SCHEDULE OF WORKS

FOR

REPAIRS TO THE

CHURCH OF ALL HALLOWS, RINGMORE, DEVON

MARCH 2000

MSW Conservation

Chartered Architects & Surveyors PO Box 27 Lifton Devon PL16 0YD

Telephone: 01566 784 905 Facsimile: 01566 784 906

SECTION 1 PRELIMINARIES & GENERAL CLAUSES

SCHEDULE OF WORKS required for repairs to the Church of All Hallows, Ringmore, and Devon within the Archdeaconry of Totnes for the Parochial Church Council.

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Note:

This Schedule was prepared in March 2000 following instructions from the Parochial Church Council in December 1999.

Carried to Collection £

SECTION 1 PRELIMINARIES & GENERAL CLAUSES

1.10 NAMES OF PARTIES

Employer:

The Parochial Church Council of the Church of All Hallows C/o Mrs Jacqueline Patterson Walnut Tree Cottage Ringmore Kingsbridge Devon TQ7 4HL

Telephone: 01548 810 311

Incumbent:

The Reverend Derek Matten, The Church House, Ringmore Kingsbridge Devon TQ7 4HR

Churchwardens:

Mrs Jacqueline Patterson Walnut Tree Cottage Ringmore Kingsbridge Devon TQ7 4HL

Telephone: 01548 810 311

Mrs V Mathews 2 Arnolds Kingston Kingsbridge Devon TQ7 4QF

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SECTION 1 PRELIMINARIES & GENERAL CLAUSES

Architects & Surveyors acting on behalf of the Parochial Church Council

MSW Conservation Architects & Surveyors PO Box 27 Lifton Devon PL16 0YD

Telephone:	01566	784	905
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Planning Supervisor

MSW Conservatio PO Box 27 Lifton Devon	n
PL16 OYD	
Telephone:	01566 784 905
Facsimile:	01566 784 906

Contractor:

To be appointed.

Carried to Collection £

SECTION 1 PRELIMINARIES & GENERAL CLAUSES

THE SITE

1.20 The location of the site is indicated on the location plan reference number MSW.912.001 £.

BRIEF DESCRIPTION OF THE WORKS OF REPAIR AND INTERVENTION

1.30

Anglican parish church. Mainly late C13 or early C14, but some remains of Norman work. Rubble, some rendering to tower, slate roofs, terracotta ridge tiles. Nave, north transept, chancel with north chapel, tower south side of nave over Porch. Square tower with half-height diagonal buttresses, projecting crenellated parapet on corbel table, small set-back octagonal stone spire. South front has plain pointed outer arch to barrel vaulted porch over richly modelled inner doorway. Lancet over outer door and to bell chamber; lancet on east side, nid height slits to 3 faces, slate sundial. To right is lean-to roof over stair projection; left and right in nave a 2-light plate tracery window with quatrefoil under drip; diagonal buttress to west, angle buttress to east. Chancel has similar 2-light plate, but with sexfoil, and large triple lancet with drip over plate tympanum. Simple chamfered priest's door. East end has triple lancet the same; angle buttresses. North side has attached chapel, lancet to east, lancet and square-headed doorway, heavy buttress at west end. North transept has two Norman lights to the east, and two single offset buttresses, not at corner. North side has 3 stepped lancets under a relieving arch. some evidence of small opening above. Heavy offset plinth. West side windowless, but 3 heavy buttresses. North side of nave has two 2-light C19 windows with guatrefoils, and west end has a sexfoil light set high; no doorway. Interior: plastered walls slate and tile floor, barrel vault roof, formerly plastered, high door to tower stair. Plain chancel arch withC19 painting above, and plain arch to north transept which includes a 2-light opening in the arch; roof as nave, but lower opening to east chapel, up 2 steps. Chancel has barrel roof, tiled floor, chamfered rere-arches; the east window has hexagonal C13 style colonnettes. Wood grille to north chapel. Cusped piscina with credence shelf. Chancel roof 1915 in memory of F C and M J Hingeston-Randolph. (Pevsner N: South Devon, 1952).

THE NATURE OF REPAIRS

This is a particularly significant church, both internally and externally. It is very important that no works likely to be detrimental to the well being of the historic fabric shall be executed without the prior knowledge of the architect. Where there is any doubt concerning the interruption of the fabric or the removal of items of interest the architect shall be informed. There shall be no mechanical cutting out of the pointing or damaging of the stonework. Where there is a case for introducing new materials, whether slate, wood or glass or lead, it is vital to remember that the new work and repairs shall always be matched into the old. The old must not be cut into or adapted to the new. This philosophy must prevail with all the repairs to an historic building.

SECTION 1 PRELIMINARIES & GENERAL CLAUSES

Do not try to regularise distortions within the existing structure. Stonework where it is worn away must retain its weathered back face and new stones introduced for the purpose of stitching or replacement must be placed on the correct bed and the face brought no further forward than those adjacent stones. Do not dub out with mortar to fill depressions unless specifically agreed.

£.

THE PURPOSE OF THE WORKS IS TO

- 1.51 Carry our necessary repairs to slate roofs
- 1.52 Re-point external walls.
- 1.53 To overhaul, repair and provide some additional rainwater goods.
- 1.54 Strip Tower roof, establish extent of any defective timbers, renew defective lead roof including rolls and gutter.

THE CONTRACT DRAWINGS

Site location plan Scale 1:2500 - Reference MSW.912.001

Layout Plan of Church Scale 1:50 - Drawing Number MSW.912.002

CONDITIONS RELATING TO THE SITE

ACCESS TO THE BY THE CONTRACTOR

1.71 The Contractor should note there is limited parking facilities nearby the Church and the roadways must be kept open at all times.

PROTECTION OF TREES AND SHRUBS

1.72 All trees or shrubs on site are to be adequately protected against damage for the duration of the works. In addition to any penalties imposed for breach of tree preservation orders the Contractor shall be liable for the payment to All Hallows Parochial Church Council or such other parties they shall so direct for £2000 for each tree or the replacement cost, whichever is the greater and £30 for each shrub injured, damaged or cut down without the written permission of the Supervising Officer

SECTION 1 PRELIMINARIES & GENERAL CLAUSES

ARCHAEOLOGICAL INVESTIGATIONS

- 1.73 Any excavations, which may be required, will involve disturbance and have archaeological implications in particular areas close to the bases of walls, apart from any unmarked graves. Often graves are found below more recent churchyard footpaths and the Contractor's attention is drawn to this.
- 1.75 All excavation work shall be undertaken by the Exeter Museums Archaeological Field Unit, under the directorship of Christopher Henderson who can be contacted on telephone number 01392 265521.

PROTECTION OF THE "LISTED" BUILDING FABRIC

- 1.76 The Contractor is to provide, maintain, adjust and clear away on completion suitable protection to roofs, windows, roof lights, monuments and other parts of the building during the course of the works.
- 1.77 The Contractor shall make good at his own expense any damage caused by failure to provide necessary protection.

GENERAL CONDITIONS

- 1.81 The Works of Repair and Improvement shall be carried out under the JCT Agreement for Minor Building Works 1993 Edition to include the MWB: 1994 amendment, and where quantities do not form part of the Contract and shall be in the joint names of the Employer and Contractor.
- 1.82 There shall be a defects liability period adjusted in the Agreement under Clause 2.5 from <u>3 months to 6 months</u>
- 1.83 Date for possession to be agreed
- 1.84 Date for completion to be agreed
- Period of interim certificates to be monthly.
- Period for honouring certificates to be 28 days from receipt of certificate.
- Percentage of certified value retained to be initially 5 per Cent reducing to 2.5 per cent.
- 1.88 The term "Employer" shall mean the Parochial Church Council of the church of All Hallows, Ringmore, Devon.

SECTION 1 PRELIMINARIES & GENERAL CLAUSES

- 1.89 The term "Architect" or "Supervising Officer" shall mean MSW Conservation or, in the event of them ceasing to be the Architect or Supervising Officer for the purposes of this agreement, such other person or firm as shall be nominated as the Architect or supervising officer by the Employer.
- 1.90 The term "Planning Supervisor" shall mean MSW Conservation or, in the event of them ceasing to be the Architect or Supervising Officer for the purposes of this agreement, such other person or firm as shall be nominated as the Architect or supervising officer by the Employer.

WORKING HOURS

1.91 Working hours are limited to the normal working hour as defined in the National Working Rule 2 for the Building Industry as appropriate to the area in which the Works are located unless otherwise agreed by the Architect/Supervising Officer.

OVERTIME

- 2.01 Where and when it is found necessary to work overtime in order to maintain progress, or for other reasons, the Architect/Supervising Officer's sanction, in writing, must first be obtained. Any sanction will only be granted on the understanding that any such overtime will not entail the Employer in any additional costs.
- 2.02 In the event of the Architect/Supervising Officer specifically issuing instructions, in writing, that overtime is to be worked; the net cost of the non-productive element of increased hourly payments only, will be met by the Employer.

