

**AJB/DBB/10520**

**08 May 2017**

Mr S Hopkins  
Austin Grounds Farm  
Hook Norton Road  
Sibford Ferris  
Banbury  
Oxon  
OX15 5QR

Dear Mr Hopkins

**Proposed Conversion of Agricultural Barn to Residential Use.**  
**Reconfiguration of Accommodation and Adjustment of External Wall**  
**Openings.**  
**Austin Grounds Farm.**

I can confirm that I have reviewed the plans by Freeborough Architectural Services Ltd, drawing numbers HOP/01 and HOP/02. These differ slightly from the original drawings by Graham Campbell, drawing numbers HOP/15/01B and HOP/15/02A, which my original report dated 20<sup>th</sup> May 2015 was based on. I attach a copy of the original report, for your information.

You have also confirmed that the existing fibre cement roof sheets are to be replaced with composite panels. This will actually reduce the dead load on the roof members.

Therefore, I can confirm that the slight alterations to the plans do not affect the integrity of the existing structure.

I hope that the above is of assistance. Please contact me if you have any queries.

Yours sincerely

**Daniel Baxter BEng MStructE**

For Andrew Baxter Civil & Structural Engineering Consultants

**AJB/DBB/10520**

**20 May 2015**

Mr S Hopkins  
Austin Grounds Farm  
Hook Norton Road  
Sibford Ferris  
Banbury  
Oxon  
OX15 5QR

Dear Mr Hopkins

**Proposed Conversion of Agricultural Barn to Residential Use.**  
**Austin Grounds Farm.**  
**Prior Approval Application.**

Following my site survey on 22<sup>nd</sup> April 2015, please find set out below my observations on the structural condition of the above barn. Please refer to Graham Campbell Architectural Services drawings HOP/15/01B and HOP/15/02A, which show the existing and proposed plans. You are seeking to convert the building from agricultural to residential use. Planning guidelines state that 'It is only where the existing building is structurally strong enough to take the loading which comes with the external works to provide for residential use that the building would be considered to have the permitted development right.'

**1.0 Introduction**

- 1.1 The barn is a single storey steel portal framed structure, with the roof and sides covered with corrugated sheeting. The barn is currently used for agricultural storage. It is approximately 14 metres by 14 metres on plan and about 5 metres high at the ridge. The barn was built around 50 years ago and is set on a level site.

## 2.0 Observations

### 2.1 Roof

The corrugated fibre cement sheets are supported by sawn softwood timber pressure treated purlins, spanning between the 4No. steel portal frames. The purlins appear in good condition, with the normal amount of deflection expected. The roof sheets and purlins were replaced around 25 years ago. There is no sign of any rot to the purlins or any cracking or damage to the roof sheets. The roof sheets and purlins can be retained.

### 2.2 Walls

The corrugated metal sheets are supported by sawn softwood timber cladding rails, spanning between the 4No. steel portal frames. The cladding rails appear in good condition, with the normal amount of deflection expected. The side sheets and cladding rails can be retained. If any cracked sheets are found or any rot found in any of the cladding rails, they should be replaced on a like for like basis.

### 2.3 Floor

The floor is a concrete slab in very good condition. This is suitable to be retained, as it has clearly supported heavy loads for many years without being damaged. A new damp proof membrane and insulation should be provided, to meet current Building Regulations Standards.

### 2.4 Steel Portal Frames

These are in very good condition, with no signs of excessive deflection or rust. The end gables have 'wind posts' in place. Both sides have flat plates in a cross pattern, providing lateral bracing. The roof also has tubular lateral bracing in place, to resist wind loads. The portal frames can be retained.

## 3.0 Proposal

Graham Campbell's drawing HOP/15/02A shows the intended proposals for the conversion of the barn. New internal dividing partition walls will be constructed from studwork and be built off the existing slab. New insulated perimeter walls will be constructed, again in studwork, set back behind the existing cladding rails and again built off the existing slab. The ceilings to the new internal rooms will be formed by spanning timber ceiling joists between the new partitions.

4.0 **Conclusion**

Looking at the proposals, it is clear that no additional loading will be imposed on the existing roof, walls or steel frames. Therefore, the existing structure is capable of being retained, as it is in good condition and will not be affected by the conversion work. The only part of the structure that will support loading from the proposed conversion work will be the floor slab. The slab is in particularly good condition and it will in fact be supporting less load once the conversion to residential use is completed.

4.1 Therefore, the barn is capable of being converted, as it is structurally strong enough to take the loading which comes with the external works to provide for residential use.

I hope that the above observations are of assistance. Please contact me if you have any queries.

Yours sincerely



**Daniel Baxter BEng MStructE**

For Andrew Baxter Civil and Structural Engineering Consultant Ltd.