

SPECIFICATION for the Farm Building at Carrowbrough rev 1

Specification 1: Re-roof with natural slate

The object is to ensure the roof remains weathertight and replace the asbestos sheet with natural slate.

Strip off the existing asbestos corrugated sheeting. This material is to be undertaken carefully with suitable PPE and precautions to avoid damage to the existing sheets. The sheets are to be removed from site in a suitable asbestos skip to a licenced site. A licence of disposal will be required upon completion.

Install new treated sw battens 50x25mm set parallel to the ridge in straight horizontal lines gauged to suit the slates with a minimum span over at least 3 rafters, fixed with 65x3.35 mm stainless steel annular ring shank nails. Include treated timber tilting fillet at eaves. Allow for chocking up the battens to accommodate the existing uneven rafters below.

Install sound second hand welsh slates to match the adjacent farmhouse. Ensure cut slates are as large as possible. Slates to be fixed as recommended by BS5534, using copper clout nails. Include for universal clay angled ridge tile slate grey, bedding ridges with a 2:5 NHL 5.0 hydraulic lime with a sharp sand.

Include for installing lead soakers at wall abutments and saddle at the ridge. Lead to be installed in accordance with the lead development association handbook. Cover soakers with a mortar flashing - 2:5 NHL 5.0 hydraulic lime with a sharp sand. At verges include for packing the void below the slates and above the wall with mortar to form a mortared verge, with 2:5 NHL 5.0 hydraulic lime with a sharp sand.

Include for the installation of 4no. conservation rooflights, by the conservation rooflight company ref: CR14 (W) 821mm x (L) 1133mm. The roof lights are to be installed in the location of the clear corrugated polycarbonate sheeting, i.e. 2 no per face. Include for installation suitable timber trimmers within the existing roof structure.

Specification 2: Repairs to timber roof structure

The object is to ensure the timber roof structure is sound.

Once areas of roofing have been stripped contact the architect to inspect the existing roofing timbers before relaying is undertaken, so any remedial repairs to the timbers can be undertaken.

Identified areas of rotten timber are to be cut out until sound timber is reached. Ensure the surround timbers are suitably supported. Where there is rot to the rafters cut these back at the next purlin, replace entire purlins from truss/truss and from truss to wall.

All new timbers are to be treated timbers. The timber replacements are to match the original timbers in section size, note site measurements are to be taken prior to ordering the timbers. Brush apply on site where any timbers are cut or are to be built into the masonry.

At rafters lay the new rafters adjacent to the existing cat back rafter so both the existing cut back end and the new timber are fully supported on the purlin and wall plate.

Purlins are to be laid above the original so they can overlap at the truss. Ensure there is at least 150mm bearing into the walls. Make good the stonework around the bearing to ensure the purlin is secure. Point up with NHL 3.5 1:3 lime mortar.

At existing trusses where reinforcement is required bolt new timbers to the side of the existing members, bolt with M14 carriage bolts at 300mm centres staggered at 50mm either side of the centre line of the timber.

New sections of timber wall plate are to be fixed down to the wall head with M14mm resin bolts generally at 600mm centres and located to secure into the centre of stones. The boards are to be bedded on an NHL 3.5 1:3 lime mortar.

Specification 3: New rainwater goods

The object is to efficiently channel the water run-off from the roofs therefore reducing the potential damage to the stonework walling from weathering.

Remove the existing guttering.

Install new 100mm half round deep flow cast iron guttering set on spiked galvanised rafter brackets at approximate 900mm centres, include for all necessary stop ends and outlets. The outlets are to discharge into the down comers. Include for 65mm cast iron down comers, brackets, swan necks and shoes to the base of the down comers. Include for the necessary hardwood timber bobbins to the downpipe brackets. When fixing the gutter brackets and down comer brackets avoid the stones and fix to the joints to avoid damage to the stonework work, use stainless steel fixing screws.

The joints to the guttering are to be sealed with silicone sealant and fixed with a gutter nut. Downpipe joints to be left dry with suitable lead wedges.