PROGRAMME

3.01 The Contractor shall, as soon as possible after acceptance of his Tender by the Employer, and in any event, before the issue of an order to commence work is issued, prepare a detailed programme for the works described in this specification. The Contractor shall submit the same to the Architect/Supervising Officer for approval, unless the Architect/Supervising Officer issues an instruction to the contrary. The programme shall be kept up-to-date during the contract period and revised copies of the programme shall be supplied to the Architect/Supervising Officer.

TEMPORARY OFFICE ACCOMMODATION

4.01 Provide and maintain and subsequently remove a separate office for the holding of site meetings by the Employer's representatives with a floor area of not less than 15 square metres with sufficient tables, chairs, hat and coat hooks, artificial lighting, heating and ventilation.

SECTION 1 PRELIMINARIES & GENERAL CLAUSES

- 4.02 Alter, shift and adapt any temporary buildings from time to time as may be necessary and finally clear away and make good all surfaces, services etc. disturbed.
- 4.03 Provide and maintain and subsequently remove any office accommodation that may be required located in a position to be agreed with the Architect/Supervising Officer.

TEMPORARY STORAGE ACCOMMODATION

5.01 Provide and maintain and subsequently remove storage accommodation for all materials on site including removals that may be required located in a position to be agreed with the Architect/Supervising Officer.

TEMPORARY SANITARY ACCOMMODATION

6.01 Provide and maintain and subsequently remove temporary sanitary accommodation, discretely located, and in a position to be agreed with the Architect/Supervising Officer.

PLANT TOOLS AND VEHICLES

7.01 The Contractor shall provide all necessary labour and shall erect maintain alter and adapt as necessary, dismantle, and clear away on completion all materials, scaffolding, tower hoists, ladders, cradles, and other means of access. Also including, plant, pumps, temporary barriers and any other means, or things, as necessary. Including any other item that in the opinion of the Architect/Supervising Officer may be required for the proper, safe and expeditious completion of the work. The Contractor shall pay all costs of carriage and freightage as required by the Supervising Officer or his representative during the progress of the works and on completion.

SITE ADMINISTRATION AND SECURITY

- 8.01 Provide for all on and off site management and administration including a Foreman in charge.
- 8.02 The Contractor shall take such measures as are necessary to ensure that the works are adequately secure from entry of unauthorised persons at all times and that the Works, materials, equipment and plant are safeguarded against damage and theft at all times including all necessary watching and lighting and any thing else which may be required by day and by night for the security of the Works
- 8.03 Provide all necessary precautions, protection and security to safeguard and protect the public and persons engaged upon and visiting the site.

SECTION 1 PRELIMINARIES & GENERAL CLAUSES

Location of existing services

8.04 The appointed contractor shall locate and acquaint him/herself with any existing overhead or underground services which may need to be interrupted or connected into and take all necessary precautions for safety.

SAFETY HEALTH & WELFARE

- 9.01 In carrying out the Works or Services under this Contract the Contractor shall adopt safe methods of work in order to protect the health of its employees and all other persons including members of the public.
- 9.02 The contractor shall review his Health and Safety Policy and Safe Working Procedures as often as necessary to comprehend current legislation and any changes thereto. In particular the Contractor shall comply with the requirements of the Construction (Design & Management) Regulations 1994, Health 7 Safety at Work Act 1974, Factories Act 1961,Offices Shops & Railways Act 1963 and any subsequent legislation.

WORKMEN, ETC TO BE KEPT WITHIN BOUNDS

10.01 The Contractor will be responsible and liable for all damage incurred by him to the premises.

PROTECTIVE CLOTHING AND WEARING OF HELMETS

- 11.01 Provide and maintain all necessary protective clothing and equipment for the operatives and site staff.
- 11.02 Protective helmets shall at all times be worn during site operations.

NATIONAL WORKS RULES AND HOLIDAYS WITH PAY

12.01 The Contractor is to allow in: his estimate for all rates of wages and other emoluments, allowances and expenses due to the operatives, and for all costs incurred by the operation of the holidays with pay scheme. Rates of wages are to be those in force at the date of tender.

INSURANCE OF OPERATIVES AND INJURY TO PERSONS

13.01 The contractor shall, during the execution of the works, adequately insure himself and all workmen employed by him and identify the employer against any liability, loss or claim whatsoever under any statute or at common law in respect of injury to or death of any person occasioned by the execution of the works.

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SECTION 1 PRELIMINARIES & GENERAL CLAUSES

13.02 The Contractor is to allow for all payments due from him under the National Insurance Acts and any amendments thereto during the execution of the works and for all his costs and expenses incurred in connection with same.

INSURANCE IN RESPECT OF DAMAGE TO PROPERTY

- 14.01 The Contractor will be liable for and is to insure himself and indemnify the Employer against any liability, loss, claim or proceeding in respect of any damage whatsoever to any property, real or personal, insofar as such injury or damage arises out of or by reason of the execution of the works.
- 14.02 The Employer shall in the joint names of Employer and Contractor insure against loss or damage to the existing structures (together with the contents owned by him or for which he is responsible) and to the works and all unfixed materials and goods intended for, delivered to, placed on or adjacent to the work. and intended therefore by fire, lightning, explosion, storm, tempest, flood, bursting or overflowing of water tanks, apparatus or pipes, earthquake, aircraft and other aerial devices, vehicles or; articles dropped, riot and civil commotion. Such sum to be written into the contract under Clause 6.2 shall not be less than £2,000,000.

EVIDENCE OF INSURANCE

15.01 The Contractor shall produce and shall cause any approved subcontractor to produce, such evidence as Employer may reasonably require that the insurance's referred to in Clauses 6.1 and 6.2 have been taken out and are in force at all material times. Where Clause 6.3B is applicable the Employer shall produce such evidence as the Contractor may reasonably require that the insurance be in force at all material times.

SPECIAL INSURANCE'S

16.01 When required by the Employer the Contractor shall be notified of the details of such requirements. The Contractor shall forthwith arrange and obtain such insurance's in the joint names of the Employer and Contractor). The net costs of such insurance's shall be added to the contract sum.

INSURANCE OF TOOLS AND PLANT

17.01 The Contractor is to insure all tools brought to and deposited on the site against loss or damage by fire.

SECTION 1 PRELIMINARIES & GENERAL CLAUSES

MAINTENANCE AND PROTECTION OF PUBLIC PROPERTY

18.01 The Contractor is to maintain and protect all public and private carriageways, footways, kerbs, pipes, ducts, sewers, service mains, overhead cables etc. Approaches to the site to be kept clear of mud throughout the execution of the works. The Contractor is to make good or pay for the reinstatement of any damage caused, directly or indirectly, by the execution of the works.

ATTENDANCE

19.01 The Contractor shall not appoint any sub-contractor without the Architect/Supervising Officer prior The Contractor shall allow for attendance upon all subcontractors and is to afford them the free use of plant and scaffolding, supply them with necessary labour and the use of storage facilities for their materials.

MATERIALS AND WORKMANSHIP TO B.S.8000

20.01 All materials shall be in accordance with the appropriate current specification issued by the British Standards Institution. The Contractor is to carry out everything necessary for the proper execution of the works.

MAKING GOOD DEFECTS

21.01 The Contractor will be held responsible for all defects appearing up to the time of the expiration of the Defects Liability period, which period shall be <u>6 months</u> from the date of completion of the whole of the work.

FOREMAN

22.01 The Contractor is to allow for a competent general foreman to be constantly on the works throughout the period of their execution.

SALVAGED MATERIALS

23.01 None of the demolished material is to become the property of the Contractor or to be removed from the church or churchyard without the express instruction and knowledge of the Architect/Supervising officer. Where by agreement such materials may pass to the Contractor due credit shall be allowed in the tender or where unknown at the time of tendering, appropriate adjustments made on the 'final contract' sum at completion of the works. Any archaeological or/and historic items are to become the property of the Employer.

SECTION 1 PRELIMINARIES & GENERAL CLAUSES

NOTICES AND FEES

- 24.01 The Contractor, where appropriate, shall give all necessary notices, obtain all consents and pay all fees' and charges in connection with this work.
- 24.02 Notices displaying to the public the dangers while works are in progress shall be affixed in prominent positions on all four faces of the building or as otherwise directed.
- 24.03 Provision shall be afforded for the Contractor, any approved subcontractors and the architect to display boards on the premises. Such boards shall read "REPAIRS TO THE CHURCH OF ST. MARY THE VIRGIN". Allow the provisional Sum of £250.00. (Two hundred and fifty pounds) to be expended in whole or in part in respect of this item.

