



### Method statement for cleaning and repair of existing brickwork

BAM Construction have been appointed by Argent (King's Cross) Limited (on behalf of the King's Cross Central General Partner Limited) to refurbish the Fish & Coal Offices and the ten most easterly Wharf Road Arches, known as the 'Eastern Wharf Road Arches'. To support the Planning Application we have prepared this Method Statement detailing the strategy we will adopt to clean and repair the external brickwork. We have been working with Argent at Kings Cross for several years and have completed similar work on the Granary Building complex and the East and West Transit Sheds. We have past experience of working closely with Camden Conservation officers. We understand the aspiration to retain the character of the existing buildings. This Method Statement will set out the techniques we intend to use to clean and repair the Fish & Coal Offices and Eastern Wharf Road Arches. First we will outline the Architect's brief. We will then describe the existing condition of the buildings highlighting specific issues which need attention and finally we will propose the methods we intend to use to deal with the issues presented. We will also highlight how we intend to preserve the remains of historic painted signage. The methods we will propose are tried and tested methods adopted on previous buildings at King's Cross including the Listed Granary Building (Listed Building Consent 2007/5230/L refers)



#### The brief

The brief, based on the design developed by David Morley Architects, is to lightly clean the external brickwork. It is our intention to use the "gentlest means possible" to achieve the level of clean required as agreed with the Architect. This way we will respect and retain the natural toning of the brick and only remove surface dirt and deposits deemed detrimental to the long term performance of the brickwork. Along part of the Eastern Wharf Road Arches a section of



wall was rendered and painted in a vibrant turquoise. The proposals for refurbishment include the removal of the render to expose the original brick elevation behind, returning the viaduct to its former condition.

#### Existing conditions

The surface of the bricks has weathered and changed over the years due to atmospheric and local conditions resulting in the build-up of carbon deposits. The distribution of these deposits is by no means uniform. Different events have created different conditions and treatment will vary depending on particular issues. These can be broken down as follows:

- General grime/pollution accumulating on the brickwork over time.
- Graffiti / paint overspill from poorly completed decoration.
- Blackened areas of brickwork caused by dirt accumulation on damp areas. There are several causes of damp, i.e. missing or faulty rainwater goods, projecting brick string courses, poorly performing flashings, etc.
- Plant and algae growth caused by either self-seeding or poorly fitted and maintained rain water goods.
- Soot/smoke damage caused by fire.
- Rendered areas of brickwork
- Patchiness caused by graffiti removal carried out in an unsympathetic manner.







## Treatment methods

### General areas

The successful cleaning of similar deposits carried out on the Granary Building and West Transit Shed projects was achieved using clean water and a soft brush to remove the surface dirt from the brick face. This method ensures a consistent surface colour is achieved without removing all the grime build up from the buildings' 150 year life. This will be carried out using either horse hair or semi still nylon bristle brushes as appropriate. The cleaning of the brick surfaces consists of a gentle surface clean using a nebulous water spray. It is therefore proposed to adopt this method of cleaning to the whole external face of the buildings.

### Graffiti / Paint overspill

Some graffiti is evident to both the north and south elevations. We will treat the removal of graffiti starting with the "gentlest means possible" so will attempt to remove it with water and brushes. Should this method prove unsuccessful then the Doff method will be attempted (see below). Should this method fail, a proprietary paint remover will be used in accordance with the manufacturer's instructions. Any product residue will be rinsed with a low-pressure hot water lance set to 20psi.

### Blackened areas

The Fish & Coal Offices exhibit a patchy appearance due to varying degrees of surface pollution on the bricks. The darkest areas coincide with the dampest areas of brickwork. The damp bricks capture more pollutants over time than adjacent dryer areas. Some sections of wall are extremely grime laden. Experience from previous projects taught us this discolouration is immovable using the clean water and soft brush method therefore we will adopt the Doff cleaning process to lift the layers of grime. This will be carried out in conjunction with repairs necessary to remedy the cause of the dampness. Doff is a system which uses high temperature steam to clean residue from brickwork. After going over the area four or five times the Doff lance loosens the grime sufficiently for a soft brush to remove it.

It is therefore proposed to use a Doff cleaning process to remove the heavy deposits of surface grime.

