

CROWN

Crown Services Organisations LTD

Inspection Report

Detail: Works Following Condition Survey

Site: Kings House

Client: Bruntwood

Date: 24th February 2021

Ref No: QRN.CR.2370



Bruntwood – Kings House**Works Following Condition Survey****Ref: QRN.CR.2370****Date: 24th February 2021****FAO: Paul Smith**

Kings House, 40-42 King Street West, Manchester

Preliminaries

Site Agent: All Crown Services Site Agents are working supervisors and their management costs are built into overall labour costs.

RAMS + Permit to Work: Crown Services will build and submit RAMS for approval and will work with Bruntwood to agree any necessary permits to work.

Welfare Facilities & Storage: We have not allowed for any mobile welfare or storage facilities on site within our costs; please advise if you would like us to include this item.

Working Hours: Crown Services propose undertaking some of the works outside of normal working hours and will apply to the authorities to obtain the relevant permits.

Rubbish: Within this quotation we have allowed for a skip to be positioned in the rear parking bays.

Scope of Survey

Crown Services have been instructed by our client to undertake a condition survey of all four elevations and roofs of the Kings House building.

The survey was to include a physical inspection of all stone/brickwork, windows, external rainwater goods and roof gutters, internal lightwells and all roofs from the first floor to the top of the parapet and stone apex's; with the exception of the King Street elevation for which a parapet inspection has been completed as part of another project.

Disclaimer

This report is submitted based on the condition of the building's fabric at the time of our inspection completed February 2021. The inspection, to the best of our knowledge and professional experience is a true representation of the condition on this date. Any parties accessing work areas or undertaking any works should undertake their own inspection and risk assessment.

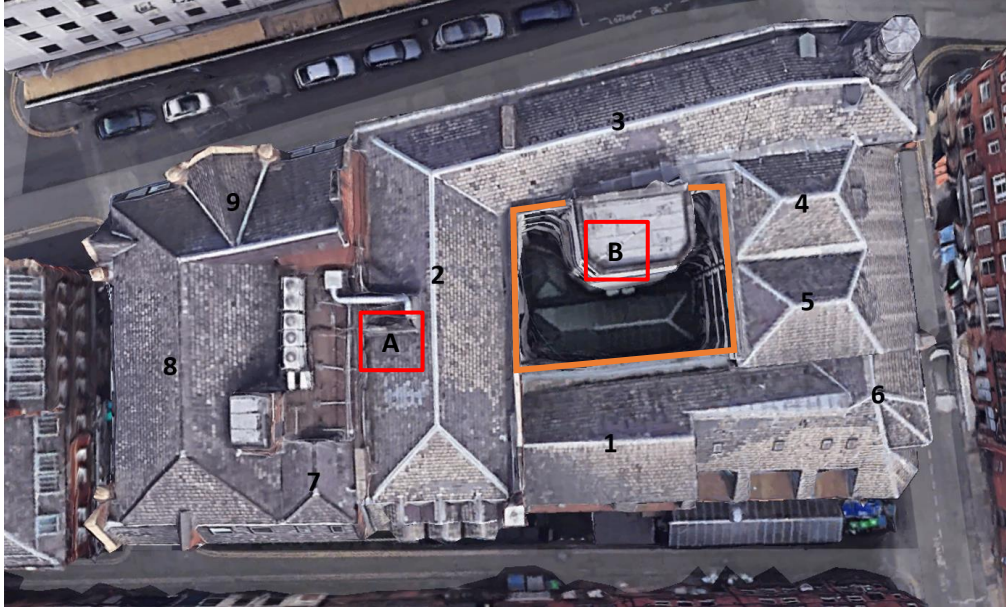
Photographic Survey

The full photo files have been issued to the client via Wetransfer, photos have been organised into relevant roofs areas, lightwells and elevations. These files should be viewed in conjunction with this report. Numbering of defects on the elevation survey and as highlighted on the elevation plans relates to defect number on the photo boards.

