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VISUAL STRUCTURAL INSPECTION

OF

**MID TARN FARM
FARM HOUSE & ASSOCIATED BUILDINGS
SELLAFIELD
SEASCALE
CUMBRIA**

FOR

AVISON YOUNG

Reference - WDS/05/6133/REP03

Date - 06/10/2019

1.0 BRIEF

1.1 WDS Limited were instructed by Avison Young to carry out a structural inspection of Mid Tarn Farm and associated farm Buildings including:-

- The Main Farmhouse and attached Barn
- Old Stone Barn & attached cottage
- The Cubicle Shed
- The Silage Barn
- Portal Store

The survey was limited to a visual, non-disruptive inspection of the buildings where access allowed.

1.2 The Main Farmhouse and Barn both comprise two storey buildings which are formed in brick and random stone rubble filled masonry walls which support a traditional timber rafter and purlin roof and timber joisted first floor structures. The ground floor to the house comprises a combination of ground bearing concrete slabs and joisted floating floors; the barn ground floor comprises concrete ground bearing slabs and stone flagged areas. There is a single storey lean-to to the front elevation of the farm house which is of more modern construction. The property has been empty for some time. See photograph 1 in the Appendix.

1.3 The Old Stone Barn and attached Cottage are of similar construction to the main farm house. There is more amodern concrete block extension built off the rear elevation. See photograph 2.

1.4 The Cubicle Shed comprises a precast concrete framed structure. The rear extent of the frame has been extended with a partial steel frame. The cladding to the structure has been totally removed. The ground floor comprises a concrete slab. See photograph 3.

1.5 The Silage Barn comprises a steel portal framed structure with precast concrete plank lower side walls. The cladding to the building has been removed. The floor slab comprises ground bearing concrete. See photograph 4.

1.6 The Portal Store comprises a propped steel portal framed structure. The building is open sided with the roof cladding still in place. See photograph 5

1.7 The farm house and stone barn and cottage buildings are well over 100 years old. The Silage Pit, Cubicle Shed and Portal Store have been added in the past 50 years.

- 1.8 The inspection was carried out on the 4th September 2019. On the day of the inspection the weather was clear and dry.
- 1.9 It should be noted that there may be faults with the building which are masked or hidden by finishes that are not normally identified during a non-disruptive inspection.
- 1.10 The foundations to the various buildings were not exposed at the time of this inspection and therefore no comment can be made at this time on their extent or condition.
- 1.11 For the purposes of this report all locations will be noted as if looking at the front elevation of each building.

2.0 OBSERVATIONS - THE FARM HOUSE & ATTACHED BARN.

- 2.1 The farm house is in need of total refurbishment and modernisation with all the internal finishes in need of replacement. Similarly, the external render needs totally replaced.
- 2.2 There is an outward bulge to the front wall to the left hand portion of the front elevation. It appears that the roof truss over has failed and spread pushing the wall
- 2.3 There is a full height crack to the left hand gable wall which may indicate some structural movement.
- 2.4 The attached barn walls are heavily weathered and need refurbished. Internally the timber structural elements to the roof, floor and lintels show signs of infestation. The walls have a number of cracks and bulges but these are not excessive.

3.0 OBSERVATIONS -THE OLD STONE BARN & ATTACHED COTTAGE

- 3.1 The buildings are in a very poor condition and are effectively derelict. The walls are heavily weathered and excessively out of plumb in various locations, especially the left hand gable. The front canopy support beam is heavily rusted and the timber wall plate rotten, the canopy roof is at risk of collapse.

3.2 The main roof has failed and fallen in in localised areas. The timber elements adjacent are rotten and further collapse can not be discounted.

3.3 The timber elements throughout the building have been affected by rot and infestation to varying degrees.

4.0 THE CUBICLE SHED

4.1 The shed is disused with all the cladding having been removed. A number of concrete elements are cracked due to the embedded reinforcement having rusted. Generally however the concrete frame appears in an adequate condition.

4.2 The frames have been extended at the rear of the building by installing a steel rafter and column extension. This is structurally inadequate and needs taken down and the supported concrete rafter to the rear bay removed also.

