY:

General purpose roofing felt to patch in existing felt or renewal over the ridges using a traditional BS747 F1 grade of bituminous felt (1m wide rolls).

For roof eaves use high performance polyester based roofing starter strip (330 or 500mm) to BS747 Type 5U. designed to give long term protection where dressing an underslating felt into an external half round gutter. The use of this material is recommended by BS 5534:2014, code of practice for slating and tiling.

2.4.5 BATTENS:

Battens and counter battens to be 38 x 25 sawn softwood, species to BS5534:2014 Part 1 and 2. Preservation treatment to be full cell vacuum/pressure impregnated to BS EN 599-1:2009 'Vacsol' or similar. All ends cut on site shall be thoroughly brushed with two applications of water based preservation before fixing. Battens to be dry at the time of fixing.

Slate battens in the public areas with a visible underside of roof are to be unstained treated with colourless or buff yellow stain. Do not use green or blue battens.

2.4.6 FIXINGS:

All fixings for battens to be non-ferrous, use generally annular or jagged shank copper clout nails to BS1202-1:2002, 3.35m diameter minimum, with length to suit application.

WORKMANSHIP

2.4.7 SLATING GENERALLY:

All workmanship should be in accordance with BS5534:2014 and BS8000:2014.

Set out batten and counter batten spacing to gauges dependent on slate lengths, minimum headlap required and to match existing course pattern and layout. At changes in slate lengths, the battening gauge should be reduced to produce an even diminish in the coursing.

Slates should be laid with tails aligned and in courses of equal thickness, thickest at eaves, thinnest at ridge. Slates should be laid half bonded with vertical gaps of approx 5mm placed centrally over the slate below.

2.4.8 TORCHING:

Areas of slating that do not have underfelt are to have a traditional back pointing of lime mortar (Torching) as additional water proofing. The mortar used for torching is to be mixed by the site masons using NHL2

hydraulic lime and is to have an additional component of chopped horse hair to give the mix greater tensile strength

2.4.9 REUSE OF EXISTING NATURAL SLATING:

Carefully remove existing slates to selected roofs. Test with a slaters hammer for sound body and set re-usable slates aside in batches of like size for reuse as specified.

2.4.10 UNDERLAY FIXING:

Where required, Fix with copper or aluminum felt nails parallel to eaves so that water drains freely. Horizontal and vertical laps to be as per the manufacturers' recommendations, but not less than 100mm.

2.4.11 BATTEN FIXING:

Carefully saw to length (do not axe) and fix with butt joints centred on supports and not occurring more than once in any group of four battens on any one support. No batten to be less than 1200mm long.

Provide additional battens where necessary to prevent underlay being opened at laps by wind suction.

2.4.12 SLATE FIXING:

Ensure that ridge, hip and valley boards and gable walls are at the correct level. Provide all necessary support and fixing battens as recommended by slate supplier or component manufacturer.

Sort existing slates to lay complete roof slopes as uniform batches, rather than mixing old and new.

Fix slates to make the whole roof sound and weather-tight at the earliest opportunity. Lay with an even overall appearance, with tails of slates aligned. Use slates of consistent thickness in any one course, laid with thicker end as tail. Fix edge slates and fittings securely to neat, true lines. Use extra wide slates at ends of courses to maintain bond and ensure that cut slates are as large as possible. Do not use half slates. Fix each slate with aluminium pegs, through countersunk holes 20-25mm minimum from the side edges. Fix slates wider than width and a third with min of two pegs.

2.4.13 MORTAR BEDDING/POINTING:

All pointing of flashings or flaunchings to be carried out by specialist masonry contractor, using lime based mortars.

2.4.14 EAVES:

Dress underlay into gutter at eaves and take care to prevent water retaining troughs. Fix slates with tails projecting to align with centre of sacrificial flashings of gutters.

2.4.15 MAKING GOOD TO EXISTING:

All existing slates damaged by the works are to be replaced using invisible spring clip fixings. The use of resins or 'liquid nails' is unacceptable.

