

MSI – Science Academy



Conditions Discharge
Masonry Repairs



Version History

MSI Science Academy – Conditions Discharge: Repairs and Reinstatement of Masonry

Rev:	Date:	Status	Name	Description
A	13-04-22	DRAFT	Rhiannon Williams Architectural Assistant	For Planning
-	01-04-22	DRAFT	Rhiannon Williams Architectural Assistant	For Planning

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Buttress

Buttress Architects Ltd.
41 Bengal St.

Manchester M4 6AF

T: 0161 236 3303

www.buttress.net

Repairs & Reinstatement of Brickwork

This document seeks to discharge the following condition for 'Application number: 132426/LO/202 - Listed Building Consent for the internal refurbishment of Grade I listed building to create a new learning and teaching space and complete services refurbishment' in regards to the repairs and reinstatement of masonry.

[Below: Extract from Decision Notice]

'3) Notwithstanding the details shown in the approved documents and detailed in condition 2 of this decision, full and final details of the following shall be submitted and approved in writing prior to any works to those elements commencing on site:

a) Detailed specification of repairs and reinstatement including samples of proposed materials.'

The proposed masonry repairs and reinstatement will make use of bricks reclaimed previously on site and which are held in stock by the Museum for masonry repairs. They are therefore fully like-for-like. A matching mortar mixture to the existing will also be used.



Figure 1 & 2. (above) Samples of proposed brick (sourced on site) held up against existing masonry wall.



Figure 3. (above) Samples of proposed brick stacked beside existing wall.



Furthermore, the brick repairs are limited to areas where the intrusive 1980s elements have been removed, such as concrete lintels for example.

Figure 4. (left) Example of concrete lintel in existing brickwork, this is

Methodology & Specification Prepared by Contractors (MBC)

A. Brickwork

Specification:

- Salvaged bricks to be cleaned and free from matter such as mortar, organic growth, plaster and paint etc.
- Potential repairs to existing cracked bricks that have been removed, cleaned, bonded with approved epoxy resin adhesive and reused

Methodology for Preparing Area to Receive Masonry:

- Carefully remove all damaged and defective material to extents as agreed with design team and client to a suitable solid surface.
- Process will be managed carefully to ensure remaining adjacent masonry is not disturbed, marked or damaged during this process.
- Removal of redundant metal fixings.
- Removal of all loose material and any projections into repair location.
- All joint surfaces to be left in a suitable condition to receive the replacement masonry units. Area will be protected from inclement weather if area is not to be worked on immediately after with regards to replacement masonry units.

Methodology for Installing Replacement Masonry Units:

- All exposed faces of material will be managed and kept to the agreed surfaces.
- Of the faces, features and angles all elements will be set out and aligned carefully to ensure interfaces and junctions with existing masonry is maintained.
- Joint widths are to be maintained and replicated on newly installed units and where they interface with existing material.
- All joint surfaces will be dampened to assist with control of suction as deemed necessary.
- All units to be laid will be laid and sighted on a full bed of mortar with all joints filled.
- Installation process will ensure that any exposed faces will be kept clear of mortar and grout during the installation.

Quality Control:

- The specification and drawings will be adhered to fully. Any potential deviation or requirement to deviate will be fully discussed with design team taking on all comments regarding suitable solutions.
- Prior to the works being carried out in the particular location it will be photographed extensively to form part of the repair/remedial report and form part of the final records submitted upon project completion.
- All stages of the methodology will be followed and adhered to.
- Particular care will be taken during the removal back to solid masonry. Extents of removal will be clearly agreed with design team and limits set to ensure adjacent solid masonry is left in place untouched and undamaged.
- Mortar pointing to the affected area will be closely monitored for colour match as per control sample approved through planning.
- During the repointing care will be taken to not mark the surrounding faces of existing masonry and ensure there is no overspill of mortar on to the exposed faces.

- Upon completion of the repair work the area will then be photographed to form the final part of the repair/remedial report and will be submitted upon project completion.
- All evidence of the sample repair will be submitted to the design team electronically and also offered for physical inspection on site.

B. Mortar

Specification:

- Mix ratio for repointing is 4 Red Sand, 1 Portland Cement. (Sand may be adjusted slightly on site to gain a precise colour match if not already)
- Sand will be sourced with design team's comments and in line with mortar analysis report.
- Sand will be well graded sharp sand
- Mortar joint profile to match existing.

Methodology for Preparation for Repointing:

- Working from the top of the required section downwards, existing mortar will be removed carefully using hand tools only.
- Seek to carryout sample removal of mortar using an Arbor Saw with a narrow gauge Heritage Blade. This is a low dust reciprocal saw, when combined with the narrow gauge blades is widely used in heritage works in terms of mortar removal for the purpose of re-pointing.
- Care will be taken when removing existing mortar to not damage the adjacent masonry or widening the existing joints.
- The affected area will be raked out to a minimum depth of twice the joint width.
- Design team instruction will be sought if any loose or friable mortar is found that goes beyond the specified rake out depth.
- The same process will be applied if any cavities are found during the rake out of existing mortar.

Methodology for Repointing:

- Ensure all joints are suitably prepared.
- Mix mortar to required strength with correct quantities to provide finished product with correct level of colour match as agreed with design and project team.
- The mortar will be pressed well into the joints using hand pointing tools, to ensure that all joints are fully filled.
- The finish will be matched to surrounding joints.
- Care will be taken to keep the face of masonry clear of mortar and all joints will be finished neatly.
- After the initial set has taken place the mortar will be brushed to remove laitance and excess fines to give a coarse texture.

Quality Control:

- The specification and drawings will be adhered to fully. Any potential deviation or requirement to deviate will be fully discussed with design team taking on all comments regarding suitable solutions.
- Prior to the works being carried out in the particular location it will be photographed extensively to form part of the repair/remedial report and form part of the final records submitted upon project completion.
- All stages of the methodology will be followed and adhered to.

- Particular care will be taken during the raking out of the existing joints. Extents of removal will be clearly agreed with design team and limits set to ensure adequate bed is left and suitable to receive the new mortar pointing.
- Mortar pointing to the affected area will be closely monitored for colour match as discussed and set-out in terms of material composition to ensure best match is provided in line with planning officer and design team expectations.
- During the repointing care will be taken to not mark the surrounding faces of existing masonry and ensure there is no overspill of mortar on to the exposed faces.
- Upon completion of the repair work the area will then be photographed to form the final part of the repair/remedial report and will be submitted upon project completion.
- All evidence of the sample repair will be submitted to the design team electronically and also offered for physical inspection on site.