250.00

£

24.04 Provide space for MSW Conservation standard 1200 mm x 300mm panel

SHORING/SCAFFOLD

- 25.01 Prior to any work commencing both the building shall be properly enclosed and adequately scaffolded and metal sheet roof protection or other equal and approved afforded with sheeting down the sides of the scaffolding to prevent rain and weather disturbance to the coved barrel vault. The covering shall also afford protection to the full length of the lead stepped valley gutter that is scheduled for opening up, bay - shortening, and replacement with new Code 8 lead.
- 25.02 The Contractor shall provide all scaffolding, hoists and erect and maintain all necessary needles, dead and raking shores and props, and will be entirely responsible for their construction and efficiency. Should any damage occur, the Contractor is to make good at his own expense. Ladders are to be removed at night or when the site is vacated for any reason.
- 25.03 The Contractor shall safeguard the footpaths and gates within the churchyard.

Special Precautions for Scaffolding:

- 25.04 As this is a "listed" building, to accord with English Heritage principles scaffolding should be independent wherever possible, with protective plastic caps to putlogs and pole ends abutting the building fabric so as to protect the masonry from damage and rust stains.
- 25.05 Night lights, as necessary shall be affixed to the scaffold and sheeting or hoarding to a height of at least 2m. Protective sheeting such as Monarflex for external scaffolding shall be fitted to protect workmen and public.

SECTION 1 PRELIMINARIES & GENERAL CLAUSES

25.06 All scaffolding boards should be firmly fixed down. Internal scaffolding or tower scaffold shall afford protection to the public and dust sheeting fitted as required.

WATER FOR WORKS

26.01 Provide all necessary water for the works, with all temporary plumbing and storage, pay all charges to the authority and alter, adapt, and maintain the temporary works as necessary and remove and make good at completion.

ELECTRICITY FOR THE WORKS

27.01 The Contractor will be responsible for reading and recording meter readings before and at completion of work. Such final costs to be added to the final cost of works when these are known.

ANY TEMPORARY LIGHTING THAT MAY BE REQUIRED

28.01 Provide any necessary artificial lighting and power for the execution and security of works and for protection, with all meters, temporary wiring and fittings etc. pay all charges and alter, adapt, and maintain the temporary work as necessary and remove and make good at completion.

VARIATIONS

29.01 In accordance with the terms of the contract the Architect/Supervising Officer may without invalidating the contract order an addition to or period in which they are carried out. Any such instruction so issued shall be valued by the Architect/Supervising Officer on a fair and reasonable basis and included in the final account.

DAY WORKS

30.01 No work shall be carried out on a daywork basis without the prior authorisation of the Architect/Supervising Officer in writing both to the nature of the work to be carried out and the relevant rates to be charged. When authority is given the Contractor shall submit to the Architect/Supervising officer by the end of the following week proper weekly daywork sheets signed by the Foreman describing the work involved and giving the workmen's names and the materials employed.

SECTION 1 PRELIMINARIES & GENERAL CLAUSES

PROVISIONAL SUMS AND PROVISIONAL ITEMS

31.01 Provisional Sums including the Contingency Sum mentioned in this specification are to be included in the build-up of the tender without deduction or addition and will be deemed to be so included in the Contract Sum. Instructions will be issued by the Architect/Supervising Officer for the expenditure of these sums or for their omission from the Contract.

Similarly, items in the specification marked 'PROVISIONAL' are to be fully priced. The Contractor is to allow the Architect/Supervising Officer to make inspections at suitable stages of the work when instructions will be issued regarding the execution or omission of such items.

CONTINGENCY SUM

32.01

Allow the Provisional Sum of £2,000.00 (two thousand pounds) to be expended in whole or in part as directed by the Architect/Supervising Officer.

£2000.00

£.

Carried to Collection £

COLLECTION

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Carried to Summary £

SECTION 2 WORKMANSHIP & MATERIALS

RE-POINTING OF MASONRY

2.1.1 The nature of the cutting out of existing mortar to the masonry joints requires great care and sufficient time should be allowed for what is not a normal repointing programme in the sense of today's methods. No mechanical tool shall be used.

Methodology

- a) Carefully clean out joints to a depth of three times the width of joint or a minimum of 38mm where practical. (Where joints are deeper it is recommended that pieces of clean stone be inserted in the form of galletting, bedding them in mortar to leave the recommended depth).
- b) Carefully wet the area to be repointed, thoroughly washing away latence, dust and loose particles.
- Attend to any deep areas as in (a) and carefully relay any loose units.
- d) Commence repointing. (In awkward places it is useful to place a board at the base of the wall to catch mortar droppings).
- e) Wet the wall and cover with damp sacking.
- f) Check the mortar as often as possible, the wall should be kept damp for at least 3 days. If cracks start to appear the mortar is drying too fast.

Note: Lime mortars possess a good degree of elasticity, which copes with the inevitable small movements within the stonework. Cracks which occur tend to be self-healing. Rainwater takes lime into solution and this is deposited in the cracks as it evaporates. This is then converted to calcium carbonate by the reaction with carbon dioxide from the air and the crack is normally healed.

Work should not be conducted during windy or frosty weather or when the temperature is below 2 degrees Celsius on a falling thermometer or I degree Celsius on a rising thermometer and must be protected from frost and too quick a drying out in warm weather. The above need to be covered with hessian or polythene protective materials.

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SECTION 2

WORKMANSHIP & MATERIALS

MORTAR MIXES

FOR RUBBLE WALLS

2.2.1 The lime in any of the mixes is to be lime putty slaked from quick lime or hydrated (powder) lime. Lime putty is to be made from powder lime (see below) or may be obtained ready-made in sealed containers. A more cohesive mortar is obtained when lime putty is used rather than hydrated lime. The batching of the mix must be carefully done, using gauge boxes if necessary, and thoroughly mixed with the minimum amount of water necessary for a workable consistency.

> Note: that hydraulic lime is now only available as an imported dry hydrate and when mixed should be used at once.

- 2.2.2 It is essential that if cement or hydraulic lime is included in the mix, only enough should be mixed as can be used in one operation, and anything left over should be thrown away and no attempt made to work it up afresh, as the hydraulic setting action will already have begun. Pointing should be prevented from drying out completely for seven days by means of sacking, or tarpaulins, together with occasional gentle wetting as, and if, required.
- 2.2.3 Rapid drying in hot sun or strong wind must not be permitted as this will produce light coloured joints with an increase in the deposition of lime binder on the surface and the risk of cracking and powdering.
- 2.2.4 Work should be undertaken only after the sun has left that elevation. Preferably, wait until conditions are conducive to using a lime/sand mortar successfully. The Architect/Supervising officer should be consulted in the event of any doubt on the matter.
- 2.2.5 In cold weather a slightly stronger mix may be necessary for all pointing. No pointing shall be undertaken during windy or frosty weather or when the temperature is below 2 degrees Celsius on a falling thermometer or I degree Celsius on a rising thermometer. A slightly stronger mix should also be used in very exposed situations. An example would be using a 1:1:6 mix where a 1:2:9 would normally be used. The Architect/Supervising officer should be consulted where clarification is required.

FOR 17TH CENTURY AND LATER BRICKWORK WALLS

2.2.6 The mix must be adjusted to the degree of exposure, the strength, colour and texture of the brick. As the bricks will be more regular and the thickness of the joint less than in medieval brickwork, a rather less coarse sand may be necessary.

Carried to Collection £

£

SECTION 2	WORKMANSHIP & MATERIALS
OUICK LIME	

IMPORTANT NOTICE

- 2.3.1 QUICK LIME IS CORROSIVE AND REQUIRES CAREFUL HANDLING. FURTHERMORE, THE SLAKING PROCESS MAY BECOME FIERCE AND INVOLVE SPITTING OF UNSLAKED PARTICLES. TO REDUCE SPITTING ADD THE LIME TO THE WATER, NOT THE OTHER WAY AROUND. WEAR PROTECTIVE CLOTHING INCLUDING GLOVES AND SAFETIES GOGGLES, AND HAVE CLEAN OR DISTILLED WATER INSTANTLY AVAILABLE FOR IMMEDIATE WASHING OUT OF AN INJURED EYE.
- 2.3.2 KEEP INQUISITIVE CHILDREN AND ANIMALS AT A DISTANCE.
- 2.3.3 DO NOT HESITATE TO ADD MORE WATER IF REACTION BECOMES TOO FIERCE.
- 2.3.4 SLAKING IS A MESSY OPERATION AND SHOULD TAKE PLACE IN A SITUATION WHERE THIS IS OF LITTLE CONSEQUENCE.
- 2.3.5 Quick lime is usually supplied in lumps in 50 kg sacks. It should be freshly burnt and this may necessitate giving 24 hours' notice to the supplier before collection.
- 2.3.6 Slaking should take place immediately following delivery. A clean steel domestic-sized water cistern is a suitable and convenient receptacle for slaking. Fill to a depth of 300 mm with water. Cover the bottom to about half the depth of the water, with lumps of lime. The lumps should not protrude above the surface. Stir continuously. The splitting and breaking will indicate the commencement of the reaction down of the lumps, the emission of gas and considerable heat. The latter will be sufficient to raise the temperature to boiling point. Further water and lime should be added alternately and stirring and hoeing continue until the process is completed.
- 2.3.7 The end product is of a consistency of thick cream, suitable for 'running' through a 3 mm sieve. Sieving is essential to remove unslaked lumps that would cause trouble later. The liquid lime is run through the sieve into a 'pit'. This may be an actual pit in the ground, lined with boarding or formed from the sand to be used in the mortar. The pit is covered up to prevent drying out and contamination, and left for two weeks for the lime to 'fatten up'. By this time it will have the consistency of something between yoghurt and soft cheese.

