Method Statement for

Refurbishment Works at
The Old Rectory, Clyst St Lawrence, CULLOMPTON,
Devon, EX15 2NW

ref: md22 0411rev Initial

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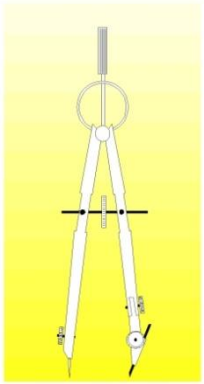

1.00 Introduction

1.01 The Property

This document describes the proposed refurbishment works at The Old Rectory.

The property is a detached Grade II* listed dwelling located on the western extremities of Clyst St Lawrence, opposite the Church. Its full address is The Old Rectory, Clyst St Lawrence, CULLOMPTON, EX15 2NW.

For identification purposes, the property is described in two parts, namely:
- The Tudor Wing (the eastern section)
- The Georgian Wing (the western section)

1.02 The Listing

Both the property and kitchen garden walls are Grade II* listed. Refer to the Heritage Impact Assessment for the property's listing and further historical information.

1.03 Other Documents

Ecological Impact Assessment
Heritage Impact Assessment
Condition Statement
Timber & Render Condition Assessment ref 212238
Method Statement (this document)
Drawing Schedule

1.04 Method Statement - Limitations

This document is not a Schedule of Works and it does not constitute any form of expressed contract. Its sole use is to support the application for Listed Building Consent. The proposed works have been listed in the following order:

01 Enabling Works (Investigations & Scaffolding)
02 Substructure (Ground floor and below)
03 Wall Repairs (and possible thermal improvements)
04 First Floor Structure
05 Window Repairs
06 Other Internal Works
07 Roofing (Structure, coverings & rwgs and chimneys)
10 External Works (Ground works & drainage)

As onsite condition surveys are still in progress and further intrusive investigations are required, this document must be considered 'in progress' and will be updated accordingly as further information becomes available.

01 Enabling Works (Investigations & Scaffolding)

01.01 Preliminaries

The following preliminaries are to be incorporated / observed during the works:

Full liaison with the appointed ecologist to ensure no protected species or habitats are harmed or disturbed.

Due care to be taken to protect the property and adjacent kitchen garden walls as both are Grade II* listed.

Preconstruction and construction stage health and safety plans are to be prepared in accordance with the 2015 CDM Regulations. If required (deemed very likely), this project is to be notified to the Health and Safety Executive (HSE) (via an F10 form from the HSE).

Adequate and appropriate insurance cover is to be in place.

In addition to the listed building consent application, applications for planning permission and building regulation approval will be submitted where required.

All work and any disturbed elements of the property and any neighbouring properties are to be made good, as existing, prior to completion. The contractor is to clear up and cartaway all rubbish, debris and superfluous materials arising from the works as it accumulates. Upon completion, site to be left safe, clean and tidy.

Scaffold, temporary supports, signs, guarding and lighting will be provided to ensure complete and safe execution of the works. All such items are to comply fully with relevant British Standards and HSE Regulations.

Due care will be taken to protect the property(s) from the works, damage, weather, dust, fire, etc.

A Health & Safety File will be prepared upon completion of the works.

Appropriate personnel protection equipment (PPE) will be worn and onsite welfare facilities will be provided.

Works to be carried out in accordance with the following guides unless this contradicts the previous statement and / or conflicts with the historic natural of the building:

- the relevant British Standard (BS) guide if not specified
- BS 1202 Specification for Nails
- BS 5534 Slating and Tiling
- all leadwork in accordance with the current publications by the Lead Sheet Training Academy
- manufacturer's instructions

01.02 Scaffolding

Both properties are to be scaffolded with a temporary roofing system with wrapped sides to offer full weather protection whilst the windows, roof coverings and render are being worked on. Any weather coverings are to be fire retardant.

The scaffolding is not to be fixed to the properties and is to include ballasting where required.

01.03 Wall Investigations – Georgian Wing

Selected areas of the Georgian external walling are to be carefully opened up to expose the underlying construction. All inspections are to be recorded.

