

## **STRUCTURAL APPRAISAL REPORT**

**Phynis Farm, Slaidburn**

**Barn C**

**for**

**United Utilities Property Services**

**Job No.14619**

**October 2022**

**Rev.0**



# Structural Appraisal

## Phynis Farm Barn C

### 1. INTRODUCTION

Booth King Partnership Limited was instructed by United Utilities Property Solutions to carry out an inspection and prepare a report on the structure of Barn C, Phynis Farm, Slaidburn.

The aim of the inspection was to determine the overall/generic condition of the main loadbearing elements of the property in order to:

- confirm its suitability for conversion,
- advise if any major repair work is required.

### 2. SCOPE

The inspection was limited specifically to a non-intrusive, visual inspection of exposed and readily accessible, structural, load-bearing elements. Except where noted, external works, perimeter walls and/or fences were not inspected. No opening up works were carried out and no samples were taken for testing. We have not specifically inspected for infestation or rot, as this is specialist work, however, where we have noticed evidence of such, we have recommended further investigations.

In addition, unless specifically noted, the inspection did not cover drainage items, rain water systems, finishes, electrical or plumbing installations or any other aspect which is not part of the load-bearing structure.

### 3 INFORMATION AVAILABLE

None.

### 4. THE INSPECTION

The survey work was carried out during a five hour visit to the building on Wednesday 12 October 2022. The weather at the time of the inspection was rainy.

Opening-up or digging of trial holes was not carried out. Foundations were not inspected. Samples were not taken for chemical or strength testing.

The inspection of the outside of the building was done from ground or first floor level. Long ladders or staging were not available to allow a closer inspection of the roof or perimeter walls at high level.

Lighting levels in the buildings was limited. No electrical lighting was available. Observations were made by torchlight where possible.

A number of photographs, in digital format, were taken. These are available for inspection at the Ramsbottom office of Booth King Partnership Limited. Salient photographs which illustrate significant issues are included in this report at Appendix A.

## 5. FINDINGS

### 5.1 BUILDING FORM, STRUCTURE AND USAGE

Barn C is one of a cluster of agricultural buildings around a farmyard. Barn C is the smallest barn to the South East of the site, adjacent to the farmhouse.

The building comprises a traditional single-storey structure of masonry walls and stone flag tiled pitched roofs supported on timber rafters, purlins and trusses. The building is divided into 3 rooms, the leftmost would once have been open fronted and the opening has been infilled with a non-load bearing timber stud wall. The rightmost room could not be accessed. The elevational walls of the original building are random rubble stone with dressed stone coins. The lintel over what was the original opening is timber. It has not been checked by calculation, but it appears small for the whole span. There is a steel member at mid span which appears intended to be a prop. This is also appears slender.

The form of construction of the building suggests it was built in the 19<sup>th</sup> Century.

The building is orientated such that the front elevation faces approximately north west (see Figure 1 below).



FIGURE 1 SITE AERIAL VIEW

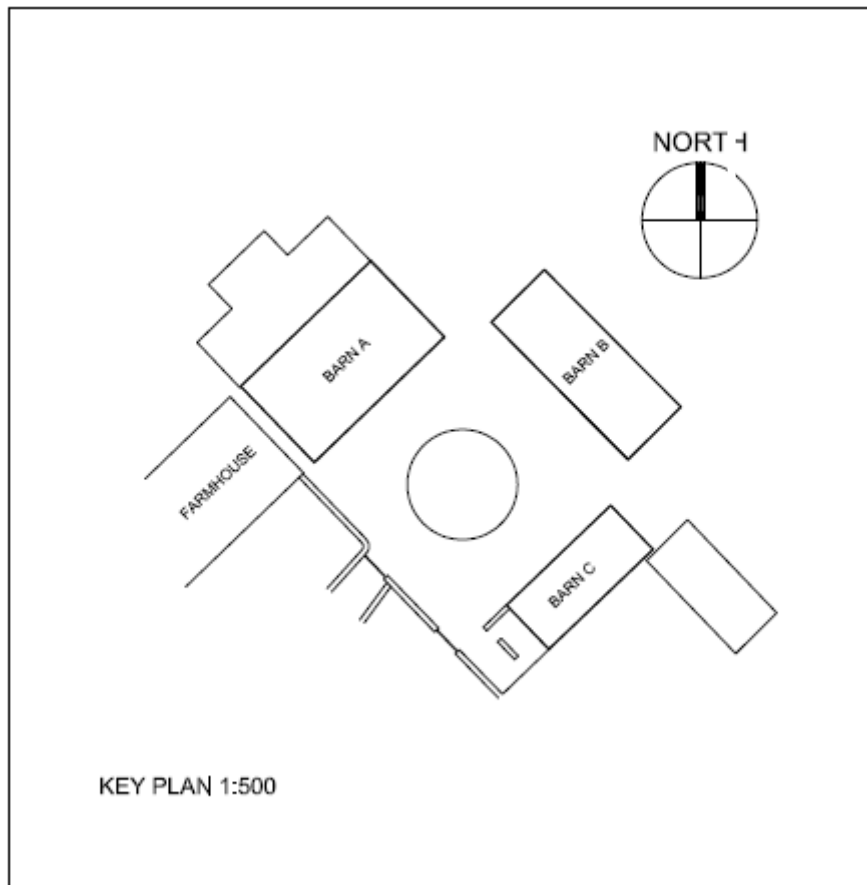


FIGURE 2 SITE PLAN

## 5.2 CONDITION AND OBSERVATIONS OF STRUCTURAL ELEMENTS

### 5.2.1 GENERAL OBSERVATIONS

The building is currently used for domestic storage.

