

Structural Inspection Report on Barn

Henfield Lodge
Brighton Road
Henfield
BN5 9SU

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Cassells Drummond Building Structures Consultants

The Studio The Square Findon West Sussex BN14 0TE

david@cassellsdrummond.com



1. Introduction and Summary

- 1.1 We were appointed by DJH Architectural and Planning Consultants to undertake a structural appraisal of the existing barn in respect of its current structural condition and report on the ability of the structure to support any new loads associated with a future conversion to a dwelling.
- 1.2 A careful visual inspection of the barn buildings was carried out in February 2026. An initial review of architectural plans and specifications for the proposed residential conversion was also undertaken to assess any implications for the existing structure.
- 1.3 As no significant structural issues were identified with the barn during the inspection and an initial analysis of the impact on the structure of the proposed residential conversion works did not reveal that any significant structural alterations would be required during the conversion, it was not considered necessary to recommend that an invasive structural survey or a full, detailed structural analysis should be undertaken at this stage.
- 1.4 The barn is not a listed building.
- 1.5 There is no evidence of past watercourse or surface water flooding and current EA flood mapping confirms flood risk ratings at this location is Very Low. One of the downpipes on the north elevation has become disconnected from the eaves gutter and it is recommended that this is repaired at an early opportunity. There is some evidence of damp penetration at the lower part of the main solid brick north wall, which this is a retaining wall up to approximately 1metre height, but not to the extent of affecting the structural stability of the wall.
- 1.7 Although the 340mm thick solid brick, longitudinal, north wall is Victorian in date, it is in a sound condition while the oak framed south, east and west external walls and roof structure are relatively recent, early 21C, almost certainly a Border Oak Design and Construction, and are in good condition and appear to have been designed to recent Codes of Practice and to comply with Part A (Structure) of the Building Regulations.
- 1.8 **In summary, the structural condition of the barn is considered to be sound and the structural elements have the capacity to accept the standard structural loads that are applicable to dwellings and the introduction of a rear extension, without any significant alteration or upgrading.**

2. Observations on the existing structures

- 2.1 The barn is a single storey 'bank' barn, with a higher ground level on the north side and a lower ground level on the south side, formed in 9 bays, with an even, dual pitch slated roof at approximately 26 degree pitch.

Main dimensions of the barn are, approximately :

Length 27.50 m, formed as 9 bays

Width 4.50 m

Heights 3.25 m, internally from main concrete floor slab to underside of roof structure ties

4.80 m, externally from south side ground level to ridge

2.35 m, externally from north side ground level to eaves

- 2.2 The north wall, at the 27.50m access frontage, is a 340mm thick solid brick wall, likely of Victorian origin, that retains about 1m depth of existing ground at the north side. There are no piers or movement joints in the wall other than at the 'boarded up' entrance doors but this is typical for that era, the thickness of the brickwork and the use of lime mortars providing stability, in association with the roof structure and allowing thermal movement in a continuous wall.
- 2.3 The south wall is formed by a low solid brick plinth wall onto which a substantial sole plate to take the 150 x 200mm oak post frames has been placed. There appear to be holding down bolts securing the sole plate to the brick plinth, which may need to be added to, after further investigation, when the conversion works commences.
- 2.4 The east and west gables are oak framed with horizontal timber boarding/framing as external cladding.
- 2.5 Above the brick plinth at the south wall similar horizontal timber boarding/framing infills between the oak post frames with cross bracing fitted at two bays. If the boarding/framing is removed to introduce external wall insulation, the oak frame should be temporarily braced and replacement cross bracing, or sheathing fitted as the work proceeds.
- 2.6 The roof structure is formed by primary oak truss members connected to the oak posts and bearing on a plate placed on the top of the 340mm solid brick wall. There is some metal strapping of the timber plate to the wall, this should be checked and reviewed during the course of the conversion works. Between the trusses, simple rafters and horizontal timber ties form the

rest of the roof structure. There is minimal cross bracing of the roof but the rafter and ties are relatively substantial and at close centres. When considering the method of installing roof insulation, sheathing or cross bracing should be introduced.

