FAIRCLOUGH

CONSULTING STRUCTURAL ENGINEERS

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STRUCTURAL ENGINEERS INSPECTION REPORT

of

ATTACHED BARN, TOMFIELDS FARM,

KINGSLEY MOOR, STAFFORDSHIRE. ST10 2EN

4th May 2019

Report No: 190426

INTRODUCTION

INSTRUCTIONS

1. Property to be inspected : Attached Barn
Tomfields Farm
Kingsley Moor
Staffordshire
ST10 2EN

2. Client : Mr Jonathan Millward & Pamela Lawton
Tomfields Farm
Kingsley Moor
Staffordshire
ST10 2EN

3. We have been instructed to :

   Inspect and report on the structural load bearing elements of the property.

4. The report is required for a planning application for change of use.

5. The property was inspected on the 23rd April 2019.

EXTENT AND LIMITATIONS OF THE SURVEY & REPORT

6. This inspection report is limited in its scope to the instructions as noted above. We have not inspected parts of the property or defects that are not relevant to the instructions unless noted in this report. Our inspection was a visual inspection internally and externally as necessary subject to safe and reasonable access being available. We shall only report upon those structural defects that materially affect the stability of the property and provided that these defects are reasonably detectable at the time of our inspection. Whilst we will use all reasonable skill and care in preparing this report, it should be appreciated that we cannot offer any guarantee that the property will be free from future defects or that existing defects will not become worse. Internal inspection is made within the limits of ready accessibility and it is not normal practice to lift floor coverings or floor boards, remove panels or plaster, or move heavier items of furniture. 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. Such unexposed parts may contain problems and you would need to make special arrangements for these areas to be investigated if you require confirmation about their condition.

7. We are not qualified to comment upon: drainage, electrical systems, water systems, heating systems, gas and electrical systems, condition/rot/insect infestation/fungal infestation of timber, damp penetration, mechanical installations, decorative condition, mouldings, coverings, and all other non-structural matters. If we happen to notice any problems in these areas which we recognise we will draw this to your attention, however you should not assume that the absence of any such comments means that the property is free from defect in these areas.

8. This report has been prepared for the named client and for a particular purpose. Any liability, which may arise, is therefore restricted to the client and the client's professional advisers in relation to that stated purpose.

ORIENTATION

9. For the purpose of this report, unless otherwise stated, the front elevation is that which faces the public road or path from which access to the property is given and all references to left and right are given as if viewing the property from the front.

DESCRIPTION OF THE PROPERTY

10. The property comprises a typical agricultural barn with brick elevations, and a pitched roof. The barn appears to be in excess of 100 years old.

11. No details were available of any structural problems that may have occurred, nor of any structural repairs or structural alterations that may have been made to the property or to neighbouring properties except as noted in this report.

EXTERNAL OBSERVATIONS

ROOF

12. The roof was observed from ground level. The roof is pitched and covered with tiles. The roof is free from significant deflection or distortion.

FRONT ELEVATION

13. This elevation was visually inspected from ground level. The elevation is formed from solid 9inch brickwork with some areas having a half brick internal pier/ thickening. Horizontal lines are level within the tolerances normally expected. The elevation is generally plumb within acceptable tolerances but there is some outwards movement at eaves level to the right hand end of the elevation and some localised bowing to the left hand end.

14. There are three pattress plates/tie rods to the elevation at first floor level.

15. The lintel/beam over the main double width opening at the left hand end of the barn is corroding. The lintel to the single storey left hand part is cracked. Towards the central part of the elevation there is a small window opening within an exposed timber lintel.

LEFT HAND SIDE GABLE ELEVATION

16. This elevation was visually inspected from ground level. The elevation is formed from solid brickwork. Horizontal lines are level within the tolerances normally expected. The elevation is plumb within the tolerances normally expected. There are no indications of roof/eaves spread. There are no structurally significant cracks, gaps, or other signs of structurally significant movement.

REAR ELEVATION

17. This elevation was visually inspected from ground level. The elevation is formed from solid 9inch brickwork with some areas having a half brick internal pier/ thickening. Horizontal lines are level within the tolerances normally expected. There are two small panels at the right hand end of the elevation where the elevation is faced in stone. There are some localised areas of distortion/bowing to the left hand end of the elevation. There is some distortion generally to the elevation but within the limits expected in a property of this type and age. There are pattress plates/tie rods on the elevation to match those noted on the front.

INTERNAL OBSERVATIONS

ROOF STRUCTURE

18. The roof structure is of traditional form consisting of timber rafters and purlins. The purlins are mainly supported on internal load bearing walls and with one truss in the central/left hand part of the property.

19. The purlins generally appear to be in a satisfactory condition except for two on the front slope towards the central part of the barn which appear to be severely weakened from decay/insect attack.

20. The truss has been significantly weakened by insect attack/decay.

FIRST FLOOR

21. The first floor is of suspended timber construction. Timber joists generally appear to be in a satisfactory condition but their bearings at the front and rear elevation are inadequate in many instances.

GROUND FLOOR

22. The ground floor is a typical concrete agricultural barn floor and I assume that as part of any conversion works it will be dug up and replaced with a new floor to current Building Regulation standards.

CONCLUSIONS & RECOMMENDATIONS

23. Overall this barn is in a structurally stable condition and it is suitable for conversion/ change of use without substantial rebuilding works being required.

24. Minor works to lintels above openings etc., are required at noted in the report.

25. There has been some historic movement/bowing to the elevations generally but within acceptable limits and not requiring rebuilding. The elevations should be restrained/tied to the new internal structure that will be required as part of the conversion/change of use. There are some minor localised areas of more noticeable bowing at the left hand end of the rear elevation which would benefit from localised rebuilding. The area of elevation concerned is not more than 4sqm.

26. There has been some historic roof spread/eaves deflection. To prevent any further movement I recommend that ridge beams/purlins are installed as part of the conversion works.

27. The timber roof structure generally appears to be in a satisfactory condition but two purlins will have to be replaced with new. The single roof truss has been weakened by insect attack/rot and I recommend that the load on this truss is reduced by taking load onto the new internal walls and/or providing alternative roof structure/support adjacent to the truss. Detailed design checks on the existing roof structure should be carried out at Building Regulation stage once the loadings and internal layout of the conversion works are known.

28. The first floor timbers appear to be relatively modern and although the majority are satisfactory in themselves there are numerous instances where their bearings onto the front and rear elevations are inadequate. It should be possible, as part of the conversion works, to provide alternative support from an internal leaf of either

blockwork or structural timber but it might be more convenient to provide and entirely new first floor. A detailed design check should be carried out on any first floor timbers to be retained when the internal layout and loading of the conversion works are known.

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For Fairclough & Co Ltd