2.5 STRUCTURAL CARPENTRY WORK AND JOINERY

STRUCTURAL CARPENTRY

2.5.1 GENERALLY:

All work specified and shown on the drawings is to be carried out in a proper manner and to the satisfaction of the Architect. As a general set of principles and minimum standards for the structural use of timber use BS 5268-2: 2002.

All new softwood to be thoroughly treated against rot, fungal decay and beetle attack, and all existing timbers treated as directed using water based solutions as described in the following specification.

2.5.2 SHORING:

Provide temporary supports as necessary whilst repair works to roof structure are being carried out, to ensure the stability of the whole structure.

2.5.3 CONSERVATIVE SURGICAL APPROACH:

Please note, that it is not intended to renew or straighten an old or crooked structure, but rather to set the roof in sound and healthy repair in its present repose where structurally sound. In general timbers are to be inspected and repaired individually and as far as possible, in position with a minimum of replacements and renewal. Detailed instructions will be given on site by the Architect as necessary.

MATERIALS: SOFTWOOD FOR STRUCTURAL USE:

2.5.4 Softwood for structural work shall comply in all respects with BS 5268-2: 2002 "The Structural Use of Timber", the measurement of characteristics affecting strength being in accordance with BS.4978, 1996. The materials and workmanship for joinery and structural timberwork shall comply with BS EN 942: 1996.

All new softwood timbers shall be full cell vacuum/pressure impregnation treated with a clear solution to BS.4072: 1999, "Protim", "Tanalith" or similar. Materials used to be non-harmful to bats.

2.5.5 FINISH ON STRUCTURAL TIMBER:

Hidden timbers may have a generally sawn finished but anything which is visible to interior is to have a planed and painted/stained finish to match the existing.

2.5.6 SECOND HAND TIMBER

The reuse of timbers in any position or for any purposed other than that for which it was first designed will not be permitted.

2.5.7 FIXINGS:

Fixing of timbers into original stonework using expanding bolts is not permitted. Any fixings which are required shall be "Cintec Harke" stainless steel resin anchored bolts by Cavity Lock Systems (tel: 01633 246614) and shall be agreed with the Architects in each case before use.

WORKMANSHIP GENERALLY

2.5.8 All carpentry is to be finished accurately and to a high standard. Facilities are to be given for the Architect to inspect all work at the suppliers, in progress in workshops and on site. Any work or materials considered unsatisfactory is to be re-executed to the Architect's satisfaction and at the Contractor's expense.

2.5.9 JOINTING- CARPENTRY:

All joints shall be constructed as shown the drawings and as specified or, where joints are not specifically indicated, they shall be recognised traditional forms of pegged joint for each position and the most appropriate to the circumstances.

2.5.10 The joints shall be constructed so that they will transmit the loads and resist stresses to which they will be subjected and they shall be secured in a suitable way. All joints shall be executed to the satisfaction of the Architect.

2.5.11 SHRINKAGE:

The arrangement, jointing and fixing of all carpentry and joinery work shall be such that shrinkage in any part and in any direction shall not impair the strength and appearance of the finished work and shall not cause damage to adjacent materials.

2.5.12 TOLERANCE:

Reasonable tolerance shall be provided at all connections between carpentry work and the building carcass,

so that any irregularities, settlements or other movements shall be adequately compensated.

2.5.13 **FIXINGS:**

Where any fixing is not referred to on the drawing and the approach is unclear, then contact the Architect for direction. All concealed fixings unless otherwise specified, shall be of an approved stainless steel or bronze material suitable to withstand the stresses encountered.

2.5.14 **DPC'S:**

Allow for the insertion of a separating membrane or pad of pvc sheet between new timber and existing masonry.

REPAIRING ROOFING TIMBERS

2.5.15 **RAFTERS:**

Where rafter feet are found to be rotten they should be cut back to sound timber, the ends treated and the seating re-established by laying a suitably sized new timber alongside.

