

Firs Farm, Copthorne Common, Crawley – Barn 4 and 5

By CAD Engineering Solutions

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1.0 – General Notes

CES have the following responsibilities on this project:

- Visual inspection of the existing barn structure and evaluation of the possibility to convert the barns into residential dwellings.

1.1 – Introduction

CAD Engineering Solutions were appointed by Gemma Smith to undertake a non-intrusive structural assessment survey of the existing barns at Firs Farm, Copthorne Common, Crawley. This report specifically assesses the feasibility of converting the barn into residential dwellings.



Figure 1; Photographs of the exterior of barn 4



Figure 2; Photographs of the exterior of barn 5

This report has been compiled following a site visit to Firs Farm, Copthorne Common, Crawley. The inspection was non-intrusive and limited to a photographic walk of all areas with measurements recorded solely for survey purposes. While writing this report, there is no evidence of any historic structural drawings and calculations that could indicate the design philosophy of the building.

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2.0 – Observations

2.1 – Existing Structure

The existing barn 4 is constructed with 100 mm thick external masonry walls, featuring a timber truss roof and a concrete ground-bearing slab for the ground floor. The timber trusses are composed of 125x47mm and 100x47mm members and are spaced approximately 2.4 m apart.



Figure 3; Photographs of showing the interior of the barn 4

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The barn 5 is constructed of solid masonry walls with a ground-bearing slab. The roof type and members were not visible during the site visit as they are covered by the ceiling.

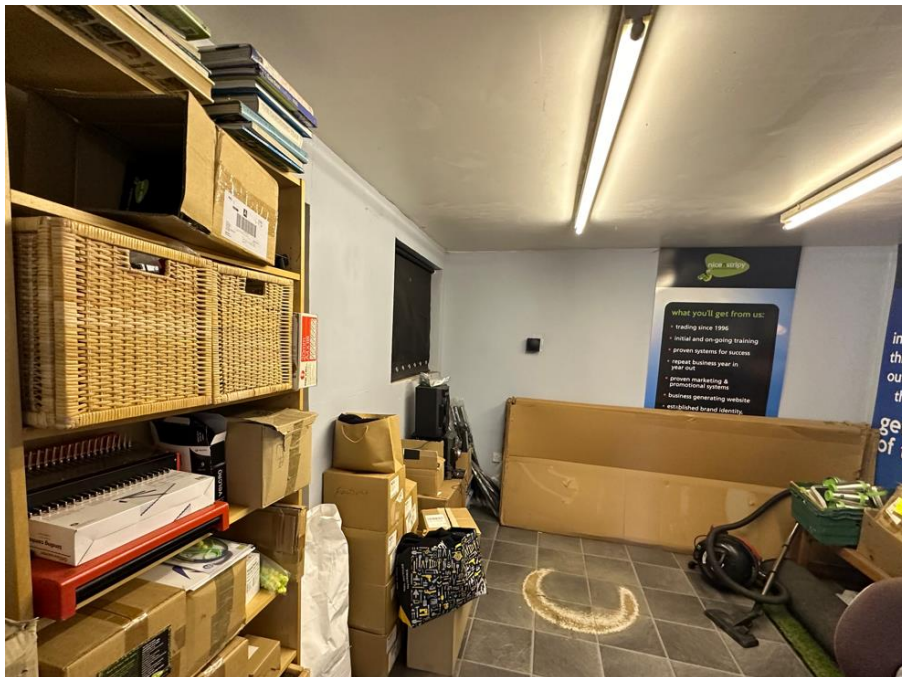


Figure 4; Photographs of showing the interior of the barn 5

3.0 – Conclusions and Recommendations

3.1 – Existing Barn 4

Following the site visit and visual observations, it is evident that the barn 4 is a masonry structure with a timber roof and a ground-bearing concrete slab. We confirm that this barn can be converted into a residential dwelling with some improvements to the existing building. The existing masonry walls can be enhanced by adding another 100 mm thick masonry wall with a cavity between the existing and new walls to create a cavity wall. Additionally, there are a few cracks in the existing masonry walls that can be repaired using Helifix Helibars. The existing timber roof trusses are in good condition and capable of supporting the loadings of the new residential dwelling. Furthermore, the ground-bearing slab is in solid condition and suitable for use of the converted residential dwelling. With these structural improvements, this barn can be successfully converted into a residential dwelling.

3.2 – Existing Barn 5

The existing Barn 5, with solid masonry walls and a concrete ground-bearing slab, is in solid condition. No structural defects were observed during the visit. Therefore, this barn can be converted into a residential dwelling without requiring any structural improvements to the existing structure.

3.3 – Recommendations

Based on our visual assessment at the site, we confirm that barn 4 can be successfully converted into a residential dwelling with few structural improvements to the existing structure. Conversely, Barn 5 is suitable for residential use without requiring any structural enhancements to the existing structure.

- In case of any further clarification, please contact:

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