Roof Condition Survey

Roof Plan

For ease of reference while reading the roof condition report, the roof has been split into areas numbered as per the photo files.



Roof Slates:

The roofs are pitched slate roofs and appear to be original, although in relatively good condition, they do require some maintenance. Where slates are missing it has been noted that there is not breather membrane or insulation present. If required Crown Services can provide a quotation to fully strip the existing roof areas and supply and install new insulation, membrane, battens and reinstate set aside original slate.

To address missing, slipped and loose slates – strip back surrounding slates if required, replace existing slates with a reclaimed natural slate, where tingle repairs are called for, copper strip tabs and copper slate nails will be used. We have allowed an additional 10% for breakages for the purpose of this quote.

Roof Area	No. Replacement Slates
1	5
2	8
3	19
4	2
5	6
6	4
7	2
8	7
9	4

Terracotta Ridge Tiles:

We would recommend re-bedding and pointing all ridge tiles (approx. 30 linear metres) as there are several loose and there is evidence of decaying mortar.

Carefully remove ridges and set aside for reinstatement, remove all mortar and dust, subsequently reinstate using a strong 3:1 mix re-bed the ridge tiles. We have included an allowance of an additional 25 replacement slates which may be damaged during the removal of ridge tiles.

Lead Ridges:

The lead ridges are in good condition and appear to have been installed in recent years. There are some small areas requiring basic repairs including redressing/beating around joints.

General Roof Maintenance Items:**Roof area 1**

- There are three flat roof sections which appear to be in relatively good condition and there are no reports of leaks at this time.
- The lead soakers require re-dressing and clipping into the brickwork and subsequently repointing.
- The windows in this area require a full refurbishment (see window condition section).
- There is approximately 3SqM of brickwork repointing required.

Roof Area 2

- The top 500mm of the small lightwell requires repointing on all three sides, approx. 10SqM.
- The coping stones are loose and should be removed, cleaned off and subsequently re-bedded and pointed.
- All of the lead soakers require raking out and repointing.
- Several patches of vegetation are growing from the brickwork, vegetation will be removed, the area treated with masonry biocide and subsequently repointed.
- Approximately 6 linear metres of lead has failed and requires renewing with code 5 200mm lead flashing.

Roof Area 3

- The chimney capping has failed allowing water penetration into the masonry below. The capping stones will be removed, the void sheeted over with a vapour barrier and the capping stones reinstated on a bed of mortar with a bevelled joint to the perimeter to cast off rainwater.
- The whole chimney requires raking out and repointing, vegetation will be removed, the area is to be treated with masonry biocide. Total area of re-pointing required – 9.5 SqM.

Roof Area 7

- 5 linear metres of coping stones are loose, and the mortar perished. The coping stones are loose and should be removed, cleaned off and subsequently re-bedded and pointed.

Roof Area 8 & Roof Access Structure

The roof access building on roof area 8 is in poor condition and requires full refurbishment, the mortar is perishing, the roof covering has failed the coping stones are in poor condition, the following scheme is recommended;

- Remove all coping stones and bedding mortar and partial mineral felt coverings (set aside copings).
- Treat exposed failed asphalt roof with a new Garland liquid plastic roof (approx. 8 SqM).
- Replace all lead flashings with new code 5 lead.
- Clean lichens and moss from copings and reinstate.
- Rake out and repoint all external brickwork approx. 14 SqM.
- Re-dress and re-seal all lead soakers and flashings at the junction meeting the roof slate (roof 8).
- Sand down and re-paint timber door and door frame and apply a bead of silicone sealant to the external perimeter. Paint build-up – epoxy filler where required, primer to bare wood, 1 coat of under coat and 2 coats of good quality external Dulux weathershield gloss, colour to match existing.

Roof Area 4,5,6 & 9

Slate/ridge defects only.

