SPECIFICATION

for

NEW TERNE-COATED STAINLESS STEEL ROOF TO THE TOWER, IMPROVED ACCESS & ANCILLARY REPAIRS

at

CHURCH OF ST. PETER
Milton Bryan

BEDFORDSHIRE

Michael Dales Partnership Limited

95, Sharpenhoe Road,

LUTON,

Bedfordshire LU3 3PS

SPECIFICATION
for
WORKS TO BE DONE AND MATERIALS TO BE USED
in connection with the
NEW TERNE-COATED STAINLESS STEEL ROOF TO THE TOWER & IMPROVED ACCESS

CHURCH OF ST PETER
Milton Bryan
Bedfordshire.

February 2022

1 PRELIMINARIES

1.1 The Employer is:

Milton Bryan PCC
c/o Kelvin White
4 Church End
Milton Bryan
Bedfordshire
MK17 9HR

1.2 The Architect & Principal Designer is:

Michael Dales Partnership Limited
95 Sharpenhoe Road,
Streatley,
LUTON,
Bedfordshire,
LU3 3PS

Telephone number 01582 881210

1.3 Works comprise:
Removal of the existing failing roof structure, bitumastic lead covering and gutters and replacement with a modern roof structure with batten-roll terne-coated stainless steel covering.
Removal of the existing fixed vertical ladder in the bell chamber and provision of safer ladder access and platform and provision of a new access hatch.
High-level stone and mortar repairs to the tower.

Repointing and mortar repairs to the nave gable end.
Replacement ridge tile to the nave roof.

1.4 The works will be inspected by and are to be carried out to the satisfaction of the Architect.

1.5 The works to be carried out as shown detailed in this specification, as shown on Architects drawing no. 1827/1-001, 1827/1-002A, 1827/1-010, 1827/1-011, 1827/1-012, and in accordance EIG Insurance Scaffolding Checklist requirements.

1.6 The Contractor is advised to visit the site prior to the submission of his Tender to inspect the building, the means of access and the site conditions.

1.7 The Contractor will be required to ensure that all activities related to this building contract are strictly confined within the boundaries of the site and the area identified within the site.

1.8 Externally the Contractor is to make a compound using security fencing to protect the public from the works and the works from the public.

1.9 The Contractor shall ensure that the security of the works is maintained at all times during the works.

1.10 The Contractor shall allow in his tender for any inconvenience, uneconomic working. The Contractor should allow for shorter working days in relation to hot work and to setting times in relation to lime mortar and lime-wash.

1.11 The form of Contract under which the works are to be executed will be the JCT Minor Works Building Contract 2016.

1.12 Tenders are to remain open for acceptance for a period of not less than 90 days from the date fixed for the submission of tenders.

1.13 The following are the Clause numbers and headings of the Conditions of the Contract and the Contractor is to allow in his Tender for observing the full text of each Condition.

4th Recital & Schedule 2	Tender date shall be base date
4th Recital & Clause 4.2	Employer is not a contractor
5th Recital	CDM regulations The architect will be appointed Principal Designer
6th Recital	Framework Agreement is not applicable.
7th Recital & Schedule 3	Collaborative working applies.

	Health and safety shall apply. Cost savings and value improvement shall apply. Sustainable development and environmental considerations shall apply. Performance indicators shall not apply. Notification of disputes applies. Employer and Contractor to complete to show their respective nominees
Article 7	Article 7 and Schedule 1 shall apply.
Clause 1.1	CDM planning period shall commence 14 days prior to work commencing.
Clause 2.2	Will be completed to indicate that the works will be commenced and shall be completed by the dates shown on the Form of Tender.
Clause 2.8	Will be completed to show the sum of £300.00 per week.
Clause 2.10	Will be completed to show a rectification period of 12 months
Clause 4.3	Will be completed to show 95%.
Clause 4.4	Will be completed to show 97.5%.
Clause 4.8.1	Shall be completed to show 3 months.
Clause 4.11 & Schedule 2	Shall be deleted (Fluctuations Option does not apply) Percentage addition shall be completed to show Nil.
Clause 5.3.2	Shall be completed to show that the contractor shall indemnify the Employer in the sum of not less than £5,000,000.00 .
Clause 5.4A	Shall be deleted
Clause 5.4B	Shall apply
Clause 5.4C	Shall be deleted

Clause 5.4A.1 & 5.4B.1.2 Shall be completed to show 15%

Clause 7.2 Adjudicator or arbitrator shall be appointed by RIBA

The date of practical completion will be the date certified under clause 2.9

1.14 The Employer, Contractor and any Sub-Contractor shall produce evidence to the Architect to show that the insurances referred to in the contract have been taken out and are in force at all material times.

All existing structures, contents, also the works and unfixed materials and goods (except Contractor's sheds, plant, tools and equipment) shall be at the sole risk of the Employer as to the loss or damage by the perils listed in the Contract. The Employer shall maintain insurance against those risks, including any necessary demolition and removal of any debris, for the full reinstatement value concerned plus 15% for fees.

The Contractor must Indemnify the Employer against all liabilities, loss, claim, expense or proceedings whatsoever, in respect of damage to the Church arising out of the negligent use of blow lamps, lead burning torches, welding equipment and any other apparatus. The Contractor must also cause any sub-Contractor to maintain insurance against all liability of the aforesaid risks.

1.15 In addition to the above the following precautions are also to be put into force in accordance with the requirements of the EIG scaffolding checklist appended to this specification:

a) Where any external tower scaffolding or platforms are used it is essential that they are dismantled at the end of each working day.

b) All lower level access ladders to permanent scaffolding are to be removed from the site or locked in the Church (if agreed with Employer) at the end of each working day.

c) The lowest platform of any scaffolding must be a minimum of 3 metres above ground level.

d) A secure compound a min of 4m high in corrugated iron sheet with a lockable access door is to be maintained around any works carried outside the existing building.

e) The scaffolding is to be protected by a scaffolding alarm system installed in accordance with the NSI Code of Practice for the design, installation and maintenance of scaffolding alarm systems NCP 115, combining notification locally

by an instantaneous audible device activation together with notification to a permanently manned alarm receiving centre conforming to BS 5979 or BS EN 50518 via a minimum Grade 2 alarm transmission system under BS EN 50136. The system must be designed to utilise combined PIR detectors and cameras to detect unauthorised movement. Images from devices must be reviewed by the manned alarm receiving centre and action taken if unlawful activity is identified.is to be provided for the duration of the works. The system will be installed and maintained by a company on the official list of recognised firms of the NSI or SSAIB Inspectorate bodies and must also appear on the local police force list of compliant companies.

