

Structural Inspection

<i>Client:</i>	<i>A Batchelor</i>
<i>Project:</i>	<i>Bridge Farm Twycross Road Sibson Leicestershire</i>
<i>Project No:</i>	<i>23-20197</i>
<i>Document No:</i>	<i>0-030</i>
<i>Issue:</i>	<i>2</i>
<i>Date:</i>	<i>February 2024</i>
<i>Engineer:</i>	 <i>Fergus Shaw CEng FStructE MICE FFB</i>

Contents

<i>Section</i>	<i>Title</i>
1.0	Introduction
2.0	Description
3.0	Observations
4.0	Discussion
5.0	Conclusion

1.0 Introduction

- 1.1. Further to instructions, I visited Bridge Farm, Sibson on 9 February 2024.
- 1.2. The purpose of my visit was to undertake a visual structural appraisal of an existing agricultural building, to determine the existing condition, and to form an opinion on the suitability for future conversion for residential use in accordance with the Class Q of the Town and Country Planning (General Permitted Development) (England) Order 2015.
- 1.3. My inspection was limited to elements of the structure which were visible, exposed or to which access was available.

2.0 Description

- 2.1. The agricultural building inspected is an independent structure forming part of an existing farm complex. [Figure 1]

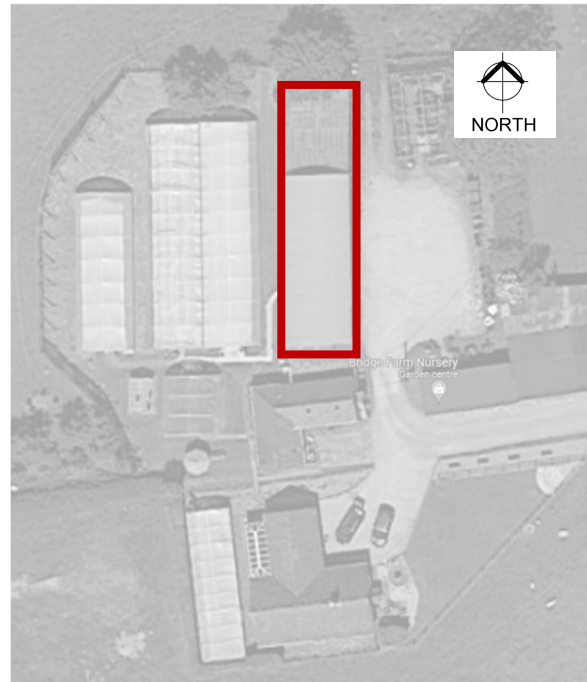


Figure 1

- 2.2. The building is oriented on a north-south axis and is rectangular on plan, with an overall length of approximately 28 m and an overall width of approximately 7 m
- 2.3. The building proposed for conversion comprises two sections; the southern section comprises a steel framed barrel-vaulted roof of 4No. equal bays with steel angle lattice trusses spanning between steel columns supporting corrugated steel sheet roof and gable walls, with predominantly open sides.
- 2.4. The northern section comprises a mono-pitched roof abutting the gable of the barrel-vaulted frame, with corrugated steel sheeting supported on timber purlins spanning between steel eaves and spine beams supported on steel columns. The wall construction comprises vertical corrugated steel sheeting supported on timber rails.
- 2.5. There is also an infill structure to the south of the barrel-vaulted frame.

3.0 Observations

- 3.1. The building appears to be in a relatively good condition relative to age and exposure conditions.
- 3.2. Columns remain vertical and aligned, and roofs are maintaining their respective profiles with no evidence of deflection or deformation.
- 3.3. There is superficial surface rusting to the exposed steel lattice trusses and columns, and small localised areas of minor de-lamination at the base of some columns at ground level, but this has not affected the overall lateral or longitudinal stability.
- 3.4. Several diagonal eaves struts are deformed which appear to be due to impact damage.
- 3.5. No evidence was observed of any defects associated with foundation movement.
- 3.6. The infill section to the south of the barrel-vaulted frame is not considered suitable for retention without re-building.

4.0 Discussion

- 4.1. It is proposed to convert the existing barn into residential accommodation, maintaining a predominantly open plan at ground floor level, and with introduction of a first floor mezzanine within the southern, barrel-vaulted section.
- 4.2. It is proposed to maintain the current appearance to the roof and majority of the walls with some infill masonry to the eastern, currently open elevation.
- 4.3. The existing roof steel lattice trusses, steel beams and columns are considered to be suitable for retention and re-use as part of any conversion works.
Replacement cladding to roof and walls will need to be of similar lightweight construction as the current sheeting.

5.0 Conclusion

- 5.1. The proposals will not adversely affect the structural integrity of the existing structure.
- 5.2. The existing building is considered to be structurally suitable and sufficiently robust and strong enough, subject to building operations reasonably necessary, for conversion from use as an agricultural building to use as residential accommodation.