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**Structural Inspection Report on the
Existing Agricultural Building, Cuthbert Hill Farm,
Garstang Road, Chipping, PR3 2QJ.**

Prepared by

Frederick G. Markland Associates Limited
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Our Reference

CM/Y23181/Structural Report November 2023

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1.0 Client.
Elizabeth Harrison.

2.0 Inspection Date.
14th November 2023.

3.0 Scope of Report.

Frederick G. Markland Associates Limited were instructed by Elizabeth Harrison to carry out a structural inspection of the existing agricultural building located at the above address. Along with preparation of a written report outlining our observations and conclusions as to the structural feasibility of existing structure being suitable for a conversion to a camping barn.

A selection of survey record photographs can be found within Appendix A.

4.0 Exclusions.

The inspection was a visual inspection of the areas that were readily accessible on the day of the inspection. No areas of the structure were opened up and no samples were taken.

5.0 External Inspection.

- i. The existing agricultural building is approximately 14 metres x 8.9 metres on plan with an eaves height of 4.8 metres. The central ridge height is approximately 6.2 metres.
- ii. The external elevations comprise 1.5 metre high precast concrete 100mm thick wall panels at low level fixed back to the existing perimeter steel columns, with exposed staggered vertical Yorkshire boarding extending from the top of the precast concrete wall panels and terminating at the eaves level. The low level precast concrete wall panels were noted to be plumb and level with no signs of foundation movement. The high level timber boarding was in good condition and was adequately supported on horizontal internal timber rails. The front gable elevation was noted to have a large entrance opening trimmed with vertical steel gable posts.
- iii. The pitched roof covering was noted to be of profiled metal cladding. The roof cladding was intact and the roof lines were true and free from distortion. There were existing integral roof lights located within the pitched roof cladding. To both roof slopes providing natural light to the internal areas. Eaves gutters were noted along both side elevations with existing downspouts to cater for the rainwater at roof level.

6.0 Internal Inspection.

- i. The internal inspection revealed that the main super-structure comprised of steel portal frames. The portal frames were located within each gable with a further 2No internal portal frames creating 3 separate equal bays within the building. The portal frames were noted to support the existing timber rails to the perimeter timber boarding along with timber purlins to the underside of the roof cladding. The timber purlins and rails were noted to be intact and free from excessive deflection or decay. Closer inspection of the portal frames revealed that the apex haunch and eaves haunches were intact and the size and profile of the bolted haunch connections was structurally appropriate. The portal legs were checked and were noted to be true and plumb and free from signs of impact or severe corrosion.
- ii. Further inspection revealed that there was a single steel gable post located centrally along the rear elevation and 2No intermediate steel gable posts equally spaced to the front elevation at each side of the entrance opening. These gable posts were noted to provide lateral support to the perimeter timber rails and boarding to the gable elevations. The gable posts were performing satisfactorily.
- iii. Stability to the superstructure was provided laterally by the portal action of the main steel portals. Longitudinal stability was provided by diagonal tubular braced bays located within both side elevations towards the rear of the building. Additional roof level stability was provided by the tubular steel plan bracing system located between the portal rafters within the rear roof bay adjacent to the rear gable elevation.
- iv. The internal ground floor was finished with a crushed stone hardcore finish.

7.0 Photographs.

- i. A selection of our survey record photographs are included within Appendix A.

8.0 Conclusions/Recommendations.

The inspection has revealed that the existing structure to the agricultural building can be classified as good. There are no signs of any significant structural defects and the existing structure continues to perform satisfactorily.

We are aware of the client intentions for conversion to a camping barn. The structural proposals include the introduction of perimeter cavity walls, to the external elevations, along with the introduction of internal load bearing walls to create the ground floor and first floor accommodation.

The introduction of these new structural elements lend themselves sympathetically to improving the structural performance of the already adequate existing frame, both in terms of vertical load carrying capacity and lateral stability.

We note the Architects proposed elevations include for new stonework to the external elevations at low level. We recommend that the stonework should be extended around the existing steel perimeter columns to provide weather protection and increase durability to the existing steel columns.

In summary we conclude that this existing agricultural building is structurally suitable for the proposed conversion to a camping barn.

Prepared



BSc (Hons) CEng MIStructE
Director

29th November 2023

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