1.16 Tendering Procedure: Competitive tenders will be invited based upon the detailed drawings and this Specification. When considering the tenders submitted the Employer will take into account the dates quoted for commencement and completion of the works in addition to the tender sum.

The Employer does not bind themselves to accept the lowest or any Tender. No remuneration will be paid for the preparation of Tenders.

1.17 Programme. The contractor's suggested programme for the works is to be submitted with his tender and will be taken into account by the Employer when considering which tender to accept. The subsequently agreed programme will form part of the contract documents.

During the course of the Works the programme shall be regularly marked up to show the actual progress of works for inspection by the Architect.

Similarly within fourteen days after the signing of the Contract the Contractor shall submit to the Architect a priced copy of this Specification with each item priced to show the cost of the work described. This priced copy of the Specification will not be treated as a Bill of Quantities and will be used only for assessing the value of work in progress and the cost of any variations.

Two copies of any drawings (not counting any certified copy of the contract drawings) will be issued to the Contractor free of charge. Extra copies will be issued on request, but will be charged to the Contractor.

1.18 Do not scale from the drawings. All dimensions should be checked on site or with the Architect. Any significant discrepancies should be notified to the Architect.

1.19 The Contractor is required to present his Application for Payment in the following manner:

Spec Item	Detail	Cost in Priced Spec.	% complete	Valuation

1.20 The Contractor will be required to provide proper on-site supervision of the Works throughout the whole period of the Contract by the employment of a Site Foreman, (or other suitable person). The Foreman shall not be removed from the site or replaced without the written consent of the Architect.

The Architect will make frequent inspections of the work in progress. The Contractor is to notify the Architect if he is to be off-site.

The words "supply", "provide", or "provide and fix", in this Specification are to be taken to assume that the Contractor will include all the labour and materials required to complete the operation described.

The work "approved" is to be taken to mean approved by the Architect.

The Contractor is to provide everything necessary in the way of materials, tools, plant and labour for the proper and complete execution of the Works involved in the Contract according to **the intent and meaning of the drawings and this Specification providing that this can be reasonably inferred from either**.

The absence of a description of work or materials or fittings or an Estimated Cost in the priced copy of this Specification submitted by the Contractor in compliance with Clause 1.15 shall not vitiate the requirements of this Clause.

1.21 The quality of materials and products to be used for the works shall not be less than described in the appropriate British or European Standard Specification.

Where work is shown or described to be in accordance with a Code of Practice the Contractor shall ensure that the recommendations of the Code of Practice are complied with in all respects.

Workmanship shall in all cases be in accordance with the best methods recognised throughout the trade.

1.22 Materials and work likely to deteriorate if left exposed must be kept undercover and/or protected.

Similarly the Contractor shall protect completed works to prevent damage by following trades.

1.23 The Contractor shall accept delivery of all materials to the site and shall ensure that they are of the quality and quantity specified, in proper condition at the time of delivery and properly stored until fixed.

1.24 Where appropriate the Contractor shall be responsible for serving the Notices on the Local Authority when work on site is commenced and at the appropriate times as the Works

proceed and upon completion. Where appropriate the Contractor will be required to obtain a Notice of Satisfactory Completion of the Works from the Local Authority. Where appropriate the Contractor shall also be responsible for the service of any other Statutory Notices required as a result of him carrying out the Works. The Contractor shall pay all charges due in respect of same.

1.25 The Contractor may make use of the Employer's power and water supplies.

1.26 The Contractor shall attend upon, cut away for and make good after all trades and domestic and Nominated Sub-Contractors.

1.27 The Contractor is to provide secure site office and storage accommodation and toilet facilities for the use of the site staff and operatives and is to pay all rates and charges due in respect of any temporary buildings erected for the Works.

1.28 Upon completion of the Works the Contractor shall leave the whole of the Works clean and in proper condition. The Contractor shall clear away all temporary buildings and re-instate any area of the site affected by same.

1.29 The Contractor shall be responsible for checking any dimensions on the site and shall advise the Architect of any discrepancies found.

1.30 **Include the sum of 10% of the total cost of Prelims and Schedule of work for Contingencies to be used in whole or in part as directed by the Architect. The whole or any part of the Contingency sum not so used shall be deducted at the settlement of the Account.**

HEALTH AND SAFETY

1.31 The Contractor shall ensure that he, his employees, sub-contractors and visitors to the site at all times observe the relative standards and codes of practice for health and safety where building work is carried out.

In particular where work is carried out on scaffolding at high level industrial safety helmets to BS5240 are to be worn, masks are worn where dust is being created and ear defenders where noise is generated.

All visitors to the site are to be provided with safety helmets should they require them.

1.32 The Contractor shall allow for observing the full implications of the Employers health and safety policy together with current requirements for CDM Regulations and the Principal

Designer's Pre Construction Health and Safety File. The Contractor shall be appointed as the Principal Contractor, and carry out all requirements in fulfilment of the role as defined under the regulations. NOTE: all CDM documentation must be completed before the issue of a Final Certificate.

The proposed works are not considered to be notifiable as they are likely to involve less than 500 man days. The contractor shall notify the principal designer should this situation change and the works become notifiable.

FIRE PRECAUTIONS

1.33 Take all necessary precaution to prevent nuisance to public on and off site from smoke, dust, rubbish and other causes.

The contractors shall provide and maintain on site appropriate fire extinguishers for the duration of the works.

