

Structural Appraisal and Remedial Scheme
Existing chimney Structure
at
5 Victoria Street
Reading
Berkshire
RG1 4NQ



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1.0 INTRODUCTION & BRIEF.

- 1.1 Clive Hudson Associates were instructed by Lysander Strong and Amy Washington, the current owners, to undertake a structural inspection of 5 Victoria Street, Reading. RG1 4NQ. Our initial inspection was carried out on Wednesday 12th August 2026 at 1100 hours, the weather was dry and sunny. A second inspection was carried out on Thursday 27th August to inspect the roof void of the adjoining property - 7 Victoria Street. References to the left or right-hand side of the property are based on viewing the property from the front elevation.

We understand that the property is currently being sold and we were provided with a copy of the mortgage valuation report prepared for Newbury Building Society. The report identifies the applicant / purchaser as Purple Oak Property Ltd.

1.2 Brief.

We were presented with the following brief via email dated 10.08.26:

Further to our conversation earlier this afternoon I attach the surveyor's report. I think it is quite specific to the loft space and doesn't mention any other part of the house. I have also taken some rudimentary photos in the loft space. The crack is by the loft hatch and fairly central to the house, just to the left/rear of the arch between the front chimney breast and rear chimney breast. The crack is vertical and wider than a finger (approx. 20-25 mm) and about 800 mm long.

A 'secondary' supporting wall has been built to support the arch at the rear and is on a lintel between the rear chimney breast and one of the central supporting walls. My working assumption is this was done when the previous owner bought the property in 2010.

Hopefully, the above helps to give some context to the photos. If you need any further details then please let me know.

- 1.3 The purpose of our report is to advise on the any defects observed at the property, make recommendations for any necessary investigations and/or remedial works and to respond to the structural matters raised in the valuation report. Extracts from the reports are pasted below for discussion purposes only.

Our inspection and the following report have been restricted to the concerns presented in the "Brief" above. Our comments and conclusions are based on a simple walk-around visual inspection and restricted to that which is noted below.

We have not inspected woodwork or other parts of the structure, which are covered, unexposed or inaccessible and we are therefore unable to report that any such part of the property is free from defect. We did not consider any non-structural matters such as dry rot, timber infestation or dampness although they will often be mentioned when considered to be significant to the overall life of the load bearing elements of the building. Outbuildings and boundary walls were excluded from our inspection.

1.4 Building Survey report dated 21st April 2026.

The following extracts from the surveyor's report:

"An extended 3-bedroom terraced house located in a mixed residential / commercial area close to Reading town centre where all usual local amenities are available. The third bedroom is in the basement room. The property is presented in acceptable condition for type and age except for the crack in the party wall in the loft space which requires further investigation. Once this is repaired the agreed purchase price will be acceptable. The property is being purchased on a Buy to Let basis. The current rental value of the house is considered to be 1700 pcm"

2.0 DESCRIPTION.

Number 5 Victoria Street is a three storey three-bedroom mid-terraced house, with a basement, constructed circa 1900s. The main roof is constructed of cut timber, pitched from front to rear with a slate covering. The external walls are of solid 9" brickwork construction while Internal walls are of either solid brickwork or timber studwork. The floor construction comprises suspended timber joists at ground and first floor levels. Windows and external doors throughout the property have been replaced with modern upvc casements. 5 Victoria Street is within the Eldon Square conservation area, this designation may affect planning requirements for external alterations, including changes to the chimney stacks.



Figure 1. Approximate floor plans.

3.0 CHIMNEY STACK INSPECTION (No.5 Victoria Street).

- 3.1 Access into the roof void was achieved via the loft hatch located above the cupboard in Bedroom 2. The chimney stack is positioned along the right-hand party wall separating Nos. 5 and 7 Victoria Street. It comprises a vaulted brick gathering structure that converges centrally to form eight flues, four serving each adjoining property. The stack above roof level is substantial, measuring approximately 1.8m deep x 0.8m wide x 0.7m above the ridge.

