Ref : AK/AE/CO11/234/05

Date : 26 May 2011

Structural Inspection Report
On Behalf Of
R & G Allcoat
c/o Hayward Architects
19 Station Road
Hinckley
Leicestershire
LE10 1AW

Structural Inspection

Hall Farm

Hinckley Lane Higham on the Hill

Nuneaton Warwickshire CV13 6AL

STRUCTURAL INSPECTION REPORT

Site : Hall Farm, Hinckley Lane, Higham on the Hill, Nuneaton, Warwickshire, CV13 6AL

Client : R & G Allcoat, Hall Farm, Hinckley Lane, Higham on the Hill, Nuneaton, Warwickshire, CV13 6AL

Date : 26 May 2011

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Brief

1.0 We were appointed to carry out a structural inspection Hall Farm, Higham on the Hill and to report on any structural defects or structural inadequacies, and make recommendations concerning any remedial works required. The report was originally carried out on 7 May 2008 and has been updated herewith.

2.0 We visited the property on the afternoon of 25 May 2011, which was a mild, dry and cloudy day following a period of dry weather.

3.0 This report is issued subject to our standard limitations of inspection, attached as Appendix 'A'.

Barn 1

General Description

This barn is ‘L’ shaped with the majority of two storey masonry construction with Barn 2 attached to the right end. The barn is generally structurally sound although the ingress of the weather elements has led to areas of collapse of the roof and damage to the walls. Refurbishment of the structural elements of the barn will be relatively straightforward and should include for a full overhaul of the rainwater drainage disposal system and the roof covering. There appears to be a general bowing of the walls, though the lack of associated cracking suggests this is historical.

Specific Damage *(To Be Read In Conjunction With Sketch Plan Attached As Appendix B)*

1 Weathered brickwork, particularly at low level with those most severe requiring replacement. Vertical gap formed where flank wall has been bonded to gable at later date. Very slight movement and recommend insertion of Helifix bars. Rotten timber beneath the first floor door needs removing/replacing. The lower right corner needs to be rebuilt to repair the hole and to make good, once the metal fence is removed from the wall.

2 Generally in a reasonable condition although some weathering at low level and loose bricks in the base corbelling. These will need to be reset and a flashing detail introduced to prevent future water ingress.

3 Wall is generally in sound structural condition although timber lintels above windows should be replaced. Slight cracking above cracked brickwork opening to left hand end needs raking out and repointing. The leaking guttering has caused moisture damage near the doorway meaning the joints need raking out and repointing.

4 Steel rafters from adjacent building have been built into wall and caused disturbance to the masonry locally as they have rusted. These should be removed and the brickwork made good locally. Timber lintels should be replaced. A small brickwork lean-to built against the main building is in a poor condition and should be removed. The leaking downpipes have caused damage to the bedjoints and require repointing.

5 The roof consists of two rows of purlins (one either side of the slope) spanning between gable walls and internal buttress walls. The bearings in the gable walls need checking for rot then rebuilding/reseating. The front elevation, mid span purlin has fractured and requires replacing. The rafters are in reasonable condition although undersized by modern day requirements and are likely to require supplementary support if additional loads from plasterboard etc are to be introduced. Partial collapse has occurred where tile slippage has arisen and damp ingress has occurred and local replacement will be required. Timber treatment is required to all timber due to the infestation of wood-boring insects/nettles etc.

6 The first floor joists span parallel to the front and rear walls supported off steel beams. The floor is generally in a satisfactory structural condition although woodworm is evident to both the joists and the floor covering and some replacement will be required. The steel beams are of a satisfactory size but will need cleaning down and painting with red-oxide or similar.

7 The front elevation bows outwards at eaves level at mid span and coincides with the fractured purlin noted internally and clearly the result of eaves spread. Local rebuilding of this area will be required to repair the hole although the remainder of the wall remains in reasonable condition. Crack stitching will be required above the arch lintel at ground floor level.

8 Failure of the brick arch over the ground floor door has arisen and a number of bricks have suffered from erosion. Local repairs will be required which should include for addressing the above and repairing the vertical cracks above the first floor window. We would recommend that this elevation is repointed in its entirety. Some of the brickwork at eaves level appears to be loose and needs to be re-set.

Barn 2

General Description

This single storey barn is of masonry construction and is in reasonable condition although slight eaves spread has caused a lean outwards of the front elevation. Steel tie rods have been installed at sometime in the past, but these should be supplemented by additional ties as part of the refurbishment works. The main roof truss and purlins are structurally adequate but we would recommend that the existing rafters are replaced with larger sections and a high level collar introduced to reduce further eaves spread, which has also caused the ridge to sag as a result. The timber has suffered from boring insect attack generally and should be inspected for adequacy.