The Contractor is to take all reasonable measures to prevent loss or damage by fire. All workmen should be shown the location of fire extinguishers and are to be told where telephones can be found in the event of an emergency. Where work involving the use of blow-lamps, lead burning torches or any other flame producing apparatus it should be carried out under close supervision. 2 No. 2 gallon water type extinguishers should be kept in close proximity to the apparatus. All parts of the Church fabric where a heating process has been carried out must be given a final inspection two or three hours after work has ceased for the day. The Contractor should make due allowance within his tender for shortened working days where this applies.

1.34 **Smoking is prohibited on the site.**

The playing of radios during the working day will not be permitted except with the express permission of the Employer's representative. The Contractor, his sub-Contractors and operatives should bear in mind the purpose of the building and behave in an appropriate manner at all times.

Any electrical contractor shall have **N.I.C.E.I.C Approved Contractor Status**. Any temporary electrical wiring should comply with N.I.C.E.I.C. Regulations and should be disconnected at the end of each working day. All waste material should be removed from the site at the earliest opportunity. Where any fittings are specified and they arrive in packaging the packaging should be removed outside the Church and disposed of. No bonfires or disposal of packaging or waste material should be carried out on site.

1.35 The storage of inflammable materials shall be outside the Church and well away from the building.

INSURANCE

1.36 Dependent upon the type and extent of the 'hot work' it may be prudent to notify Insurers of the work and seek their approval of safety precautions put in place.

PROTECTION

1.37 Every effort is to be made to prevent damage to existing building fabric, fences, walls, gates, paving, trees and shrubs and other features which are to remain in position during the execution of the works.

The Contractor shall provide and fix all and any necessary temporary casings, boards, sheets etc. to ensure this.

1.38 The Contractor shall take adequate measures to ensure that rainwater gutters, hoppers, downpipes and drains are not blocked or choked as a result of the works. Where appropriate the Contractor shall take such measures as necessary for diverting rainwater temporarily for the protection of the building and its contents.

AUTHORITY

1.39 All works are to have been approved by the Diocesan Advisory Board and have received a Faculty prior to work commencing on site. Where special or urgent circumstances occur the Contractor shall advise the architect who will enquire whether a licence may be required to proceed.

1.40 Where day work is carried out, each time-sheet and invoice is to be signed by the Foreman as correct and is to refer to the Architect's Instruction for the work. Day works only to be carried out with authority of Architect.

Completed day-work sheets will only be considered for acceptance if submitted within seven working days.

All additional works or variations shall be valued at rates comparable with those used in the tender process.

1.41 Where work is to be carried out and is to be concealed a minimum of 24 hours notice is to be given to the Architect in order that an opportunity for an inspection may occur.

THE WILDLIFE AND COUNTRYSIDE ACT 1981 AND CONSERVATION (NATURAL HABITATS ETC) REGULATIONS 1994

1.42 This Act gives very full protection to bats because of their special requirements for roosting. It is illegal not only to intentionally kill, injure or handle any bat, but also intentionally damage or destroy or obstruct access to any place that a bat uses for shelter or to disturb a bat whilst it is occupying such a place. In this context "damage" means make worse for a bat and so includes such operations as chemical treatment of timbers. The Act provides defences so that building, maintenance or remedial operations can be carried out in places used by bats.

It is important that all contractors and subcontractors under this specification and contract notify the Bats Conservation Trust. Their Contact details are 0845 1300 228 email enquiries@bats.org.uk so they can decide if the building is inhabited by bats. Failure to comply with this Act could render the Contractor liable for heavy fines.

No work is to proceed without written confirmation from the Architect.

Note: Due to the nature of the works, the works must be carried out between 31st October and 31st March when bats are least active. The advice regarding bats outlined in Natural

England's report to Kelvin White (churchwarden) must be strictly adhered to by the contractor.

1.43 NOTE: No organochlorine woodworm killers are to be used where bats are in evidence. Synthetic pyrethroid insecticides such as permethrin and cypermethrin can be permitted if used by an approved timber treatment.

GENERAL PROCEDURES

1.44 The Contractor, sub-Contractors and all operatives must bear in mind that the Church will remain in use during the works and that the programme of works must be agreed with the church administrator who will acquaint the Foreman with any need to stop work during a service or burial.

The Contractor shall make due allowance within his tender for the inconvenience caused by stoppages in work to accommodate services etc.

1.45 Where materials and work are not fully specified they are to be carried out using materials fit for the purpose, in line with current standards and where ever possible match existing materials in type, texture, colour, size and quality.

1.46 Tenders are to remain open for acceptance for a period of not less than 90 days from the date fixed for the submission of tenders.

2 TRADE PRELIMINARIES AND PREAMBLES

2.1 EXCAVATOR AND CONCRETOR -.

2.1.1 Excavations to be kept dry at all times.

2.1.2 No excavated material is to be removed from the site without the consent of the Architect. Topsoil and other suitable material is to be retained for backfill. Redundant material is to be disposed of after consent from the archaeologist.

2.1.3 Generally concrete mixes are to be as follows unless specified by Structural Engineer:

Grade:	Maximum Size Aggregate	Minimum Cement Content	Minimum Cube strength	
			at 7 days	at 28 days
10	20mm	140 Kg/m3	6.7 N/mm2	10.0 N/mm2
21	20mm	280 Kg/m3	14.0 N/mm2	21.0 N/mm2

Grade 10 concrete shall only be used for blinding and filling and for drainage work as specified. Grade 21 concrete shall be used for any reinforced concrete work and for all foundations and floor slabs.

Concrete shall be mixed in a pan or drum type mixer.

Concrete shall be placed in its final position within 30 minutes of the addition of water to the mix.

Cement in concrete to be placed above ground shall be ordinary British Portland Cement to BS 12.

Cement in concrete to be placed below ground shall be sulphate resisting to BS 401.

Aggregates are to comply with BS 882 and 1201.

Water shall be clean and free from acids, vegetable and deleterious matter.

Admixes and/or additives shall not be used without the approval of the Architect.

Colouring additives may not be used without approval of the Architect.

