

# STRUCTURAL INSPECTION REPORT

## PRIMROSE HILL FARM

### SUMMARY

A visual inspection as far as practicable of the property was carried out both externally and internally to capture the general condition and state of repair. The overall construction of the building is fair and poor, the quality of materials and the workmanship where visible is fair. The inspection found evidence of structural defects in several internal and external masonry walls.

## 1.0 INTRODUCTION

### ***Scope & Limitation***

The scope of this report is as follows: -

A visual inspection as far as practicable of the property was carried out both externally and internally to capture the general condition and state of repair.

The definitions used in this report to describe the average or overall conditions include the following terms:

### ***Definitions.***

|            |                                                   |
|------------|---------------------------------------------------|
| Excellent: | In "Original new" condition.                      |
| Good:      | No repair work is recommended.                    |
| Fair:      | Safely aging or minor repair work is recommended. |
| Poor:      | Replacement or major repair work is recommended.  |

This report has been prepared in accordance with instructions from the client and therefore any liabilities that may arise are restricted to the client.

I have visited this property on several occasions prior and during renovation phase, to prepare this report.

### ***Orientation***

For the purposes of this report the front elevation is the one facing east. References to left and right are given as if looking at the building from the front (east).

The inspection & assessment was carried out by M. Akram. (BSc. MSc. CEng. FIMechE).

## 2.0 OBSERVATIONS

### ***The Site***

This property is a disused barn and stables. Access/service road on one side with four access points around the buildings.

### **2.1 Foundations**

Foundation inspected by removing soil from inside at the base of wall.

### ***Description***

Wall is built on brickwork footing projecting 100mm to 125mm and 550mm depth on sandy soil.

### ***Condition***

There are no visible cracks, gaps, distortions or other signs indicating any damage. Therefore, the overall general condition of the foundation good.

### ***Recommendation***

None

## **2.2 Front and Right Hand Side Wall Elevation.**

The front and RHS elevation was inspected from ground level.

### ***Description***

Externally both walls are constructed from red facing bricks, 350mm thick and the brickwork is bedded on lime mortar.

### ***Condition***

Externally the brickwork is distorted, bulging, cracked and mortar missing from several areas. The wall is in poor conditions

### ***Recommendation***

Take down brickwork where required and repair to level bed joints horizontally and vertically.

## **2.3 Left Side Elevation Wall**

The left side elevation was inspected from ground level

### ***Description***

Externally the side wall is constructed from natural stones and internally concrete blocks

### ***Condition***

Externally there are some areas where mortar is missing from bed joints, however, majority of the stone work is in fair condition.

Internally the at lower level the brickwork is in fair condition and above blockwork is in good condition.

### ***Recommendation***

Repoint bed joints where required.

## **2.4 Rear Wall**

The rear elevation was inspected from ground level

### ***Description***

Externally the rear wall is rendered with sand and cement render and red facing brickwork.

### ***Condition***

The rendering and brickwork is cracked in several areas and the wall is in poor condition

### ***Recommendation***

Take down and rebuild brickwork walls.

Remove old rendering and apply new sand and cement rendering.

## **2.5 Internal Masonry Walls**

See SHT 1 Existing Floor Plan and Elevations.

### **Wall A**

There is a masonry wall dividing left hand side of the barn from the centre hall, which is spanning between the masonry columns attached to the external walls (back to front).

**Wall B**

There is a masonry wall dividing right hand side of the barn from the centre hall, which is spanning between the masonry columns attached to the external wall and internal wall (back to front).

**Wall C**

There is masonry wall dividing centre hall and rear room of the barn, which is spanning between the masonry columns attached to the external wall and internal wall left to right at rear.

**Wall D**

There is masonry wall dividing rear room and right hand side barn, which is spanning between the external masonry walls left to right.

**Wall E**

There is an external masonry wall at the back of barn on the right hand side which is spanning from left to right.

These walls are built with lime mortar. The brickwork is loose, distorted and bulged along the length. They have no footings, are unstable, dangerous and cannot be repaired to support any vertical or horizontal loads arising from new first floor structure. Therefore, they should be taken down and rebuilt with new concrete foundations. See SHT 7, 8, 9, 10, 11 and 12.

Walls A, B and C are loadbearing walls to support the proposed first floor and ceiling structure. Two new walls have been built internally in the left and two in the right hand side parts of the barn to support first floor and ceiling structure and to provide lateral support to gable walls. These walls are essential to support new floor structure and they significantly enhance the overall structural stability of the barn

Furthermore, the walls and roof of the barn attached to the house in the front area are also built in lime mortar, brickwork and the roof structure has deteriorated with age. This is also causing penetration damp into the attached house. External walls have been taken down and rebuilt on new concrete foundations and a new concrete floor has been laid.

Stables east and south building's roof structure has deteriorated with age and slates are falling off. The roof requires urgent repairs to make it safe.

**2.6 Masonry Wall Rising Damp**

The walls were inspected from inside.

***Description***

Internally the walls are bare and painted.

***Condition***

Walls are dry and free from signs of damp or mould. There is no evidence of any rigid or flexible DPC.

***Recommendation***

None

## **2.7 Main Roof External**

The roof structure was inspected from ground level

### ***Description***

The main roof is pitched and covered with blue/black slates. Traditional roof timber rafters running over timber purlins resting on walls and internally timber frames.

### ***Condition***

The timber frames, purlins and rafters are in good condition. There are no signs of decay or mould on the timber. Therefore, the overall general condition of the roof structure is good.

### ***Recommendations***

The roof timber structure should be treated with Ronseal wet rot wood hardener to stop wet rot.

## **2.8 Ground Floor**

### ***Description***

The ground floor is covered with concrete and paved with York stone flags.

### ***Condition***

Floor level is uneven and unsuitable for thermal upgrade.

### ***Recommendations***

Remove existing concrete floor and flags and provide new thermally insulated concrete floor