### Removal of plant, algae growth

Significant areas of plant growth on the south elevation and algae appear where rain water goods have failed. Plants will be treated with a glyphosate product, all plant remains will be removed once dead by brushing with a stiff brush. The brickwork condition will then be reviewed and the appropriate repairs carried out. Algae will be treated with a solution of biocide to the manufacturers specification used sparingly and selectively. The areas treated will then be allowed to dry and the dead growth will be removed by brush. In some cases the Doff system will be used prior to the application of the biocide to lift the algae where deemed necessary.



### Soot & Smoke damage

Parts of the brick surfaces externally have been heavily polluted in the past by smoke and soot from fires breaking out through windows. The Doff cleaning process will be used to remove these heavier deposits.

### Lightened areas due to graffiti removal; Doff cleaning; new repairs

There are several areas of brickwork on the elevation of the Fish & Coal Offices facing Regents Canal (south) where past attempts to remove graffiti have significantly lightened the brickwork. These areas stand out against the adjacent brickwork, drawing attention. The Doff system will remove carbon deposits leaving areas of brickwork significantly lighter once the treatment is complete. Therefore new repairs will stand out against the adjacent existing brickwork. These areas will be lightly darkened using soot stained water to soften the appearance.

The toning down will be carried out carefully. The darkening will be carried out using a soot poultice soaked in water. The discoloured water will be carefully applied to the surface of the bricks. The darker the brick the more coats of soot stained water will be used. This approach was successful on the Granary complex and East and West Transit Sheds. This process does not completely blend in the brickwork so the history of the building can still be seen but new bricks are toned down so the contrast between repairs and old brickwork is reduced.

### Render attached to the Wharf Road Viaduct

The existing turquoise painted render to the north elevation of the Eastern Wharf Road Arches at Canal Level is to be carefully removed and the condition of the underlying brickwork reviewed and repaired using bricks reclaimed from removal works carried out during the refurbishment of the Fish & Coal Offices.

### Historic features to be retained

On the north and east elevation there are faint outlines of historic signage. Above the entrance door in the east gable of Block 2 the words "Coal Office" can be clearly seen.

Remains of white painted numbers also survive over several window openings, of which the number "10" is the most visible.





The painted signs are generally over window openings. It is considered the numbers and signs are best left uncovered during the refurbishment of the building. The external walls will be carefully cleaned as part of the refurbishment taking care to preserve the signage in their current condition. Scaffold will be erected around the buildings to allow access to the roof and external walls. Access routes onto the scaffold will be positioned away from bay numbers or signs as an additional protective measure. All scaffold erected to the elevations where bay numbers and signs are located will be protected with debris netting to prevent the risk of adjacent activities causing dust or splashes to contaminate the surface of the bay numbers and signs.

We will work with care when cleaning and repairing the walls to preserve the remains of these signs.

#### **Brickwork Re-Pointing**

It is important to minimise patchiness on the façade where differences between re-pointed and un-pointed areas are visually distracting. The mortar joint needs to match closely the flush joints which are characteristic of the original nineteenth century fabric of the building. However, in order to achieve a good match with the existing work (which has eroded a little over time) it is slightly recessed.

In areas identified for re-pointing the existing mortar joints are carefully raked out to a depth of 25mm. Hand held plugging chisels are used to ensure that all soft friable mortar is removed. Nylon bristle brushes are used to thoroughly clean out all dust before re-pointing. Water is used to wet the cleaned out mortar joints. The following day the joints are again made wet with water and left for a further twenty minutes. Lime mortar is then compacted into the brick joints. After a short period of the initial mortar set, the mortar joint is recessed to a depth of about 1.5mm using a nylon stipple brush. A few days later a soot wash is applied to the joints in order to tone down the brightness of the lime mortar. The correct mix of the soot wash has now been established by trial and error on the previous projects. It became evident during that, that the existing lime mortar is in fact variegated in colour, where the polluted crust of mortar has fallen off, leaving the bright tone of the lime visible. This effect cannot be replicated with the new mortar and in order to achieve a visual consistency it has been agreed that a light soot wash should be applied to the surface of the brickwork generally. A final light water spray is applied to ensure that the effect is permanent and that the soot wash will not be removed by rain.

#### **Brickwork repairs**

David Morley Associates have prepared drawings showing the brick repairs required to the external elevations.