

weston hall • weston on trent
discharge of planning condition 7:
confirmation of re pointing and mortar specification



weston hall

30 August 2019

WESTON HALL
WESTON ON TRENT

RE-ROOFING, STRUCTURAL REPAIRS & ASSOCIATED
WORK

**discharge of Planning condition 7:
confirmation of repointing and mortar specification**

Revision	Date	Clauses amended
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First draft for comments	30/08/2018	
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C O N T E N T S

A	Introduction
B	Justifications and cross referenced material
C	Site photographs

A I N T R O D U C T I O N

- I.0 This document provides information relating to the confirmed repointing and mortar specification at Weston Hall.

B CONFIRMATION OF WORKS

- 2.0 Peter Rogan & Associate specification extracts follow.
The re pointing work has been viewed by Liz Knight, SDDC's conservation officer at several site visits and meetings and verbally agreed, the following specification (and ASBC Ltd's confirmed scope via their schedule of works and variation documents) confirms specification and scope of re pointing.

Extract from Peter Rogan & Associates specification:

6.5 Preparation of Mixes

- 6.5.1 Mortar mixed using a gauging box, mixes as described below.

6.5.2 Design mixes

[Mix C] Hydraulic Lime Mortar

Lime to be hydraulic lime hydrate [NHL 2.0 or 3.5 as specified] from Singleton Birch/Hydraulic Lincolnshire Limes Ltd, Melton Ross Quarries, Barnetby, North Lincolnshire, DN38 6AE. telephone 01652 686000 or similar approved by the Architect.

6.5.3 Aggregates and inclusions for use in mortars (if specified in schedules)

Sand provisionally to be Baston plastering sand (Peterborough – Hanson Aggregates 0330 123 4505).

Grit to be clean sharp grit, provisionally Chichester No.1 Grit (Tarmac Quarry Products). The proportion for the addition of grit is to be confirmed through approval of samples.

Fine ground stone dust to pass through a 0.6mm sieve.

Pozzolan to be Trass provisionally added at a rate of 5% by volume to lime (Cornish lime 01208 79779 or other approved supplier).

Other inclusions to be introduced only on discussion and approval of the Architect, approval of suppliers and agreement of samples.

6.5.4 Samples and approvals

Prepare biscuits of mortar samples, samples of raking-out and repointing/consolidation as required in the Schedule of Works. Undertake in-situ samples in locations pre-agreed with the Architect. Await approval before implementing samples elsewhere in the works.

6.6 Repairs to Fractured Masonry

- 6.6.1 All repairs to masonry to be agreed with Architect before proceeding with the work.

- 6.6.2 Except where may be otherwise stated in Schedules of Work (Section F) fractures in dressed masonry to be pinned using threaded stainless steel stud 8mm diameter, in a hole drilled with an 8mm bit, unless otherwise directed. Pins to be positioned skew at an angle of between 45° and 60° to the face of the fracture and anchored in an annulus of epoxy resin, Sikadur or similar and approved, type as recommended by manufacturer as appropriate for this use.

6.7 Dowels and Cramps

- 6.7.1 Dowels and cramps are to be of Delta bronze or stainless steel as directed by the Architect. Approved manufacturers of dowels and cramps are Abbey Building Supplies Co., 213 Stourbridge Road, Halesowen, West Midlands B63 3QY; Ancon Building Products, President Way, President Park, Sheffield, S4 7URACS Stainless Steel Fixings Ltd, Cross Green Approach, Leeds, LS9 0SG. Stainless steel to be grade 1.4401 to BS EN 10088 and BS EN 10027.
- 6.7.2 Existing rusting iron cramps are to be carefully removed where accessible during the works or where directed in the schedules/drawings and replaced with new cramps in materials as specified to match the design of the originals or, where agreed with the Architect, to new design.

6.8 Protection

6.8.1 Store dressed stone clear of the ground, separate with resilient spacers, protect from inclement weather and keep dry. Prevent soiling, chipping and contamination by salts and other deleterious substances. Prevent timber bearers, protective boards, etc. from staining facings in wet conditions by covering with polyethylene or tarpulins held off the face of the stone or separated by undyed hessian. Prevent damage and disfigurement to stonework during the course of the works. Ensure that arrises and projecting features are protected using securely fixed slats, boards, etc. Remove at Practical Completion. Repairs to damaged components must not be undertaken without approval. Such approval will not be given where components are badly damaged or where the proposed repair will impair appearance or performance.

6.8.2 Refer to section C14 for requirements and limitations on masonry works in respect of inappropriate and inclement weather conditions.

6.9 Indent Repairs

6.9.1 Cut back existing stone to the minimum amount required to accept stone insert, removing decayed stone, cutting back a minimum of 20mm and back to sound stone using narrow chisels (maximum 10mm cutting edge) or sharp saw blades.

6.9.2 As specified on the drawings generally to a minimum thickness of 20mm.

6.9.3 Profiles of indents to follow that of the original line of the stone into which they are being inserted. Where possible the edges of the stone are to be formed so as to undercut or be dovetailed to the existing. Where indent repairs continue through a designed joint in the existing stone the inserts should be cut to respect the existing breaks in the stone, with joints pointed-up.

6.9.4 Unless otherwise directed, Indents to be pinned with a minimum of two 8mm threaded stainless steel pins set into holes drilled with an 8mm bit grouted and faced with neat lime putty slurry.

6.10 New Stone Dressings etc.

6.10.1 New stone to be pieced-in to follow line of coursing and perpends as existing with thickness of courses and perpends to correspond with existing. All voids between new stone and existing fabric to be packed thoroughly with mortar.