Specific Damage *(To Be Read In Conjunction With Sketch Plan Attached As Appendix B)*

9 This wall has suffered from erosion at lower levels and also to the gable. Effected masonry should be replaced and the wall repointed. In addition lateral straps should

be introduced to tie the gable apex back to the roof. The bearings of the left hand purlins appear to be in poor condition and may need to be repaired. The purlin splice near the truss appears to have slipped and should be suitably repaired using coach bolts.

10 Limited access was available to the rear of the building but no significant structural defects were noted although it was noted that the mortar joints require repointing.

11 The front wall leans outwards due to eaves spread and will require localised rebuilding around the window area. The timber lintel over the door requires replacement and weathered brickwork should be cut out and replaced.

Barn 3

General Description

This detached barn is primarily of solid masonry construction and has limited access due to storage within the building and the overgrown vegetation. The ground to the rear has been raised resulting in the rear wall to be a retaining wall. Despite this, the barn is structurally in a reasonable condition although ground levels will have to be addressed to remove the retaining affect of the external walls.

Specific Damage *(To Be Read In Conjunction With Sketch Plan Attached As Appendix B)*

12 External ground levels have been raised by approximately 1200mm resulting in the flank wall to act as a retaining wall. Subsequent dampness has caused erosion and it is recommended that ground levels are reduced to 150mm below internal floor levels. Weather damage has occurred to the front elevation particularly at lower level, the worst bricks should be cut out and replaced and the joints repointed as appropriate.

13 A large tree at the left hand corner will undoubtedly have caused some disturbance to the foundations and the build up of ground has caused the rear wall to act as a retaining wall. We would recommend that both the tree and soil are removed and any damage masonry made good.

14 The roof is constructed of poor quality timberwork and we would suggest replacement in its entirety.

Barn 4

General Description

This building is of shed type construction with masonry walls supporting an asbestos (requires confirming) sheeted roof on steel trusses. A large opening is present to the front gable elevation. The building is of functional use and generally structurally stable

Specific Damage *(To Be Read In Conjunction With Sketch Plan Attached As Appendix B)*

15 The walls are in adequate condition although general mechanical/alteration damage has arisen over the years and will require addressing accordingly. The external ground levels at the rear of the building have been raised around 1200mm above finished floor level, resulting in the side wall acting as a retaining wall. It is recommended that this is reduced to 150mm below internal floor levels to prevent further distortion of the brickwork and damp ingress.

16 The asbestos cement (requires confirming) sheeted roof is at the end of its useful life and the timber purlins and supporting steel trusses are inadequate to support any form of traditional roofing materials and a new roof structure will be required. The steel trusses have also suffered from impact damage limiting their strength.

For and on behalf of
JMS CONSULTING ENGINEERS LTD

A Kenyon MEng(Hons) DIS ILM CEng MIStructE

APPENDIX 'A'

1.0 During our inspection of the premises as presently existing, which is normally carried out in a single visit, we shall check all visible exposed and accessible elements of construction in order to identify defects and shortcomings which are likely to adversely affect the use of the property or give rise to expenditure in the foreseeable future. We shall consider the condition and durability of the building fabric in relation to the type and age of the property, the need for repairs or special maintenance and, where appropriate, comment on the suitability of the structure for its proposed use.

2.0 We shall, where possible, lift loose laid floor coverings and inspect cellars and roof voids where appropriate, but we shall not empty the contents of any fitted cupboards, move heavy furniture or lift carpets or floorboards and our report specifically excludes all covered, and unexposed or inaccessible areas and buried elements of construction such as foundations and built-in steels and timbers. Apart from any balconies and roofs to which external access may be available, our external inspection will be carried out from ground level. Unless requested otherwise the main building shall be the form of this report.

In accordance with our professional indemnity insurance cover we have to state that "we have not inspected woodwork or other parts of the structure which are covered unexposed or inaccessible and we are therefore, unable to report any such part of the property is free from defect."

3.0 We will not arrange for exposure works to be carried out to the superstructure or below ground, or carry out tests for high alumina cement concrete, calcium chloride, asbestos or the use of woodwool slabs as permanent shuttering, but where appropriate, will seek further instructions for these to be carried out for an additional charge.

4.0 With regard to service installations, incoming mains, waste and drains, we shall report on any matters that come to light during the course of our inspection as requiring further investigation by specialists, but we shall not arrange for tests to be carried out unless specifically instructed.