Note: A list of mortar suppliers is given below courtesy of the Society for the Protection of Ancient Buildings

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SECTION 2 WORKMANSHIP & MATERIALS

LIME PUTTY PREPARED FROM HYDRATED LIME

- 2.4.1 Lime putty can also be prepared from hydrated lime. The latter is prepared commercially by slaking with accurately measured quantities of water. The end result is a fine powder, and this is readily available in 50 kg bags.
- 2.4.2 The hydrated lime should be added to the water (and not the other way around) and mixed to the consistency of thick cream. It should be left to 'fatten up' for a minimum period of 24 hours.

PREPARATION OF COARSE STUFF

- 2.5.1 All of the coarse stuff for the pointing must be prepared at the outset to maintain consistency of colour. Gauging must be carried out accurately, and separate measures should be used for lime putty and the sand.
- 2.5.2 The lime putty and sand should be thoroughly mixed together so that the lime is evenly distributed. When mixed, the coarse stuff should be covered to prevent drying out and contamination.
- 2.5.3 Storage of wet coarse stuff will result in good dispersion of the lime binder and will improve the eventual performance of the mortar; kept damp and isolated from the air its workability and final durability will improve progressively. It can be 'knocked up' as often as required.

APPLICATION

- 2.6.1 Pointing must always begin from the top of the wall and proceed downwards, so that the work can be cleaned down as it progresses and before the scaffolding is struck.
- 2.6.2 Before beginning re-pointing, the wall shall be dampened, but not running wet at the point of application to control the suction of dry, porous brick or stone, especially during hot, dry, weather. Rapid drying of the mortar mix leads to shrinkage and loss of strength as well as to the light colour developing.
- 2.6.3 The mortar should be rammed well home into the joints so that no voids are left. The mortar should not encroach over the arrises of the stones but be kept slightly recessed, so that the integrity of each stone or brick is preserved and also to avoid vulnerable feather edges to the pointing.

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SECTION 2 WORKMANSHIP & MATERIALS

2.6.4 When mortar is applied with a steel trowel or other pointing tool, the fine ingredients will be left on the surface, giving a hard, smooth and characterless joint. After some hours, therefore, when the mortar will have begun to stiffen, the texture of the coarse sand should be exposed by stippling with a stiff bristle brush at right angles to the wall surface, or by a fine water spray. In other cases, rubbing the joint with sacking, or the point of a stick, gives a less immaculate and more appropriate finish. If there is any doubt on this aspect, or on the final appearance of the mortar mix chosen, a trial patch of wall in an inconspicuous position shall be chosen so as to experiment with different mixes and methods of finishing the joint. For the best effect it is generally advisable for the pointing to have a rather coarser texture than the wall.

FLINT WALLS

2.7.1 These are a special case, in that whilst flint is an impervious and hard material, it does not need a very strong mortar. This is because the flints are small in size compared with bricks or stones, and generally irregular in shape, so that the wall can be considered as being of mortar into which flints are embedded. If a strong mortar is used significant shrinkage cracking will take place around all the flints, thus allowing water to penetrate. The finish of the joint is best dictated by surviving pointing or by local custom. Generally, a slight 'buttering' of the joint occurs as a result of a full flush joint encroaching on to the edges of the flints.

17TH CENTURY AND LATER BRICKWORK WALLS

- 2.8.1 After dampening of the joint, if required, the mortar should be well pressed home into the joint and struck off flush with the wall face with no 'buttering' over of the adjoining bricks. A slight roughening of the joint may be necessary by water spray or brush, depending on the smoothness of the adjoining bricks.
- 2.8.2 Where a section of wall is to be re-pointed a toothed edge sculptor's chisel is helpful in removing existing areas of pointing, should this be instructed by the Architect / Supervising Officer. The toothed edge is more effective in breaking down the pointing without damage to the surrounding bricks than a straight-edged chisel. In fine, precise brickwork the method of re-pointing using waxed paper should be used.
- 2.8.3 The horizontal grooves are obtained by running the pointing tool along the top edge of a levelling board held against the wall. The grooves are then filled with a lime putty 'ribbon' that is pressed well into them. Horizontal joints are filled first, and surplus mortar cut flush, or slightly proud to match surviving details. The mix consists of lime putty, or a mixture of lime putty and silver sand. Great care is needed in setting out and execution to keep the wall clean.

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2.8.4 Gauged or rubbed brickwork requires especially careful treatment to avoid widening the very fine joints that should then be repointed flush using a lime putty mortar.

ANALYSIS OF MORTAR

2.9.1 A core and surface pointing sample from original masonry (where this can be properly detected) should be sent for analysis early on to St. Blaise Conservation Limited, Westhill Barn, Evershot, Dorchester, Dorset, DT2.OLD (0935) 83662/3. Fax (0935) 83011 and for which the Provisional Sum of £150.00 (one hundred and fifty pounds) is to be included in the tender and to be expended in whole or in part as directed be the Architect/Supervising Officer.

£150.00

CEMENT

- 2.10.1 CEMENT shall mean ordinary Portland cement or white cement(if ordinary Portland cement gives an unsatisfactory colour to the final mix) to B.S.12 from an approved British Manufacturer. It shall be stored above floor level and kept in a dry and properly ventilated covered area.
- 2.10.2 Defective cement should be removed from the premises.

HYDRAULIC LIME

- 2.11.1 HYDRAULIC LIME shall mean lime prepared from limestone containing clay materials which impart a hydraulic set and which have strength characteristics between cement and non-hydraulic lime. The only current supply in the UK is obtained from Europe.
- 2.11.2 Hydraulic lime is normally available only as dry bagged hydrate. The contractor is to ensure the bag is tightly sealed before opening it. Do not use bags that have been opened and stored in that condition.
- 2.11.3 Hydraulic lime shall be obtained at least two to three weeks prior to requirements and kept in tightly closed containers.
- 2.11.4 Hydraulic lime to comply with B.S. 890 Class A.

Note: Hydraulic lime has been found to be more acceptable in Devon's inferior climate when often weather conditions are inclement and an early set is required, than non hydraulic lime which is more often promoted and which requires successive dry days over a longer period.

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2.11.5 Mix the lime dry with the right quantity of clean aggregate before adding enough water to make a fatty, plastic mix, and then mix again, very thoroughly. Do not store in a wet condition and do not 'knock up' again after stiffening has taken place. Unlike most nonhydraulic limes, this lime is a light creamy buff colour.

LIME

- 2.12.1 LIME shall mean non-hydraulic or magnesian lime prepared from relatively clay-free limestone and magnesian limestone, which harden only by drying out and by combining with carbon dioxide in the air.
- 2.12.2 Non-hydraulic lime is normally available as a dry bagged hydrate, but may be obtained in putty form or as coarse stuff. To improve the workability and final performance of the mortar, always use the lime in the form of putty if not purchased as coarse stuff. If dry bagged lime is used, run it to putty by adding the lime to water in a clean container such as a plastic bin until a thick creamy consistency has been obtained. Workability will go on improving for several weeks, but keep it as putty for a minimum of 24 hours.
- 2.12.3 Mix very thoroughly with the correct amounts of clean aggregate, with only enough additional water to reach a plastic, fatty consistency. Make a smooth heap on a clean bearded platform and cover it with thick layers of wet sacking. Keep under wet covers for at least 24 hours. When ready to use, remove the sacking and re-mix very thoroughly. Any of this lime and sand not used can be reformed into a smooth heap and put back under plenty of wet covers.

GAUGING WITH CEMENT OR POZZOLANIC ADDITIVES

These materials must only be added to the wet coarse stuff just before use and very thoroughly mixed. Do not keep any coarse stuff that has been gauged with pozzolan or cement or attempt to 'knock it up' after it has stiffened.

- 2.13.2 It is important to note that when proportioning the lime fills the spaces between the aggregate particles without adding to the overall volume, so the volume of coarse stuff is equal to the volume of its aggregate. Recent research (1994) has shown that less than ½ part cement to lime may have an adverse effect on the frost resistance of a mortar. Where a "hydraulic" set is required, a more satisfactory result may be obtained by using a 1:1:6 Brick Dust: Lime: Sand mix. The fine brick dust should be obtained from lightly burnt clay products such as hand thrown bricks or tiles.
- 2.13.3 By using a lime: sand mix only (with no gauging) the most porous mortar possible is provided. This is likely to be more breathable than the material behind, which in terms of conserving masonry is ideal.