Lift Motor Room (Roof Area 3/Lightwell B)

The lift motor room is in poor condition externally and requires minor refurbishment works:

- Rake out and remove all vegetation and repoint external brickwork on entrance door elevation.
- Treat masonry with a biocidal spray and clean lichens and moss.
- Sand down and re-paint timber door and door frame and apply a bead of silicone sealant to the external perimeter. Paint build-up – epoxy filler where required, primer to bare wood, 1 coat of under coat and 2 coats of good quality external Dulux weathershield gloss, colour to match existing.
- Clean and re-point all coping stones.
- The roof is not reported to be leaking although does appear to be in poor condition. We would recommend removing all loose mineral felt and installing a new Garland liquid plastic roof finished with a lead coverflash to the perimeter dressed and seal into the internal joint below the coping stones.

Internal Parapet Walls

Area highlighted orange on the above roof plan.

The brick-built parapet walls around lightwell B are in poor condition, bricks are beginning to spall, the mortar joints are perished and showing vegetation growth and many of the coping stones are loose. In several areas the lead flashing is loose, and the mortar pointing has failed to the perimeter.

- Rake out an area of approx. 18SqM, clean brickwork, treat with masonry biocide and reinstate mortar pointing.
- Remove, clean and reinstate all loose coping stones (31 linear metres).
- Re-dress and repoint all lead flashing.

Gable Wall/Large Chimney

Masonry structure between roof area 2&9. Gable elevation inspected faces towards roof area 2.

The mortar joints are heavily deteriorated, and a lot of mortar was seen in the gutter below, the flaunching around the pots has deteriorated and the chimney pots which are no longer in use; although in good condition but are missing rain water protection.

- Rake out and repoint approx. 28 SqM (all faces of chimney).
- Rake out and repoint coping stones to both sides of the apex.
- Install ventilated caps installing to prevent rain penetration to 5no. chimney pots.
- Hack-off and reinstate the bevelled mortar flaunching on the stones forming the chimney capping.

Lightwells

There are two lightwells which have been inspected marked A and B on the above roof layout plan.

Lightwell A

Lightwell A is the smaller of the two lightwells and is used as ducting/services routes into the building. There are nine timber windows which are all in extremely poor condition, there are several timber repairs required in addition full external refurbishment works.

The masonry of the lightwell has been painted but this has peeling off and has not bonded well to the surface of the brick. The mortar joints are in reasonable condition in most areas, this should be re-assessed following the below recommended works:

- Power wash the full lightwell, elevations and floor and remove all flaky paint.
- Assess mortar joint condition (for the purposes of this quote we have allowed for 5 SqM of pointing patch areas around the window frames and lintels.
- Scrape out sections of rotten timber and repair using an epoxy resin.
- Sand down and re-paint timber window frames, remove defective putty and replace where required with linseed oil putty and apply a bead of silicone sealant to the external perimeter of the frame. Paint build-up – epoxy filler where required, primer to bare wood, 1 coat of under coat and 2 coats of good quality external Dulux weathershield gloss, colour to match existing.
- There are two windows where the glazing is cracked and will be replaced with 6mm sheet glass.

Lightwell B

'A' is a glazed brick faced lightwell serving a glazed atrium at the base with 105 elevation windows. The area is in poor condition with moss growing out of the mortar joints and the glazed brickwork looking work and heavily stained. The timber windows are in extremely poor condition and would benefit from a full refurbishment scheme to extend their lifespan. We would recommend the following works;

- Supply and install temporary crash deck scaffold/protection to the glazed skylight at the base of the lightwell, also serving as an abseil landing deck.
- Complete a DOFF high pressure steam clean to the glazed brickwork to remove staining and moss.
- Rake out and repoint areas of mortar joints using a lime mortar to ensure softness and preserve the fragile glazing. For the purpose of this quote, we have allowed for approx. 10SqM of repointing, the quantities should be re-assessed following the DOFF clean.
- Undertake approx. 38 timber repairs, carefully cutting out existing damaged beading and frame sections and replace in a suitable hardwood.
- Smaller areas of rot will be repaired by scraping back to a sound surface and making good with an epoxy based external filler.
- Scrape off areas of loose and flaky paint and remove historic failed filler repairs.
- Sand down and re-paint timber window frames, remove defective putty and replace where required with linseed oil putty and apply a bead of silicone sealant to the external perimeter of the frame. Paint build-up – epoxy filler where required, primer to bare wood, 1 coat of under coat and 2 coats of good quality external Dulux weathershield gloss, colour to match existing.
- Missing glazed bricks will be replaced like for like using a reclaimed version where possible. For the purposes of this quote, we have allowed for approx. 5no. bricks, the quantities should be re-assessed following the DOFF clean.

