

Buildings north of Hill Farm, Taylors Lane, Higham, Kent.

Structural Inspection Report



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Date: 12th July 2023

DRAINAGE

- Drainage Strategies
- S104 Drainage Design
- SUDS
- Flood Risk Assessments
- CSH SUR1

HIGHWAYS

- Transportation Assessments
- S38/278 Highway Design
- Junction Modelling
- Traffic & Parking Surveys
- Remedial Assessments

STRUCTURAL ENGINEERING

- All Structural Design
- Temporary Works
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- Multi Storey & Basements
- RC Detailing

SPECIALIST SERVICES

- Site Assessments
- CDM 2015 Support
- TEKLA - Steelwork
- Fabrication drawings
- Expert Witness

Document Control Sheet

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Please note that this report is not a full Structural, Building, or Valuation Survey but is confined to the matters described therein. It does not include any mechanical, heating or electrical systems, external surfaces or landscaping features, nor any fixtures, fittings or sanitary ware.

We have not inspected woodwork or any parts of the structure which are covered, inaccessible or otherwise unexposed and we are therefore unable to report whether any such part of the property is free from defect.

1.0 Introduction

BdR was commissioned by Prime Folio to undertake a structural appraisal of the buildings north of Hill Farm, Taylors Lane, Higham, Kent, to determine their suitability, from a structural view point, for conversion into residential properties. This report is primarily intended for ancillary information, to be read in conjunction with the Full Planning Permission Application and does not constitute a full summary for Building Regulation approval.

The Survey was carried out on 6th June 2023..

2.0 Description

The property can be divided into three buildings, as annotated on Prime Folios drawing 22-36-03, these are buildings A, B and C.

Building A is the oldest and was built pre 1940 (can be seen on Google Earth), it is a L shaped single storey building orientated east to west with a southern projection at the western end. The external walls are mostly brickwork under a duo pitched roof covered in slates.

Building B is a substantial brick built former cold store. The roof covering is fibre (probably asbestos) cement sheeting on steel angles onto steel trusses. The building looks to have been extended previously to form two cold stores and then a large internal opening formed.

Building C is an enclosed storage/link building between A and B. There are a set of double doors to the southern wall and a large timber sliding door to the north elevation. The building is covered by a metal sheet flat roof, supported by timber joists.

Both Building B and C can be seen on Google Earth 1990 arial photographs.

The local geology is Seaford Chalk formation

3.0 Observations

3.1 Building A

3.1.1 Roof

The roof of the building consists of timber rafters approximately 50mm x 100mm in size at 360mm to 400mm centres. These in turn are boarded on top of which are battens with slates fixed to them. The rafters are supported by timber purlins, which are supported at intervals along the roof on timber collars or timber struts. The roof is of a vaulted construction with timber cross ties at intervals and no ceiling joists..

Internally the roof is in a good condition, externally the roof line has a few dips in it but has been recovered previously.

At present the rafters and purlins are capable of taking the existing roof covering with added roof insulation.

3.1.2 Walls

The walls to the building are constructed in solid 215mm thick brickwork, apart from the upper section of the southern projection which is in timber stud. There are brick piers internally built into the north wall.

The walls are structurally sound, though some repointing will be required externally, but this will not affect the stability of the building.

3.1.3 Internal

Internally the building is open plan, with timber tie beams at eaves level and a larger timber beam where the roofs meet and the purlins are strutted down.

Some vegetation growth can be seen between the top of the wall and roof, but this can be carefully removed and made good.

The building appears to be showing no signs of structural issues.

The floor slab is concrete and has some fractures within it and will need to be broken out and replaced to comply with building regulations.

3.1.4 Foundations

There are no signs of foundation movement to the building and with no significant change to the loadings or external conditions, then no underpinning to any of the foundations is anticipated.

3.2 Building B

3.2.1 Roof

The roof of the building consists of steel trusses supporting steel angle purlins which in turn support the fibre cement roof sheets. Along the bottom chord steel angles support the ceiling.