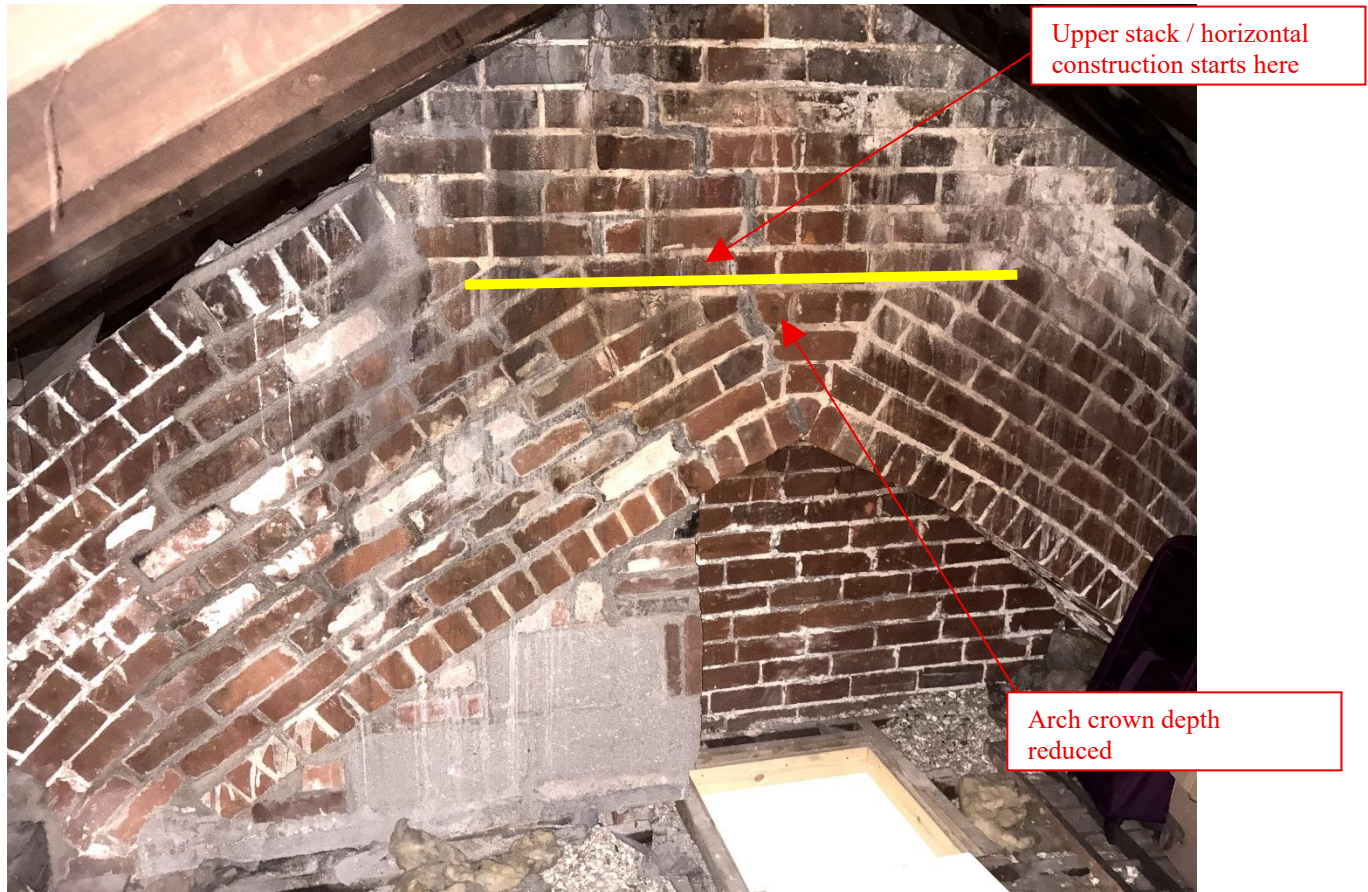


Figure 2. Chimney stack arrangement.

- 3.2 The construction of the chimney stack raises concerns about its overall structural stability. Ordinarily, one would expect the two opposing arches to meet at the centre. Curved courses of brickwork spring from the surrounding masonry and rise towards the centre, forming a gathering structure that transfers the weight of the chimney stack to the supporting chimney breasts at first-floor level.

An arch works by transferring the weight above it into compressive forces that follow the curve of the arch towards its supports. These forces generate an outward horizontal thrust, which must be adequately resisted by the supporting structure.

In this instance, however, the vertical brickwork forming the upper section of the stack interrupts the continuity of the arch at its crown. This arrangement reduces the effective structural depth of the arch and prevents the two opposing sections from forming a complete, continuous arch. Consequently, the intended compressive load path is disrupted, raising concerns about the adequacy and long-term stability of the construction.