Test cubes shall be taken and tested at the expense of the Contractor, in accordance with the requirements of

BS 1881. The results of the tests shall be passed to the Architect for information and record purposes

2.1.4 Where additional depth of excavation has to be carried out to achieve a good bottom the excavations shall be backfilled with grade 10 concrete up to the level of the designed foundations.

2.2 DRAINLAYER – none proposed

2.3 BRICKLAYER – None proposed.

2.4 **STONEMASON**

2.4.1 STONEWORK:

All conservation work shall be in accordance with the guidance of English Heritage Technical Handbook, Vol. I

Bed to be approved by Architect, but generally:

Horizontal in plain walling

At right angles to wall face in cornices and other projecting stones.

New stones shall be not less than 100mm in depth from the face of the wall.

Projecting stones to be cut out to at least twice the depth of their overhang.

The lines of all mouldings, curves and angles etc. are to be worked out of the solid as directed. No angle, mitre joints will be permitted.
Detailed carving where required in new work, is to be done either on the ground or in position as directed by the stone carvers.

Old carved work is to be reincorporated were possible, and soundly and properly keyed and cramped into the new stone as appropriate.

Where new stone is being inserted the size of the new stone is to match the size and scale of the original. Several smaller stones are not to be substituted for an original large stone.

Where different types of stones are incorporated in the same area of the wall, stone replacement is to match the type and colour of that which is being removed. The exact requirements are to be agreed on site with the Architect.

All stone work is to be carried out by a qualified stonemason experienced in the repair of historic buildings.

2.4.2 MORTAR MIXES – stonework:

The mortar for all walling shall generally be assumed to be 3 parts sand to one part NHL 3.5 mixed with clean water in a mixer. Ready mixed mortar may be purchased from

Rose of Jericho Ltd., 01935 83903

St. Astier 0800 783 9014

The Traditional lime Co. 01242 525444

Hirst Conservation Materials Ltd, Laughton, Sleaford, Lincs, NG34 0HE. Tel: 01529 497517.

Or any other quality source.

The sand shall be clean sharp pit sand. Type and source to be agreed with the Architect before full work commences. On no account should soft builder's sand be used. Agree with the Architect the exact mix before work starts.

The sand should be from a local source where possible.
All stone is to be thoroughly wetted before jointing takes place.

Dense and impervious mortar is to be avoided.

A coarse texture of joints is required and this should be obtained by stippling the surface of the mortar before it finally sets with a stiff brush or scraping with a trowel, to show up the grit in the mix. The surface of the wall must be kept clean as the work proceeds. On no account should ribbon pointing be used.

Precautions must be taken to prevent rapid evaporation and the development of a milky white colour. Spraying down fresh pointing the day after it has been placed will allow the mortar to take in some water which helps to prevent rapid evaporation.

A lime putty mortar is to be used for re-pointing and jointing in ashlar work. The lime putty is to be purchased from an approved source of supply. The lime putty is mixed with stone dust or sand in the proportion 6:2: (stone dust: lime). The type of stone dust or sand is to be agreed with the Architect before work commences.

2.4.3 JOINTING

New mortar joints are to match the thickness of the existing as far as possible. Where new joints are formed in random or rubble walling the new joints are to reflect the overall appearance of the existing walling.

2.4.4 RE-POINTING

All areas of re-pointing shall be treated by raking out the joints to a minimum depth of 50mm (2"). Ensure the backs of the cleaned out joints are square. Loose dust and debris shall then be blown from the joints by an air pump before proceeding.

Where dense and impervious mortar is found this is to be removed only where significant damage will not be caused to adjacent stonework. Contractor to agree typical situations with architect before proceeding.

Thoroughly wet all surfaces and clean before new mortar is bedded in but avoid saturation and water run-off on the wall surface. In narrow joints the mortar shall be rammed home by a narrow tamping tool. Any hollow or loose areas shall be grouted prior to re-pointing.

Where small stones are evident in the surface of the wall, and deep raking would cause them to be unsettled, the depth of raking out may be reduced to a minimum of 25mm.

NO MECHANICAL OR ELECTRICAL EQUIPMENT IS TO BE USED FOR REMOVING MORTAR FROM EXISTING WALLING

2.4.5 SAMPLE AREA

The contractor is to provide at least 1 m^2 test panel of pointing adjacent to stonework not affected by the works if possible.

This must be prepared and left to go off for at least one week before inspection is carried out and must be protected from drying out too quickly by dampening and covering with damp hessian sacking for at least 90 hours.

Allow for brush tamping/ sack rubbing of the joints when mortar is green hard. The level of brush back to be agreed with the Architect.

2.4.6 TIES AND CRAMPS

Any ties and cramps found necessary during the work shall be of Delta metal, cuprous bronze or other approved non-ferrous material.

2.4.7 GROUTING – none proposed

Any grout found necessary shall be a low strength material achieving about 2.0N/m2 at 28 days and is used to fill voids in the core of the masonry walls. The grout is to be sulphate resisting. Only low pumping pressures are to be used.

The PFA grout is to be obtained from Pozament Ltd, Swains Park Industrial Estate, Overseal, Burton on Trent, Staffordshire, DE12 6JN. Tel: 01238 211235.

The mix advised is pre-bagged lime:PFA:Bentonite 1:1:0.5 to 1:2:1. Exact mix to be agreed with the Architect before any work is started. When mixed at a water solids ratio of 0.4 a fluid mix capable of penetrating fine voids and fissures is produced (solids to water ratio 1:4).

2.5 CARPENTER AND JOINER

2.5.1 Where softwood is specified for carpentry it is to be GS or MGS Swedish 5ths or 1st or 2nd common Hemlocks to BS 4978.

All softwood, hardwood and plywood is to be from a certified sustainable source and the contractor will be required to supply a certificate identifying the chain of custody.

2.5.2 Where softwood is specified for joinery it is to be unsorted quality Swedish or Russian Redwood. Where softwood joinery is to receive a stain or clear finish the timber shall be selected for clear faces and shall be kept clean and free from marks until treated.

