



Address and Date

Address:
Prepared By:
Date Prepared:
Company:
Date of Inspection:
Prepared for:

[REDACTED]
Gladston Matheson BSc (Hons) MRICS
12/02/2022
KEYS Consulting Ltd
10/02/2022
[REDACTED]



INSPECTION INFORMATION

Client's Name	[REDACTED]
Client's Address	TBC
Date of Instruction	28/01/2022
Property Address	[REDACTED]
Senior Director	Gladston Matheson BSc (Hons), MRICS
Company Name	KEYS Consulting Ltd
Company Address	69 Fisher Road, Harrow HA3 7JX
Prepared by	Gladston Matheson
Date of Inspection	10/02/2022
Occupied/Unoccupied	Unoccupied
Weather	Dry, overcast and cool (8 Celsius)
Report Reference Number	KEYS0149

SUMMARY

Condition

Overall Opinion & Recommendation

The property has suffered from water ingress over a period of time, which appears to be a result of a defect adjacent to the rear right-hand chimney stack. The area must be opened up and examined in detail, but due to the light water ingress viewed identification could be difficult. Thus we recommend refurbishment and replacement of parts around the chimney stack such as flashing, pointing or cracked brickwork. Once these parts are refurbished water ingress will stop returning to normal and no further ingress will result. The repairs should be carried out by a reputable roofer highly experienced in leadwork.

Introduction

1.1 Instructions

In accordance with instructions received from [REDACTED] we have carried out a Defects Inspection in relation to water ingress noted in the kitchen to the rear of the property known as [REDACTED]. The inspection was carried out on 10/02/2022. All comments are based on visual inspection only and no opening up of areas was carried out. Testing equipment was limited to an electronic moisture meter to measure the level of moisture content.

1.2 Brief

We have been requested by the property owner to carry out a Defects Inspection of the above property consequently this report is limited to the rear right-hand chimney stack and immediate adjacent elements only. Maintenance issues will only be highlighted if considered relevant.

1.3 Site inspection

Where the terms "right hand" or "left hand" are used, they assume that the reader is facing the front of the property with the main access door situated within the front elevation.

1.4 Terminology

Where the expressions immediate, short term, medium term, long term and very long term are used they generally mean the following:

- Immediate: within 1 year
- Short Term: within the next 1 to 3 years
- Medium Term: within the next 4 to 10 years
- Long Term: within 11 to 20 years
- Very Long term: over 20 years

Where relating to structural damage and crack widths the expressions negligible, very slight, slight, moderate, severe and very severe are used they generally mean the following:

0 - Hairline cracks: Less than 0.1 mm in width. No repair action is required.

1 - Fine cracks: Up to 1 mm in width. Generally restricted to internal wall finishes. Easily treated using normal decoration.

2 - Cracks easily filled: Up to 5 mm in width. Not necessarily visible externally, but doors and windows may require adjusting to prevent sticking. Can be masked by suitable linings.

3 - Cracks that require opening up: Widths of 5-15 mm. Weather-tightness and service pipes may be affected. External brickwork may need repointing or, in some cases, to be replaced.

Condition

4 - Extensive damage: Widths of 15-25 mm. Windows and door frames become distorted, walls lean or bulge noticeably. Requires breaking-out and replacement of wall sections.

5 - Structural damage: Widths greater than 25 mm. Beams lose their bearing, walls require shoring, and the structure is generally unstable. May require major repair works.

General Description of Property

[REDACTED] is a 1st floor flat at the end of a two-storey property constructed in 275mm wide solid brickwork surmounted by timber roof with a tile covering, including a flat roof dormer at the rear.

The property comprises 3 bedrooms, 2 bathrooms and 1 reception.

The dormer is part of a loft conversion carried out in recent times. It's understood that the dormer roof remains under warranty.

The loft conversion comprises a bedroom and ensuite. The drainage pipeworks serving the ensuite is positioned along the gutter at the rear and adjacent to the chimney stack.

It's understood the property is leasehold tenure and Hamilton Chase are the managing agent.

Damage Noted

The property comprises 2 chimney stacks built of brickwork located to the right hand. The chimney stack at the front remains as per the original build with 2 clay pots. The chimney stack at the rear has been cut back and capped. An air brick has been added on the right-hand face of the chimney stack. The chimney stacks initially served fireplaces on the ground and 1st floors. The front chimney stack was not inspected but the rear stack is no longer operational. The rear chimney stack has been cut at the 1st-floor ceiling in the kitchen room. Based on the inspection from the ground the rear chimney stack appeared in a serviceable condition consistent with its age and exposure.