3.3 The following defects and historic repairs were observed:

- i. Evidence of cracked / disturbed sections of masonry on the central face of the stack suggest that historic movement has occurred.
- ii. Heavy water staining was observed on the face of the stack suggesting water ingress due to a leaking roof or failed chimney flashings. The stack is constructed using lime mortar; prolonged moisture penetration could soften the mortar and reduce the arch's compressive strength.
- iii. A section of concrete blockwork has been built to the rear inner edge of the stack, providing support to the section of the stack immediately above, presumably an attempt at stabilising the defective brickwork to the face of the stack. This panel of blockwork would appear to be supported off a modern-day concrete lintel spanning from the chimney breast to the cupboard wall in bedroom 2 at first floor level.

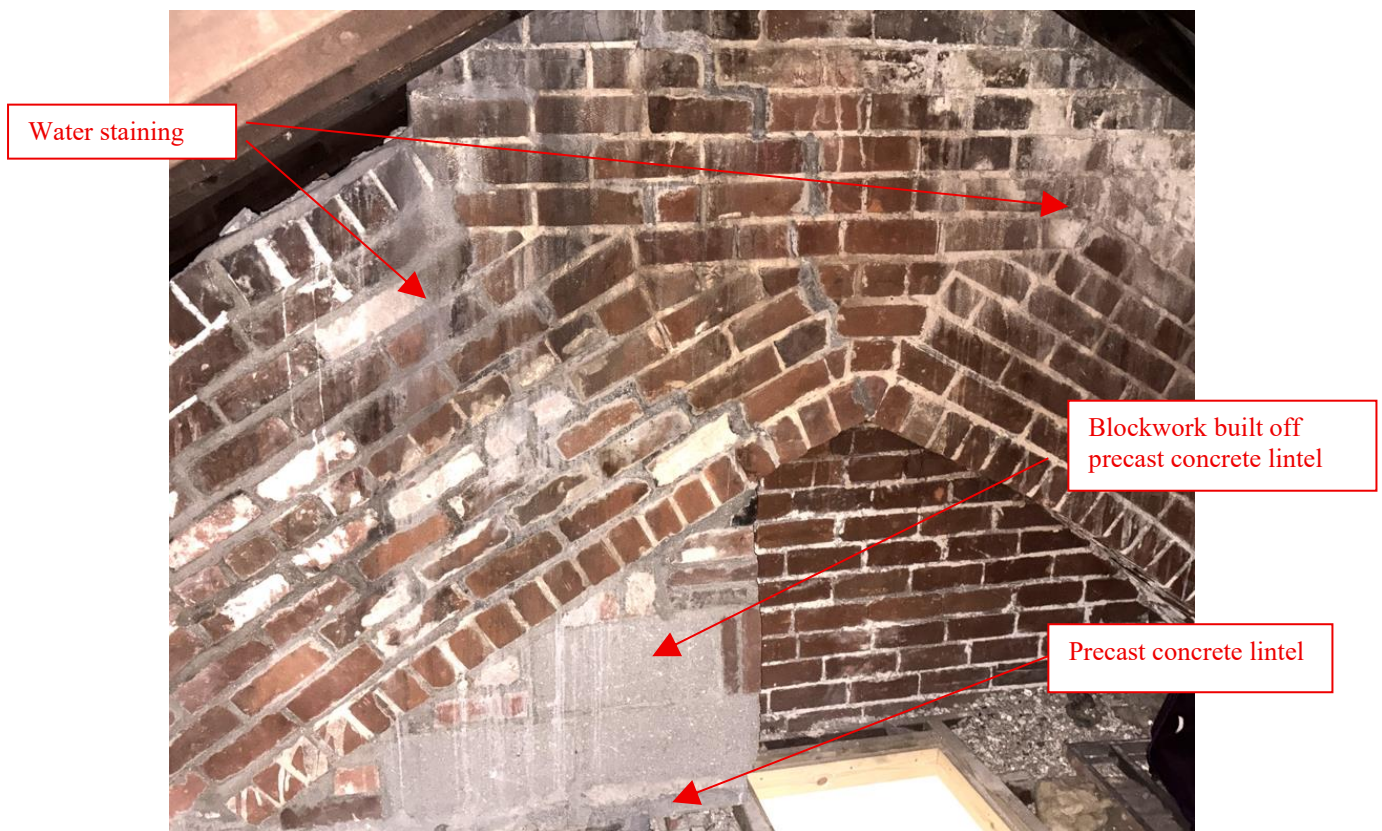


Figure 3. Chimney stack defects.

- iv. The party wall is of single brick construction (110mm) and would appear to extend through the arched stacks, presumably separating the flues. Consequently, there is no brick bond between the arched stacks and the party wall – see figure 4. A tapered crack, ranging from approximately 10mm to 35mm in width, was observed within this panel of brickwork. We are of the opinion that this cracking has been caused by historic horizontal movement of the arch imposing a horizontal load on the panel.



