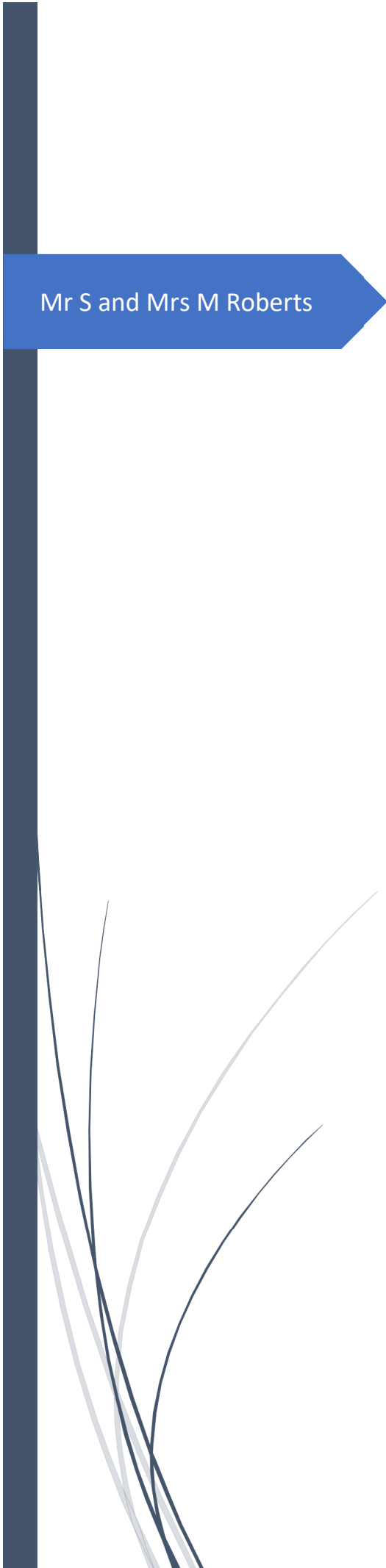


A thick dark blue vertical bar runs down the left side of the page. A blue arrow-shaped box points to the right from this bar, containing the text 'Mr S and Mrs M Roberts'. In the bottom left corner, there are several thin, curved, light blue lines that sweep upwards and to the right.

Mr S and Mrs M Roberts

Bradley Hall Farm, Bradley-In-The- Moors, Alton ST10 4DF

Structural Appraisal Report

Ian Titley Design

MAY 2025

Introduction

We were requested to undertake a structural assessment of the existing steel-framed barn at Bradley Hall Farm, Bradley-in-the-Moors, Alton as it is the owners' intention to convert this building into a single residential dwelling. This Report should therefore be considered as part of the necessary correspondence required by the Local Authority in order that a formal Planning Application may be considered.

We therefore attended site on 6th May 2025 in order to carry out the necessary site inspection which took place in bright and sunny weather conditions.



Barn – Front Elevation

Internal and External Inspection

The steel framed Barn under consideration appeared in good structural order and comprised 3 no. bays (i.e. 4 no. steel portal frames in total) of approximately 9.0m span and at approximately 5.0m centres. The frames themselves comprised 178 x 102 UB columns with 178 x 102 UB rafters, interconnected using timber sheeting 'rails' which measured 75 x 175mm at approximately 1250mm vertical centres. The sheeting extended for the upper 50% of the external walls, with the lower 50% being formed in blockwork.

Timber purlins were also provided at 1200mm centres, and although we could not access the high level at the time of inspection, we would estimate that these purlins are the same section as the horizontal sheeting members, i.e. 75 x 175mm.

The barn was open to the front elevation and was bounded by a larger barn to the LH side – as such, the barn had three external elevations and a shared wall with the larger barn to the fourth side.



Main Barn – Front Elevation

The structure of the steel portal frames and the associated timbers appear to be in good order generally with no signs of any leaks within the roof.

The blockwork forming the lower 50% of the side wall appeared to have suffered from vehicular impact sometime during its lifespan as the panels of blockwork in both the 1st and 3rd of the three bays showed signs of historical lateral impact in the form of bulging and cracked blockwork.



Bay #1 – Side Elevation



Bay #3 – Side Elevation



Bay #1 – Internal Elevation note: bowing in blockwork due to historical vehicular impact

Discussion and Conclusions

Given the current condition of the steel framed barn under consideration, we are of the opinion that the structure as currently present is adequate for conversion into residential accommodation without wholesale demolition or alterations to the external elevations.