*For aesthetic purposes, the glazed brick would benefit from a coat of a high gloss white epoxy paint and re-pointing to all brickwork. This has not been included with the quote, Crown Services would be happy to quote for this option if required.

Elevation Condition Survey

Timber Windows - All Elevations

All windows require a deep clean to frames and glass prior to any of the below treatments, the windows are in a very poor state of maintenance and do not appear to have been cleaned for some time.

The timber windows are in extremely poor condition, in particular back bridge street where we will remove and reinstate all steel mesh.

We would recommend a scheme of window refurbishment for all windows on all four elevations to extend the lifespan and protect existing timber sashes and frames from further deterioration due to exposure/weathering. For the purpose of this quote, all (approx. 500) windows have been allowed for including dormer/roof windows, elevation steel works to back bridge street, dormer facias.

Timber Window Frames:

Putty: Where re-seal to glazing is required, remove the old failing putty, and apply a new seal of a linseed oil-based putty, apply primer, and finish as detailed below.

Re-sealing: Where required, remove the existing perished sealant and re-seal using Everbuild 996 all-weather sealant using a colour to match existing. Where mortar is used, remove all loose and crumbling and re-seal using a mortar mix to match existing.

Repairs: Where sections of rotten/damaged wood have been noted – allow to cut out rotten section back to good wood. Reinstall a new section of suitable hardwood timber matching existing profile. Fill joint, sand down and paint as detailed below.

Painting to windows: Suitably prepare all surfaces ready for painting including sanding and minor filling using external epoxy filler. For any new wood apply a primer as a base coat. To all wood apply 1no coat of undercoat 2no. coats of external grade Weathershield gloss. Colour to match that which is existing.

Sills: Minor cracks in stone sills are to be resin injected and suitably prepared for painting works if applicable. Where previously painted sills occur, sand down, undertake minor filling and repaint with 2 coats of Weathershield Smooth masonry paint in a colour to match existing.

Gutters

All the gutters require cleaning to remove all debris and unblock all outlets. They would benefit from a 'one-off' jet wash clean as they do not appear to have been cleaned for some time, external gutters would be wiped down to the underside, so they appear clean from ground level. The gutters appear to be in good condition and there are no reports of water ingress below gutter areas at present. Once a deep clean has been undertaken, any damage or obvious splits to lead gutters will be highlighted to the client and subsequent recommendations for remedial works made.

Butter Lane Defects

- 1. Chimneys 2&6:** The two brick chimney stacks are both in bad condition. The mortar joints have perished and are showing moss growth on the face of the brickwork. There are several patches of vegetation growing through some minor cracks but there are none currently indicating structural concerns.

Several bricks have begun to spawl and have lost sections of their face, this is being made worse by the poor pointing allowing the bricks to become saturated.

The stone capping to the tops is in good condition although the mortar joints do require attention.

We would recommend the full refurbishment of both stacks and we have allowed to undertake the following works:

- Rake out all mortar joints to a minimum of 15mm from the surface of the brick face and reinstate with a lime-based mortar in a colour to match existing.
- Remove all moss and lichen and clean brickwork with a light spray mist and a stiff brush, treat areas of removal with a masonry biocide.
- Remove and replace any bricks (one at a time) which have spalled. More than 20% of bricks will be reclaimed and a sample will be removed to source an appropriate match. For the purpose of this quotation, we have allowed for approx. 10no. bricks per stack to be replaced.
- All lead flashing will be securely clipped into the mortar joint with lead packers and subsequently repointed.

