

20416-sh-01a

6th July 2021

Mr & Mrs R Lowe
C/o Agrarian
Walgaston
Berkley
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GL13 9EN

Dear Mr & Mrs Lowe

RE NORTHFIELD FARM, GLOUCESTER

INTRODUCTION

Client. This document is produced on the instructions of Mr & Mrs Lowe

Objective. The objective of this document is to report on a visual inspection of the barns, recording the existing structural condition and providing guidance on the likely remedial works necessary to the existing structure to convert the barns into habitable accommodation.

Scope. This report is confined to structural comments relating to the existing structures. Existing services, drainage, and methods of improving insulation, etc to the existing structure are not included.

Date of inspection. The properties were inspected on Tuesday 1st June 2021.

Hidden and inaccessible evidence. The properties were surveyed visually from ground level only. Access to the roof timbers was not available. Opening up of the structure was not carried out and the existing foundations and ground conditions have not been examined.

Barn A

External Elevations

- a) The lintel over the main opening overlooking the courtyard to the single storey lean to store is showing signs of decay and has deflected causing the masonry above to locally sag. Diagonal cracks are apparent within the stonework panel above the lintel and a small section stonework has been dislodged.
- b) The stonework that retains the external access staircase to the first floor has locally collapsed causing the stairs to become unstable.
- c) A section of the roof between the ridge and the eaves to the front gable wall has been removed. Therefore, this section of wall is now exposed and under lateral loading could become unstable.

- d) There are various areas where the stonework is weathered and the mortar is missing.
- e) To the left hand side of the barn there is a timber lean to structure. From our inspection it would be very difficult to justify the timber members and therefore would need to be taken down and replaced with a more robust structure,

Internal Inspection

- a) The roof is covered in pressed steel sheets that are supported on timber roofing battens on timber rafters. The rafters are supported off canted timber purlins that span between timber King post trusses spanning between the side walls. The barn is divided into two sections with a stone dividing wall which in turn supports purlins.
- b) The condition of the King post trusses and the timber purlins appears to be in good condition.
- c) The ridge line appears to be relatively level with little signs of sagging.
- d) The front section of the barn as a first floor construction consisting of timber floor joists supported on timber floor joists.
- e) It was noted that there is a part basement under a section of the barn. Unfortunately due to limited access a visual inspection could not be carried out.

Barn B

- a) The Barn consist of steel portal frames with canted timber purlins spanning between the frames supporting asbestos roofing sheets.
- b) The right hand side elevation of the barn overlooking the field consist of a single skin blockwork wall approximately 1800mm high from ground level, from eaves level to the top of the wall the barn is clad with vertical timber cladding. The wall returns to the gable ends and the timber cladding projects up to the ridge/ verge level.
- c) From our inspection there appears to be no distortion of the steel frame.

Barn C

- a) The Barn consist of a steel frame construction with canted steel angle purlins supporting Asbestos roofing sheets.
- b) Given the span and the height of the frame, the steel sections would appear to be slender. The frame consist of a central row of stanchions that supports the rafters. The lean to section shares a valley gutter with barn B
- c) Generally, the perimeter is clad with a combination of asbestos and pressed steel sheets that projects from ground level to eaves level.
- d) From our inspection there appears to be no distortion of the steel frame.

Barn D

- a) The Barn consist of a steel frame construction with canted timber purlins supporting asbestos roofing sheets to the apex section of the frame and pressed steel roofing sheets to the lean to section.
- b) The frame consist of a central row of stanchions that supports the rafters. The front of the barn is open, the rear and the right hand gable end of the barn is clad with metal sheets. Two bays of the left hand side consist of a fully enclosed storage unit that is generally clad with pressed steel sheets,
- c) From our inspection there appears to be no distortion of the steel frame.

David Edwards & Associates

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Barn E

- a) The Barn consist of steel portal frames with canted timber purlins spanning between the frames supporting asbestos roofing sheets.
- b) Generally, the perimeter is clad with a combination of asbestos and pressed steel sheets.
- c) From our inspection there appears to be no distortion of the steel frame.

Remedial Works

- a) The roof to Barns B, C & D is covered with asbestos cement corrugated sheeting. This material will need to removed carefully as it is a hazardous material especially when broken down.
- b) The existing timber rafters to Barn A are likely to need complete replacement as they appear to be undersized for a tiled roof. The other structural members will need to be checked for structural adequacy as the new roof covering will be heavier than then existing arrangement.
- c) Subject to a structural check of the main timber sizes the majority of purlins and King Post roof truss timbers to Barn A may be able to be retained although a closer inspection will be required to assess any wet rot or insect infestation.
- d) Barn A – The decayed/ sagging lintel is to be replaced and the stonework above the lintel would need to be paired/ replaced accordingly to suit.
- e) Localised rebuilding/ making good the stonework supporting the external staircase would be required.
- f) Where the mortar is weathered, repointing would be required.

Generally, from our inspection, we feel that all five barns would be suitable for conversion.

We trust that the above summary is helpful and should you wish to discuss any of the above further please do not hesitate to contact me.

Yours faithfully



S B Holmes CEng MIStructE

Enclosures:
Photo sheet
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