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1st October 2024

Mr J Roberts
J R Planning Consultants
Velocity Point
Wreakes Lane
Dronfield
S18 1PN

Dear Mr Roberts,

Structural Assessment of Existing Building B
Thurlestone Road, Sheffield, S36 9QQ

We would refer to our recent visit to the above property to assess the structural condition of the existing buildings located within the site curtilage. The purpose of the inspection was to produce a written report on the structural condition of the buildings as well as forming a professional opinion as to their suitability for redevelopment, without the need for large scale demolitions or reconstructions.

Access was gained on Friday 13th September 2024 where visual inspections were carried out from external and internal ground levels. The weather was bright and dry.

The site is located approximately 1km west of Penistone village, immediately to the south of the A628 Thurlestone Road; open fields lie to the south and east.

Two historic farm buildings stand in the northwest corner of the site. Building A is a traditionally constructed two storey barn with attached single storey elements; building B is a more modern concrete portal framed structure with attached single storey elements.

Building B:

Standing on a northeast to southwest alignment, the primary barn consists of a pre-cast concrete (PCC) portal framed structure with PCC purlins, eaves beams and high level sheeting rails. Concrete filled 215mm thick hollow blockwork walls span between the PCC columns to a height of 2.7m above internal floor level, along the full length of the south and east elevations, and part way along the north and west elevations. A 600mm

high wall continues to the remaining length of the north elevation. Vertical corrugated cementitious (possible asbestos containing) sheeting covers the remaining building height above the blockwork walls; similar corrugated sheeting is provided to the roof. To the east of the building a timber mezzanine is present supported steel beams spanning between internal and external block walling.
Off the western gable, a lean-to, open fronted blockwork structure is present with corrugated metal roof sheeting supported off timber purlins spanning between external blockwork walls and a central timber rafter. A steel post props the centre of the rafter with a circular timber post supporting the end to the north.
To the east, west and south, the building is set in to the sloping field behind meaning the external walls are ground retaining structures.
Ground bearing concrete slabs are present over the full footprint of the barn and outbuildings.

The inspection was of a visual, non-intrusive nature, and hence we cannot confirm that any areas which were concealed or inaccessible are free from defect. The inspection revealed the following salient items:

- Internal efflorescence, moisture staining and algae growth to external blockwork walls where noted below the retained ground behind.
- Moisture staining to timber purlins within the single storey lean-to structure.
- Surface rusting to mezzanine floor steel support beams.

Discussion:

No evidence of subsidence or settlement was noted to any of the buildings, with walling and PCC frames appearing plumb throughout..
General water staining to the timber elements appears superficial in nature and can be expected in the exposed environment.
Perimeter walling, where set below the level of the external ground appears structurally sound, however water ingress is evident internally suggesting either a lack of external waterproofing membrane or the failure thereof.

Proposed Redevelopment:

It is understood the primary barn building is proposed to be converted into a habitable residence(s). To suit current Building Regulations a number of enhancements will be required for both thermal and weatherproofing characteristics. Inevitably, the weight of such enhancements, particularly on the roof, will be greater than the current build-up and hence some strengthening of the roof structure may be required. It is not considered, however, that the wholescale replacement of the roof structures will be required.

Should a new mezzanine be proposed over the full area of the primary barn, the most appropriate method of construction would be to form an inner block wall lining to support the new suspended floor, potentially supported off the existing slab. The slab construction, however, will require to be confirmed as suitable to distribute the wall line loads, and if not, new concrete thickenings formed integral with the slab.

Subject to architectural detailing and the internal arrangement proposed, perimeter walling may require the installation of a new external waterproofing/tanking system to cease and prevent moisture ingress.

With the above in mind, we can confirm that we see no reason why, with a series of general maintenance repairs and enhancements, the building could not continue to be used for ancillary storage, or form part of an application for residential re-use and conversion subject to design detailing, such as enhancements of the building fabric for the improvement of both thermal and weather-proofing characteristics.

We trust the above is self-explanatory, however, should you require any clarification, please don't hesitate to contact me.

Yours sincerely,

Darren Chapman (Digitally Signed)

Director
E. [redacted]
T. [redacted]