2.5.16 **WALL PLATES:**

Where repairs to wall plates are necessary, they shall be carried out by splicing in new sections by scarfing to sound existing timber and rafter feet refixed as before

JOINERY WORK

2.5.20 **GENERALLY:**

Materials and workmanship shall be in accordance with BS.EN 942:2007 and BS.EN 1995-1:2014, The Structural Use of Timber, subject to any qualifications given below.

All work specified and shown on the drawings is to be carried out in a proper manner and to the satisfaction of the Architect. The Contractor will submit samples for approval when requested.

MATERIALS

2.5.21 **ALL TIMBER:**

All timber shall be clean, sound, merchantable, properly seasoned, straight timber free from any defects or combination of defects, natural or otherwise, making it unsuitable for its function in the works. Sorted and selected at time of fabrication for suitability for purpose.

Moisture content to be 9-16% according to location of joinery. Growth rings minimum 10 per 25mm. Grain slope maximum 1 in 10 free from decay or loose knots, splits and any signs of fungus/insect attack. Permissible defects to be excluded from finished surfaces.

- a) Checks and shakes wider than 3mm or longer than 300mm or deeper than one quarter the full corresponding dimension of the piece.
- b) Pitch pockets and pith.
- c) Arris and splay knots, knots over 6mm average diameter.

2.5.22 **NAMED SPECIES:**

Timber species are specified by the standard names given in BS.EN 13556:2003.

2.5.23 **HARDWOOD FOR JOINERY:**

Hardwoods unless otherwise specified shall be prime grade European Oak (Quercus Rubor); straight grained, well seasoned by kiln to 15% moisture content, free from sap wood, beetle or fungus attack, shakes and wane.

2.5.24 **SOFTWOOD FOR JOINERY:**

All softwood for joinery shall be selected for high quality work from better shipments of unsorted Pitch Pine, Swedish, Finnish or Russian Pine, selected merchantable Douglas Fir, or Larch as specified in the drawings.

2.5.25 **CLEAR-FINISH JOINERY:**

Timber for joinery specified as "clear-finished" to comply with BS.1186-3: 1990 Part 1 Class CSH.

2.5.26 **TIMBER PANEL PRODUCTS:**

Plywood to be manufactured from hardwood in compliance with BS.EN 636: 2015 Grade II on both faces with moisture resistant bonding for WBP standard.

2.5.27 IRONMONGERY:

All ironmongery to be as specified on the separate door and window schedules and details. Samples of all items will be requested for approval of the Architect before ordering. For work externally, in humid or corrosive conditions (eg Oak) use brass or stainless steel fasteners and fittings. Unless otherwise stated all mechanical fastenings to be protected by sheradizing, galvanising or other electroplating process.

2.5.28 TIMBER SIZES:

Unwrought timber shall be full to the dimensions stated. Wrought timber is to be sawn, planed or otherwise machine worked to the correct size and shape shown on the drawings or specified. Where nominal dimensions are stated, an allowance of 3mm (1/8") shall be made for each wrought surface in softwood or 3mm overall for hardwoods.

In general, details show the actual finished dimensions, but the Contractor shall verify this before putting work in hand, as he will be responsible for ensuring the timbers are of the size required by the Architect.

PRESERVATIVES

2.5.29 PRESERVATIVE TREATMENT OF ALL SOFTWOOD FOR EXTERNAL OR ENCLOSED JOINERY:

Treat all timber with a water based timber treatment non-harmful to bats.

2.5.30 PRESERVATIVE PROCEDURE:

Treat the timber after machining and before assembly. Brush apply the manufacturer's preservative to all cut or machined surfaces before assembly.

ADHESIVES

2.5.31 GENERALLY:

Synthetic resin to BS.EN 923:2015 (as appropriate) of the correct class for the duty and the type of joint.

Glue bond: Unless otherwise stated.

- a) INT for internal work.
- b) MR for internal work in areas of humidity.
- c) WBP for external work.