5.0 THE SILAGE BARN

5.1 The steel frame and concrete wall planks are in an adequate condition. The steel portal elements do appear heavily rusted in localised areas however as the frame is unclad the steel attracts limited load and is therefore structurally adequate.

6.0 THE PORTAL STORE

6.1 The steel frame is rusting with excessive rust in localised areas. One of the main internal column props has been impacted and is bent. The frame in its current condition is structurally adequate.

7.0 DISCUSSION/RECOMMENDATIONS

7.1 The farm house is in need of total refurbishment. The ground floor slabs will need lifted to allow a DPC and insulation to be inserted and any slag fill beneath to be removed. The spreading roof truss needs strengthened/replaced and the adjacent bulging wall rebuilt. The cracks apparent will need tied throughout. In essence the farm house will merely be the shell and with the requirement to replace timber lintels it is likely that much of the masonry above will need replaced as part of this work. The disused attached barn is

also in a poor condition and its condition will only worsen if not refurbished in the near future. With this we would suggest that a more cost effective approach would be to demolish the farm house and the barn.

- 7.2 The Stone Barn and attached Cottage structures are in a very poor condition and are basically derelict. We would recommend that these building are demolished as soon as possible as they are a safety hazard to personnel.
- 7.3 The disused Cubicle Shed is generally structurally adequate except the rear portion where the steel framed extension has been added. As the building is no longer of use we suggest it is taken down before further weathering and deterioration renders the structure unsafe.
- 7.4 The Silage Barn and Portal Store are also structurally adequate and similar to the Cubicle Shed we recommend that these are taken down before further deterioration renders them unsafe.

8.0 CONCLUSION

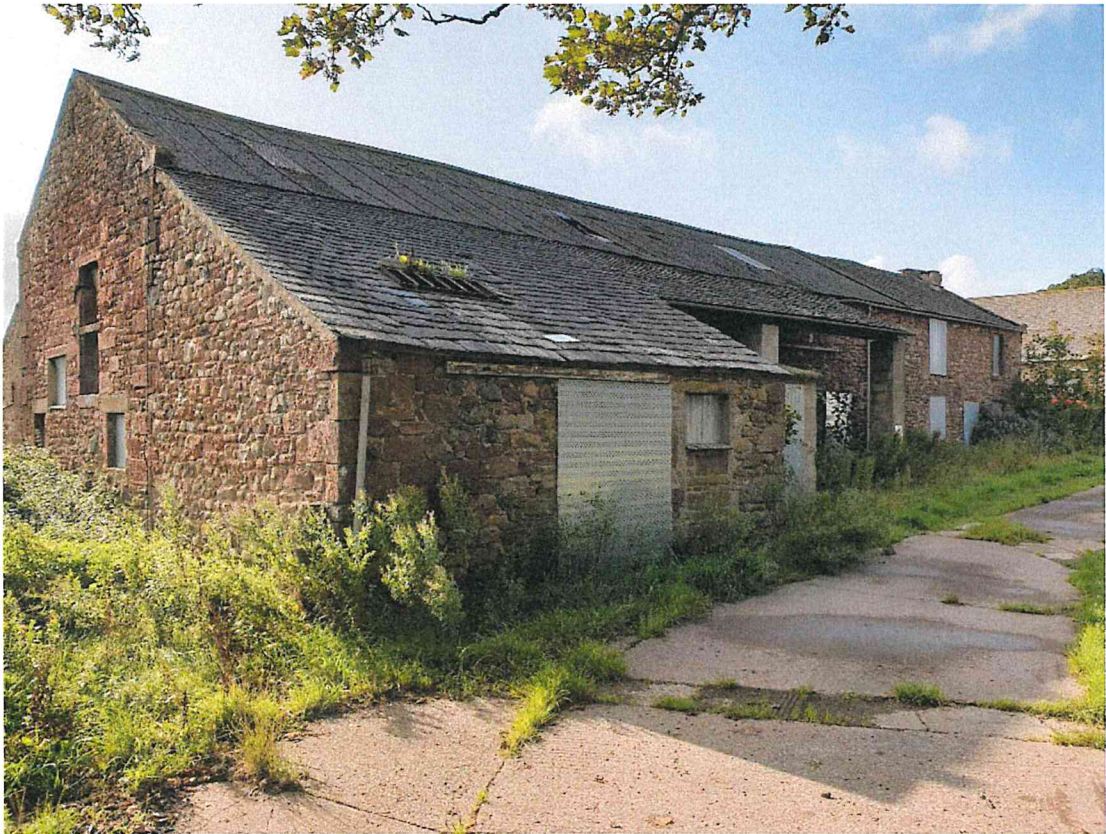
- 8.1 The buildings forming the farm are generally in a poor condition, unused or derelict. The Old Stone Barn and attached Cottage are structurally inadequate and need demolished as soon as possible. The various concrete and steel framed barns are of no use and need taken down. The main farmhouse is in need of totally refurbishment and modernisation and in our opinion it would be more cost effective to demolish this building also.