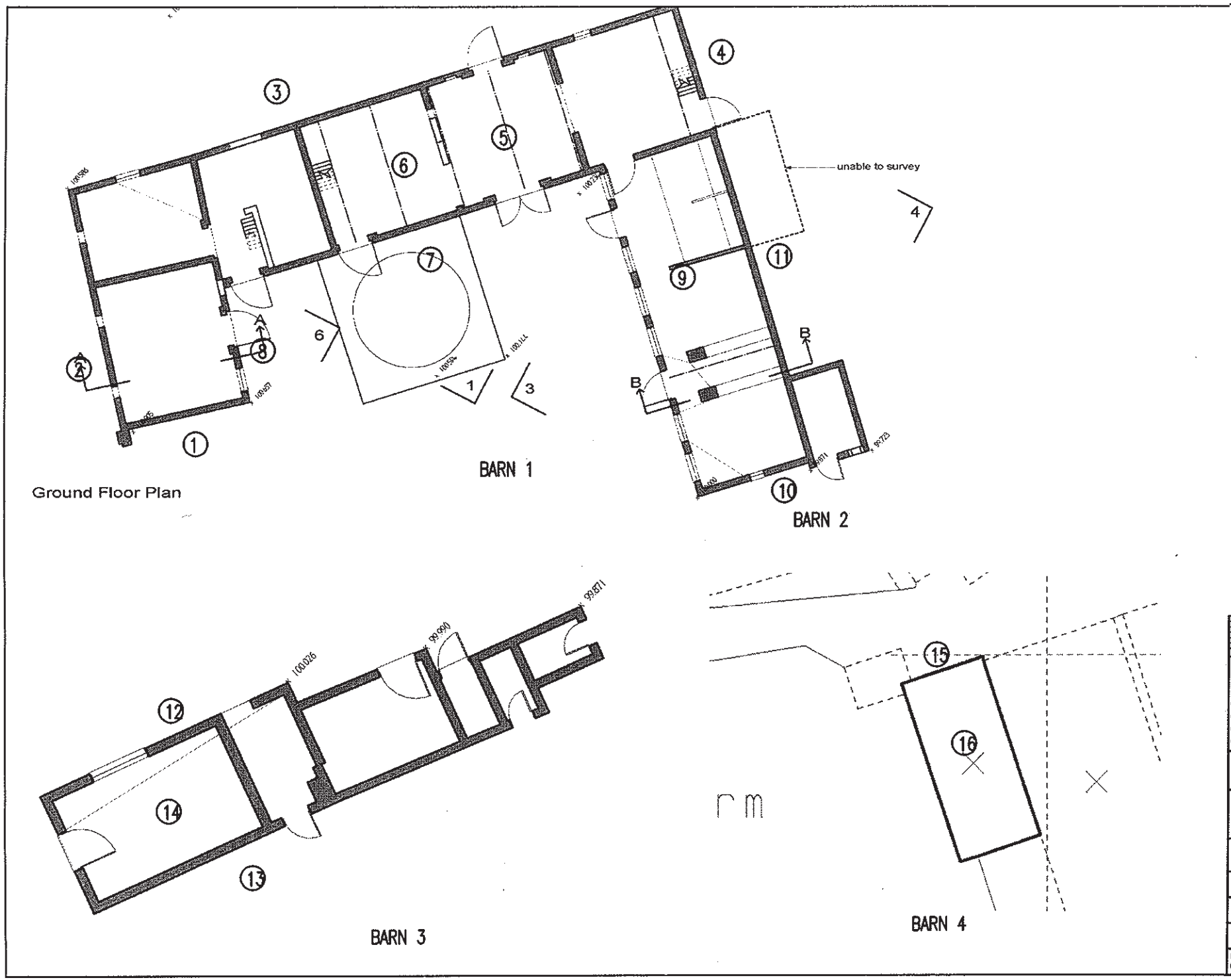
5.0 Although where appropriate, we will be happy to examine any lease or title documents, planning or any other consents or fire certificates which are made available to us prior to our inspection, we shall assume in such cases that solicitors will be advising in detail upon these matters and that they will also check on the responsibility for the maintenance of all boundaries and rights of way and the existence of any easements or necessary rights of light, drainage etc.

6.0 We require to be informed, prior to the undertaking of any excavation or boring work, of the positions of any underground services or plant beneath the site. Whilst reasonable care will be taken during the execution of field work we cannot accept liability, either direct or consequential, for the damage to any service not clearly identified to us.

7.0 Our written report will be addressed and forwarded to the aforementioned Client. Any liability which may arise from its contents will be specifically restricted to the Client.

APENDIX ‘B’

Drawing CO/08/187/05



Ground Floor Plan

jms CIVIL & STRUCTURAL CONSULTING ENGINEERS

Project
Structural Inspection

Drawing Title
Structural Inspection
Hall Farm
Higham On The Hill

Client
Messrs R & G Allcoat

Drawn by	Designed by
DJS	DJS
Approved by	Checked by
Scale	Date
NTS	MAY 2007

Drawing No. CO/08/187/05-SI01 Rev. P1

ORIGINAL SHEET SIZE A1