Figure 4. Junction of stack and party wall + Cracking to brick panel beneath arched stack.



Figure 5. Cracking to brick panel beneath arched stack.

4.0 CHIMNEY STACK INSPECTION (No.7 Victoria Street).

A second inspection was carried out on Thursday 27th August 2027 to inspect the chimney stack from within the loft space of number 7 Victoria Street. The chimney stack on this side of the party wall is a mirror image to No.5.

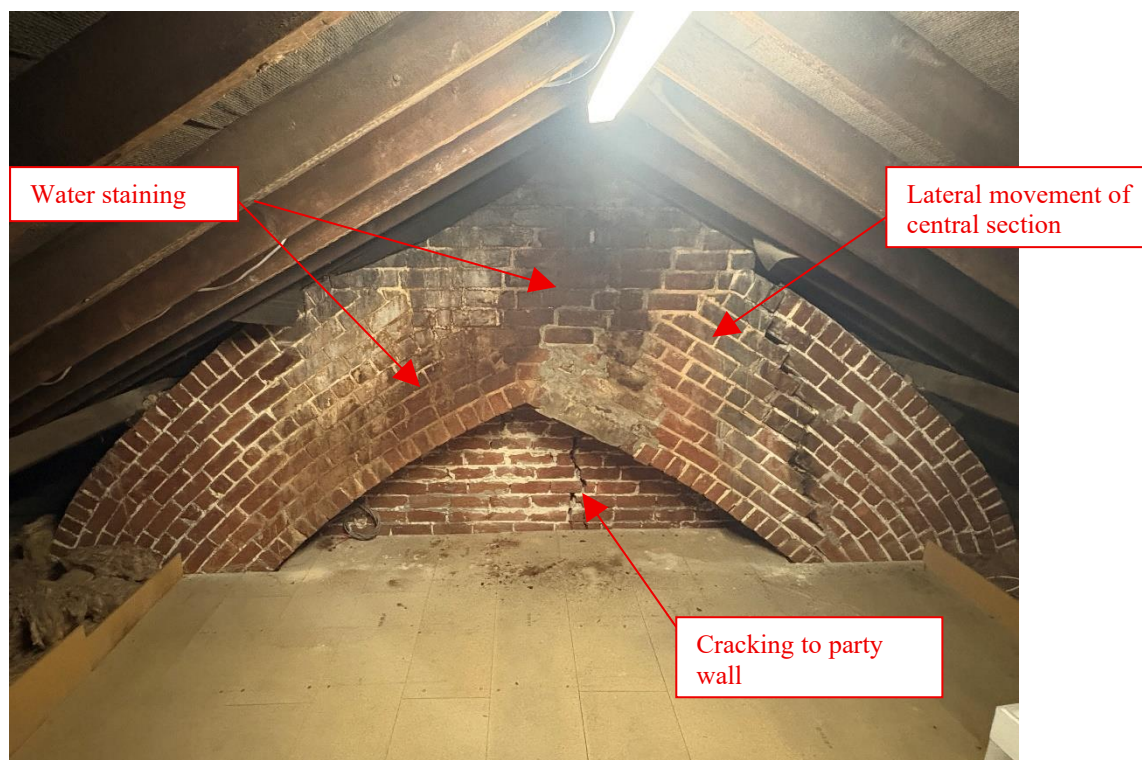


Figure 6. Chimney stack – 7 Victoria Street.

The following defects and historic repairs were observed:

- i. Evidence of cracked / disturbed sections of masonry on the central face of the stack suggest that historic movement has occurred.
- v. Heavy water staining was observed on the face of the stack suggesting water ingress due to a leaking roof or failed chimney flashings. As discussed above, the stack is constructed using lime mortar; prolonged moisture penetration could soften the mortar and reduce the arch's compressive strength.
- ii. The central section of the stack has moved away from the right-hand section of the stack by 30mm. Our concern is that the roof frame is now providing nominal lateral support to the stack
- iii. The party wall is of single brick construction (110mm) and extends to the underside of the vaulted stack. A tapering crack, ranging from approximately 10mm to 35mm in width, mirrors that observed in number 5 Victoria Street.



Figure 7. Chimney stack – 7 Victoria Street – lateral movement.



Figure 8. Chimney stack – 7 Victoria Street – lateral movement.

