

John Pointon & Sons

Structural Inspection

Outbuilding at
Big Shaffalong Farm
Shaffalong Lane
Cheddleton ST13 7LE

MRE/J3100
24 January 2022

1.0 Purpose of Report

- 1.1 John Pointon and Sons are applying for planning permission to convert the above outbuilding into residential accommodation.
- 1.2 As part of the application an assessment of the structural condition of the building is required to enable comment on its suitability for conversion, structurally.
- 1.3 This report is prepared on the instructions of Wharfe Rural planning acting on behalf of John Pointon & Sons, to comment on the findings of a visual inspection of the relevant parts of the buildings and to make appropriate comments with regard to the situation noted above.

2.0 Proposals

We understand that the proposal is to convert the outbuilding to residential accommodation consisting of five separate units of single storey height. These are shown on drawings prepared by Wharfe Rural Planning.

3.0 Site Inspection

- 3.1 Handing throughout this report is expressed as viewed facing the front elevation of the property which is the elevation with the main entrance.
- 3.2 This building is essentially a steel framed, clad building with fibre cement roof sheeting and a combination of blockwork and fibre cement cladding to the side walls. The central section consists of steel angle trusses on columns from which, each side there is a lean to section framed with steel rafters and perimeter columns on the same lines as the main section. The roof is supported on steel angle purlins in the main section and by timber purlins in the lean to sections.

Internally there is a concrete floor slab which is raised at one end where it is partitioned with some internal 200mm blockwork going nearly up to the roof. Over this area, the roof sheeting is supported on side-to-side spanning timber purlins which sag, bearing onto the steel angle trusses.

The steel framing is at approximately 4m centres. Quite a few of the columns have been damaged by vehicle impact and have been bent and have bent flanges.

Some of the columns are corroding at floor level but it appears minor where it can be seen. Elsewhere the steelwork exhibits minor surface corrosion.

There is no roof bracing but the side walls have angle knee braces. There is no access to the rear of the building to inspect the condition. There is a floored area within the left-hand side of the building but there is no access to this either

4.0 Conclusions and Recommendations

- 4.1 It is our opinion that the existing building is of permanent and substantial construction and that it is structurally capable of being converted to its proposed use without extensive demolition or replacement of the primary structure and using building works that are reasonably necessary for it to function as a dwellinghouse.
- 4.2 It is probable that the proposed roof construction will be slightly heavier than the existing, and it is therefore likely that the existing purlins will require strengthening or supplementing. This can be achieved by either steel flitch plates on the existing timbers or by additional new purlins. However, some purlins and side rails are sagging and will require propping from new structural studding or replacement.

Any timber members to be re used should be checked for deterioration through rot and either treated or replaced.

- 4.3 The steel trusses will also need checking and it is likely that some enhancement will be necessary. However, enhancement or the provision of additional support from proposed internal walls, should be structurally straightforward and will likely enable the trusses to remain in position.
- 4.4 The steel columns will also need to be checked but with the possibility of internal load bearing structure carrying some of the additional loads, we believe they will be adequate. Where they have been damaged by vehicle impact, they can either have the affected sections cut out and replaced or strengthened.

Visible steelwork will need the surface rust removing and a suitable rust inhibiting paint applying. Where steel columns are close to slab/ground level and not readily visible they will need further checking for corrosion and, if proved necessary, suitably repairing before coating as above. This may mean small sections being cut out and replaced.

- 4.5 It will be necessary to investigate the existing foundations to determine their size together with the ground conditions, in order to assess their adequacy to support any loading increase. In this respect we anticipate that the existing foundations to the blockwork walls are likely to be adequate as there are no signs of undue settlement or subsidence. However, if any additional support is required at foundation level, a new concrete ground bearing floor slab will be required as part of the construction, and it is relatively straightforward to enhance this to allow it to act as an internal load bearing raft slab. This can also provide support for any new internal load bearing walls and, if there is any increase in height of perimeter blockwork, assist in enhancing the existing foundations.

- 4.6 Any new window and door openings to the external elevations will require some secondary structure involving trimming timbers or small section steelwork to frame the openings.
- 4.7 This report is confined to the matters mentioned in Section 1 and no opinion is expressed or implied on matters not specifically mentioned.

We have not inspected woodwork or other parts of the structure which are covered, unexposed or inaccessible and we are, therefore, unable to report that any such part of the property is free from defect.

Mark R Edwards
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