

CubicWorks

40 - 46 Princess Street - Scaffolding Methodology

Phase 2(Hoist and fire escape to Harter St)

Submission Date: 22nd December 2021

Property Address: 40-46 Princess Street, Manchester, M1 6DE



Rev	Date	Produced By	Checked/Approved By
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Appendices;

App A - Quadriga - Scaffold fixing and repair methodology

App B - Methodology for installation of ties in to listed brickwork facade

App C - Technical Data Sheets for SCE Restraint Eye

App D - Technical Data Sheets for CS Stud Screw with metric thread

App E – Quadriga – Sash removal

App F – Fairhurst Joinery – protection to window frame

Introduction - Background & Purpose

This scaffold methodology plan (SMP) is proposed for the construction phase of developments at 40-46 Princess Street and is in place to ensure the interests of visual amenity and because the proposed works could affect a building which is included in the Statutory List of Buildings of Special Architectural or Historic Interest.

As part of the approved redevelopment of 40-46 Princess Street, the requirement for a full scaffolding system to safely undertake the works is required in the immediate future therefore we are proposing the following principals noted in this strategy document to be followed.

We appreciate that careful attention to building work is required to protect the character and appearance of this building and to ensure consistency in accordance with planning policies CC9 and EN3 of the Core Strategy and saved policy DC19.1 of the Unitary Development Plan for the City of Manchester.

This document looks to set out a methodology and specification for any associated scaffolding and support structure required for the redevelopment of this listed building.

This report will focus on the following elements;

- How the contractor will be briefed on careful installation
- Means of affixing to the building
- Avoid any architectural features/detailing
- Details of making good to the building fabric following removal of ties

How the contractors will be briefed on careful installation

It is essential that we ensure a conservation-led approach to the installation and dismantling of the scaffolding system that avoids harm to the heritage significance of the building by, for example, minimising harmful intervention that involves the loss of original/historic built fabric.

CubicWorks will provide a site induction programme to all operatives working in the building, this will focus heavily on the importance of preserving this asset. Alongside the induction programme, we will also conduct regular tool box talks which will pick up this matter on a regular basis.

Our site management team will monitor the installation and dismantling of the scaffolding system daily to ensure that the operatives are following the strict rules contained within this report.

Location and frequency of fixings into the structure

The scaffolding design illustrated in the appendices shows the frequency of the types of fixings to be utilised. Our site management team will ensure that the drawings and design provided is fully adhered to.

Proposed strategy - Means of fixing to the building

Utilising Existing fixing points

There are limited areas which may have existing fixing points left within brickwork whereby the existing ties can be assessed for suitability of reuse by conducting pull tests on-site in accordance with TG4:19 Scaffold Anchor Testing.

Existing tie locations to be re-used at later date to avoid future repeated damage across elevations, which can lead to detriment of the long term condition of the built fabric and appearance of the building.

On completion of the project, ties to be removed and holes within the fabric of building to be filled 20mm from the surface to the back of the drill hole using the repair methodology set out later in this report, all holes to be filled utilizing small hand tools which consist of minute trowel.

Methodology for installation of New ties into listed brickwork facade:

The proposed method of installing anchor ties in to a listed brickwork façade is as follows:

1. Drill 14mm hole in mortar joint (for standard mortar beds)
2. Insert nylon plug in to hole until it is fully embedded
3. Insert ring bolt in to plug and screw in tightly. The correct embedment is achieved when the graduation mark on the shaft of the bolt is lined up with the collar of the plug
4. Proof test and label as required
5. Pass hook coupler through the eye of the bolt and attach to the scaffold tie tube
6. Protective end caps to be fitted to any abutting tie tubes

Ties to be drilled using a masonry drill to 80mm depth with a 14mm drill bit.

All points of contact or near contact between scaffolding and historic buildings should be protected in some way. All tube ends that either touch a wall or are within 25mm of it should have plastic end caps. All standards should sit on timber sole plates to spread the load and floors beneath should be protected with polythene sheet, old carpet or similar materials to prevent damage.

Following removal of the ring bolt, the hole in the mortar is to be made good by our specialist contractor Quadriga.

Methodology for installation of New ties into listed glazed brick facade:

Where the building has glazed bricks and the joints are narrower we would propose drilling a 10mm hole in the mortar joint and use the CS stud detailed below, with the eye nut and hook coupler. Ties to be drilled using a masonry drill to 80mm depth with a 10mm drill bit

With this type of tie there is no nylon plug and all of the tie is removed from the building on completion of dismantlement of the scaffold. All tie positions are to be made good by our specialist contractor Quadriga. Again all abutting tubes to be fitted with protective caps.

CS Stud – Eye Nut – Hook Coupler



CS Stud – Adaptor – M16 Ringbolt



Avoid any architectural features/detailing

We will ensure that no ties are installed local to any decorative stonework, we will ensure that we fix no closer than 300mm from any architectural and historic feature such as ornate stonework detailing.

