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Your ref:

Our ref: R9675-portal/rs

Date: 7 November 2019

Mr and Mrs Broom  
Foxbury Farm  
Foxbury  
Upton  
OX15 6HT

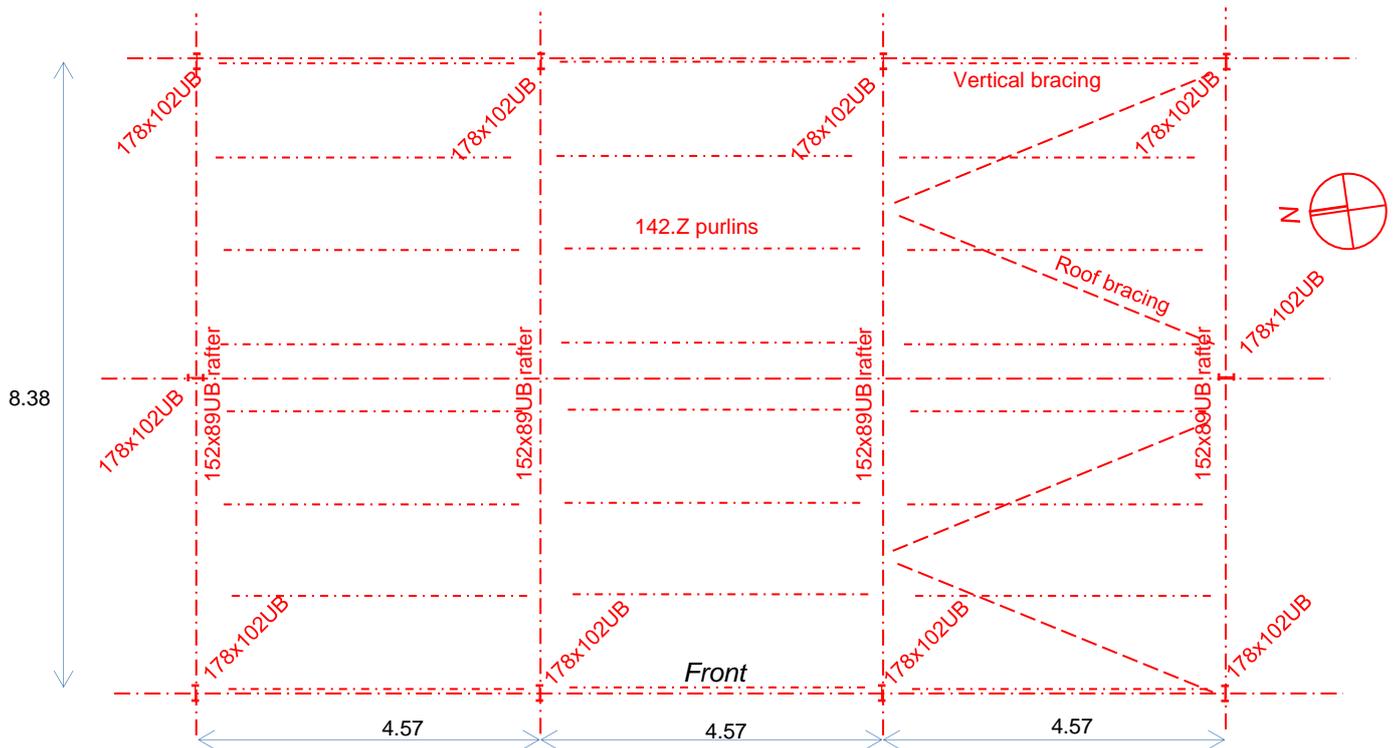
Dear Mr and Mrs Broom,

**Portal framed building for conversion – Mawles Farm.**

**1.0 Introduction -**

- 1.1 We have now inspected the above property and can report to you.
- 1.2 In accordance with your instructions we carried out a visual inspection of the portal framed barn at the above property in sufficient detail to support a planning application.
- 1.3 The inspection assumed that the roof coverings, rainwater goods, below ground drainage, external joinery, ground floors and damp proofing would be overhauled and refurbished and the timber treated as necessary.
- 1.4 It is acknowledged that the extent of movement acceptable in an agricultural building is beyond the tolerances of modern materials, such as plaster. Finishes should be detailed to reflect this.
- 1.5 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 building is free from defects. Significant structural defects in timber were assessed: minor defects and infestation are assumed to be incorporated in the refurbishment.
- 1.6 The report is provided for your sole use and is confidential to you and your professional advisers. Responsibility for the report or any part of its contents is accepted to you and no other party or person without our express written consent.

## Portal framed building for conversion – Mawles Farm.



### 2.0 Description of the property -

- 2.1 The property is a steel portal framed agricultural barn and is of relatively recent construction. The front elevation faces west.
- 2.2 The duo-pitched roof is clad with fibre cement sheeting supported by cold rolled, steel purlins spanning between the portal frames and has gables to north and south.
- 2.3 The rear elevation and gables have two tiers of 1.2metre high, 150mm thick, precast concrete panels against the rear flanges of the columns - there is a steel beam along the top of the pc panels in the north gable. The rear elevation has Yorkshire boarding above that and the gables are open above that. The front elevation is open.
- 2.4 The floor is unmade. The tops of the portal concrete bases are at ground level.
- 2.5 The ground slopes up to the north east – ground is level with the top of the pc panels in the north east corner and slopes down gradually to the south and west.

## Portal framed building for conversion – Mawles Farm.



### 3.0 Observations/Comment -

- 3.1 The design codes for agricultural buildings are less rigorous than those for habitable ones. Therefore the potential deflections in the agricultural building are likely to be greater than those for a house.
- 3.2 This is because it generally does not matter if the agricultural building deflects to an extent that would crack modern plaster finishes, but it would matter if the same cracking occurred in a house.
- 3.3 The existing barn is covered with sheeting and without ties between the steel frame and the adjacent blockwork to allow this deflection.
- 3.4 Nevertheless, the barn is standing successfully and there is no evidence to suggest that it will not continue to do so.
- 3.5 Indeed, the existing frame members are hot rolled sections, are galvanised and are in good condition. The columns appear straight and vertical and the column flanges are restrained by fixing them to the precast panels.
- 3.6 The conversion will require materials and detailing to allow the potential deflections, such as timber framing and cladding for the walls.
- 3.7 The weather and thermal resistance of the roof, existing walls and floor will require enhancing and the missing walls will require building.
- 3.8 There is no structural reason why the existing building cannot be converted as outlined above and as proposed.

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### **4.0 Building Works –**

- 4.1 Building works to convert the existing building into residential will include the following:-
- retain the existing steel frames, purlins and precast concrete panels,
  - remove the roof sheeting and replace it with a lightweight insulated panel and suspended ceiling,
  - line the precast concrete panels with insulation and infill the walls elsewhere, and
  - overlay a concrete oversite slab with a damp proof membrane, insulation and screed.

### **5.0 Conclusion -**

- 5.1 We have been asked to comment upon the general stability of the above barn with a view to conversion to habitable accommodation.
- 5.2 We consider that, within the limits of our inspection and with local careful and sensitive repair, the barn is sufficiently stable to be retained and converted to the use proposed.

We trust that the above is clear. Please contact the undersigned if you have any queries.

Yours sincerely,

R.P.Strauss B.Sc. C.Eng. M.I.Struct.E.  
for and on behalf of Richard Strauss Associates.