Chapero Marsh
Construction Consultants

REPORT

94 Haverstock Hill
London
NW3 2BD

Structural Visual Inspection Report

Contents

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Please note that this report has been prepared for the client (Highbridge Estate Ltd) and that no third party should rely on it in any way and that Chapero Marsh Ltd shall have no liability to any third party who does seek to rely on it.

1 Introduction

Chapero Marsh was instructed by Haverstock Hill Limited to carry out a structural inspection of the building. The purpose of the inspection was to assess the condition of the building and to advise on remedial works (if necessary) to bring it to a basic level of soundness.

We visited 94 Haverstock Hill on 21st May 2015.

2 Description

94 Haverstock Hill is a Grade II Listed, three-storey end of terrace with a basement and a one-storey side extension. According to inscription on main façade it was rebuilt in1863 during the Mid-Victorian period. A Public House / restaurant occupies the ground and basement and the upper levels are residential.

We understand the construction to be:

- concrete basement floor
- solid brickwork walls
- timber suspended floors
- timber pitched one and half mono-pitched roof, behind ornamented

3 parapet walls **Background information**

A Condition Survey was carried out on 23rd October 2013 by Lewis Berkeley Chartered Surveyors where cracking and other defects were identified and repairs proposed.

The identified defects were related to cracking of brickwork and stonework. The stepped cracks were described as projecting through the window head seals, projecting cornices and at the returns of the building. Diagonal cracking was also noted internally at the first and second floor accommodations and common parts.

The surveyor's report generally recommended repairs and stitching of masonry and maintenance of the building including rainwater pipework, gutters, flat roofs and balconies and further investigation / testing of timber floors.

Cracks were not measured in the surveyor's report, but there are extensive photographs showing cracking defects.

4 Condition of building (structural)

Façades – crack measurement was not feasible as inspection was carried out from the ground, therefore only photographic records and annotated drawings have been taken.

4.1 Observations:

From the visual inspection, we found the following (to be read in conjunction with annotated drawings and photographs in Appendix A & B):

- **Southwest Elevation:**

  First Floor:
  Windows surround - diagonal cracking on stone triangular portico and architrave / cornice (on edge windows). **(1)***, **(2)***
  Diagonal cracking on stonework **(3)***

Second Floor: LHS window – diagonal cracking on stone window surround and cornice **(1)*.**

- **Northwest Elevation:**
  Ground Floor (side extension):
  Diagonal and vertical cracking on stonework, brickwork and render **(7)*, (8)***.
  Vegetation along balcony line **(5)***.

  First Floor:
  Diagonal cracking on brickwork and stone cornices **(1)***, **(2)***, **(7)***.
  Missing mortar **(3*)**.
  Staining of brickwork around pipework **(4)***.
  Minor drop on arch above small window **(9)***.

  Second Floor:
  Staining of brickwork around pipework **(4)***.Downpipe appears to be broken.
  Cracking on window surround **(8)***.
  Diagonal and vertical cracking on brickwork **(7)*.**
  Diagonal cracking on brickwork and stonework above **(8)***.

- **Northeast Elevation:**

  First Floor:
  Diagonal / vertical cracking on window's brickwork coping **(3*)**.
  Missing brick under window and mortar at low level above flat roofline **(5*)**.
  Hole to side of window **(4*).** Could be a redundant flue.
  Missing mortar and cracks below landings window **(3*)**.

  Second Floor:
  Broken gutter and water staining **(2*)**.
  Water staining and missing mortar above landing's window. Downpipe above might be leaking **(1*)**.

Note: Repointing required around all window reveals.

- **Roof:**
  Cracking along roof parapet **(1*)**.
  Slated roof - Slates broken and/or missing **(2*)**.
  Roof valley – roof covering has deteriorated **(2*)**.
  Northeast elevation chimney appears to be leaning inwards and shows historic repairs **(4*).** This chimney is exposed (internally) in the roof area and does not show signs of movement.
  Pitched side of roof was accessible and timber rafters appeared to be in good condition.

- **Second Floor:**
  Living room: Redundant radiator pipe, signs of water damage under **(1*)**.
  Floor has dropped **(1*)**. If floor joists / wall plates are built into outside solid walls timber could have rot.
  Movement of floor skirting relative to floorboards (Wall may not be tied back to floor)
  Living room floor felt lively **(3*)**.