The following details are to be ascertained:
- the thickness and make up of render and plaster finishes
- condition of timber studwork
- nature of infill and materials used
- connection to suspended ground & first floors (see floorboard notes)

These inspections will enable appropriate repairs, specific to this property, to be considered and decided. Where / if possible, repairs are to include sympathetic improvements to the walling's thermal insulation properties.

02 Substructure (Ground Floor and Below)

02.01 Floorboards

To gain full access to the floor voids, ideally ground-floor floorboards should be removed in their entirety (or on a room by room basis), but before doing so:
- ascertain the ease of their removal and whether this will cause any damage
- ascertain whether their removal will affect the structural stability of the external walling
- consider the depth of floor void for trip / falling hazards

In any event, number boards to allow them to be returned to their original locations. Protect exposed joists with 20mm plyboard.

Neatly store removed floorboards in a dry location within the property by laying flat; if storing more than one layer deep, separate layers with 25mm thick battens placed at 1m c/c; do not overload any floor.

02.02 Floor void

Sub-floor drainage to be investigated.

Mechanical sub-floor ventilation system to be installed to provide continuous ventilation. System to be assessed once floor structure is exposed and is likely to include:
- synchronised intake and extract fans, or
- central fan system with ducts
    - all ducts to include acoustic insulation
- vents to intake / discharge to the outside via clay airbricks installed within the external walling and fitted with cast iron grilles

02.03 Joist Support

Provide new sleeper walls alongside wall bearings from dense concrete blockwork or engineering grade bricks to be built off new concrete footings. DPC and treated SW wallplates to be included.

Cut back existing joists to leave minimum 10mm gap between each joist end and masonry. Redundant built-in timber (eg joist ends) to be removed by careful drilling and chiselling.

Cut joist ends to be treated.

02.04 Existing floor joists

Thoroughly inspect all floor joists and remove any significantly damaged or rotten joists.

Compare existing joist dimensions to the TRADA span tables (or arrange an engineer's inspection if the joists fall outside of the sizes listed) and upgrade any undersized joists with new treated C16 or C24 softwood members bolted alongside.

New members to be bolted to existing at 400mm centres with:
Double joists under proposed bath; bolt together at 400mm centres with:
- upto 63mm thick members; M12 bolts with 3xØ38mm (or 50mm square) washer under bolt head and nut, or
- members over 63mm thick: M16 bolts with 4xØ48mm washer under bolt and nut
- bolts to be:
    - plated to prevent corrosion
    - at staggered centres; ensure bolts are placed:
        - M12; 48mm from ends and top / bottom of joists
        - M16; 64mm from ends and top / bottom of joists

02.04 Existing floor joists cont…

Ensure existing joists are strutted as shown below;
- span between 2.5 and 4.5m; 1No strut at midspan
- span over 4.5m; 2No struts at 1/3 centres

02.05 Insulation and Floorboard reinstatement

Before relaying boards:
- lay pro clima solitex plus membrane over and between the joists to support:
- install hemp insulation batts between the floor joists; depth of insulation to suit joist depth
- cover joists and insulation with pro clima intello plus intelligent hydrosafe airtight vapour control membrane

Replace any significantly damaged or rotten floorboards with new softwood boards machined to match the existing.

Return boards to their original locations and fix using original fixing holes.

Varnish to match existing and ensure any carpeting can breathe; eg hessian backed.

03.01 Wall Repairs (Tudor Wing)

03.01.01 Render

Areas of render to be replaced are shaded orange on the application drawings.

Check the local weather forecast to ensure ideal conditions for the works. Avoid carrying the works if frost, strong sun, winds or rain are forecasted within 14 days. Ideally lime mortar should be applied between the months of May and October to ensure sufficient curing time.

Appropriate PPE measures should always be used when working with lime.

03.01.02 Render preparation

Carefully, without using power tools, remove all loose, defective, or blown render and thoroughly clean down all surfaces to ensure free of all dust or debris. Attempt to:

- keep damage and disturbance to the substrate to an absolute minimum
- leave any existing sand:cement pointing insitu if it is particularly difficult to remove
- leave any original lime mortar in sound and firm condition insitu

Inspect exposed substrate and make good any defects or damage:

- any repairs are to be sympathetic to the original fabric and may include
- small hollows may be dubbed out
- larger hollows may be built out with:
    - stonework to match original where appropriate, or
    - cob blockwork neatly and securely tied into the existing structure
- re-bed any loose stones
- thoroughly inspect any timber within masonry; generally dig out and replace any rotten grounds

Pre-wet the surface to reduce the potential shrinkage; do not over-wet. If substrate not very porous use 'pump-up' garden sprayers and consider using a low-pressure garden hose on more porous substrates.

