

**Architectural and structural appraisal**

**South barn**

**David Upson Produce**

**Stoke Farm Barns, Battsford near Stowmarket, Suffolk IP14 2HA**

Prepared by Ian Smillie Architectural Services

November 2023

## **1. Commission**

Ian Smillie Architectural Services was appointed by the Building Owner to prepare schemes for the conversion of the South barn building.

The location of the building within the site and the survey of the building are indicated on the following scaled drawings prepared to accompany a Planning Application (by Others):

2021155-200 - Barn Conversion - Site Location Plan

2021155-200 - Barn Conversion – Block Plans

2021155-200 - Barn Conversion – Existing Plans and elevations

2021155-200 - Barn Conversion – Proposed Plans and elevations

## **2. Description of building**

The age of the building is unknown however the style of construction suggests a post-war build, perhaps sometime in the 1980's; the building is of traditional construction form with no architectural or design merit whatsoever and was constructed for a general purpose agricultural use. The building comprises a concrete slab, structural steel frame with brickwork infill panels between stanchions and a roof of corrugated sheets (potentially containing asbestos) hook fixed to longitudinal purlins between steel frame members.

The building is located far enough away from any trees or established hedging for these to have no effect on ground conditions by reason of ground movement caused by the shrinkable clay sub-strata. No positive rainwater discharge is noted, simply open run-off to the ground.

The existing building exhibits no evidence of structural failure from below or above ground conditions, is clean and dry and has no holes through the enclosing structure other than original doors and windows.

## **3. Potential of conversion**

The combination of shrinkable soils and trees, hedgerows or shrubs represents a hazard to structures that requires special consideration. Trees, hedgerows and shrubs take moisture from the ground and, in cohesive soils such as clay, this can cause significant volume changes resulting in ground movement. This has the potential to affect foundations and damage the supported structure.

The construction below ground is not visible but the steel stanchions/ infill wall panels and the floor must sit on reasonable foundations as the building shows no evidence of settlement or movement cracking despite being located in an area of shrinkable clay.

The existing structure can be retained and thermally improved by building up the floor slab and provision of horizontal insulation/ providing vertical insulation in the walls within a freestanding timber frame construction and replacing the corrugated roof sheeting with a profiled roofing sheet with integral insulation bonded to it.