The kitchen chimney breast has been closed and brown watermarks are evident on the plasterboard and bulkhead. The moisture content on the bulkhead varied between 23% on the vertical side and 33% on the horizontal side. The ceiling immediately adjacent to the bulkhead also reflected 33% moisture content.

The loft room comprises access to the eaves. Timber rafters form the slope of the roof but were covered with a sheeting membrane. The membrane was locally set aside adjacent to the chimney stack to facilitate an inspection of the area. The timber rafters and struts showed light watermarks. The moisture content in the rafters and struts were measured between 20% and 25%.

Discussion

The Client advised that water ingress problems have been experienced around the rear chimney breast circa 8 years. A series of attempts have been carried out to remedy this problem but water ingress continued.

The managing agent attempted to resolve the water ingress on several occasions as follows,

- 15.12.18, New cement flashing to side alley chimney
- 24.11.20, Rear chimney coated with water sealant
- 11.02.21, Reduce the height of chimney stack to the side of the main roof and leave above lead flashing, flashing in 1:3 mortar

Condition

The agent's attempts to resolve this position were unsuccessful as water ingress was evident at the time of inspection.

The chimney stack was initially comprised of traditional clay chimney pots, but these were removed when the managing agent reduced the chimney height in early 2021. Further, the Client arranged the installation of a loft conversion more recently. Following both events, the water ingress continued. However, considering that the water ingress was present prior to both events, they can't be factors in the cause of water ingress.

The chimney stack was capped with a strong flaunching mix when it was reduced in height. Any unused chimney should include a flue ventilator. This item prevents the risk of vermin and water ingress, but still allow a small amount of air passage for ventilation. The absence of ventilation and air circulation in disused chimney flues is associated with dampness defects. However, the Client subsequently arranged the installation of a small air brick to mitigate this risk.

The principle elements associated with the water ingress relate to 3 items i.e. the chimney stack, roof tiles and flashing. The roof tiles abut the chimney stack and the flashing serves as the waterproofing detail between them. The managing agent has confirmed that the remedial works carried out to date didn't involve repairs to the flashing. Further, the Client's loft conversion contractor has also advised that the flashing has not been touched. However, considering this is a pivotal waterproofing element consideration should be given to replacing the flashing system in full.

Based on the dampness noted the water ingress is not reflective of a large failing. Rather the water ingress is likely to be a very small failing in one of the external elements. Potential failings associated could be a crack or fractured tile, pinhole in the flashing, cracked/eroded bricks or defective pointing to the chimney stack etc. Due to the nature of the defect identification visually could be difficult. Consequently, replacement of new parts would be sensible and resolve this ongoing water ingress problem.

Repair

The remedial works to the rear chimney stack should include opening up the area adjacent to the stack to identify the location of water ingress. Light dampness was viewed internally in a very restrictive area, but once the area is opened the point of water ingress could be easier to view. The focus should be on the elements around the inside face such as the flashing, tiles and eroded pointing. If identified replace the defective item.

That said, a series of unsuccessful attempts have been carried out to resolve the water ingress. Thus a more comprehensive solution would be to replace all the associated parts with new and this is the preferred recommendation i.e.

1. Mortar joints should be raked out 25mm and repointed (taking care to match the original style). A normal mix of 1:4 will be acceptable, but a stronger mix of 1:3 will be more durable.

2. Flashings should be replaced with new lead (this should be of a minimum Code 4 thickness). Cut a groove in the chimney (usually into a mortar joint) approximately 150mm above the level of the roof; on a slope this should be a stepped pattern. The lead flashing should be inserted at least 25mm into the groove and fixed in place with lead wedges and then sealed with new mortar/sealant. Ensure that the full flashing system is installed i.e. back gutter and cover, apron and sides. The roofer will need to be a skilled leadworker or a leadworker must be appointed to install the flashing.

Note

Condition

The existing flashing may simply have come loose or is inadequately sealed to the brickwork, in which case it may just need to be refixed and wedged into existing joints and pointed up with fresh mortar.

3. Tiles adjacent should be lifted and examined for cracks or fractures. Subsequently, reinstall. Alternatively, replace the tiles with new ones within 450mm of the chimney stack

4. The capped flashing detail should be checked for cracks or hollow debonded areas.

5. Once the cause of water ingress is resolved internal repairs and decorations can be carried out. The plaster appears to comprise salts which will prevent the paint from making a secure key. This should be cut back and replaced with a damp proof plaster. The ceiling plasterboard will require one coat of stopper prior to the decoration of all areas.

Limitations of Inspection

It was not possible to inspect the foundations for examination without invasive works. However, from an inspection of accessible areas of walls above the ground, it is reasonable to assume that the foundations have not failed or are other than sound.