- **First Floor:**
  Diagonal cracking on ensuite's wall **(3*)**.
  Water damage on living room's ceiling **(1*)**.
  Radiator leak in living room, **(2*)**. joist condition to be checked.

Living room floor felt lively **(4*)**.

Stairwell: Fine cracks on wall **(3*)**.

*Note: **(No)*** as referenced in drawings [Appendix A].*
Tie bars and plates run from front to rear elevation just below ceiling line, parallel to the spine walls.
Spanning direction of floor joist and hence loadbearing walls have not been identified

- **Ground Floor and Basement:**
  There is a Public House / restaurant on the ground floor, with kitchen and storage areas in the basement. No apparent sign of movement, damps brickwork on vaulted storage vaulted areas under the pavement (as to be expected). Please note inspection of these two levels was very limited, due to extent of furnishings and storage.

4.2 Discussion

All internal cracks are hairline / fine cracks (i.e up to 5mm) and the external cracks do not appear to be more than 5mm.

In accordance with **BRE Digest 251 [Assessment of damage in low-rise buildings]**, Table 1 - Classification of damage is as follows:

- Hairline cracks: typical crack width up to 0.1mm
- Fine cracks: typical crack width up to 1mm
- Cracks easily filled: typical crack width up to 5mm
- Cracks which require some opening up: typical crack widths are 5 to 15mm
- Extensive damage: typical crack widths are 15 to 25mm
- Structural damage: typical cracks width greater than 25mm

Following BRE Digest 251 guidelines, damage from a maximum crack width of 5mm would be classified as **Category 2**, which is considered **aesthetic**.

Causes of damage associated with type of structure can be material shrinkage and creep; corrosion of decay; differential thermal movement in dissimilar materials and poor detail design or workmanship.

For the cause of damage to be accurately identified it will be necessary to conduct detailed examinations of the structure, its materials, the foundations and the local ground conditions. Consequently, unless there are clear indications that damage is progressing to a higher category it may not be cost effective to carry out extensive work to address aesthetic damage.

The surveyor's report identified as potential causes of cracking the influence of a large mature tree in the side passageway, general movement in the area and the property settling down the hill on Haverstock Hill.

As previously discussed there are no recorded crack measurements, however from the photographic record of the surveyor's inspection it can be seen that all the identified cracks were already there in 2013 and they do not appear to have worsen, therefore this will indicate that the movement **is not progressive**.

As there is a basement the building's foundations are likely to be to depth outside the influence of the tree. Also, the tree appears to have reached or is close to maturity, so although seasonal shrinkage and swelling movement can be anticipated, larger movements are likely to occur only in exceptional spells of dry weather. Felling of such a tree can lead to worse damage due

to swelling of the clay. Therefore, tree pruning may be an acceptable way of reducing the potential influence of the tree.

5 Conclusion / Recommendation

From the above it is our view that the majority of cracks appear to be fine cracks and that possible cause is likely to be due to normal differential and thermal movement within the building structure, as well as, original settling of the building down the hill. The guidance for the remedy of these types of cracks suggests that they are aesthetic in nature and therefore could be repaired by repointing and stitching of brickwork.

The structural elements that will need taken care off are:

1) Timber floor joists
2) Northeast elevation chimney

And we recommend the following **investigation works**, prior to carrying out façades repairs:

i. Expose timber joist on first and second floor (as indicated on the drawings, Appendix A) to assess condition. If joist are in sound condition, then tying the floor to the walls might be sufficient (Refer to Appendix C for proposed remedial work).

ii. Measure chimney's verticality to determine if remedial works are required. Scaffolding will be needed to access the chimneystack and assess verticality.

Refer to Appendix C for guidance on repointing, stitching and tying floors to existing walls.

Note:

- All leaking pipes and gutters should be repaired / replaced prior to starting brickwork repairs.
- Stonework to be repaired following specialist recommendations.
- Cracks on internal walls can be repaired by using suitable flexible surface filler.

It should be noted that further cracking might re-appear after a period of time after the repairs have been undertaken and that on-going maintenance/repairs should be expected.

Other observations:
All external carpentry is in need of repair.
Metal window railings are rusting.