



**Visual Structural Survey
21-2123**

For

**Part demolition, alterations, extensions and
conversion of barns to form 3 dwellings**

At

**Laddus Farm
March River Side
Upwell
Cambridgeshire
PE14 9AT**

Client

Mr P West

To be read in conjunction with
Plans P-21-2123-1 to P-21-2123-9

4th October 2022



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Brief

To provide a visual structural survey report of the barn at Laddus Farm, March River Side, Upwell, in order to comment upon its suitability for residential conversion.

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The Site

The barns to be converted are part of a larger complex of barns, and outbuildings.

Sections of the barns were converted to a habitable use some time ago and house a home office, as well as a domestic garage and store.

The proposal is to convert two other elements of the complex.

Barn 1 is around 17m long by 7.5m wide, giving an internal floor area of around 105m².

The ground in the area of the barn slopes, but eaves height ranges from approximately 1.9m high to 2.4m high. The barn has a hipped timber roof, with a ridge height of around 5.2m.



Barn 1 as seen from the road

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Barn 1 as seen from the rear

The barn is constructed with solid brick walls. With a section of this already benefiting from planning permission and building control approval for its conversion.

The front wall of the barn is leaning out slightly with a crack evident where the wall separating the storage area from the cart shed abuts, as shown below, otherwise there was no evidence of distinct structural distress.



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Walls at roof level separating sections of the barn are formed of timber studwork and boarding, as shown below. These will require removing and re-building to provide suitable fire separation.



The roof of the barn is hipped and formed of a cut roof. The roof is covered with clay tiles.



The existing walls will need raising and the roof will need to be replaced in order to accommodate the requirements of the flood risk assessment.

New lintels will be required over all openings, which will need to be altered to accommodate the proposal.

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The floor to the open cart shed area is soil.

The existing floor should be removed with a new floor being provided to raise the finished floor level as required by the flood risk assessment.

The open section of the cart shed area is supported with timber beams on posts, these are rotten, but will be removed and replaced by new external walls to support the roof at the rear.

Existing foundations are understood to be shallow corbelled brick on to a sandy silty substrata, which will need to be confirmed following a more details investigation. Although performing well under current loadings some improvement of the foundations will likely be required for the new usage.

Barn 2 is around 11.5m long by 5.5m wide, giving an internal floor area of around 53m². Eaves height are approximately 2.8m high, with a gabled roof having a ridge height around 4.8m.



Barn 2 as seen from the rear.



Barn 2 from side

The barn is constructed with solid brick walls. There was no evidence of distinct structural distress, with external walls being reasonably aligned in their horizontal and vertical axis and distinct lines of structural cracking were not noted.

There is a cut timber roof, covered with slates. The existing roof will need some strengthening in order to take the new ceiling finish and insulation required.

There are a number of openings into the barn which are supported by brick arches, and new lintels will be required over all openings, which will need to be altered to accommodate the proposal.

The floor is concrete, which will need to be insulated and raised as required by the flood risk assessment.

Existing foundations are understood to be shallow corbelled brick on to a sandy silty substrata, which will need to be confirmed following a more detailed investigation. Although performing well under current loadings some improvement of the foundations will likely be required for the new usage.



Timber frames, and asbestos clad section of barn to be removed.

Conclusions

The barns are considered ideally suited for residential conversion.

The foundations will need to be exposed for inspection and may require some strengthening by underpinning in order to take the additional loadings.

The floor slab should also be removed and replaced.

External walls will need to be raised in height in places and the roof will require removal and replacing or strengthening to accommodate the finished floor levels required by the flood risk assessment.

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