- 2. Stone Apex's 7&3:** The two stone apex's are securely fixed and in good condition although the mortar joints have perished and require raking out and repointing as per the above brickwork specification. There is also a square metre area of brickwork (3) to the bottom LHS of the right hand apex, where a blocked outlet has caused water to overflow – treatments of brickwork as per above chimney works.

Back Bridge Street Defects

1. There is a large split in the UPVC gutter, it appears a previous silicone repairs has failed and is causing the brickwork below to become saturated. We would recommend replacing the 4m length of gutter with 150mm half round to match existing and repairing the 2SqM of glazed brickwork by cleaning staining, raking out and repointing.
9. There is evidence of minor corrosion to the steel lintel above the windows, the expansion has caused a small amount of mortar failure. The steel should be treated by cleaning back to a good surface, painting with an anti-corrosion system and reinstatement of missing pointing.
12. There are 3 missing soakers to the top of the roof dormer. These soakers form the seal at the junction of slate and the timber structure. The soakers will be replaced using a code 4 lead, several slate will need to be stripped back to allow the lead to be secured. Any stripped slates will be subsequently reinstated with copper tingle fixings.
25. There is a broken Georgian glass unit behind the window caging which needs replacing. We have assumed the clients internal glazing contractors will undertake glazing replacement works. Crown Services would be happy to quote for these items if required.
34. There is a missing cowl on the ducting which will be allowing rainwater into the building. We would recommend installing a Galvanised HU roof cowl or similar and appropriately fixed rivets.
35. The glazed roof above San Carlo is in poor condition; there are three broken glazed units, several slipped units and slipped section of lead, plus poor lead dressing. There would be several options for repair from patch replacement to full roof refurbishment/replacement. No works have been costed for within this report.

Southgate Defects

1. There is a defective gutter where the long run is not connecting into the corner bracket as it is too short. The defective section will be removed and replaced with the correct length and the rubber seals replaced. The area of brickwork below the gutter as a result of the leak is heavily stained and the mortar joints deteriorated. We propose power washing to remove the staining, raking out the mortar joints and subsequently complete the repointing to the required area.
8. The top 4 courses of the chimney stack and the mortar flaunching/capping has deteriorated and requires replacing. All vegetation will be removed and treated with masonry biocide, mortar joints raked out and reinstated and the capping hacked off and replaced with a strong cementitious mortar mix with a bevelled edge to assist the cast-off of rainwater.
- 9&10. The gutters and soffits are showing signs of deterioration with the hopper above being blocked. The hopper needs to be unblocked and following the gutter clean this area will be re-inspected and recommendations made. The hopper/gutter clean is included in the general items, no further works have been included for the purposes of this quote.
- 21-29. The stone cornice has begun to deteriorate on the underside, and several sections of stone have been removed due to the health and safety risk they pose. There are also a number larger sections of coin stone above the ledge where spalling has occurred. The ledge appears to have been coated in asphalt or similar as a means to prevent water ingress, however this system has failed, and the corbels have become saturated. This could be repaired with a liquid plastic system or alternatively a new lead capping detail if conservation spec is deemed appropriate. All friable and dangerous sections of stone have now been removed; although this will need monitoring frequently as the condition is likely to deteriorate.



Crown Services Organisations LTD

Crown House, Poland Street, Audenshaw, Manchester, M34 5TY Tel: +44(0)161 371 9524

St Catherine's, Tanfield Avenue, London, NW2 7RX Tel: 020 3726 4825

Web: www.crown-services.co.uk Email: info@crown-services.co.uk Fax: +44(0)161 371 7409

We would recommend further review by a specialist stone mason and for the purposes of this quotation, we have allowed for an out of hours cherry picker inspection to devise a specification and subsequently quotation for the recommended works. Critical measurements would be taken of each of the sections of stone requiring indent repairs or full replacement.

Additionally, the stonework has been coated in a heavy layer of gloss paint, we feel this may be contributing to the deterioration as it is trapping water and reducing the sand stones natural breathability.