The barn will require the provision of an insulated ground floor slab, and internal support will be required for the proposed new First Floor structure within the Barn. A threshold will need to be provided at each external door position (the existing door entries into both buildings are level).

The existing steel frames to the main barn structure appear adequate to support potential further loading in the form of an insulated ceiling, and we would be able to provide proving calculations for these roof timbers once finalised drawings have been prepared, should these be required for either the Planning process or for Building Control's records. The frames themselves appear to be in good condition and free from any signs of distortion or corrosion.

Our recommendation would be that the new insulated Ground Floor slab referred to in the paragraphs above should be designed and constructed as a 'Flat Raft' concrete slab such that any internal loading from the new partial First Floor and any blockwork partition walls (including any proposed inner skins to the existing external walls) can be built directly off this slab. This will provide separation between the new and existing constructions thereby placing NO additional structural loading onto the existing walls or foundations.

No damp course was identified in either building during the survey, and we need to assume at this stage that a damp course has not been provided, As such any new damp-proof membrane (DPM) will require dressing into the external wall structures at which point a damp proof course will need to be introduced.

The existing corrugated roof covering to the Barn appeared to be formed in corrugated cement board which will in time deteriorate, but we understand that current Planning/Conservation guidelines would prefer to retain as much of the original agricultural 'feel' as possible, and as such this should be retained but checked and maintained on a regular basis to prolong its lifespan. A check should be made to confirm that no asbestos content is present within these boards.

The blockwork panels that the form the lower sections of the side walls show signs of bowing and deflection due to impact from within, in all probability from historical vehicular impact, and these walls will require localised rebuilding to bring them into line. The walls are not structural and the repairs would therefore be considered as being required primarily for aesthetic purposes, but nevertheless we would strongly recommend that these blockwork repairs are carried out in the short term for the safety of anyone working within the vicinity of the side wall to the barn.

The building will also need to be provided with appropriate internal lining and insulation to the walls and roof.

Summary

We are of the opinion that the existing buildings are structurally sound and are more than adequate for conversion into a single domestic dwelling without the need for wholesale demolitions or rebuilding.

A handwritten signature in black ink, appearing to read 'I. Titley'.

Ian Titley

IEng IMIStructE

13 May 2025

Scope and Limitations

This report has been prepared to provide guidance on the structural conditions of the premises at the time of the inspection and can only give an opinion on future eventualities for damages or defects present at that time, and as such has validity limited to a period of six months from that date. This report does not provide a valuation. As values predominantly depend upon market conditions, whilst it may be used in price negotiations we will not accept any claims for devaluation of the property subsequent to its purchase.

A structural appraisal is based upon the visible elements of the structure and it is limited by not being able to take the building apart to expose inaccessible areas. This includes foundations and drains. We have not moved carpets or furniture unless this is necessary and simple, nor have we removed decoration. The equipment carried will only allow visual inspection of single-storey flat-roofed areas unless access is available from within the building. We have limited our report to the most important aspects as stated in the text. The report does not provide a checklist of all repairs and improvements that might be desirable.

All references within the report are as viewed from the front of the building unless stated otherwise. All measurements and sizes are approximate or nominal and are taken for the purposes of this report only. A detailed level survey has not been carried out and any comments regarding line and level are solely based upon a visual judgement of the building as it stands at the time of the inspection. This report does not replace the need for a full dimensional and level survey by the design team if alterations are to be carried out.

The only accurate method of confirming whether any structural movement is continuing is by carrying out monitoring of the damage for a period of at least twelve months. Any comments made in this report are limited to an opinion formed following an assessment of any damage visible at the time of the inspection.

Our instructions do not include:

1. The excavation of any trial holes to establish the depth of foundations and bearing strata and conditions below ground level;
2. Inspection of non-structural items such as doors, door frames, windows, floor wall and ceiling finishes, other than where they are relevant to structural movement and are accessible;
3. We have not inspected any services such as electric, gas and water and would only inspect drainage runs when, in our opinion, they have relevance to structural problems and access is easily available;
4. We have not inspected woodwork or other parts of the structure which are covered, unexposed or inaccessible and that we are therefore unable to report that such parts of the property are free from defect;
5. Timber deterioration and damp problems require specialist advice, and as such any references to these items within this report are only of an indicative nature and should not be taken as a replacement for specialist reports.

This report is for the private and confidential use of the client for whom it has been prepared.