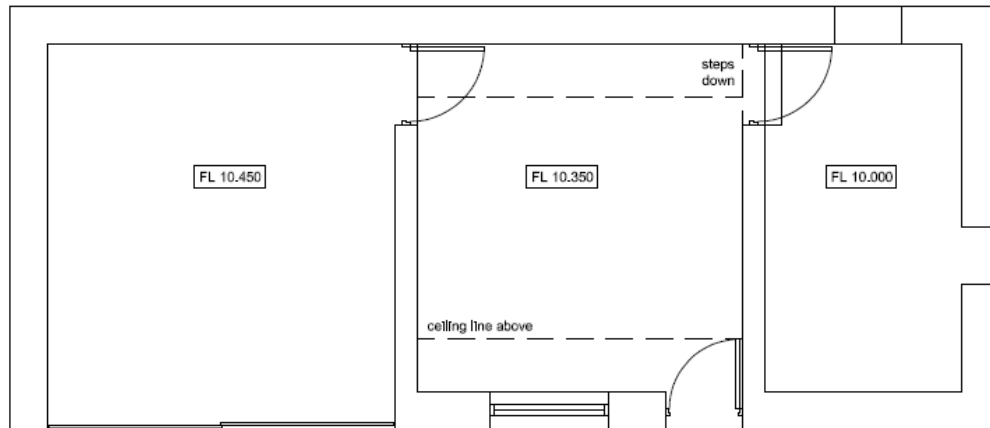
Generally the walls, which are thick stone, were noted to be reasonably plumb.

The stonework of the perimeter walls is generally in good condition although some repointing would be advisable.

The ridge of the pitched roof has some irregularity, although the roof pitches appear to be reasonably even. The roof is stone flag tiled on timber battens rafters and purlins.

Internally there are stone dividing walls and a lath and plaster ceiling. The ceiling is partially collapsed, and the underside of the roof is visible. There is a white breather membrane, suggesting that the roof has been recently replaced. The walls are plastered in the middle room preventing observation of the structural walls behind.

The floor of the barn appears to be solid.



FLOOR LAYOUT

FIGURE 3 GROUND FLOOR PLAN

### 5.2.2 DETAILED OBSERVATIONS

The following detailed observations were recorded. When left and right are used in the descriptions of observation for walls, this refers to an observer's left and right when looking towards the wall.

#### OUTSIDE

Walls are straight and acceptably plumb.

External lintels over doorways and windows are stone, with one timber lintel to the front window and there is a timber lintel over what was originally a wide opening. These are generally sound with no obvious significant movement.

Some minor repointing is required generally. The barn was originally rendered. It is anticipated that this will be reinstated as part of a refurbishment.

There are openings in the right gable, with minor cracking between the stone mullions and lintels and masonry.

Gutters and rainwater pipes are missing in several places. These should be repaired to prevent structural damage by water ingress.

#### INTERNALLY

The ground floor is generally thought to be solid.

It is thought that the building has been recently re-roofed and as a result the interior appears dry.

There are significant cracks in the left gable and the middle cross wall, emanating downwards from the purlin bearings. In the left room the purlins seem modern regular timber, and cut ends of older hewn timbers are visible in the wall adjacent.

This suggests that the roof has at some time collapsed and been repaired. If this was the case, the outwards thrust from the collapsed roof could explain the vertical cracks and irregularity of the ridge. As the roof has been repaired, the cause of the cracking has also been mitigated. These cracks should be repaired by stitch tying and repointing.

We could not see all the roof timbers due to the ceiling; we would recommend that these are inspected by a timber specialist for rot and infestation.

There are openings in the right-hand gable, where there is cracking between the stone Jambes and lintels and the masonry. These are indicative of some movement in the foundations but appear long standing.

## 6. CONCLUSIONS AND RECOMMENDATIONS

The main structure including load bearing walls, pitched roof timbers appear to be sound and would be amenable to sympathetic conversion to residential usage provided the following issues are addressed:

- The building should be inspected by a specialist in rot and infestation. Recommendations arising from that inspection should be actioned.
- Rainwater pipes and gutters are missing in places. All waterproofing and rainwater goods require replacement to protect the building fabric.
- There are cracks observed in the gables and cross walls. These should be repaired by stitch tying and repointed.
- The lintel over the wide opening should be assessed and possibly replaced with a larger beam capable of spanning the width of the opening un propped as part of a conversion.

## 7. DISCLAIMER

This report is for the use of United Utilities Property Solutions in connection with this appointment and the benefit is not to be extended to any third party without the written permission of Booth King Partnership Ltd.

The opinions expressed are based purely on the conditions as readily seen and our interpretation of the evidence does not benefit from long-term observation. Our inspection has only covered the major aspects of the structure that it was possible to inspect.

We have not 'broken out' to determine the condition of those parts of the structure which are covered, unexposed or inaccessible and are therefore unable to report that any such part is free from defect.

A detailed inspection of the structure has not been carried out for rot and infestation nor has the structure been fully checked for dampness. This is specialist work and is not within the scope of this investigation and report.

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Report issued 12 October 2022

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## APPENDIX A - PHOTOGRAPHS



Front Elevation



Close up on front window with timber lintel, which may be considered for replacement



Right hand gable



Crack in right hand gable between RH stone jamb and masonry.



Crack in right hand gable between LH stone jamb and masonry.



Crack in RH gable wall between stone lintel and masonry wall.



Rear Elevation



Interior view showing crack in cross wall, emanating from purlin bearing



Roof space, showing modern breather membrane over rafters



Internal wall, vertical cracks emanating from purlin bearings



Vertical cracks in cross wall to front, emanating from purlin bearings



Close up on purlin bearing, showin vistige of old purlin cut end.



Detail on end of timber lintel at left hand side of wide opening, with timber infill