Plumb Stone Surveyors

Structural Survey

Top House Farm, Arowry,
Wrexham, SY13 3EQ.

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1.0 Preliminary Information

a) Name and Address of Client(s):	Tom Hanmer Top House Farm Arowry Wrexham SY13 3EQ
b) Address of Property Inspected:	Top End Farm Arowry Wrexham SY13 3EQ
c) Date of Instruction:	06.05.2021
d) Date of Inspection:	16.06.2021
e) Circumstances of Inspection:	Building vacant.
f) Weather Conditions:	Dry and warm.
g) Current Use:	Disused cattle shed.
h) Other Matters:	This report has been commissioned to ascertain the general structural condition of the cattle shed and its suitability and adequacy for conversion and re-use. Inspection has been restricted due to access limitations where storage and equipment is being kept and access is limited. In consequence, it has been necessary to generalise. The report might be updated when the buildings have full access made available.
i)Confidentiality:	The report has been prepared solely for the use of the named clients and their other professional advisors. It must not be relied upon by any other parties. The terms under which the inspection has been carried out and the report prepared have been set out under separate cover.
j) Declaration:	This report has been produced by Alan McKeown MA AssocRICS DipRSV ACABE MRPSA of Plumb Stone Surveyors Ltd. Plumb Stone Surveyors Ltd are regulated by the RICS.
k) Signed:	[redacted]

2.0 Description

2.1 Site

a) Top House Farm is a working dairy farm.

b) The site incorporates fields, two main houses, several barns and silage.

c) The main houses are designated as being grade II listed properties.

2.2 Location

a) The site access is relatively straightforward at the junction of Striga Lane, New Road and Brookhouse Lane in Arowry.

b) The farmstead sits approximately 8 miles west of Whitchurch and 12 miles south of Wrexham.

2.3 Construction

a) The cattle shed incorporates a single storey building formed with solid brick walls under a pitched roof with corrugated asbestos cement sheeting.

b) The internal structure incorporates an open plan space. There is a storage space to the front gable and an extension bay at the rear gable.

c) The main floor includes a concrete base.

2.4 Accommodation

a) The barn is divided into 3 bays.

a) Gross external floor area of the barn is approximately 115 sq.m.

2.5 Restrictions

a) Access was restricted to the rear side wall of the property. In consequence limited viewing was available to the rear roof slope and wall.

b) The front bay was not accessed.

3.0 Condition

Element	Description	Condition	Recommendation
EXTERNAL			
1. Roof Coverings	Corrugated metal sheeting.	Sheeting is relatively well formed, although general deterioration is evident such as cracking at overlaps and moss growth. Coverings appear to be asbestos cement.	Re-cover roof with suitable lightweight cladding, subject to architectural design. Removal of existing coverings in-line with HSE standards.
2. Roof Structure	The roof incorporates a steel framed structure. This includes steel purlin and ridge beams supported by three steel trusses. The extension bay incorporates two timber purlins to each slope supporting the coverings.	Fair condition. The structure has adequately supported the coverings and the space remains free from any significant damp ingress. Corrosion is evident to steel trusses, although these remain in-tact.	Additional strengthening will be required to the trusses to support new roof coverings.
3. **Rainwater Fittings**	The rainwater fittings, where present, are formed in plastic gutter sections.	Poor. The gutters are in a neglected state and are detaching at the connections.	Installation of new rainwater gutters and downpipes; to be connected to the existing drainage system.
4. Main Walls	The main walls are constructed with solid brick (220mm) incorporating a bitumen DPC.	Structural failure and rotational movement evident to front right corner of the building. Possible	Inspection of the underground drain required. Relevant structural repair required to front right corner,

	Openings supported by concrete lintels. Footings not seen.	subsidence from defective drains. Significant disturbance and missing brickwork to wall by the central door opening. DPC intact where visible. Mortar pointing largely in good condition. Isolated areas of erosion evident.	possible heli-bar stitching of brickwork. Strengthening and rebuilding of the existing wall structures required and thermal upgrades. Insertion of new DPC recommended. Localised re-pointing required.
5. External Joinery	Front bay incorporates steel 'sliding door' entrance. All main doors and window opening retain their form, incorporating concrete lintels and sills. Windows incorporate metal framing. Units partially filled with a combination of glass and plastic.	All openings retain their original form. Front right corner lintel requires structural repair due to rotational movement. Timber and metal framing shows usual deterioration.	Stabilise wall and lintel support at front right corner. New doors and windows will be required, as per project design.

INTERNAL			
7. Internal joinery	Internal set up divided into large open pen, designed for livestock. Separate extension bay at right gable side.	Adequate for former usage.	New internal joinery to be informed by project design.
8. Ground Floor	Concrete base throughout.	Uneven base designed for farming purposes. Remains in satisfactory condition.	Replacement floor required to incorporate DPM and insulation.

4.0 Photographs

EXTERNAL	
1 Roof Coverings	
	
Moss covered asbestos roof sheeting	Cracked verge overlap
2 Roof Structure	
	
Steel trusses and roof framework	Timber purlin and ridge beams in end bay

3 Rainwater Fittings	
	
Disconnected gutter	Downpipe missing from front left corner
4 Main Walls	
	
Front elevation wall	Damage and rotational movement to front right corner
	
Dislodging brickwork	Large crack stemming from lintel to verge

	
Large fracture to front wall – linked to movement in corner	Dislodged brickwork over door opening
	
Disturbance and missing brickwork by central door	
	
Bitumen DPC	Mortar erosion below window-sill

6 External Joinery	
	
Metal sliding door entrance to front bay	Makeshift door
	
Window metal frame and damaged and missing units	
INTERNAL	
	
Main internal pen	

	
Right hand extension bay	

5.0 Summary

The barn displays some structural failings to the main walls and requires replacement of the roof coverings. However, the main structure remains largely intact, and the original profile of door and window openings are clearly identifiable.

Alterations are required to make the cattle shed habitable, mostly pertaining to insulation and safety standards. It should be noted that structural repairs and strengthening of the main building components are necessary. However, all alterations and repairs that are required can be done without significantly compromising the existing aesthetic.

The building is no longer suitable or required for their original use. However, the agricultural merit of the buildings can be retained via conversion. The shed offers significant historical merit in the context of the local area, and forms an important part of the local industry and landscape. Conversion will inevitably require alterations to form a complete envelope to the structures and new roof coverings, however the existing shape, openings and aesthetic form can be respected and maintained.

The cattle shed meets the criteria set by Historic England, Cadw and Wrexham LDP for conversion in every aspect and I see no reason why this project cannot proceed. When the application is approved, this report can be updated to provide a more detailed structural specification. In its present form the report is considered sufficient to inform the planning process by demonstrating the general condition of the building and confirming that it is capable of conversion.