03.01.03 Mortar selection / application

Thoroughly inspect the render and select a mix appropriate to the substrate; mixes could be different throughout the property; refer to 03.03.02 for the Georgian Wing

Mortar to be premixed and obtained from a reputable source / supplier, such as:

- Cornish Lime, Brims Park, Old Callywith Road, BODMIN, Cornwall, PL31 2DZ tel: 01208 79779
- Mike Wey, Buckland Filleigh Sawmills, Shebbear, BEAWORTHY, Devon, EX21 5RN tel: 01409 281644
- Heritage Cob & Lime, Unit 20, Bideford Business Park, East-The-Water, BIDEFORD, Devon, EX39 4GD tel: 01237 477431
- J&J Sharpe, Furdeon, Merton, OKEHAMPTON, Devon, EX20 3DS tel: 01805 603587

Mortar to contain well graded fine and coarse sands with either lime putty or natural hydraulic lime (NHL). The mix is to be at the same strength, or weaker, than the substrate and along the lines of:

- feeble NHL 2 for internal work
- moderate NHL 3.5 for most external works
- moderate / eminent NHL 5 for exposed external works

Mortars to include hair or fibre binders where necessary; eg on to laths.

03.01.03 Mortar selection / application cont…

First Coat:
Apply a uniform thickness of lime render (usually about 9-12 mm thick) by 'throwing' (cast or harl). The material for a cast-on coat should be wetter than that for normal rendering and should incorporate more gritty material.

Application should be reasonably even and once applied should not be overworked or straightened too much.

Once the initial set has taken place, key the wall, in a diamond pattern, using a pronged scratcher to make a groove in the render of sufficient depth that will allow the subsequent coat something to grab, or hang on to, without over scoring or tearing the backing coat.

Second Coat:
Before the first coat has developed too much of a set (normally around a week, but this can vary), hand harl the second coat. Straighten the second coat close to the final set.

Before the second coat has fully set, rub up with a float, followed with a devil float to form a key for the topcoat.

Topcoat:
Before the second coat has developed too much of a set, hand harl the topcoat. Avoid applying more than 5 to 7mm thick and rubbing up too soon.

Curing (Applies to all coats):
After each coat is applied, hang damp hessian sacking (229 or 273gsm) just in front of the render to maintain a humid environment to prevent drying out too quickly. If necessary (eg during hot weather) damp the sacking down regularly.

The base and second coats are to be protected with hessian sacking until the next coat is applied; the topcoat is to be protected for at least two weeks.

03.02 Wall Repairs (Georgian Wing)

03.02.01 Render
Areas of render to be replaced are shaded orange on the application drawings.

These works are **NOT** to be carried out until the enabling / investigation works under 01.03 **AND** the method or repair has been agreed with the Conservation Officer.

Check the local weather forecast to ensure ideal conditions for the works. Avoid carrying the works if frost, strong sun, winds or rain are forecasted within 14 days. Ideally lime mortar should be applied between the months of May and October to ensure sufficient curing time.

Appropriate PPE measures should always be used when working with lime.

03.02.02 Render preparation

to follow

03.02.03 Mortar selection / application

to follow

03.03 Painting

The complete property is to be redecorated externally with breathable mineral-based paints; colour to match existing.

Paint to be applied in full accordance with manufacturer's instructions. Unless manufacturer advises otherwise (Beeck paint system (available from Cornish Lime) assumed) include:

Preparation:

- carefully remove any loose or flaking material. Clean the surface with a fungicide / biocide to ensure no contaminates are present
- apply etching fluid and fixative to background to be painted
    - etching Fluid is an acid cleaner, which removes excess binder which may be present on the face of new render or to clean mineral surfaces. The etching process cleans the render and exposes available silica in the substrate, which ensures a stronger chemical bond between paint and substrate
    - etching Fluid is diluted at 1 part Etching Fluid to 4 parts water
    - it is brushed on the surface, left to dwell for 20 minutes and then washed off
    - leave the surface for a minimum of 12 hours after washing before continuing the system. The substrate needs to be dry.
    - fixative is pure potassium waterglass and is the base component for all Beeck mineral paints. Potassium waterglass or Fixative is the reactive component within the paints that promote the chemical bond with mineral substrates. As waterglass is highly alkaline it reacts with available silica in the substrate, resulting in an inseparable bond. Fixative can be used as a primer for mineral backgrounds, stabiliser for friable mineral substrates and as a thinning solution for Beeck Mineral Paints.