Include for painting the rainwater good and galvanised gutter brackets with suitable gloss metal paint system. Allow for a coat of metal primer, a coat of undercoat and two coats of external gloss. Coloured black.

Specification 4: Drainage

The object is to direct the water well away from the buildings to a soakaway, rather than discharging to base of the wall.

Carefully excavate for a gulley, a drainage pipe and a soakaway. Back fill and make good the surface on completion.

Include for the installation of a 150mm square gulley with a cast iron cover plate, with a connection to a 100mm drainage pipe.

Allow for 100mm plastic drainage pipes, laid with a minimum fall of 1:80, assume an excavation depth of 750mm. Lay the pipes on a bed of gravel with 150mm cover. Back fill with as built material.

Allow for forming a 1m cube soakaway at the end of the drainage run. Filled with course rubble, and topped with a geotextile membrane and 200mm of as dug material, and make good the surface.

The proposed drain run to the northern elevation is to be encased in concrete to extend the current concrete step with a discharge into the field.

Specification 5 – Repointing.

The object of the repointing is to enable the effective shedding of water from the walls and reduce the risk of water penetration and vegetation establishment in order to provide long-term protection of the stonework.

Cut back the existing mortar to a minimum depth of at least 50 mm or half the width of the joint, whichever is greater. Carefully remove and set to one side any loosened galleting. Clean out existing loose mortar using only fine chisels and a light hammer, fine saw blades and fine raking spikes, taking care not to damage the edges of the stonework, or to dislodge any stones. **DO NOT USE ANGLE GRINDERS. DO NOT USE COLD CHISELS**, which can wedge in the joints and damage the edges of stonework. Impact must be at an angle to the joint face and not perpendicular to it.

Brush out loose debris, wash out and wet prior to pointing. Apply mortar pointing, compacting firmly into place and fill the joint. Re-bed loosened galleting as work proceeds. Once the mortar has set, knock back to show the arises of the stones then brush back with a churn brush or similar followed by a soft brush.

Spray with fine mist spray to prevent rapid drying throughout the process. Work must be protected from rain to avoid smearing of facework and must be protected from excessive heat/cold.

Mix for repointing

1 : 2.5, NHL 3.5 natural hydraulic lime: course washed sharp sand.

All mortar mixes are indicative and are to be agreed on site following the preparation of mortar samples for approval by the Architect.. For the purposes of the tender assume the Thornbrough/Styford sand from Corbridge, with a Naturally Hydraulic Lime 3.5.

Gauge boxes to be used throughout to ensure uniform mixes. Used mortar to be discarded at the end of each working day. Ensure that the mixing is carried out in a suitable site compound to avoid disruption to the ground.

The works are planned during the summer months so protection will be necessary to avoid rapid drying out and to provide protection from the rain. Ensure newly laid mortar is adequately protected using a grade 10 hessian with tarpaulin covers during the works. Ensure the newly laid mortar is regularly monitored, damping down the hessian and spraying the mortar to prevent drying out.

Specification 6 - Deep Tamping

The object of the deep tamping is to stabilise loose masonry and prevent water ingress.

The mortar joints in the specified areas are largely empty with deep voids, and must be deep tamped to bring them forward to the required depth. Clean out existing loose mortar using only fine chisels and a light hammer, fine saw blades and fine raking spikes, taking care not to damage the edges of the stonework, or to dislodge any stones. DO NOT USE ANGLE GRINDERS. DO NOT USE COLD CHISELS, which can wedge in the joints and damage the edges of stonework. Impact must be at an angle to the joint face and not perpendicular to it.

Wedge loose stones as the work proceeds. Carefully remove any small stones or galleting and set aside for re-bedding. Brush out all loose material from the joints. If any old weathered joints have been colonised with lichens, algae, etc. apply an approved biocide as part of the cleaning out.

Using hand sprays, thoroughly pre-wet the joints and deep tamp with the specified mix thoroughly filling the joints and voids and consolidating the work bringing the mortar forward. Any large areas of mortar are to be packed with stone pinning/gallets. These areas are to be pointed as **Specification 5**.