The roof coverings and structures were viewed from the ground, but where no access is possible or there is only limited visibility the element is excluded from the inspection. In this instance, this limitation particularly relates to the dormer roof and parts of the chimney stack as they could not be viewed due to access restrictions.

Parts of the rear chimney stack and roof timbers were examined internally, but the inspection was limited due to access restrictions.



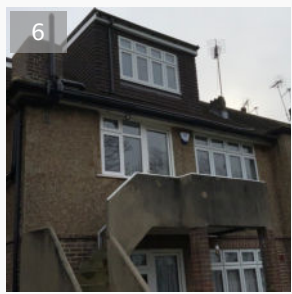
The front right-hand chimney stack is excluded from this report.

OBSERVATIONS

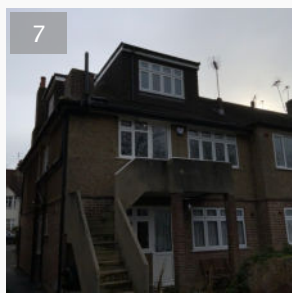

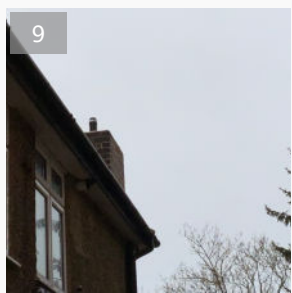
Internal Parts

Item	Description
Kitchen	<p>The chimney breast initially passed through the kitchen but has been stopped at the ceiling height. A stepped bulkhead has been created finished with plaster. Water ingress was evident in the brown marks across the plaster. The water ingress was viewed immediately adjacent to the ceiling and over the bulkhead.</p> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  <p>1</p> </div> <div style="text-align: center;">  <p>2</p> </div> <div style="text-align: center;">  <p>3</p> </div> </div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <div style="text-align: center;"> <p>IMG_20220210_095240_Bokeh.jpg 12/02/2022 15:50 (GMT)</p> </div> <div style="text-align: center;"> <p>IMG_20220210_095232_Bokeh.jpg 12/02/2022 15:50 (GMT)</p> </div> <div style="text-align: center;"> <p>IMG_20220210_095301.jpg 12/02/2022 15:50 (GMT)</p> </div> </div>

Main Roof

Item	Description
Slope	<p>The main roof was originally hipped style covered with tiles but has been converted in recent time to accommodate a loft conversion. It is normal for properties of this age and type not to have roofing felt. Without this, water may get into the roof space especially during windy weather. However, roofing felt has been installed as part of the loft conversion. The ridge-line is straight and the roof surface is reasonably flat. The hipped tiles comes off at an angle and have been cut back to facilitate the loft conversion. The bedding mortar to the ridge and hipped tiles appear in good condition with the tiles firmly bedded into position. The roof covering appears to be in a serviceable condition with no significant slippage or deterioration of the tiles noted.</p> <div style="display: flex; justify-content: space-around;"> <div style="text-align: center;">  <p>4</p> </div> <div style="text-align: center;">  <p>5</p> </div> <div style="text-align: center;">  <p>6</p> </div> </div> <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <div style="text-align: center;"> <p>10/02/2022 10:14 (GMT)</p> </div> <div style="text-align: center;"> <p>10/02/2022 10:15 (GMT)</p> </div> <div style="text-align: center;"> <p>10/02/2022 10:15 (GMT)</p> </div> </div>

MAIN ROOF (CONTINUED)

Item	Description
Chimney Stacks	<p>The chimney stacks are located to the right hand and are built of brickwork. The property has a chimney stack which originally served fireplaces on both the ground and 1st-floors. The rear stack has been capped but includes an air brick for ventilation.</p> <p>The chimney flaunching is a strong mortar mix that cements the chimney pots in place and no visible cracks or damage was viewed, but the view is restrictive. The brickwork is in a general condition consistent with its age and exposed position. Pointing between the brickwork appears reasonably sound. The flashing which forms the weather joint between the chimney stack and roof covering is metal and appears to be a satisfactory condition as viewed from the ground.</p> <div style="display: flex; justify-content: space-around;"> <div data-bbox="331 689 624 981">  </div> <div data-bbox="671 689 963 981">  </div> <div data-bbox="1011 689 1303 981">  </div> </div> <div style="display: flex; justify-content: space-around; margin-top: 5px;"> 10/02/2022 10:07 (GMT) 10/02/2022 10:08 (GMT) 10/02/2022 10:09 (GMT) </div>

DECLARATION

I confirm that I have inspected the property and prepared this report.

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