

Date: 31st March 2023

Your ref:

Our ref: SD / AS / 13383

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Dear Adam & Emma

Re: 30 Athenaeum Street, Plymouth PL1 2RQ

1.0 Introduction

Further to our visit of the 29th March 2023 we write to confirm our findings of our brief inspection. The weather was dry preceded by a month with high rainfall.

Principally our visit was to provide an opinion on a twisted and leaning chimney and sloping floors.

This letter should not be interpreted or viewed as a structural survey. This letter is limited to the issues mentioned above and defects found while viewing and or investigating the above.

2.0 Form of construction and history

Normally we would give a brief history of the property however the history of this building and its site is extremely extensive possibly dating back to 1750. The property with its present architectural features and layout would lead the writer to conclude that the property was built within the Victorian era. The venter has extensively researched the property and reported the earliest reference to the property is in 1750.

We conclude whatever existed prior to the Victorian era was extensively modified within that period resulting in its present form. Simplistically we believe this would have involved a new staircase, bay windows and most probably new floors and partitions. From visual evidence gained within the loft it is clear that the roof has been raised possibly resulting in the second storey (above street level). It is difficult to date this alteration.

Due to the extensive modifications and lack of intrusive investigations the validity of the following conclusions and opinions must be questioned. Only significant opening up works will provide an accurate understanding of the structure.

The property is spread over four stories, lower ground, ground, first and second. The lower ground is separated with its own access.

The property appears to be traditionally built with load bearing masonry external walls, timber joisted floors, timber partitions and a timber frame mansard roof supporting a slate covering.

3.0 Observations

3.1 Leaning Chimney

The chimney springing from the north party wall is twisted and leans to the south. Due to the fragile nature of the ceiling within the loft we did not measure the actual lean within the loft space. The lean to the north measured within the second floor rear bedroom was 15mm in 1800mm. The lean on the chimney when viewed from road or garden level is significantly more than this.

This is a significant chimney formed in brickwork with, we believe, 16 flues.

This chimney is shared with the neighbour to the north.

The cause of the lean could be due to a multitude of effects, however in our opinion weathering and salt crystallisation are the most probable. The following website has some useful reference information: -

<https://www.buildingconservation.com/articles/services/chimney.htm>

3.2 Sloping floors

All floors on all viewed levels fall from the party walls to the centre of the building. The worse slope (gradient) was 90mm in 1800mm measured within the second floor front south bedroom. Due to the presence of finishes and furniture the floor joist direction and size could not be determined. We assume that the floor will have been installed level and subsequently deflected to its current position. Modifications to the finishes (alignment of coving and doors etc) and lack of current cracking indicate that the movement of the floor happened some years ago.

Due to the large gradient further investigation of the floor structure is highly recommended.

3.3 Tenement roof

The roof over the rear tenement is showing signs of roof spread. The joints between the ridge board and rafters are opening up. The reason for the spread is difficult to determine due to the limited space within this loft however there appears to be little or no fixing between the rafter and ceiling joist due to construction detail chosen.

3.4 Main roof

Limited observations were undertaken. All observations were taken using a torch from the loft hatch. The roof structure seems to be of adequate proportions showing limited sagging and or movement. The support to the purlins at the party walls should be investigated, it appears that the purlins are propped from an untied small pier of brick masonry, this will need improvement.

The main tie to the principal truss has several shakes (splits and cracks). These, in our opinion, are currently acceptable.

4.0 Conclusions and recommendations

Without closer inspection it is difficult to comment on the actual stability of the chimney and whilst we do not currently consider it to be dangerous it will require rebuilding in the near future. A close inspection of the chimney in the very near future should be made to confirm the assertion above. We assume that the lean exceeds the limit provided in BRE Good Building Guide 2. Other chimneys on the street have been rebuilt or had significant work. It should be noted that the permissions from neighbour et al will be required prior to rebuilding the chimney. You may also wish to investigate sharing costs with your prospective neighbours for works carried out to the party wall.

Specification for rebuilding the chimney is beyond the scope of this report.

Despite the assumed age of movement of the floor we highly recommend that the floor structure is confirmed; floor joist size and span direction. It will be difficult to realign the floors without extensive work. Should the floor joists be found to be significantly undersized and require improvement some solutions may involve works within the lower ground floor.

Depending on the condition of the rafters within the rear tenement, the most economical way to prevent further roof spread may be to replace the rafters and ceiling joists. If found to be in good order and depending on its practicality it may be possible to design plywood gussets connecting the rafter to the ceiling joists.

This property is old and will require significant ongoing maintenance in addition to those defects mentioned above.

We do not know whether the property is listed. If it is listed, the purchaser should fully understand the limitations placed by the listing on any alterations and or improvements.

Some of the works mentioned above will need statutory authority approvals.

5.0 Exclusions

Any works carried out as a consequence of this report should be done so only on the basis of drawings, specifications and schedules etc., produced specifically for the purpose and not from the broad recommendations set out here. Remedial works should form a distinct second phase to this report.

We have not checked timber members for decay or infestation and lack of comment should not be taken as sign that such defects are not present. We strongly recommend that a reputable timber treatment specialist be employed with suitable insurances to carry out such inspections and treatment.

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.

This report is for your information and should be divulged only to other parties who are directly concerned with the matter in hand. We would not wish to accept responsibility for any views expressed in it which may be revealed to others not so involved without our express permission.

We trust this report is sufficient for your present purposes and you will contact us if you require clarification or further advice.

Signed

A handwritten signature in black ink, appearing to read 'JW Parker'.

For and on behalf of
Maurice Parker Structural Engineers Limited