CVM
CONSULTING CIVIL AND STRUCTURAL ENGINEERS

Report 17203_R001

Farley Cottage, Farley

Stoke-on-Trent, ST10 3BQ

Visual Structural Inspection in respect of an Existing Single Storey Garage for the purpose of constructing an additional storey over

January 2018

Revision 0

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0	First Issue	AM	03/01/18

This report has been prepared for the sole benefit, use and information of the Client, Mrs Georgina Brown , for the purposes set out in the report or instructions commissioning it. The liability of CVM Projects Limited in respect of the information contained in the report will not extend to any third party. The benefit of this report may not be assigned to any party.

Author	A Massey BEng(Hons) CEng MIStructE
Date	03/01/18

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1 Introduction

CVM Projects Limited have been appointed to carry out a visual inspection of the primary structural elements of the existing single storey garage to identify its suitability to structurally support an additional storey above.

This report refers only to the specific structural elements described herein, and does not extend to, inter alia, the roof covering, secondary support fixings for services, or other fixtures and fittings such as gas, water and electricity. It does not constitute a valuation or dilapidations report for the entire building and its services and should not be relied upon in this context.

The report is a visual Structural Inspection only and not a Structural Survey, which would be undertaken by a Chartered Surveyor.

The report does not comment on structures that are hidden. We have not drilled holes or removed finishes or floor boards.

The inspection has been undertaken from ground level only externally. The report does not include items such as damp, water ingress or the condition of timber elements which should be undertaken by the relevant specialists.

No examination of foundations or ground conditions has been undertaken.

The report does not cover any items which are not listed in the scope of duties and excludes such items as: -

1. Joinery including doors, windows, cupboards.
2. Roof, floor or wall coverings such as tiles, asphalt, wallpaper etc.
3. Services, including electrical apparatus, water pipes and fittings, drainage and gas pipes etc.
4. Other matters including legal status or the property boundaries, planning application, easements, ownership etc.
5. Asbestos.

We have not carried out any land registry or other types of legal searches, such as for mining activity, public utilities and the like and strongly recommend that, if not already obtained, where applicable these are obtained as part of the conveyancing services carried out by the client's appointed legal professionals.

We did not carry out sampling or testing of materials or inspect any part of the structure that was covered, unexposed or inaccessible and we are therefore unable to report that any such part of the building fabric is free from defect.

Furthermore, we have not specifically inspected for asbestos and the absence of reference in our report does not imply that the property is free from its presence.

2 Visual Inspection

2.1 Timing and method of Inspection

The inspection was undertaken on Monday 18th December 2018 at approximately 9.00 am. The weather conditions at the time of the inspection were sunny and cold.

The external inspection was carried out from ground level. The internal inspection was carried out from ground level within the existing garage.

The inspection documents the general form of construction of the primary structural load bearing elements. No sampling or testing was carried out during the inspection.

The inspection considers defects which are considered to be structural and does not report upon defects considered within finishes or which are considered to be cosmetic.

2.2 Observations

2.2.1 General Description

The garage is a single storey structure comprising of a tiled roof supported from timber rafters which are in turn supported from timber purlins. The roof is vaulted and hence there were no ceiling ties present.

The roof was supported from single storey walls which were constructed from a combination of stone, brickwork and blockwork.

Data from the British Geological Survey indicates that the underlying strata is likely to be of either Mudstone of the Mercia Mudstone Group or Mudstone or Sandstone of the Helsby Sandstone Formation. The property is located at the boundary of the three geological solid formations hence, it is not possible to confirm which underlying strata is likely to be present.

2.2.2 Visual Inspection

2.2.2.1 Walls

The external walls appeared to be constructed from a combination of stone, brickwork and blockwork. We were unable to determine the exact thickness of the walls, however, they appeared to be of single leaf construction.

There was evidence of significant bowing / bulging of the gable wall (Refer to Photograph 2) which could be due to spread from the sagging roof purlins.

There was also evidence of cracking within the gable wall (Refer to Photographs 6, 7, 8, 9 & 11) & within the rear wall (Refer to Photographs 10 & 11)

The roof over the garage opening was supported by an existing steel beam.

2.2.2.2 Roof

The roof structure comprised of a traditional timber rafter and purlin construction with the purlins supported from the gable wall and the main house wall (Refer to Photographs 1, 3, 4 & 5). The timber purlins appeared to be undersized and it is unlikely that their suitability could be proven by structural calculation. The timber purlins were visibly sagging and the lack of restraint to the gable wall is, in our opinion, likely to have contributed to the apparent bow / bulge in the wall.

2.2.2.3 Ground Floor

Due to the contents of the garage it was not possible to undertake an inspection of the the ground floor, however, given the age of the property it is unlikely to meet current building regulation requirements.