SECTION 2 WORKMANSHIP & MATERIALS

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SAND

2.14.1 Sand shall be that obtained from Rockbear Quarry near Whipton, Exeter. It shall be washed and of a sharp course granular type. This sand is available for finer pointing requirements.

POZZLANIC ADDITIVE

2.15.1 POZZLANIC ADDITIVE shall mean finely ground materials which, when added to non-hydraulic limes impart some of the hydraulic properties of hydraulic lime. They may be selected PFA (pulverized fuel ash), but only some of these are pozzolanic, or finely crushed brick dusts.

AGGREGATE

- 2.16.1 AGGREGATE shall mean sand, crushed stone and any other distinctive material such as broken shell, brick, chalk or porous materials which are apparent in the original mix.
- 2.16.2 Aggregates must be thoroughly washed and as well graded as matching the original material permits. Higher proportions of aggregate to binder can be used without loss of strength if a wide range of aggregate size is used rather than a uniformly fine or coarse aggregate. Where alternative aggregate proportions are given in the table below, select the highest proportion for wellgraded aggregates, and the lowest for more uniform aggregates.

SECTION 2 WORKMANSHIP & MATERIALS

MORTAR GROUPS

2.17.1 The following tables give some guidance on suitable mixes for the wide range of conditions likely to be met with in re-pointing old masonry.

Group Number	Cement	Hydraulic Lime		Lime	Pozzolanic Additives PFA or Brick Dust	Aggregate
1	1			1/2		4
2	1			1		5 - 6
3	1			2		8-9
4		2	or	2		5
5		1	or	1		3
7				2	1/2 or 2	5
8				2		5
9				1	¼ or 1	1
10				1		1

*N.B. The pozzolanic additives may significantly affect the final colour of the mortar, especially if light coloured aggregates are used. PFA is normally dark grey, and brick dusts vary, of course, with type and firing condition.

SUPPLIERS OF LIME PRODUCTS

2.18.1

Lime shall be putty lime available from the following suppliers or conservators:

ARC Southern, Frome Sales Office, Garston Road, Frome Somerset BA11 1RS

Telephone: 01373 453 333

Fax: 01373 452 964

H.J.Chard & Son, Albert Road, Bristol, Avon BS2 0XS

Telephone: 0117 977 7681

Fax: 0117 971 9802

Cornish Lime, Brims Park, Old Callywith Road Bodmin PL13 2DZ

Telephone:	01208 79 779
Fax:	01208 73 744

SECTION 2 WORKMANSHIP & MATERIALS

Rose of Jerico at St. Blaise, The Works, Westhill Barn, Evershot Dorchester, Dorset. DT1.0LD.

Telephone: 01935 83 662

Fax: 01935 83 017

Jane Schofield, Lewdon Farm, Black Dog, Crediton Devon EX17 4QQ

Telephone: 01884 861 181

J & J Sharpe, 6 Clinton Gardens, Merton, Okehampton, Devon EX2 3DP

Telephone: 01805 603 587

Speedlime, East Butts, Dunsford, Exeter, Devon EX6 7DF

Tel: 0647 752161.

Tamar Trading Co. Ltd., 15 Bodmin Street, Holdsworthy, Devon EX22 6BB.

Telephone: 01409 253 556.

Fax:

01409 254 496

STONEWORK

- 2.19.1 New stone or replacement stone shall be of consistent and uniform graded size, with colour to match as closely as possible and to be of similar geological formation. Sufficient jumpers and bonders should be placed at least I no. for each m² of completed surface and to the Architect's satisfaction
- 2.19.2 Stack on clean dry free draining surface without any contact with contaminating soil, and also protect from frost.
- 2.19.3 Stones shall be built in with horizontal bed joints to accord with existing, and no vertical joints shall be carried through courses. Aggregates and sand should comply with B.S.882.
- 2.19.4 Sand or fine aggregate shall be clean, sharp, washed river or pit sand, well graded and free from impurities to match existing mortar mix.

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SECTION 2 WORKMANSHIP & MATERIALS

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PARAPETS

- 2.20.1 For the parapets and down to the first upper string and box gutters point in with I part white Portland cement to 2 parts lime putty to 9 parts washed coarse Rockbeare sand.
- 2.20.2 To main walls repoint in Professor John Ashurst's mix using Somerset Stone Company's I part hydraulic Lime to 2 parts graded sand and 0.5 parts Bath stonedust. This should be initially carried out for a trial area to be agreed with the Architect/Supervising Officer.
- The first application should be brought to the face of the most 2.20.3 outward stone and follow the general alignment of adjoining stones. The mixes should not be used as a means of dubbing out. No joints should be mechanically cut. There will be a tendency for the first application to partly deface the arrises of the stones. By following on within say 2 - 3 days time a stick or small metal blade should be used in conjunction with a stiff churn brush to pack the expanding mortar back into position and any accumulation of latence should then guite neatly and easily be scraped or brushed away to reveal the original width of joint. The, initial white appearance of the 1:2:9 mix should soon mellow and take on its natural patination. The Contractor is to allow in the tender for any increased time and resources required for this methodology. Lime mortars will allow natural evaporation through the joints' and enable the masonry to breathe as required. The mortar should be finished with a rubbed stick or dry sack effect. The work should also be, protected by sacking to prevent rapid drying out and should not be conducted during frosty or inclement weather.
 - Note: Lime mortar pointing cannot be carried out under windy conditions or when it is wet.
- 2.20.4 It is imperative to thoroughly press the mortar into the joints so that upon curing there shall be no hollow sections, which would otherwise be vulnerable to weather, and the pointing would fail.

TIMBER

2.21.1 Any repairs to existing timbers shall be of the same section and the same variety with like moisture content where practical. New hardwood will not normally be treated but softwoods should be either by the Vac-Vac process or to be Supa-Timba to the Celcure A.ST.2 specification unless it is to be exposed when it shall be treated either by the Vac-Vac process or Supa Timba Ceipruf TK.ST.I. specification. Treatment certificates will be required and all treatment shall be in accordance with the manufacturer's instructions. Treatments internally are to be ozone and bat 'friendly'

SECTION 2 WORKMANSHIP & MATERIALS

LEADWORK

- 2.21.1 Timber repairs to be carried out to provide adequate support to all necessary sections of slating and leadwork, all timber to be sawn, treated soft wood to comply with B.S.5262 Part II, 1984 and to be fixed with galvanised nails, bolts, etc. All rotten areas of timber to be removed and exposed ends to be treated prior to piecing in new sections.
- 2.21.2 Lead should be continuously cast sheet to Agreement Certificate 8611764, available from Midland Lead Manufacturers Limited, Kiln Way, Woodville, Swadlincote, Derbyshire. DE11 8ED. Telephone No. 01283 224 555 Fax 01283 550 284, all laid and fixed strictly in accordance with the current Code of Practice and with the Lead Sheet Association's Guides to Practice.
- 2.21.3 No soldering to be used, except by agreement with the Architect/Supervising Officer for any decorative work.
- 2.21.4 All lead burning and use of oxyacetylene or blowtorches to have a "hot work permit" to be issued by the Architect/Supervising Officer prior to any work commencing on site.
- 2.21.5 All nailing to be in copper or stainless steel with close nailing at 40mm centres and open nailing at 75mm centres and only where appropriate to be laid on approved geotextile layer minimum 210grams/square metre.
- 2.21.6 Lead sheet shall be clean, uniform in thickness and free from cracks and laminations. Sizes and thickness shall be as follows:-

Situation strip	Thickness	Max size of sheet/strip
Flat roofs and tapered gutters.	Code 7	675mm x 2400mm
Soakers	Code 5	to ,suit
Cover flashings	Code 5	150mm x 1650mm
Sacrificial Flashings	Code 5	250mm x 1650mm
Ridge and hip rolls and pitched valleys	Code 6	Width to suit 1500mm max. length
Secret gutters	Code 6	450mm x 1500mm
Box gutters	Code 7 or 8 for	longer runs generally