Mix for deep tamping

1 : 2.5, NHL 3.5 natural hydraulic lime: course washed sharp sand.

Specification 7 - Rebuilding Masonry

The object of the rebuilding is to stabilise loose masonry, both facing and corework so it is structural sound. Where the stones are missing the object is to fill in area of missing stone to secure and protect the remaining surrounding stonework, and improve the structural integrity of the wall.

The extent of rebuilding is indicated. Precise areas are to be agreed on site with the architect and will be dependent on the condition of the masonry and will require re-assessment as the taking down progresses.

Prior to taking down stonework record, photograph and number stones. Carefully remove a maximum of 1 linear metre at a time and consolidate the exposed core. Brush off the loose mortar from the stone. Relay the removed facework to match original, using numbered stones, introducing corework as the work proceeds with flush pointing, struck off and washed with fine spray after first set to give impervious weathered surface.

Pointing to facework to be completed with slightly recessed joints as **Specification 5**

Where the rebuilding is undertaken to the wall heads for a hard mortar. Introduce corework as the work proceeds with flush pointing struck off and washed with fine spray after first set to give impervious weathered surface to the upper level of the structure and to ensure proper shedding of water.

As rebuilding progress introduce stainless steel bed reinforcement and ties into the surrounding masonry to ensure the areas of rebuilt masonry are full tied into the existing masonry.

Where stone is missing use stone to match the existing, building out missing sections of masonry and larger voids. Use smaller gallets to pack around the stones to ensure

the surrounding stone are fully supported, and to avoid large areas of mortar. Bed the stones into a mortar bed and deep tamp the mortar compacting it well into the voids. The mortar bedding is to be left back from the face so that the new stone and surrounding stones can be repointed in one operation as **Specification 5**.

Mix for re-bedded facework and core and piecing in.
1 : 2.5, NHL 3.5 natural hydraulic lime:course washed sharp sand.

Mix for capping
1 : 2.5, NHL 5.0 natural hydraulic lime: course washed sharp sand.

Specification 8 - Structural Stitching

The object of the stitching is to tie sections of masonry together across cracks to improve the structural integrity.

Allow for structural repairs at movement cracks provisionally as indicated. Architect to provide details of final locations. Include for raking out bed joints to a minimum depth of 75 mm x length of the bar, (exact lengths to be determined on site). Clean out slots with blow pump and flush out with water to remove all debris. Using a grout gun inject a bead of Helicon MM2 thixotropic cementitious non shrinking grout to the back of the slot. Insert a stainless steel Helibar 6 mm dia 1000mm rod into grout to obtain good coverage. Inject a further bead of Helibond MM2 inserted with injection kit to within 38 mm of work face. Repoint as **Specification 5**.

Specification 9 - New Lintels

The object is to renew rotten and decayed timber lintels to ensure the stonework above is adequately supported.

Carefully prop the existing stone work, sufficiently to enable the remains of the rotten lintels to be removed. Install new Oak timber lintels. Include for making good the surrounding masonry and packing gaps above the lintel. Make good the stonework around the lintel and repoint as **Specification 5**.

Where indicated include for the installation of a new code 4 lead capping over the timber.

Specification 10: Timber treatment

The object is to prevent further rot and reduce the amount of timber to be removed.

Existing timber to be checked for decay/woodworm and retained timber to be treated appropriately with suitable fungicide and herbicide treatments. Any treatments used are to be 'bat friendly' and applied in full accordance with the manufacturers recommendations.

Specification 11 - Structural Pinning

The object of the pinning is to tie broken masonry components together across cracks to improve the structural integrity.

Allow for pinning stones provisionally as indicated. Agree with the architect on site the exact locations of specific pinning of stones.

Drill holes to suit site conditions to accept 10 mm stainless steel rods (but minimum of 2x thickness of stone to be stabilised. Flush out hole with solvent or water. Fill hole with proprietary resin to approx 2/3 capacity. Insert pin and following curing, finish with lime mortar or stone plug as necessary.

Where the pinning involves pinning across a lintel include for injecting resin into the crack and repointing as spec 5 upon completion.