3 Conclusion

3.1 Conclusion

3.1.1 Suitability for constructing an additional storey over the existing garage

It is our opinion that the existing garage structure is not structurally capable of supporting an additional storey as the condition of the existing masonry walls will not be structurally adequate to safely support the additional dead and imposed loading from the additional floors and walls above. Based upon our experience of properties of this age, it is also unlikely that the existing foundations are capable of supporting the additional loading without the possibility of excessive settlement occurring. The bow / bulge in the gable wall would be subjected to eccentric loading which, given the current condition of the wall, is likely to induce structural failure should any significant additional load be applied.

The existing steel beam over the garage doorway is unlikely to be capable of supporting the additional loading from a second storey and would need to be replaced with a new steel beam designed by a Chartered Structural Engineer.

It is our opinion that that existing structure should be demolished, and new structural walls and foundations constructed which are capable of safely supporting a two-storey property.

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4 Appendix A – Reference Photographs

Photo 1

Photo 2

Photo 3

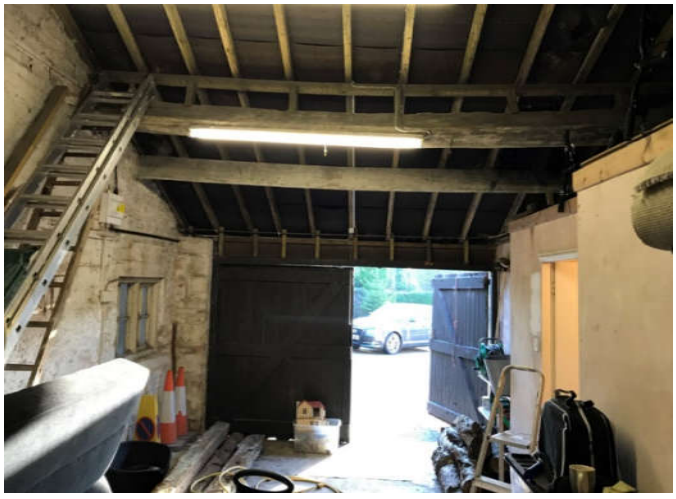

Photo 4

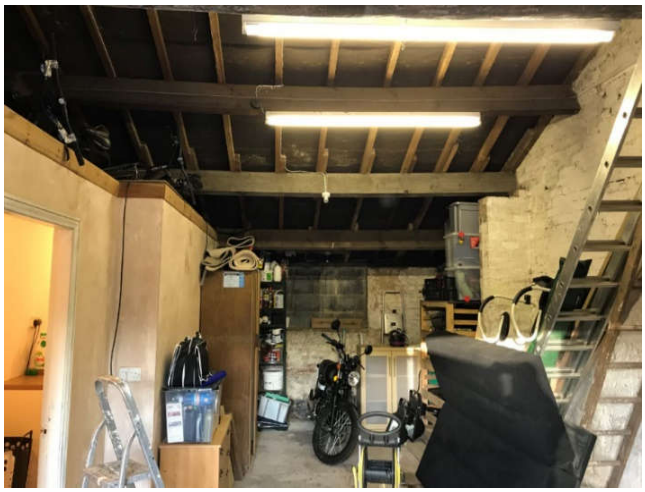

Photo 5

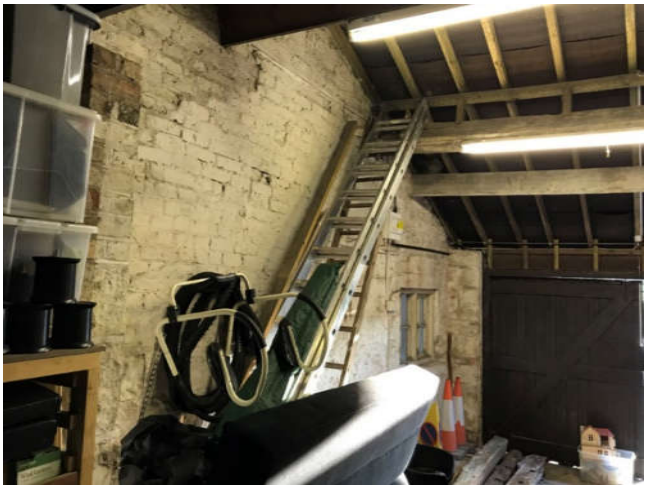

Photo 6

Photo 7

Photo 8

Photo 9

Photo 10

Photo 11

Photo 12

CVM Projects Limited

31 Ironmarket

Newcastle

Staffordshire

ST5 1RP

T: 01782 944001

www.cvmconsulting.co.uk