SECTION 2 WORKMANSHIP & MATERIALS

- 2.21.6 All leadwork shall be well and neatly dressed without injury to the surface. Thermal movement of sheeting must be catered for. Internal and external angles are to be bossed. Joints should be cut, folded and lead - burned where bossing could otherwise result in under thinning of the sheeting. Welts and laps to be formed so as to provide cover in the direction of water flow.
- 2.21.7 Lead tacks shall be 40mm wide in Code 6 lead secret tacks shall be 200mm x 100mm wide strips of Code 6 lead, one end passed through a slot in the boarding and fixed with 2 no. stainless steel raised head screws and washers, one end 100mm long lead burned on all edges to back of sheeting. Clips are to be fixed to boarding with 25mm x 3.5mm copper nails or 25mm x 4.2mm stainless steel screws
- 2.21.8 Drips: 75mm splayed drips with 25mm lap of undercloak nailed at 150mm centres. Overcloak dressed down slope to lower level.
 - Upstands: sheeting trimmed up not less than 150mm above level of the covering and lap ends.
 - Aprons' lead dressed 75mm down face and bottom edge secured with 50mm wide tacks at laps and at 700) mm centres.
 - Soakers: Width should be sufficient to give 100mm under slates and 100mm upstand for specified lap.
 - Wedges: Should be 20mm wide x 20mm finished depth wedge - shaped pieces of lead, driven full depth into groove.
 - Flashings: Should be formed from sheets not more than 1650mm long, with lap intersections not less than I50mm.
 - Cover flashings: Should have welted top edge l2mm, trimmed 20mm into groove and wedged at 600mm centres. Upstands to be lapped by not less than 75mm and bottom edge secured with clips attached at 600mm centres.
 - Sacrificial Should be formed of new or the best of the Flashings: Salvaged lead, and fixed over tapered gutter and under slating for protection form rainwater discharge from slates. The minimum width of exposed face to be 150mm depending upon the position.

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SECTION 2 WORKMANSHIP & MATERIALS

- 2.21.9 Lead sheeting in contact with timber should be bitumen painted on the underside.
- 2.21.10 A geotextile layer is to be provided, minimum 210 grams/square metre, obtained from an approved manufacturer
- 2.21.11 Only the most experienced craftsmen taking the utmost precautions to eliminate the risk of fire starting in the roof timbers should carry out lead burning. All lead burning on roofs is to end 2 hours before the end of the working day and a check is to be made of the condition of adjacent woodwork. A further inspection is to be made by the trade foreman of every area where flame has been used (the wind tunnel flue effect of voids which carry flame to other parts of the building), before the site is vacated at the end of the working day.
- 2.21.12 The security of all lead remains the responsibility of the Contractor from the moment that the scaffolds are erected until completion of the contract.

BASIC PRECAUTIONS

2.22.1 All workmen should be shown the location of fire extinguishers and be told where responsible officials or telephones can be found in the event of an emergency. The local police and fire brigade may require to be advised of the works in progress bearing in mind the secluded and remote position of Lifton Church and difficult access from approach routes.

SMOKING

- 2.23.1 Smoking is to be prohibited if possible and in any event shall never be permitted within the roof space or on the roof.
- 2.23.2 Where permitted it should be confined to clearly defined areas, adequate ashtrays provided and the areas thoroughly inspected at the end of each working day by the foreman or site contractor.

TEMPORARY ELECTRIC WIRING

2.24.1 All temporary electric wiring should comply with the 'Regulations of the Institution of Electrical Engineers. Circuits should be physically disconnected from the main supply at the end of the day even where the mains switch is turned off at night.

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WASTE MATERIALS

2.25.1 These should be clearly removed from site such as paper, straw, crates and other flammable waste material. The day on which local refuse collection takes place needs to be established by the main contractor.

BLOW LAMP. AND HOT WORK

- 2.26.1 Provision. should be made for gas cylinders, paints, oil., liquid. used for curing attack by beetles or rot and any other flammable building material. to be stored in a well-ventilated and protected area, preferably well away from the building.
- 2.26.2 If spraying of roof timbers is undertaken, this should only be done in a well-ventilated atmosphere. Smoking in the area ,shall be prohibited and all forms of heating switched off until work is complete and the area has been inspected by the foreman.

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WORKMANSHIP & MATERIALS

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SECTION 3

TOWER

EXTERNAL FACES

- 3.2.1 Remove all vegetation together with any roots and ensure masonry face is free of any potential future growth.
- 3.2.2 Carefully remove loose stones, in isolated areas, where mortar has washed away etc and set aside and store for re-fixing. Clear out joints of any debris, loose mortar and reset existing stones taken from store in lime mortar as described. (An area of approximately 6square metres) (PROVISIONAL).
- 3.2.3 Rake out and carefully re-point in lime mortar as described faces of tower masonry walls. (An area of approximately 210 square metres) (PROVISIONAL).
- 3.2.4 Rake out and carefully re-point in lime mortar as described faces of tower buttresses. (An area of approximately 160 square metres) (PROVISIONAL).

PARAPET

- 3.2.5 Number and record stonework forming embattlemented parapet.
- 3.2.6 Re-point in lime mortar as described parapet wall. (An area of approximately 15square metres). (PROVISIONAL)
- 3.2.7 Re-point in lime mortar as described capping stones. (Approximately 18 No. stones) (PROVISIONAL)
- 3.2.8 Remove all defective render from back of parapet upstand wall and render in 2 coat lime based mortar overall to receive and apply 6 no. coats of limewash shelter coat. (An area of approximately 40 square metres).

Carried to Summary £.

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SECTION 4 TOWER ROOF

TOWER ROOF

This section is based on a limited inspection at the time of the survey. Consequently this entire section is PROVISIONAL and will be reassessed when the contractor is on site and adequate ladders etc available.

Spire and Main Roof

Preamble

The oak members have suffered from attack by death watch 4.1.1beetle. At the time of the survey access for close inspection was limited. Accordingly provisional amounts are included to cover this work. Allow the provisional amount of £ 1000.00 (one thousand pounds) 4.1.2 for Boron treatment of beetle infested timbers to be expended in £ 1000.00 whole or in part as directed by the Architect/Supervising Officer. Allow the provisional amount of £ 1000.00 (one thousand pounds) 4.1.3 for remedial work to the spire and main roof to be expended in whole or in part as directed by the Architect/Supervising Officer.

- 4.2.1Strip existing lead-work and rolls and clear away and give credit (size overall approximately 5.25 metres x 6.7 metres).
- Carefully strip existing lead cloak to head of turret stair, clear 4.2.3 away and give credit.
- Carefully strip existing lead band to turret, clear away and give 4.2.4 credit.
- Carefully take up defective boarding and any defective support 4.2.5 members and clear away and provide and lay 25 mm plain edge boarding and fixing using stainless steel screw to existing bearers (Allow an area of 40% of area of tower). PROVISIONAL
- Allow the sum of £ 200.00 (Two hundred pounds) for remedial 4.2.6 work to existing bearers to be expended in whole or in part as directed by the supervising officer.
- Lay 25 mm pressure impregnated plain edged softwood boards 4.2.7 laid down direction of slope on and including 50 mm x 25 mm pressure impregnated firrings, screwed with stainless steel screws on existing boarding. The resulting central gutter depth to be minimum 75 mm. (size overall approximately 5.25 metres x 6.7 metres).
- Reform existing gutter to provide minimum 300 mm width 4.2.8 including any additional pressure impregnated bearers required and renewing tilting fillets. (Length approximately 6.7 metres)

Carried to Collection £

£ 1000.00

£.

£ 200.0

SECTION 4 TOWER ROOF

- 4.2.9 Lay Code 8 lead to flat roof in bay widths not to exceed 1000 mm laid on geotextile felt minimum 210 grams/square metre and including forming mopstick rolls (size overall approximately 5.25 metres x 6.7 metres).
- 4.2.10 Dress lead-work down into gutter to form 60mm drip having 50mm splash lap.
- 4.2.11 Lay geotextile felt minimum 210 grams/square metre and Code 8 lead gutter. Splash laps to drips to be not less than 50mm. (Size approximately 6.7 metres long x 300 mm wide)
- 4.2.12 Dress code 8 lead-work down to form steps minimum 75 mm deep and provide 50 mm splash lap
- 4.2.13 Provide Code 5 lead flashing to parapet walls including cutting chase min 75 mm deep and dressing lead into chase and fixing with lead clips including pointing in cement lime mortar.
- 4.2.14 Provide sacrificial lead to match existing made out of salvaged lead from the flat roof.
- 4.2.15 Sacrificial lead to be tack soldered to prevent slipping.
- 4.2.16 Rake out and carefully re-point in 2:5lime mortar as before described between all parapet coping stones.

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SECTION 5 RE-POINTING OF WALLS AND REMEDIAL WORK TO WINDOWS

SOUTH WALL EAST END

- 5.1.1 Remove all vegetation together with any roots and ensure masonry face is free of any potential future growth.
- 5.1.2 Carefully remove loose stones, in isolated areas, where mortar has washed away etc and set aside and store for re-fixing. Clear out joints of any debris, loose mortar and reset existing stones taken from store in lime mortar as described. (An area of approximately 6square metres) (PROVISIONAL).
- 5.1.3 Rake out and carefully re-point in lime mortar as described faces of masonry walls. (An area of approximately 60 square metres)).
- 5.1.4 Rake out and carefully re-point in lime mortar as described faces of buttresses. (An area of approximately 20 square metres).
- 5.1.5 Careful rake out joint around stone window dressing to three windows and re-point in lime mortar as described.
- 5.1.6 Careful rake out joint around stone door dressing and re-point in lime mortar as described.