6.10.2 Avoid smearing mortar on face of stone. All mortar to be removed within one hour of stone being set in position.

6.10.3 Line of moulding/carving to stone dressing to be formed from templates/maquettes made by Contractor at no extra cost to be approved by Architect. Where there is no or limited evidence of the design of original stones/stones to be replace the Architect is to be consulted regarding the design of the new stones and the Contractor is to prepare templates/maquettes based on these recommendations.

6.11 New Stone Dressings and Ashlar Work - Tolerance

6.11.1 All new stone blocks to be finished to not more than + or - 2mm deviation from dimensions of void cut out from existing block or from line of templates/maquettes/architect's drawings.

6.12 New Stone - Finish

6.12.1 For stone in the context of ashlar work provide a coarse rubbed finish to all visible faces ensuring all machine marks are removed. Where existing or surrounding stone has a tooled finish, provide tooled finish to a design agreed with the Architect.

For stone in the context of random or coursed rubble stonework provisionally provide a semi-dressed finish subject to sight of samples.

6.13 New Stone - Structural Integrity and Defects

6.13.1 Ensure that all blocks are free from defects that could affect the structural integrity of the stone in use. All blocks with vents, cracks or other structural defects will be rejected.

6.13.2 All stone which is chipped, pitted or cracked on the visible face will be rejected. Stone with chips/pitting/cracks filled with stone dust/resin will not be accepted.

6.14 New Stone - Bedding

- 6.14.1 Unless otherwise specified, stone to be laid on natural bed.
- 6.14.2 Where specified, stones not laid on natural bed to be edge-bedded.

6.15 Replacement stone - Source

- 6.15.1 Allow for advising on and sourcing samples of stone for consideration for use in repairs.
- 6.15.2 Provisionally new stone to be Hollington (buff/mottled) or Grinshill (buff/mottled).

Samples of all stones should be provided for approval by the Architect. Stone to be selected from beds chosen to best match the existing stone in terms of colour and petrology and providing good quality building stone.

6.16 Re-bedding/relaying Existing Brickwork and laying New Brickwork

- 6.16.1 Remove all loose particles from the surface of the brick (churn brush) by hand. Thoroughly dampen down all brickwork before re-bedding allowing a period for any free water lying on surface of bricks to dry out before applying mortar. In hot, dry weather bricks to be bedded should be immersed in water for up to ten minutes before allowing surface water to dry out for a short period immediately before bedding.
- 6.16.2 Bricks to be bedded to follow line of existing (whether or not the existing is level or plumb) with joint thickness to correspond with that of surrounding brickwork and with the width of perpend joints matching the bedding thickness and matching existing bond. New brickwork should be laid to match the joint thickness and bond of existing brickwork of related nature and to be agreed in advance with the Architect.
- 6.16.3 Lay bricks on a full bed of mortar with all joints and voids filled. Lay frogged bricks with the frog uppermost. Where appropriate use temporary lead or stainless steel distance pieces to ensure consistent joint width; remove when mortar is sufficiently strong.
- 6.16.4 Keep brickwork clean during construction and until Practical Completion. Ensure that no mortar encroaches on face when laying. Turn back scaffolding boards at night and during heavy rain. Rubbing to remove marks or stains will not be permitted.

6.17 Preparation of Brickwork for Repointing

- 6.17.1 Extent of all existing mortar to be removed to be agreed with Architect before proceeding with the work. Provisionally this is as shown on drawings.
- 6.17.2 Depth of raking out in preparation for re-pointing to be at least twice the height of the joint and, in any case, not less than 18mm.
- 6.17.3 Lime-based mortar to be removed by hand by scraping (not striking) a chisel across the joint.
 - Use only sharpened hand tools, such as quirks or small plugging chisels that are no wider than half the width of the joint.
 - Ease pointing from joints by cutting into the joint behind the joint face and away from the wall surface. Carefully remove pointing to form a square recess.
 - Where the bedding mortar has suffered excessive deterioration or in locations where there are voids, the mortar is to be cut back to sound material.
 - Thoroughly clean out joints with a stiff bristle brush or, for fine joints, a vacuum cleaner.
- 6.17.4 Cement-based mortar to be removed by scraping with a chisel where mortar is loose. Where directed by Architect, firm/sound cement-based mortar to be removed with a hammer and chisel but otherwise should be left untouched. Chisels should be kept sharp, and removal should be carried out by a stonemason and with appropriate care to minimise damage to the existing stonework. Where very hard cement based mortars are encountered, the use of a drill or powered reciprocating saw may be permitted to break the back of joints in order to gain an initial purchase for a chisels: pilot holes should be drilled into the centre line of joints using an electric drill with a diamond tipped bit (6mm dia for a 10mm joint) on a low speed and low torque setting. Use of drilling of holes is subject to a test sample of the method to be approved by the Architect.
- 6.17.5 Do not use mechanical chisels, angle grinders, etc. to remove existing mortar.

- 6.17.6 Remove any loose particles from joints and all organic growth (lichen, moss, etc.) from area of brickwork immediately adjacent to joint (25mm nominal).
- 6.17.7 Thoroughly dampen down brickwork with water before re-pointing with lime mortar allowing a period for free water to dry out. As necessary, repeat dampening down of unpointed areas as the work proceeds to ensure brickwork is damp when re-pointed.

3.0 Cross referring information

Please refer to the following information submitted with this application:

- ASBC Ltd schedule of works and variations: : "ASBC Weston Hall Pay-App 06 redacted.pdf"
- Peter Rogan & Associates 'contract issue' drawings