30. There is an exposed wire which needs to be inspected internally by an electrician – we have not quoted for these works, although if required can provide external cherry picker access.



Constructionline



9001:2008



REGISTERED TRAINING GROUP



King Street West Defects

16&17 The two brick chimney stacks are both in bad condition. The mortar joints have perished and are showing moss growth on the face of the brickwork. There are several patches of vegetation growing through some minor cracks but there are none current indicating structural concerns.

Several bricks have begun to spawl and lost sections of their face, this is being made worse by the poor pointing allowing the bricks to become saturated.

The stone capping to the tops is in good condition although the mortar joints do require attention.

We would recommend the full refurbishment of both stacks and have allowed to undertake the following works:

- Rake out all mortar joints to a minimum of 15mm from the surface of the brick face and reinstate with a lime-based mortar in a colour to match existing.
- Remove all moss and lichen and clean brickwork with a light spray mist and a stiff brush, treat areas of removal with a masonry biocide.
- Remove and replace any bricks (one at a time) which have spalled more than 20%, bricks will be reclaimed, and a sample will be removed to source an appropriate match. For the purpose of this quotation, we have allowed for 14 approx. 10 no. bricks per stack to be replaced.
- All lead flashing will be securely clipped into the mortar joint with lead packers and subsequently repointed.

Defects 1,3,5,6,9,11,12,13,14,15,18:

The stone cornice has begun to deteriorate on the underside, and several sections of stone have been removed due to the health and safety risk they pose. There are also a number of larger sections of coin stone above the ledge where spalling has occurred. The ledge appears to have been coated in asphalt or similar as a means to prevent water ingress, however this system has failed, and the corbels have become saturated. This could be repaired with a liquid plastic system or alternatively a new lead capping detail if conservation spec is deemed appropriate. All friable and dangerous sections of stone have now been removed; although this will need monitoring frequently as the condition is likely to deteriorate.

We would recommend further review by a specialist stone mason and for the purposes of this quotation, we have allowed for an out of hours cherry picker inspection to devise a specification and subsequently quotation for the recommended works. Critical measurement would be taken of each of the sections of stone requiring indent repairs or full replacement.

Additionally, the stonework has been coated in a heavy layer of gloss paint, we feel this may be contributing to the deterioration as it is trapping water and reducing the sand stones natural breathability.

Turret: The turret lower structure is in good condition with all slates in place and the stonework below the finial appears to be in good condition. The iron finial is in a very poor condition, some sections have corroded quite heavily and been removed as they were at risk of falling. We would recommend replacing this for aesthetic purposes. Crown to provide fabrication and make a like for like section in mild steel and painted red to match existing. The upper most sections of the finial are now missing therefore a design drawing would be issued to the client and seek approval prior to fabrication works.

Photographic Survey**Example Roof Photographs**

Missing leadwork, blocked dirty gutters, missing and broken slates.



Vegetation, failed lead and mortar joints.



Turret Finial**Windows****Masonry Defects**





Crown Services Organisations LTD

Crown House, Poland Street, Audenshaw, Manchester, M34 5TY Tel: +44(0)161 371 9524

St Catherine's, Tanfield Avenue, London, NW2 7RX Tel: 020 3726 4825

Web: www.crown-services.co.uk Email: info@crown-services.co.uk Fax: +44(0)161 371 7409

Summary of Recommended Costs

<u>Item</u>	<u>Cost</u>
Prelims	£1,750.00
Roofs	£19,905.00
Elevations	£22,325.00
Lightwells	£31,025.00
Elevation Windows	£187,000.00
Stone Mason Survey	£3,060.00
Turret	£4,965.00
Gutter Clean	£4,900.00
Roof Structures	£21,875.00
 Total	 £296,805.00

The total cost to complete these works will be £296,805.00 excluding VAT

Two-hundred and Ninety-Six Thousand, Eight-Hundred and Five Pounds Only Excluding VAT



Constructionline



9001:2008



REGISTERED TRAINING GROUP