SOUTH WALL WEST END

- 5.1.7 Remove all vegetation together with any roots and ensure masonry face is free of any potential future growth.
- 5.1.8 Rake out and carefully re-point in lime mortar as described faces of masonry walls. (An area of approximately 50 square metres)).
- 5.1.9 Rake out and carefully re-point in lime mortar as described faces of buttresses. (An area of approximately 15 square metres).
- 5.1.10 Careful rake out joint around stone window dressing and re-point in lime mortar as described.

STAIRWELL TO TOWER

- 5.1.11 Remove all vegetation together with any roots and ensure masonry face is free of any potential future growth.
- 5.1.12 Rake out and carefully re-point in lime mortar as described faces of masonry walls. (An area of approximately 10 square metres).

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SECTION 5 RE-POINTING OF WALLS AND REMEDIAL WORK TO WINDOWS

5.1.13 Rake out and carefully re-point in lime mortar as described faces of buttresses. (An area of approximately 5 square metres).

WEST END WALL

- 5.1.14 Remove all vegetation together with any roots and ensure masonry face is free of any potential future growth.
- 5.1.15 Rake out and carefully re-point in lime mortar as described faces of masonry walls. (An area of approximately 20 square metres)).
- 5.1.16 Rake out and carefully re-point in lime mortar as described faces of buttresses. (An area of approximately 10 square metres).
- 5.1.17 Carefully remove acrylic covering to rose window
- 5.1.18 Allow the provisional amount of £500.00 (five hundred pounds) for remedial work to rose window to be expended in whole or in part as directed by the supervising officer.

£ 500.00

NORTH WALL WEST END

- 5.1.19 Remove all vegetation together with any roots and ensure masonry face is free of any potential future growth.
- 5.1.20 Rake out and carefully re-point in lime mortar as described faces of masonry walls. (An area of approximately 30 square metres)).
- 5.1.21 Rake out and carefully re-point in lime mortar as described faces of buttresses. (An area of approximately 10 square metres).
- 5.1.22 Careful rake out joint around stone window dressing and re-point in lime mortar as described.

NORTH TRANSEPT, WEST WALL

- 5.1.23 Remove all vegetation together with any roots and ensure masonry face is free of any potential future growth.
- 5.1.24 Rake out and carefully re-point in lime mortar as described faces of masonry walls. (An area of approximately 20 square metres)).
- 5.1.25 Rake out and carefully re-point in lime mortar as described faces of buttresses. (An area of approximately 35 square metres).
- 5.1.26 Flaunch top sloping surface of buttress in lime mortar (an area of approximately 5 square metres)

Carried to Collection £

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SECTION 5 RE-POINTING OF WALLS AND REMEDIAL WORK TO WINDOWS

£.

NORTH TRANSEPT, WEST WALL

- 5.1.27 Remove all vegetation together with any roots and ensure masonry face is free of any potential future growth.
- 5.1.28 Rake out and carefully re-point in lime mortar as described faces of masonry walls. (An area of approximately 10 square metres)).
- 5.1.29 Careful rake out joint around stone window dressing and re-point in lime mortar as described.
- 5.1.30 Allow the provisional amount of £ 1,200) one thousand two hundred pounds) for remedial works to stone surrounds and mullions to windows to be expended in whole or in part as directed by the supervising officer.

£ 1,200.00

NORTH TRANSEPT, EAST WALL

- 5.1.31 Remove all vegetation together with any roots and ensure masonry face is free of any potential future growth.
- 5.1.32 Rake out and carefully re-point in lime mortar as described faces of masonry walls. (An area of approximately 15 square metres)).
- 5.1.33 Rake out and carefully re-point in lime mortar as described faces of buttresses. (An area of approximately 35 square metres).
- 5.1.34 Flaunch top sloping surface of buttress in lime mortar (an area of approximately 5 square metres)

LADY CHAPEL, WEST WALL

- 5.1.35 Remove all vegetation together with any roots and ensure masonry face is free of any potential future growth.
- 5.1.36 Rake out and carefully re-point in lime mortar as described faces of masonry walls. (An area of approximately 10 square metres)).
- 5.1.37 Careful rake out joint around stone window dressing and re-point in lime mortar as described.
- 5.1.38 Allow the provisional amount of £ 600.00 (six hundred pounds) for remedial works to stone surrounds and mullions to windows to be expended in whole or in part as directed by the supervising officer.

£ 600.00

SECTION 5 RE-POINTING OF WALLS AND REMEDIAL WORK TO WINDOWS £. EAST WALL Remove all vegetation together with any roots and ensure 5.1.39 masonry face is free of any potential future growth. Rake out and carefully re-point in lime mortar as described faces 5.1.40 of masonry walls. (An area of approximately 30 square metres)). Careful rake out joint around stone window dressing and re-point 5.1.41 in lime mortar as described. Allow the provisional amount of £ 1,200) one thousand two 5.1.42 hundred pounds) for remedial works to stone surrounds and mullions to windows to be expended in whole or in part as directed by the supervising officer. £ 1,200.00 COLLECTION Page Number 34

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Carried to Summary £

SCHEDULE OF WORKS OF REPAIR

SECTION 6 RAINWATER DISPOSAL SYSTEM

6.1.1 Rainwater guttering and down pipes comprise mixed section half £. round cast iron guttering (size approximately 100 mm and 120 mm) and 100 mm diameter cast iron rainwater pipes .

Work to be carried out

- 6.2.1 Carefully remove all rainwater guttering and inspect to identify any splits or cracks (a length of approximately 38 lineal metres).
- 6.2.2 Carefully remove all rainwater pipes and inspect to identify any splits or cracks (a length of approximately 24 lineal metres).
- 6.2.3 Allow for replacement 90 mm diameter down pipes to match existing (a length of approximately 6 lineal metres) PROVISIONAL
- 6.2.4 Allow for replacement 150 mm half round guttering to match existing (a length of approximately 12 lineal metres) PROVISIONAL
- De-scale and' repaint I no. coat red lead oxide. I no. undercoat and 6.2.5 1 no. coat gloss to outside surfaces, and 2 no. coats red lead oxide to inner surfaces to guttering.

SOUTH ELEVATION

- 6.3.1 Check supporting gutter brackets and eases and realign as necessary. Re-fix guttering and recheck alignment. (a length of approximately 26 lineal metres)
- 6.3.2 Re-fix down-pipes. (a length of approximately 12 lineal metres) and ensure discharge into gullies.

NORTH ELEVATION, NORTH TRANSEPT & LADY CHAPEL

- 6.4.1 Check supporting gutter brackets, ease and realign as necessary. Re-fix guttering and recheck alignment. (A length of approximately 22 lineal metres) (PROVISIONAL)
- 6.4.2 Re-fix down-pipes. (a length of approximately 12 lineal metres) and ensure discharge into gullies. (PROVISIONAL)

Carried to Summary £

CECTION -		6
SECTION 7	INTERNALLY	L.
Entrance porc	:h	
7.1.1	Carefully rake out and re-point in lime mortar as described vertical crack masonry walls. (A length of approximately 1 lineal metre).	
Stair Well to T	ower	
7.2.1	Carefully rake out and re-point in lime mortar as described access steps to tower.	
Ringing Cham	iber	
7.3.1	Carefully rake out and re-point in lime mortar as described access steps to ringing chamber.	
7.3.2	Make good stone dressing where damaged by the removal of electricity cables.	
7.3.3	Allow the provisional amount of \pounds 200.00 (two hundred pounds) for Boron treatment of beetle infested timbers to be expended in whole or in part as directed by the Architect/Supervising Officer.	ž 200.00
Bell Chamber		
7.4.1	Allow for removing approximately 40% of the floor timbers affected by beetle attack and replacing with new Tanalised timber of similar section. (PROVISIONAL).	
7.4.2	Carefully take down lifting beam infected by beetle attack and wet rot and replace with new tanalised softwood.	
7.4.3	Allow the provisional amount of £ 400.00 (four hundred pounds) for Boron treatment of beetle infested timbers to be expended in whole or in part as directed by the Architect/Supervising Officer.	£ 400.00
7.4.4	Carefully wire brush iron bell frame and apply two coats ed lead or other approved primer to surfaces of frame.	2 100.00
Chancel		
7.6.1	Carefully cut out lose damaged or defective internal rendering in small areas and renew with lime mortar render to match existing. (an area of approximately 12 square metres) (PROVISIONAL).	
7.6.2	A surface sample from original rendering (where this can be properly detected) should be sent for analysis early on to St. Blaise Conservation Limited, Westhill Barn, Evershot, Dorchester, Dorset, DT2.OLD (0935) 83662/3. Fax (0935) 83011 and for which the Provisional Sum of £150.00 (one hundred and fifty pounds) is to be included in the tender and to be expended in whole or in part	

£ 150.00

Carried to Collection £

as directed be the Architect/Supervising Officer.

