

PRELIMINARY STRUCTURAL REPORT

UPON

AGRICULTURAL BARN 1

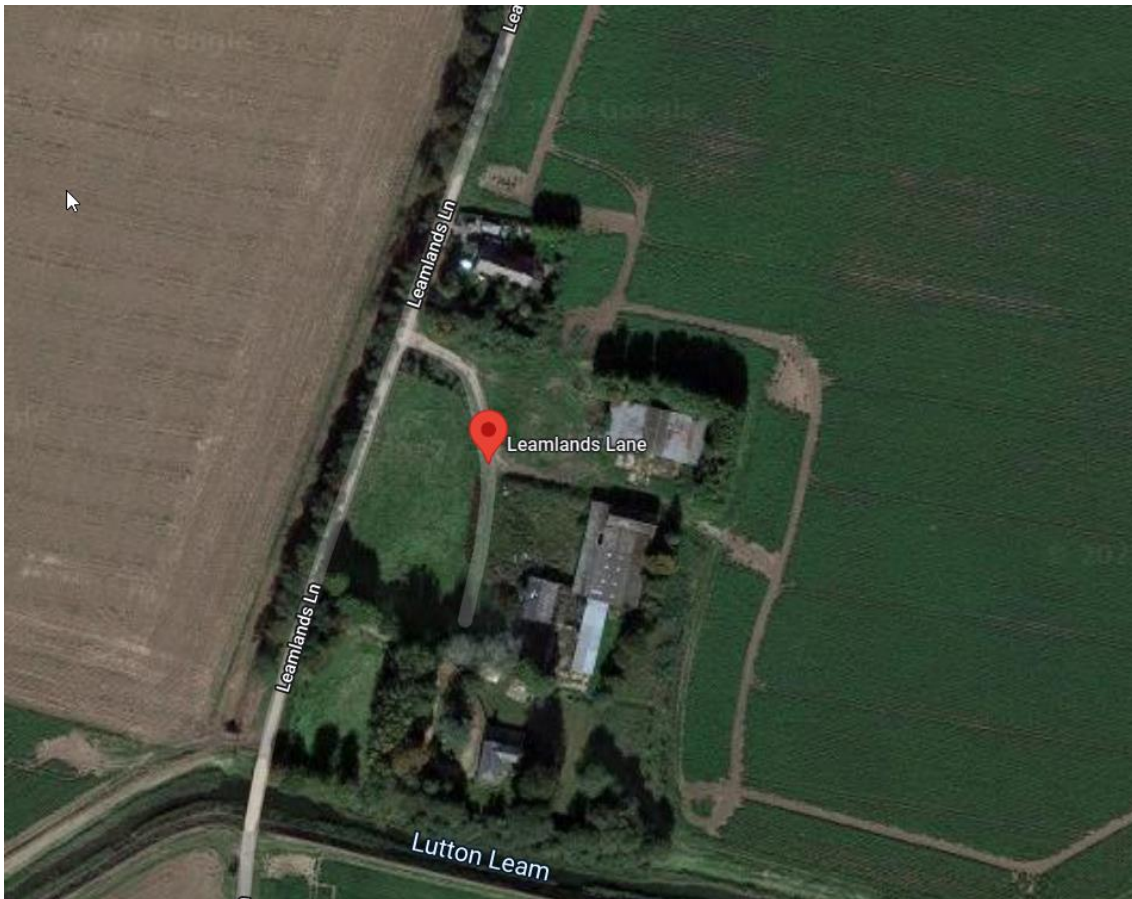
LEAMLANDS FARM, LEAMLANDS LANE

LUTTON MARSH, LINCS.

PE12 9NS

PROJECT No: SW 22-167

DOCUMENT REF: SW 22-167-REP-02



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1. INTRODUCTION

Acting upon the instruction of Mr S King., we attended the site in November 2021, to undertake visual inspections and basic ground investigations including inspecting the existing foundation detail.

The object of this report is to comment upon the current structural condition and viability for conversion to domestic accommodation. It confines itself to the Basic Structural Fabric and is not intended to comment upon non-structural items.

During the course of the survey and in preparation of this report no cladding, internal features or items were moved, therefore we cannot comment upon the condition of areas which were covered or inaccessible.