For and on behalf of WDS Limited

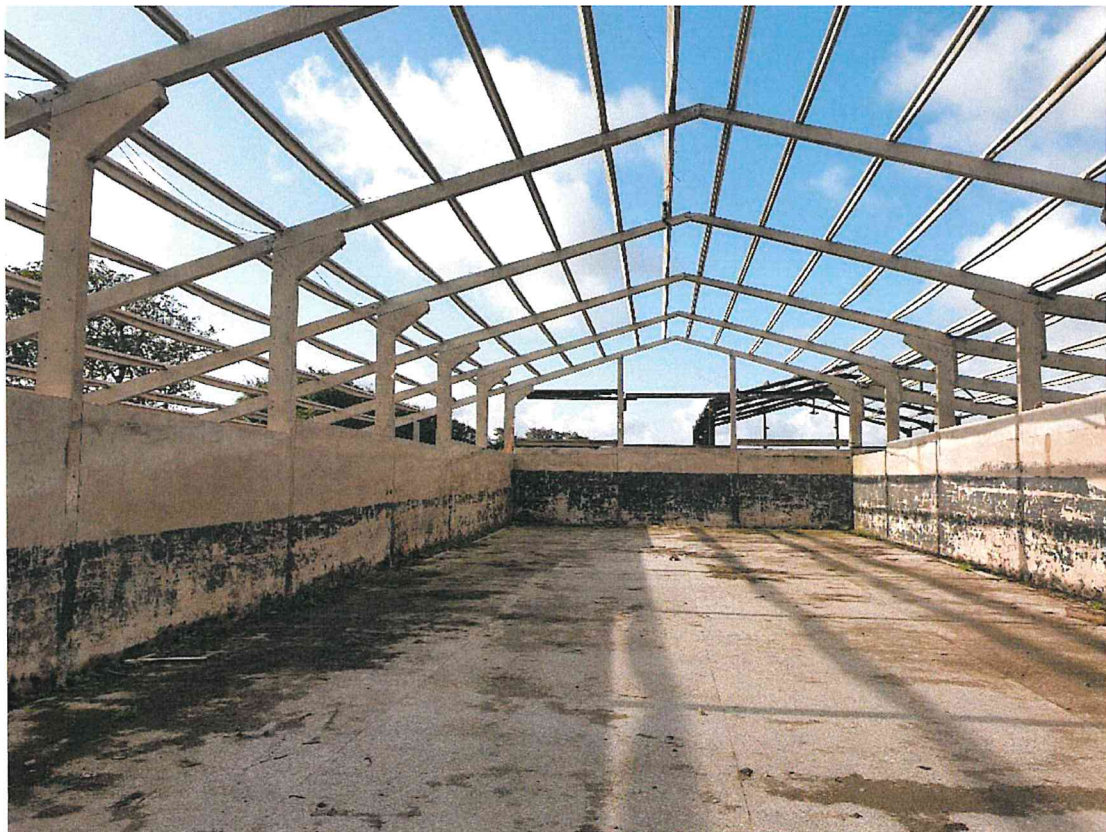
Tom Short BEng (Hons) CEng MICE



PHOTOGRAPH 1 MAIN FARM HOUSE



PHOTOGRAPH 2 OLD STONE BARN AND COTTAGE



PHOTOGRAPH 3 CUBICLE SHED



PHOTOGRAPH 4 THE SILAGE BARN



PHOTOGRAPH 5 THE PORTAL STORE