MECHANICAL FASTENINGS

2.5.31 CORROSION PROTECTION:

All metalwork, nails, screws and other mechanical fastenings shall be manufactured in stainless steel or brass

STORING AND HANDLING JOINERY ASSEMBLIES

2.5.32 DELIVERY AND STORAGE:

Comply with the following:

- a) Programme delivery so that joinery will not be subject to avoidable changes in humidity.
- b) Transport under total weather protection.
- c) Off-load directly into conditions of storage suited to the moisture content of the joinery.
- d) Store items necessarily built-in as first fixings off the ground on levelled bearers in a manner that gives weather protection, air circulation and prevents distortion.
- e) Do not regard priming as a form of protection.

Stack all board materials flat on levelled bearers or stack upright on long edges on purpose racks which provide full height support slightly out of vertical. Handle without damaging edges. Lift boards off flat stacks, do not drag over the edge of lower boards.

WORKMANSHIP

2.5.33 GENERALLY:

All joinery is to be finished accurately and to a high standard. Facilities are to be given for the Architect to inspect all work in progress in workshops and on site. Any work or materials considered unsatisfactory are to be re-executed to the Architect's satisfaction and at the Contractor's expense.

Any joinery which splits or warps from bad workmanship shall be removed and replaced free of charge. In

general:

- a) Undertake as much fabrication as possible in humidity controlled workshops equipped with modern machinery manned by skilled joiners.
- b) Restrict site work to fixings and other operations that cannot be undertaken as last stated.

2.5.34 FABRICATION AND JOINTING:

Subject to any qualifications given below, make joints in accordance with BS.1186 Part 2.

- a) Use joints designed to tighten under stress and to not form a weak link in the assembly.
- b) Wherever possible, use joints that are not wholly dependent upon adhesive.
- c) Provide for movement in joints where necessary (eg; panels fitted into grooves) otherwise glue all joints.
- d) Design joints to conceal the end grain of natural wood or the edge of laminated or particle boards.
- e) Make joints capable of being assembled dry as a push fit with all joint surfaces in full contact and only fine joint lines visible.
- f) Make joints in external work to naturally exclude moisture.

2.5.35 FINISHED APPEARANCE:

Provide the architect with the opportunity to inspect joinery before any form of priming or decoration is applied.

Requirements for the finished appearance of joinery are as follows:

- a) Joinery to receive decoration: a fine smooth surface free from any imperfections that might be apparent after decorating.
- b) Joinery for clear finishing: finely finished to remove cutter or sanding marks, raised grain, stains or other blemishes.
- c) Angles and edges slightly rounded: exposed edges and vulnerable angles pencil rounded (subject to details).

2.5.36 MOULDINGS

All mouldings to be worked on solid unless otherwise specified.

2.5.37 TRIM:

Properly mitre or scribe as necessary. Pin and stop for decoration.

Fix clear finished work with brass screws or stop with matching stopper or otherwise conceal.

PRIMING AND PAINTING

2.5.38 PRIMING:

Prime all joinery for a paint finish with knotting and brush apply two coats of primer as specified before installation.

2.5.39 BACK OF FRAMES ETC:

Paint the full specified finish to top and bottom of doors before hanging. To the backs of all joinery abutting structures, brush apply two coats of primer as specified.

2.5.40 FIXING CLEAR FINISHED HARDWOOD:

Unless secret fixing is practicable, fix decorative hardwoods specified by species with brass or stainless screws with heads let in and pelleted with grain matched plugs of 6mm thickness cut from the same timber.

2.5.41 FIXING TO CONCRETE AND MASONRY ETC:

Use plugs and screws (brass or stainless steel) or resin set anchors as appropriate. Use durable proprietary fibre composition or plastic plugs let into drilled holes. Do not nail direct with "nailable" masonry walls without approval.

2.5.42 GROUNDINGS AND PACKINGS ETC:

Provide grounds, battens, bearers and packing as necessary for fixing joinery

TOLERANCES AND STANDARD OF ACCEPTANCE

2.5.43 JOINERY TOLERANCE:

No tolerance will be allowed for joints in joinery. Should any joints open or moving parts fit other than accurately and evenly, or should any defects of timber other than those permitted be apparent, the joinery shall be repaired or replaced as directed.