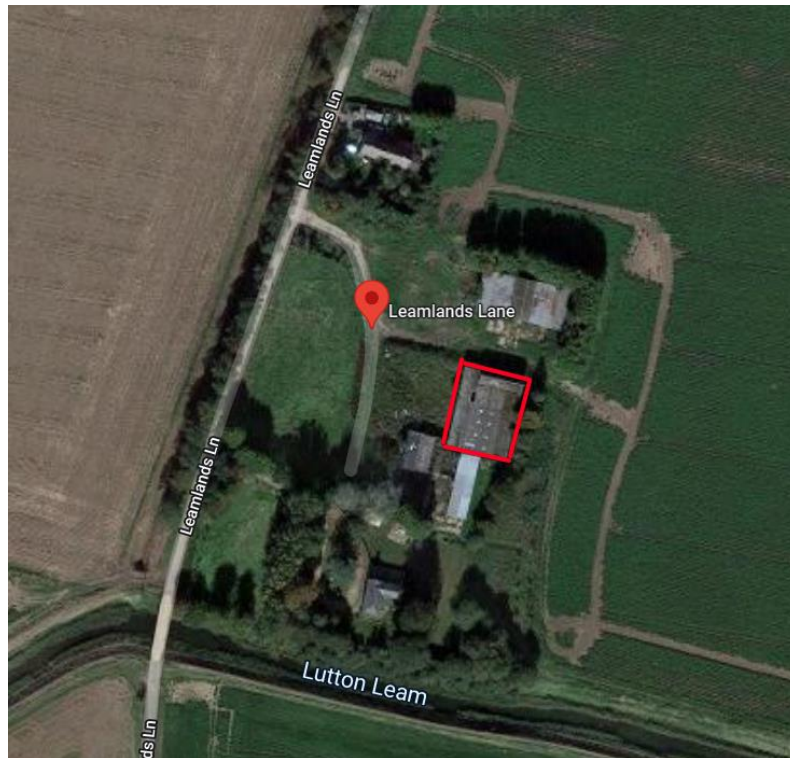
Comments relating to Ground Conditions are based upon investigations undertaken on site at the time and previous experience in the Fenland area, and publicly available British Geological Society records.

This report has been prepared for the named client above and should not be relied upon by any other parties, except the client and their specialist third party advisors, without the express written permission of Shields Wilson Limited.

2. PROPERTY LOCATION & DESCRIPTION

The site sits to the East of Leamlands Lane and the North of Lutton Leam. The barns sit to the North of the existing Dwelling, Leamlands Farm, Leamland Lane, Lutton Marsh PE12 9NS.

Site location plan, GR Merchant drawing 3775-21/01 is contained within Appendix A.



The building is an agricultural barn which has likely been used as part of the farmstead and most likely for storage purposes during its history.

The Masonry structure of the barn takes the form of solid load bearing masonry walls with a roof formed with tiles on timber battens, purlins and trusses. It is clear that at some point in the buildings history there has been a more extensive timber first floor.

To the South of the main masonry portion of the barn is sited a large, covered area, whose structure is formed with Timber frame pole columns and trusses.

The roof cladding takes the form of asbestos cement roof sheets. These are not likely to be original but do appear to be fixed off what are likely to be the original timber purlins.

The main barn has a raised floor which is retained on the South Elevation as the ground levels to the rear in the covered area generally sit around 600mm lower. The floor is a concrete floor.

3. OBSERVATIONS

A visual inspection of the building was undertaken, our observations are described below.

The form of the barn is illustrated on GR Merchant drawing 3775-21/02, a copy of which is located within Appendix A.

There is a general photographic record of our survey contained in Appendix B.

3.1. Ground Conditions

Publicly available British Geological Society maps and borehole records indicate the site to be underlain with Tidal flat deposits of Clay and Silt tidal flat deposits over the Clay Formations.



No specific site investigations were undertaken. However, in places the strata underlying any topsoil was exposed and it could be seen to be a soft silty material.

On the South elevation of the barn it is possible to see a masonry corbel foundation where the ground levels have been reduced along this elevation.

The natural soft silts are likely to provide relatively low bearing capacities but are anticipated to be reasonable for a shallow foundation either in the form of wide strips or a raft slab. Dependent upon results of specific soils tests to be undertaken for detailed design purposes.

Both styles of foundation founded onto this stratum would not be expected to experience settlements outside of normally acceptable limits

3.2. Structure

The style of structure is common for agricultural barns.

It is typical of the style and period that the cladding is asbestos cement cladding. This is unlikely to be the original cladding. The asbestos sheets should be handled appropriately by correctly trained operatives in accordance with all asbestos related legislation.

It should be noted that some of the rainwater goods may be of asbestos construction.

Generally the condition of the roof structure appears to be in good condition as does the masonry throughout the structure.

There are a few minor cracks within the masonry structure. No significant crack pattern which would suggest on going movements was identified.

There are some areas of damp masonry to the rear of the along the South Elevation. These tend to be where rainwater has dripped through the sheets above from the covered area or where water has been held against the surface by a feature.

The ground floor has some cracking along the edges where differential movements have occurred.

4. Proposed Structure Conversion

The proposed conversion involves the replacement of the roof cladding, with similar new materials.