2.5.3 Hardwood is to be Western European Oak.

2.5.4 Plywood is to be BS 1455 with grade 2 veneers and WBP bonding.

2.5.5 Blockboard is to be to BS 3444 with Grade 1 veneers and BR bonding.

2.5.6 Timber described as "Tanalised" is to be vacuum/pressure impregnated with Tanalith 'C' preservative carried out strictly in accordance with the Code of Practice No.2 issued by Hicksons Timber Impregnation Company (GB) Limited. Timber must be machined to its final dimensions before treatment.

2.5.7 Timber stored on site is to be stacked to allow free circulation of air around the timbers and is to be kept clear of the ground and protected from the weather.

2.5.8 All works to form parapet gutters, sumps etc. shall be carried out in tanalised timber. All gutter linings are to be carried out in treated softwood. No plywood or other composite sheet materials are to be used where it will be covered by lead.

2.5.9 All steps in gutters are to comply with standards for upstand lead flashings

2.5.10 All nosings are to be rebated to accommodate lead flashings without causing an upstand in the lead.

2.5.11 TIMBER TREATMENT – Timber treatment for infestation shall be carried out by a specialist contractor providing a 20 year certificate for works.

2.6 ROOFER – TERNE-COATED STAINLESS STEEL

Note: Except where otherwise agreed, WORK IS TO BE CARRIED OUT BY A CONTRACTOR APPROVED BY THE MANUFACTURER TO INSTALL THEIR PRODUCT.

2.6.1 All Terne coated stainless steel is to comply all current European and British standards of manufacture and fitting.

2.6.2 Terne coated stainless steel shall be not less than 0.4mm thick and shall be fitted with standing capped battens to imitate the appearance of lead rolls.

2.6.3 All flashings and up-stands and joints etc. shall comply with current codes of practice.

2.6.4 All areas of roofing shall be fitted with an appropriate underlay approved by the manufacturer for location.

2.6.5 Unless otherwise specified, all chases into masonry for flashings are to be carried out by a stonemason approved by the architect and the roofing contractor shall allow for liaising with the mason over the installation of flashings.

2.6.6 Where tight or angular flashings are required, eg ends of gutter runs, code 7 lead may be considered to achieve a better and neater finish – these are SUBJECT TO THE CONSENT OF THE ARCHITECT.

2.7 TEMPORARY SERVICES

2.7.1 SCAFFOLDING

Supply, erect and dismantle all scaffolding as required to carry out the works. All scaffolding should be constructed as independent free-standing structures wherever possible and only tied to the building where approved by the Architect. All horizontals are to be plastic capped to protect the building and personnel. Putlocks are to be kept clear of the face of the building where possible and any scaffolding close to the building should be lagged to prevent damage to the stone work or other fabric.

Where scaffold is to be left in place overnight/ unattended then the Contractor shall ensure that it fully complies with the requirements of the EIG Church Scaffolding Checklist as outlined by EIG with particular attention to the following:

The Contractor is to include for supplying a fixed corrugated metal to a height of 4 metres from the base of each scaffolding standing on the ground together with a security access lockable gate.

Sheeting shall be outside of any support structure and shall be raised up where it abuts plinths to 4m over plinth height.

Where scaffolding is to be erected off a roof the Contractor is to check that the roof structure is adequate for the purpose of increased loading and is also to make adequate provision for the protection of the roof structure from mechanical damage and is to make good any damage caused at directly.

Scaffolders should take due notice of other directions within this specification relating to insurance, ladders, health and safety etc.

Where internal scaffold is required, it shall be constructed free standing. It shall have all ends and edges lagged to prevent chaffing or scarring of internal plasterwork or stonework. All uprights are to set upon planked spreaders.

Note: During the erection of scaffolding, in accordance with the advice of Natural England, care must be taken not to cover or damage any known or potential bat access points or crevices where bats may be roosting (generally, gaps larger than 15 x 20mm where the back of the gap cannot be seen).

Any coverings on scaffolding must also have an opening of a min. 1 x 2m metres, which must be opened at dusk and remain open until dawn. The coverings must not extend over the top of the roof.

2.8 PROTECTION

2.8.1 Provide all necessary temporary fences, hoardings, screens, planked foot ways, guard rails as may be necessary for protecting the public, users of the building, and statutory bodies and to enable the satisfactory completion of the works.

2.8.2 Provide all necessary temporary protection to all parts of the building from damage by inclement weather.

2.8.3 In order to avoid delays due to cold weather the Contractor is to take the following precautions:
Protect stone from rain and frost by stacking clear of ground and completely covering with waterproof sheet.
Store cement and lime in on raised dry platform.
Do not use frozen materials.
Chemical accelerators, retardents or anti-freeze additives are not to be used.
Keep finished work covered for at least three days after completion.

2.8.4 **Protection of bells:**

Bells are to be locked in the rung-down position for the duration of the works within and to the tower, to ensure they cannot be accidentally rung whilst works are taking place. The bells and their rockers are to be covered with protective sheeting for the duration of works to protect them against dust and dirt.

A temporary working deck/platform is to be built over the bells for the duration of works in and to the tower, to ensure the safety of both the bells and the workers.

2.8.4 **STAINED GLASS and LEADED LIGHTS**

All leaded windows to be protected against accidental damage when works are carried out in close proximity by means of rigid plywood boards.

2.8.5 **ACCOMMODIATION**

The Contractor is to provide all necessary temporary sheds, offices, mess rooms etc. as required by site operatives and as required under Health & Safety Legislation. Huts are to be sited in positions agreed with the Architect and shall be removed from the site before the works are deemed to have been completed.

The Contractor is to make proper arrangement for sanitary accommodation for operatives and site visitors etc. If such facilities exist within the Church the Contractor may, with the permission of the Vicar, use these subject to the Contractor maintaining them in a clean and tidy condition at all times.

2.8.6 **WATER and ELECTRICITY**

The Contractor may use the Employer's water and electricity subject to agreement on connections with Church Warden, Vicar and Architect.

