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our ref:

MD/jrl/MD560v2

date:

4 March 2021

REPORT
on
STRUCTURAL CONDITION
of
SOUTH WOOD COTTAGE
at
CANWELL PARK
CANWELL
SUTTON COLDFIELD

Please note our new address is:

The Old Manor House Office, Seisdon, Nr Wolverhampton, WV5 7ER.
Our telephone number and email addresses have not changed.

CONTENTS

1.0	BRIEF
2.0	LIMITATIONS
3.0	GENERAL OBSERVATIONS
4.0	STRUCTURAL OBSERVATIONS
5.0	CONCLUSIONS
6.0	RECOMMENDATIONS

1.0 BRIEF

1.1 We were instructed by Smith Brothers Farm Farms Limited to report on the building known as South Wood Cottage, Canwell Park, Canwell, Sutton Coldfield.

1.2 The Report was required to support a Planning Application for conversion of the building into residential accommodation.

2.0 LIMITATIONS

2.1 A visual inspection was carried out on 3 March 2021, but no destructive investigation was undertaken. This Report, therefore, is based solely on those factors that were readily observable at the time of inspection.

2.2 We have not inspected woodwork or other such parts of the structure that were covered, unexposed or inaccessible, and cannot therefore report that any such part of the structure was free from defect.

2.3 This Report is intended to address structural matters only, and should not be relied upon for financial, public health or legal comment, for which expert advice should be sought.

2.4 This Report has been prepared for the private use of the Client in the context stated. It shall not be reproduced in whole or in part, or relied upon by third parties for any use, without reference to the Author.

2.5 Lack of comment on any particular structural element does not imply that they comply with current standards, but only that no obvious signs of distress were noted in these members.

3.0 GENERAL OBSERVATIONS

3.1 The building stood in an isolated location approximately at Ordnance Survey map reference SP 14394 99998, and was accessed off the private road known as Canwell Drive.

3.2 The building stood within an established woodland and was aligned with the ridge line on a northwest to southeast axis.

3.3 The front elevation was deemed to be the northwest gable with double doors, facing towards the access track.

3.4 The site was fairly level, as was the general topography.

3.5 Actual ground conditions were not confirmed on this visit.

3.6 The building was single storey and of brick and tile construction.

The walls were of solid brickwork with a dentil feature course at eaves, and the roof construction comprised common rafters support on timber purlins.

3.7 The space was divided into two halves by an imperforate brick cross wall, with the southern half further subdivided by an off centre longitudinal wall.

3.8 Rainwater gutters and downpipe were evident, but the route and condition of underground drainage was not confirmed on this visit.

There was no foul drainage.

4.0 STRUCTURAL OBSERVATIONS

4.1 Roof

4.1.1 In the northern half, the roof structure comprised common rafters supported on irregularly sized purlins fixed perpendicular to the slope. The purlins spanned between the walls and a rudimentary central 'truss' comprising timber cross beam and diagonal struts below the purlins. The truss itself was supported at mid span by a long timber beam running northwest to southeast.

There were no ceiling joists.

4.1.2 The purlins in the northern half displayed some downslope deflection, particularly in the eastern slope.

4.1.3 Some outward wallplate movement was evident over the northeast length of walling.

4.1.4 In the southern half, the roof structure comprised common rafters supported on sawn timber purlins fixed vertically, and spanning between the brick wall and a central 'truss'. The truss comprised a timber cross beam with vertical posts supporting the purlins.

There were no ceiling joists.

4.1.5 The roof structure in the southern half remained free from significant distortion.

4.2 Walls

4.2.1 All walls were of one brick thickness, with the two long elevations having a

feature detail brick course at eaves.

- 4.2.2 With the exception of the northeast length of wall as noted below, all walls remained acceptably plumb and true.
- 4.2.3 On the southwest elevation, there was some spalling of brick faces, but not to the extent that their integrity was affected.
- 4.2.4 The northeast elevation displayed a significant outward bulge at eaves level at the northern end. This bulging was limited to the upper half only, but was sufficient to disturb the individual bricks within the dentil course.
- 4.2.5 We noted no cracking to the brickwork elevations that might be indicative of foundation subsidence or settlement.

4.3 Floors

- 4.3.1 The flooring in the northern area was of raised chipboard, but the supporting structure remained unconfirmed.
- 4.3.2 The flooring in the southern half was blue bricks laid on earth.

5.0 CONCLUSIONS

- 5.1 The majority of the building remained in sound structural condition.

However, there was significant structural movement in the northeast corner that warranted remedial works.

- 5.2 The structural movement had resulted from roof spread, whereby deflection and lack of restraint in the roof timbers results in a flattening of the roof

slopes. The forces generated are sufficient to push the tops of the supporting walls outwards, and this is what happened in this case.

In our opinion, the movement has progressed to a stage whereby localised re-building of the wall, and some strengthening/reconstruction of the roof, is warranted.

5.3 We consider that the southern half of the roof and the remainder of the brick walling could be retained and incorporated into any conversion works.

5.4 We noted no evidence of any foundation subsidence or settlement in the perimeter walls.

6.0 RECOMMENDATIONS

6.1 We consider the following structural works are necessary as part of the conversion works.

6.1.1 Strip roof tiling over northern half of building.

6.1.2 Replace existing purlin over northern half with vertically aligned sawn purlins (as southern half).

6.1.3 Re-align rafters as necessary.

6.1.4 Take down top 12-15 courses of brickwork over bulged area and re-build.

A handwritten signature in black ink, appearing to read 'Mark Dady'.

Mark Dady
CEng MIStructE MICE