- 2.7 The existing floor is part compacted hardstanding and part concrete and is not technically a structural consideration.

Wind load and structural restraint

- 2.8 The location of the barn is sheltered and cross bracing has been fitted to the framed external wall and to some extent the roof. It is recommended that the cross bracing and the connection of the sole plates and wall plates is reviewed during the course of the conversion works, as Codes have been updated since the barn frame was designed and erected in 2002.

Condition of Structural Members

- 2.11 The 340mm thick solid brick wall shows no meaningful sign of movement or stress, despite the age and the introduction of the oak frame structure in 2002.
- 2.12 The oak frame members are in good condition as they would be expected to be after only 24 years. Some limited areas of the horizontal boarding needs part refurbishment/repair, but it's likely it was specified to weather naturally rather than rely on regular coatings. The framing that supports the boarding is in good condition. There is good ventilation at the eaves and this has helped to ensure the timber has remained in good condition.

3. Review of Proposed Plans and Specification for Residential Conversion, Assessment of Impact on the Existing Structure

- 3.1 The conversion proposals include:

Introduction of 'earthwool' mineral wool insulation to roofs and external walls, predominantly within the existing external fabric envelope of the barn.

Replacement triple glazed roof lights.

Replacement of areas of external, horizontally boarded, non load bearing walls between oak frames with full height, triple glazed doors/window panels.

Internal dry lining of external walls after installation of insulation.

Formation of new concrete, insulated, ground bearing floor slabs over existing well compacted sub base floors.

Introduction of timber, or metal stud, framed internal partitions forming single storey residential spaces.

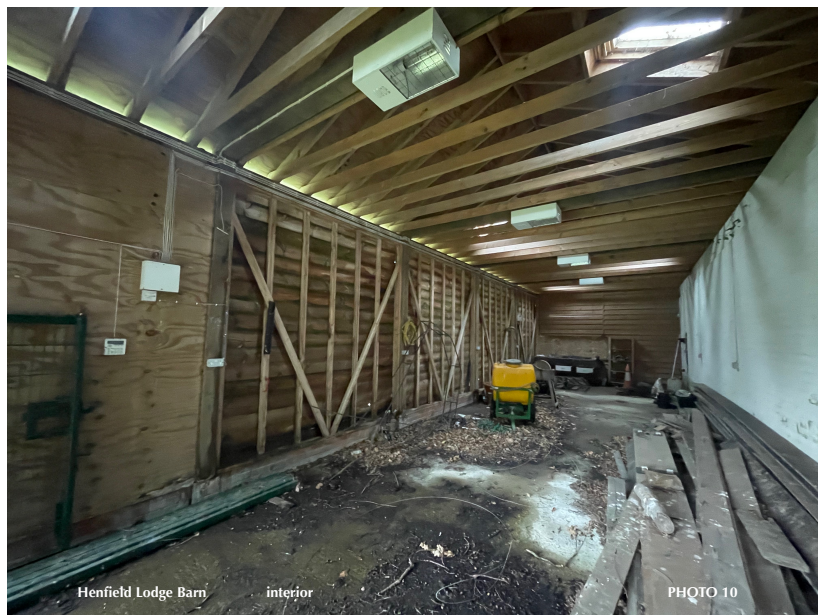
Installation of photovoltaic panels over southern facing pitched roof slopes.

Construction of an oak framed, single storey rear extension in a similar style to the main barn in roof form and external materials,

- 3.2 All the proposed conversion works are capable of being carried out without introducing any new structural loads that will have an adverse impact on the existing structures of the barn building, or require any significant modification or changes to be made to the existing structure.

5. Barn Photographs

- 5.1 The following photographs show external and internal overviews of the barn which were taken in February 2026 by the architectural consultants and have been used to support the structural condition report.



Henfield Lodge Barn

interior

PHOTO 10



Henfield Lodge Barn

west and south elevations

PHOTO 7