2.5.44 WEATHERING:

The Contractor shall ensure that all weathering surfaces, throatings, grooves etc shall obtain a reasonable degree of water resistance.

.10 PAINTING AND DECORATIONS.

2.10.1 GENERALLY:

Materials and workmanship generally shall be in accordance with BS.6150:2006 Painting of Buildings. All work specified is to be carried out in a proper manner and to the satisfaction of the Architect.

2.10.2 MATERIALS:

For external work and internal joinery use Tikkurila Paints www.tikkurila.co.uk - Semi matt /eggshell finish. See schedule of work for type.

For internal walls and ceiling plaster use Zinsser Paints
<https://www.zinsseruk.com/product/> - typically use 'Grade 1'.

2.10.3 COATING:

See full details on schedules.

WORKMANSHIP

2.10.4 PRELIMINARY CHECKS:

Ensure that the following conditions exist:

- a. Timing and sequence agreed with others.
- b. Work by others (that could affect decorations) completed.
- c. Areas of internal work weather tight and maintained at temperatures and humidity levels similar to those prevailing after the works are occupied.
- d. Provision for good lighting.
- e. Provision for clean conditions when the decorating work is in progress.

2.10.5 ORDERING MATERIALS:

Obtain liquid materials in containers sized to suit the extent of the work and to prevent the deterioration of residual quantities in opened containers. Maximum generally 5 litres. Order early for non-standard colours and any other non-standard materials.

2.10.6 ORDER OF WORKING:

Work in sequence that ensures that finished work is not spoiled by dust and debris arising from subsequent preparatory work. When planning the work, consider the need for heating or drying equipment.

2.10.7 ACCESS:

Provide stepladders and towers etc. Do not stand on finished work and fittings etc. Do not lean ladders against finished surfaces.

2.10.8 BEFORE COMMENCING:

- a. Remove architectural ironmongery, luminaries and any other removable furniture etc that could be contaminated by the painting work, or which obstruct the area to be painted or receiving wall linings (e.g. radiator). Do not refix until paint is fully hardened. Liaise with fitters before moving M&E equipment.
- b. Protect surfaces not intended to be coated.
- c. Protect other finishes, particularly those of an absorbent nature (i.e. carpet).
- d. Ensure lighting levels are adequate (i.e. approximately simulating that which will occur when the works are occupied).
- e. Check moisture content of backgrounds (i.e. 18% maximum, wet trades 4-6 weeks of good drying conditions).
- f. Arrange for the safe disposal of washing and waste materials etc off the site (disposal into drains is forbidden).

2.10.9 INITIAL PREPARATION OF SURFACES:

- a. Remove all dirt and any contaminants before commencing abrasive cleaning.
- b. Rub down with suitable abrasive paper or cloth, nylon pads and wire wool all surfaces that need smoothing (including any sharp arrisses), or to improve paint adhesion, or to assist cleaning. Wherever possible, use wet abrasives.
- c. Rub down in a manner that does not cause damage to frail surfaces, arrisses and mouldings etc.
- d. Remove any dry abrasion dust by washing.
- e. Remove wet abrasion dust by washing.
- f. Stop nails, screws and cracks etc.
- g. Fill and smooth depressions, coarse grained surfaces and like defects and blemishes that cause the surfaces to be unsuitable for painting.
- h. Remove any high spots and leave smooth.
- i. Fill and stop as early as possible before decorating commences and in such a Manner that this work cannot be detected when the decorations are complete.
- j. Seek instructions before preparing/disturbing asbestos materials.

2.10.10 RUST:

Carefully brush away rust scaling on existing cast iron fittings by hand using a stiff wire brush or by chipping scraping with light weight hammer. The extent of cleaning back is to be agreed with the architect and to such a degree as to provide a firm base for adhesion of iron or zinc based priming coats.