Quadriga - Scaffold fixing and repair method

Fixings to masonry:

Where fixings are made to stone or brickwork it is necessary to check that the masonry is adequate beforehand. Such a fixing to a facade could dislodge a stone or an area of brick thus endangering the safety of the scaffold and damaging the historic fabric. All fixings made to the wall of an historic structure must be of stainless steel or plastic sleeve. Fixing holes to be in mortar joints where possible.

Scaffolding to building interfaces:

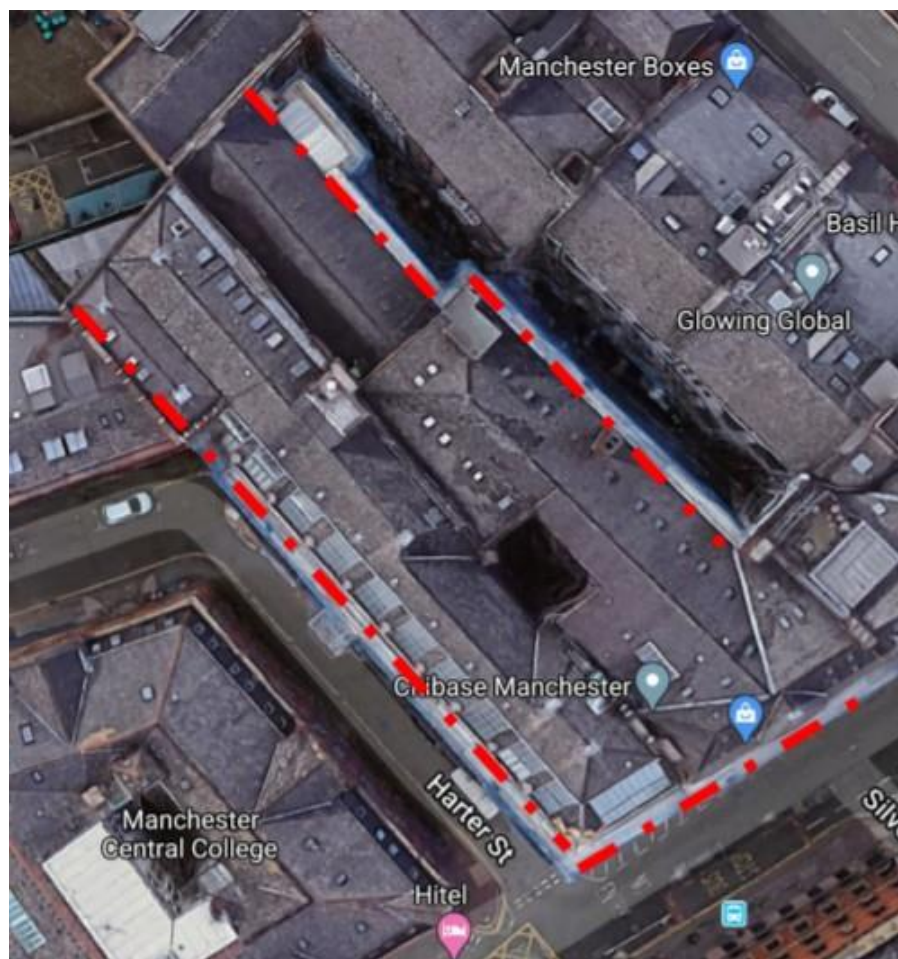
However well constructed, scaffolding is always likely to move slightly and a tube end rubbing on a wall face can easily cause permanent scarring. All points of contact or near contact between scaffolding and historic buildings should be protected in some way. All tube ends that either touch a wall or are within 25mm of it should have plastic end caps. All standards should sit on timber sole plates to spread the load and floors beneath should be protected with polythene sheet, old carpet or similar materials to prevent damage.

Repair fixing hole's to masonry:

When the scaffold is ready to be dismantled, a qualified restorer will be on hand while the scaffold strip progresses. The restorer will use an approved lime mortar colour mix to fill in the holes made by the scaffold fixings.

Details on the timing of construction of scaffolding

Due to the extent of the facade works we are proposing to install scaffolding to the elevations (as illustrated in red on the image below, with fan boards and two materials hoist, one located on Harter Street for materials IN and the other in the courtyard for materials OUT;



Phase 1 - Scaffolding requirements

As detailed above, we will require a full scaffold around the entire perimeter at some point, however we are conscious that phasing the scaffolding system will reduce the impact on the building's security and also limit disruption from a member of the public perspective. On this basis, we are looking to phase the works into six key phases;



- **Phase 3 (part of) Hoist and fire escape stairs** - Duration 20 weeks
This will allow safe access to the roof in preparation for strip off

Means of a fire escape in the event of an emergency

Hoist to provide materials loading to upper floors and waste removal from the works.