5.0 PARTY WALLS

The party wall between 3 & 5 and 5 & 7 Victoria Street is constructed of single brick i.e. 110mm thick. The left-hand party wall within roof void between numbers 3 and 5 Victoria Street has been infilled with concrete blockwork to prevent the spread of fire between the two properties. Although the right-hand party wall is occupied by the subject chimney stack, an open void still exists between the two properties and therefore there is no effective fire break between numbers 5 and 7 Victoria Street. We therefore recommend that a suitable fire separating wall construction is installed between 5 & 7 Victoria Street. This installation should achieve a minimum of one hour fire resistance and will attract a building regulation application.



Figure 9. Party wall between 3 & 5 Victoria Street.



Figure 10. Party wall between 5 & 7 Victoria Street.

6.0 DISCUSSION AND CONCLUSIONS.

- 6.1 The defects observed in the arched chimney stack shared by Nos. 5 and 7 Victoria Street give cause for concern. The severe cracking and the lateral displacement of 30mm confirms that the stack has moved and it is possible that this movement will continue. There is no bond between each stack through the party wall and the stability of the stacks in their current condition is considered unreliable. The most appropriate remedial measure would be to carefully dismantle the stacks from above roof level down to ceiling level and rebuild onto a reliable structural arrangement.
- 6.2 As Victoria Street lies within the Eldon Square Conservation Area, listed building consent will be required before any work is undertaken. The requirements of the Party Wall etc. Act 1996 and the building regulations should also be considered.
- 6.3 We recommend the following remedial solution.
1. Erect external scaffold.
 2. Partially remove existing roof.
 3. Dismantle existing arched chimney stack down to the top of the existing chimney breasts.
 4. Place concrete capping slabs on top of remaining chimney breasts.
 5. Install twin steel beams, one each side of the party wall.
 6. Place new concrete slab spanning between the two steel beams.
 7. Build new stack using reclaimed brick and the existing chimney pots.
 8. Reinstall roof.

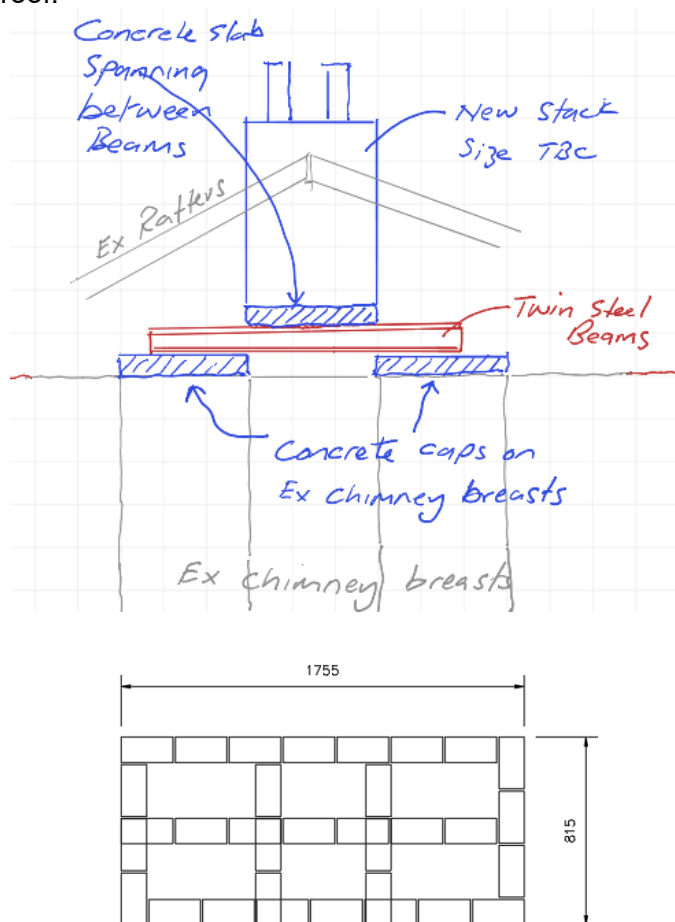


Figure 11. Schematic structural solution.

- 6.4 We recommend that a suitable fire separating wall is installed between 5 & 7 Victoria Street which should achieve a minimum of one hour fire resistance.
- 6.5 A building regulation application will be required for the rebuilding of the chimney stack and the party fire wall installation.
- 6.6 This report is presented for the sole use of Lysander Strong and Amy Washington. No responsibility or liability is accepted for the whole or any parts of its contents in respect of any third-party claim.

A handwritten signature in black ink, appearing to read 'C. N. W. Hudson', with a horizontal line underneath the name.

Eur Ing. Clive N.W. Hudson B.sc.(Civ.Eng.) C.Eng. M.I.Struct.E.
[On Behalf of Clive Hudson Associates](#)