



White Shaw Farm
Heaton
Rushton Spencer
SK11 0SR

Goodmans Fold Barn
Chorley Rd
Adlington
BL6 5LG

12/04/21

Re: Structural inspection of Agricultural style Barns at Goodmans Fold Barn, Chorley Rd, Adlington, BL6 5LG.

Dear Sirs,

Further to my recent site visit and inspection at the above address I would confirm the following:

The inspection carried out was visual only both internally, and external from ground level, no intrusive investigations or opening-up works were carried out.

The purpose of this survey is to understand if the existing structure is sufficient for conversion.

The buildings consist of two lightweight steel portal framed buildings, agricultural in nature and construction. The steel sections used are very slender with very small haunches providing lateral stability, there is some very small section plan roof bracing, however, there is no longitudinal bracing providing stability along the length of the building. The roof cladding is corrugated profiled cement-based sheeting supported by timber purlins and the side cladding is a mixture of similar sheeting and timber boarding supported by timber side rails.

The buildings are generally in poor condition with little or no repairs and maintenance carried out over the years, the gutters and downpipes are in poor condition or missing, there are significant areas of roof leaks and side cladding is missing in several locations.

The water ingress over the years has caused some of the steel sections to corrode locally, particularly at the base of the columns and the eaves connections where the corrosion is causing distortion of the steel plates and section loss due to delamination.

The section sizes and spacing of the timber purlins and side rails would not be sufficient to support a more robust or insulated cladding system and would

need to be replaced, furthermore, some of the timber sections have started to rot at the ends due to water ingress.

The steel portal frame sections used for the rafters and columns are very small considering the size and span of the frames and although the building appears to be supporting the loads currently it is our opinion that providing calculations to justify this would be very difficult. There is little or no lateral stability provided within the steel frame currently as such the cladding must be providing some notional stability.

It is our opinion that although the structural frame appears to be working and supporting the current loads and has been for many years, there is no clearly defined load paths, particularly for lateral stability and it would be very difficult to prove by calculation that the existing frame is sufficient, the deflections of the frame under lateral loads will probably be excessive, however, due to the current cladding and construction these can be accommodated. Furthermore, conversion of the barns would require a much stiffer frame with significant additional bracing, stiffening & strengthening works.

In conclusion, we would conclude that the steel framed barns in their current condition and structural form would not be appropriate for conversion, some of the section sizes are so small that total replacement would be required and significant strengthening and stiffening works would be needed to bring the lateral stability within acceptable limits. This work would also be compromised by the extent of existing corrosion to the steel frame such that elements would need to be cut out and replaced. These works would be so extensive that it would be more viable to demolish the current buildings and construct a new building with the same footprint that complies with current building regulations and standards to provide a safe building for the future.

I trust that the above is satisfactory, however, should you have any queries or require clarification, then please do not hesitate to contact me.

Yours sincerely



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Photographs



General view of barns



General view of barns.



Note exposed slender beams and columns with extensive corrosion.



Note small haunches and lack of lateral vertical bracing.



Note lack of gutters and downpipes and general poor condition of steel frame and cladding.



Note poor condition of cladding and steel frame.



Note slender columns, lack of bracing and haunches and corrosion of steel frame.