HBL ASSOCIATES
CONSULTING CIVIL AND STRUCTURAL ENGINEERS
33b Shaw Road, Heaton Moor, Stockport SK4 4AG
T: 0161 432 9977 F: 0161 432 7979 E: mandy@hblassociates.co.uk
Shoemakers Court, Back Square Street, Ramsbottom, Bury, Lancashire BL0 9FZ
T: 01706 829 560 F: 01706 829 552 E: mike@hblassociates.co.uk
Bromfield Chambers, 38 Radford Street, Stone, Staffs ST15 8DA
T: 01785 816879 F: 01785 814920 E: ian@hblassociates.co.uk
www.hblassociates.co.uk

20th December 2013

Broad Oak Properties Ltd
Broad Oak Estate
Green Head
Kingsley Moor
Stoke-on-Trent
Staffordshire
ST10 2EL

For the attention of Michael Salt – Property Manager

Dear Mr. Salt,

Re: Barns and Outbuildings at Houghwood House, Stockton Brook, Stoke-on-Trent

Further to this matter and following our brief site inspection yesterday, we write as promised with our findings and recommendations with regard to the structural conditions of the barns in question.

The barns are of mixed stone and brick construction, with clay tiled roofs throughout supported on a conventional purlin-and-rafter system. Internally two of the three barns have timber upper floors, and it is these floors that are the real cause for concern.

The upper floors are heavily deflected and show the signs of long-term overloading (generally with animal feed or straw), which causes both the boards and the supporting joists to deflect beyond acceptable limits (Photo 1). In addition a number of the principal joists appeared to be suffering from either worm attack or rot, which weakens them still further (Photo 2).

The roof to the two-storey barns were not accessible because of the nature of the first floor, but we would expect that worm attack or rot would also be present in the timbers, given that they would date from the same period as the floor joists and would have been subjected to the same atmospheric conditions.

The external walls to the barns appeared to be in reasonable condition, although there were noticeable bulges at the upper floor level where the overloading of the floor had caused outward movement at the joist ends.



Photo 1 – View on Deflected Floor Joists And Boards Within Barns



Photo 2 – Work Attack to Floor Joist End Within Barns

Recommendations
The structural fabric of the building i.e. the external and internal walls, appear to be in adequate condition and require no further action at this stage. The internal floors however are in a very poor condition and could fail at any time.

Accordingly, we would recommend that the barns are taken out of use and fenced off to prevent any access, including access by trespassers. The upper floors should be propped temporarily to allow the contents of the ground floor storage areas to be transferred to alternative locations (we understand that temporary storage huts can be provided) and once this has been carried out the contents of the upper floor should be carefully removed to allow a further assessment of the roof structure.

Until the time that this second assessment can be made, we would recommend that access is prohibited to all of the barns.

We trust that the above is self-explanatory, but please do not hesitate to contact me if you have any questions.

Yours sincerely,



Ian Titley IEng AMIStructE
Senior Engineer

For and on behalf of **HBL Associates Ltd**