The conversion will re-introduce a first-floor structure throughout the barn building and this will in the most part act to stabilise the walls which will benefit from the intermediate stability support.

Any minor cracks in the masonry should be stitched prior to finishes being applied.

The concrete ground floor will require stitching where it is cracked or replacing to ensure no future differential displacements can occur.

The load bearing solid masonry is suitable for the re-introduction of a first floor with a domestic loading and will be capable of accommodating the conversion.

5. CONCLUSIONS & RECCOMENDATIONS

Generally, the condition of the structure is good for a building of this type and age.

The proposed structure and its conversion will provide methods for load bearing and stability and as such will ensure that the proposed conversion can accommodate domestic loads in accordance with the modern building regulations.

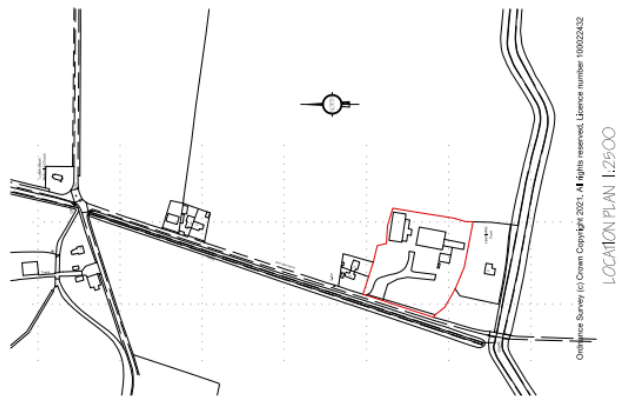
By implementing the recommendations contained in the report above, the property should provide suitable domestic accommodation for years to come.

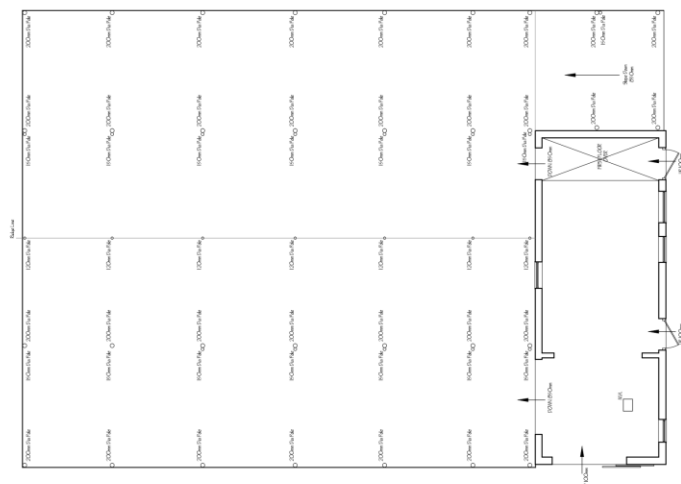
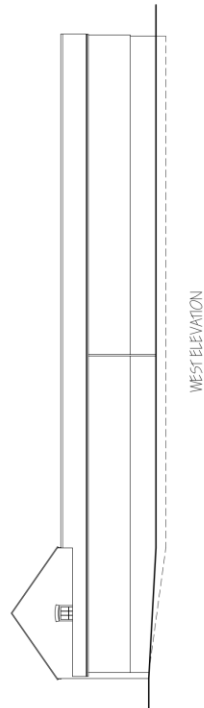
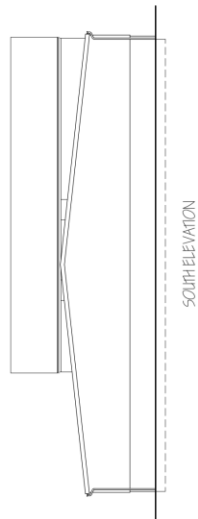
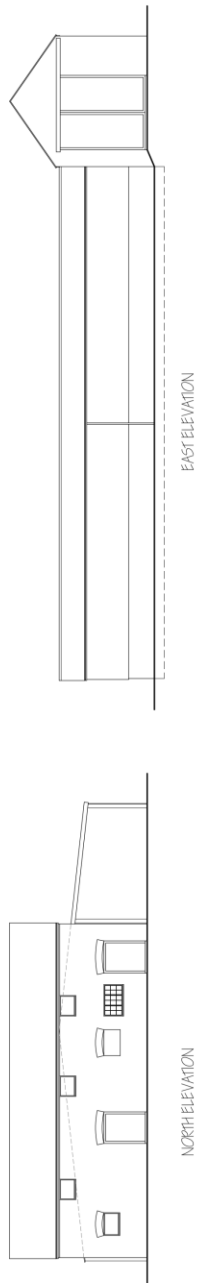
For and on behalf of **SHIELDS WILSON LIMITED**

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March 2022

APPENDIX A

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GROUND FLOOR PLAN

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APPENDIX B