To the southern elevation, the roof cantilevers over the wall to form a canopy to the cold store doors.

The steels have some surface rust, which can be wire brushed and treated with a rust inhibitor paint, but this will not affect the structural capability of the trusses.

At present the rafters and purlins are capable of taking the existing roof covering with added roof insulation.

3.2.2 Walls

The walls to the building are constructed in minimum 215mm thick brickwork and possible 330mm brickwork in places. There are two large door openings to the south elevation.

The walls are structurally sound.

3.2.3 Internal

Internally the building used to be divided into two cold stores, but a large opening was formed in the dividing wall with associated steel beams and columns installed.

The building appears to be showing no signs of structural issues.

The floor slab is concrete and is in a good condition and could possibly be retained
If it can comply with building regulations.

3.2.4 Foundations

There are no signs of foundation movement to the building and with no significant change to the loadings or external conditions, then no underpinning to any of the foundations is anticipated.

3.3 Building C

3.3.1 Roof

The roof of the building consists of timber purlins at approximately 800mm centres, which in turn are supported on timber joists at 1200mm to 2200mm centres. The timbers are covered in metal roof sheets, with a fall from building B to building A. The timber joists are supported on timber plates which are bolted to the walls.

Where the roof abuts building A and forms a valley, poor maintenance over the years has meant that some of the roof timbers are suffering from rot and will need strengthening.

At present the roof timbers will be capable of taking the existing roof covering with added roof insulation after some localized strengthening has been carried out.

3.3.2 Walls

The walls to the building are constructed in solid 215mm thick brickwork to the east and west.

To the south elevation, there is a double timber door, either side of which used to be a timber stud wall on a dwarf brick wall. Unfortunately, poor maintenance has meant the studwork is missing and the dwarf wall has partially collapsed. However, this wall is not structural and does not support the roof.

To the north elevation, the wall consists mainly of a large timber sliding door, with timber posts and beams supporting the roof timbers above and clad in metal sheeting. The wall is covered in vegetation and this will need to be carefully removed. It would appear that one of the corner posts to this wall is missing and some localized strengthening works will be required.

3.3.3 Internal

Internally the building is open plan, with a concrete floor slab, which ramps up to the north elevation.

3.3.4 Foundations

There are no signs of foundation movement to the building and with no significant change to the loadings or external conditions, then no underpinning to any of the foundations is anticipated.

4.0 Method Statement

In any proposed conversion it is anticipated that a suitably experienced contractor who has a prior experience of similar conversions is engaged. The method statement will be produced by the contractor, but approved by all interested parties. The fundamental approach to a project of this nature is to ensure the temporary and long term stability of the building while the work is underway. The need for temporary supports, suitable sequences of work, and consideration of the existing building elements is paramount. The project will be a team effort to achieve a successful outcome and the present involved parties are suitably qualified to achieve this end.

5.0 Conclusion and Recommendations

As previously stated, the purpose of this report was to establish whether the existing buildings could be converted for domestic use and qualify such conclusions with details of general repair. From our observations we are of the opinion that the proposed conversion is a viable undertaking and that the buildings are sound and not in need of major reconstruction. The drawings produced to date, including the existing and proposed layouts can be considered as a logical and sympathetic use of the buildings.

Shaun Best B.Eng. C.Eng MIStructE.



Photo 1 – Building A – internal.



Photo 2 – Building A – internal.



Photo 3 – Building A – south elevation.



Photo 4 – Building A – east elevation.



Photo 5 – Building B – north elevation.



Photo 6 – Building B – south elevation.



Photo 7 – Building B – canopy overhang.



Photo 8 – Building B - internal.



Photo 9 – Building C – internal view of south wall.



Photo 10 – Building C – sliding door to north wall.



Photo 11 – Building C – roof.



Photo 12 – Building C – north elevation.