2.10.11 PREPARATION OF COATINGS:

- a. Thoroughly stir liquid paints so that all solids are fully and evenly incorporated.
- b. Thoroughly shake clear varnish containers; do not stir contents.
- c. Do not thin paints unless so directed by the manufacturer.
- d. Take particular care to observe manufacturer's pot life, timing and curing directions when preparing two coat coatings.
- e. Discard any coating materials that are lumpy or are suspected to have been frosted or are in any other way suspect.

2.10.12 FINAL PREPARATION OF SURFACES:

Examine the surfaces immediately before painting and where necessary, undertake the following final preparation:

- a. Wash, wipe or otherwise remove dirt or contaminants (do not brush, which merely moves dirt to another surface).
- b. Remove any moisture or condensation, by drying the surfaces and applying general warmth if necessary.

Any equipment used for "warmth" for drying the surfaces must be attended to at all times.

2.10.13 UNSUITABLE CONDITIONS:

Do not apply coatings when:

- a. Airborne dust and grit is present.
- b. Air temperature is below 4°C.
- c. Relative humidity exceeds 80°C.
- d. The temperature of the surfaces are too low, (e.g. heavy metalwork, plastered external walls).
- e. Substrates have not dried out.
- f. Lighting is inadequate for specified high quality finishing coats.
- g. There is inadequate ventilation, particularly when volatile coatings are being applied.

2.10.14 APPLICATION:

Apply coating as follows:

- a. Wipe naturally greasy hardwood (e.g. teak) or metal (e.g. copper) with white spirit.
- b. Apply knotting to any resinous or potentially resinous surfaces (e.g. knots in softwood). Rub

- down hardened knotting with glass paper.
- c. Make good any existing priming.
- d. Apply specified coatings allowing adequate intervals between coats.
- e. Lightly rub down between coats if necessary, preferably by fine “wet and dry” paper on fully hardened coatings.
- f. Apply primers by brush unless otherwise approved.
- g. Apply other coatings by the manufacturer’s preferred methods (e.g. brush, roller or spray) for the coatings and surfaces involved.
- h. When brushing, apply a full coat worked evenly in and “laid off”.
- i. Each undercoat shall be a different tint, subject to agreement and approval.

REDECORATING

- 2.10.15 GENERALLY:
Subject to section 6 of BS.6150, all preceding clauses apply in as much as they can be applied to redecorating.
- 2.10.16 DEFECTIVE COATINGS:
Remove flaking, peeling and poorly adhered coatings either to a firm coating or to the original background.
- 2.10.17 DEFECTIVE BACKGROUNDS:
If paint failures are due to some unsuitable condition of the background, seek direction.
- 2.10.18 METHOD OF REMOVAL OF COATINGS:
- a. Do not burn off.
 - b. Do not use paint removers that could harm the background.
- 2.10.19 STAINS AND DISCOLOURATION:
Identify the causes (e.g. knots, bitumen, thermal differences, mould) and take approved remedial action.
- 2.10.20 RE-COATING:
Inspect all prepared surfaces with the specifier and agree the redecoration procedures.

INSPECTION AND PROTECTION

- 2.10.21 FINAL INSPECTION:
Undertake a visual inspection with the specifier of the completed decorations. The general quality will be judged as follows:
- a. Satisfactory stopping and filling.
 - b. Uniformity of gloss, sheen and texture.
 - c. Uniformity of colour and obscuration of the substrate.
 - d. Freedom from film defects such as runs, sags, wrinkling, bulking or thinning at edges, ingrained dust, dirt or paint.
 - e. Accuracy of cutting in.
 - f. General cleanliness and an overall appearance of the work.
- 2.10.22 SAMPLING AND TESTING:
Should any of the coating materials appear to be defective, arrange for test in accordance with 47.3 of BS.6150 by an approved testing laboratory.
- 2.10.23 PROTECTION:
Provide adequate clean dustsheets and other coverings to protect floors and all other surfaces.