    - fixative is diluted at 1 part Fixative to 2 parts water and applied to the wall with a brush to ensure it is worked into the substrate
    - leave the surface for a minimum of 12 hours before continuing the system. The substrate needs to be dry

Basecoat:

- Renosil Coarse is designed as a textured base coat for filling hairline cracks, minor imperfections and masking underlying paints that may be present. It is then followed by a topcoat of Renosil Fine.

- Stage 1 and 2 – Beeck Etching Fluid and Beeck Fixative (if required)
    - If the substrate has areas of bare render, it is important that Etching Fluid and Fixative are applied
- Stage 3 – Beeck Renosil Coarse (Base Coat)
    - the base coat has to be tinted to the same colour as the top coat
    - Renosil Coarse is a breathable, hard wearing exterior silicate paint. Renosil Coarse contains a fine marble dust, which has the ability to hide surface imperfections such as hairline cracks, it will also level the surface and prevent the underlying layers of paint from grinning through/standing out. Suitable for use as a base coat with a top coat of Renosil Fine.
    - Renosil Coarse is only suitable for a base coat of paint and has to be finished with Renosil Fine.

03.03 Painting cont…

Basecoat cont:

- As Renosil Coarse is absorbed into the surface and forms a chemical bond, the application demands more care and attention than conventional paints or lime wash. It is important that when applying mineral paints a wet edge is maintained during the application and any cutting in is carried out as you move across each section, as much as reasonably possible. If the application is across a large area, work to the natural breaks within the building or define break lines so a wet edge can be maintained. The principal reason for maintaining a wet edge is that the paint binds to the surface and pigments align together. If a wet on wet application is not maintained, the overlapping of the paint will be highlighted. A wet edge is advised for most paint applications, conventional or mineral based, and is good practice.
- Renosil Coarse needs to be thinned with 10% undiluted Fixative, stirred well and then applied
- Renosil Coarse can be applied with either a brush or roller. As it contains a marble dust, it may be easier to apply with a brush. **(brush application recommended)**
- With the application of external mineral paints, weather is critical. Renosil requires a minimum drying time of 8 hours before it can take any rain.
- Leave the surface for a minimum of 12 hours before continuing the system. The substrate needs to be dry.

Beeck Renosil Fine (Topcoat):

- The topcoat has to be tinted to the same colour as the base coat
- Renosil Fine needs to be applied with the same care as the Renosil Coarse, maintaining a wet edge.
- Renosil Fine can be brushed, rolled or spray applied. Please refer to the technical data sheet for sprayer requirements. **(brush application recommended)**
- As a top coat, Renosil Fine can be thinned with a maximum of 5% water, although we do recommend that is applied as a neat coat.
- With the application of external mineral paints, weather is critical. Renosil requires a minimum drying time of 8 hours before it can take any rain.
- Leave the surface for a minimum of 12 hours before continuing the system. The substrate needs to be dry.

04 First-Floor Repairs (Georgian Wing Only)

04.01 Floorboards

It is recommended the first-floor floor boards are not removed in their entirety to avoid:

- structurally weakening the property
- exposing the ground floor ceilings to potential damage
- creating a falling hazard

Instead remove narrow strips at a time and protect exposed joists with 20mm plyboard.

Number floorboards to aid refixing and neatly store in a dry location within the property by laying flat; if storing more than one layer deep, separate layers with 25mm thick battens placed at 1m c/c; do not over load any floor.

Do not remove boards if not necessary.

Replace any significantly damaged or rotten floorboards with new softwood boards machined to match the existing.

Return boards to their original locations and fix using original fixing holes.