3 SCHEDULE OF WORKS

3.1 GENERAL REQUIREMENTS

3.1.1 Supply, erect and maintain all necessary scaffolding to enable the works to be examined, repaired and inspected. Allow for any adjustments of platforms to accommodate the works as finally agreed. The contractor shall particularly pay attention to protecting workforce and visitors from fall from height, and to the Natural England requirements for the protection of bats.

3.1.2 Prior to the commencement of the works, all accessible areas of the works are to be checked for bats with a high-powered torch and hand-held mirror. The Employer is to advise the contractor of the locations of any known bat roosts/access points.

3.1.3 Allow for enclosing the scaffold in corrugated steel sheeting to a height of 4 m without any external elements that may reduce the security of the compound. Supply and fix secure external door. Provide and maintain ladders, removing the lowest ladder at close of work each day. Scaffolding to be in accordance with EIG requirements. The contractor is to liaise with EIG regarding the roof alarm.

3.1.4 Allow for meeting with the architect to inspect the works and agree the extent and specifics of repairs on site.

3.1.5 Provide and maintain suitable temporary weather protection to ensure the complete protection of any exposed parts of the building from the elements. Extra care is to be taken at the end of the working day to ensure all sheeting down is secure and that wind and driving rain will not penetrate the building.

3.1.6 The Contractor is advised to consider the use of a mechanical hoist bringing material on and off the scaffold for health and safety reasons.

3.1.7 Allow for maintaining the area in a clean and tidy condition at all times. Where rubbish is to be barrowed away, allow for protection of grassed or paved areas on route and for their reinstatement at the end of the works.

3.1.8 Debris, old mortar, etc. and dust is not to be left laying at ground or high level where it could be used for vandalism or where weather conditions could cause it to become a nuisance or hazard.

3.1.9 Allow for protection for the adjacent window tracery and glazed areas during the works with rigid plywood boards.

3.1.10 Upon completion of the works remove all scaffolding etc. and leave area cleaned to condition comparable with the rest of the church and churchyard.

3.1.11 Contractor shall provide their own toilet & welfare facilities. There is currently no water supply.

3.2 EXCAVATOR & CONCRETOR – not required

3.3 DRAINLAYER – not required

3.4 CARPENTER & JOINER

3.4.1 **New tower roof:**
Carefully remove existing failing tower roof structure, boards, bitumastic-covered lead covering, gutters, roof hatch and flashings to the tower roof and allow for disposal. The lead is to be assessed for the economic removal of the bitumastic covering, and where practical and economic, the Employer is to be credited any reclaimable lead.

Allow for removing the existing timber post which is currently supporting the roof. The crossbeam supporting this post is to be left insitu.

3.4.2 Allow for removing and disposing of the existing tower access ladder within the bell chamber.

3.4.3 Frame up for new tower roof structure and new gutter with 50 x 195mm C24 roof joists at max. 400 c/s laid to a min. 5 degree fall. Supply and fit trimmers to new hatch opening as indicated on architect's drawings. Trimmers to be formed with 2 no. 50 x 195mm C24 roof joists bolted together with 12mm diameter ss washered nuts and bolts at max 600 c/s. Frame up for new gutter to west side of new roof with 50 x 150mm C16 side cheek bearers and with tanalised firrings to create min. 1:40 fall to existing downpipe in the south-west corner. Supply and lay 24mm WPB plywood boards over new roof and line new gutter with 18mm tanalised softwood layboards.

3.4.4 Form new timber catch pit to existing downpipe in the SW corner in 100 x 18mm tanalised s/w boards butt jointed on tanalised s/w bearers. Bearers to be isolated from masonry with roof membrane. Catch pit is to have minimum upstand of 150mm.

3.4.5 Supply and fix new drips and fillets at abutments to prevent acute angles in lead-work.

3.4.6 **Works to provide roof access:**

3.4.7 Form studwork upstand around hatch opening with 100 x 50mm C24 plates, studs and noggins at approx. half height. Studs to be at max. 400 c/s. The height of the upstand is to be such that the hatch has a min. 150mm upstand wherever it abuts the roof. Line the studwork and trimmers internally with 18mm WPB plywood. Cover studwork externally with 20mm thick tanalised softwood layboards fixed over a vapour barrier membrane.

3.4.8 Form approx. 1500 x 1000mm (external dimensions) cover hatch with 50 x 38mm tanalised softwood framing to edges and 50 x 50mm softwood framing and ledging internally as indicated on drawings, and a 24mm thick WPB plywood face. Cover externally with terne-coated stainless steel flat sheet turned down over the external framework. Finish with a drip detail as indicated and fix terne-coated ss back to the inside face of the external frame.

3.4.9 **Access hatch:**
Supply and fix 2.5 no. pairs H102-C Hi-Load stainless steel Swing Clear butt hinges. Supply and fix 2 no. door & casement friction limiting stays (one to be installed approximately centrally above the top landing, and the other near the inside face adjacent to the stairs). Stays to be selected are to be suitable for the final weight of the hatch. Supply and fix 2 no. 300mm wide stainless steel face-fixed pull handles to the inside of the hatch door. Supply and fix a short additional run of handrail to the inside face of the hatch, to be fixed diagonally so as to provide additional support when dismounting and descending the ladder. Supply and fix 2 no. 250mm heavy duty galvanised Hasp & Staple to the inside face of the hatch approximately midway along the hatch length-wise.

3.4.10 Form two new landings within bell chamber as follows and as indicated on the architect's drawings. The lower landing floor level (top of floorboards) is to be approx. 1808mm above the bell chamber floor, and upper landing set approx. 4515mm above bell chamber floor.