THE CHURCH OF AL	L HALLOWS, RINGN	MORE, DEVON		£.
SECTION 7		INTERNALLY		
Vestry				
7.7.1	Allow the provi for Boron treat in whole or in p Officer.	sional amount of £ 300.00 (ment of beetle infested furni part as directed by the Archit	three hundred pounds) shings to be expended ect/Supervising	£ 300.00
			Carried to Collection f	
COLLECTION				
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			Carried to Summary £	

SECTION 8 CONSTRUCTION DESIGN & MANAGEMENT REGULATIONS 1994

Architects & Surveyors PO BOX 27, LIFTON, DEVON PL16 0YD

CONSTRUCTION (DESIGN AND MANAGEMENT) REGULATIONS 1994

SMALL PROJECTS - STAGE - INITIAL HEALTH AND SAFETY PLAN

THE CHURCH OF ALL HALLOWS, RINGMORE, DEVON

This form has been completed by the Planning Supervisor and passed to the Principal Contractor.

1. Nature of Project:

Name of Client:	THE PAROCHIAL CHURCH COUNCIL OF THE CHURCH OF ALL HALLOWS C/O MRS JACQUELINE PEARSON WALNUT TREE COTTAGE RINGMORE KINGSBRIDGE DEVON TQ7 4HL		
Local Contact Point:	THE CHURCH HOUSE RINGMORE KINGSBRIDGE DEVON TQ7 4HR		
Local Contact Name:	THE REV. D MATTEN		
Telephone:	TBA		
Project Reference:	THE CHURCH OF ALL HALLOWS, RINGMORE, DEVON		
Location of Project:	RINGMORE, DEVON		
Nature of Construction Work:			
	CARRY OUT REPAIRS TO SLATE ROOFS, RE-POINT EXTERNAL WALLS AND REPAIRS STONE WORK TO WINDOWS.		
	RE-POINT EXTERNAL WALLS.		
	TO OVERHAUL, REPAIR AND PROVIDE SOME ADDITIONAL RAINWATER GOODS.		
	STRIP TOWER ROOF AND ROOF TO NORTH PORCH, ESTABLISH EXTENT OF ANY DEFECTIVE TIMBERS, RENEW DEFECTIVE LEAD ROOF INCLUDING ROLLS AND GUTTER.		
	CARRY OUT MINOR REPAIRS WITHIN THE CHURCH INCLUDING TIMBER PRESERVATION TREATMENT TO TIMBERS SUFFERING FROM BEETLE ATTACK.		
Anticipated time Scal	e for the execution of these works:		
	TO BE CONFIRMED WITHIN SIX WEEKS OF RECEIPT OF TENDER		

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CONSTRUCTION (DESIGN AND MANAGEMENT) REGULATIONS 1994

SMALL PROJECTS - STAGE - INITIAL HEALTH AND SAFETY PLAN

The Design.

Key site/significant hazards and sequences of work include:

Erection, maintenance, working from, and removal of, scaffolding access and protection to the external elevations, roof and the Tower roof. Also to include the provision of handrails and the like for roof access and working around chimneys.

Working areas need to be secure from unauthorised persons. It is considered a substantial positive barrier would be appropriate. The Contractor should send his proposals in this area of activity for approval when submitting his tender.

Protection and safety of the Rector, Church Wardens and Church support personnel and visitors to the church buildings for the duration of the contract.

Removal of existing roof slates together with any redundant lead work and flashings etc.

The slaking of lime and preparation of lime mortar

Removal of paint from existing surfaces - note - existing paint may contain lead.

Burning off old paintwork.

Repairs to broken windows and to defective pointing.

Safety and security of the Site and all scaffolding from public access.

Scaffolding and towers together with protective covering to be erected by competent and trained personnel.

Safety of users of the building during entry and exit, occupancy of the building, maintenance of all fire exit escape routes.

All power tools to be rated at 110V and tested at regular intervals.

Provision of toilet and welfare facilities for site operatives.

Whilst none is envisaged as a consequence of this contract, there may be a possibility that Asbestos has been used in this building. If any material containing Asbestos is encountered by the Contractor during the execution of the Contract the Contractor must immediately bring this to the attention of the Planning Supervisor.

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CONSTRUCTION (DESIGN AND MANAGEMENT) REGULATIONS 1994

SMALL PROJECTS - STAGE - INITIAL HEALTH AND SAFETY PLAN

8. Items for inclusion in site rules:

- 1. No unauthorised persons to be present on site.
- 2. No unauthorised work to take place on site.
- All access ladders to be stored in secure area at the end of each working day.
- This is a non-smoking area.
- Any use of flame or heat must be on a 'permit to work' basis and be copied to the Planning Supervisor. Any such work must not be carried out within two hours of the end of the working day.
- No contaminated water from the works is to enter the drainage system.
- A Site Register is to be maintained by the Main Contractor. The Site Register is to be available for inspection by the Employer at all times.

9. Continuing Liaison

The Contractor must make himself aware of other activities on the Site and Liase with the Church Wardens on all health and safety maters.

Unforeseen incidents during the progress of the contract works should be immediately reported to the 'Planning Supervisor' for assessment with regard to Health and Safety matters

Signed.... Planning Supervisor MSW Conservation

Date.....

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CONSTRUCTION (DESIGN AND MANAGEMENT) REGULATIONS 1994

SMALL PROJECTS - STAGE - INITIAL HEALTH AND SAFETY PLAN

PLEASE COMPLETE THE FOLLOWING AND CONTINUE ON A SEPARATE SHEET IF NECESSARY

1.	Name of Company:	
2	Address:	
3.	Telephone:	

Contact Name:

- Please state the number of years your Company has been established in Business as a construction contractor:
- Please state any professional institutions to which your Company belong or is affiliated:

 Please provide details of any quality assurance procedures to which your Company works:

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CONSTRUCTION (DESIGN AND MANAGEMENT) REGULATIONS 1994

SMALL PROJECTS - STAGE - INITIAL HEALTH AND SAFETY PLAN

12. Please confirm what training has been given to your managers and supervisors with reference to the requirements of the CDM Regulations:

 Please state how your Company would develop and maintain outline health and safety Plans for particular projects under the requirements of the CDM Regulations:

 Please indicate the measures taken by your Company to monitor Health and Safety on contracts including sub contractors:

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CONSTRUCTION (DESIGN AND MANAGEMENT) REGULATIONS 1994

SMALL PROJECTS - STAGE - INITIAL HEALTH AND SAFETY PLAN

 Please provide the following information for the past three financial years.

NUMBER OF REPORTABLE ACCIDENTS

NUMBER OF FATALITIES

NUMBER OF DANGEROUS OCCURRENCES

NUMBER OF HSE IMPROVEMENT NOTICES

NUMBER OF PROHIBITION NOTICES

NUMBER OF CONVICTION OFFENCES UNDER

199	199	199
		-

You should include figures for any sub contractors working on your sites that were under your control

Please give details of membership and involvement with Occupational Safety Groups

SUMMARY

Section 1.	Preliminaries & General Clauses	Page Number	14	
Section 2.	workmanship & Materials	Page Number	30	
Section 3.	Tower	Page Number	31	
Section 4.	Tower Roof	Page Number	33	
Section 5.	Re-pointing of Walls & Remedial works to Windows	Page Number	37	
Section 6.	Rainwater disposal Installation	Page Number	38	
Section 7.	Internally	Page Number	47	
Section 8.	Construction Design & Manageme	ent Regulations 19	994	

Carried to Form of Tender £

Schedule of Provisonal Amounts

Page 14	Item 32.01	Contingencies	£2	2000.00
Page 20	Item 2.9.1	Mortar Analysis	£	150.00
Page 32	Item 4.1.2	Tower roof Boron treatment	£	1000.00
Page 32	Item 4.1.3	Tower spire & roof remedial work	£	1000.00
Page 32	Item 4.2.6	Tower roof bearers	£	200.00
Page 35	Item 5.1.18	West end wall rose window	£	500.00
Page 36	Item 5.1.30	North Transept Window repairs	£١	200.00
Page 36	Item 5.1.38	Lady Chapel Windows repairs	£	600.00
Page 37	Item 5.1.42	East wall Window repairs	£١	200.00
Page 39	Item 7.3.3	Ringing Chamber Boron treatment	£	200.00
Page 39	Item 7.4.3	Bell Chamber Boron treatment	£	400.00
Page 39	Item 7.6.2	Chancel render analysis	£	150.00
Page 40	Item 7.7.1	Vestry Boron treatment	£	300.00