Varnish to match existing and ensure any carpeting can breathe; eg hessian backed.

04.02 Existing floor joists

Thoroughly inspect all floor joists and remove any significantly damaged or rotten joists (none anticipated).

Compare existing joist dimensions to the TRADA span tables (or arrange an engineer's inspection if the joists fall outside of the sizes listed) and upgrade any undersized joists with new treated C16 or C24 softwood members bolted alongside; depth of new members to be slightly less than the existing joists to prevent direct contact with the ground floor lath & plaster ceilings underneath.

New members to be bolted to existing at 400mm centres with:
Double joists under proposed bath; bolt together at 400mm centres with:

- upto 63mm thick members; M12 bolts with 3xØ38mm (or 50mm square) washer under bolt head and nut, or
- members over 63mm thick: M16 bolts with 4xØ48mm washer under bolt and nut
- bolts to be:
    - plated to prevent corrosion
    - at staggered centres; ensure bolts are placed:
        - M12; 48mm from ends and top / bottom of joists
        - M16; 64mm from ends and top / bottom of joists

Ensure existing joists are strutted as shown below;

- span between 2.5 and 4.5m; 1No strut at midspan
- span over 4.5m; 2No struts at 1/3 centres

05 Windows and Doors (complete property)

05.01 Repair

Replace all rotten timber by carefully scarfing in new softwood repair sections machined to be an exact match to the existing profiles.

05.02 Overhaul

Window and door overhaul to include

- renew all putty
    - existing glass to be reused where sound
- ease and adjust all opening casements to ensure all opening casements open and close freely:
    - sliding sashes: renew and wax pull cords, balance sashes etc
    - replace damaged or missing ironmongery / furniture to match existing
    - supply and fit draught seals
- decorate all as:
    - knot & stop
    - prime coat
    - two undercoats
    - two topcoats; colour to match existing
        - ensure all opening casements open and close freely following decoration

06 Other Internal Works

07.01 Roof replacement – Tudor Wing

07.01.01 Introduction

Refer to the Ecological Impact Assessment as bats are present.

07.01.02 Preparation

- carefully remove the existing ridge tiles and slate roof coverings, including battens, from the Tudor Wing (all areas shaded light green on the application drawings). Cartaway all debris.

- thoroughly inspect existing roof structure and bring any defects to the Client's attention

- arrange for inspection by a structural engineer and the local planning authority's (LPA) conservation officer

- cut out and remove any rotten or infected timbers and stabilise / treat remaining timbers; retain as much as possible of the existing timbers

- carefully remove all render to both chimneys

- remove and cartaway previous barge board repair from gable (rear roof slope)

- remove all rainwater goods including downpipes:
    - use releasing fluid on cast iron goods to ease removal
    - cartaway all uPVC goods
    - setaside all cast iron goods

- thoroughly inspect fascia and remaining barge boards and bring any defects to the Client's attention

07.01.03 Timber (New and Repairs)

- 'straighten' roof by:
    - keep all existing timbers insitu
    - lay new treated SW rafters alongside existing; where necessary:
        - reduce rafter depth to 'straighten' the roof
        - increase rafter depth, or pack off from the purlins to 'straighten' the roof
- repair defective & missing roof timbers by bolting new, suitably sized and treated, softwood sections alongside the existing timbers; include:
    - any repair section to extend to the next available support; eg:
        - take new rafter repair sections to the next purlin
        - take new purlin repair sections to the next truss
        - truss repair sections (if required) to be full length
    - keep the amount of removed existing timber to an absolute minimum

07.01.04 Roof Coverings:

- cover roof with reinforced bitumen roofing felt to BS 5534 (formerly BS 747 1F) in full accordance with manufacturer's instructions; include:
    - to fix 25mm black uPVC over fascia vents, with integral insect guard, above all fascia
        - fit black uPVC over rafter intake vents over rafter feet to maintain ventilation gap; ensure sufficient rows fitted to fully cover installed insulation
    - eaves carrier
    - to drape felt over rafters
- to upstand felt against any abutments
- additional strips of felt over ridge, etc
- batten roof with 25x50mm pretreated battens
- hang new slates, as agreed with the LPA, using copper nails:
    - lap as recommended by manufacturer for a severely exposed site
- fix, black clay roll-top ridge tiles over black uPVC ridge vent system and secure each tile with proprietary nail down, or butterfly, clip
    - include NHL mortar bed
    - ventilation gap to be equivalent to a continuous 5mm gap
- sloping ceilings; if no insulation exists:
    - infill rafter voids with eco-insulation leaving a 50mm clear gap between the insulation and roofing felt
        - exact thickness of insulation to be determined onsite once the roof is exposed; using deeper rafters may allow thicker insulation to be used
        - insulation options include cork, hemp, wood wool or sheeps' wool
        - minimum fire rating BS5802-4

