FAIRCLOUGH

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STRUCTURAL ENGINEERS INSPECTION REPORT

of

BARN AT LYNDHURST, SCHOOL LANE, BRADNOP, LEEK, STAFFORDSHIRE MOORLANDS. ST13 7ND

23 December 2019

Report No: 191205

INTRODUCTION

INSTRUCTIONS

1. Property to be inspected : Barn at Lyndhurst
School Lane
Bradnop
Leek
Staffordshire Moorlands
ST13 7ND

2. Client : Bethan Rushton

3. We have been instructed to :

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

4. The report is required in connection with a planing application.

5. The property was inspected on the 3rd December 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 courtyard 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 ban with solid stone elevations and a pitched slated roof and with a more modern extension/projection to the front.

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 to the main part of the barn is moderately deflected but well within the limits expected in a building of this type and age. The roof to the more modern extension/projection is free from significant deflection.

ORIGINAL FRONT ELEVATION (FACING ONTO THE COURTYARD)

13. This elevation was visually inspected from ground level. The elevation is formed from solid stone masonry. Horizontal lines are level within acceptable tolerances. 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.

ORIGINAL LEFT HAND SIDE GABLE ELEVATION (FACING ONTO THE ROAD)

14. This elevation was visually inspected from ground level. The elevation is formed from solid stone masonry. At the rear left hand corner the masonry noticeably slopes down towards the corner and there is a significant vertical gap/crack extending from approximately ground level to eaves level. The elevation is plumb within the tolerances normally expected.

ORIGINAL REAR ELEVATION

15. This elevation was visually inspected from ground level. The elevation is formed from stone faced solid masonry. The right hand part of the elevation is very noticeably bowed/distorted in the vertical plane and with horizontal lines very noticeably sloping down towards the rear right hand corner. There are also cracks above and below the ground floor window adjacent to the rear right hand corner indicating foundation movement. The left hand part of the elevation is in better condition with no signs of recent structurally significant movement except at the extreme left hand end and although it is somewhat distorted/bowed the distortion is within acceptable limits.

16. There is a very basic semi-external extension on this side of the building formed from blockwork walls and corrugated steel roof. I assume that this will be demolished.

ORIGINAL RIGHT HAND SIDE GABLE ELEVATION

17. This elevation was visually inspected from ground level. The elevation is formed from solid stone masonry. Horizontal lines are level within the tolerances normally expected. The elevation is noticeably bowed/distorted in the vertical plane. At the top of the elevation towards the rear right hand corner there is a stepped diagonal crack with additional/more pronounced distortion to the masonry surrounding the crack.

MODERN EXTENSION/PROJECTION

18. This part of the property has a combination of stone faced and concrete blockwork faced elevations. There are no indications of structural movement or defect in these elevations.

INTERNAL OBSERVATIONS

ROOF STRUCTURE

19. The roof structure to the modern front extension/projection is of traditional form consisting of timber rafters and purlins. There are no signs of structural defect.

20. The roof structure to the main part of the barn consists of timber rafters, timber purlins, and a timber truss. The rafters appear to be in reasonable condition but the timber truss and three of the four purlins are in a very poor state of condition with extensive beetle infestation and rot.

GROUND FLOOR

21. The ground floor is a typical agricultural floor and I assume that it will have to be replaced with a modern floor to current building regulation standards incorporating under floor insulation and a damp proof course etc., as part of the conversion works.

WALLS

22. The internal faces of the elevations in the modern front projection/extension are formed from a combination of concrete blockwork and stone. There are no indications of any structural defect.

23. In the main part of the barn the internal face of the right hand side gable elevation and the internal face of the right hand half of the rear elevation are severely distorted generally matching the distortion noted externally. The internal face of the right hand half of the front elevation is also somewhat distorted but to a lesser degree. The internal faces of the elevations at the left hand half of the main barn are plumb within the tolerances that would be expected in a property of this type and age.

CONCLUSIONS & RECOMMENDATIONS

24. My overall conclusion is that this barn is suitable for conversion to habitable use but that some rebuilding works will be required as follows:-

1) The timber roof structure to the main part of the barn is inadequate and will have to be replaced with a modern roof structure to current building regulation standards. This will require the entire roof to the main part of the barn to be stripped off and then replaced.

2) The roof structure to the more modern front extension/projection is in a satisfactory condition. I would expect that the rafters would be sufficient to cope with the additional weight placed upon them as part of the conversion works by ceilings etc., but the purlins might need some reinforcement. You might however elect to strip off the entire roof to this part of the barn so that insulation to modern standards can be most appropriately incorporated.

3) A new ground floor will be required to the barn to current building regulation standards. Because of the requirement for a structural depth and insulation it is possible that the excavations for the floor will require the elevations of the main part of the barn to be underpinned.

4) The right hand side gable elevation and the right hand half of the rear elevation is severely distorted internally and externally and these parts should be taken down and rebuilt plumb. They should be rebuilt upon new foundations. The design of the new foundations should be integrated with the underpinning works discussed in the paragraph above.

5) Underpinning works will be required to the rear left hand corner of the main barn irrespective of whether the foundations as a whole will require underpinning. Following the underpinning works crack stitching/repairs should be carried out to the crack at the rear end of the left hand side gable elevation.

6) The overall proportion of the elevations that require rebuilding is approximately 25%.



Front Elevation.



Left Hand Elevation



Rear Elevation



Roof Structure - Original Part

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For Fairclough & Co Ltd