Lower landing:
Supply and fix 100 x 100mm solid softwood post to existing beam within the bell chamber floor (running East-West) as indicated, to support the corner of the lower landing, cutting and making good existing floor joists as required. Frame up for lower landing with two sets of trimmers as indicated on drawings. Trimmers to be formed of 2 no. 50 x 170mm C24 joists bolted together with 12mm diam. ss washered nuts and bolts at max 600c/s. Trimmers are to be fixed to the outside faces of the corner post, as indicated on the architect's drawings. Supply 50 x 170mm C24 wall plate for hanging floor joists off, and bolt to the south wall with 500mm long 12mm diam. ss threaded rods bedded in resin at max. 300 c/s. Supply and fix 50 x 150mm C24 floor joists at max. 400 c/s between trimmers and the wall plate to form landing, as indicated. Cover the joists with 24mm thick T&G-jointed tanalised softwood floorboards and fix to the joists.

Upper landing:
Supply and fix trimmers formed of 2 no. 50 x 170mm C24 joists, bolted together with 12mm diam. ss washered nuts and bolts to span across the width of the tower to support the new floor joists to the upper landing. Trimmers are to be hung off 50 x 170mm C24 wall plates at both ends on galvanised joist hangers. Wall plates are to be bolted to the tower walls with 500mm long 12mm diam. ss threaded rods bedded in resin at max. 300 c/s. Supply and fix 50 x 150mm C24 floor joists between the wall plate and trimmers at max. 400 c/s as indicated on drawings, and hang off galvanised joist hangers. Cover the joists with 24mm thick T&G-jointed tanalised softwood

floorboards and fix to the joists.

3.4.11 Supply and fit 3 no. bespoke tanalised softwood ladders to provide access between specified landings and to the new access hatch. Ladders to be at 75 degree pitch, with a min clear width of 550mm to the lower two. The two lower ladders are to be fixed in place, with the upper ladder (to the hatch) bolted to the studwork frame but removable for when access to maintain the catch pit is required.

Supply and fix 100 x 100mm softwood newel posts to both landings and ladders as indicated on drawings. Supply and fix 50 x 100mm round nosed tanalised handrail and 38 x 38mm balusters to north sides of both landings and in front of tower window to the lower landing, installed in accordance with current Building Regulations. Where indicated, balusters to the upper landing are to extend to the new roof level to provide additional high-level protection. These balusters are to be 38 x 70mm to provide a better fixing.

Supply and fix 50 x 100mm round nosed tanalised handrails to both sides of the new ladders, set at a 1m height above the raking line of the ladders. Handrails are to be set a min. 25mm clear of the inside faces of the hatch, and ladder to be full width between handrails. Ladders to each be capable of supporting live load of 150kg. Ladder rungs to have a min. 2 no. 5mm wide, 3mm deep grooves to full width of upper surface to provide base level of slip resistance.

3.4.12 Supply and apply treatment to all new ladders, newel posts, handrails, balusters and exposed timber faces of hatch. Treatment to be Sikkens Cetol WP 517BPD base coat and two further coats of Sikkens Cetol WF748.

3.5 STONEMASON

3.5.1 **Works to the tower:**

Allow for making good to the tower wall where the previous ladder was removed.

3.5.5 Allow for carefully removing 2 no. decayed corner coping stones to the North-west parapet wall of the tower. Replace with shaped Ketton coping stones to match those of the existing. Stones to be fixed in position with 4mm diameter stainless steel threaded pins or helifix type secured in epoxy resin. Allow for pointing up joints with lime mortar, to be finished flush with the stone face.

3.5.6 Allow for taking down the masonry to the South-west and South-east corners of the tower parapet, to the level at which the parapet projects out. Allow for taking down the length of parapet approx. 1200mm either side of both corners and set aside sound stones for later rebuilding. Allow for removing any iron cramps found within the parapet. Rebuild the parapet, re-using the existing stones. Allow for the supply and fix of new cramps 1200mm long in each direction.

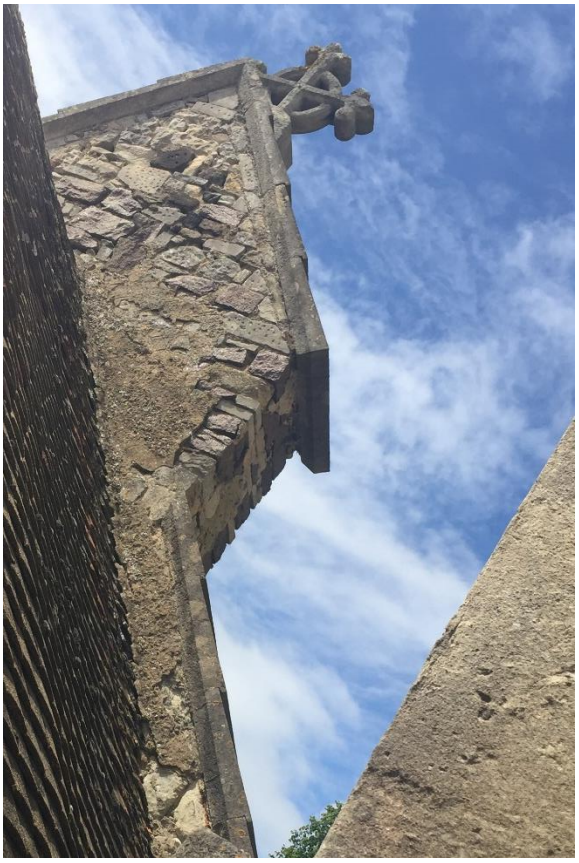
Allow for meeting with the architect to assess the condition of the central section of parapet to the south face (between the two corners). Allow for replacement of 1m long section of stonework to the full height and to match the mouldings of that taken down.

3.5.7 Allow a provisional sum for also taking down and rebuilding the central section of parapet to the south between the two corners, following assessment with the architect. Rebuild as specified in clause 3.3.6.

3.5.8 Allow for an additional 10 hours of stonemason's time for further minor high-level repairs as directed by the architect to the faces of the tower, whilst scaffold access is available.

Allow for mason's time to assess the wall faces with the attendance of the architect. Extent and nature of the repairs are to be as directed by the architect.

3.5.9 To the west gable of the nave:
Allow for mortar repairs to the east face and sides of the gable. Carefully cut out defective areas of stone to a min. depth of 25mm. Mortar repairs are to be made square to the face of the stone. Only light hand tools are to be used, to minimise vibration. For tendering purposes, assume 75% of stones require mortar repairs.



3.5.10 Allow for raking out to a depth of 40mm and repointing all joints to stones on the east face and sides of the west gable.

3.5.11 Carefully remove flaunching at the junction of the gable with the nave roof. Allow for full reinstatement in lime mortar.

3.5.12 Attend on leadworker, cutting chases for and dressing flashings. Repoint redundant flashing joints to tower parapet.

3.5.13 Allow for building up section of wall to plinth in face stonework to match existing where existing rainwater pipes are removed from having been inset.

3.5.14 Allow provisional sum of £250.00 for sundry materials in connection with any minor repairs identified.

3.5.15 Allow for the supply of 2 no. Latchways LadderLatch devices (or equivalent, to be approved by the architect) and 2 no. fall arrest harnesses.

Supply and fit wire fall arrest system to the two lower CAT ladders to be retained to the Tower. On the two landings, the wires are to terminate horizontally (at approx. chest level) and a min. 1.5m away from the ladders, to ensure a safe distance for detachment. Fixings are to be resin rodded into the walls.

3.6 ROOFER

3.6.1 Supply and fix terne-coated stainless steel roof and box gutter with welded seams, batten rolls and welded end caps, complete with flashings, trims, fascia boards and cappings as described and indicated on the drawings. Allow for joints to be formed and welded. Allow for lining gutter through external walls.

Allow for cutting the existing rainwater pipe (if required) and supply and connect new cap to the top of the pipe with ss mesh, to prevent debris and leaves etc entering the pipe, within the bottom of the new catch pit.

3.6.2 Supply and fix new stainless steel flashings to abutments between the new roof/gutter and the existing tower walls. All flashings to have a minimum upstand of 150mm. Cover flashings are to overlap up-stands by a minimum of 100mm.

3.6.3 Supply and fix new clay half-round ridge tile to the East end of Nave roof, to replace missing ridge tile. The new tile is to match those of the existing, and be bedded in lime mortar, with a gap maintained in the mortar to allow access for bats (see Appendix A, option B).

3.6.4 Allow for clearing out hidden gutter between the Nave and tower and ensuring outlets are running clear.

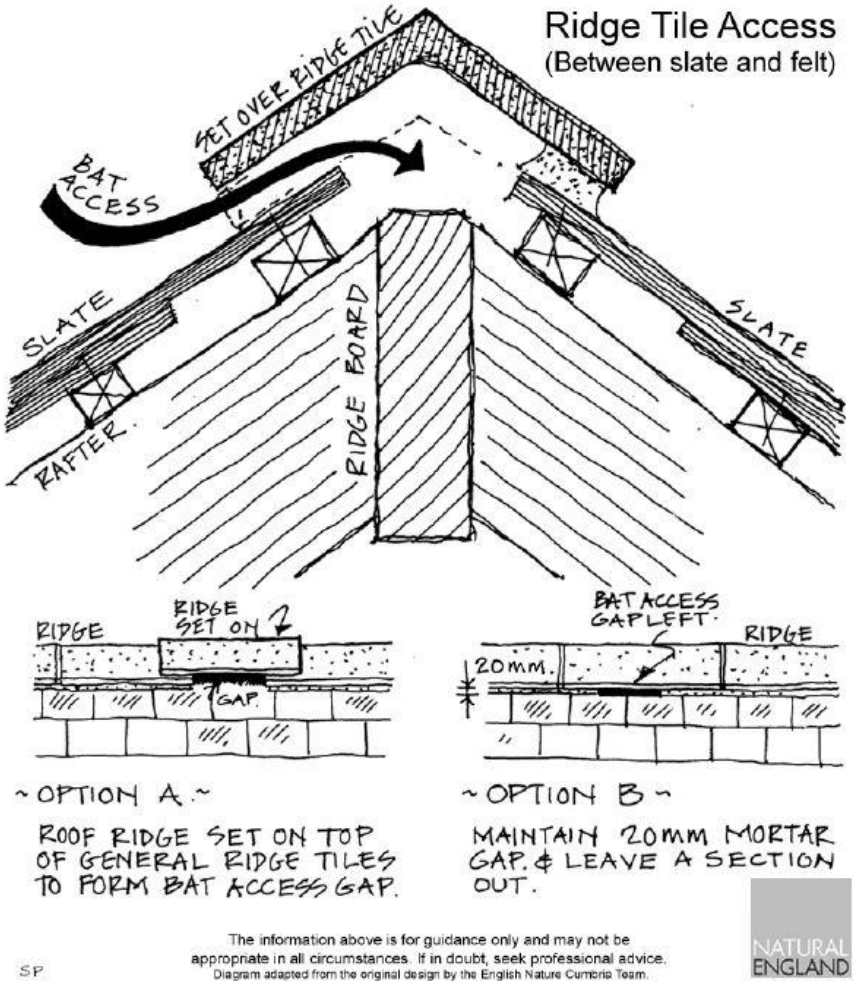
3.6.5 Allow for an additional 10 hours of roofer's time, to be used as instructed by the architect.

3.6.6 Make good to all areas of the works. Clear away and leave all areas of works clean and tidy.

End

NB. Ensure inclusion of contingency as specified in clause 1.30.

APPENDIX A


Ridge Tile Access
(Between slate and felt)
SET OVER RIDGE TILE
BAT ACCESS
SLATE
RAFTER
RIDGE BOARD
SLATE
RIDGE
RIDGE SET ON
GAP
BAT ACCESS GAP LEFT
RIDGE
20mm.
~OPTION A.~
ROOF RIDGE SET ON TOP OF GENERAL RIDGE TILES TO FORM BAT ACCESS GAP.
~OPTION B~
MAINTAIN 20MM MORTAR GAP. & LEAVE A SECTION OUT.
SP
The information above is for guidance only and may not be appropriate in all circumstances. If in doubt, seek professional advice.
Diagram adapted from the original design by the English Nature Cumbria Team.
NATURAL ENGLAND