07.01.05 Chimney Repairs

To both chimneys:

- generally, inspect chimney stacks and bring any defects to the Client's attention
- carefully, using hand tools only, remove all render and any vegetation
- sweep and inspect flues; reline with flexible liners where necessary
- re-bed / replace as found necessary any slate drips
- replace any existing leadwork with new lead in full accordance with the lead sheet training academy guidelines; do not provide any new visible leadwork where none existed previously; to clarify, this will be confirmed / ascertained following the erection of the scaffolding system and removal of the turnerised coverings
    - concealed leadwork (eg soakers) will be installed where they are not visible following the completion of the work
- all lead to be treated with patination oil
- if necessary, repair masonry on a like for like basis using lime mortar only
- re-render complete chimney with NHL5 lime-based mortar
- repair / make good mortar haunching and any mortar fillets with NHL5 lime-based mortar
- redecorate with breathable mineral-based paint

07.01.06 Rainwater Goods

- arrange for previously setaside rainwater goods to be 'sand blasted' to remove all loose paint, rust, etc
- redecorate before fixing by:
    - rubdown to provide key and degrease
    - apply anti-corrosion metal primer, followed by two appropriate undercoats and black semi-gloss topcoat (unless paint manufacturer advises otherwise)
    - forward paint details to Client for approval prior to using
    - all in strict accordance with paint manufacturers' instructions

07.01.06 Rainwater Goods cont…

- replace previous uPVC guttering to match existing cast iron with cast aluminium heritage rainwater goods in full accordance with manufacturer's instructions; include:
    - to use a barrier between aluminium and cast iron if joining to the original goods
    - downpipes to include ears
    - all to be painted before fixing as detailed above (check manufacturer's instructions for paint requirements)

- before commencing the installation, inspect all fascia boards to ensure they are in good condition and will adequately support cast iron gutters
- determine the direction for fitting the gutters beginning with socketed end of the gutter
    - position the first bracket 150mm from the end of the run
    - fix subsequent brackets at 900mm maximum centres using a string line for alignment of brackets and ensuring a slight fall towards outlet positions
    - gutters may be cut with a powered disc cutter or tipped hacksaw
    - when cutting gutters, ensure there are no loose filings left on the surface as these will cause discolouration of the paint finish
    - all cut ends, bolt heads and damaged paint areas should be retouched immediately

- whilst it is common practice to fit gutters in fascia brackets, some gutter profiles may be fixed direct to the fascia if required or supplied with predrilled mounting holes
- jointing methods for cast iron downpipes:
    - vertical rainwater pipes should not normally be sealed
    - only seal joints between gutter outlet and rainwater pipe or offset plus any joints in a horizontal position such as a branch arm or bend
    - it is recommended that three small wedges made from timber or sheet lead off-cuts are used to centralise the pipe joints and prevent any wind rattle

- fixing methods for cast iron downpipes:
    - fix eared cast iron rainwater pipes with large headed pipe nails secured in wooden plugs fitted in the brickwork/masonry background; alternatively noncorrosive coach screws, or other proprietary fixings may be used
    - use epoxy resin in pre-drilled holes if fixing on an uneven or unstable surface

- joining gutters:
    - joint gutters with manufacturer's proprietary jointing gasket kits in full accordance with their instructions; if kit not available:
        - join with specialist rubberised bitumen gutter mastic:
            - the sealant should be spread evenly within the gutter socket applying additional sealant around the jointing hole before placing the gutter spigot into the socket and compressing both parts using the supplied / correct bolt; ensure the bolt head is on the inside of the gutter
        - the washer and nut should be lightly tightened from the underside of the gutter to allow excess sealant to be removed; do not over tighten as this could result in gutter damage
- after installation ensure that any damage to the coating, jointing nuts, bolts and fixing screws is made good with the appropriate paint

07.02 Roof replacement – Georgian Wing

07.02.01 Introduction

Refer to the Ecological Impact Assessment as bats are present.