Specification 12: Decoration.

The object is to provide a protective layer to protect the surfaces below.

New joinery is to be knot sealed, joints filled, minor defects filled and rubbed down, then apply one coat of primer, one coat of external quality undercoat and two coats of external quality gloss. The colour is to be agreed.

Existing joinery is to be rubbed down to remove loose and flaking old paint and dirt, then wiped down and clean with white spirits. Minor defects are to be repaired with filler and rubbed down. Apply one coat of external quality undercoat and two coats of external quality gloss. All doors and frames will be painted Estate Red.

For the rainwater goods and ironmongery allow for suitable metal primer, a coat of external undercoat and two coats of external gloss, colour to be black.

All paint systems to be installed to the manufacturer's recommendations.

Specification 13: Window & Door Repair/Refurbishment

The object is restore the windows and doors while maintaining as much of the original fabric as possible.

Where a section of timber frame or door panel is damaged or rotten, this is to be cut back to sound timber, leaving a straight but angled cut. Cut the new timbers to match

A new section of timber of the same profile is to be cut and spliced into position and secured with a resin filler. Once dry this can be rubbed down to create a smooth surface. Missing legs of frames are to be secured to the masonry with stainless screws, and door panels to be screwed to the existing ledges and braces.

At existing and new frames include for sealing the perimeter of the frames and the stonework with a burnt sand mastic.

Window – Include for the installation of 6mm safety glass secured with linseed oil putty. Secure glazing on wedges and a bed of putty. Apply further fronting putty and knife at an angle finishing about 2 mm below the sightline. Brush putty with soft brush to seal to glass. Knife off back bedding, sloping away from glass. The maximum fillet size to allow correct setting is 15mm high x 25mm wide. Minimum fillet size is 8mm high x 10mm wide.

Include for sealing the perimeter of the frame and the stonework with a burnt sand mastic.

Specification 14: New Doors

The object is to replace doors beyond repair and to provide doors to openings to ensure the building can be secured and therefore becomes more useful.

Install new ledged and braced timber boarded doors. Fabricated with 25x150mm battens, 32x100mm braces, and 125x25mm boards. Reuse the existing salvaged ironmongery where indicated, the existing ironmongery is to be rubbed down and painted as specification 12. The timber is to be Accoya timber.

Allow for supplying and installing the following ironmongery to each of following doors:-

North door – utilise the existing salvaged ironmongery.

East lower door – utilise the existing salvaged ironmongery.

East upper door.– 2 galvanised hinge pins, with 50mm wide band hinges and a 200mm slide bolt.

South door (retained) – a black thumb latch.

Specification 15: New Window

The object is to replace windows beyond repair and to provide new windows to ensure the building can be secured and weatherproof and therefore becomes more useful.

Northern window is to be 75x50mm frame with a 12mm rebate to accommodate the single glazing. Include for hardwood 40x50mm rebated glazing bars (allow for 3 number vertical bars to create 4 panes.) The frame is to include a chamfered cill section.

Southern windows are to be 75x50mm frame and transom with a 12mm rebate to the top to accommodate the single glazing. Include for hardwood 40x50mm rebated glazing bars to the upper opening (allow for 2 number vertical bars to create 3 panes.) The frame is to include a chamfered cill section. The lower section is not to be rebated but fitted with 25x65mm vertical slates notched into the frames with 50mm gaps between the slates. Include for forming an internal frame with 25x65 timbers with vertical slates as above to slide within the casement above and secured with a 22mm square internal bead.

The timber for the windows is to be Accoya timber. The windows are to be decorated as Spec 12.

Include for the installation of 6mm safety glass to the upper opening secured with linseed oil putty. Secure glazing on wedges and a bed of putty. Apply further fronting putty and knife at an angle finishing about 2 mm below the sightline. Brush putty with soft brush to seal to glass. Knife off back bedding, sloping away from glass. The maximum fillet size to allow correct setting is 15mm high x 25mm wide. Minimum fillet size is 8mm high x 10mm wide.

Include for sealing the perimeter of the frame and the stonework with a burnt sand mastic.