07.02.02 Preparation

Although the proposed roof works will not increase the structural loading, these works (07.02,02) are **NOT** to be carried out **until** the wall repairs (03.02) have either been completed or taken to a stage deemed adequate by the structural engineer

- carefully remove the existing ridge and hip tiles from the Georgian Wing (all areas shaded red on the application drawings)
- number the underside of tiles with white paint to aid refixing
- if clay, setaside all black plan angle tiles for reuse; if concrete cartaway
    - cartaway any terracotta ridge / hip tiles

- carefully remove the slate roof coverings, including battens and any roofing felt, from the Georgian Tudor Wing (all areas shaded red on the application drawings)
    - number slates with chalk to aid refixing
    - setaside all sound slates for reuse:
        - cleandown and securely setaside slates by stacking vertically; do not store flat
        - damaged large slates are to be setaside for possible reuse as cut slates
        - cartaway all unsound, damaged or 'odd' slates

- thoroughly inspect existing roof structure and bring any defects to the Client's attention
- arrange for inspection by a structural engineer and the local planning authority's (LPA) conservation officer
- cut out and remove any rotten or infected timbers and stabilise / treat remaining timbers; retain as much as possible of the existing timbers

- carefully remove all render to both chimneys

- remove all rainwater goods including downpipes:
    - use releasing fluid on cast iron goods to ease removal
    - cartaway all uPVC goods
    - setaside all cast iron goods

- thoroughly inspect fascia and bring any defects to the Client's attention

07.02.03 Timber Repairs

- repair defective & missing roof timbers by bolting new, suitably sized and treated, softwood sections alongside the existing timbers; include:
    - any repair section to extend to the next available support; eg:
        - take new rafter repair sections to the next purlin
        - take new purlin repair sections to the next truss
        - truss repair sections (if required) to be full length
        - keep the amount of removed existing timber to an absolute minimum
    - repair defective or missing fascia

07.02.04 Roof Coverings:

- obtain suitable slates to make up any shortfall; should the existing slates be unsound, contact the LPA conservation officer to agree a suitable replacement slate
- cover rafters with reinforced bitumen roofing felt to BS 5534 (formerly BS 747 1F) in full accordance with manufacturer's instructions; include:
    - to fix 25mm black uPVC over fascia vents, with integral insect guard, above all fascia
    - fit black uPVC over rafter intake vents over rafter feet to maintain ventilation gap; ensure sufficient rows fitted to fully cover installed insulation
    - eaves carrier
    - to drape felt over rafters
    - to upstand felt against any abutments
    - additional strips of felt to ridge, hips, valleys, etc
    - batten roof with 25x50mm pretreated battens

- rehang previously setaside slates with copper nails
- fix, black clay plain angle ridge / hip tiles over black uPVC ridge vent system and secure each tile with proprietary nail down, or butterfly, clip
    - include NHL mortar bed
    - ventilation gap to be equivalent to a continuous 5mm gap

07.02.05 Chimney Repairs

- overhaul both chimneys as described in section 07.01.05

07.02.06 Rainwater Goods

- overhaul rainwater goods as detailed in section 07.01.06

07.03 Roof replacement – Bats – Both Wings

07.03.01 Introduction

Refer to the Ecological Impact Assessment as bats are present.

07.03.02 Bat Access Slates

Code 6 lead, treated with patination oil. Opening to be 30mm high and at least 50mm wide; corresponding hole to be left in felt behind. Access point to be located around 500mm below the ridge. Or preformed lead unit as shown below:

07.03.03 Bat Larger Access Point

Larger access point 150mm high and at least 250mm wide located just at low level. Include class 3 plyboard baffle behind to reduce light levels

07.03.04 Bat Internal Loft Boxes (Wedge / Kent style)

Wooden Kent bat boxes fixed to rafters (Tudor wing) and inside face of chimney (Georgian wing).

07.03.05 House Martin Nester

Woodstone house martin nests: